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# A Prehistoric Watercourse and the origins of Bendyshe Farm, Bottisham, Cambridgeshire

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*Bendyshe Farm was the post-medieval successor to the Scheduled Monument formed by the medieval moated manor that lies on its southern side. Excavations were undertaken prior to residential development adjacent to the monument, on its west and north sides. The moat lies along the course of a natural tributary, which has been canalised in recent years. Evidence of scattered pits over the lower lying ground indicates periodic exploitation of springs from the late Neolithic onwards, however, agricultural activity did not occur until the middle to late Saxon period. The boundaries of plots divided enclosed land from the open fields and incorporated a small stock enclosure. Following the Norman Conquest the land was reorganised into rectangular plots. Grain was processed and stored nearby until the 12th century when the ditches were filled. The land was acquired in 1329 by Thomas Bendish who built the moated site, but beyond the moat it was unenclosed. A farmyard was created in the 16th century to the north-west where a number of latrines were found, and deposits of soil indicated that other waste material was brought here and levelled out. The land continued to be used in this way until the replacement of the red brick Bendish Manor with a grey brick building, slightly to the north, at the beginning of the 19th century. The later farmhouse and ancillary buildings are depicted on maps until their demolition in 2010.*

## Introduction

A series of archaeological excavations were conducted at Bendyshe Farm, Bottisham by Northamptonshire Archaeology, now part of the MOLA group, (NGR TL 5440 6040, Fig 1). The work was carried out for CgMs Consulting on behalf of David Wilson Homes in advance of residential development. This article is based upon the planning report that was submitted to Cambridgeshire County Council and is available digitally through the Archaeology Data Service (ADS) website (Brown 2012; <http://ads.ahds.ac.uk/catalogue/library/greylit>).

The medieval moated manor is a Scheduled Monument (SM33269) and the development was adjacent to the site. An archaeological desk-based assessment was conducted by CgMs Consulting (Francis 2007). This was followed by trial excavation, which revealed pits, ditches and postholes dating from

the 9th century onwards (Foard-Colby and Soden 2009). Low-density features were present over much of the site and Cambridgeshire County Council, as archaeological advisors to the planning authority, required that archaeological excavation was undertaken prior to development (Gdaniec 2010; Mortimer 2010). The excavations were monitored by the authority. Environmental sampling on site was provided by Allen Environmental Archaeology (Brown 2012).

The medieval moated site comprises a rectangular island, c. 60m by 70m (Fig 1). The ground within the moated area is raised by at least 0.5m above the surrounding land. The moat on the east, south and west sides, is up to 9m across by 2m deep. On the north side the moat has been filled. A fishpond, 80m long by 10m wide, lies on its south-west side. The moated site is believed to be associated with Thomas de Bendish, who had acquired the land by 1329 (Wareham & Wright 2002). A large red brick house with a chapel at one end purportedly stood upon the island and was demolished in the early 19th century; this is thought to have been a post-medieval building replacing a medieval manor house.

Despite partial infilling, the moat and fishpond survive well. The island is likely to retain evidence for structures and other features. The buried silts in the base of the moat and pond probably contain both artefacts relating to the period of occupation and environmental evidence for the landscape in which the moat was established.

## Topography and geology

The housing development was c. 1.25ha in area, bounded to the north and west by the rear gardens of properties fronting onto High Street. To the east and south-east lay the Scheduled Monument (SM33269). The south side is bounded by a modern fen drain, along which water flows westward to the Bottisham Lode. This canalised watercourse begins slightly to the east of the moated site, which is close to the spring head.

The land lies on higher ground overlooking the fens to the north. The solid geology is entirely Lower Chalk overlain in part by sand and gravel. Excavation has demonstrated that patches of Anglian till account for occasional variations in the superficial de-

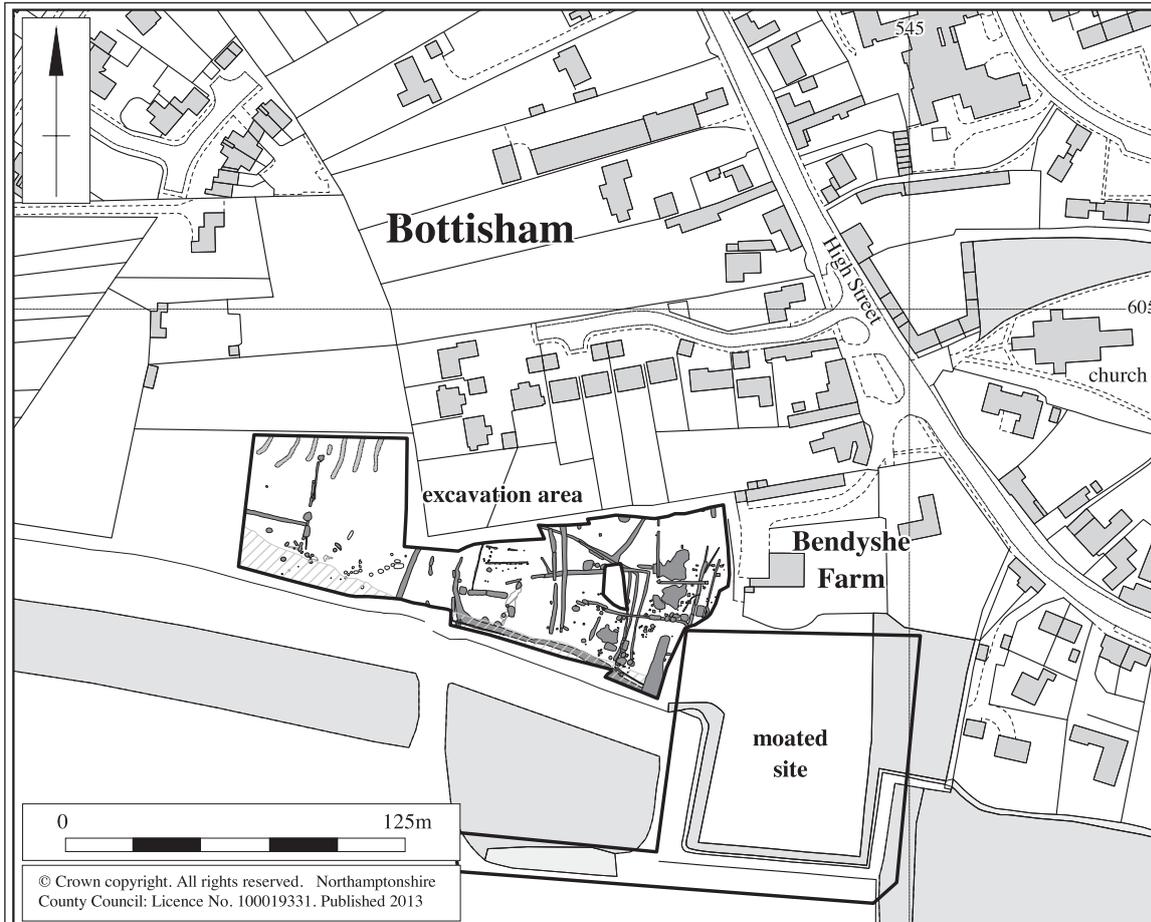


Figure 1. Site location.

posit (British Geological Survey 2001; Hall 1996, 108). The soils are calcareous coarse and fine loam that has developed over chalk and chalky drift (Lawes Agricultural Trust 1983).

#### Settlement background

Bottisham is a Saxon place-name, meaning 'Boduc's farm' (Ekwall 1981, 54). The village has been variously known over time as *Bidichseye* meaning 'the dry ground near the ditches' (1043–5); *Bodichessha* (1066); *Bodkesham* (c. 1210). The first syllables of the name originally meant 'by ditches', describing the settlement's proximity to the drains on the fen (Scarfe 1983, 43).

A Royal Charter of King Edward the Confessor, dating to 1061, records land granted by the King to Ramsey Abbey; and confirmation of privileges and of land throughout the country, including Bottisham (Sawyer 1968, 306). Prior to Domesday the land was held by Earl Harold and Alric of the Abbey of Ramsey. Bottisham is recorded as *Bodichessha*, within the Staine Hundred, held by Walter Giffard (Rumble 1981, 17). Domesday Book records a wealthy demesne with enough arable land for 10 plough teams and 25 villagers, with a further 12 smallholders and 14 ploughs. There were four watermills, meadow for

six ploughs, and marshland with three ploughshares and 400 eels. Traces of ridge and furrow earthworks from the cultivation of the open fields survive around the periphery of the parish (Cambridgeshire Historic Environment Record (HER) 06705; 06706; 06697).

Taylor (1973, 59) has observed that Bottisham originally comprised two or three separate parts, perhaps the product of tenorial separation. One of these was located around a former village green opposite the church, which lies immediately to the north-east of the excavations. The other two moated sites are at Tunbridge Hall (HER01131) and on the west side of the drive leading to Bottisham House (HER06460A).

A triangular earthwork enclosure forms part of a deserted village (HER01124), 1.2km to the north at Bottisham Park, consisting of at least eight house platforms with encircling ditches. The name of the village is unknown, but may be the lost hamlet of *Angerhale*, recorded in the 11th century. Four moated sites were arranged in a line on the side of the narrow valley at Bottisham Park and were filled from the same stream using a complex system of ditches (Taylor 1973, 127). By the 13th century there were as many as six nucleated settlements of various sizes within Bottisham parish forming satellites around the original settlement (Taylor 1973, 58).

