Archaeological Excavations at Killerby Quarry 2019


View of Killerby Quarry, looking west, with Wetland Basin 1 in the background

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Archaeological Excavations at Killerby Quarry, North Yorkshire

Archaeological Research Services Ltd Report 2021/191

August 2021

Revised February 2023

The Eco Centre, Windmill Way, Hebburn, Tyne and Wear, NE31 1SR

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Prepared on behalf of:	Tarmac Ltd
Date of compilation:	August 2021
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Compiled by:	Dr David Cockcroft ACIfA and Dr Clive Waddington MCIfA
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Local Authority:	North Yorkshire County Council
Site central NGR:	SE 263 958

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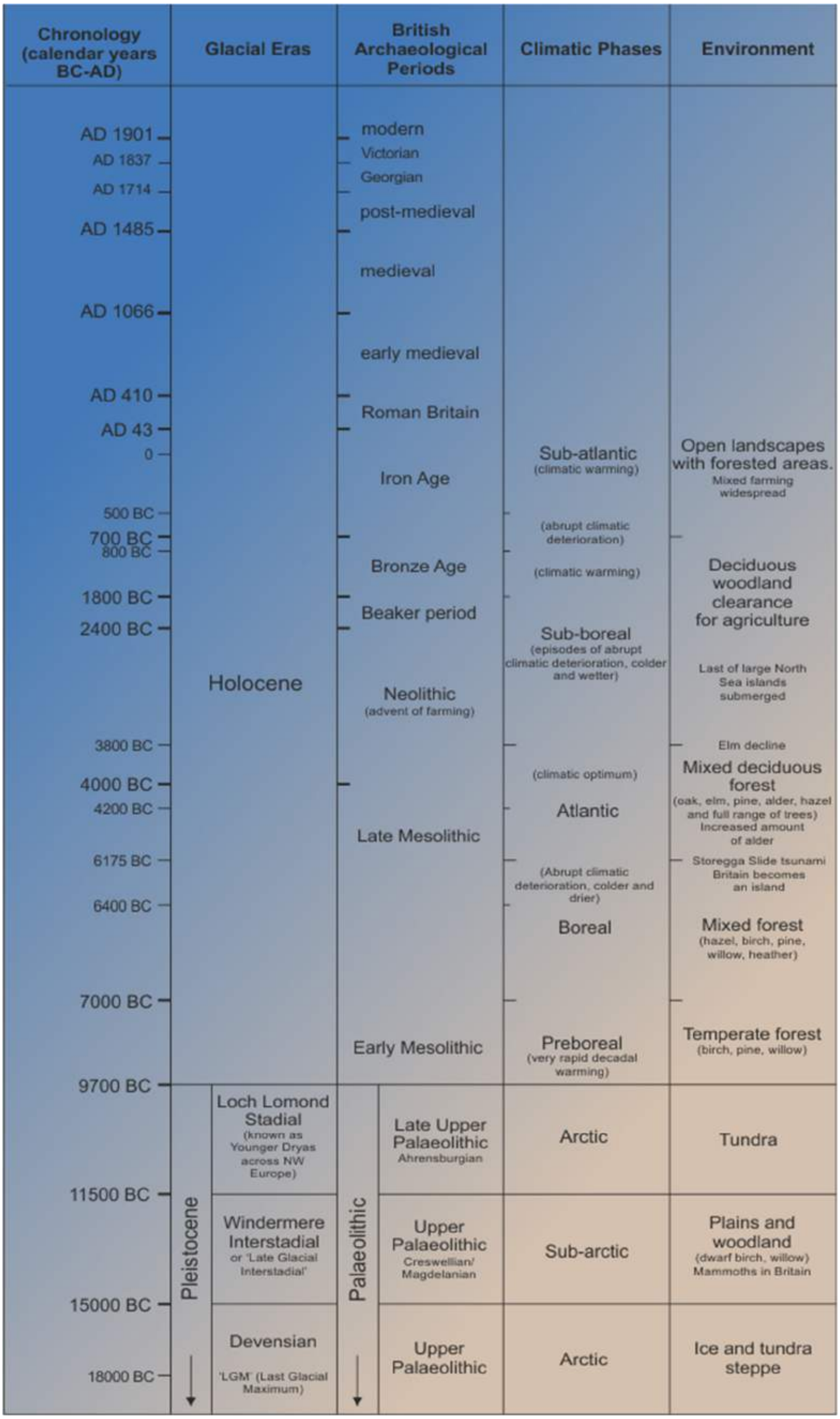

Summary chart showing dates, geolocial epocs, archaeological and climatic periods.

EXECUTIVE SUMMARY

Project Name: Archaeological Excavations at Killerby Quarry, North Yorkshire
Site Code: KIL'19-PSA
Planning Authority: North Yorkshire County Council
Drift Geology: Devensian glacio-fluvial sands, gravels and Quaternary alluvial deposits
NGR: SE 263 958
Dates of fieldwork: April to September 2019
Dates of report: August 2021, Revised February 2023

Archaeological Research Services Ltd was commissioned by Tarmac to conduct an archaeological strip, map and sample excavation of archaeological and geoarchaeological features at Killerby Quarry near Catterick Village, North Yorkshire. This initial c.13.76 ha excavation of what will be a c.200ha quarry forms part of the enabling works for the Killerby sand and gravel quarry and was conducted across a period of five months between April and September 2019. The archaeological investigations involved the mechanical removal of topsoil, under archaeological supervision, followed by hand excavation and recording of archaeological and targeted palaeoenvironmental deposits and features.

These innovative excavations, which have targeted geoarchaeological features dating back to the Late Glacial, as well as previous phases of archaeological work such as fieldwalking, have identified a multiperiod landscape characterised by significant phases of activity beginning with the Late Upper Palaeolithic and continuing into the 19th and 20th centuries. Over the course of the excavation reported here, over 122 archaeological/geoarchaeological features were excavated and recorded across five major areas during the archaeological project.

These included:

- *Four enclosed wetland basins*
- *Four possible Late Upper Palaeolithic pits*
- *Three Early Mesolithic timber tepee or lavuu-like structures (ie camp sites)*
- *Nine prehistoric pits*
- *Three prehistoric postholes*
- *Three prehistoric field boundaries*
- *One possible Mesolithic pit*
- *Two Neolithic pits*
- *One Late Neolithic to Early Bronze Age pit cluster*
- *Three Late Iron Age to Romano-British agricultural enclosures*
- *One Romano-British pit*
- *Two Romano-British to medieval pit*
- *Three Romano-British to early medieval field boundaries*
- *Late Romano-British to early medieval platform*
- *Early medieval (c. late 8th to 9th century) midden*
- *Early medieval (c. 9th century) waterbreak*
- *Early medieval (c. 9th century) temporary hearth*

- *13th to 14th century droveway, field boundary and waste pit*
- *14 post-medieval boundary ditches*
- *Two post-medieval drainage ditches*
- *Five post-medieval pits*
- *Eight post-medieval hedgerows*
- *Four post-medieval animal burials*
- *Three 19th to 20th century boundary ditches*
- *Two 19th to 20th century hedgerows*
- *19th to 20th century field drainage*
- *39 undated pits*
- *Five undated ditches*

Despite the lack of direct artefact association, anthropogenic pits identified in two of the eastern wetland basins could represent early prehistoric activity within the Killerby landscape which could tentatively be attributed to the latter stages of the Upper Palaeolithic. The Early Mesolithic activity was conclusively demonstrated by the three timber structures in Wetland Basin 1. These appear to be for tepee, or lavuu-like, structures which formed small encampments, occupied on separate occasions, and all probably only for short stays of one or several days. These timber tent supports were made predominantly from alder which was likely available on site where it would have been growing around the wetland. These timbers were either saplings or larger fallen branches based upon the minimal amount of tooling identified during the analysis of these timbers. In addition, these structures were rapidly dismantled once they were no longer needed, as demonstrated by the charring of the roof timbers of the best-preserved structure 2b as it was brought down over the still-hot hearth fire that was situated within it. The substantial lithic assemblage gathered over multiple phases of archaeological fieldwalking around Killerby Quarry indicates Late Glacial and Early Holocene activity where groups and individuals regularly used this landscape, and especially its patchwork of small wetlands, which had easy access to the River Swale which defines the site on its eastern and northern margins.

Archaeological finds and features associated with the Neolithic and Early Bronze Age were also identified. Diagnostic Neolithic artefacts were identified as residual finds on the surface of the substrate, in feature fills or in the palaosols, such as that surrounding Wetland Basins 2. These included a ground and polished stone axehead of likely 'Type VI' (Langdale tuff from Cumbria), a leaf-shaped arrowhead, and an oblique arrowhead. A pit complex on the ridge to the east of Wetland Basin 2 represents either settlement, or just possibly votive, activity dating from the Late Neolithic to Early Bronze Age based upon the abraded Beaker fragments retrieved from one of the pits, suggestive of the presence of a smaller group residing in the area for a short period of time with the majority of confirmed features most likely representing waste disposal. Indeed, one pit, of a small cluster within Wetland Basin 2, contained a substantial amount of oak charcoal that produced a Late Neolithic calibrated radiocarbon date of 2881 – 2637 cal BC (95.4% probability). There is limited surviving archaeological activity conclusively dating to the Middle Bronze Age to Iron Age period at Killerby Quarry, though substantial enclosures and early phases of boundary ditches could represent agricultural activity dating to this period.

Late iron Age activity is represented by the multi-phase enbclosures on the ridge area and also on its northern flank where it sloped down to Wetland Basin 3. Romano-British ceramics were identified in the upper palaeosol of Wetland Basin 2. These are thought to provide a terminus post quem, probably around the late 2nd century to the early 3rd century, for the significant colluvial event that ended soil formation in that area. A substantial amount of Romano-British ceramics dating from the 1st to the 4th century AD as well as fragments of two contemporary jet bracelets were identified as residual finds amongst early medieval material and overlying deposits in the north of the site. Sherds of Iron Age ceramics as well as Catterick greyware, dating to the 2nd or 3rd century AD, were identified in a pit which marginally truncated a large multi-phase, but very heavily truncated, Iron Age or early Romano-British enclosure identified in the north of the site near Wetland Basin 3. A stone platform elsewhere contained sherds from a Huntcliff type jar within its interstices dating its construction to the late 4th or early 5th century AD. This activity possibly represents an as-yet unidentified, affluent farmstead or small settlement that supplied the town of Caractonium on the edge of its agricultural hinterland.

Substantial evidence of activity from the latter half of the early medieval period was identified in the north of the site where radiocarbon dating of animal bone from a disturbed buried soil around Wetland Basin 3 produced dates of cal AD 707 – 892 (95.4% probability) (SUERC-98269 (GU57678)) and cal AD 772 – 892 (95.4% probability) (SUERC-98273 (GU57679)). Evidence of butchery as well as residual wattle and other CBM suggest an intensification of activity during the late 8th – 9th centuries AD and continuing into the 10th century. This is indicated by the radiocarbon date of cal AD 774 – 961 (95.4% probability) (SUERC-94948 (GU56021)) from a nearby hearth and waterbreak, as well as a directly associated date of cal AD 878 – 987 (95.4% probability) (SUERC-94944 (GU56019)) from an infilled enclosure ditch that runs into the palaeosol. Further early medieval finds from the Wetland Basin 3 included an antler comb fragment and decorated copper alloy brooch, the latter likely dating to the 10th or 11th century AD. Nearby, a pit on the adjacent ridge produced a radiocarbon date of cal AD 892 – 1020 (95.4% probability) (SUERC-98268 (GU57677)). This indicates the presence of a substantial early medieval settlement nearby which may have had its roots in the earlier Romano-British farmstead, or which may have followed a period of abandonment.

Medieval ceramic finds were noted during this phase of excavation as well as during the earlier fieldwalking phases. These were mostly from the north-east area of the site, closer to the River Swale, and interpreted as a middening scatter used to break up the fine-grained soil for agricultural purposes. The likely epicentre of a medieval manor would be the location of the current Killerby Hall, although Brian Fitz Alan's tenure and expansion corresponds with medieval pottery dating to the 13th to 14th century, which was concentrated around Wetland Basin 3. The use of the droveway could be linked to increased demand associated with the construction and development of Killerby Castle.

Post-medieval features identified across this phase of excavation works included 19th century land drainage concentrated in the lower lying areas of the site around Wetland Basins 1, 2, and 4. The remainder of other post-medieval activity appears to relate to shifting boundaries exacerbated by the Hall's seeming financial and legal issues before and after the English Civil War, which continued into the 18th and 19th century.

1 INTRODUCTION

1.1 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Tarmac Ltd to conduct an archaeological strip, map and sample excavation of both archaeological and specific geoarchaeological wetland features at Killerby Quarry near Catterick, North Yorkshire (Figure 1). The *c.*13.76 ha excavation area forms part of the initial works for the *c*.200 ha Killerby sand and gravel quarry and was conducted across a period of five months between April and September 2019 (Figure 2).

1.2 ARS Ltd previously carried out a scheme of innovative pre-application Historic Environment work as part of the Environmental Impact Assessment for the site. The assessment combined baseline data, including Historic Environment Records, with aerial photographic data, Lidar and satellite image mapping, map regression analysis and geoarchaeological mapping and assessment to assess the quarry's potential impact on the historic environment (Waddington and Passmore 2008). This assessment concluded that there was a medium-high potential for archaeological remains to exist within the development area. Subsequently, ARS Ltd conducted a geoarchaeological assessment in 2009, which in turn informed a programme of archaeological fieldwalking, targeted geophysical survey and nine evaluation trenches in order to characterise the nature, importance and likely extent of any surviving archaeological remains (Waddington *et al*. 2009). The geophysical survey identified a number of anomalies but no archaeological features were encountered in the evaluation trenches. The fieldwalking produced high densities of chipped stone lithics, the majority of which were of Mesolithic date, clustered around the relict wetlands (*i.e.* kettle holes and wetland basins) and areas of higher free-draining ground. A wide range of tools were present including Mesolithic cores, microliths, burins, scrapers and blades, a Neolithic leaf-shaped arrowhead and Bronze Age scrapers. Locally occurring chert comprised the majority of the lithic assemblage. Fragments of Roman pottery and a silver penny from the reign of Edward I were also identified.

1.3 Further archaeological evaluation was carried out by ARS Ltd in 2012 to investigate a previously identified peat deposit within a shallow relict wetland/enclosed basin in a field adjacent to the A1M, and immediately west of the field containing the excavations discussed in this report. This deposit produced deer bone, radiocarbon dated to the Neolithic period, during an earlier archaeological evaluation (NAA 2005). No archaeological features were encountered in this shallow wetland, but an Early Bronze Age radiocarbon date obtained from a cow tooth within the peat indicated human activity taking place around this small wetland locale during both the Neolithic and Early Bronze Age. This field has since been excluded from the development area and no further archaeological work is planned to take place there.

1.4 The results of these various interventions were collated in the Cultural Heritage chapter for an Environmental Statement for the site (Waddington 2014), submitted to the Mineral Planning Authority archaeologist in association with a Written Scheme of Investigation (WSI, see Appendix III) for a programme of innovative mitigation works that combined the targeted sample excavation of kettle hole and wetland basins for the first time in UK archaeology, as well as strip map and sample excavation for the wider areas where significant archaeological remains were identified by the watching brief. Pre-application works identified key areas across the site with potential to contain preserved archaeological and palaeoenvironmental remains, including those deposits dating to the Late Glacial and Early-Mid Holocene based on the range finder dates from the sediment coring in the pre-application stage. The focus was therefore on the deglaciation wetland features, together with those areas with potential for late Iron Age-Roman enclosures/field systems adjacent to Low Street.

