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An Archaeological Evaluation and Earthwork Survey at Wynyard Park, Hartlepool

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HEADLAND
ARCHAEOLOGY (UK) Ltd

PROJECT SUMMARY SHEET

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Address	WYNYARD PARK, HARTLEPOOL
Parish	ELWICK (SOUTH)
Council	HARTLEPOOL BOROUGH
Planning Application No	H/RES/0281/99
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Schedule	
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Report	JUNE 2009

Signed off by: .....

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Date:.....

CONTENTS

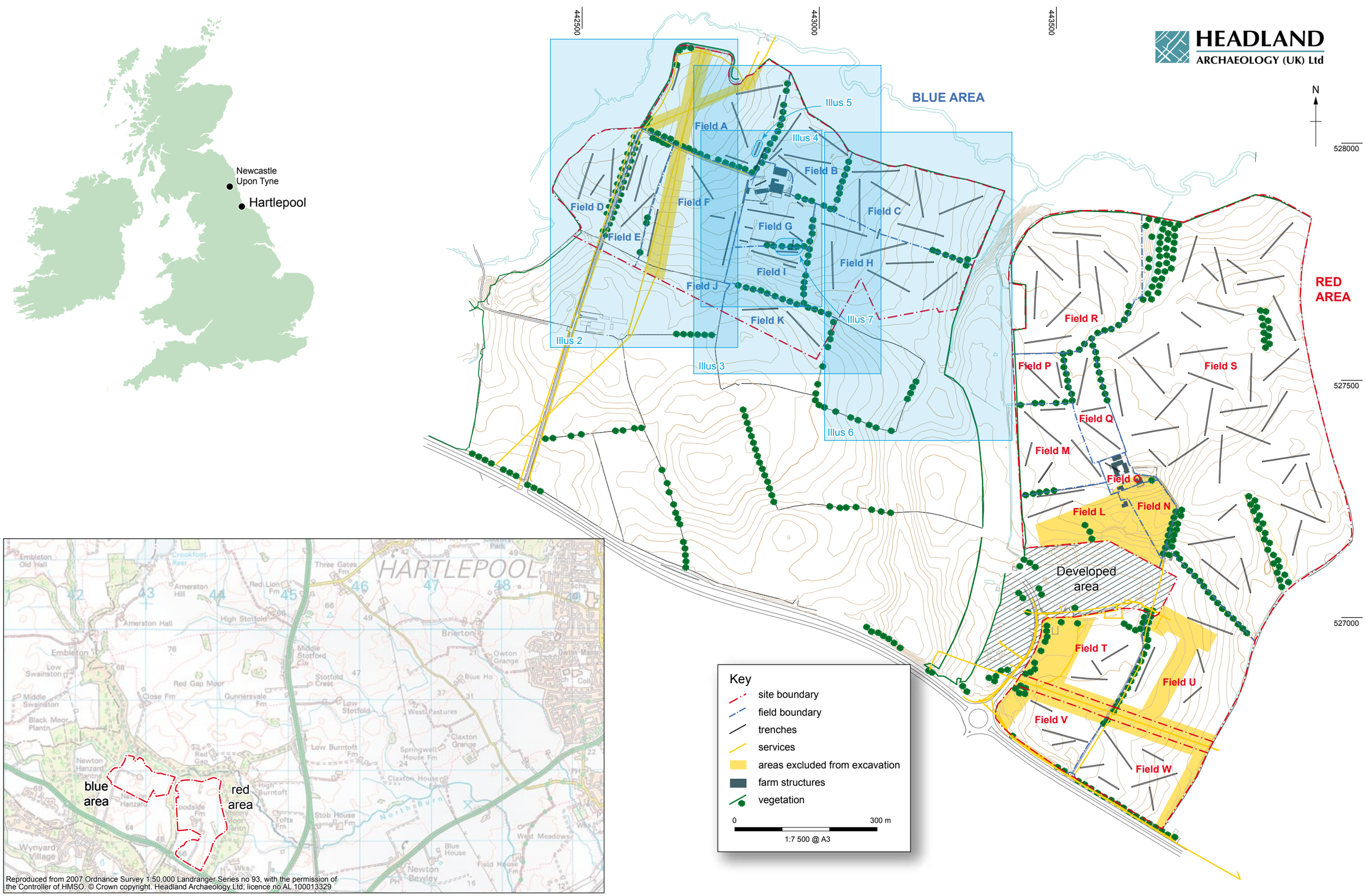
Headland Archaeology (UK) Ltd conducted an earthwork survey and evaluation at Wynyard Park near Hartlepool. The work was commissioned by Wynyard Park Ltd and was undertaken in response to a planning condition on outline consent. This report deals with the archaeological works carried out in an area that forms part of the administrative area of Hartlepool Borough Council (Ref: H/RES/0281/99).

A total of fifty two trenches were excavated and agricultural remains in the form of furrows and ditches survived throughout much of the proposed development area. An Iron Age settlement (dated by radiocarbon analysis) was located in fields to the southeast of the upstanding buildings named Low Newton Hanzard. The recorded features appear to have related to a small, discrete, enclosed settlement protected by a palisade.

Medieval structural remains dating to between the 13th and 16th centuries were located to the north of the farm buildings at Low Newton Hanzard. These comprised a possible structure to the northwest and the remains of a kiln or hearth to the north. These features appear likely to once have been contained within a partially upstanding bank. The bank appears to define a sub-rectangular, level area separated from surrounding ridge and furrow. These remains are interpreted as relating to a medieval estate centre documented from the 12th century.

To the south of the surviving buildings at Low Newton Hanzard was further ridge and furrow enclosed by a lynchet and associated ditch. A road or holloway led straight to the upstanding farm buildings from the south. Further, rather scattered, evidence of medieval activity was found to the east of the holloway with pottery sherds dated to between the late 12th and 16th centuries recovered from a boundary ditch, a small pit and some deposits preserved in hollows in the subsoil. No features of archaeological significance were found to the west of the holloway despite the recovery of frequent sherds of 13th/14th century pottery from the surface of a ploughed field. A geophysical survey found evidence for furrows but no evidence of structures or any substantial sub-surface features beneath this spread of pottery.

The evaluation located two sites of archaeological significance: an Iron Age settlement and remains relating to a probable medieval estate centre.



Illus 1
Location plan

An Archaeological Evaluation and Earthwork Survey at Wynyard Park, Hartlepool

by James McMeekin

1. INTRODUCTION

An archaeological evaluation was carried out on land at Wynyard Park between 23rd March and 23rd April 2009. Outline planning permission had been granted for a business park development. A condition attached to that permission required the implementation of a programme of archaeological works at the site prior to development.

The site was split into two areas, 'Red' and 'Blue', as shown on the attached illustration (Illus 1). The Blue Area lay within the administrative area of Hartlepool Borough Council (Ref: H/RES/0281/99) and this report deals with the archaeological works carried out in that area.

The works were carried out in accordance with a Written Scheme of Investigation (WSI) prepared by Headland Archaeology (UK) Ltd and based on a brief prepared by Tees Archaeology. The WSI was agreed with Tees Archaeology in advance of work commencing. The works comprised intrusive trial trenching, earthwork and geophysical survey. Wynyard Park Ltd commissioned Headland Archaeology (UK) Ltd to undertake this work.

Fields adjoining the area were subject to archaeological investigation prior to this programme of works. An evaluation comprising field walking, earthwork survey and Historic Building Recording (HBR) at Woodside Farm was carried out in 1999 by Tees Archaeology (Platell 1999).

Further work in the vicinity was undertaken by Headland Archaeology in 2008. The farm buildings at High Newton Hanzard and Low Newton Hanzard were subject to HBR (Geddes 2008). An evaluation comprising the excavation of trial trenches and an earthwork survey around High Newton Hanzard was also carried out at this time (Murray 2008).

A Cultural Heritage chapter has been produced as part of an Environmental Impact Assessment (EIA) undertaken in connection with a planning application for detailed consent at the site. Mitigation for the planned development will be proposed as part of the EIA. This will be informed by the results described in this report.

2. SITE DESCRIPTION

The estate lies within the northern part of the Tees lowlands close to the edge of the East Durham plateau. The landscape is characterised by gently undulating ground. Above the 55 m contour the soils are well-drained whereas at lower levels they are heavier and more clayey.

The higher ground in the area was predominantly centred on the location of Low Newton Hanzard; from here the land sloped away gently to the east and dipped into shallow valleys to the west and south before rising again. Beyond the area of evaluation to the north the ground surface dropped away sharply towards a stream in the base of the valley.

3. BACKGROUND

The information contained within the Cultural Heritage chapter of the EIA is summarised below together with the findings of previous phases of archaeological investigation.

To the west of the area a prior phase of works recorded pre-Roman Iron Age or Romano-British activity (400BC to AD100). This comprised a possible boundary ditch and a curvilinear feature containing Iron Age pottery sherds. The curvilinear feature may represent the remains of a circular structure, possibly a roundhouse (Murray 2008). Occasional worked flints were recovered from field walking to the south of the area. This material was randomly scattered across the field with no concentration of finds from any one spot (Platell 1999).

The development area lies within the Wynyard Estate, a large wooded and agricultural estate documented from the 12th century. The manor of Newton Hanzard was most likely acquired with Embleton by Gilbert Hansard - a feudatory of Bishop Pudsey (1153–95) - from the Constable of Chester (Page 1928).

Although there are a number of recorded deserted medieval villages in the vicinity, as well as some recorded prehistoric activity, it is only relatively recently that access to the estate has been possible and archaeological knowledge has been limited (Peter Rowe, Tees Archaeology, pers comm).

There are two cultural heritage sites within the development area: a 19th century farmstead at Low Newton Hanzard (SMR 5479), that has been subject to Historic Building Recording in a previous phase of work (Geddes 2008), and a group of indistinct earthworks to the northeast. These appeared to be ridge and furrow with associated linear features. To the south of the farmstead is a short section of holloway (HER 5478) and lynchet field bank. A holloway is a former road that typically has a sunken appearance compared to the surrounding landscape, and a lynchet is a bank of earth that has built up at the downslope edge of a ploughed area because of the movement of soil over time. The earthwork features were recorded as part of the programme of archaeological works reported here.

The earliest maps to show the study area in any detail are from the 18th century and show Wynyard estate and a settlement at 'Newton Hanset' (Jeffreys 1768). Some plantations to the north of Newton Hanzard (SMR 1635) to the south of the river and another near Harestounes are shown on Greenwood's map of 1820. The estate boundaries, plantations, woodlands and field systems were extensively remodelled in the mid 19th century and are shown on the 1st edition Ordnance Survey map (1859). The estate remained virtually unchanged until recent changes and the redevelopment of Wynyard Village.

4. OBJECTIVES AND METHODOLOGY

4.1 Objectives

The objectives were:

i. To record the earthworks in the field to the northeast of Low Newton Hazard and the holloway to the south by means of topographic survey.

ii. To establish the archaeological potential of the development area by means of intrusive trial trenching, geophysical survey and sample excavation.

4.2 Method

4.2.1 Earthwork Survey

The ridge and furrow and associated features (linear banks and a possible pond) in the field to the northeast of Low Newton Hazard (Field B) were digitally surveyed prior to any disturbance. The ridge and furrow cultivation in Field B was not as visible at ground level as on aerial photographs, with cultivation only discernable in the north east area of the field. Further digital survey of ridge and furrow earthworks, the holloway, lynchet and two banks was carried out in Field G prior to any disturbance.

A two dimensional plan of all visible earthworks was created and located relative to the National Grid. The digital survey was achieved using a Penmap system linked to a Leica total station allowing the surveyor to view the plan as it was created. A written description was made and photographs were taken.

4.2.2 Trial Trenching

The land to be developed comprised 33 ha. A 2% sample of the area was trenched resulting in a sample of 6 600 m^2 or some 3300 m of linear trench 1.8 m wide. In addition to this, a further 355 m of linear trench was excavated to aid in the understanding of features of archaeological significance found in the initial sample. A total of 52 trenches were excavated.

A 16 ton tracked mechanical excavator equipped with a 1.8 m wide flat edged ditching bucket was used under archaeological supervision to excavate the trenches. A JCB was used under archaeological supervision to excavate the short trench directly to the north of Low Newton Hanzard. Exclusion zones were placed around known or suspected active services in Fields A and F.

Topsoil or modern overburden was removed by machine and excavation terminated at the uppermost significant archaeological horizon or when the clean surface of geological sediments had been exposed. The positioning of the trenches provided coverage across the site and targeted locations with advantages in elevation and south facing slopes. The features identified and recorded by digital survey were targeted along with locations near to the existing farm buildings.