Following late 18th-century enclosure there was little alteration to the Bendish moated site. The construction of Bendyshe Farmhouse and its associated buildings was largely located outside the monument on its north and north-west sides. The land was rough scrub and pasture prior to development and contained a standing late 18th-century timber and brick barn. Late 19th- or early 20th-century buildings were also present, comprising an overgrown timber range in a state of advanced decay and a free-standing Dutch Barn.

#### *Map evidence*

The 1808 Enclosure award map shows the western half of the excavation as land owned by Benjamin Kettle (Cambridge Record Office Q/RDc 12). The eastern half, including the Scheduled Monument, was owned by St Peter's College, now Peterhouse, Cambridge. A boundary ditch separated the two parcels of land. The farmhouse is depicted outside the moated site on its north side, with a row of barns to the west. Later Ordnance Survey maps depict the modern arrangements of Bendyshe Farm. The southern end of the barns from 1808 remained into the 20th century, but the elongated farmhouse had been reduced in size to create an enclosure or walled garden to the east, and a yard area to the west, with outbuildings along the northern boundary.

Editions of the Ordnance Survey after 1887 depict various arrangements of the farm focused around the farmyard, west of the farmhouse, with the gradual addition of further outbuildings. By 1902 a rectangular building had been constructed in the centre of the farmyard, and by 1972 a barn had been erected within the western extent of the excavation area. A 19th-century track led from Bendyshe Farm southwards, passing through the eastern extent of the excavated area, and then between the moat and the fishpond, but was no longer depicted by 1972. The only distinct changes to the Scheduled Monument were spe-

cifically to the fishpond, which seems to have been enlarged or flooded on its north side, as shown by successive 20th-century maps up until 1994.

#### *Further historical sources*

The rental documents and the map of the farm (dated 1802) that are held at the Cambridge University Library do not provide further information for the use of the land or any differing arrangement to the buildings. However, a print taken from a painting, dated 1801, depicts the south elevation of Bendish Manor with the church in the background. No indications of the moated site are shown, but the viewer is clearly looking across the Scheduled Monument towards the house (Fig 2). The building and the barn to its west side correlate well with the buildings depicted on the 1808 enclosure award map and their description in the Victoria County History (Wareham and Wright 2002, 196–205).

The house that occupied the Scheduled Monument lay within a moat south-west of the church, and was a large, irregular, red brick building. The structure was probably 16th century, of 2½ storeys, whose south front had a large central bay window. In 1604 it included a hall, parlour, and other chambers, and, when let to Samuel Shepherd in the 1740s, had a chapel on the top floor. It ceased to be used as a gentleman's residence after its rental period to the Lushington family, 1775–95, and was replaced after inclosure with a grey brick house at Bendyshe Farm, a little to the north (which is depicted on the 1808 Enclosure map).

The Victoria County History also contains a fairly extensive account of the various manors and other estates within Bottisham and its neighbouring parishes (Wareham and Wright 2002, 196–205). Amongst this information is a specific reference to the estate of the Bendish family. The land was acquired by Thomas Bendish in 1329, and remained within a junior branch of the family until the 16th century. In c. 1593 the Bendish estate was passed by marriage to Thomas



*Figure 2. Bendish Manor, painting, 1801, looking north (Cambridge University Library).*

Webb, at Tunbridge Hall, until his death in 1604. Then through his daughter, Joan Webb, to Robert Clench by marriage, for four generations until it was sold in 1743 to Peterhouse, Cambridge. The college owned Bendyshe Farm until it was sold in 1965.

#### *Trial excavations at 94 High Street*

A recent test pit excavation by a local student recorded stratified layers of soil in the back garden of 94 High Street, which lies to the north of the Scheduled Monument, (HER ECB3482). The layers were excavated by hand to a total depth of 0.70m. Finds from the layers included a selection of 12th to 14th-century pottery. The deposits were well stratified and included Saxon, medieval and later deposits below an overburden of modern garden soil.

#### *Trial excavations at Bendyshe Farm*

Archaeological evaluation of the site identified pits, ditches and postholes to the north-west of the Scheduled Monument (Foard-Colby and Soden 2009). Thirty-two pieces of residual worked flint comprised abraded flakes, blades and an end scraper, broadly late Mesolithic to late Neolithic in date. Ditches and pits were thought to be related to the activity of the moated site or properties fronting onto High Street and the medieval green, opposite from the church. Most of the finds were from higher ground, north of the maximum spread of alluvium. Trenches to the west contained deposits that were rich in molluscs, suggesting by their number and species that the land was subject to inundation, and this was corroborated by alluvium above the 12th-century ditches. Post-medieval features cut the alluvium. Finds were sparse and suggested that domestic activity was focused within the moated perimeter.

#### **The excavated evidence**

The majority of features were partially overlain by mid greyish-brown alluvial clay alongside the modern fen drain, indicating that it is the successor of a former watercourse.

Activity in the earlier period, prior to the 7th century AD, was principally associated with exploitation of the watercourse, summarised in Table 1. Later activity indicated settlement and occupation of the land for agriculture.

#### *Exploitation of springs along an ancient watercourse*

##### *Possible late Neolithic or early Bronze Age pits*

There were two pits that may be of earlier prehistoric origin (Fig 3). Pits 402 and 410 were over 1.0m in diameter and were characterised by the high concentration of burnt stone, mainly flint, within their fills, together with charcoal, which was not observed in the same quantity elsewhere. Although there is no pottery from these features, a leaf-shaped arrowhead was retrieved from pit 402 together with 788g of calcined flint. Soil surrounded and overlay both pits, layer 413. Movement around the area of the two pits had incorporated material similar to the deposit in pit 402.

The charred plant remains within pit 402 and layer 413, analysed by Val Fryer, were possibly derived from accumulated scattered detritus. Both assemblages contained very high densities of charcoal/charred wood fragments, and it is probably of note that many of the pieces were very rounded and abraded, possibly indicating that the material was exposed to the elements prior to deposition.

Molluscs, analysed by Mike Allen, were low to moderate in number and were dominated by terrestrial species (over 93%), with some shade-loving species amongst them. Many of these shade-loving species

Table 1. Site chronology

Period	Nature of Activity
late Neolithic/early Bronze Age (c. 3,000-1,500 BC)	a small pit group with associated flint scatter, burnt stone, charred materials and surrounding trample
middle Iron Age (c. 400-150 BC)	scattered discrete isolated pits along a watercourse and spring line with associated pottery
late Iron Age (1st centuries BC / AD)	one isolated pit containing pottery
Roman (1st-4th centuries AD)	one isolated pit containing pottery
Middle Saxon (late 7th-9th centuries AD)	early boundary features, probably delineating the back of plots associated with dwellings fronting the green
Late Saxon (10th-early 11th centuries AD)	sub-rectangular enclosure, possible animal pen or shelter, cereal processing and other organic waste amongst pit fills
Norman and medieval (late 11th-12th centuries AD)	reorganisation of boundaries to create small plots and restructure land use
late medieval (13th-15th centuries AD)	lack of evidence for continuity of occupation and land use, clearance followed by gradual accumulation of alluvial/colluvial deposits
post-medieval (16th-18th centuries AD)	latrine pits and levelling deposits, possible planting or trellis posts to the west
late post-medieval (19th century AD)	establishment of the grey brick Bendyshe Farmhouse and the gradual addition of ancillary buildings with associated drainage

are also common in more open conditions. Damp and wet conditions existed locally, as evidenced by the slum and marsh species, including Narrow-mouthed Whorl snails, *Vertigo angustior*, which are rarely recorded in Britain but are common in moist open floodplains and meadows (Kerney 1999, 101). *Acicula fusca*, Point snail, which was also found, is a relatively rare species, but found in flushes on meadows and floodplains, as is *Vertigo angustior* of which large numbers were present in layer 413. These mixed and very rich assemblages (up to 38 terrestrial taxa) indicated a complex local environment on a boundary between ecosystems. Overall, this was a post clearance, open landscape, comprising dry land with long mesic herbaceous vegetation on the fringes of damper habitats, with high ground water and potentially prone to flooding. Pit 402, however, seems unlikely to have been open long enough to hold a permanent body of water. None of the shells from pit 402 were burnt, and these were introduced to its fill either pre-deposition or through burrowing after deposition.

Prehistoric pits of this kind are generally associated with water heating. Given the proximity of the features to a small modern tributary stream it may be supposed that the nearby water source was a potential focus for periodic hunter-gatherer activity as further indicated by the flint scatter.

There were 147 flints, analysed by Andy Chapman, recovered from contexts widely scattered across the site, largely as residual finds in features and deposits of much later date. The material is in poor condition as the patinated pieces in particular showed much

later edge damage. The raw material was a vitreous flint ranging from medium brown to dark grey with a white to light brown cortex, with examples from the chalk and from river gravel deposits.