1.5 Following the submission of the Environmental Statement, ARS Ltd carried out the archaeological sample excavation of a kettle hole (KB5) in 2017, which identified a geoarchaeologically and palaeoenvironmentally significant deposit sequence spanning the Late Glacial – Early-Mid Holocene and which contained well-preserved rare stratified archaeological remains from the Mesolithic through to Bronze Age. The results have been analysed and written up in a separate report (Hunter and Waddington 2018). The archaeological remains included rare evidence for a Late Mesolithic through Early Neolithic timber platform with associated flints and cattle teeth, together with subsequent Bronze Age activity and then infilling for to bring the ground into cultivation in late prehistoric – Roman-British times. A detailed palaeoenvironmental study and radiocarbon dating of this deposit has produced a very detailed insight into the evolution of this area of landscape during the Late Glacial and first half of the Holocene and how it was being used by early human groups. This was followed by an archaeological strip, map and sample excavation across the proposed access road, office, and weighbridge areas during the Autumn and Winter 2018. This latter excavation primarily identified archaeological features associated with post-medieval agricultural land-use, characterised by a network of agricultural land drains and successive phases of 18th to 20th century occupation at Killerby High Cottages (Cockcroft 2019). However, a range of undated pits were located across the site which were tentatively interpreted as prehistoric in date.

1.6 Further geoarchaeological analysis was carried out alongside the 2019 excavations and these results have been combined with those from the previous phases of work, together with additional innovative work utilising sedimentary ancient DNA, portable XRF (geochemistry) and portable OSL, and have been fully published separately (Hudson *et al*. 2022).

2 LOCATION, LAND USE AND GEOLOGY

2.1 Killerby Quarry lies to the immediate south and east of the River Swale, approximately 3km south-south-east of Catterick (Figure 2). The land encompassed by the site comprises undulating ground formed by the Leeming moraine complex together with a relatively flat Holocene alluvial valley floor on the eastern margin of the site where it butts up to the current channel of the River Swale. The solid geology of the area comprises Carboniferous Millstone Grit and Permian Magnesian Limestone, which beyond the alluvial valley floor is overlain by till and glacio-fluvial sands and gravels which themselves are host marls and in-filled ice-wastage features including kettle holes and wetland basins in the low-lying areas and depressions across the site.

3 Method Statement

3.1 The methodology for the strip, map and sample excavations followed the Written Scheme of Investigation contained within the 'Cultural Heritage' chapter for the Environmental Statement that formed part of the planning application for the site (Waddington 2014).

3.2 Wetland Basin 1 was excavated by removing the peat by machine excavator in *c*.10cm spits across its whole area under constant archaeological supervision and the ground carefully scanned for the presence of archaeological remains. Given the size of the area and the need for avoiding compression by the machines, long-armed excavators were used and these worked around the wetland drawing material in strips from around its edge towards the centre, and working around the perimeter of it systematically. Following identification, excavation and recording of any features identified the process was then repeated. In addition, a hand-dug 1m square test pit was excavated to extract samples and column for scientific analysis (see Hudson *et al*. 2022) and at the north end of the wetland a linear section was cut across the deepest area to allow for section recording and further sampling in the deepest part of the relict wetland.

3.3 Wetland Basin 2 did not survive in the same way as Wetland Basin 1. Rather it was identifiable by the presence of a 'halo' of surviving palaeosol which had been preserved due to its burial by substantial colluvial deposits which had accumulated over it on its steep eastern side. In this case the upper deposits were removed mechanically under constant archaeological supervision the very base of the colluvial deposit. This allowed for approximately one quarter of this organic 'halo' to be excavated by hand.

3.4 Wetland Basins 3 and 4 were situated at more shallow depth. Only parts of them extended into the development area and so those areas had the overburden removed by machine under constant archaeological supervision and then sample excavation of the exposed wetland deposits commenced by hand with c.10cm deep spits excavated and recorded at a time.

3.5 In the context summary tables included within the Results section of this report context numbers listed under the column include the context numbers of all associated fills, deposits and cuts, as well as the number of the intervention, for example if there were several slots cut across the same linear ditch. This has been undertaken in order to help the reader navigate the archive and show all associated information together. Therefore, multiple context numbers for a given feature, the latter typically prefaced with a capital 'F' before its number, does not always refer to multiple fills, but rather associated cuts and/or slots across the feature.

Site name:	Killerby Quarry
Date:	May 2021
Drawn by:	PH
Scale:	Varies

0 100 200 300 400 500 m

N

Figure 1:
Site location

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4 RESULTS

4.1. Introduction

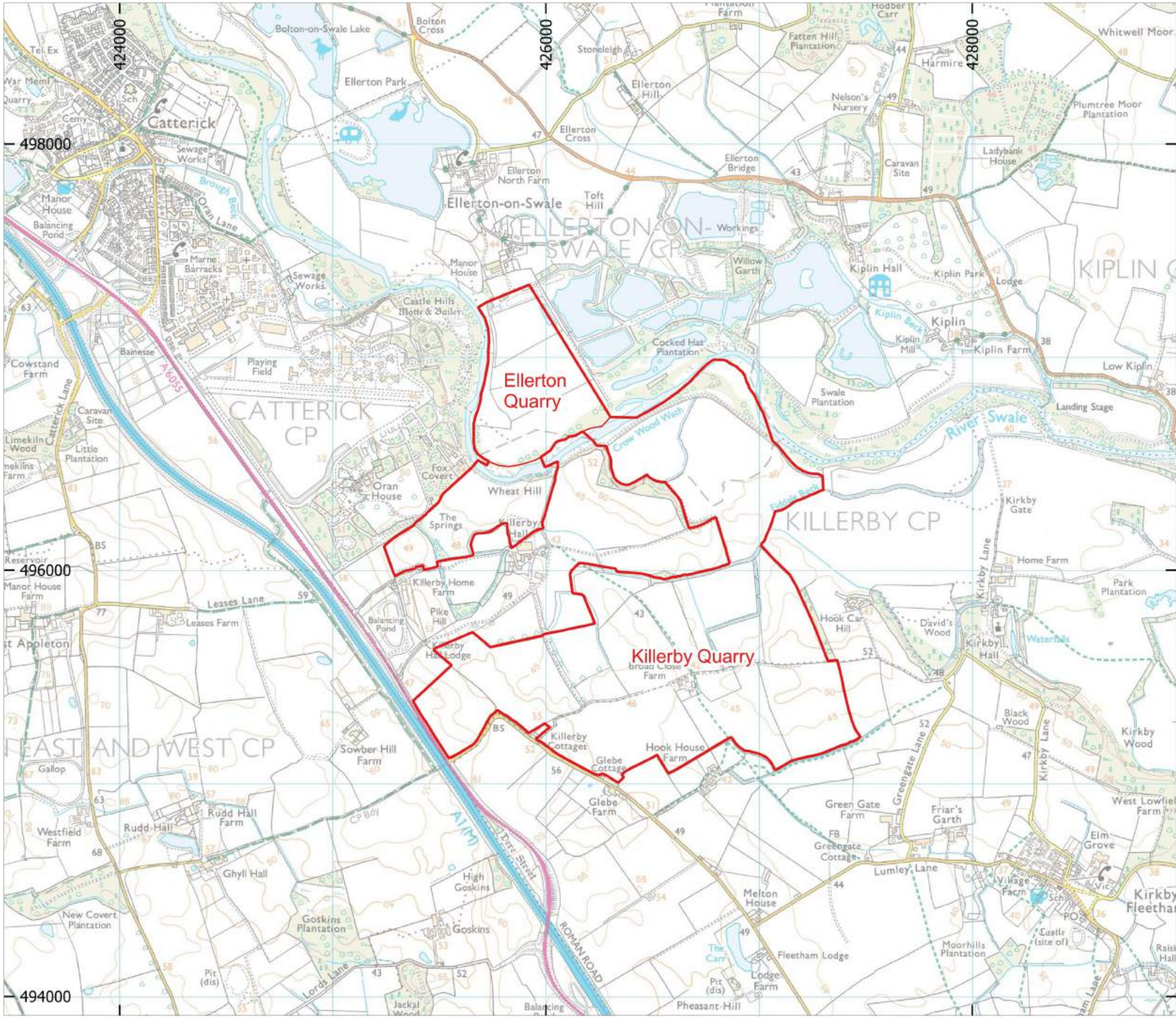
4.1.1 The following section is presented by specific areas discussed in chronological order with features described in the text and supported by individual context descriptions in the corresponding tables. These areas are listed below:

- Wetland Basin 1
- Wetland Basin 2
- Wetland Basin 3
- Wetland Basin 4
- The Ridge
- Proposed conveyor route

4.1.2 Over 122 archaeological features were excavated and recorded during the excavations. These included:

- Four Wetland basins and associated palaeosols
- Four possible Late Upper Palaeolithic pits (1 x Wetland Basin 1; 3 x Wetland Basin 2)
- Three shorltived Early Mesolithic lavuu structures
- Nine prehistoric pits
- Three prehistoric postholes
- Three prehistoric field boundaries
- One possible Mesolithic pit
- Two Neolithic pits
- One Late Neolithic to Early Bronze Age pit cluster
- Three Late Iron Age to Romano-British agricultural enclosures
- One Romano-British pit
- Two Romano-British to medieval pit
- Three Romano-British to early medieval field boundaries
- Late Romano-British to early medieval platform
- Early medieval (*c*. late 8th to 9th century) midden
- Early medieval (*c*. 9th century) waterbreak and temporary hearth
- 13th to 14th century droveway, field boundary and waste pit
- 14 post-medieval boundary ditches
- Two post-medieval drainage ditches
- Five post-medieval pits
- Eight post-medieval hedgerows
- Four post-medieval animal burials
- Three 19th to 20th century boundary ditches
- Two 19th to 20th century hedgerows
- 19th to 20th century field drainage
- 39 undated pits
- Five undated ditches

Figure 2: Killerby site plan.



Key:

Site Boundary

0	250	500	750	1000 m

N

Site name:	Killerby Quarry
Date:	May 2021
Drawn by:	PH
Scale:	1:25000 @ A4

This drawing © ARS Ltd

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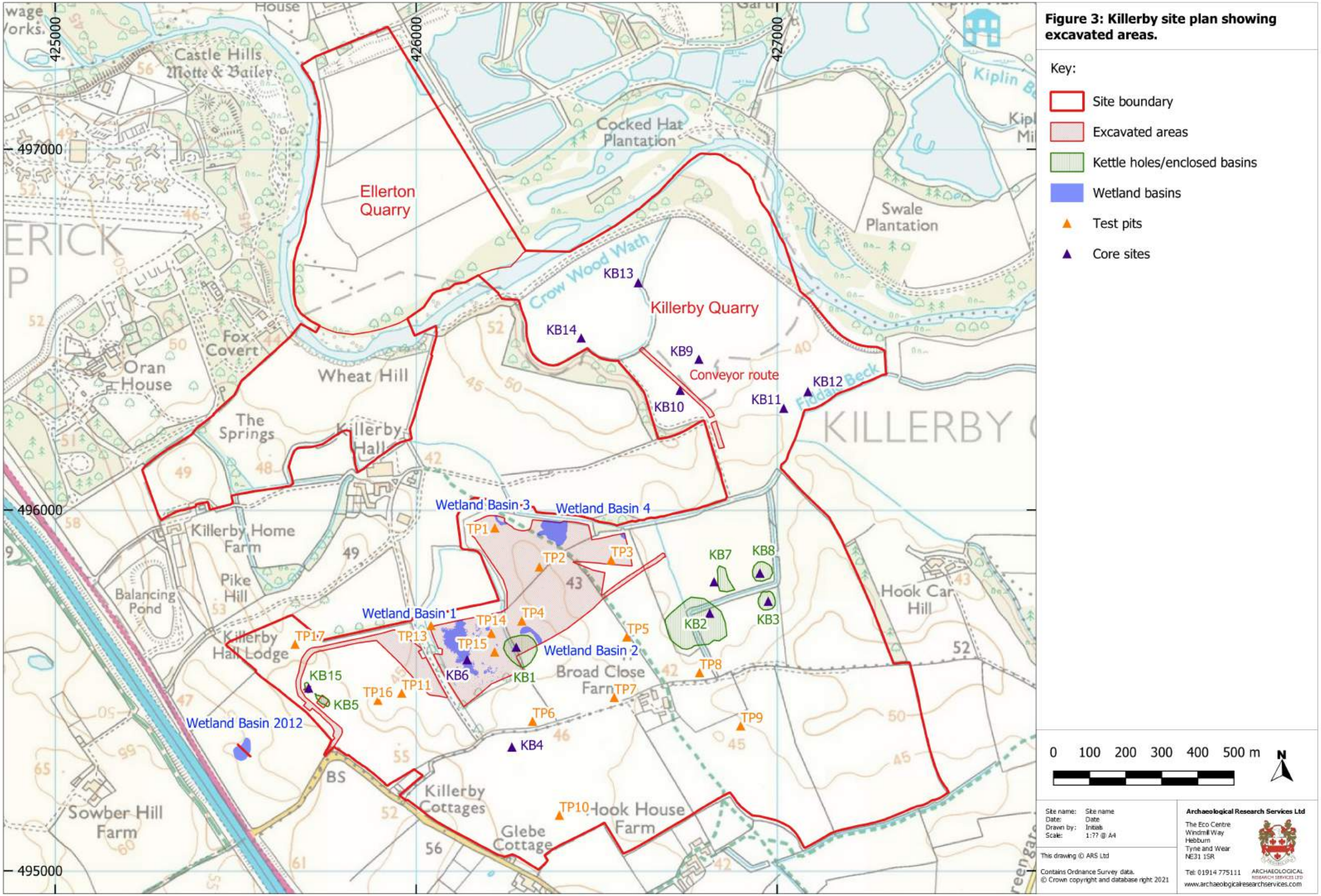
Figure 3: Killerby site plan showing excavated areas.



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4.2. Wetland Basin 1

4.2.1. Introduction

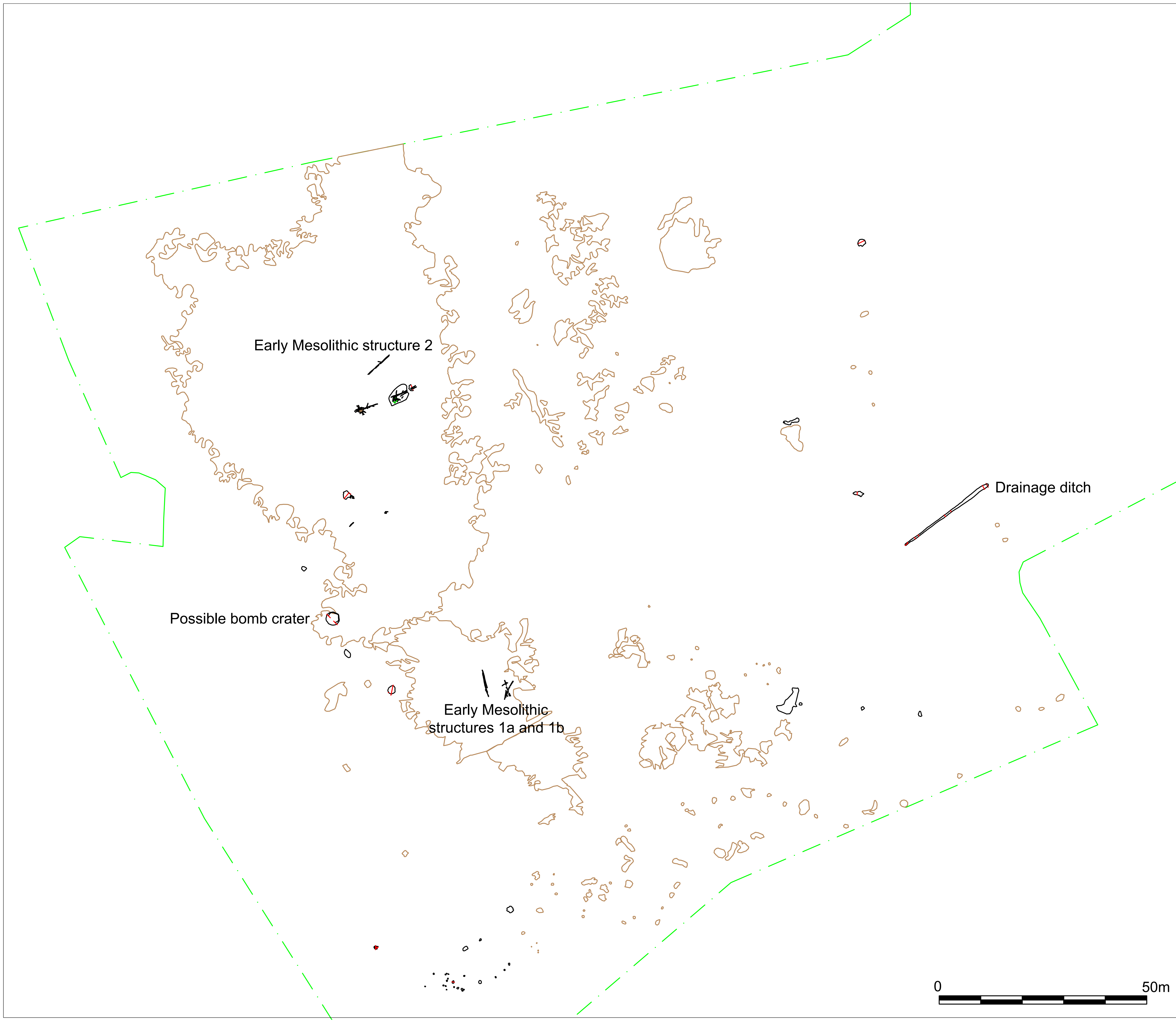
4.2.1.1 The area designated Wetland Basin 1 measured 195.36m (north-west/south-east) by 218.47m (north-east/south-west) and encompassed an area of *c.*4.15 ha with an average elevation that ranged between 40m - 42m above Ordnance Datum (aOD) (Figure 4). The wetland basin itself was a significant conjoined area of peat overlying marl deposits which is probably the remnants of a palsa bog (where ground ice forms perennially frozen peat mounds - found in low-lying boggy tundra). It was located on the western edge of the excavation site and for convenience was divided into northern and southern halves defined as 1a (south) and 1b (north) bounded by marl (1003), sand (1004), as well as sand and gravel (1005).