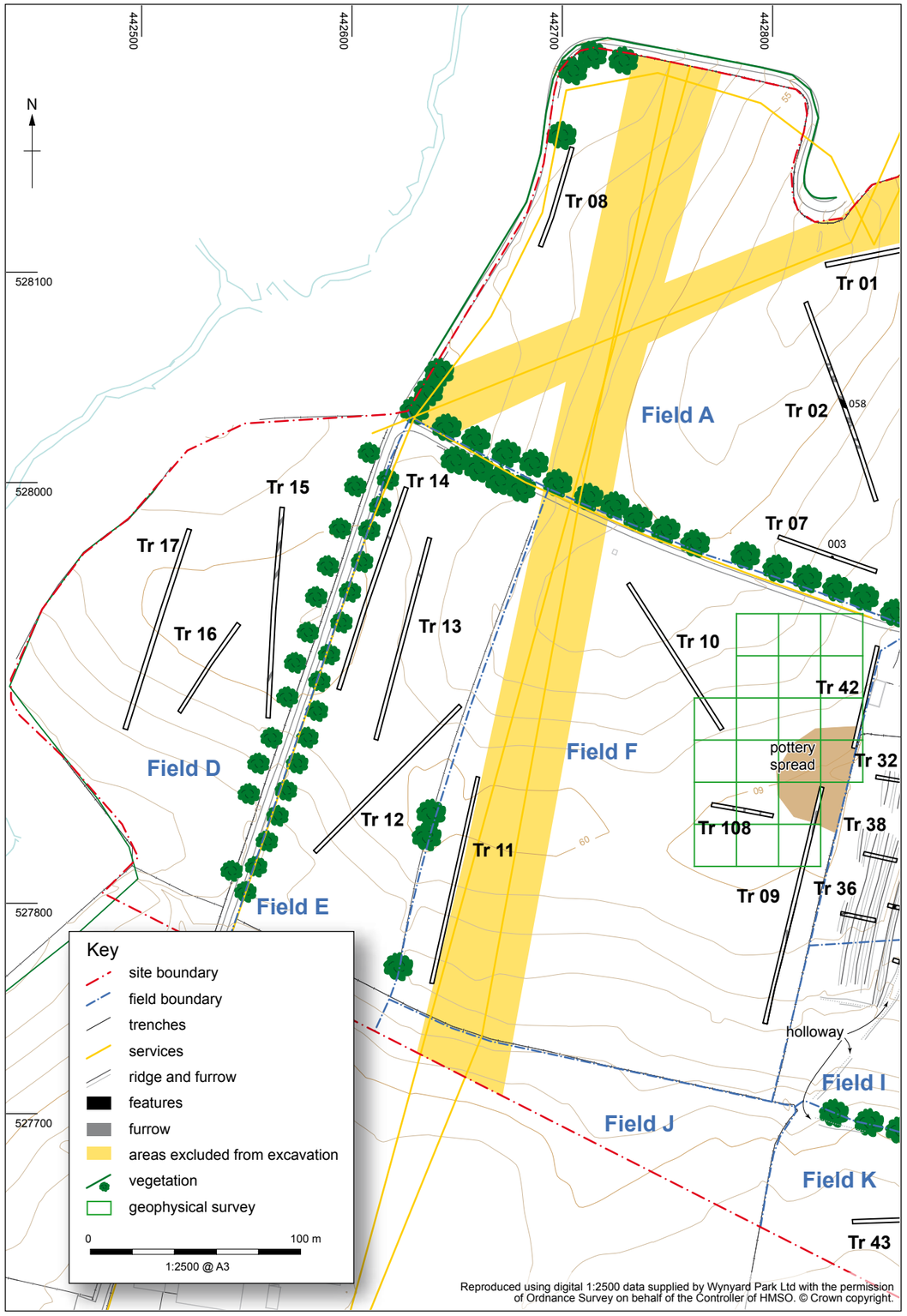
Identified archaeological features were subject to sample hand excavation. This was carried out to a sufficient degree to meet the objectives of the evaluation.

4.2.3 Geophysical Survey

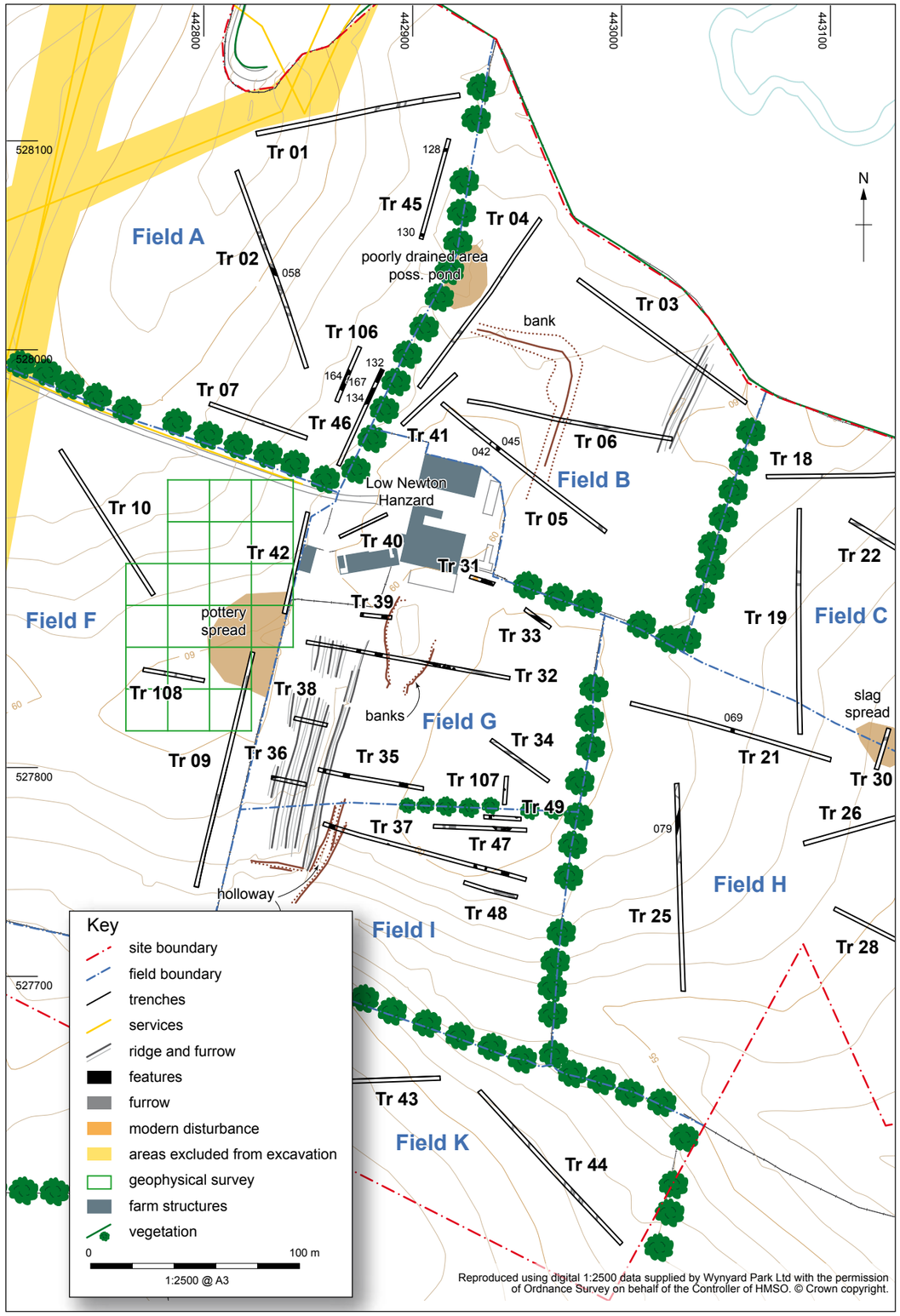
Following the trial trenching and as a result of discussion with Tees Archaeology and the client a small area of magnetometer survey was undertaken. The details of this work are included in Appendix 4.

4.3 Recording

All recording followed standard archaeological guidelines as set out by the Institute for Archaeologists (IfA). All contexts, small finds and environmental samples were given unique numbers and all recording was undertaken on pro forma record cards that conform to accepted archaeological norms. All stratigraphic relationships were recorded.



Illus 2
Trench plan showing W area of site



Illus 3
Trench plan showing centre area of site

Colour transparencies and black and white print photographs were taken to record archaeological contexts and to illustrate the progress of the trial trenching. A graduated metric scale was clearly visible in record photographs of contexts. All photographs were recorded by individual print number and included information on the context and direction taken.

An overall site plan at an appropriate scale and relative to the National Grid was recorded using a combination of digital survey and 1:20 plans of individual features, and sections/elevations as required. Digital survey using a Penmap system linked to a Leica total station allowed the surveyor to view the site plans as they were created. A digital survey archive will be created using ADS guidance on best practice and will be archived at the ADS.

4.4 Samples and artefacts

Any finds retrieved during the excavations were bagged and labelled by context. Small finds were 3D plotted where appropriate. Finds were processed and stored appropriately, according to established archaeological guidelines.

Archaeological deposits were sampled systematically in accordance with standard environmental sampling practice. Bulk samples were taken for wet sieving and flotation. A representative proportion of these samples were processed and analysed with the results included in Appendix 3. A fragment of charred cherry wood was recovered from the fill of palisade ditch [161] and was sent for radiocarbon analysis (Appendix 3).

5. RESULTS

5.1 Trial Trenching

Fields A to K (trenches 1-49 and 106-108) were located in the area reported on here (Fields L to W, trenches 50-105, 143-149 and 150-158 were located in the Red Area and are not reported on here).

The stratigraphy in the area was relatively simple with dark brown loam topsoil (0.2m – 0.4m thick) lying over orange brown sandy clay subsoil. Towards the base of slopes mid brown silty clay colluvium was encountered beneath the topsoil. This colluvium was in excess of 1m deep in trench 10 at the base of the slope in Field F (Appendix 1) and represented loose sediment transported downslope by gravity.

Finds recovered from the topsoil included worked flints, including a possible Bronze Age scraper (Appendix 2). The scraper was unstratified (recovered from ploughsoil), and so does not relate to a specific site and is not significant with regard to the planned development. A large amount of pottery fragments dated to the 13th/14th century was also recovered. The pottery fragments were concentrated on high ground in the eastern area of Field F (Illus 2).

The topsoil finds suggested some prehistoric activity in the area and medieval activity on or around the high ground at Low Newton Hanzard. Whilst no finds were recovered from any furrows the proximity of upstanding ridge and furrow cultivation to a number of medieval features and deposits in Fields B and G is a further indication of agricultural activity dating from at least the medieval period.

Full detailed descriptions of each trench can be found in Appendix 1. Results are summarised below.

Field A

Seven trenches were excavated in this field, targeted at the high ground and avoiding known services in the western part of the field (Illus 2). Two patterns of furrows were found. A N-S sequence of furrows was exposed in the eastern (upslope) portion of trench 1. Preservation of the furrows was variable due to plough truncation. These furrows were spaced at intervals of between 3.4 m and 8.6 m. The furrows were between 0.6 m and 1.1 m wide and were 0.22 m to 0.32 m deep.

An E-W sequence of furrows was uncovered in trench 2, as well as an intermittent sequence of NE-SW furrows. The furrows in this trench were between 0.73 m and 1.3 m wide and up to 0.43 m deep. They appeared to have suffered less from plough truncation, possibly due to the sloping ground.

A large ditch [58], running roughly E-W, was also exposed in trench 2. The ditch was 2 m wide and 0.53 m deep with steep sloping sides leading to a flat base. Fragments of medieval pottery dated from the later 12th to the 14th century were recovered from the fill and the observation that some of these were joining sherds suggests that they had not been redeposited or disturbed (Appendix 2). The ditch ran down the west facing slope in Field A and most likely functioned as a boundary and/or drainage ditch.

A similarly oriented ditch [130], 1.77 m wide and 0.52 m deep, was found in the south end of trench 45 (Illus 3). This may represent a continuation of the same ditch, though this was not supported by dating evidence as no finds were recovered from the fill.

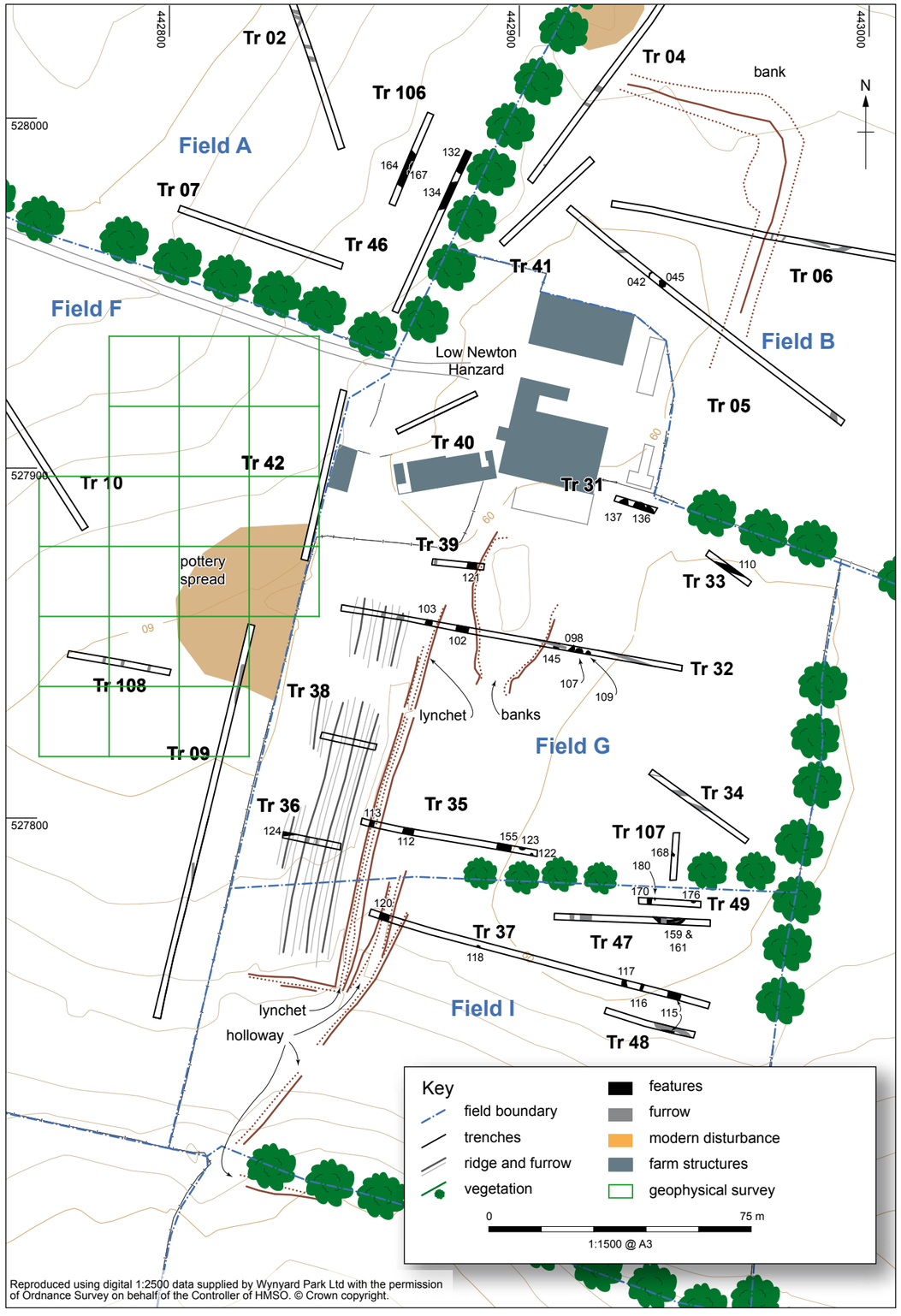
Trenches 46 and 106 were excavated in the SE corner of Field A to the NW of the farm buildings of Low Newton Hanzard. Two large, shallow cuts [132] and [134] were uncovered in trench 46 (Illus 3 & 4). Cut [132] was 4.5 m wide and 0.2 m deep with gently sloping sides and a flat base. This was filled with compact light grey silty clay [133] that contained an abundance of animal bone and 102 reduced greenware pottery sherds dated to the 14th to 16th century (Appendix 2). The animal bones derived from farm animals (cattle, sheep/goat, pig and dog) and are likely to represent domestic waste (Appendix 5).