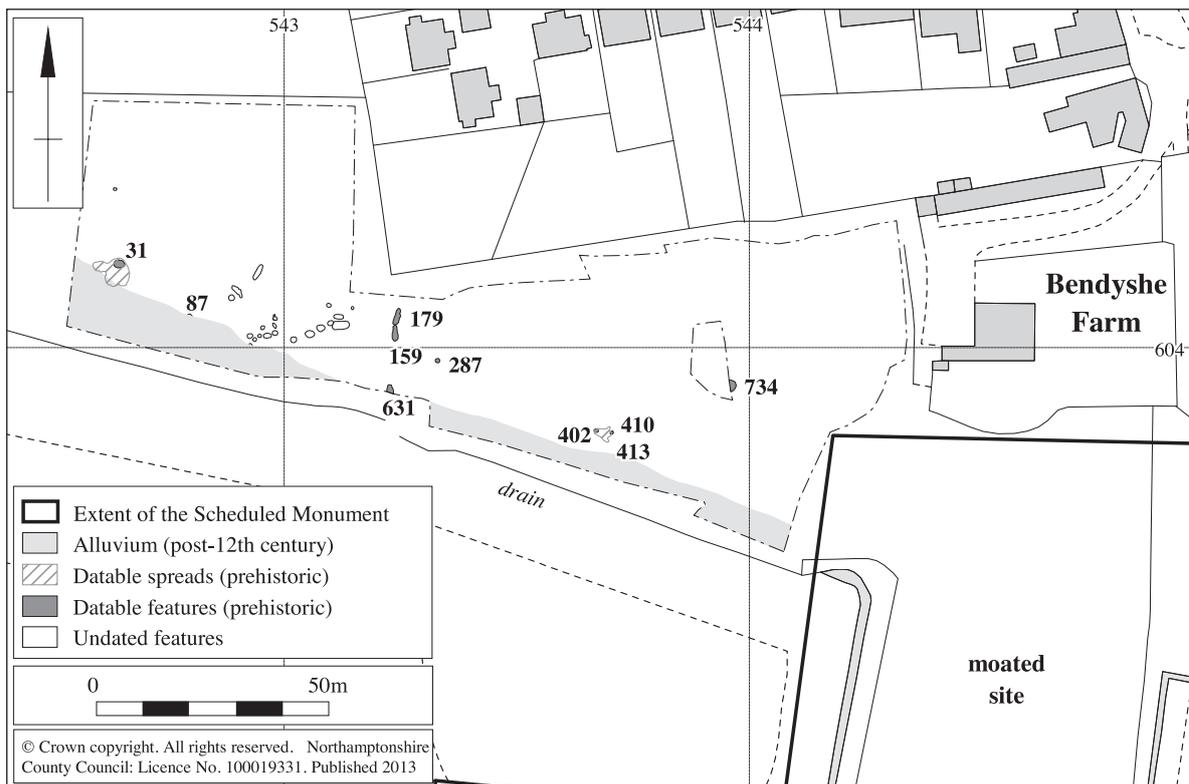
Over half of the material (53% by number) is heavily to moderately patinated, with the surfaces varying from white all over to extensive areas of white to blue-grey mottling (Table 2). The remainder (47%) is either fresh vitreous flint or has limited mottles of pale grey patination.

Table 2. Quantification of the flint assemblage.

Flint type	Total		Patinated		Unpatinated	
	No	%	No	%	No	%
flake	55	37	24	31	31	45
flake (cortical)	43	29	19	24	24	35
blade	31	21	28	36	3	4
core	4	3	2	3	2	3
scraper	4	3	2	3	2	3
oblique blade	1	<1	1	1	-	-
leaf arrowhead	1	<1	-	-	1	>1
knife	1	<1	-	-	1	>1
misc retouch	6	4	2	3	4	6
chunk	1	<1	-	-	1	>1
Totals	147		78	53	69	47

The differing character of these two groups had a chronological basis, with the heavily patinated flint earlier in date, probably late Mesolithic to early Neolithic, while the less heavily patinated flints prob-

Figure 3. Prehistoric and Roman features along the watercourse.



ably dated more broadly to the late Neolithic to early Bronze Age.

#### *Middle Iron Age waterholes*

There were three pits that produced exclusively middle Iron Age pottery (Fig 3). Pits 31, 159 and 631 were each different in character and yet all exhibited silting episodes after abandonment. Pit 31 also contained fragments of red deer antler.

Pit 31 was a narrow steep-sided sub-rectangular pit with a flattish base (Fig 4). It lay in open ground, extending down slope toward the stream, which was covered by alluvium. The deposit filled a depression within the natural gravels and also formed the sag in-fill of the pit. This shallow well quickly pooled water and silted up by natural means after abandonment.

Mollusc samples from pit 31 were superficially similar to those in the late Neolithic/early Bronze Age. Terrestrial species continued to dominate with a small freshwater element present (less than 8%). Open conditions and long ungrazed herbaceous vegetation was suggested by the terrestrial species, although the proportion of the shade-loving species expanded to 25-30%. *Caryhium tridentatum*, Long-toothed herald snails, are common in long grassland, and low numbers of many more catholic, shade-loving species, indicated local mesic conditions rather than woodland. Several amphibious species and those that can tolerate prolonged flooding were observed (Kerney 1999, 44). The slum and marsh assemblage included wetland species mainly found in lowland marshes, fens and reed swamps. These species might suggest stable uncultivated conditions in a state of slow tran-

sition between marshland and meadow (cf. Norris and Colville 1974, 151). There was little evidence that pit 31 held a permanent body of water, but seasonal ground- and flood-water might be expected.

By contrast, pit 159 formed a long narrow trough, aligned north-south, with steep sides and a flattish base along which a receptacle could have been dragged. The edges of the pit were characterised by a slight shelf, which was eroded through trample. A silt deposit formed at the base of the pit and it was filled in at the surface with darker soils. A very similar undated pit, 179, lay nearby.

To the south of these features lay pit 631; a broad shallow pit with gently sloping sides and flattish base. The pit contained a sequence of light silty fills, suggestive of natural in-wash, with pottery at the base. Sherds from two jars were present, one with a flat-topped rim and a crudely-formed uneven lip around the outer edge, the other had an abrupt high shoulder. The pit was shallow enough to have been used by animals as a drinking hollow and was still deep enough to fill the jars, however, the mollusc species suggested such water quickly stagnated, requiring continued re-excavation of cleaner sources.

Six features produced 117 sherds of Iron Age pottery, weighing 1275g, with an average sherd weight of 10.9g. The assemblage, analysed by Andy Chapman, is in good condition with hard fabrics. Three fabric groups were defined; sandy, fine flint and coarse flint. The sandy fabric is the smallest group, coming from the thinner walled vessels, and is quite distinct from the other fabrics in that it contains only sparse and very small pieces of flint. These vessels include one

*Figure 4. Pit 31, looking west.*



with coarse surfaces from pit 31, but the other two vessels, from pit 734, are later small open bowls with smoothed to burnished surfaces.

Although the group is small and dominated by body sherds, it shows all of the characteristics of a typical middle to late Iron Age assemblage from eastern England. Given the presence of a high proportion of smaller vessels with smoothed to burnished surfaces it is suggested that a date spanning the 2nd and 1st centuries BC is probably most appropriate for this group.

The apparent attention to water collection by excavating pits suggests that the modern tributary stream, which has been canalised, did not flow all the year around. Whilst the spring head may have welled up to the surface during particularly wet seasons, perhaps causing seasonal inundation, for the majority of the year it was necessary to tap into the ground water. This was also indicated by the variations in molluscs and their preferred habitats.

#### *Late Iron Age pit, 734*

Four sherds (45g) from the pottery assemblage of 39 sherds (830g) are of 1st century AD grogged ware. Grog, as well as grog- and sand-tempered ware fabrics were produced in the area in the late Iron Age but production continued for a few decades after the Roman conquest. Kilns producing grog-tempered wares are known at Swavesey (Willis *et al.* 2008), 20km to the north-west, but there are likely to have been much closer sites.

The pottery comprises at most four separate vessels. One particular vessel is a jar that may have stood about 200mm high, which provides an illustration of the manufacturing technique employed for these vessels. The base sherd is 110mm in diameter and 17mm thick, and has a ragged break, indicating that the base and lower body were probably fashioned as one up to a wall height of at least 50mm. The larger body sherds are up to 95mm tall between oblique joins, where the vessel has fractured, with clay being drawn up from the outside and down from the inside. A slight waisting on these larger sherds with oblique joins indicated that the body was formed in two parts, the lower standing 60mm high and the upper 40mm high, but evidently this join was secure around at least part of the body. The top of the body occurs at the point of greatest diameter. The neck and rim are 45mm high, with an oblique join at the base of the neck. It would appear, therefore, that this jar was probably formed in four parts using four slabs of clay: base and lower body, central body, upper body and, finally, the neck and rim.

The pit, 734, was sub-circular and the sides were gently sloped, curving into a rounded base. Lumps of chalk and clay in the fill indicated that the pit had a relatively short period of use and seems to have been filled shortly after its creation. The fill also contained charcoal and charred herbaceous seeds and cereal grains from hearth debris.

The mollusc assemblage exhibited a total lack of freshwater species, the absence of slum and marsh

species, and terrestrial assemblages with increasingly higher proportions of open country species (70%), to the detriment of shade-loving snails with only 11–14 terrestrial taxa present. This indicated the land was in the process of drying out and becoming stable drier meadow or pasture. Whether this feature was upslope of the wetter ground or whether this local change represented the natural movement of the watercourse southward away from the feature cannot be determined. The changes were relatively ephemeral as the wetter conditions returned in later periods.