4.2.1.2 Eighteen archaeological features were identified on or immediately adjacent to Wetland Basin 1 which included a possible early prehistoric pit, three Mesolithic camp structures associated with the former wetland edge, as well as one undated ditch and seven undated pits (Figure 5). All of these were subject to copious truncation by 19th and 20th century agricultural practice such as animal burials and land drainage, the latter of which was identified across the entire low-lying area.

4.2.1.3 A detailed geoarchaeological description of the formation of Wetland Basin 1 is covered in Parker (2021*)*. At the base of Wetland Basin 1, a mid-grey till (1909) was identified that in turn was overlaid by marl (1910) and successive deposits of peat formed by decaying plant matter (see Figure 6 for the individual deposits).

Figure 4. Aerial view of Wetland Basin 1, looking south.

Figure 5. Plan of archaeological features around Wetland Basin 1.



Limit of Excavation
Section Line
Wetland basin/natural features
Archaeological features

N

Site name: Killerby Quarry
Date: July 2021
Drawn by: DGC

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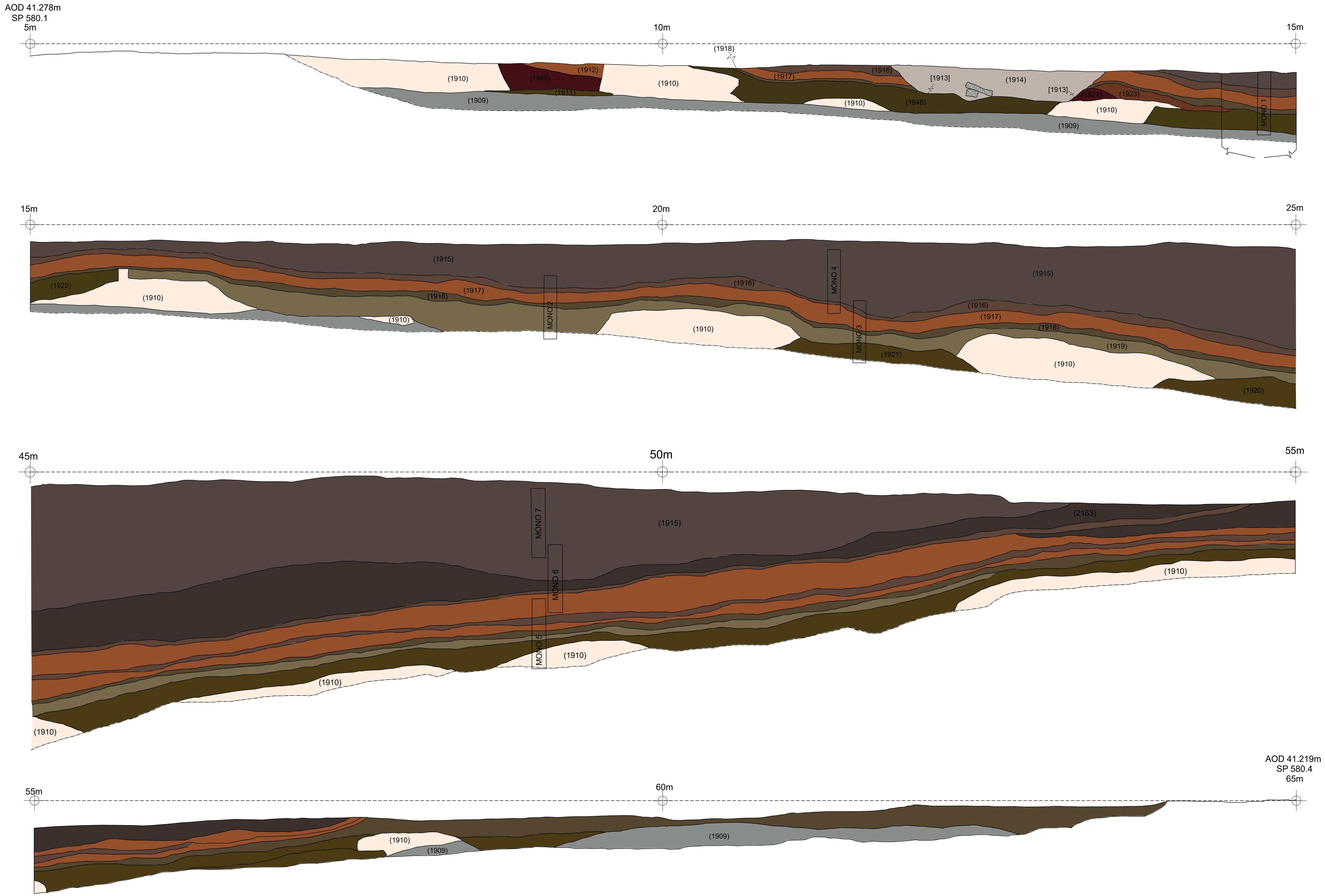

AOD 41.278m
SP 580.1
5m
10m
15m
(1918)
(1910)
(1945)
(1912)
(1911)
(1909)
(1917)
(1916)
[1913]
(1914)
(1924)
(1923)
(1946)
MONO 1
15m
20m
25m
(1915)
(1922)
(1918)
(1917)
(1916)
(1919)
(1921)
(1920)
MONO 2
MONO 3
MONO 4
45m
50m
55m
(2163)
MONO 5
MONO 6
MONO 7
55m
60m
AOD 41.219m
SP 580.4
65m

4.2.2. Possible early prehistoric pit

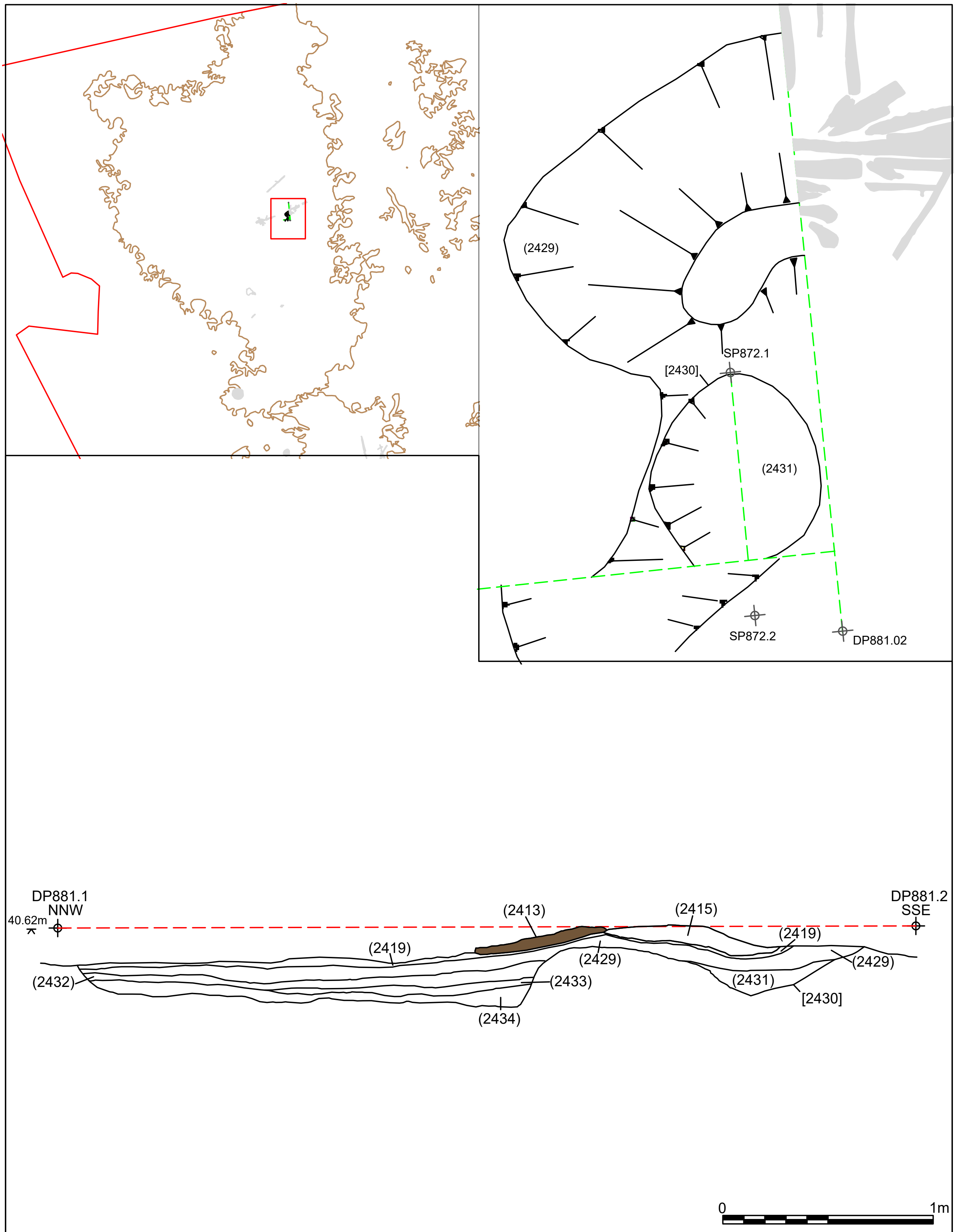
4.2.2.1 A subcircular pit F2431 was identified within the natural substrate of brown grey silty clay (2432) within Wetland Basin 1 (Figure 5 and Figure 8). This pit measured 0.70m by 0.62m in plan and featured a shallow profile [2430] with concave, gradual sloping sides and base. This was infilled by a distinct dark black brown clay (2431) with no inclusions or associated finds and which contrasted markedly both the surrounding natural substrate (2432) and the overlying naturally-accumulated fine brown-grey clay (2429).

4.2.2.2 Despite a lack of finds identified within pit F2431, this archaeological feature was confidently interpreted as a prehistoric pit based on its stratigraphic position and likely dates to either the late Upper Palaeolithic or Early Mesolithic periods as it was dug directly into Late Glacial sediments and overlain by Early Holocene deposits.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
2431	2430, 2431	Subcircular pit	0.70m x 0.62m x 0.17m	Dark black brown	Clay		

Table 1. Prehistoric pit F2431.

Figure 7. View of pit F2431, facing north-east (scale = 0.1m graduations).



Site name: Killerby Quarry
Date: July 2021
Drawn by: DGC

Figure 8. Overview plan and section of pit F2431.

N

Limit of Excavation

Structure 2 hearth timbers

Section Line

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4.2.3. Early Mesolithic timber structure 2

4.2.3.1 Structure 2 (Figure 9 and Figure 16) was evidenced by a group of long, slender timber poles, mostly made from alder, one of which was forked at its end and had had at least one of the other long timbers rested in its cruck. This had been collapsed over a hearth with its final firing timbers all *in situ.* The fireplace is thought to have been centrally located within the structure as it was situated in a slight depression of roughly circular shape. Two further straight timber poles (F2408 and F2409) in exactly the same depth and stratigraphic context were found set to one side 8.92m to the north-west, possibly for use elsewhere or at another time (Figure 14 and Figure 15). These very well-preserved remains are interpreted as the remnants of a tepee or lavuu-like structure that was likely skin-covered. The timbers survived in incomplete sections though their full length was evidently 6-7m (see also Fig. 10 below). The longest surviving sections were up to 3.5m long and tapered slightly with diameters typically ranging from of 0.03m – 0.06m (see Table 97), with the missing parts of their length resulting from natural decay where they had protruded into sediments that had not remained permanently waterlogged. The two straight poles F2408 and F2409 that appear to have been extracted from the structure when it was taken down and set aside, survived 6.49m and 5.2m long respectively and were also made from alder. The structure is thought to have been broadly sub-circular in shape, being estimated at *c*.6m (north-east/south/west) in diameter centred around hearth F2413 and composed of several identifiable structural elements: roofing timbers F2411, roof purlins F2412, and associated charred timbers F2417 that were broadly aligned north-east by south-west at an average elevation of 40.85m aOD. One of the long poles had a Y-shaped, or 'forked', end within which one of the other long timbers still nestled. This indicates that the 'forked' pole had been used to hold the ends of the other long timbers so as to create a central apex to the structure where all the poles could have rested in its cruck and/or been further strapped together (Figure 9). This is indicative of a light, conical frame around which light coverings, presumably skins, would have been draped. A sample of bark obtained from the alder roofing pole SF1306 (F2411) was radiocarbon dated to 9122 - 8762 cal BC (95.4% probability) (SUERC-92016 (GU53968)), and probably 9116 – 8783 cal BC (68.2% probability). A detailed discussion of the timbers recovered from Structure 2 can be found in the Palaeoenvironmental Analysis section below. The following section focuses on the description and stratigraphy of this structure and its basic interpretation.

Figure 9. Close-up of Structure 2 timbers SF1305 (lower) and 1307 (upper), showing the remains of the 'forked' pole used to hold the ends of the other long timbers, in this case pole SF1305 has slipped down the cruck when the structure was collapsed hence its thicker end still lies nestled in it.

Figure 10. View of Mesolithic structure 2 - roofing timbers F2411, roof purlins F2412, and hearth F2413, looking north-west (scale = 0.5m graduations) with the uneven surface of the white underlying marl showing through the basal peat.

4.2.3.2 The remains of an in-situ fireplace F2413, partly overlain by the collapsed roofing poles, was located within the structure formed by the poles and within a natural depression on the uneven marl surface (2429) (Figure 11, Figure 12 and Figure 13). It measured 1.20m by 1.10m in maximum extent in plan. The hearth F2413 formed the focus of Structure 2. The structure had not been built directly on to the marl, but rather onto a shallow reed peat which had been scraped off down to the marl in places, but elsewhere left in place. This basal dark red brown peat survived in patches beneath the hearth as the basal "fill" (2419/2438) of the hearth's depression. This survived because of the uneven nature of the natural marl surface and it having been covered by the overlying hearth which resulted in the peat here being heavily impregnated by the overlying charcoal (2415/2437) thereby containing substantial fragments of charred wood (2417/2436; summarised in Table 2). The centre and lower level of the hearth consisted of a mass of small charcoal fragments resulting from the burning of small twigs as well as larger logs, and this was overlaid by the remnants of a carefully stacked arrangement of charred logs (2414/2435) from the hearth's last firing. The upper charred logs measured up to 0.16m thick and reveals how during this firing the log as had been stacked and were arranged around the fire so that they could be pushed further in when their ends had burnt. This kind of fire management is consistent with an overnight stay as it would save on the need for having to get up and put new logs on to the fire. These were substantial logs indicating a well-established fire and the intention of a slow burn by banking the fire with longer burning material. A radiocarbon date of 9131 – 8776 cal BC (95.4% probability) (SUERC-92018 (GU53970)), and probably 9119 – 8809 cal BC (68.2% probability), was obtained from shortlived willow roundwood charcoal from the lower part of the hearth within Structure 2. This date is virtually identical to that from the bark of the overlying structural alder pole SF1306 consistent with the fireplace and surrounding lavuu tent being all part of the same structure and in use together.