Cut [134] was 8.5 m wide and 0.2 m deep with gently sloping sides and a flat base. It was filled with [135], a compact light grey silty clay with inclusions of coal. Finds from this deposit were somewhat rarer, with only occasional fragments of animal bone and medieval pottery. This deposit may have been disturbed as it contained both pottery sherds dated to the 14th to 16th century and a clay pipe stem from the 17th to early 18th century (Appendix 2).

A similar cut [164] was exposed in trench 106 approximately 12 m to the west (Illus 4 & 5). This cut measured 10 m N-S and was 0.4 m deep. It was filled with compact dark brown loamy sand and contained occasional fragments of medieval pottery (14th to 16th century) and a single iron horseshoe (Appendix 2). This cut appeared to curve around a high area of natural clay subsoil and a very compact, flat loamy sand surface [167] on the east side of the trench. A large number of sub-rounded and sub-angular boulders [166] arced around this higher area or platform and filled cut [164]. These stones may represent the remains of a medieval structure. The compact surface may represent the interior floor of that structure. The finds recovered from the associated deposits place activity here in the 14th to 16th century (Appendix 2). Further investigation would be necessary to determine the exact nature of the possible structure.

Field B

The ridge and furrow, putative bank and possible pond in Field B were digitally surveyed prior to any disturbance. Five trenches were then excavated and targeted at the earthworks, higher ground and adjacent to the possible pond (Illus 3). The ridge and furrow visible on the surface of the field for the most part did



Illus 4
Plan of Iron Age palisade enclosure and associated features in Fields G and I

not survive as features in the subsoil; only occasional furrows had been cut as deep as the subsoil. The linear bank in the SW corner of Field B did not have any related features cut into subsoil.

Intermittent furrows were found in the trenches throughout the field, some oriented NW-SE and others running NE-SW. A series of pits containing animal burials were uncovered at the ends of trenches 4 and 5. These most likely related to the modern occupation of Low Newton Hanzard farm.

A flagged surface [45] was exposed in trench 5. This surface was made up of poorly sorted rounded to angular stone cobbles up to 0.3 x 0.25 x .015 m in size. This surface was sealed by a thin layer of silty loam [44] containing frequent fragments of lime and cinder and occasional fragments of medieval pottery dated to the 13th/14th century (Appendix 2 & 3). The cobbled surface sat within a shallow cut [46] that truncated the natural clay subsoil. The sides and base of this cut were heat affected with the clay here a compact red material as opposed to the grey brown clay subsoil found elsewhere within the trench. This surface may represent a hearth or kiln base.

A small curvilinear gully [42] was located 3 m to the NW of the possible hearth or kiln [45]. No further evidence of pre-modern occupation was found in the immediate vicinity.

Field C

Six trenches were excavated in Field C (Illus 6). A small trench (30) was excavated across the boundary between Fields C and H, targeted at a spread of iron slag on the surface of the field. The west side of Field C contained occasional furrows. Trenches 19 and 22 contained sequences of E-W oriented furrows. The two furrows in trench 19 were spaced 6.1m apart and were approximately 1m wide. The three furrows in trench 22 were spaced 12.4-13.4 m apart and were 0.76 m to 1.4 m wide. A single E-W oriented furrow was exposed in trench 30. Very occasional N-S furrows were also exposed in the west side of the field.

A feature [65] was partially exposed in trench 20. The cut was 0.95 m wide (N-S) and a 1.2 m wide extent was exposed E-W within the area of excavation. The cut was 0.45 m deep and was filled with moderately compact grey silty clay and occasional sub angular stones up to 0.35 m^3. This feature may represent the terminus of a ditch or an isolated pit. A large shallow pit or ditch terminus [77] was exposed in the NE end of trench 23 filled with compact mid grey sandy clay. A NNE-SSW oriented ditch [75] was located 16m to the SW of [77]. This 1.8 m wide ditch was linear in plan with moderately sloping sides leading to a V-shaped base. This ditch [75] most likely represents an old boundary or drainage ditch and [77] either an isolated pit or another ditch.

Trench 30, excavated through a spread of ferrous slag on the surface of the field, did not uncover any features or deposits that explained the origin of this material. A single E-W oriented furrow was exposed towards the northern end of the trench (see above).

Field D

Three trenches were excavated in this field, targeted at high ground and south facing slopes (Illus 2). A sequence of NE-SW oriented furrows was exposed in trench 15. The furrows were present at intervals of 5.8 m to 7.2 m and were 1.2 m to 1.4 m wide. A single furrow on the same orientation was present at the south end of the trench. Preservation of the furrows was variable, probably due to plough truncation. No further features were identified on the high ground to the west or on the south facing slope.

Field E

Three trenches were excavated in Field E (Illus 2). A single furrow oriented NW-SE was uncovered in trench 13 and another in trench 14.

Field F

Four trenches were excavated in Field F targeted principally at a concentration of medieval pottery found as a surface scatter on high ground at the eastern side of the field and an anomaly visible on aerial photographs (Illlus 2). The buff gritty pottery

Illus 5
Possible medieval structure in Field A

sherds found on the surface of the field dated to the 13th/14th century. The targeted trenches failed to expose any structures, features or deposits of archaeological significance. They did record occasional NNE-SSW oriented furrows in trenches 9 and 108.

A geophysical evaluation of the area was undertaken following the evaluation and found further evidence of ridge and furrow cultivation (Appendix 4). The anomaly visible on the aerial photographs did not correspond to a significant sub-surface feature. The signals generated by the furrows were relatively weak and any structures or stronger anomalies present should have clearly stood out. The anomaly visible on the aerial photographs may represent remnants of agricultural activity or patterns of drainage.

The concentration of pottery was such that it is not thought to have been redeposited here by agricultural manuring. The spread may have derived as midden material associated with the adjacent medieval settlement.

Fields G and I

Nine trenches were excavated in Field G and a further four in Field I (Illus 3). The results from these fields have been dealt with together as they encountered archaeologically significant features that did not respect the modern field boundary. Digital survey of ridge and furrow earthworks, a holloway, lynchet and two banks was carried out in Field G prior to any disturbance. The trenches were targeted at these features and ground near to the upstanding farm buildings to see whether any archaeological remains of previous phases of occupation were present.

Possible palisade enclosure

Features present in trenches 47, 49 and 107 indicated a discrete area of occupation towards the eastern side of Fields G and I that commanded a prominent position as the ground dipped away to the immediate south (Illus 4 & 7). Two concentric curvilinear ditches were present in trench 47. A slot excavated into ditch [161] exposed packing stones around the remains of a possible post pipe in the base of the ditch (Illus 8). This post setting at the base of the ditch may have belonged to a palisade enclosure measuring approximately 22 m N-S by 15 m E-W judging from the elements found in trenches 47, 49 and 107. A fragment of charcoal (burnt bird cherry wood) recovered from the compact dark grey sandy clay fill [162] was sent for radiocarbon analysis in order to determine a date for the feature. The analysis returned a calibrated date of between 360 BC and 50 BC (2 sigma, SUERC-23659) placing the feature in the Iron Age (Appendix 3). Fragments of daub were also recovered from the ditch fill. These fragments were heavy for their size and may represent kiln lining, suggesting that prehistoric metalworking took place in the vicinity (Appendix 2).

A slot excavated through the inner 'ring' [159/173] also exposed packing stones, although not obviously arranged around a post pipe in this instance (Illus 9). The curvilinear ditches had steep almost vertical sides leading to a flat U-shaped base. When excavated the ditches were found to be between 0.33 m and 0.4 m deep and 0.7 m wide. The ditches seemed to come together towards their western ends; a field drain cut at this point meant it was not possible to determine a stratigraphic relationship between the two. The two ditches may represent two distinct phases of a palisade or may have been contemporary.

Features [176] and [180] in trench 49 may represent the N-S returns of the palisade ditch. A large ditch [170] located to the immediate west of [180] may represent a continuation of the converged ditches in trench 47. The fill of the linear feature [180] may also represent part of the western section of palisade ditch. This feature was filled with compact dark grey silty clay and contained a number of packing stones. This fill was similar to those found in the ditches excavated in trench 47. Feature [176], a pit or ditch terminus, was partially exposed at the eastern end of trench 49. Packing stones within the fill were suggestive of another post setting though a post pipe was not visible in section (Illus 10).

A feature interpreted as the terminal end of a ditch [168] was also exposed running approximately E-W in trench 107. This terminus was similar in size to [180] and was filled with dark grey brown loamy clay with occasional flecks of charcoal. This represented the northernmost extent of the cluster of features associated with the possible palisade enclosure. Contained within this cluster were several discrete features most likely pits or postholes. The location of these features was recorded by digital survey and the features preserved intact.

Holloway, lynchet and agricultural activity

A holloway visible as a surface feature was present in trenches 32, 35 and 39 excavated in Field G and ran N-S across the west side of the field towards Low Newton Hanzard (Illus 11). The holloway was given a discrete number each time it was encountered; thus it was recorded as [102] in trench 32, [112] in trench 35 and [121] in trench 39 (Illus 4). The road surface comprised poorly sorted rounded to angular stones and occasional fragments of handmade brick and was 2.6 m to 2.8 m wide. The surface was pressed into the natural clay subsoil. Occasional fragments of white glazed 19th/20th century pottery were found within the surface. This most likely represents the last time the road was resurfaced or repaired rather than a date relating to its creation. The holloway continued away from the farmstead to the south where it was uncovered again in trench 37 in Field I. Here it was recorded as [120] (Illus 4). From here it curved slightly to the south west towards the corner of Field I, before turning sharply to the east as it entered Field K. The path of the holloway was no longer discernable from this point. The holloway was flanked by banks and occasional sizeable deciduous trees to either side as it dipped into Field I (Illus 12). The direction the road followed suggested that it led straight up to the 18th/19th century farm buildings or whatever stood in that location prior to their construction.

The bank (or positive lynchet) and negative lynchet or ditch ran N-S to the west of the holloway in Field G and delineated an area of ridge and furrow. A small fragment of red tile was found in the deposit that filled the ditch [103]. The ditch continued to the south (here [113]) before turning sharply to the west. The furrows were only occasionally present in the subsoil despite their conspicuous prominence on the surface of the field. A pattern of E-W to ESE-WNW oriented furrows was present in trenches 32 and 34 towards the centre of Field G.

A large N-S oriented ditch [155] was exposed at the eastern end of trench 35. It was 3 m wide and 0.6 m deep with steep sloping sides leading to a flat base. The ditch was filled with homogenous soft brown grey silty clay with occasional inclusions of buff gritty and pink gritty medieval pottery sherds dated to the 13th/14th century (Appendix 2). This feature appears to have been a sizeable boundary ditch and its location towards the centre of the field indicates that the field boundaries in this area have altered over time.

Features [98] and [145] in trench 32 were possible candidates for the continuation of ditch [155] to the north. Both these features were considerably smaller than ditch [155] and no finds were recovered from their fills. As such it was not possible to determine whether either related to the medieval ditch.

Two small spreads of mottled grey brown silty clay with frequent small sub rounded stones and occasional inclusions of charcoal were found in hollows within the natural clay subsoil located to the east of ditch [155] in trench 35. Fragments of reduced green glaze pottery dated to the 13th to 16th century were recovered from these deposits (Appendix 2). The deposits, [122] and [123], had an irregular shape in plan and were less than or equal to 0.15 m thick. The deposits were a further indication of medieval activity in the vicinity.

A shallow cut [107] was exposed to the immediate east of ditch [98]. This cut was filled with grey brown silty loam [108] containing frequent inclusions of charcoal, coal, marine shell, animal bone and sherds of medieval pottery dated to the 14th to 16th century (Appendix 2). A similar spread [109] of this midden like material was uncovered 1m to the east and contained pot sherds dated to the 13th/14th century (Appendix 2).

A small pit [118/119] containing frequent large fragments of iron slag and medieval pottery dated from the later 12th to the 14th century (Appendix 2) was located in trench 37 in Field I. This pit was isolated in its location but attests to the general extent of medieval activity. The pottery fragments from the fill were conjoining so are not likely to have been redeposited.

Sections of ditches were exposed in trenches 33 and 36, the respective north east and south west corners of Field G. These are most likely sections of old boundary ditches. The ridge and furrow was apparent on the field surface prior to the excavation of trench 36 suggesting that ditch [124] may have been in use prior to the creation of the furrows.

Trench 31 to the east of Low Newton Hanzard contained an area of hard standing or rough cobbling [136]. Fragments of handmade red brick, a horseshoe and animal bones were found lying directly over this surface. A sherd of green glass from a 17th/18th century bottle was also recovered from this deposit (Appendix 2). The surface most likely provided an area of hard standing associated with the 18th/19th century farm buildings in the same way that the concreted area to the immediate west would have functioned during the modern occupation of the farm.

The articulated bones of a horse were exposed in a pit [137] at the west end of trench 31. The bones were still partially connected with soft tissue and a red roof tile was found in the fill of the pit. This skeleton was a modern burial and was probably roughly contemporary with the modern animal burials found in Field B.