#### *Roman pit, 287*

A pit containing two pottery sherds (64g), analysed by Rob Perrin, was probably a good deal later and was badly truncated by a medieval ditch. What remained of the pit was elliptical and had near vertical sides and a narrow flat base. Given that the pottery was so low in quantity; its occurrence was not out of place with the prehistoric activity that preceded it.

The Horningsea kilns, 6km to the west, supplied local markets from the Flavian period onwards and production continued until the late 4th century AD. One sherd from pit 287 does not have any characteristics which allow closer dating and the other is not a Horningsea product, but is likely to be from another local source that cannot be closely dated.

#### *Other undated pits*

Groups of pits or pit-like depressions along the watercourse followed the general pattern of water exploitation. What is likely is that amongst the excavated features were a variety of pits belonging to different periods, but without finds or ecofacts, and scattered amongst various less obvious natural pit-like features. The relationship between the alluvium and datable features showed that almost all predated the 12th century.

#### *Agricultural land use, predating the moated site*

##### *Middle Saxon boundaries*

The earliest boundaries, which were functioning during the 8th century and might have appeared as early as the late 7th century, divided the fields in the west from land to the north and east (Fig 5). Ditch 415 was the principal boundary, and ditch 847 extended from it, towards the High Street. Both ditches contained Ipswich ware (3 sherds, 94g), which was manufactured exclusively in the eponymous Suffolk *wic*, and was in use from AD725–40 to the mid-9th century at sites outside East Anglia (Blinkhorn 2012). This site conforms to the East Anglian pattern of pottery consumption, comprising Ipswich ware with a little hand-built pottery.

At its north-western end, ditch 415 was 1.44m wide by 0.36m deep, with steep sloping sides and a flat base. The fill comprised firm light brown sandy clay with chalk flecks and small flint/chalk pebbles. Towards its southern end the ditch, 516, became narrower and deeper (Fig 6). The basal fill was similar to its northern extent, but the surface material was darker greyish-

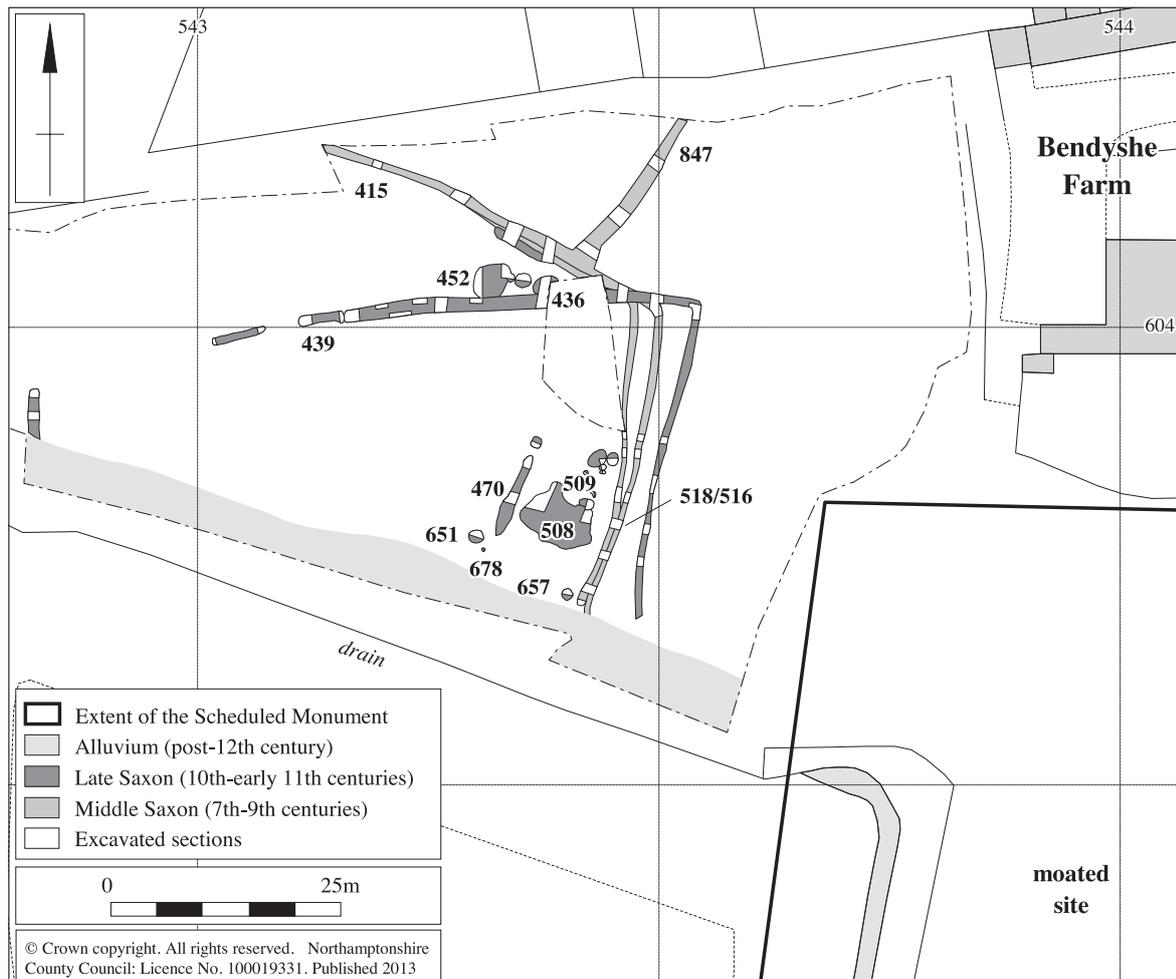


Figure 5. Middle and late Saxon features.

brown silty clay loam containing dumps of pottery and animal bone. The southern extent had been recut by ditch 518. Soil samples from along the boundary produced charred cereal grains and pottery of middle Saxon date (late 7th–9th centuries) with intrusive later Saxon sherds in areas where pits had obliterated its continuation.

#### *A late Saxon enclosure and pits*

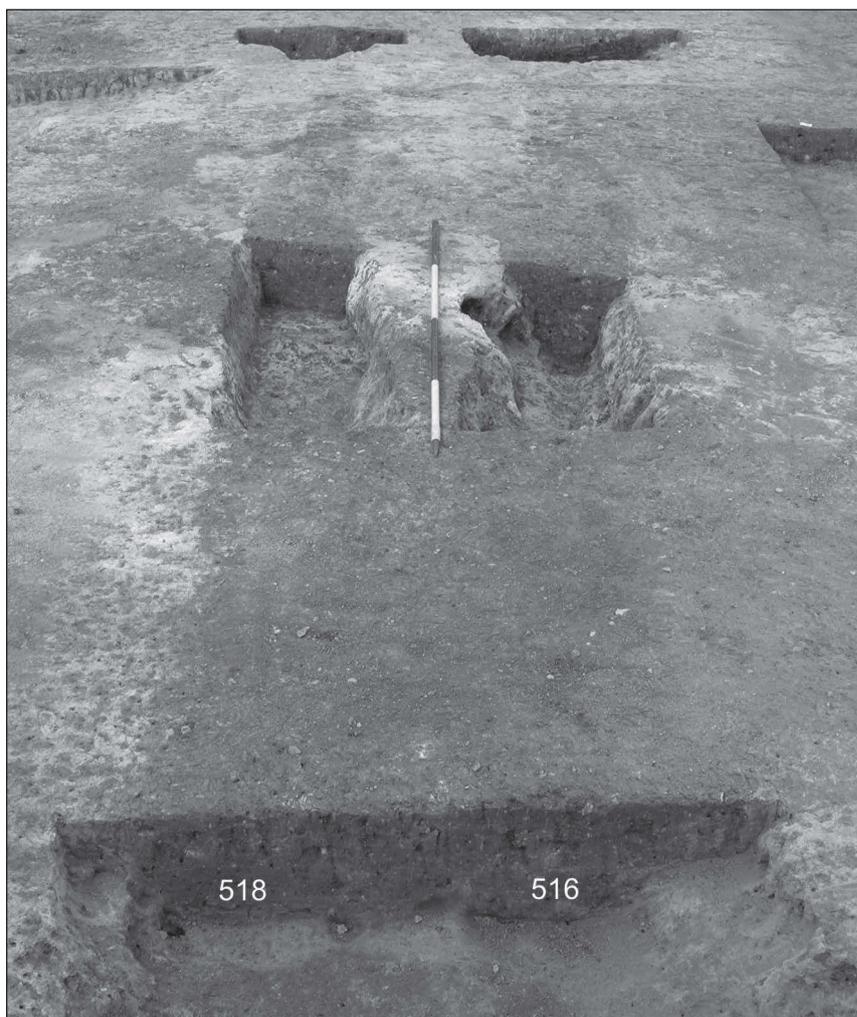
The land use to the west probably remained associated with cultivation until around the 10th century. By this time the boundary dividing the two neighbouring areas to the north and east, ditch 847, had been filled. The main land division, ditch 415, was probably still partially observed, however, since it was partially reused to form the east side of a sub-rectangular enclosure (Fig 5). A greater level of waste disposal was observed along the east side of this enclosure than for previous boundaries.