Feature No	Find No	Length (m)	Width (m)	Alignment
2417	1347	0.09m	0.03m	North-west/South-east
	1348	0.06m	0.03m	North-west/South-east
	1349	0.16m	0.04m	North-west/South-east
	1350	0.14m	0.03m	North-east/South-west
	1351	0.08m	0.05m	North-west/South-east
	1352	0.07m	0.04m	East/West
	1353	0.24m	0.04m	North/South
	1354	0.48m	0.06m	North/South
	1355	0.14m	0.03m	North/South
	1356	0.48m	0.06m	North-east/South-west
	1357	0.15m	0.04m	North/South
	1358	0.16m	0.05m	North/South
	1359	0.13m	0.02m	North-west/South-east
2436	1364	0.09m	0.05m	North-east/South-west
	1365	0.11m	0.04m	North-east/South-west
	1366	0.05m	0.03m	North/South
	1367	0.24m	0.04m	North-east/South-west
	1368	0.16m	0.03m	East-north-east/West-south-west
	1369	0.14m	0.03m	East/West
	1371	0.25m	0.05m	East/West
	1372	0.10m	0.02m	East/West
	1373	0.06m	0.02m	North-west/South-east
	1374	0.10m	0.04m	North/South
	1375	0.05m	0.03m	East/West
	1376	0.16m	0.04m	North-west/South-east
	1377	0.15m	0.05m	North-east/South-west
	1378	0.06m	0.04m	North/South
	1379	0.09m	0.04m	North/South
	1380	0.07m	0.02m	North-west/South-east
	1381	0.10m	0.03m	East/West
	1382	0.10m	0.02m	North-east/South-west
	1383	0.08m	0.03m	North/South
	1385	0.16m	0.02m	North/South
	1386	0.09m	0.04m	North/South
	1387	0.05m	0.02m	North-east/South-west

Table 2. Basal charred wood finds from hearth F2413.

Figure 11. View of hearth F2413 charred logs stacked in a pyramidal pattern as exposed during its excavation, with mass of charcoal below looking east-north-east (scale = 0.1m graduations).

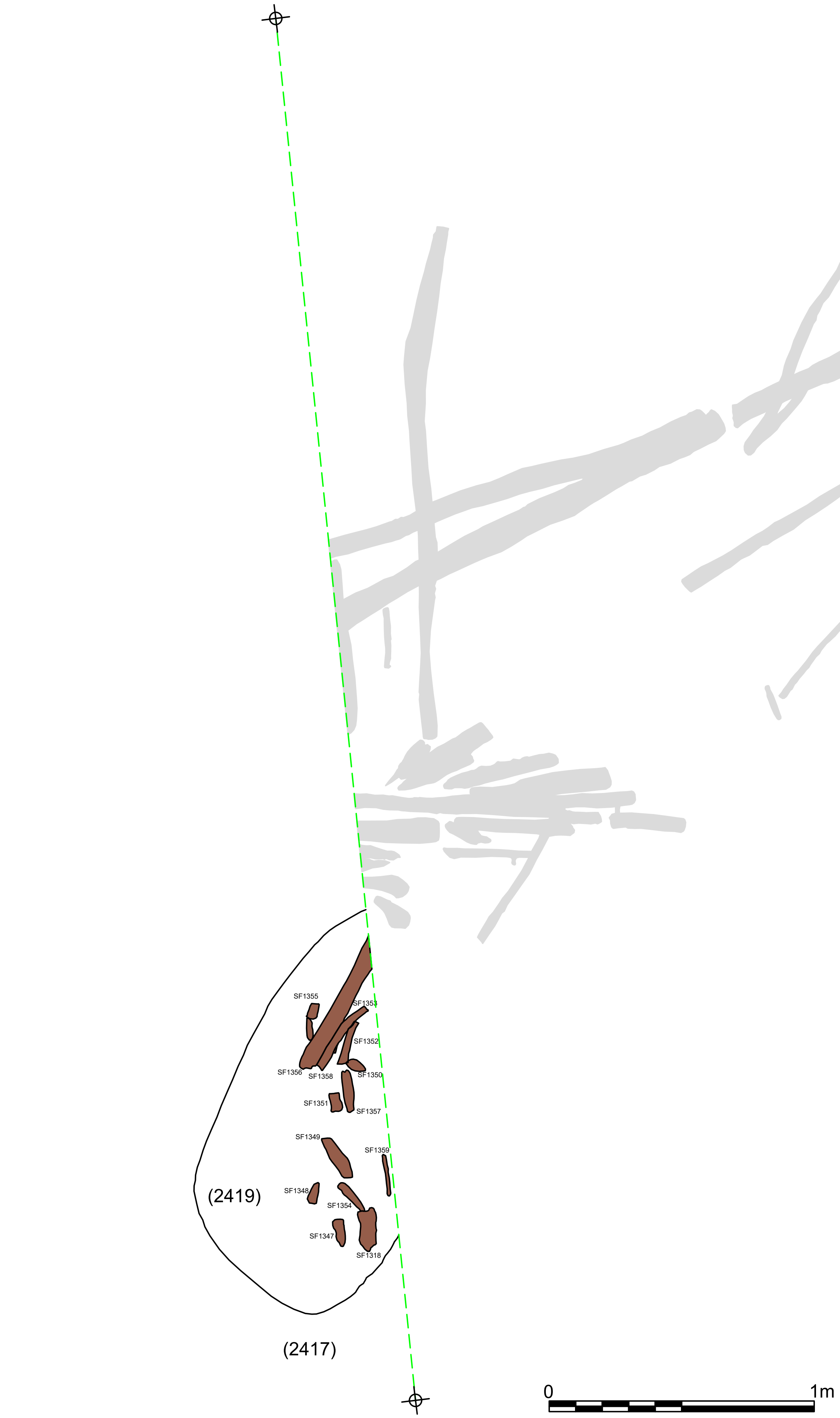
Figure 12. View of hearth F2413 at the beginning of excavation, looking west-south-west (scale = 0.1m graduations) with three sampling holes for sedimentary aDNA and scientific sampling.

4.2.3.3 A scatter of small wood F2416 (SF1345) was noted to the west of the hearth F2413 resting on peat (2419) (Figure 13). These twigs had an average length of 0.1m and were interpreted as unused kindling for the hearth. This scatter of kindling was overlain by the upper timbers of the hearth (2413) summarised in Table 3. The hearth wood covered an area that measured 0.9m by 0.35m. These were laid across each other in multiple alignments in a lattice and were heavily charred. The visible structure of the hearth resembles a common practice of campfire building in the present, known as platform or pyramid, where interlaced logs are stacked to provide airflow and fuel for a long burning.

Feature No	Find No	Length (m)	Width (m)	Alignment
2413	1315	0.19m	0.07m	North/South
	1316	0.25m	0.02m	North/South
	1317	0.14m	0.02m	North/South
	1318	0.10m	0.02m	North/South
	1319	0.14m	0.06m	East/West
	1320	0.18m	0.06m	East/West
	1321	0.13m	0.03m	East/West
	1322	0.85m	0.02m	East/West
	1323	0.20m	0.04m	East/West
	1324	0.18m	0.04m	East/West
	1325	0.38m	0.03m	North-west/South-east
	1326	0.24m	0.03m	East/West
	1327	0.11m	0.04m	East/West
	1329	0.38m	0.04m	North-east/South-west
	1330	0.28m	0.05m	North-east/South-west
	1332	0.19m	0.03m	North-west/South-east
	1334	0.30m	0.08m	North/South
	1335	0.75m	0.18m	North/South
	1337	0.29m	0.02m	North-west/South-east
	1340	1.33m	0.10m	North/South
	1341	0.63m	0.07m	North/South
	1362	0.11m	0.05m	East/West
	1363	0.10m	0.04m	East/West

Table 3. Wood from hearth F2413.

a. basal deposit (2419) of hearth F2413 and associated timbers.



b. upper deposits of hearth F2413 and associated timbers.

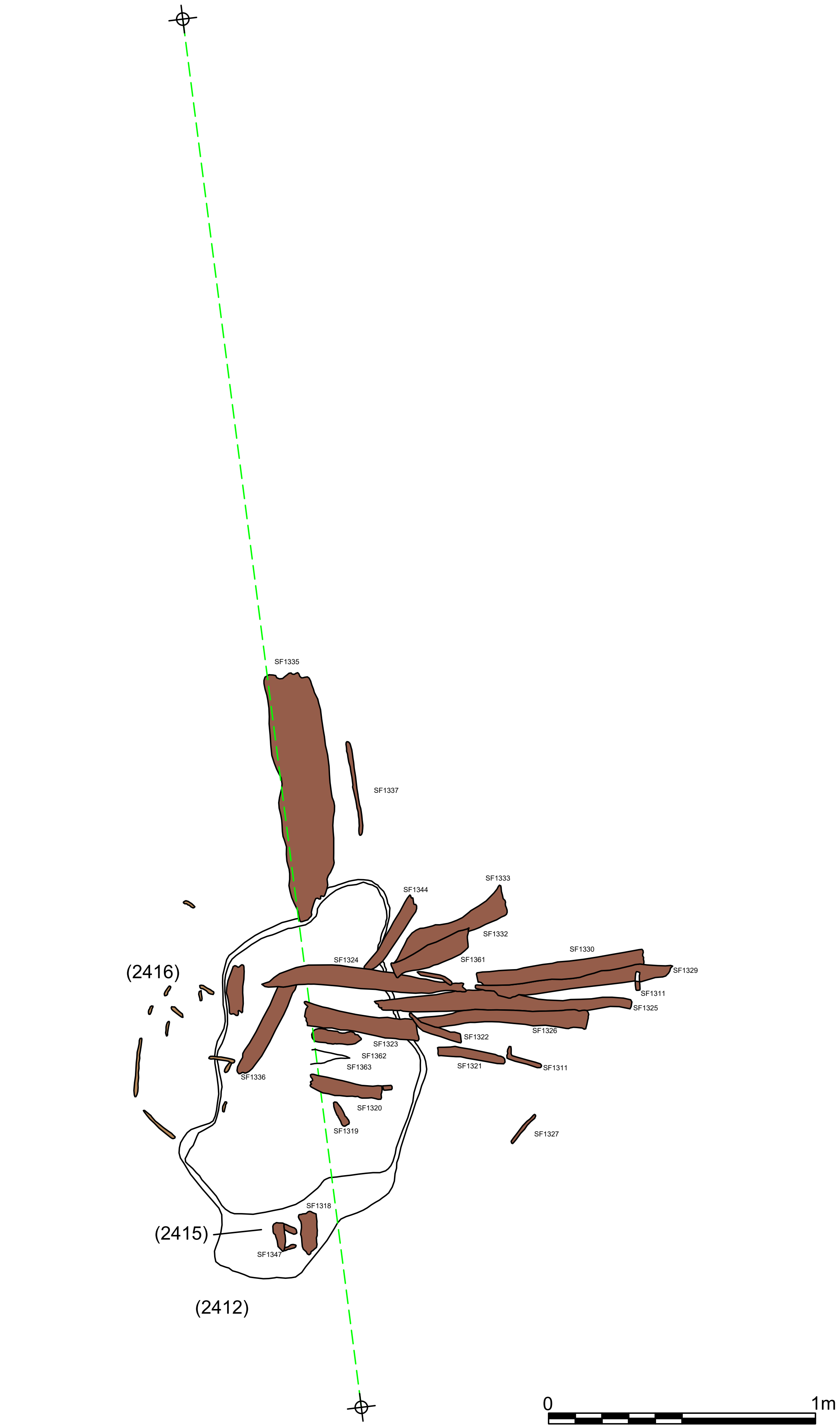


Figure 13. Plan of hearth F2413 and associated timbers.

Limit of Excavation

Section Line

Hearth timbers (2413)

N

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4.2.3.4 The hearth F2413 was overlaid by the roof timbers F2411 and roof purlins F2412 that had formed what appears to have been the conical frame for Structure 2. The roof timbers, or poles, F2411 consisted of several lengths of alder SF1301 and SF1302 up to 6.5m in length respectively and were broadly aligned east/west indicating the direction in which the shelter had been collapsed. These long timbers did not all survive continuously, with some parts of their length missing due to differential preservation in the peat. Mixed amongst these long poles was some smaller material, thought to have been used as supporting purlins F2412, which measured up to 3.5m in length but on average measured 1.02m and were aligned broadly north-east/south-west. The purlins were overall much thinner than the long, straight roofing poles.

Feature No	Find No	Length (m)	Width (m)	Full length of timber (m)	Alignment
2411	1304	3.98m	0.04 – 0.08m	6.58m	East/West
	1305	3.21m	0.01 - 0.06m	5.57m	East/West
	1306	1.84m	0.03 – 0.05m	1.84m	East/West
	1307	0.92m	0.07m	0.92m	North-east/South-west
	1308	1.30m	0.04 – 0.06m	5.57m	East/West
	1309	1.45m	0.04 – 0.07m	6.58m	East/West
	1310	2.06m	0.03m – 0.05m	2.06m	North/South
2412	1311	3.50m	0.02m	N/A	North/South
	1312	0.53m	0.02m		North-east/South-west
	1313	0.21m	0.04 - 0.07m		North-west/South-east
	1314	0.48m	0.02m		North-east/South-west
	1336	0.25m	0.02m		North-east/South-west
	1342	1.26m	0.15 – 0.02m		North/South
	1360	0.88m	0.02m		North-east/South-west

Table 4. Roofing timbers (2411) and roof purlins (2412) of Structure 2.

4.2.3.5 Two long roofing poles made from alder SF1301 and SF1302, together with a smaller timber SF1303, were located 8.78m to the north-west at the same level in peat (2418) as Structure 2 and are thought to have originally formed part of it prior to their extraction. The two alder poles SF1301 and SF1302 measured 6.49m and 5.2m in length respectively and had been laid down east/west parallel to the direction in which Structure 2 had been dropped. A sample obtained from roofing timber SF1302 (F2408) was radiocarbon dated to 9122 – 8776 cal BC (95.4% probability) (SUERC-94931 (GU56009)), and probably 9117 – 8799 cal BC (68.2% probability), being virtually identical to the dates obtained from the *in situ* collapsed Structure 2 timber (SUERC-92016) and the fireplace (SUERC-92018). This co-eval dating of Structure 2 and the satellite timbers, together with them being situated in the same stratigraphic layer, their physical proximity and them being dropped/laid out in the same parallel direction indicates the compelling likelihood that the satellite timbers had formed part of the structure and that these timbers are contemporary. The two timber poles SF1301 and SF1302 were overlaid by F2409, a shorter, thinner alder stick, which measured 1.20m in length and was aligned north-east/south-west. The extraction of these timbers and the setting of them aside from the rest of Structure 2 indicates a deliberate act and an intentionality for probable re-use.

Feature No	Find No	Length (m)	Width (m)	Full length of timber (m)	Alignment
2408	1301	6.49m	0.3 – 0.8m	6.49m	East/West
2409	1302	5.22m	0.4 – 0.7m	6.93m	East/West
	1303	1.20m	0.2 – 0.3m		North-east/South-west

Table 5. Satellite timbers F2048 and F2409 from Structure 2.