A sunken area was located to the immediate south of the upstanding farm buildings. When the topsoil was stripped away a more gravelly sandy subsoil was exposed than in the surrounding higher areas. This area was delineated by a pair of roughly N-S curvilinear banks (Illus 4). These banks may represent the remains of partial enclosure of this area with a narrow opening to the south.

A layer [115] containing frequent ceramic building material was located in trenches 37 and 48. Fragments of orange handmade brick, lime mortar, red roof tile and stones were exposed. The handmade bricks were typical of those found in the late medieval and early post medieval period (Appendix 2). The deposit most likely related to the demolition of a late medieval or early post medieval structure. No evidence for a structure was found nearby; it seems likely that this material related to an erstwhile structure at Low Newton Hanzard and was dumped in this area. This deposit post dated an E-W oriented furrow in trench 48. Areas of hard standing or rough cobbling, [116] and [117], comprising brick fragments, pan tiles sherds and rounded cobbles lay to the west of [115]. This may represent further use of the same demolition material to create narrow tracks or more solid ground at the top of the slope in Field I.

Field H

Six trenches were excavated in Field H (Illus 6). A sequence of NW-SE furrows was present in trench 27 spaced at intervals of 6.4 m to 9.6 m and were 1 m to 1.3 m wide. These furrows are likely to be indicative of more extensive ploughing with only occasional bases of furrows surviving. Furrows following the same orientation were found in trenches 25 and 26, and two further furrows oriented NNE-SSW in trench 25.

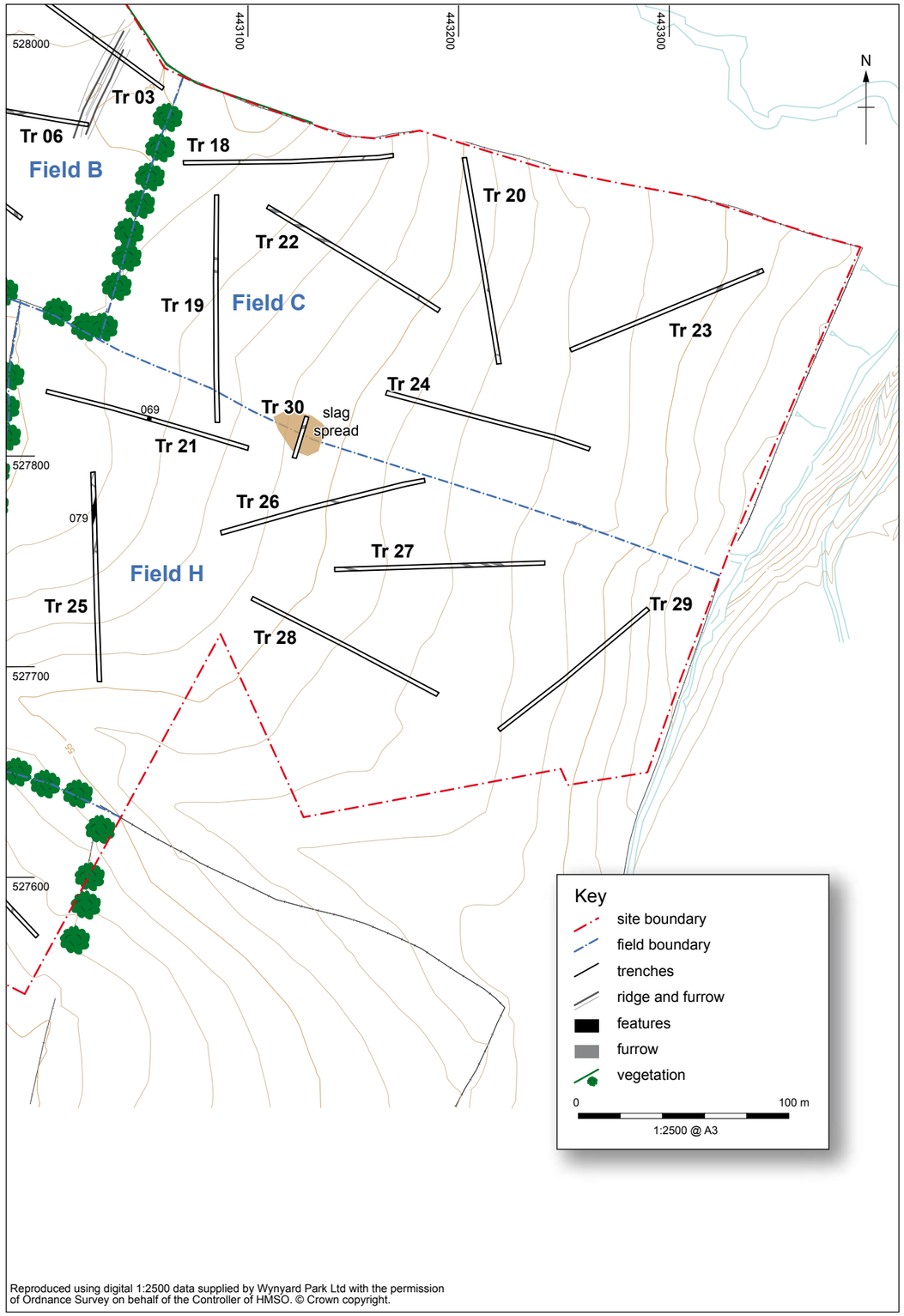
A large NE-SW to NNE-SSW running ditch [79] was found in trench 25. This ditch was in excess of 1.9 m wide and 0.67 m deep. Steep sloping sides led to a V-shaped base. Ditch [69] in trench 21 was aligned NNE-SSW and though slightly smaller than [79] had similar steep sides and a V-shaped base. Ditch [69] may represent a continuation of [79]; ditches [69] and [79] most likely represent a single feature that functioned as a field boundary.

Field J

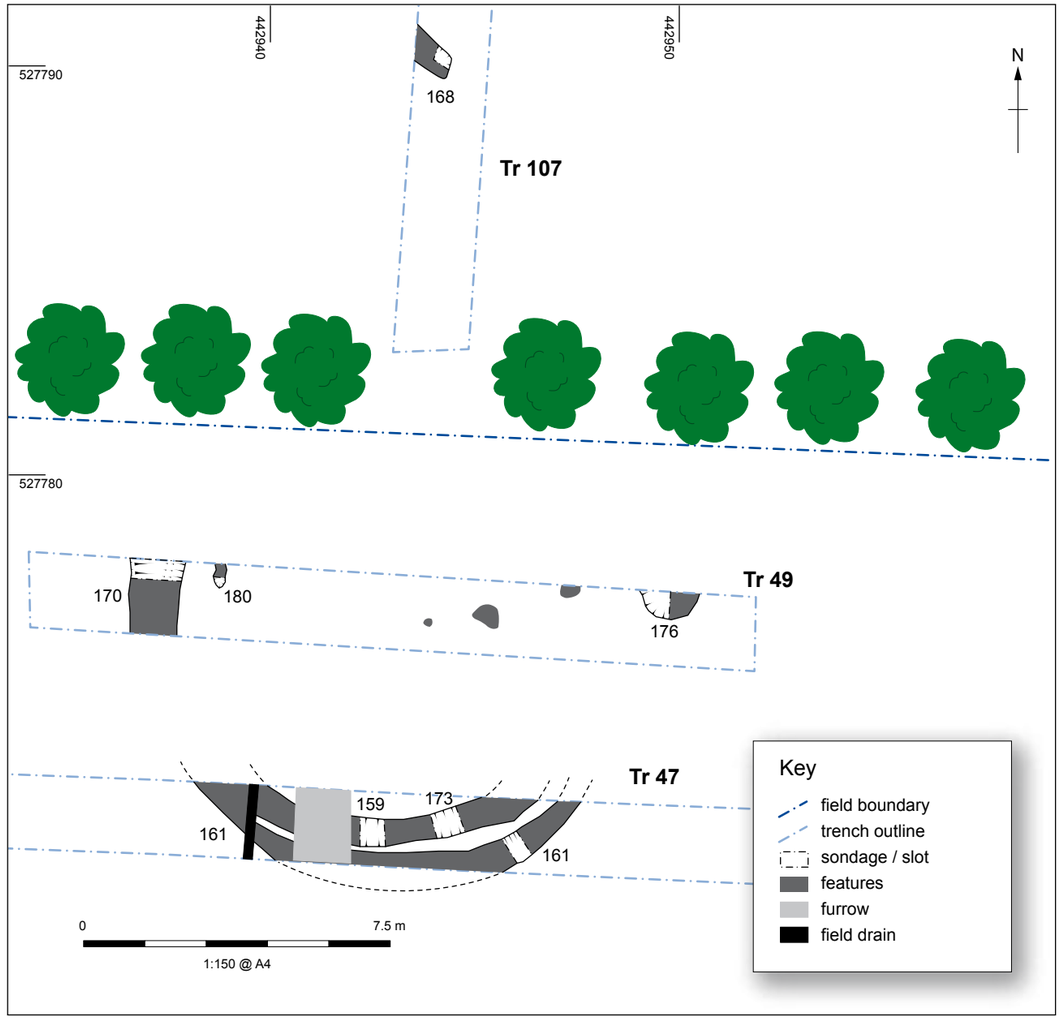
No trenches were excavated in Field J or in the small area to the east of Field J and south of Field E. Trenches targeted at the high ground in these fields were excavated in a prior phase of archaeological works (Murray 2008).

Field K

Two trenches were excavated in Field K (Illus 3). A pattern of NNE-SSW aligned furrows was exposed in



Illus 6
Trench plan showing E area of site



Illus 7
Iron age palisade enclosure in Fields G and I

trench 44 on the eastern side of the field. The best preserved sequence showed furrows present at 1.7 m to 4.5 m apart and approximately 1m wide.

Low Newton Hanzard Farm

A single 25 m trench (trench 40) was excavated to the immediate north of the farmhouse at Low Newton Hanzard (Illus 3). No features of archaeological significance were present in this trench. Frequent fragments of modern pottery and rusting ferrous material were present in the topsoil. The high numbers of modern material within the topsoil suggested a large amount of modern disturbance and the lack of a broad interface between it and subsoil suggested that the natural soil profile here may have been truncated. If this is the case then there is a lower potential for remains relating to earlier occupation to survive in the vicinity of the standing buildings.

DISCUSSION

There was evidence of agricultural activity across much of the evaluated area. This comprised the bases of furrows and occasional ditches. Areas of archaeological significance were for the most part found at or above 58 m OD. This comprised the high ground centred on the upstanding remains of Low Newton Hanzard and another area to the southeast.

Several sections of ditch, as well as a number of pits or postholes were located on the boundary of Fields G and I. The ditch elements appeared to enclose the smaller features (Illus 7) and may represent the remains of a palisade. Trial trenching suggested an extent of approximately 15 m E-W by 22 m N-S for the enclosure. This putative small palisaded enclosure was located in a prominent position overlooking a shallow valley to the immediate south with the ground dropping away gently to the east.

A fragment of charcoal (bird cherry wood) recovered from the post pipe fill of a post setting was sent for radiocarbon analysis. This analysis returned an Iron Age date of between 360 BC and 50 BC (2 sigma, SUERC-23659). Fragments of daub, possibly representing kiln or furnace lining, were also recovered from this deposit [162].

Petts (2006, 36-37) has suggested that throughout much of later prehistory the region was weakly centralized with settlements formed by household groups interconnected by loose ties of kinship. This site may represent a simple enclosed settlement of such a household group.

Medieval structural remains were found in Fields A and B. Pottery sherds dated to the 14th to 16th century were recovered from a deposit associated with a possible structure in the south east corner of Field A. This structure was located at the top of a slope and may represent the western edge of medieval settlement in this area. Further west, and downslope, an infilled ditch [58] was dated to the 13th/14th century and most likely originated as a medieval boundary that ran downslope and away from the centre of occupation.

A kiln base or hearth was uncovered in Field B and was sealed by a deposit containing pottery dated to the 13th/14th century. To the northeast of this feature, and the high ground occupied by Low Newton Hanzard farmstead, was a section of bank that may once have formed part of a rectilinear enclosure. Such banks, and areas of redeposited soil, are a common feature of medieval settlements in the region (Robin Daniels, Tees Archaeology, pers comm). Ridge and furrow cultivation was visible on aerial photographs to the north and north east of this bank, but was only partially visible on the ground.

To the south of Low Newton Hanzard further ridge and furrow cultivation was enclosed by a lynchet and associated ditch. To the east, a holloway ran through Fields G, I and K and led to the standing 18th/19th century farm buildings. It seems likely that these earthwork features originally dated to the medieval period and continued to be used into the post-medieval period.

Further, rather scattered, evidence of medieval activity was found to the east of the holloway with pottery sherds dated to between the late 12th and 16th centuries recovered from a boundary ditch, a small pit and some deposits preserved in hollows in the subsoil. No features of archaeological significance were found to the west of the holloway in Field F despite the recovery of frequent sherds of 13th/14th century pottery from the surface of the field. A geophysical survey found evidence for furrows but no evidence of structures or any substantial sub-surface features beneath this spread of pottery (Appendix 4).

Two sections of a roughly NNE-SSW ditch were exposed in the western side of Field H. This ditch lay above 58 m OD and may have served to act as an eastern boundary around the higher ground associated with Low Newton Hanzard. No dateable material was recovered from the ditch in Field H. Isolated features were exposed in Field C but did not appear to be associated with more extensive activity or occupation. As the ground dropped away from the higher and better drained areas evidence of agricultural activity became sparser with fewer furrows in the lower lying areas.

The current farm buildings of Low Newton Hanzard lie at the centre of the medieval features discovered in the evaluation and (together with a small rise in Field D) occupy the highest ground in the Blue Area. The enclosing section of bank to the northeast and the holloway leading up to the buildings further suggest that they overlie the core of a former medieval settlement. The trench excavated to the immediate north of the farmhouse suggested that the natural subsoil may have been truncated here. This and other disturbance associated with the construction of the standing buildings may have significantly reduced the potential for medieval structural remains to survive in the area around and beneath the current farm.