The animal bone assemblage, analysed by Laszlo Lichtenstein, was dominated by cattle (65% by Number of Identified Specimens (NISP)), followed by horse (8.4%) and sheep/goat (4.9%). There were lower numbers of pig (1.8%) and domesticated fowl

(0.4%). Small ungulate bones (6.6%) indicated at least one sheep/goat or pig. The bones belonged exclusively to domestic animals; mainly food domesticates, and was largely kitchen waste. The state of preservation was generally poor and the amount of material was consistent with low level occupation nearby. Cattle were the most important species in terms of food and dairy value and carried a much greater carcass weight, they appear therefore to have been the most common species utilised for meat. None of the horse bones had any evidence for butchery and, they are likely to have been working animals given their maturity.

The enclosure itself may have been for keeping animals, a small area of activity at its east end, where pits were concentrated, may have been the location of an animal fold with associated bedding material disposed of in surrounding pits.

On the northern side, ditch 439 was 2.34m wide by 0.65m deep, while the eastern boundary was less pronounced. In both instances the sides of the ditches were steep and well defined, but were truncated. The bases of both boundary ditches were fairly broad and flat, indicating a more substantial cut than its fore-

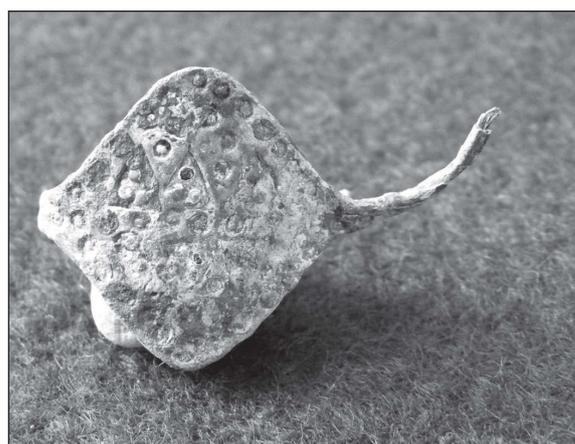


*Figure 6. Middle Saxon ditch 516 and its recut, 518, looking north.*

bear. The basal deposit comprised firm mid brownish-grey silty clay with chalky flecks, charcoal smears and gravel that had accumulated as wash material, 0.32m thick. The upper fill was firm light brownish-grey silty clay with slightly more chunky pieces of chalk, gravel and charcoal smears. On the west side the ditch was comparable, although not easily identifiable, as this was subsequently incorporated into a post-Conquest pattern of enclosure.

A silver finger ring was recovered from the boundary ditch, together with a single sherd of Thetford-type pottery (4g). The ring, described by Tora Hylton, has a large flat bezel, decorated with a stamped motif, but the hoop is damaged (Fig 7). The motif comprises two rows of three opposing triangles positioned horizontally at the centre; each triangle is recessed and contains three dots in relief.

Surviving within the recesses of one of the triangles, are the remains of a black substance, possibly niello, a mixture of metallic sulphides used as an inlay on silver or gold (Cronyn 1990, 164). Stylistically, finger rings of this type date to the late 9th-10th centuries, and this corresponds well with the date of the pottery.



*Figure 7. Late Saxon finger ring (20mm high).*

The late Saxon pottery assemblage, analysed by Paul Blinkhorn, comprises entirely Thetford ware and St. Neots ware making it generally very difficult to date other than within the broad late Saxon period. Just two jar rimsherds of Thetford-type ware were noted, one of which is from the smaller end of the size

range, suggesting that it dates to early in the production span of the industry (Rogerson and Dallas 1984, 125), and a single sherd with rouletted decoration, another characteristic of early Thetford ware (*ibid*). A single St Neots ware jar rim is from a small vessel, which suggests that it is also earlier (Denham 1985).

Inside the enclosure lay a cluster of seven pits at the east end that produced pottery, mainly of late Saxon date, but also with residual middle Saxon sherds, together with quantities of animal bone. This focused on a small rectangular area covering c. 250 sqm, 20m long by 12.5m wide (Fig 5). The area was not formally delineated, but lay between the east side of the enclosure and a short length of ditch, 470. The north and south ends were obscured by later features, and it is not known if other boundaries had existed.

Ditch 470 lay parallel to the east side of the enclosure boundary and was 9.5m long by 1.47m wide by 0.38m deep. Firm, slightly loose, light grey silty clay loam comprised the infill deposit, which appeared to be deliberately dumped. A single posthole, 678, lay at its southern end.

Seven pits lay towards the edges of the area, with the central portion occupied by a diffuse and amorphous layer of greyish-white silty chalk clay, 508, 6.5m long by 4.5m wide and 80mm thick. The layer was dated by Thetford-type ware (1 sherd, 14g). The pits were generally sub-circular and, whilst substantial, were of differing proportions. Pits 509 and 651 produced hand-built early to middle Saxon chaff-tempered ware, c. AD450–850 (2 sherds, 28g), alongside Thetford-type ware, 10th–11th centuries (Rogerson & Dallas 1984; 4 sherds, 115g). The pits seem to have been for the disposal of waste. Soil from pits 651 and 657 demonstrated a mixture of seeds, but not in meaningful quantities that could indicate cereal processing or otherwise, and could easily have been amongst more general organic waste, animal feed or bedding. The pits and the soil deposit seem likely to have been associated with non-domestic activity within the enclosure, given a general lack of burning, and perhaps included a small shelter without earth-fast foundations.

To the north of ditch 439, outside the enclosure, two pits, 436 and 452, cut the enclosure ditch. The pottery was mainly late Saxon with one residual middle Saxon sherd including Ipswich ware and St Neots type ware (total 6 sherds, 31g). Pit 452 contained sparse seeds, suggesting general crop cultivation in the vicinity, whilst pit 436 was highly productive and contained a primary dump of cereal processing waste of oats and barley, with lower quantities of wheat and a range of herbaceous cultivation weeds. However, the pit also contained hammerscale, indicating mixed waste. The Saxon pit and ditch assemblages all contained some cereal grains and weed seeds, although small (<0.1 litres in volume), they had a moderate density of oat and barley grains, along with a range of weed seeds, probably from an advanced stage of cleaning, where it only remained for the larger contaminants to be separated immediately prior to consumption. The assemblage contained a number of

nutlets of saw-sedge, a plant often used in thatching. Other contemporary assemblages all contained lower densities of plant materials, which probably derived from domestic or agricultural activities and appeared to be scattered refuse.

#### Ridge and furrow

Cultivation furrows were identified in the west of the site, at the northern edge of excavation. The furrows were spaced at 11–13m intervals and were aligned north to south, with their southern ends terminating at the edge of the alluvium. The furrows were poorly preserved; the best example was 1.85m wide by 0.16m deep. Evidence for the ridges had long since been ploughed away. The cultivation soil comprised light yellowish-brown sandy clay loam with chalky flecks. Whilst no pottery was retrieved to date the furrows, they are likely to have existed from the late Saxon period onwards. The Saxon environment was indicated through mollusc species. Only a single Saxon sample contained molluscs, which was dominated by terrestrial species but included both freshwater (6%) and marsh (5%) species. The terrestrial component was dominated by high numbers of common shade-loving species and those frequent on waste ground amongst unkempt vegetation and ground litter in woodland of tall grass, where the micro-environment is shady and damp. The reoccurrence of amphibious freshwater species indicated a return to seasonal dampness and higher groundwater, pools of water and overbank flooding. This perhaps explains why the furrows did not extend all the way south to the watercourse.

#### Post-Conquest enclosure, the early farm

A marked contrast was evident in the organisation of the site following the Norman Conquest. An entirely different arrangement of boundaries emphasised the disuse of the Saxon features, and presumably was coupled with a newly imposed land regime (Fig 8). The precise date at which they were laid out is not certain, but pottery indicated that they were filled in the 12th century and would logically have been in use immediately following the Conquest.

The combined Saxon and medieval pottery assemblage, analysed by Paul Blinkhorn, comprised 202 sherds (4,306g), which is not a particularly high number, given the concentration of features. The assemblage was, in the main, sparse and scattered, with most contexts only yielding a few sherds, all from different vessels. There were no cross-fits, other than with individual contexts. A relatively large group of Thetford ware storage jar sherds occurred in ditch 417 (29 sherds, 972g), and appeared to be a disturbed primary dump of material, but the rest of the assemblage were the product of secondary deposition. The range of fabric types is fairly typical of sites in the region, and indicated activity up to the 12th century, with a break around the late 13th–15th centuries where very few sherds were deposited. Other than a single North French sherd (175g), the range of pottery was typical of the region, such as at Cottenham (Hall 2000).