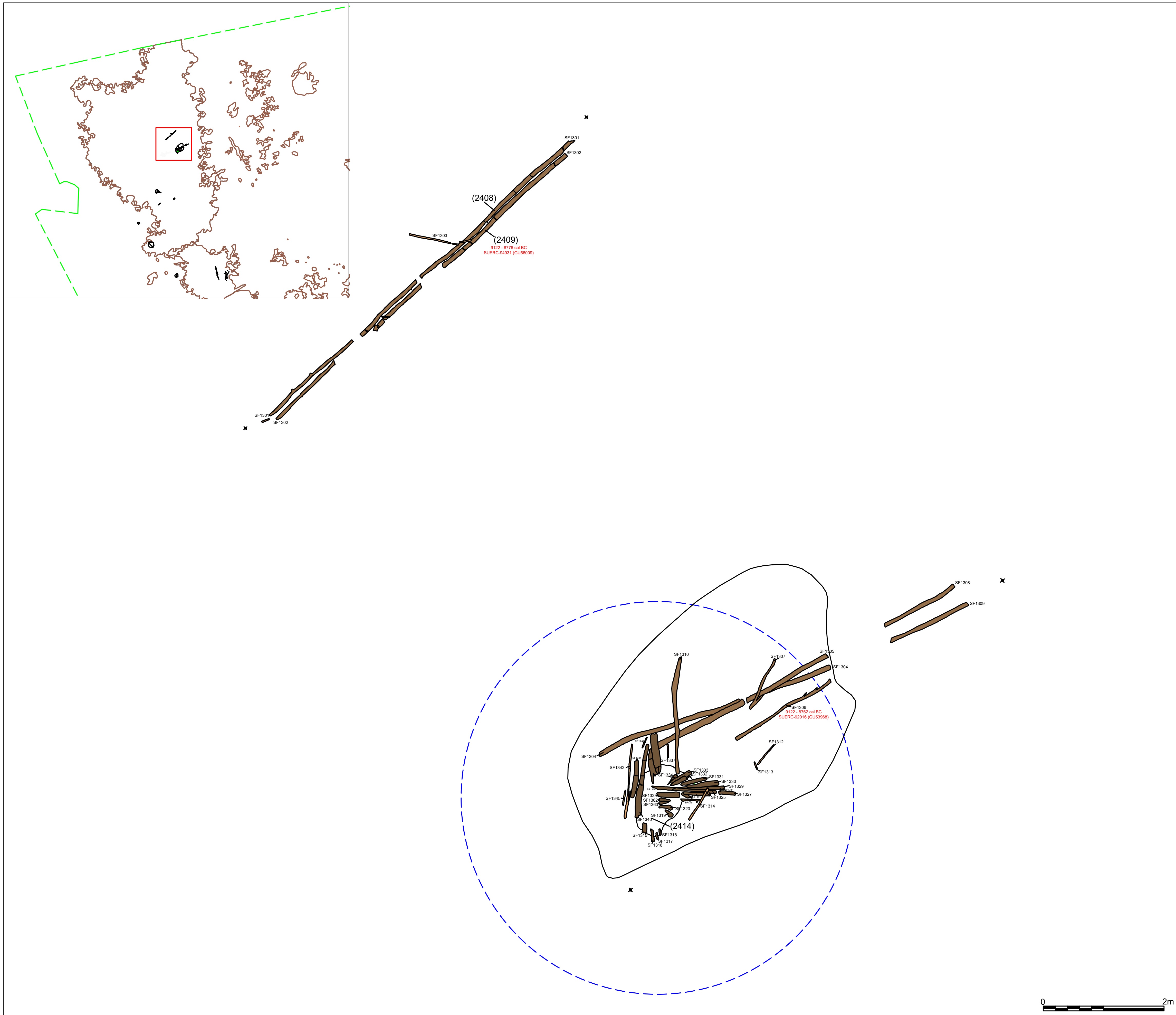
Figure 14. View of satellite roofing timbers F2408 and F2409 surviving at precisely the same level in the same stratigraphic peat unit as Structure 2, looking north-east (scale = 0.5m graduations).

Figure 15. View of satellite roofing timbers F2408 and F2409 with Structure 2 in the background, looking south-west (scale = 0.5m graduations).

4.2.3.6 The timbers of Structure 2 were identified as alder which would have been easily obtainable in the surrounding area and though many of the roofing timbers are long, there was only limited tool markings which featured ragged endings indicative of harvesting by hand from smaller, younger saplings or substantial branches of larger trees. The timbers all remained bark covered with no attempt made to remove it. This is thought to indicate an expedient attitude to timber acquisition and the setting up of this structure, where long straight poles made from nearby wood was selected, with the task undertaken quickly for a clearly intended practical outcome and immediate use. The structural form of this feature, the practical and expedient use of its selected timbers and the limited number of firings in the hearth pit, indicates that the use of this structure was shortlived, with perhaps only a few occasional uses, rather than a more permanent type of structure which would require bigger timbers and potentially more labour-intensive felling and preparation. The partially charred roofing timbers overlying the hearth appears to support short-term occupation as the result of the demolition of the structure following the breaking of camp while the fire was still hot. The deliberate extraction of two of the long poles and setting them aside from the main structure suggests a deliberate attempt to perhaps rescue some of the long timbers for future use when it was realised the long timbers overlying the hearth were starting to char due to the heat of the fire. This indicates a degree of planning with a view, perhaps, of returning to this site again and reusing the timbers if it was decided to camp here again.

4.2.3.7 Taking the structural, stratigraphic and consistent radiocarbon dating together, this evidence points to a timber framed conical roofed structure made from light timber poles that had a light covering, presumably of skins, with a central fireplace inside and which would have resembled a lavuu or tepee-type structure. This is consistent with a short stay camp by a mobile group who took their skins with them, but who also cut down and used timber poles where they made camp. A feature of note is that despite very careful hand excavation and sieving of material no chipped flint was found within or immediately around this structure. This indicates that flint knapping or tool maintenance did not take place either in or immediately around this 'tent'. This lack of chipped flint, and for that matter any other material culture, is all consistent with short-stay episode/s and a type of residency whereby all accoutrements were carefully looked after and taken away again, the exceptions being the timber roofing poles. This is suggestive of a small group of perhaps 2 – 6 individuals who were highly mobile taking all their possessions with them, and who stayed in the locale for only a short period, probably as part of a much wider annual round. A single small narrow blade fragment, possibly a microlith segment (see also Chipped Lithics section below), was found in the Wetland Basin 1 peat *c.*25m away to the south in the sediment sampling pit used to extract the sedaDNA samples (see also Hudson *et al*. 2022), but this was in a higher unit of the peat and is of likely Late Mesolithic date, and so is not considered to be related to the use of Structure 2.

Figure 16. Plan of uppermost surface of Early Mesolithic timber structure 2.



Limit of Excavation

Section Line

Estimated extent of shelter

Radiocarbon dates
(95.4% probability)

Hearth timbers (2413)

Roof timbers (2408, 2409, and 2411)

Roof purlins (2412)

N

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4.2.4. Early Mesolithic timber Structures 1a and 1b

4.2.4.1 What was thought to be Structure 1 in fact comprises the remnants of two separate structures, given that two radiocarbon dates have been obtained from two separated timbers which have a tiny dating overlap and which strongly suggests a difference in age. They both appear to have been light timber structures formed by long straight poles much like Structure 2, although not as much of either survives, with each being represented by only two surviving long poles and some smaller material (Figure 17, Figure 18 and Figure 19). Timbers 1239 and 1240 of Structure 1a measured up to 4.54m and 5m in length respectively, although as with Structure 2, due to differential preservation in the peat, the timbers did survive to their complete original length, and some timbers associated with this feature have evidently not survived at all. A waterlogged sample of pine from shortlived structural pole SF1240 (F1897) was radiocarbon dated to 9120 – 8753 cal BC (95.4% probability) (SUERC-94932 (GU56010)), and probably 9113 – 8771 cal BC (68.2% probability) which is again close to identical with the date range for Structure 2.

Timber No	Total Length (m)	Average diameter (m)	Alignment
1239	4.54m	0.09m	North-west/South-east
1240	5.00m	0.11m	North-west/South-east
1241	1.83m	0.05m	North-west/South-east

Table 6.Timbers comprising Structure 1a.

4.2.4.2 The two surviving long poles used in Structure 1b which could be seen crossed over each other where they had been collapsed had both been deliberately selected for their Y-shaped, or ‘forked’, ends that could hold the ends of the other timbers at the apex of a roof, just like the case with Structure 2. This structure was located near the edge of the Wetland Basin 1 in its southern half and was composed of two long timbers together with a further two pieces of short timbers that may have been used as extra lateral supports, or ‘purlins’, again much like Structure 2. Timbers 1235 and 1236 measured up to 4.2m and 4.02m in length respectively, although as with Structure 1a (see above), due to differential preservation, the full length of the timbers did not all survive completely, and neither did the other structural elements which have long since been lost due to natural decay. In both cases, this is, no doubt, related to much of these structures having been marginally higher in the peat deposit meaning they have not remained permanently waterlogged. A radiocarbon date was obtained from a sample of waterlogged bark from the Y-shaped alder pole SF1235 (F1873) which returned a date of 8786 - 8636 cal BC (95.4% probability) (SUERC-92017(GU53969)), and probably 8761 – 8650 cal BC (68.2% probability).

Timber No	Total Length (m)	Average diameter (m)	Alignment
1235	4.20m	0.08m	North/South
1236	4.02m	0.06m	North-west/South-east
1237	1.60m	0.07m	North-east/South-west
1876	1.60m	0.03m	North-east/South-west

Table 7. Timbers comprising Structure 1b.

4.2.4.3 Structures 1a and 1b were located in the same stratigraphic layer as Structure 2 and similarly overlay the basal peat, which in turn overlay the marl, but in this case the timbers were marginally higher at 41.01m aOD. A detailed discussion of the individual timbers, their species, and evidence of working is described in the Palaeoenvironmental Analysis section. Timbers SF1235 and S1236, which crossed each other, had Y-shaped distal ends as well as the remains of small branches along their length, however there was no evidence of tool markings on any of the individual timbers which featured ragged endings indicative of removal by hand. No evidence of deliberate removal of bark was observed. None of the timbers were found which were thicker than 60mm indicating the use of smaller, younger saplings or more likely the use of branches fallen from larger trees growing around the wetland. The significant difference in dates between the poles from Structures 1a and 1b indicates that although there is some very slight potential for overlap, and therefore contemporaneity, it is very much more likely that these are the remains of two different structures located close to each other and separated in time by perhaps a few generations.

Figure 17. View of Mesolithic timber Structures 1a (right) and 1b (left) with baulk still in place running between the timbers (scale = 0.5m graduations), note the patches of white marl visible on their margins.

Figure 18. View of Mesolithic timber Structure 1b, looking north-north-west with the Y-shaped timber ends visible in the foreground and the remains of a modern land-drain (scale = 0.5m graduations).

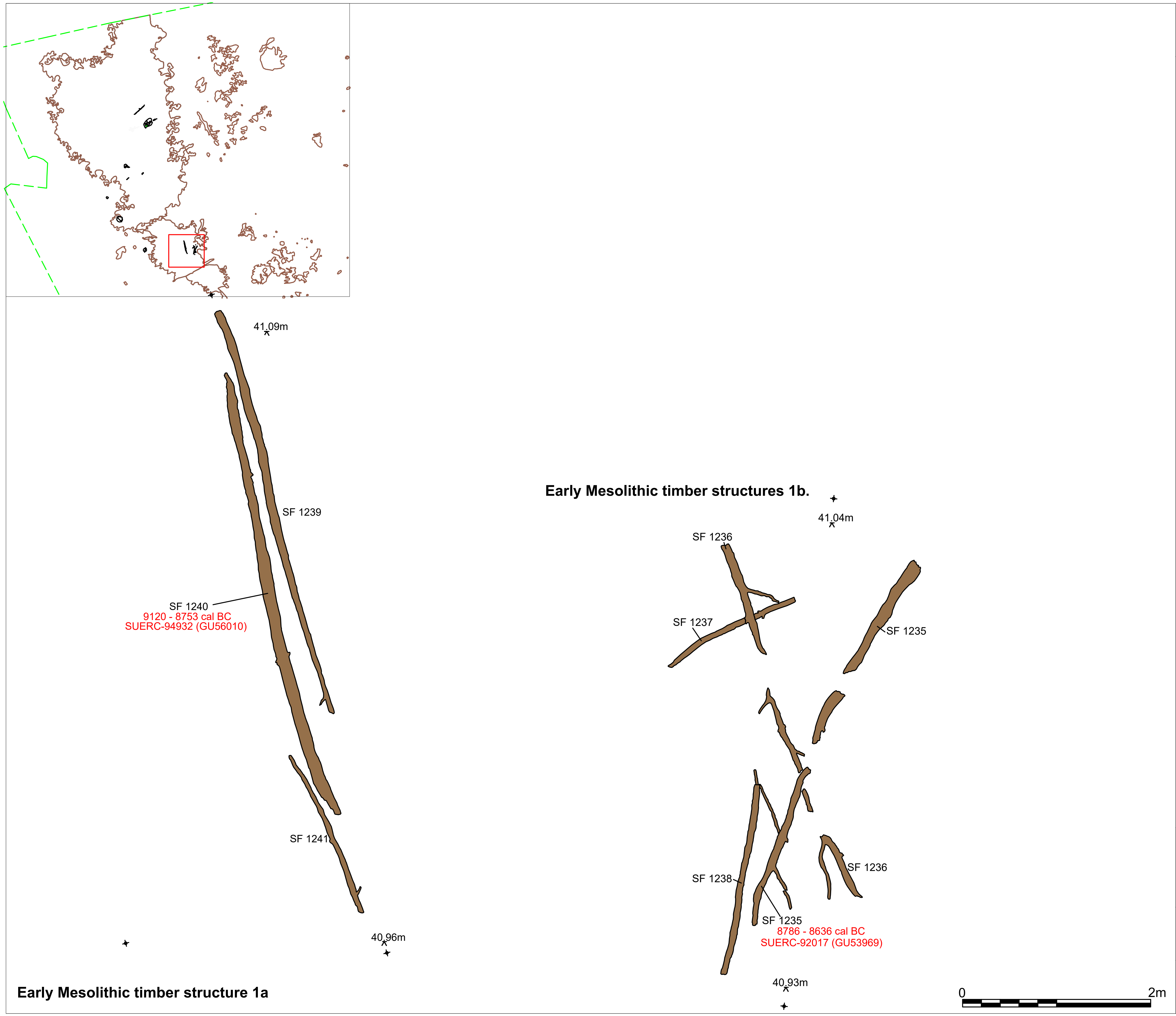

Figure 19. Plan of Early Mesolithic timber structures 1a and 1b.

Limit of Excavation

Section Line

168.85m Height above Ordnance Datum (aOD)

Radiocarbon dates (95.4% probability)

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4.2.5. 19th to 20th century field drainage and animal burials

4.2.5.1 As a result of the substantial size of Wetland Basin 1 and the nature of the topographical ‘low’, or basin, in which it was situated, mid-19th century ceramic land drainage truncated a number of the archaeological features and deposits described above. This substantial field drainage system was similar to those identified in the previous scheme of archaeological works located on the western side of the track leading to Killerby Hall.

4.2.5.2 Tree stump (1895) and the surrounding dark grey-black silty peat (1894) formed by its decay were truncated by land drain F1896 (Figure 20, Figure 21 and Figure 22). A sample from the tree stump, identified as a species of field maple (*acer campestre*), was radiocarbon dated to 8300 – 8251 cal BC (95.4% probability)(SUERC-94933 (GU56011)), with a potentially narrower date range of 8295 – 8269 cal BC (68.2% probability). Subsequent radiocarbon dating obtained from this tree returned a much later radiocarbon date of cal AD 75 – 216 (95.4% probability) (SUERC-98263 (GU57671)), with a somewhat tighter date range of cal AD 121 – 204 (68.2% probability). It is not clear which of these dates is correct, though the later date is more likely given the tree stump lies at the top of the stratigraphy, immediately below the topsoil and overlay the sequence of prehistoric peat deposits. The disturbance around the tree stump caused by the later and more deeply cut land drain could have brought earlier organic material from the peat deposits to the top of the profile where it had contaminated the tree stump and the first dating sample.