The surrounding area to the north of the farmstead contains medieval remains that probably related to ancillary buildings and features around a primary residence. These features appear likely to once have been contained within a partially surviving rectilinear bank and presumably once formed part of a medieval estate centre that was first documented from the 12th century (see Background). The artefacts and animal bone associated with the features suggest the use of local pottery from the late 12th century and the rearing of typical farm animals. The damp depression visible on aerial photographs to the north of the farmhouse, thought of as a possible pond, may also have been associated with medieval activity although the trenching retrieved no direct evidence for this.

The features to the south of Low Newton Hanzard are more difficult to define. They certainly indicate some medieval activity in this area, but they take the form of occasional ditches, a pit and some spreads of pottery-rich deposits. The isolated pit containing iron-working debris is interesting as smithies frequently formed part of medieval estate centres (for example, Stronach et al 2004), although usually set apart from the main wooden buildings for obvious reasons.

The Iron Age features located in the fields to the southeast of Low Newton Hanzard appear to represent a discrete, small settlement that is archaeologically significant. The more extensive medieval remains are spread across the high ground around Low Newton Hanzard farm and are interpreted as related to an estate centre documented from the 12th century. The medieval remains also form a significant archaeological site.

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Illus 8
Post setting in palisade ditch 161

Illus 9
Palisade ditch 173

Illus 10
Palisade ditch terminus / pit 176

Illus 11
Holloway 112 with Low Newton Hanzard in the background

Illus 12
Holloway 120 leading away to the south

APPENDIX 1; SITE REGISTERS

Trench Register

N.B. Numbers may not be sequential as a single register was used to record both the Red and Blue Areas of site.

Trench No.	Field	Orientation	Description	Length (m)	Topsoil depth (m)
1	A	E-W	Topsoil: Red brown clay loam with frequent small stone inclusions. Subsoil: Light red brown clay changing to gravelly sand. Contained furrows and rubble field drain.	100	0.45
2	A	NW-SE	Topsoil: Red brown clay loam with frequent small stone inclusions. Subsoil: Light red brown clay. Contained a ditch with medieval pottery, furrows and field drains.	100	0.35
3	B	E-W	Topsoil: Soft mid brown loamy sand with occasional small stones. Subsoil: Mottled red grey clay with occasional sandy patches. Contained furrows. Ridge and furrow visible on surface but not in section.	100	0.3
4	B	N-S	Topsoil: Soft mid brown loamy sand with occasional small stones. Subsoil: Mottled red grey clay with occasional sandy patches. Contained possible ends of ditches/pits, modern pits with animal bone.	100	0.3
5	B	E-W	Topsoil: Soft mid brown loamy sand with occasional small stones. Subsoil: Red brown clayey sand. Contained Cobbled surface [45], curvilinear gully, furrow, field drain and modern pits with animal bone.	100	0.35
6	B	E-W	Topsoil: Dark brown sandy loam. B-horizon: 0.2 m deep. Subsoil: Red brown clay. Contained furrows.	100	0.25
7	A	E-W	Topsoil: Dark brown sandy loam.B-horizon: Grey brown clay. Up to 0.9m deep at base of slope. Subsoil: Mixed sand, clay. Contained possible pit, field drains.	50	0.4
8	A	NNE-SSW	Topsoil: Dark brown sandy loam. B-horizon: Sandy clay, frequent small stones. 0.15m deep. Subsoil: Brown clay. Contained field drains.	50	0.4
9	F	NNE-SSW	Topsoil: Dark brown sandy loam. B-horizon: Medium brown clay.0.2-0.8m deep at base of slope. Subsoil: Mixed orange grey sandy clay. Contained furrows and field drains.	100	0.4
10	F	NW-SE	Topsoil: Dark brown sandy loam. B-horizon: Grey brown silty clay. 0.4-1.2m deep at base of slope. Subsoil: Grey brown clay. Contained field drains.	80	0.3
11	F	N-S	Topsoil: Dark brown sandy loam. B-horizon: Grey brown silty clay. 0.6 m deep at base of slope. Subsoil: Grey brown clay.	100	0.25
12	E	NE-SW	Topsoil: Dark brown sandy loam. B-horizon: Mid brown silty clay. 0.3 m deep downslope. Subsoil: Grey brown clay. Contained field drains.	100	0.2
13	E	N-S	Topsoil: Dark brown sandy loam. B-horizon: Mid brown silty clay. 0.2 m deep. Subsoil: Red brown clay. Contained furrows.	100	0.2
14	E	NNE-SSW	Topsoil: Dark brown sandy loam. B-horizon: Mid brown silty clay. 0.2 m deep. Subsoil: Red brown clay. Contained furrow and field drain.	100	0.2
15	D	NNW-SSE	Topsoil: Dark brown sandy loam. B-horizon: Mid brown sandy clay. 0.2 m deep. Subsoil: Orange brown sandy clay. Contained furrows.	100	0.2
16	D	NNE-SSW	Topsoil: Dark brown sandy loam. B-horizon: Mid brown sandy clay. 0.2 m deep. Subsoil: Orange brown sandy clay.	50	0.2
17	D	N-S	Topsoil: Dark brown sandy loam. B-horizon: Mid brown sandy clay. 0.3 m deep. Subsoil: Orange grey sandy clay. Contained a single field drain.	100	0.3
18	C	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange brown silty clay. Contained shallow furrow and field drain.	100	0.35
19	C	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange brown silty clay. Contained a shallow gully, two furrows and a probable lynchet.	100	0.3
20	C	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange brown silty clay. Contained a furrow a field drain a linear ditch [065].	100	0.3
21	H	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange brown silty clay. Contained a gully a ditch [069] and field drain.	100	0.4
22	C	NW-SE	Topsoil: Dark brown sandy loam. Subsoil: Reddish brown silty clay. Contained three furrows and two linear ditches [072] & [086].	95	0.4
23	C	NE-SW	Topsoil: Dark brown sandy loam. B-horizon: Mid brown sandy clay. 0.3 m deep. Subsoil: Orange grey sandy clay. Contained three field drains a linear ditch [075] and a pit [077].	100	0.35
24	C	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained field drains.	100	0.4
25	H	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained two furrows a field drain a wide ditch cut [079], and two narrow ditch cuts [084] & [089].	100	0.35
26	H	NW-SE	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained field drains and a linear cut [092].	100	0.3
27	H	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained three furrows.	100	0.35

Trench No.	Field	Orientation	Description	Length (m)	Topsoil depth (m)
28	H	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained furrows.	100	0.3
29	H	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained furrows.	98	0.25
30	C	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained concentration of (iron ?) slag and a linear ditch [096].	30	0.2
31	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained a cobble layer [136], a horse burial [137] and two tile drains.	13	0.35
32	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained two pits [098] & [107] a shallow spread [109] a linear ditch [145], a cobble road surface [102] and two linear ditches {103] & [105].	100	0.3
33	G	SE-NW	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained a linear ditch [110].	15	0.4
34	G	SE-NW	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained two furrows a field drain and a iron pipe	36	0.4
35	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained two shallow spreads (122) & (123), two linear ditches [155] & [113] and a cobble road surface (112).	52	0.35
36	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained a linear ditch [124].	18	0.35
37	I	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained a layer of brick rubble [115], a narrow layer of brick rubble [116], a narrow linear cobble layer [117], a shallow pit [118] and a linear cobble road [120].	100	0.35
38	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained no features.	17	0.3
39	G	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained a linear cobble surface [121] and a linear ditch [126].	16	0.35
40	G	NE-SW	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained spread of modern debris.	23	0.4
41	B	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained no features.	33	0.4
42	F	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained no features.	50	0.4
43	K	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained 8 furrows.	75	0.5
44	K	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained 4 furrows.	100	0.25
45	A	N-S	Topsoil: Dark brown sandy loam. B-horizon: mid-light brown sandy clay,0.15 m deep. Subsoil: Brown clay. Contained two linear ditch cuts [130] & [128].	50	0.25
46	A	N-S	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained field drain and furrow.	50	0.3
47	I	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained furrows and two concentric curvilinear ditches [159] & [161].	45	0.25
48	I	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained stony surface [157] and field drain.	26	0.25
49	I	E-W	Topsoil: Dark brown sandy loam. Subsoil: Orange grey sandy clay. Contained no features.	18	0.2
106	A	NNE-SSW	Topsoil: Dark brown sandy loam. Subsoil: Orange red clay. Contained possible medieval structure [164-167].	28	0.45
107	G	N-S	Topsoil: Dark brown sandy loam. Subsoil: Mid brown sandy clay. Contained ditch terminus [168].	14	0.25
108	F	E-W	Topsoil: Dark brown sandy loam. Subsoil: Mid brown grey sandy clay. Contained furrows.	30	0.15

Context Register

Context No	Field	Trench	Description
1	–	–	Turf and topsoil
2	–	–	Subsoil
3	A	7	Cut of possible pit
4	A	7	Fill of [3]
5	A	1	Topsoil. Same as [1]
6	A	1	Cut of furrow/ditch
7	A	1	Fill of [6]
8	A	1	Cut of furrow
9	A	1	Fill of [8]
10	A	1	Cut of furrow
11	A	1	Fill of [10]
12	A	1	Cut of furrow
13	A	1	Fill of [12]
14	A	2	Cut of furrow
15	A	2	Fill of [14]
16	A	2	Cut of furrow
17	A	2	Fill of [16]
18	A	2	Cut of furrow/ditch
19	A	2	Fill of [18]
20	A	2	Cut of furrow/ditch
21	A	2	Fill of [20]
22	A	2	Cut of furrow/ditch
23	A	2	Fill of [22]
24	A	2	Cut of furrow/ditch
25	A	2	Fill of [24]
26	A	2	Cut of furrow/ditch
27	A	2	Fill of [26]
28	A	2	Cut of furrow/ditch
29	A	2	Fill of [28]
30	B	3	Cut of furrow/ditch
31	B	3	Fill of [30]
32	B	4	Cut of terminal end of furrow/ditch
33	B	4	Fill of [32]
34	B	4	Cut of ditch/furrow
35	B	4	Fill of [34]
36	B	4	Cut of ditch/furrow
37	B	4	Fill of [36]
38	B	4	Terminal end of ditch/furrow
39	B	4	Fill of [38]
40	B	5	Cut of furrow/gully
41	B	5	Fill of [40]
42	B	5	Curvilinear gully cut
43	B	5	Fill of [42]
44	B	5	Trampled floor surface/debris
45	B	5	Flagged surface below [44]
46	B	5	Cut for [45]
47	B	5	Tile drain pipe
48	B	5	Fill of [49]
49	B	5	Cut of ditch
50	B	6	Cut of furrow
51	B	6	Fill of [50]
52	B	6	Cut of linear
53	B	6	Fill of [52]
54	F	9	Cut of furrow
55	F	9	Fill of [54]
56	F	9	Cut of furrow
57	F	9	Fill of [56]
58	A	2	Cut of large ditch
59	A	2	Fill of [58]
60	D	15	Cut of furrow
61	D	15	Fill of [60]
62	D	15	Cut of furrow
63	D	15	Fill of [62]
64	B	5	Fill of [46]
65	C	20	Cut of possible pit
66	C	20	Fill of [65]
67	C	20	Cut of furrow
68	C	20	Fill of [67]
69	H	21	Cut of ditch
70	H	21	Fill of [69]
71	H	21	Fill of [69]
72	C	22	Cut of linear
73	C	22	Fill of [72]
74	–	–	Void
75	C	23	Cut of ditch
76	C	23	Fill of [75]
77	C	23	Cut of possible pit
78	C	23	Fill of [77]
79	H	25	Cut of large ditch
80	H	25	Fill of [79]
81	H	25	Fill of [79]
82	H	26	Cut of furrow
83	H	26	Fill of [82]
84	H	25	Cut of ditch
85	H	25	Fill of [84]
86	H	22	Cut of linear
87	H	22	Fill of [86]
88	H	25	Fill of [89]
89	H	25	Cut of linear
90	H	25	Cut of furrow
91	H	25	Fill of [90]
92	H	26	Cut of linear
93	H	26	Fill of [92]
94	H	27	Cut of linear
95	H	27	Fill of [94]
96	C/H	30	Cut of furrow
97	C/H	30	Fill of [96]
98	G	32	Cut of ditch
99	G	32	Fill of [98]
100	G	32	Cut of ditch
101	G	32	Fill of [100]
102	G	32	Cobbled road surface
103	G	32	Cut of ditch/gully
104	G	32	Fill of [103]
105	G	32	Cut of ditch/gully
106	G	32	Fill of [105]
107	G	32	Cut of possible pit
108	G	32	Fill of [107]
109	G	32	Layer of midden material
110	G	33	Cut of ditch
111	G	33	Fill of [110]
112	G	35	Cobbled road surface
113	G	35	Cut of ditch
114	G	35	Fill of [113]
115	I	37	Layer of brick debris
116	I	37	Line of brick debris/track
117	I	37	Cobbled road surface
118	I	37	Cut of small pit
119	I	37	Fill of [118]
120	I	37	Cobbled road surface
121	G	39	Cobbled road surface
122	G	35	Layer of silty clay
123	G	35	Layer of silty clay
124	G	36	Cut of ditch
125	G	36	Fill of [124]