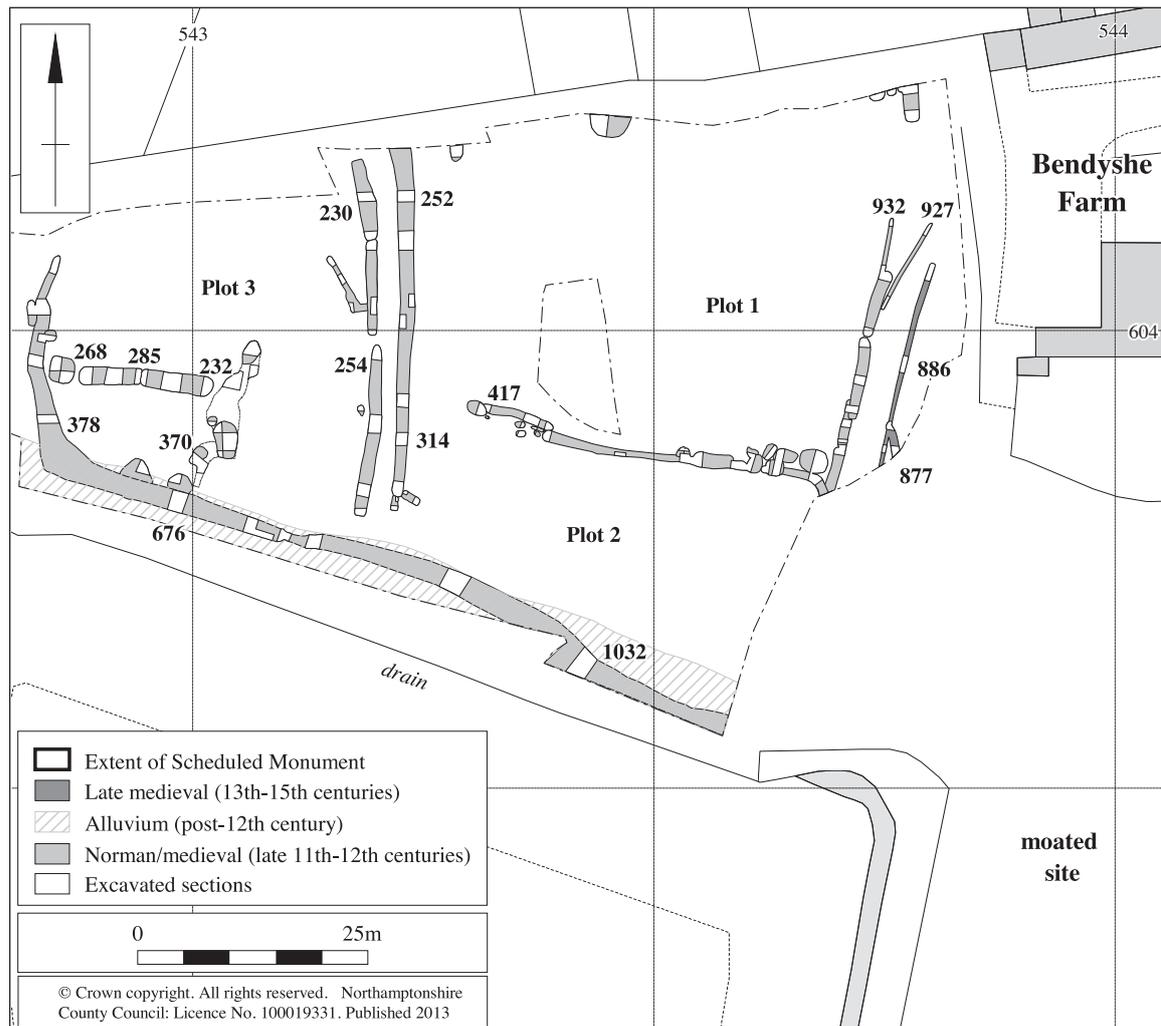


Figure 8. Post-Conquest agricultural enclosures.

The pottery is fairly typical, comprising Thetford ware, shelly wares and grey sandy coarsewares, along with smaller quantities of glazed Stanion, Hedingham and Developed Stamford wares. A large proportion of this material is the dump of storage jar fragments (ditch 417), which seems likely to be a clear-out of old pottery. More than one vessel is represented, and most of the body sherds have heavily abraded and flaking inner surfaces.

The land was partitioned into fairly small units, comprising Plots 1–3, with boundaries extending onto land immediately adjacent, to the north and east (Fig 8). The three plots formed a group covering just over 50% of the excavated area with a total coverage of c. 0.37ha, comprising small agricultural units at the edge of a much larger body of land. The land was bounded on its south and west sides by two lengths of ditch.

On the west side, ditch 378 was 1.96m wide by 0.64m deep, with a steeply angled, but slightly ragged profile, with a narrow rounded base. The fill was dark greyish-brown silty clay with occasional chalk and flint pebbles, mainly deliberate infill rather than

silting indicating this part of the ditch was generally drier. As the ditch turned south-east, it splayed outward at the surface, forming a spread to either side. At this point the ditch, 676, became a broad flat channel, 2.70m wide by 0.40m deep. At the mid-point of the boundary, the west portion and the south-east portion opposed each other as two independent terminals.

At its south-east end the boundary contained three principal cuts, the earliest being 1032. The earlier cuts were 0.40–0.50m deep, the latest was 2.70m wide by 0.60m deep, indicating a very substantial feature. The fills comprised variations of light greyish-white silty clay with frequent darker charcoal smears, but little to distinguish between them, suggesting a predominantly silting deposit with occasional dumps of waste. Further to the west only two cuts were visible. The primary fill of cut 1032 produced a substantial seed assemblage, analysed by Val Fryer, that was perhaps the product of annual cleaning of a grain storage barn, however, soil from the west boundary, ditch 378, was almost devoid of seeds.

Wheat formed 85% by the number of grains in

the total assemblage from ditch 1032. Rachis nodes of both bread wheat type (with diagnostic crescent glume inserts) and rivet wheat type (with bulbous glume bases and attached trapezoidal internodes) were also present, with bread wheat chaff forming 51% of the total chaff assemblage. However, cereal chaff was scarce within all other assemblages.

Of the other cereal types, barley occurred slightly more frequently than oat grains. Within ditch 1032, rye grains were the most common after wheat, although they still only accounted for 3% of the total. The use of wheat/rye mixed crops or maslins was clearly not the case as it was far more likely that these rye grains were persistent grains from an earlier cropping regime, together with barley, field beans and oat grains. Weed seeds were generally scarce, a number of the corncockle seeds were still clumped together alongside stinking mayweed.

Most of the medieval plant macro-assemblages were probably derived from low density scatters of refuse or charred agricultural waste. The material from ditch 1032 was of particular interest as it was both large (c. 0.9 litres from a 40 litre sample) and almost entirely composed of cereal grain. The material was generated during a single period of activity and was not mixed with material from other sources. The wheat grains were in a very poor condition due to sprouting. The weed seeds were mostly large or present as intact seed capsules that would persist after winnowing and sieving because of their similarity in size to the cereal grains and are commonly seen within batches of prime grain or cereal at a very late stage of processing such as those at Boreham Airfield, Essex (Fryer and Murphy 2003) and at West Cotton, Raunds (Campbell and Robinson 2010). The puffed condition of the grains, and the bias within the chaff assemblage towards the more robust rachis nodes, indicated that the remains were burnt quickly in a well-aerated fire.

A combination of dumping and in-wash silt along this boundary seems to have been sufficiently high that it had to be cleaned out, the boundary did not serve a drainage function since it was broken into two main sections; and had they been primarily to carry water, they should have drained to the west with the topography. The relatively dry nature of the ditch implied that this boundary was not contiguous with the later moat.

To the north and east, the three plots probably served a combined purpose, the exact nature of which seems to have been associated with the clearance of midden material, mainly organic waste, incorporating occasional kitchen scraps. The animal bone assemblage was dominated by cattle (45.2% by NISP), with lower numbers of horse (14.2%) and sheep/goat (5.2%). Domestic fowl were present, indicated by one rib fragment; as were dogs. The dog bones were from one adult burial and a single broken mandible. Little evidence of scavenged or dog gnawed bone existed. Butchery and bone working was in evidence, but burning seemed not to have been a preferred method of disposal.

It is likely that the agricultural activities here were associated with daily management practices, for a smallholding that predated the moated site and would have incorporated domestic life with agricultural activities such as cereal processing and livestock activities.

#### Plot 1

The north-eastern plot was 0.17ha in area, continuing to the north (Fig 8). The boundaries enclosed a roughly rectangular area with an entrance on the east side, and an exit into plot 2 in its south-west corner. The larger part of the interior was clear of contemporary features. A complete horseshoe recovered from the east boundary is a Norman shoe, Clark's Type 2 (1995, 86), which dates to the 11th–12th century.

The boundaries along the south-east side comprised a series of short lengths of ditch, cut by pits, each ditch was 7–15m long by up to 1.2m wide and up to 0.40m deep, most of the pits were generally elongated, shallow and of similar depth (Fig 8). The short lengths of ditch along the east side were slightly more substantial and also incorporated two long narrow thin gullies, 932 and 927. The west side of plot 1 was defined by a single continuous ditch, 252/314. In general, the fills were firm dark silty clay loam, occasionally with animal bone or pottery, but generally not in the quantities that might be expected close to domestic activity.

The assemblage of Thetford-ware pottery found in ditch 417, comprises mainly storage jars with thumb applied strip decoration, which tend to become more common later in the lifespan of the industry (Rogerson and Dallas 1984, 126). In addition, there is also a large fragment with a curved, thumb-frill ridge, which was the upper angle of a curfew or fire-cover. Curfews are largely post-Conquest in date, largely unknown in the Thetford ware tradition from kiln-sites (Dallas 1993), however, there is an identical example from Furnells manor, Raunds, Northamptonshire (Pearson 2009, 161 & fig 6.6; 57). The later ditch also yielded a single sherd of medieval shelly ware (4g), a typical 12th-century product.