4.2.5.3 The land drain featured a rounded profile with concave sides which extended to 0.45m below the archaeological horizon, filled by heavily-bioturbated dark black brown clayey silt (1907), and capped by paving slabs (1896). Sherds of 19th century blue-bodied ware and the base of a brown salt-glazed stoneware bottle were identified amongst the surrounding peat (1894) and the slab capping (1896) which would date the associated land drainage accordingly.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1896	1896, 1906, 1907	Land drainage	0.50m x 0.45m	Dark black brown	Clayey silt	19th century pottery	
1914	1913, 1914	Land drainage	1.70m x 0.20m	Dark grey brown	Silty clay		

Table 8. Land drainage associated with Wetland Basin 1.

Figure 20. View of tree F1894 with drain F1896 in the foreground, looking north-east. (scale = 0.5m graduations).

Figure 21. East facing section of field drainage F1896, note the truncation of tree F1895 in the foreground. (scale = 0.1m graduations).

Figure 22. Plan of tree F1894 with drain F1896.

Limit of Excavation

Section Line

N

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4.2.5.4 Two animal burials, both the remains of sheep, were identified in the vicinity of Wetland Basin 1 (Figure 23 and Figure 24). A shard of glass was identified within the fill (1076) of burial F1074. Burial F1874 was deposited within the upper level of peat (1866) of Wetland Basin 1 and thus no grave cut was discernible. Based upon the associated finds, it is probable that these burials most likely dated to the 19th or 20th century and represent recent agricultural activity in the area and the past importance of sheep pasture for this land.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1074	1074, 1075, 1076	19th to 20th century sheep burial	0.50m x 0.32m x 0.23m	Light orange grey with dark brown mottling	Silty sand	Animal remains (sheep), modern glass	
1874	1866,1874	19th to 20th century sheep burial		Within Wetland Basin 1		Animal remains (sheep)	

Table 9. Modern sheep burials identified in the vicinity of Wetland Basin 1.

Figure 23. View of sheep burial F1074. (scale = 0.1m graduations).

Figure 24. View of sheep burial F1874. (scale = 0.1m).

4.2.6. Undated archaeological features

4.2.6.1 Around Wetland Basin 1, 15 undated archaeological features were identified that consisted of an undated ditch which appears to relate to agricultural boundaries and drainage, two animal burials, and 12 undated pits. In addition to identifiable archaeological features, rooting and bioturbation was identified throughout and around the vicinity of Wetland Basin 1 which frequently truncated the observed archaeology.

4.2.6.2 Located 21.66m north-west of the limit of excavation, an undated ditch F1009, broadly aligned west-north-west/east-south-east, was identified with a profile featuring moderately sloping sides leading to a flat base which contained a dark brown-grey fill of silty sand with no inclusions. Despite the lack of associated finds within the ditch, based upon the largely homogenous fill, this was interpreted as a drainage ditch.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
1009	1007, 1008, 1010, 1011, 1012, 1013, 1014, 1015	Agricultural drainage ditch	24.43m x 0.45m x 0.10m	Dark brown-grey	Silty sand	

Table 10. Undated ditches in the vicinity of Wetland Basin 1.

4.2.6.3 Eight pits and postholes were identified in the vicinity of Wetland Basin 1, of these, F1643, located 49.85m east of the limit of excavation, was interpreted as a possible WWII bomb crater based upon the sequence of deposits and its shape in plan (Figure 25). This would date this feature to the mid-20th century but no definite finds were identified to confirm this interpretation. Given it lies in the flight path into/out of what was then RAF Catterick it is thought this could represent the disposal of unused payload prior to landing, though most of the squadrons based at RAF Catterick were fighters and particularly Spitfires. The remainder of the features had no other defining characteristics or finds whereby a confident interpretation could be determined. These are summarised in Table 11 below.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**
1021	1020, 1021	Irregular broadly circular pit	1.88m x 1.72m x 0.22m	Dark brown	Silty sand	
1039	1039, 1040	Subcircular pit	0.83m x 0.52m x 0.13m	Mid brown grey	Silty sand	
1046	1045, 1046	Oval pit or posthole	0.66m x 0.34m x 0.08m	Mid brown grey	Silty sand	
1048	1047, 1048	Oval pit	1.33m x 0.62m x 0.11m	Mid brown grey	Silty sand	
1593	1591, 1592, 1593	Posthole	0.53m x 0.28m x 0.34m	Dark black brown (1593)	Peat (1593)	
1615	1614, 1615	Pit	0.50m x 0.50m x 0.10m	Mid orange black	Silty sand	
1638	1637, 1638, 1639	Sub-oval pit	2.11m x 2.11m x 0.35m	Dark brown (1638) Mid brown-grey (1639)	Peat (1638) Clayey silt (1639)	
1643	1642, 1643, 1644, 1645	Possible bomb crater	3.61m x 1.30m x 0.92m	Dark orange-brown Light green-brown (1645)	Peat	

Table 11. Undated pits in the vicinity of Wetland Basin 1.

Figure 25. Oblique view of south-west facing section of possible WWII bomb crater F1643 (scale = 0.5m graduations).

4.3. Wetland Basin 2

4.3.1. Introduction

4.3.1.1 The sampled area of Wetland Basin 2, identified on the southern edge of the site, measured 62.44m (north-west/south-east) by 34.03m (north-east/south-west), and covered an area of *c.* 0.1 ha, though the full size of this small basin is estimated at around 0.5ha. This was a smaller natural depression in the local topography than Wetland Basin 1, but with higher and steeper sides to the east, characterised by a rim of stacked palaeosol deposits ultimately overlain by colluvium on their east side with the modern topsoil above. The lowest sediments are Late Glacial in origin. Radiocarbon dates were obtained for various layers in this sediment unit profile and show an early, lower, palaeosol (1893), which was sealed by a sand layer (1875), which was in turn overlain by a younger, upper, palaeosol (1223) that started to develop in the Earlier Mesolithic and continued through into later prehistoric, mid Holocene, times when this in turn was buried by thick colluvium. Two layers could be visibly distinguished in the colluvium (1222 and 1221), (1222) being the lower one and (1221) being the upper one. Above colluvium (1221) was the subsoil (1002) and overlying this was the topsoil (1001) which forms the soil and land surface visible today. Archaeological remains in the form of chipped lithics, coarse stone artefacts and some fragments of burnt bone were recovered from the upper palaeosol (1223), but no archaeological material was recovered from the lower palaeosol. A group of pits had been cut from the top of, or from above, the upper palaeosol and through into the sand layer and the lower palaeosol below and one of these produced a Late Mesolithic date (SUERC-94941) Late Neolithic date (SUERC-92015) on a charred wood fragment (see also below. More detailed description of the geoarchaeology of Wetland Basin 2 is found in Parker (2021).

4.3.1.2 The following section summarises the stratigraphic sequence within Wetland Basin 2 to contextualise the archaeological features located within and around it (Figure 26, Figure 27 and Figure 30). Within the surrounding mid orange-brown sand and gravel substrate (1908), an initial Postglacial course-textured dark grey-red-brown sandy silt (1893) formed the first, lower, palaeosol within Wetland Basin 2, identified at a depth of 0.55m (*c.* 42m aOD) below ground level at its highest point. This was overlain by a fine light grey sand (1875), free of inclusions, which could be a windblown deposit.

4.3.1.3 The fine light sand layer (1875) was itself overlain by a substantial and more organic brown-black upper palaeosol (1223), which contained rooting and very occasional small rounded stones, and which started to develop at least as early as the early Holocene and conceivably before (Figure 28 and Figure 29). Excavation of the palaeosol (1223) identified calcined bone as well as a tooth from a horse, as well as lithic and pottery finds. Evidence of indigenous horse specimens from the early Holocene have been previously identified elsewhere in Britain dating to *c.* 8600 cal BC (Bendrey 2010, 11). The lithic assemblage included an Late Glacial – Early Holocene tanged point with Ahrensburgian affinities (Fig. 198), an unusual (for Britain) Mesolithic flaked axehead (Fig. 202 and 203) with a ground and polished edge recalling similar specimens found on Irish Mesolithic sites, a broad bladed Early Mesolithic microlith (Fig. 200), a variety of other Mesolithic-related blade forms including microburin (FN1244, Fig. 201), some edge trimmed blades and flakes, debitage and a core, two quartzitic sandstone hammerstones (Fig. 191), and a notched stone (Fig.

194), possibly used for fire starting, were recovered from the upper palaeosol. The lithics were predominantly made from the local chert, but flint implements were also present (see specialist lithics sections below for more detail) including the Ahrensburgian related tanged point. The ceramic assemblage derived from the very top of the palaeosol consisted of ten sherds of Romano-British greyware (GRB2), which dates from the late 1st to the early 3rd century AD, as well as a rim and bodysherd from a black burnished ware (BB1) jar which dates to the mid-2nd century AD (see specialist analysis below).

4.3.1.4 The upper palaeosol (1223) was sealed by a light grey silty sand colluvium (1222) which also contained a Romano-British greyware (GRB2) sherd as well as a rimsherd from an 18th century Late Blackware bowl and a clay pipe stem. Based on the presence of Romano-British ceramic material from this layer and from the interface of the underlying palaeosol (1223), it is likely that the initial colluviation event might date to the Romano-British period. The uppermost deposit within Wetland Basin 2, below the topsoil (1001) and subsoil (1002), which sealed colluvial silty sand (1222) was mid orange-grey silty sand (1221). This deposit contained occasional gravel inclusions but contained no further finds. This is also considered to be a colluvial deposit. As in most of the low-lying areas of the site, this area was truncated by 19th and 20th century land drainage which would explain the occasional inconsistencies in the radiocarbon dates taken from bulk sediment soil samples through the sequence where humic acids were dated (see also below Dating section).

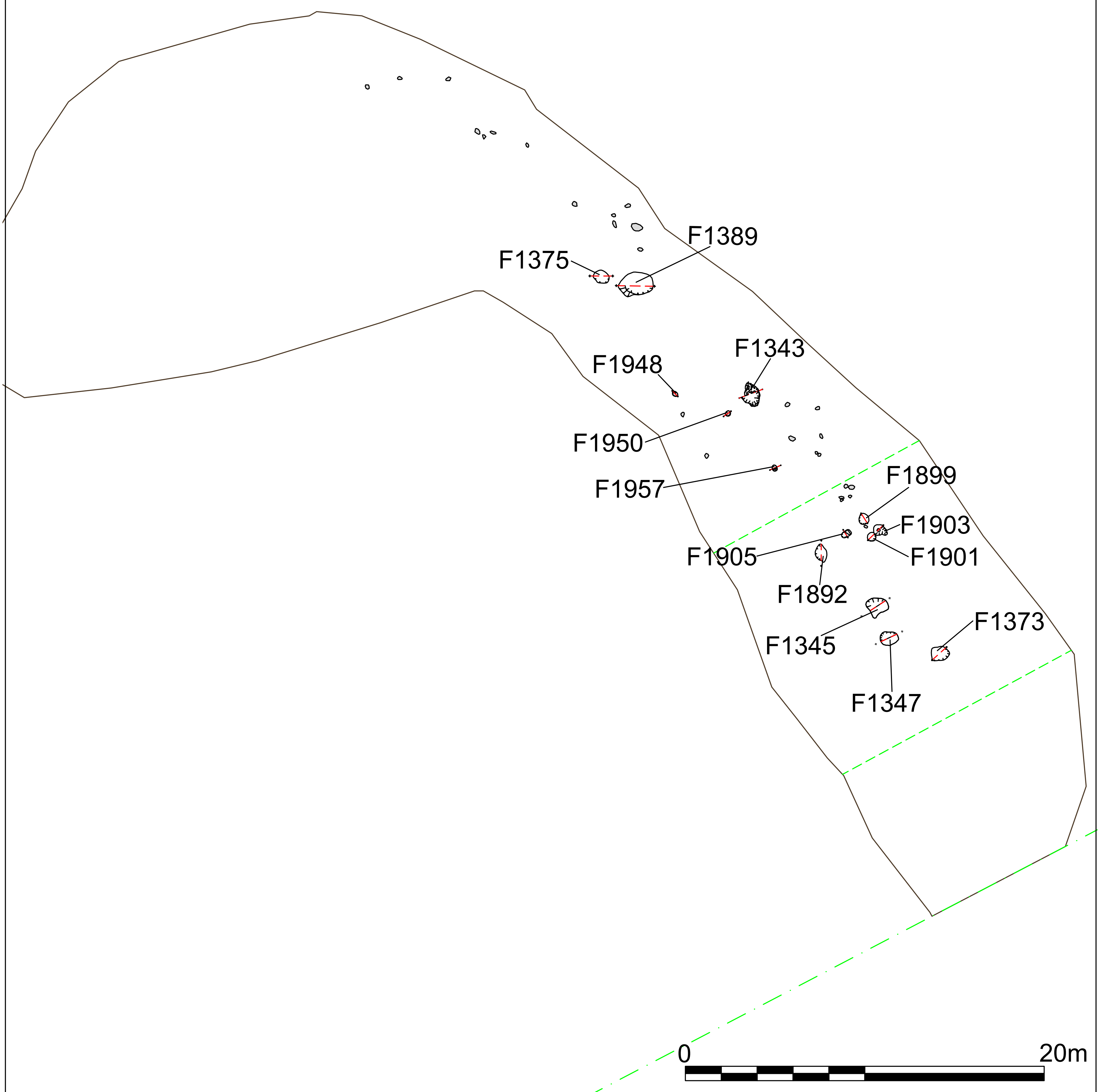

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Figure 26. Plan of archaeological features associated with Wetland Basin 2.

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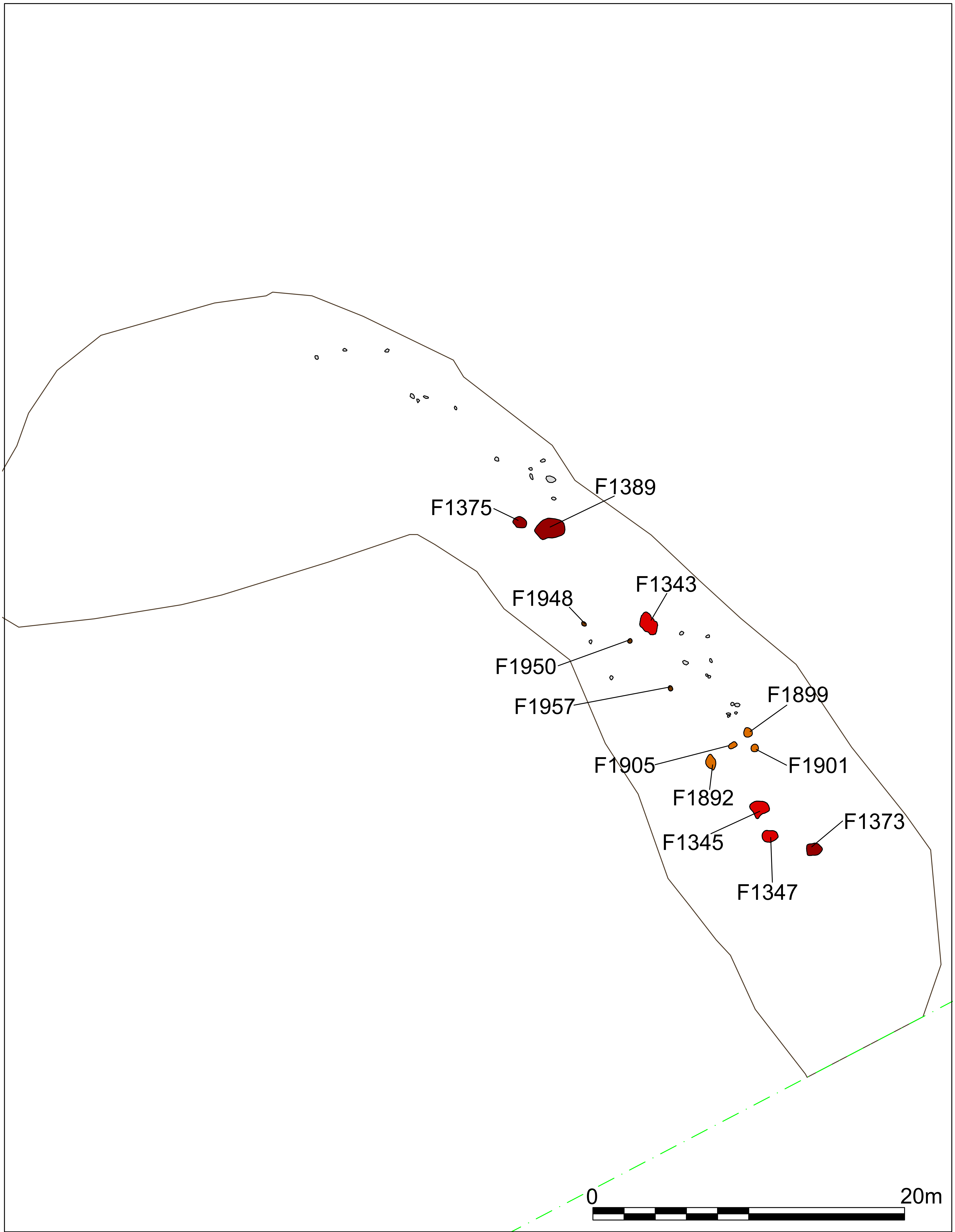

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Figure 27. Phase plan of archaeological features associated with Wetland Basin 2.