Context No	Field	Trench	Description
126	G	39	Cut of ditch/gully
127	G	39	Fill of [126]
128	A	45	Cut of ditch
129	A	45	Fill of [128]
130	A	45	Cut of ditch
131	A	45	Fill of [130]
132	A	46	Natural hollow
133	A	46	Fill of [132]
134	A	46	Natural hollow
135	A	46	Fill of [134]
136	G	37	Layer of cobbles
137	G	37	Cut of modern horse burial
138	G	37	Fill of [137]
145	G	32	Cut of ditch
146	G	32	Fill of [145]
155	G	35	Cut of large furrow/ditch
156	G	35	Fill of [155]
157	I	48	Cut of furrow
158	I	48	Fill of [157]
159	I	47	Cut of curvilinear feature
160	I	47	Fill of [159]
161	I	47	Cut of curvilinear palisade trench
162	I	47	Fill of [161]
163	I	47	Stone packing in [161]
164	A	106	Large cut relating to possible structure
165	A	106	Dark brown loamy sand. Fill of [164]
166	A	106	Stones forming possible structure
167	A	106	Possible ground surface
168	G	107	Cut of ditch
169	G	107	Fill of [168]
170	I	49	Cut of N-S ditch
171	I	49	Upper fill of [170]
172	I	49	Lower fill of [170]
173	I	47	Cut of curvilinear ditch. Same as [159]
174	I	47	Fill of [173]
175	I	47	Packing stones in [173]
176	I	49	Cut of pit/ditch terminus
177	I	49	Fill of [176]
178	I	49	Packing stones in [176]
179	I	49	Post pipe in [176]
180	I	49	Cut of ditch terminus
181	I	49	Fill of [180]

Drawing Register

Drawing No	Section	Plan	Description
1	–	1:20	Plan of cobbled surface [45].
2	1:20	–	SW facing section of ditch [58].
3	1:10	–	N facing section of ditch [26].
4	1:20	–	S facing section of trench 3 showing [45] and [46].
5	1:20	–	S facing section of cut [69] in trench 21.
6	1:10	–	SW facing section of cut [77] in trench 23.
7	1:20	–	SW facing section of cut [79] in trench 32.
8	1:20	–	S facing section of cut [98].
9	1:10	–	W facing section of cut [107].
10	1:10	–	E facing section of cut [100].
11	1:10	–	S facing section of cut [105].
12	1:20	–	S facing section of cut [103].
13	1:20	–	E facing section of cut [110] in trench 33.
14	1:10	–	E facing section of cut [118].
15	1:10	–	E facing section of cut [124] in trench 37.
16	1:10	–	N facing section of cut [113] in trench 36.
17	1:10	–	W facing section of ditch [128].
18	1:10	–	W facing section of ditch [130].
19	1:10	–	S facing section of ditch [126].
20	1:20	–	N facing section of layer [115] in trench 37.
21	1:20	–	S facing section of cobbled road [117] in trench 37.
22	1:20	–	S facing section of cobbled road [120] in trench 37.
23	1:20	–	W facing section of layer [136] in trench 31.
26	1:20	–	W facing section of hollows [132] and [134].
27	–	1:20	Plan of slot through palisade [161].
28	1:10	–	SW facing section through palisade [161].
29	–	1:20	Plan of possible structure in trench 106.
30	1:20	–	E facing section of sondage in trench 106.
31	–	1:20	Plan of ditch terminus [168].
32	1:10	–	N facing section of ditch terminus [168].
33	1:10	–	S facing section of ditch [170].
34	–	1:20	Plan of slot through ditch [170].
35	–	1:20	Plan of slot through ditch [173].
36	1:10	–	E facing section of ditch [173].
37	1:10	–	S facing section of [176].
38	–	1:20	Plan of [176].

Small Finds Register

Small Find No	Context No	Description
1	44	Glazed ceramic fragments
2	59	Glazed ceramic fragments
3	71	Iron slag and animal bone
4	109	Small ceramic fragment, bone
5	108	Ceramic fragments
6	108	Ceramic fragments
7	99	Ceramic fragments
8	102	Ceramic fragments
9	114	Tile fragments
10	119	Ceramic fragments
11	119	Iron slag
12	122	Ceramic fragments
13	123	Ceramic fragments
14	115	Brick and mortar fragments
15	138	Tile fragments
16	138	Animal bone fragments
17	136	Animal bone fragments
18	136	Iron horseshoes
19	136	Ceramic fragments
20	55	Ceramic fragments
21	135	Bone
22	135	Ceramic fragments
23	146	Ceramic and bone
24	165	Iron horseshoe

Sample Register

Sample No	Context No	Description
1	44	Mixed loamy sand with frequent unsorted stones. Thin layer above cobbles.
2	59	Grey brown sandy loam.
3	27	Mottled grey brown silty loam. Fill of ditch.
4	64	Mottled grey brown loam. Backfill of cut [46].
5	73	Fill of linear feature [72].
6	70	Fill of cut [69].
7	71	Fill of cut [69].
8	66	Fill of pit/linear feature [65].
9	76	Fill of ditch [75].
10	85	Fill of cut [84].
11	80	Fill of cut [79].
12	81	Fill of cut [79].

Sample No	Context No	Description
13	88	Fill of cut [89].
14	106	Fill of cut [105].
15	104	Fill of cut [103].
16	101	Fill of cut [100].
17	99	Fill of cut [98].
18	108	Fill of cut [107].
19	109	Sample of spread/layer.
20	111	Fill of ditch [113].
21	122	Sample of spread [122].
22	123	Sample of spread [123].
23	114	Fill of ditch [113].
24	125	Fill of ditch [124].
25	119	Fill of ditch [118].
26	127	Fill of ditch [126].
27	–	Void.
28	131	Fill of ditch [130].
31	162	Fill of palisade trench/ditch [161].
32	160	Fill of curvilinear ditch [159].
33	165	Dark brown loamy sand. Fill of [164].
34	169	Fill of ditch terminus [176].
35	179	Fill of pit/ditch terminus [176].
36	171	Upper fill of ditch [170].
37	181	Fill of ditch [180].
38	174	Fill of ditch [173].

Photographic Register

Photo No	Film No	Shot No	Colour Slide	B/W Print	Digital	Direction Facing	Description
1	1	1	*	*	–	–	ID shot
2	1	2	*	*	*	N	View of rectilinear bank
3	1	3	*	*	–	W	View of rectilinear bank
4	1	4	*	*	–	NE	View of ridge and furrow in NE area of field B
5	1	5	*	*	–	NW	View of possible pond
6	1	6	*	*	–	NE	General view of west half of field A
7-8	1	7-8	*	*	*	N	General shot of three furrows in trench 2
9-10	1	9-10	*	*	–	E	Detail of furrow [14], trench 2
11	1	11	*	*	–	E	Detail of furrow [16], trench 2
12	1	12	*	*	–	E	Detail of furrow [18], trench 2
13	1	13	*	*	–	N	General view of trench 2
14	1	14	*	*	–	N	Section of furrow [6] in trench 1
15	1	15	*	*	–	N	Plan and section of furrow [10] in trench 1
16	1	16	*	*	*	W	General shot of trench 1
17	1	17	*	*	*	SE	Trench 3. General shot showing ridge and furrow to S side
18	1	18	*	*	*	N	Section showing gully at W end of trench 3
19	1	19	*	*	*	NE	Terminal end of ditch/furrow [33] in trench 4
20	1	20	*	*	*	E	Section of cut [39] at S end of trench 4
21	1	21	*	*	–	SW	Possible corral/sunken area
22	1	22	*	*	–	S	Ridge and furrow at N end of field G
23	1	23	*	*	–	SE	Lynchet
24	1	24	*	*	–	S	Holloway
25	1	25	*	*	–	NE	Holloway
26	1	26	*	*	–	E	Holloway
27	1	27	*	*	–	N	Stone surface [45] with half sectioned floor debris [44]
28	1	28	*	*	–	SE	Stone surface [45] with half sectioned floor debris [44]
29	1	29	*	*	*	NE	Section through linear [60] in trench 6
30	1	30	*	*	*	E	General shot of trench 7
31	1	31	*	*	*	S	General shot of trench 8
32	1	32	*	*	*	E	Possible pit [3] in trench 7
33	1	33	*	*	–	N	Linear ditch [40] in trench 5
34	1	34	*	*	*	N	Gully feature [42] in trench 5
35	1	35	*	*	*	NE	Cobbled surface [45] in trench 5
36	2	1	*	*	–	–	ID shot
37	2	2	*	*	*	S	General shot of trench 9
38	2	3	*	*	*	NW	General shot of trench 10
39	2	4	*	*	*	SW	Cobbled surface [45] in trench 5
40	2	5	*	*	*	W	Ditch [49] at S end of trench 5
41	2	6	*	*	*	NW	Furrow [50] in trench 6
42	2	7	*	*	–	E	General shot of trench 6
43	2	8	*	*	*	N	S end of trench 11
44	2	9	*	*	*	S	N end of trench 11
45	2	10	*	*	*	N	S end of trench 12
46	2	11	*	*	*	N	General shot of trench 13
47	2	12	*	*	*	E	Furrow [20] in trench 2
48	2	13	*	*	*	S	W facing section of furrow [54] in trench 9
49	2	14	*	*	*	S	section of furrow [56] in trench 9
50	2	15	*	*	*	SE	General shot of large ditch [58] in trench 2
51	2	16	*	*	*	E	W facing section of ditch [58] in trench 2
52	2	17	*	*	*	N	General shot of furrows [22] and [24] and ditch [26] in trench 2
53	2	18	*	*	*	SW	Detail of NE facing section of ditch [26] in trench 2
54	2	19	*	*	*	N	General shot of trench 14

Photo No	Film No	Shot No	Colour Slide	B/W Print	Digital	Direction Facing	Description
55	2	20	*	*	*	S	General shot of trench 15
56	2	21	*	*	*	NE	SW facing section of furrow [60] in trench 15
57	2	22	*	*	*	SW	NE facing section of furrow [62] in trench 15
58	2	23	*	*	*	N	General shot of trench 16
59	2	24	*	*	*	S	General shot of trench 17
60	2	25	*	*	*	S	N facing section of pit [65] in trench 20
61	2	26	*	*	*	S	N facing section of pit [65] in trench 20
62	2	27	*	*		NW	SE facing section of furrow [67]
63	2	28	*	*	*	N	SW facing section through linear [72] in trench 22
64	2	29	*	*	*	SE	Cut for cobbled surface [45] in trench 5
65	2	30	*	*	*	N	S facing section and cobbled surface [45] in trench 5
66	2	31	*	*	*	N	Cut [69] in trench 21
67	2	32	*	*	*	N	S facing section of trench 21 showing cut [69]
68	2	33	*	*	*	NW	General shot of trench 20
69	2	34	*	*	*	S	N facing section of ditch [75] in trench 23
70	2	35	*	*	*	NE	SW facing section of possible pit [77] in trench 23
71	2	36	*	*	*	NE	General shot of trench 23
72	3	1	*	*	*	–	ID shot
73	3	2	*	*	*	E	General shot of trench 24
74	3	3	*	*	*	S	Ditch [79] in trench 21
75	3	4	*	*	*	NE	SW facing section of cut [79]
76	3	5	*	*	*	SW	General shot of trench 26
77	3	6	*	*	*	W	E facing section of furrow [82]
78	3	7	*	*	*	SW	General shot of trench 27
79	3	8	*	*	*	SE	General shot of trench 22
80	3	9	*	*	*	SW	NE facing section through linear 86
81	3	10	*	*	*	NE	General shot of trench 29
82	3	11	*	*	*	W	General shot of trench 28
83	3	12	*	*	*	S	Cut [84] in trench 25
84	3	13	*	*	*	E	Linear [89] in trench 25
85	3	14	*	*	*	W	E facing section through cut [92] in trench 26
86	3	15	*	*	*	E	Section through linear in trench 27
87	3	16	*	*	*	E	Section through linear [96]
88	3	17	*	*	*	S	Layer [109] in trench 32
89	3	18	*	*	*	S	Cut [107] and fill [108] in trench 32
90	3	19	*	*	*	N	Cut 98 in trench 32
91	3	20	*	*	*	W	Gravel base of cut-away in trench 32
92	3	21	*	*	*	S	Trench 25 showing bank slope to S
93	3	22	*	*	*	E	Cobbled road surface [102] in trench 32
94	3	23	*	*	*	N	Cut of ditch [103] in trench 32
95	3	24	*	*	*	N	Gully cut [105] in trench 32
96	3	25	*	*	*	E	General shot of trench 32
97	3	26	*	*	*	W	General shot of trench 40
98	3	27	*	*	*	NE	General shot of trench 41
99	3	28	*	*	*	S	General shot of trench 42
128	4	26	*	*	*	NE	Detail of ditch cut [110] in trench 33
129	4	27	*	*	*	W	General shot of trench 33
130	4	28	*	*	*	NW	General shot of trench 34
131	4	29	*	*	*	W	Feature [122] in trench 35
132	4	30	*	*	*	N	Feature [123] in trench 35
133	4	31	*	*	*	E	Cobble surface [112] with slot to S side in trench 35
134	4	32	*	*	*	S	Ditch cut [113] in trench 35
135	4	33	*	*	*	E	Ditch cut [124] in trench 36
136	4	34	*	*	*	W	General shot of trench 38
137	4	35	*	*	*	E	General shot of trench 39
138	5	1	*	*	*	–	ID shot
139	5	2	*	*	*	E	General shot of trench 37
140	5	3	*	*	*	S	Cut [118] showing slag in trench 37
141	5	4	*	*	*	E	Cobbled road [117] in trench 37
142	5	5	*	*	*	W	Cobble, brick and tile layer [116] in trench 37
143	5	6	*	*	*	W	Brick rubble [115] in trench 37
144	5	7	*	*	*	S	Brick rubble [115] in trench 37
145	5	8	*	*	*	E	Slot through ditch [126] in trench 39
146	5	9	*	*	*	N	Cobble surface [121] in trench 39
147	5	10	*	*	*	S	S facing section of brick layer [115] in trench 37
148	5	11	*	*	*	S	Detail of section including brick layer [115] in trench 37
149	5	12	*	*	*	E	Detail of brick and tile removed from layer [115] in trench 37
150	5	13	*	*	*	N	S facing section of cobbles [117] in trench 37
151	5	14	*	*	*	E	W facing section of ditch [128]
152	5	15	*	*	*	E	W facing section of ditch [130]
168	5	31	*	*	*	N	Cobble road [120] in trench 37
169	5	32	*	*	*	E	Cobble road [120] in trench 37
170	5	33	*	*	*	NE	View of slot through hollow [132]
171	5	34	*	*	*	SE	View of slot through hollow [134]
172	5	35	*	*	*	S	General shot of trench 46
173	6	1	*	*	*	–	ID shot
174	6	2	*	*	*	W	View of cobble layer [136] in trench 31
175	6	3	*	*	*	NE	View of cobble layer [136] in trench 31
176	6	4	*	*	*	E	Sondage showing modern horse burial in trench 31