In most instances it would be necessary for one pit or short ditch length to have been filled before the next could have been created and in this way they appear to represent a series of interventions that gradually extended the length of the boundaries and incorporated the periodic disposal of largely organic detritus. Pits that lay along the north side of the enclosure, at the edge of excavation, may indicate that a further boundary lay east to west just beyond the limit of excavation. A copper-alloy buckle-plate and frame, recovered from pit 781, was manufactured from a rectangular-shaped sheet of metal folded widthways and secured with a single pin, and dates to the 13th–14th centuries. Since the features followed boundaries, the formal division of the plots may have been by wattle fences, the archaeological remains of which did not survive.

### Plot 2

The south-eastern plot was probably just over *c.* 0.09ha in area, over 45m long by 17m wide. An entrance from plot 1 lay in its north-west corner, but the crossing into plot 3, seems to be too narrow to be an entrance. The pits and short lengths of ditch along the north boundary, shared with plot 1, could have originated from activity in either area. The dumping of charred cereal waste in the south-east corner of boundary ditch 1032 suggested disposal of organic waste was not confined to pits along the boundaries, and that any peripheral boundary location was acceptable.

### Plot 3

On the west side there was a rectangular area, *c.* 0.11ha in area, over 34m long by 31m wide, which continued to the north. Whilst the west and south sides were bounded by ditch 378/1032, the east side was bounded by a double ditch (Figs 8 and 9). The east side of this ditch was shared with the other plots, ditch 314, and the west side comprised short lengths in a similar fashion to those investigated elsewhere. The fill of features on the near side of the boundary bore a marked contrast to those in the parallel ditch, 314, on its far side. The fill of ditch 314 had been fairly consistent along its length in terms of its composition of accumulated silty clay in-wash. By direct contrast the other ditches contained the same kind of dumps of firm dark silty clay loam seen along the boundary

between plots 1 and 2 and on the east side of plot 1. Whilst soil from ditch 314 contained very little in the way of seeds, the samples from ditches 230 and 254 had far more examples of both cereal grains and herbaceous seeds, as might be expected amongst organic refuse. What may be likely is that a fence or hedgerow formed a boundary on the west side of ditch 314, along which these short ditch lengths were later added.

### Pits within plot 3

Within the plot, the area was subdivided north from south by a line of pits and short ditches, 18.2m in length (Fig 10). Pit 268 was rectangular, 2.80m long by 2.68m wide by 0.41m deep, and others were longer and overlapped, demonstrating that they represented a series of periodic interventions, with very little variation in width or depth. For the most part the sides of these pits were vertical, with a broad flat bases.

In all cases, the fill comprised firm light brownish-grey silty clay loam, speckled with chalk flecks and containing infrequent flint pebbles. Soil samples from either end of the pit line demonstrated that there was a higher proportion of charred wheat and barley than any other seeds, although the quantities were low. Some charred organic residues indicated remains from combustion, but this could have been intrusive and the quantity of charcoal was fairly low. A single small fragment of lava quern (32g), 50mm long by 12mm thick, was found in pit 232. Lava querns

*Figure 9. Post-Conquest enclosure, Plot 3, looking north-west.*





*Figure 10. Pit 268 in the foreground, pit 232 at the far end, looking east.*

had been imported from the Eifel region of Germany since Roman times, although trade declined following the Norman Conquest. Soil from pits 268 and 285 contained small quantities of metalworking debris, comprising flat hammerscale, 3–4mm long, indicating that this was mixed refuse. Pottery comprised both shelly and sandy coarsewares, together with one sherd of Developed Stamford ware, 1150–1200 (Kilmurry 1980), and one residual St Neots type sherd (10 sherds, 69g).

#### *Land outside the moated site in the 13th–15th centuries*

Since Thomas de Bendish had acquired the land by 1329, it might have been expected that more material of 13th to 15th centuries would have been present. However, there was a general dearth of evidence for activity in the later medieval period. All enclosures had been reinstated by the end of the 12th century, and no new plots were laid out. Possibly the land was allowed to go to pasture, an attractive scene for the setting of the house, and similarly it would have been preferable to keep it clear of midden waste and other material.

A single boundary belonged to the period, ditch 886 (Fig 8). It was orientated roughly north to south, but slightly east of the projected western arm of the moat. There was no evidence for the continuation of the moat or for the vast amount of earth that would have been excavated from it. The ditch, 886, had near

vertical sides and a flat base 1.02m wide by 0.40m deep, which quickly silted up. A later recut contained a distinct difference in silting deposits and indicated a change in land use nearby. Pottery from the southern end, ditch 877, comprised Bourne D ware, c. 1450–1637 (McCarthy and Brooks 1988, 409), and late medieval oxidised ware (total 3 sherds, 50g).

Large quantities of alluvium accumulated over this period, which overlay previous features up to 1.12m thick, although much thinner in the west of the site, and had been laid down gradually at the base of slope, draining towards the west. The process of deposition produced a soil profile that merged from one shade and texture towards the next, such that the distinctions were diffuse.

The earliest alluvial deposits were characterised by firm mid-greyish-brown clay silt, 675, with occasional small mixed flint, pebbles and chalk, up to 0.59m thick. The lower alluvial deposit merged gradually towards the top, which had been turned by the 19th-century plough. This was characterised by friable light greyish-brown silty clay loam with darker orange-brown silty clay loam towards the surface, 0.53m thick.

A series of 19 profiles examined the alluvial/colluvial sequence in detail, and a range of dated features (mainly ditches and pits), with the aim of characterising sedimentation and infill histories, but also in examining changing sediment patterns over the oc-

cupation phases. Molluscs were also analysed from discrete features. The relationship between the ditch fills and the alluvium revealed environmental changes. A sequence of five contiguous samples embraced the 12th-century ditch 676 and the overlying 0.5m deposits. The revealed a colluvial component at the base of the main sequence indicating a possible incipient buried soil and denoting a brief drier period after the filling of the 12th century ditches.

The molluscs, analysed by Mike Allen, were markedly different from the earlier deposits, as they were dominated by freshwater and aquatic species (up to 72%), and showed subtle changes through time. This element was dominated by high numbers of the amphibious species, White-lipped Ramshorn snail, *Anisus leucostoma*, which is common in swampy pools, especially those subject to drying and desiccation in the summer, and the constant presence of other more aquatic species. *Hippeutis complanatus*, Flat Ramshorn snail, which like well-vegetated slowly moving water was also present and up to four species of *Pisidium* which inhabit bodies of water. The most numerically significant was *P. personatum* (Red-cruled Pea Mussel) which lives in poor aquatic habitats, grassy pools, hillside flushes and areas subject to desiccation. *P. casertanum* (the Ubiquitous Peaclam) is typical of larger bodies of water and mud, which became more common in later flooding episodes.

The southern boundary suggested very damp marshy ground with pools of standing water. This was also subject to summer drying and seasonal groundwater changes, punctuated by hillside flushes and overbank flooding. Drier grassland meadow and pasture lay nearby. Ditch 676 was initially fairly dry and the surrounding area became wetter after the 12th century. Eventually the immediate surrounding area was engulfed in overbank floodplain deposits from the watercourse and colluvium from activity on drier slopes to the north.

The accumulation of alluvium marks a distinct change in the hydrological processes on site that are probably the combined result of climate and agricultural practice (Evans *et al.* 1992). In the uppermost, late medieval, sample of this deposit, the occurrence and rise of *Gyrualus albus*, White Ramshorn, and *H. complanatus*, Flat Ramshorn, snails, together with the reduction of many of the terrestrial species, indicated increased levels of standing water, and perhaps more prolonged periods of sheets of standing water. The cessation of both colluviation and alluviation before the cutting of pits into this deposit in the 16th century suggested much drier local conditions thereafter and it is probable that the creation of the moated site and fishpond played a significant role in the drastic change of water levels. Since they were created after the alluviation began in the 12th century, they could not have been the causal factor, and whilst they could not have completely controlled the episodes of inundation they would have gone a long way towards managing them and reducing the extent of land that was flooded through providing artificial reservoirs.

#### *Post-medieval activity in the 16th–18th centuries*

The majority of post-medieval activity lay at the eastern extreme of the site. According to the Victoria County History this land lay immediately to north-west of the old Bendish Manor, a large irregular 16th-century red brick building within the moated site (Wareham and Wright 2002, 196–205). According to rental documents this property was occupied until 1795. It is likely the land served a yard function and suffered the effects of having material moved around considerably.

Many post-medieval features to the west of the moated site contained fragments of basic locally-made bricks (50 examples), examined by Pat Chapman, which are datable to between the 17th and 19th centuries. The fine sandy red bricks, including one with moulding, and a brighter yellow brick come from a better quality building of the same date range.

The assemblage of roof tile comprises mainly yellow tiles with some orange or reddish tiles either for decoration, or for separate buildings. The sherds are fragmented and are from scattered deposits (81 sherds, 3.5kg). There was only a small quantity of floor tile (4 sherds, 247g).