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Earlier prehistoric
Early Neolithic
Neolithic
Late Neolithic

Figure 28. View of palaeosol F1223, looking north-east. (scale = 0.5m graduations).

Figure 29. View of palaeosol F1223, looking south-east. Note truncation by field drainage in background. (scale = 0.5m graduations).

Figure 30. Stratigraphy of Wetland Basin 2.

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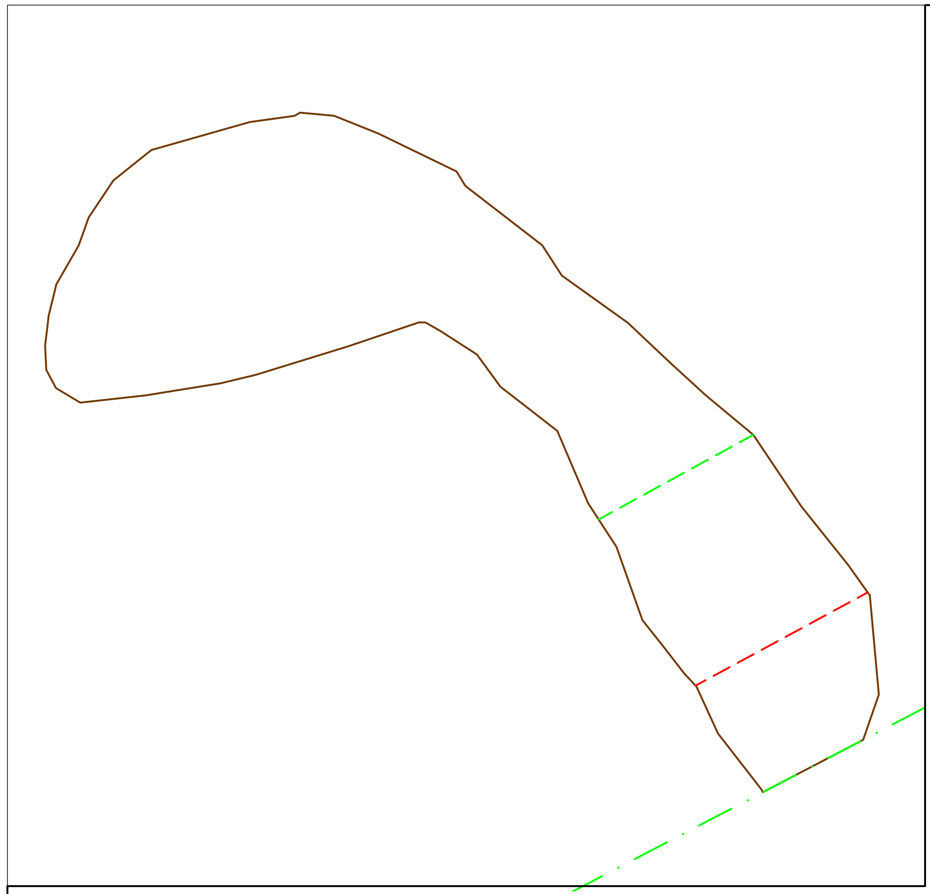
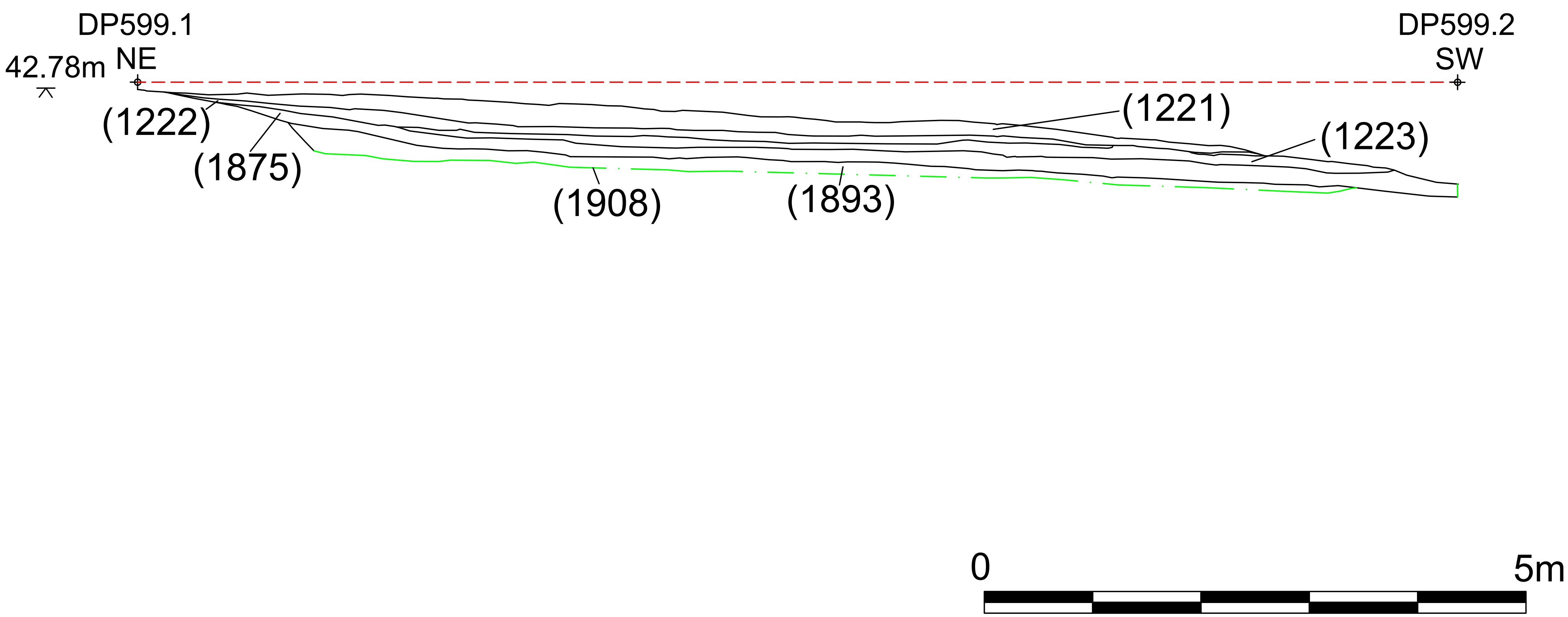


North-west facing section through Wetland Basin 2.



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4.3.2. Earlier prehistoric pits

4.3.2.1 Thirteen prehistoric pits were identified within the Wetland Basin 2 sequence described above. At the base of Wetland Basin 2, three probable pits F1899, F1901 and F1905 were located cut into the sand and gravel substrate (1908) (Figure 31, Figure 32 and Figure 33). These were broadly circular in plan with an average diameter of 0.5m but featured relatively slight and uneven shallow U-shaped profiles with an average depth of 0.06m from the base of the overlaying lower palaeosol (at 42.05m aOD). These contained a dark black-brown silty sand, which also infilled a natural depression of dark black-brown silty sand (1903) that was also cut by pit F1901. These features were interpreted as pits which could represent Late Upper Palaeolithic activity given they appeared to be stratigraphically below the lower palaeosol. Alternatively, they could have been cut down from the lower palaeosol itself, but it would still make these pits the earliest in the stratigraphic sequence and of likely pre-Holocene or very earliest Holocene age.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1899	1898, 1899	Subcircular pit	0.68m x 0.62m x 0.07m	Dark black-brown	Silty sand		
1901	1900, 1901	Circular pit	0.46m x 0.43m x 0.06m	Dark black-brown	Silty sand		
1905	1904, 1905	Ovoid pit	0.60m x 0.36m x 0.06m	Dark black-brown	Silty sand		

Table 12. Prehistoric pits in natural sand and gravel substrate (1908).

4.3.2.2 An oval-shaped, pit F1892 was identified cut down into the Post Glacial sand and gravel (1893), which featured a steep-sided profile and an uneven base. This feature appeared to have been subject to significant weathering and contained a mixed dark red/black-brown sand and peat (1892) which contained frequent subangular stony inclusions, as well as charred cereal grains, goosefoot (*Chenopodium* sp.) and Polygonaceae seeds. This feature is therefore considered to be of Neolithic or later date given the presence of charred cereal grains.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1892	1891, 1892	Irregular, suboval pit	0.68m x 0.62m x 0.07m	Dark black-brown	Sandy peat		

Table 13. Prehistoric pit cut through sand layer (1893).

Figure 31. West facing section of pit F1899. (scale = 0.05m graduations).

Figure 32. South facing section of pit F1905. (scale = 0.05m graduations).

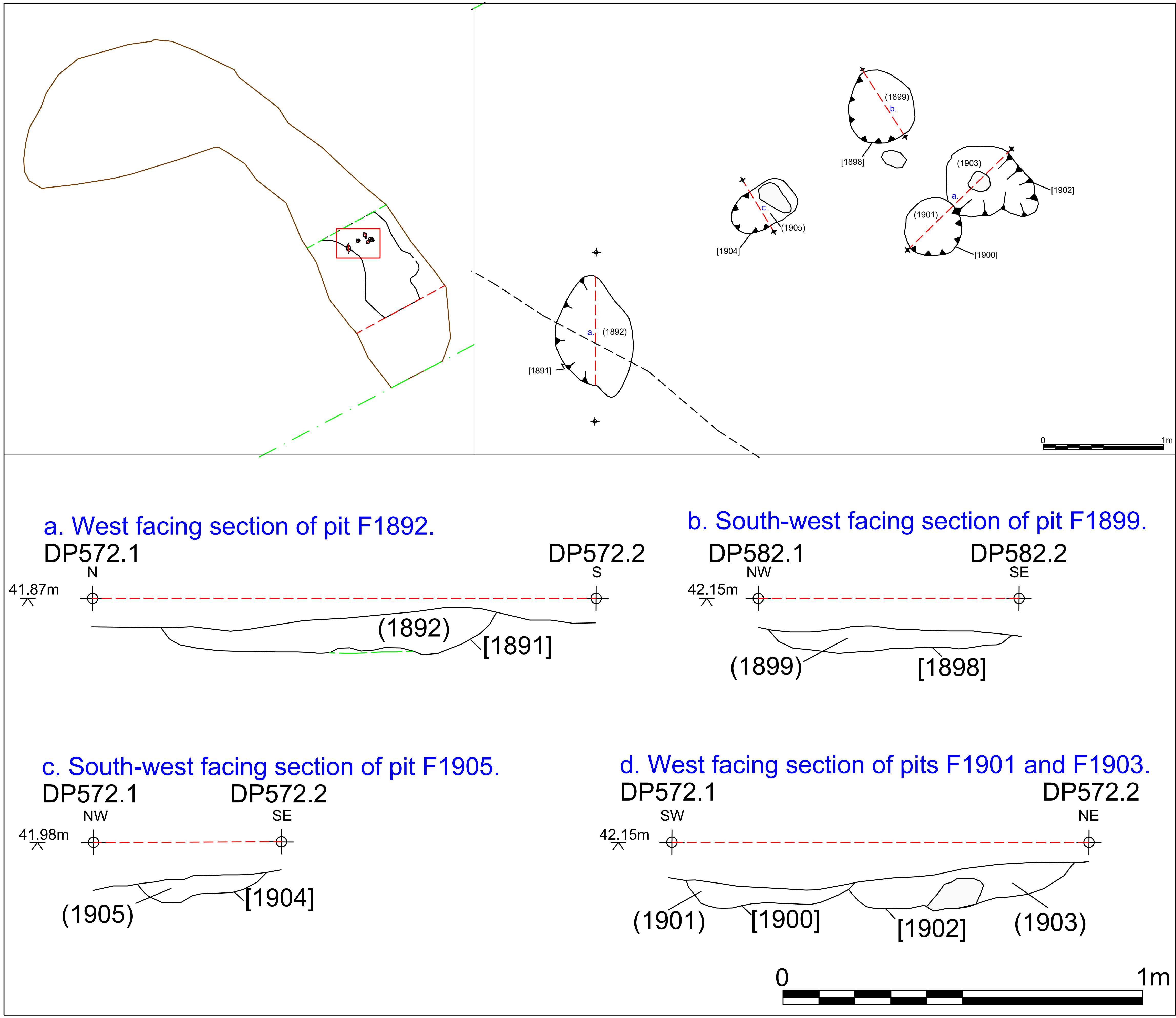

Figure 33. Plans and sections of early prehistoric pits within Wetland Basin 2.

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4.3.3. Neolithic pits

4.3.3.1 A total of eight archaeological features were identified as having been cut down through or from the upper layer of palaeosol (1223). Three pits F1373, F1375, and F1389, and three postholes F1948, F1950, F1957 in a small arc, were identified cut from the upper palaeosol below into the underlying sand layer (1875). However, a further two pits, F1343 and F1347, clustered around a treebole F1345, were identified cut from and into the buried soil itself (1223) without cutting through to the sand layer below.

4.3.3.2 Pits F1375 and F1389 were located just 0.7m from each other and were situated *c.*38m north-west from the limit of excavation in the southern portion of Wetland Basin 2. Pit F1375 measured 0.54m x 0.45m in plan with steep sides and a flat base at 0.15m below the top of this palaeosol layer (at 42.75m aOD), while Pit F1389, measured 1.18m by 0.78m in plan but had an uneven profile with steep, sloping sides and an irregular base that reached a depth of 0.32m below the top of this palaeosol layer. Pit F1375 was filled by a silty peat which contained inclusions of small subangular stones as well as rooting. Within pit F1389 was a dark red-brown peaty silt which contained occasional inclusions of small subrounded stones as well as frequent rooting. A sample of indeterminate charcoal from the fill (1375) of pit F1375 was radiocarbon dated and produced a Late Mesolithic date of 4346 – 4259 cal BC (95.4% probability) (SUERC-94941 (GU56016)) and probably 4340 – 4266 cal BC (68.2% probability)), although being unidentified wood there could be an 'old wood effect' influencing this result and therefore the burning of this fragment could potentially be up to a few centuries later, possibly placing it at the very beginning of the Neolithic. Either way it dates the pit to the Mesolithic-Neolithic interface. Pit F1373, to the south, measured 0.88m by 0.80m in plan, with steep sides and a concave base at a depth of 0.25m below the top of the palaeosol, and was filled with a similar silty peat to F1375 that contained small subangular stone inclusions and rooting. No finds were identified in any of the three pits, but based upon their shared stratigraphic position, their spatial proximity, similarity of their profile and fills, pit F1373 was interpreted as broadly contemporary with pits F1375 and F1389, and all could date to the very end of the Mesolithic or the very start of the Neolithic (Figure 34, Figure 35, Figure 36 and Figure 37)Figure 34. South-east facing section of pit F1373. (scale = 0.1m graduations)..