Photo No	Film No	Shot No	Colour Slide	B/W Print	Digital	Direction Facing	Description
177	6	5	*	*	*	E	Sondage through cobble layer [136] in trench 31
216	7	11	*	*	*	E	SW facing section of linear [153]
217	7	12	*	*	*	W	E facing section through curvilinear ditch [159]
218	7	13	*	*	*	W	E facing section through furrow [157]
219	7	14	*	*	*	NE	Slot through palisade [161] showing post setting in [163]
220	7	15	*	*	*	S	N facing section through large ditch [155]
221	7	16	*	*	*	N	S facing section through [146]
222	7	17	*	*	*	N	General shot of trench 107
223	7	18	*	*	*	W	General shot of trench 49
224	7	19	*	*	*	E	General shot of trench 49
225	7	20	*	*	*	E	General shot of trench 48
226	7	21	*	*	*	N	General shot of trench 106
227	7	22	*	*	*	S	General shot of trench 106
228	7	23	*	*	*	N	General shot of trench 45
229	7	24	*	*	*	N	Baulk showing sondage section in trench 106
230	7	25	*	*	*	E	N area of [164] in trench 106
231	7	26	*	*	*	E	Mid area of [164] in trench 106
232	7	27	*	*	*	E	S area of [164] in trench 106
233	7	28	*	*	*	N	Entire feature [164] in trench 106
234	7	29	*	*	*	S	Entire feature [164] in trench 106
235	7	30-33	*	*	*	–	Holloway and environs
236	7	34	*	*	*	W	Ditch terminus [168] in trench 107
237	7	35	*	*	*	S	Ditch terminus [168] in trench 107
238	8	1	*	*	*	–	ID shot
239	8	2	*	*	*	N	S facing section through ditch [170]
240	8	3	*	*	*	W	E facing section through ditch [173] showing packing stones 175
241	8	4	*	*	*	E	W facing section through ditch [159]
242	8	5	*	*	*	N	Mid excavation shot of [176] from above
243	8	6	*	*	*	N	View of linear [180]
244	8	7	*	*	*	N	S facing section of [176]
245	8	8	*	*	–	W	General shot of trench 47
246	8	9	*	*	–	W	Linear [100]
247	8	10	*	*	–	SW	Field A in fog

APPENDIX 2; FINDS ASSESSMENT

Julie Franklin

Finds Summary

This summary includes all the hand collected finds. A complete list of finds from the Blue Area is given below. A summary of context spot dating is also given below.

The finds assemblage is largely made up of pottery, with some ceramic building materials, ironwork and metal-working debris. Most finds are of medieval date, ranging from later 12th to 16th century in date.

The pottery numbers 259 sherds and fits into the known local Medieval traditions of the area (Jarrett & Edwards 1962; Addis 1976). There are no sherds of Saxo-Norman types. The earliest sherds are of the buff gritty type (later 12th to early 14th century), including several large rim sherds from jugs and cooking pots. The context assemblages from [059] and [119] are made up exclusively of this type and include several joining sherds, implying these deposits are both early and undisturbed. There are also a handful of sherds of pink gritty wares (later 12th to 14th century) and Hartlepool-type redware (late 13th to early 15th century). The latter includes a jug rim and rod handle, both unfortunately unstratified. The most common type of pottery falls into the reduced greenware tradition (14th to 16th century). The majority of these were found in [133], 102 sherds, including several joining sherds, all from jugs, including a grooved strap handle. This would seem to be an undisturbed late medieval deposit.

Ceramic building materials include three pieces of stock-moulded bricks, including two near complete examples from [115]. Both are of similar proportions, broad and flat compared to modern bricks, a size commonly found in the late medieval and early post-medieval period. There are also a number of pan tile sherds, including two very large pieces from [116]. Some small pieces of daub were found, numbering 234g. These are baked very hard and are possibly related to metalworking.

The most common of the iron finds are horseshoes, five in all. All are covered in thick layers of corrosion products, and dating is therefore tentative. However, two ([136] and [165]) appear to be of some age, possibly as early as the late medieval period, while another two ([136] and unstratified) appear to be more recent. They presumably derive from horses either pastured or working in the field.

Metalworking debris included 1297g of iron slag which was discovered within two contexts. The slag from [071] is undiagnostic and no associated finds or features help with dating. Slag from [119] included possible hearth bottoms. It was found with some 13th/14th century pottery and presumably dates to this period.

There are 2 flint flakes and a thumbnail scraper. The thumbnail scraper probably dates to the Bronze Age and is unfortunately unstratified.

Context	Finds Spot Dating
044	medi
055	medi
059	medi
071	?
097	pm/Mod?
099	pm
102	Mod
108	medi
109	medi
114	pm/Mod
115	medi/pm
116	pm/Mod
119	medi
122	medi
123	medi
133	pm/Mod?
135	pm
136	pm
138	pm/Mod
146	medi
150	pm/Mod
156	medi
162	?
165	medi
179	?

Table A 2.1
Finds dating summary by context

References

Addis, L 1976 *'The Pottery', in Austin, D 'Fieldwork and excavation at Hart, Co.* Durham, 1965-75, Archaeologia Aeliana (5th ser) Vol.4

Jarrett, M G & Edwards, B J N 1962 *'Medieval and other pottery from Hartlepool, Co.* Durham', Archaeologia Aeliana, (4th ser) Vol.40

Area	Context	SF No	Sample No	Material	Qty	Weight (g)	Object	Description	Spot Date	Period	Conservation	Illustration	Box No
–	097	–	–	CBM	1	–	Brick	Stock-moulded brick, corner. T.49+mm	–	medi/pm	–	–	1
Tr.35	114	09	–	CBM	30	–	Pan Tile	Fragments	–	pm/ Mod	–	–	1
–	115	14a	–	CBM	1	–	Brick	Stock-moulded brick, end missing. 190+x112x54mm	–	medi/pm	–	–	1
–	115	14b	–	CBM	1	–	Brick	Stock-moulded brick, end missing. 154+x112x57mm	–	medi/pm	–	–	1
–	116	–	–	CBM	2	–	Pan Tile	Large sherds	–	pm/ Mod	–	–	1
–	135	–	–	CBM	1	–	Pan Tile		–	pm/ Mod	–	–	1
–	138	15	–	CBM	1	–	Pan Tile		–	pm/ Mod	–	–	1
–	162	–	–	CBM	–	231g	Daub		–	–	–	–	1
–	179	–	–	CBM	3	–	Daub	Lumps, brick?	–	–	–	–	1
–	135	–	–	Clay Pipe	1	–	Stem		17th/e.18th	pm	–	–	1
–	U/S	–	–	Fe	1	–	Horseshoe	Large complete horseshoe with calkin and fuller groove but no toe clip. L.145 x W.139, web width 39mm. Surface find from ploughed field	m.17th/19th	pm/ Mod	X	–	3
–	097	–	–	Fe	1	–	Chain	Four fragments, making up remains of 7 plain links of elongated oval shape, four still complete and joined.	–	pm/ Mod?	X	–	3
–	133	–	–	Fe	1	–	Horseshoe	Arm tip of small shoe. Width of web 28mm.	–	–	X	–	3
–	133	–	–	Fe	2	–	Nails		–	–	–	–	3
–	133	–	–	Fe	1	–	Pipe	Large sherd of pipe with pottery (Reduced Green Glaze) corroded on	–	pm/ Mod?	X	–	3
–	135	22a	–	Fe	1	–	Strap/ Knife		–	–	X	–	3
–	136	18a	–	Fe	1	–	Horseshoe	Arm and toe of small shoe with calkin and worn toe. Length 104, width of web 29mm.	–	medi/pm	X	–	3
–	136	18b	–	Fe	1	–	Horseshoe	One arm of large shoe, covered in thick corrosion products. Calkin, but no fuller groove or toe clip visible. Width of web 30mm.	–	pm/ Mod	X	–	3
–	165	24	–	Fe	1	–	Horseshoe	Five fragments making up most of a horseshoe, covered in thick layer of corrosion products. No calkin or fuller groove visible. Web width 32mm.	–	medi/pm	X	–	3
–	136	19	–	Glass	1	–	Bottle	Green bottle sherd, poor condition	17th/18th	pm	–	–	1
Field C	U/S	–	–	Lithics	2	–	Flint Tool?	Thumbnail scraper and broken patinated inner flake	–	PH	–	–	1
–	059	02	–	Lithics	1	–	Flint Flake		–	–	–	–	1
–	115	14	–	Mortar	3	–	Plaster?	Lumps with a flattish surface	–	–	–	–	1
–	071	–	3	MWD	–	435g	Fe Slag	Large lumps	–	–	–	–	1
Tr.37	119	11	–	MWD	–	862g	Fe Slag	Large lumps; at least one of these may be a plano-convex hearth bottom,	–	–	–	–	1
Tr.2	U/S	–	–	Pottery	1	–	Medi	Buff Gritty	13th/14th?	medi	–	–	2
Field F	U/S	–	–	Pottery	9	–	Medi	Buff Gritty, rim, handle, jugs, cooking pots. From plough soil	13th/14th	medi	–	–	2
–	U/S	–	–	Pottery	19	–	Medi	Buff Gritty, rims, base, sherds, cooking pots. Hartlepool Type Redware, rim, rod handle with red-brown streaky glaze, jugs. Reduced Green Glaze base.	13th-15th	medi	–	–	2
–	044	01	–	Pottery	2	–	Medi	Buff Gritty sherd. Pink Gritty rim, cooking pot.	13th/14th	medi	–	–	2
–	055	20	–	Pottery	3	–	Medi	Reduced Green Glaze, coarse micaceous sherds, hand made vessel	14th/16th	medi	–	–	2
–	059	02	–	Pottery	40	–	Medi	Buff Gritty, rims, bases and sherds form cooking pots with glazed base interior. Mostly from one vessel, though rim present from another.	13th/14th	medi	–	–	2
–	099	–	–	Pottery	4	–	Medi	Reduced Green Glaze sherds. Redware base sherd, internal glaze	16th/17th	pm	–	–	2
–	102	08	–	Pottery	12	–	Mod	Stoneware, trans printed, brownware	19th/20th	Mod	–	–	2
–	108	06	–	Pottery	3	–	Medi	Reduced Green Glaze. Buff Gritty.	14th-16th	medi	–	–	2
–	109	04	–	Pottery	1	–	Medi	Buff Gritty, glazed sherd	13th/14th	medi	–	–	2
Tr.37	119	10	–	Pottery	24	–	Medi	Buff Gritty, rim, bases, sherds, jugs, all from same vessel?	13th/14th	medi	–	–	2
–	122	12	–	Pottery	2	–	Medi	Reduced Green Glaze. Redware.	13th-16th	medi	–	–	2
–	123	13	–	Pottery	3	–	Medi	Reduced Green Glaze. Buff Gritty.	13th-16th	medi	–	–	2

Area	Context	SF No	Sample No	Material	Qty	Weight (g)	Object	Description	Spot Date	Period	Conservation	Illustration	Box No
–	133	–	–	Pottery	102	–	Medi	Reduced Green Glaze bases, grooved strap handle and sherds, jugs (see also sherds corroded onto Fe pipe	14th/16th	medi	–	–	2
–	135	22b	–	Pottery	12	–	Medi	Reduced Green Glaze, sherds. Buff Gritty, sherds.	14th-16th	medi	–	–	2
–	136	19	–	Pottery	2	–	Medi	Reduced Green Glaze	–	medi	–	–	2
–	146	23	–	Pottery	4	–	Medi	Reduced Green Glaze, coarse sherds. Buff Gritty.	14th-16th	medi	–	–	2
–	156	–	–	Pottery	4	–	Medi	Buff Gritty. Pink Gritty.	13th/14th	medi	–	–	2
Field A	165	–	–	Pottery	12	–	Medi	Reduced Green Glaze. Redware.	15th/16th	medi	–	–	2

Abbreviations: medi = medieval pm = post-medieval (16th-m.18th century) Mod = Modern Fe = Iron

Table A 2.2
Finds list

APPENDIX 3;
PALAEOENVIRONMENTAL ASSESSMENT OF SAMPLES

Dr T Holden & D Masson

Introduction

Five samples were processed from an archaeological evaluation at Wynyard Park, nr. Hartlepool. One of these was from the 'Red' Area (148 – the fill of an isolated pit) the rest were from the 'Blue' Area. All results are presented below.

Method

Samples were processed in laboratory conditions using standard floatation method (cf. Kenward et al, 1980). All plant macrofossil samples were assessed using a stereomicroscope at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases including Capper et al (2006).

Results

The results are presented in Tables 1 (retent samples) and 2 (flotation samples) below.

Plant remains

Charcoal was present in four of the five samples, three contained fragments of sufficient size for identification or for Accelerated Mass Spectrometry (AMS) dating (see tables 1 and 2). Charred barley grains were present in three samples (148, 165, 179).

Other finds

Uncharred bone fragments were found in all samples. Burnt bone was recovered from one sample (162). A pottery sherd was found in one sample (44). Cinders, and coal fragments were recovered from Contexts 44 & 165.

Discussion

In terms of archaeological significance the barley grain and animal bone are potentially indicative of a settlement of some description but the quantities are so low as to offer little further scope for interpretation. Barley has been a major element in the rural economy since the Neolithic period so again adds little to our understanding of either the chronology or the function of the features.

Of some note is the presence of coal and cinder fragments in Contexts 44 & 165. If available locally as surface outcrops, coal being used as a fuel could be anticipated from pre-historic sites. If not available locally this might me more indicative of a post-medieval date.