With the exception of the structural debris presumably relating to the demolition of buildings sited nearby (lead came for windows, window glass, nails), other items recorded by Tora Hylton include fragments of vessel glass (mainly wine bottles, c. 1650–1680; Biddle & Webster 1991) and clay tobacco-pipes (84 examples, 6 types, c. 1640–1780; Oswald 1975), an iron key for a mounted lock, a biconical lead weight (173g or 6.1oz) and a possible lead token furnished with a compass drawn geometric design.

The post-medieval pottery is an entirely typical domestic assemblage from a reasonably well-to-do household comprising a mixture of utilitarian red earthenwares and fine tablewares such as tin-glazed ware, Westerwald and white salt-glazed stonewares. The majority is red earthenware (Brears 1969; 70 sherds, 1,949g).

Household kitchen waste, examined by Laszlo Lichtenstein, was dominated by cattle bone (31.9% by NISP), but almost as many horse bones were found (30.9%). Ovicaprid (sheep/goat) bones (9.1%) and pig remains (1.3%) were significantly lower. Most butchery marks were associated with dismemberment and were found proximally, mid-shaft and distally on long bones, as well as mandibles, vertebrae, costae, scapulae, pelves, calcanea, astragali and phalanges. Butchery marks occurred on 41 horse bones, which represent more than 20% of the whole. Many long bones were chopped through the shaft, which may suggest that the meat-bearing leg bones of horses and/or the marrow of the humerus, radius, femur and tibia were utilised. The canid gnawing on 3.2% of these remains indicated dogs had access to the butchery scraps, either fed to them or scavenged. Cut marks around the lower limb bones, which are often regarded as evidence of skinning were not present. The longitudinal splitting of a horse tibia and radius from one example may also be connected to boneworking.

#### *Post-medieval pits and gullies*

There were eight pits dug during the 16th–17th centuries; a further six were undated, but lay within the same stratigraphic horizons. These latrines were scattered north-west of the moated site and at a time before the farmyard existed. A number of larger pits were for quarrying chalk, perhaps to produce lime. Smaller scattered features to the west may have been the product of small scale planting which used trellis style supports, either for hops or vines or perhaps a garden area.

#### *Post-medieval road and yard surface*

Deposits of compacted mid to dark greyish-brown silty clay loam with occasional chalky flecks occurred across large areas. The stone content was moderate to high comprising a mixture of larger cobbles and coarse gravel, with most of the stone concentrated closer to the surface horizon. The deposits formed a rough, hard, surface that was no more than 0.30m thick, surviving mainly above natural hollows. Surface layers contained red earthenware and clay-tobacco pipe bowls dated c. 1640–80 (Oswald 1975). The extent lay mainly below the 19th-century farmyard area, and also in a corridor from north to south down the east side of the excavation where a former trackway is mapped by the 1887 Ordnance Survey.

#### *Bendyshe Farm in the 19th century*

After the grey brick Bendyshe Farmhouse replaced

the 16th-century Bendish Manor at the turn of the 19th century the area outside the moated site became the focus for agricultural development. Cartographic sources from 1805 onwards depict the growth and expansion of the farm. Remains of a timber-framed barn were the subject of an archaeological watching brief during demolition (Fig 11).

Many of the later features were only cursorily examined to confirm their date, however, a sizable assemblage of household kitchen waste was recovered amongst the animal bone. Most bones were smashed in antiquity and 72.4% of the assemblage could be identified to species. The assemblage was dominated by cattle (44.8% by NISP), followed by lower numbers of pig (21.8%). The horse remains were relatively infrequent in this period and accounted for only 2.4% of the assemblage. The latter bones bore no evidence of butchery, and were probably working animals that reached maturity. The presence of sheep/goat bones was also low (1.1%) and domestic fowl were represented by a single broken radius. The much lower frequency (less than 0.5%) of dog gnawing indicated that the animals were no longer being fed with scraps and material was cleared away so that it could not be scavenged.

*Figure 11. The 19th-century timber-framed barn, looking north-west.*



### The changing environment

There was an extremely broad range of archaeological evidence to inform upon the moated site that encompassed resource exploitation, farming and settlement.

The late Neolithic/early Bronze Age activity exhibited burnt residues, including burnt stone, but excluding charred seed grains. Such material is often cited in conjunction with water-heating processes for a variety of applications, often close to water sources. Middle and late Iron Age activity seems to have reflected a similar purpose in the collection of water, although in later prehistoric periods there was no evidence that the water was being heated on site and it may well have been transported to a focus of settlement elsewhere. The land lay at a point of transition between marsh and meadowland, in close proximity to a seasonal watercourse, prone to periodic episodes of inundation. Localised and seasonal flooding of the watercourse would have occurred regularly and there is evidence of such from the late Neolithic period onwards.

The watercourse exhibited complex micro-habitats determined by their positions along the slope of the valley. Although the topographical relief is very minor, variations between wetland, marsh, floodplain and water flushes or even a watercourse, fringed the drier land. Such habitats were neither consistent spatially nor over time.

The molluscan assemblages were very rich and diverse indicating several different highly localised and small habitats. Those environments are loosely mapped over the local topography, but are dynamic and their distribution changed over time. A body of flowing water either as a hillslope or valley flush, or in a former wide, but shallow, palaeo-channel, existed along the base of the slope. Waterside environments of fen and marsh populated its bank, with emergent plants, reeds and wetland that at times and in certain places merged with the long damp grassy floodplain and meadow. Occasional pools of shallow seasonal standing water inundated the meadow, which in turn formed a floodplain that received sediments settling out under standing floodwater. Once it subsided it would leave almost imperceptible skims of mud, soon obliterated by new herbaceous vegetation and grass growth. During wetter months the low-lying land would have been less useable and accessible, but cattle could be watered at its edges and graze in much of it. In drier periods open pasture, with shorter grazed grassland and tillage, emerged on the upper slopes and dry farmland. During the late Iron Age period there was no evidence of such wet habitats, suggesting the possibility of a drier phase and of restriction or cessation of annual winter flooding. Concomitant with this is evidence of dry grassland pasture and land suitable for tillage.

Cultivation was probably being undertaken nearby from the late Iron Age onwards, with charred seed forming part of the period deposits. However, features dating prior to the Saxon period remained sparse and long-term fluctuations in the ground con-

ditions discouraged any change in land use until the establishment of boundary ditches in the middle Saxon period. Permanent settlement and many occupation activities would have been restricted to the drier slopes by necessity.

The activity from the Saxon period marked the first clear indication of land units. Cereal processing waste was recovered from crops produced in the open fields near to the site, although at least some of the material is also thought to derive from thatch and could have been dumped from settlement nearby, perhaps fronting the road to the north. The late Saxon enclosure was seemingly for livestock, and may also indicate that the meadow, which had returned to its previously wetter conditions, was pasture rather than arable.

Ridge and furrow was identified at the north-west extent of the excavations, but did not extend fully south to the wetter margin. The furrows were not well dated, and may also be later. The principal boundary at the southern edge of the excavation was fairly dry, the adjacent grassland and meadow could have provided seasonal pasture. After the 12th century these plots were filled, but remained dry for a period during which a buried soil was created.

Moving into the later medieval period the land was subject to major overbank flood events that deposited large quantities of mixed alluvial and colluvial material substantiated by an abundance of freshwater molluscs. Since the flood episodes are only dated relative to the deposits that they covered it is likely the flooding took place well into the mid-13th century. The 12th-century plots could not have been abandoned as a response to increased flooding and it seems their abandonment simply marked a change in manorial practise.

In the ensuing late medieval period a combination of winter floodwater laden with fine calcareous silts, and summer or autumn colluviation of dry calcareous chalky soils on the slopes, lead to an accumulation of 0.5–1.0m of alluvium and colluvium. This footslope deposit was further topographically defined, in more modern times, by the canalisation of the present drain.

When Thomas Bendish acquired the land in 1329 it is not known if there was already a moated site. Changing weather, land use and alterations upstream in the preceding centuries may have required a degree of water management. There was a dearth of deposited material from the establishment of the moated site in the 14th century. This material had to be removed elsewhere if managing the extent of flooding was one of the reasons for creating the moated site. This did not solve the issue, but should have alleviated the risk to the manor. The land probably remained subject to flooding, enabling up to 0.59m of material to accumulate over an extended period, so that at least some of the alluvium was contemporary to the moated site.

The apparent risk of flooding seems to have declined by the 16th century, when features were cut into alluvial levels. The Bendish estate passed hands

to Thomas Webb of Tunbridge Hall in 1593 and probably included the old red brick building that was described in 1604. It is thought that this building stood within the moated site. The latrines to the west of the moat were probably associated with this settlement, and some quarry pits supplied its construction with lime. Further away from the house, to the west, there seems to have been some cultivation activity involving trellis style supports, which may even have constituted gardens rather than the production of foodstuffs.

The former red brick building of Bendish Manor was replaced after inclosure by a grey brick building, following the sale of the land to Peterhouse, Cambridge, in 1743. This second building became Bendyshe Farmhouse, which stood outside the moated site, a little to the north. The building was the subject of continued modifications that were depicted from 1808 and by the Ordnance Survey. The whole of the area to the north and north-west of the moated site became an active farmyard, which benefited from steam powered traction. Coal dust mixed into the soil by percolation and bioturbation, was evident in most soil samples.

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