References

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006) *Digital seed atlas of the Netherlands (Barkhuis Publishing and Groningen University Library, Groningen*.

Kenward H.K., Hall A.R. and Jones A.K.G. (1980) *A tested set of techniques for the extraction of plant and animal macrofossil from waterlogged archaeological deposits*. Science and Archaeology 22, 3-15.

Context No	Sample No	Retent Vol (l)	Pottery	MWD	Burnt Bone	Unburnt Bone	Charcoal Qty	Charcoal max size (cm)	Cinders	Coal	Material available for AMS	Comments
44	1	10	+	–	–	+	–	–	+++	++	–	Cinders and coal not retained.
148	29	10	–	–	–	+	+	0.5	–	–	–	–
162	31	4	–	+	++	+++	+++	2.0	–	–	Charcoal	–
165	33	10	–	–	–	+	+	1.0	++	++	Charcoal	Cinders and coal not retained.
179	35	10	–	–	–	++	+	0.5	–	–	–	–

Key: + = rare, ++ = occasional, +++ = common and ++++ = abundant

Table A 3.1
Retent sample table

Context No	Sample No	Total flot Vol (ml)	Barley grain	Charcoal Quantity	Charcoal Max size (cm)	Material available for AMS	Comments
44	1	300	–	–	–	–	Cinder++++, Lime+
148	29	30	+	+++	1.5	Charcoal	Sea shell
162	31	15	–	–	–	–	Archaeologically sterile
165	33	15	+	+	<1	–	Barley node
179	35	20	+	++	<1	–	–

Key: + = rare, ++ = occasional, +++ = common and ++++ = abundant
NB charcoal over 1cm is suitable for identification and AMS dating

Table A 3.2
Flotation sample results

Scottish Universities Environmental Research Centre
Director: Professor A B MacKenzie Director of Research: Professor R M Ellam
Rankine Avenue, Scottish Enterprise Technology Park,
East Kilbride, Glasgow G75 0QF, Scotland, UK
Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

18 May 2009

Laboratory Code	SUERC-23659 (GU-18963)
Submitter	Scott Timpany Headland Archaeology Ltd 13 Jane Street Edinburgh EH5 6HE
Site Reference	WYDP09, Wynyard Park
Sample Reference	Context 162, Sample 31
Material	Charcoal : Prunus avium (Bird Cherry)
$\delta^{13}C$ relative to VPDB	-27.4 ‰
Radiocarbon Age BP	2150 ± 35

N.B.

1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

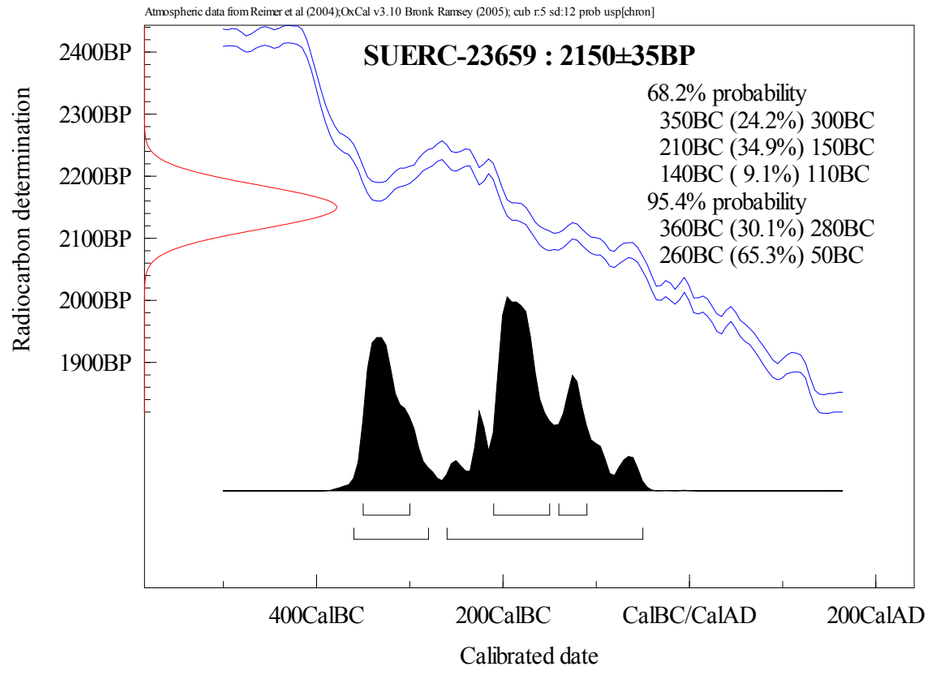
2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).

3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration Plot



APPENDIX 4; RESULTS OF GEOPHYSICAL SURVEY

Scott Harrison

Summary of Results

On the 12th May 2009, Headland Archaeology (UK) Ltd. conducted a fluxgate gradiometry survey on an area of approximately 0.83 Ha at Wynyard Park, near Hartlepool. The survey was commissioned by Wynyard Park Ltd. and was conducted in response to a request from the County Archaeologist that geophysical methods be used to investigate crop marks visible on aerial photographs of the site. The area surveyed was located immediately west of a derelict farmhouse within the development area.

A fluxgate gradiometer was used at a sample rate of 0.25 m x 1 m. The survey revealed plough furrows within the survey area. This corresponded to similar results from previously excavated test trenches in the surrounding area. It was also found that there was considerable interference in the east and north from scatters of ferrous material concentrated next to the field entrance and field boundary. Concentrations of ferrous material, such as these, are commonly found in fluxgate gradiometry surveys. A modern pipeline and one of the test trenches were also represented by anomalies. Nothing of high archaeological significance was evident in the results.

Methodology

The method deemed most suitable to fulfil the aims of the survey was fluxgate gradiometer survey. The instrument chosen was a Bartington Instruments Ltd. Grad601-2, dual sensor fluxgate gradiometer. Headland Archaeology Ltd. conducts all geophysical surveys in accordance with the standards and professional guidelines codified in Geophysical Survey in Archaeological Field Evaluation, English Heritage Research and Professional Services Guideline No. 1 (English Heritage 2008).

The sampling rate used was 0.25 m x 1 m, that is, 1 m traverses with four readings every metre along each traverse. This sample strategy is generally used when the goal is to evaluate any areas of archaeological potential, rather than categorise known remains (English Heritage 2008, 22).

During the survey, the area (shown in Illus.3). were divided into 20 m grids. This size was chosen because it allows the necessary versatility in the placement of grids. Prior to arrival on site, the survey grids were plotted within the survey areas using AutoCAD. The grids were set out with an error of no more than ± 0.05 m using a Differential Global Positioning System (DGPS), comprising a Trimble 5700/5800 Base and Rover GPS System.

The grids were orientated north/south on the National Grid 1936 (OSGB36) and the traverses were walked in an alternating north/south direction. This ensures the greatest contrast between positive and negative magnetic readings and increases the likelihood of identifying weakly magnetised features.

Site Geology

The bedrock geology and the superficial geology that underlies a survey area are key components in determining how successful a geophysical survey will be. While all sites are, to some degree, susceptible to geophysical survey techniques, surveys conducted on some sites are more successful, or "clearer", than those conducted on others.

All soils contain varying quantities of iron rich minerals and fluxgate gradiometry examines the magnetic charge of the soil in a given area at a pre-determined sample rate. From this data, a map of the magnetic field intensity within a given area is derived and it is from this map that the presence or absence of archaeological features is determined.

For a survey to be successful there must be a sufficient quantity of iron minerals present within the soil, however most naturally occurring forms of iron do not possess a significant charge in themselves and an increased charge, or "enhancement" must be brought about by anthropogenic action.

To effect this change, or "enhancement", a soil must first be prone to enhancement because of its mineral composition and secondly, anthropogenic forces must bring this enhancement about.

The Geographical Information System (GIS) Dataset for the bedrock and superficial geology of the United Kingdom (www.bgs.ac.uk) indicates that the site is located over a small spur (3.3 km x 0.5 km) of dolomitic limestone and dolomite bedrock, surrounded on three sides by siltstone, mudstone and sandstone bedrock. The results of fluxgate gradiometer surveys over limestone and other carbonic rocks are generally clear, but the results in this case show only weak, diffuse anomalies. This indicates that in this case the superficial geology plays a greater role in the formation of the soil than the bedrock. The superficial geology is diamicton of likely glacial derivation. It is composed of very poorly sorted large grains within a fine matrix.

Results

The results are classified according to four categories. These are subjective and site dependant; the classification serves as a visual guide and an aid to the discussion of the results.

High Archaeological Potential	Very similar to known archaeological feature types that are of high archaeological significance.
Medium Archaeological Potential	Very similar to known archaeological feature types that are of low archaeological significance OR possible archaeological feature types that would be of high archaeological significance.
Low Archaeological Potential	Possible archaeological feature types that would be of low archaeological significance.
Non-Archaeological	Conspicuous anomalies, probably derived from non-archaeological sources (NB isolated ferrous spikes are not interpreted).

The topsoil within the survey area is only minimally enhanced (see site geology), but despite this there are still some weak features present within the survey area, all of which are of low archaeological potential.

The most numerous anomalies are weak southwest/northeast orientated anomalies that are located in the central and western parts of the site. They are probably representative of plough furrows. The possible plough furrows are on the same alignment as the modern field boundary and this may suggest that they are also modern. In the centre southwest and centre northeast of the survey area, are sporadic anomalies that possibly represent plough furrows running perpendicular to those noted above. Two orientations of plough furrows were also noted in the areas that were previously test trenched.

In the southwest of the surveyed area there are four sub-circular anomalies. These are described as "pit type" anomalies, but are often natural in origin. Because they are in isolation, their identification is uncertain and it is difficult to assume an archaeological origin.

In the east, several strong linear anomalies are orientated in the same direction as the modern field boundary. It is possible that they are representative of wheel ruts, or a trackway that was previously used to traverse the site.

Also in the east, in particular by the field entrance in the northeast, there is a concentration of ferrous debris. It is common for ferrous objects to become concentrated next to field boundaries and field entrances. While an archaeological origin cannot be ruled out, the lack of extraneous evidence such as kilns etc, suggests that this anomaly is non-archaeological. Furthermore, any intense industrial activity would have caused a general increase in the magnetic enhancement of the surrounding area through the spread of fuel ash and thus a corresponding increase in the magnitude of all anomalies. This was not the case within the survey area.

Five anomalies, primarily in the north and west, that have been interpreted as non-archaeological are typical of large ferrous items within the topsoil. These anomalies are often caused by plough blades or other larger iron items and are usually modern in origin and therefore non-archaeological.

Finally, two anomalies, one in the north and one in the west, are of modern origin. The anomaly in the north, represented by alternating bands of high and low readings, is a ferrous pipeline. The alignment of this anomaly suggests that it is a service pipeline for the now derelict farmhouse to the immediate northeast of the survey area. The location of test trench 10 from the evaluation is visible as an anomaly in the west. It is not clear why the other test trenches that were within the survey area (trenches 9 and 108) are not visible, but in the case of trench 10 it was noted that there was a substantial scatter of fired clay drainage pipe in the vicinity and the redeposition of fragments of these while backfilling may be the cause of its visibility.

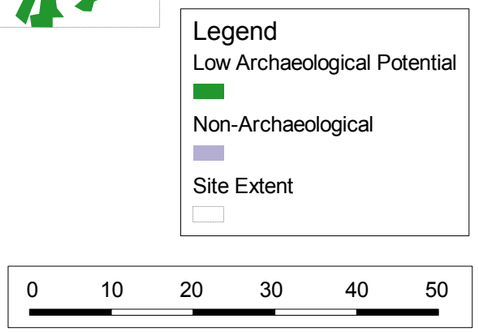
Conclusion

The results show that there is low enhancement across the area surveyed, however it is still possible to identify weak anomalies that may represent subtle agricultural features. Because it is possible to identify weak features such as plough furrows, it does suggest that any stronger anomalies that would be expected if there were kilns or settlement remains present would be visible and this is not the case. The stronger anomalies that are concentrated in the east, and in particular the northeast, are typical of the kind of anomalies commonly found near field boundaries and field entrances and are unlikely to represent archaeological activity. The crop marks identified in aerial photographs did not appear to relate to significant archaeological features and may instead be related to agricultural furrows.

References

English Heritage (2008), *Geophysical Survey in Archaeological Field Evaluation, English Heritage Research and Professional Services Guideline No.* 1, (2nd ed).

Illus A4.1
Processed Geophysical Data Plot



Illus A4.2
Interpretation

APPENDIX 5; ASSESSMENT OF THE FAUNAL REMAINS

Dr Auli Tourunen

Introduction

The animal bone material from Wynyard Park was recovered by hand-picking and derives from eight different contexts. During the assessment material was superficially examined in order to gain a picture of the species present, anatomical distribution and preservation of the bones (Table 1).

The results

The faunal assemblage from Wynyard Park has proved to be generally well preserved. The material consists of domestic animals: sheep, cattle, horse, pig and dog were identified.

The assemblage is likely to represent domestic waste. Part of the material derives from animals slaughtered for consumption. Cattle, sheep and pig bones include bone elements from both food and slaughter waste, and it is likely that animals were slaughtered, butchered and probably also consumed at the site. However, part of the material is not likely to relate to consumption. Horse bones (metacarpal and phalanx 3, contexts 136 and 138) probably do not represent food waste but activities like skinning, disposal of horse carcasses or bone working. The dog bones from context 133 are likely to derive from one small sized individual. The infant sheep bone from context 146 is likely to indicate sheep breeding near the site.

Context	Sample/ Find	Cattle	Sheep/ goat	Pig	Horse	Dog	Comments
099	007	–	–	–	–	–	only unidentified
108	005	x	–	–	–	–	–
133	n/a	x	x	x	–	x	–
136	017	x	x	–	x	–	–
135	021	x	x	–	–	–	–
138	016	x	–	–	x	–	–
146	023	x	x	x	–	–	sheep is neonatal
156	n/a	–	x	–	–	–	–

Table A 5.1
List of species present in the sample