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1373	1372, 1373	Circular pit	0.88m x 0.80m x 0.25m	Dark black-brown	Silty peat		
1375	1374, 1375	Circular pit	0.54m x 0.45m x 0.15m	Dark black-brown	Silty peat		4346 – 4259 cal BC
1389	1388, 1389	Circular pit	1.18m x 0.78m x 0.32m	Dark red-brown	Peaty silt		

Table 14. Pits within sand lamination (1875).

Figure 34. South-east facing section of pit F1373. (scale = 0.1m graduations).

Figure 35. South-east facing section of pit F1375 (scale = 0.1m graduations).

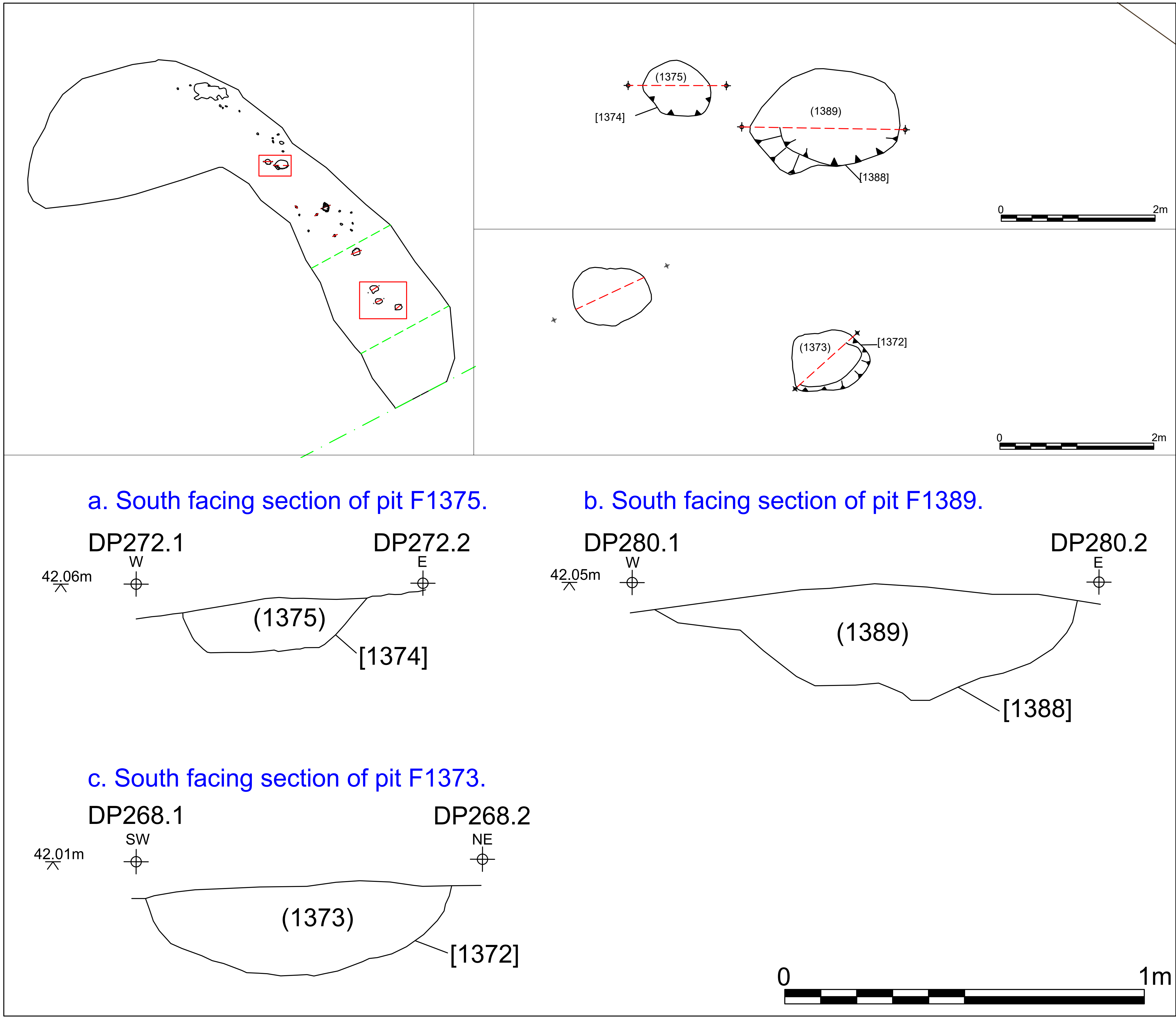

Figure 36. Plans and sections of pits F1373, F1375, and F1389 within Wetland Basin 2.

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4.3.2.7 Three postholes, F1948, F1950, and F1957 were identified forming an arc within the sand layer (1875) 13.30m to the north of pit F1373 (Figure 38, Figure 39 and Figure 40). They might have formed the remains of a post-built structure which appears to have overlapped the edge of the basin. As only the north-eastern corner remains, this prevents an estimation of the structure's overall size. The postholes were spaced roughly 3m apart from each other and were of a similar size and depth. No post-pipes were noted in the fills, but two of the post holes F1948 and F1950 contained a sandy clay indicating that the posts might have been deliberately extracted and the postholes backfilled. Another posthole F1957 contained a compacted mid brown-grey silty sand (1957) with a significant amount of stony inclusions which could represent the remains of packing material. This could indicate that postholes F1948, F1950, and F1957 might significantly post-date the sand layer (1875) and might have been dug through the overlying buried soil (1223) within which no trace has been left of the posthole as the soil infilled and continued to weather over time.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1948	1947, 1948	Subcircular posthole	0.22m x 0.22m x 0.16m	Mid blue-grey	Sandy clay		
1950	1949, 1950	Subcircular posthole	0.18m x 0.18m x 0.14m	Mid blue-grey	Sandy clay		
1957	1956, 1957	Subcircular posthole	0.34m x 0.34m x 0.21m	Mid brown-grey	Compacted silty sand		

Table 15. Postholes within sand lamination (1875).

Figure 37. View of pits F1373, F1375, and F1389, looking north-west (scale = 0.5m graduations).

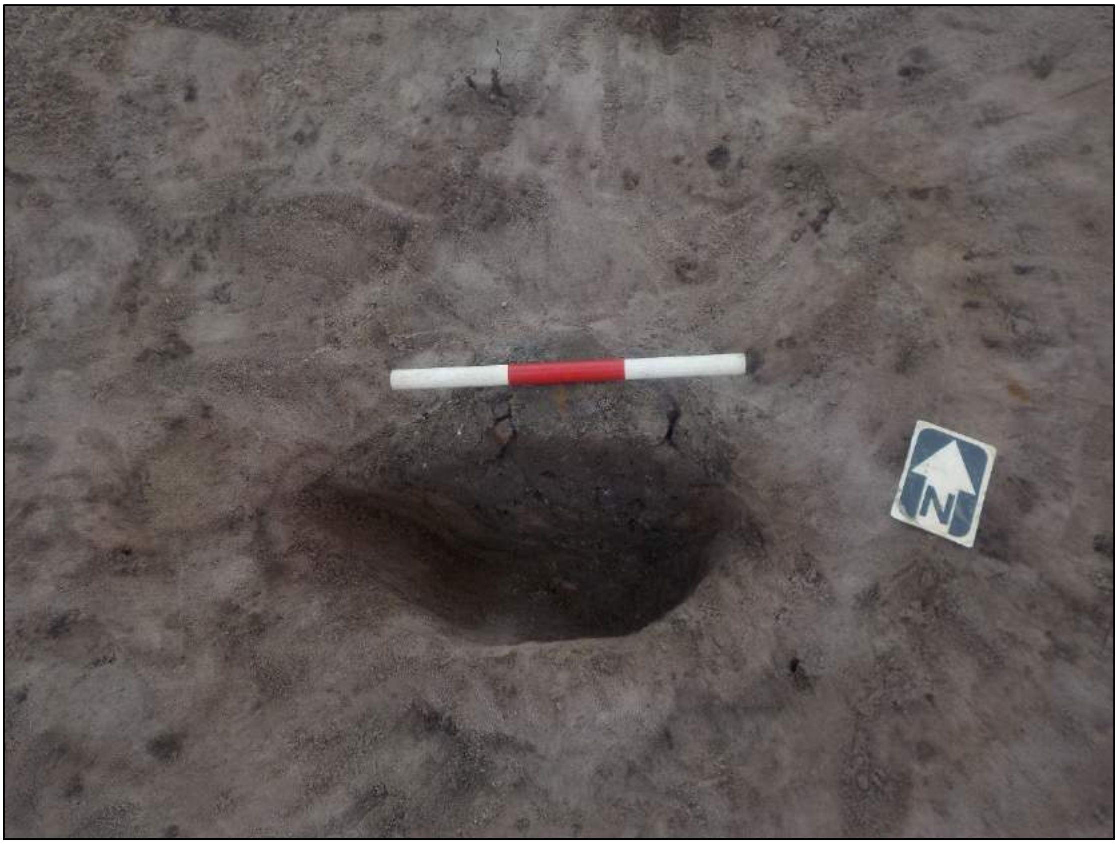

Figure 38. South-south-east facing section of pit F1950 (scale = 0.1m graduations).

Figure 39. South-east facing section of pit F1957 (scale = 0.1m graduations).

Figure 40. Plans and sections of postholes F1948, F1950 and F1957, and pit F1343 within Wetland Basin 2.

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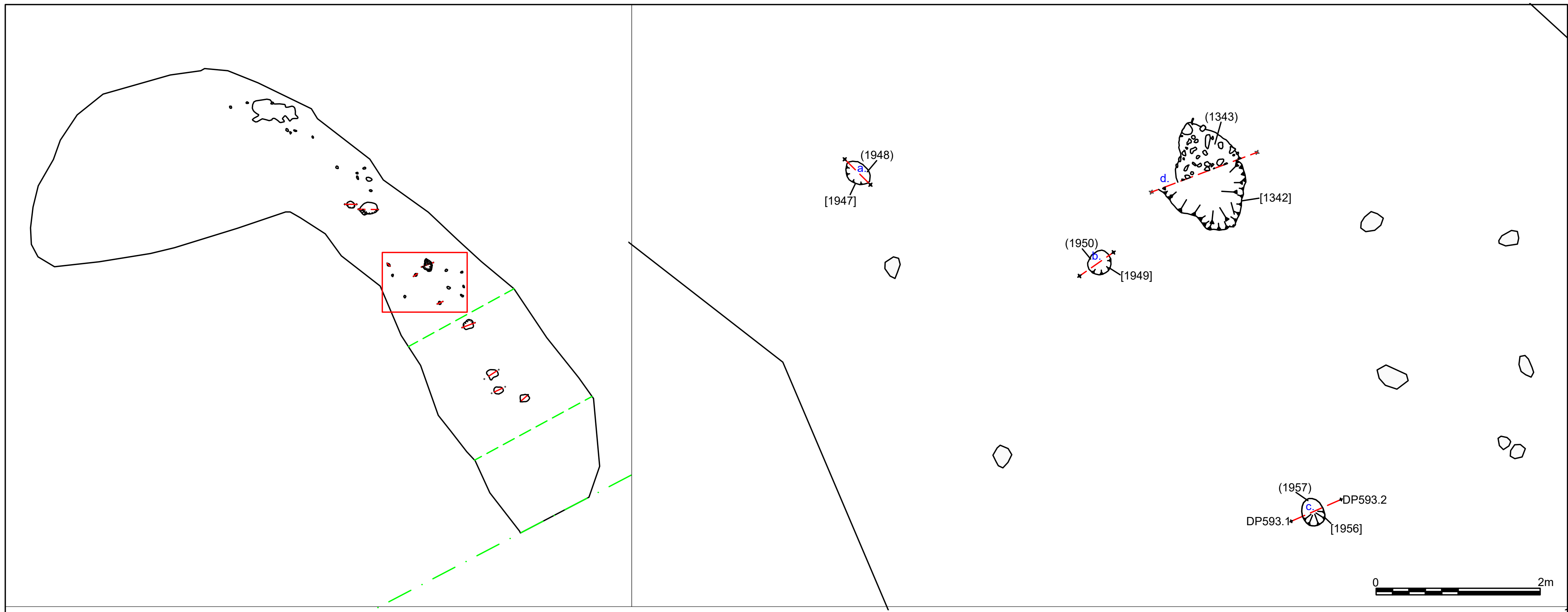
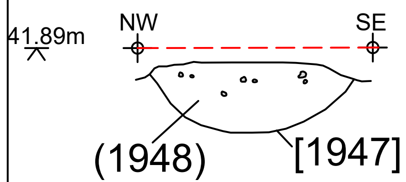
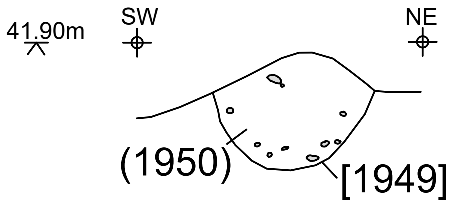


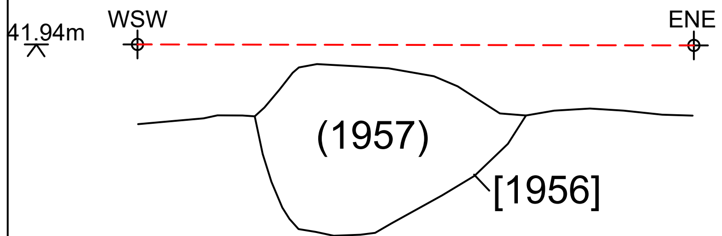
a. South-west facing section of pit F1948



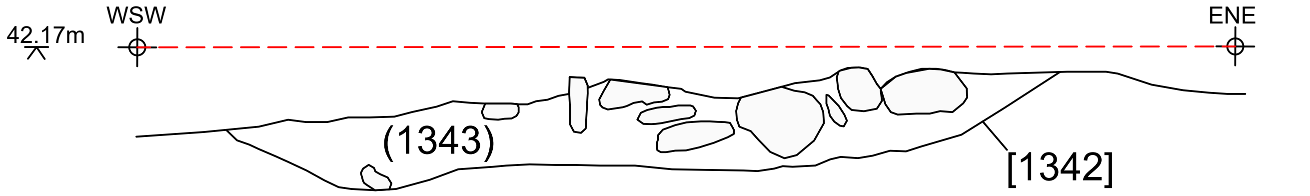
b. South-east facing section of pit F1950.



c. South-south-east facing section of pit F1957.



d. South-south-east facing section of pit F1343.



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4.3.3.1 Treebole F1345 was defined as a characteristic irregular kidney-shape in plan, measuring 1.12m by 0.99m, with an uneven profile and base and measurable depth of 0.21m. A patch of rooting F1341 was located 22.41m north of the limit of excavation and this produced a pit of irregular profile and with the presence of wood within its fill (Figure 41).

4.3.3.2 The southernmost oval-shaped pit F1343, measured 1.06m in diameter, having a subtle profile with moderately sloping sides and a wide flat base and a measurable depth of 0.15m cut into the sand deposit below. This pit contained a mix of sand and peat (1343) which contained rounded cobble inclusions, but no other finds. Cobbles were not found naturally occurring anywhere in either the palaeosols, the sand layer or the underlying layers of sand, and so are considered to have been brought in by cultural activity. On the other side of treebole F1345 to pit F1343, the larger ovoid pit F1347 was located which measured 1.22m by 0.90m in plan and which had a gradually sloping profile with an uneven base and a measurable depth of 0.22m cut into the sand layer. This pit F1347 (Figure 42 and Figure 43) contained dark black-brown silty peat (1347) which contained a substantial amount of oak charcoal. A sample of this oak charcoal was radiocarbon dated producing a calibrated date of 2881 – 2637 cal BC (95.4% probability) although it is likely to fall within the range of 2875 – 2696 cal BC (68.2% probability) (SUERC-92015 (GU53967)). Although this sample could have an 'old wood' effect it is unlikely to alter it from still being a Late Neolithic date, even if the actual event the determination is dating is a century or two younger than the age of the wood.

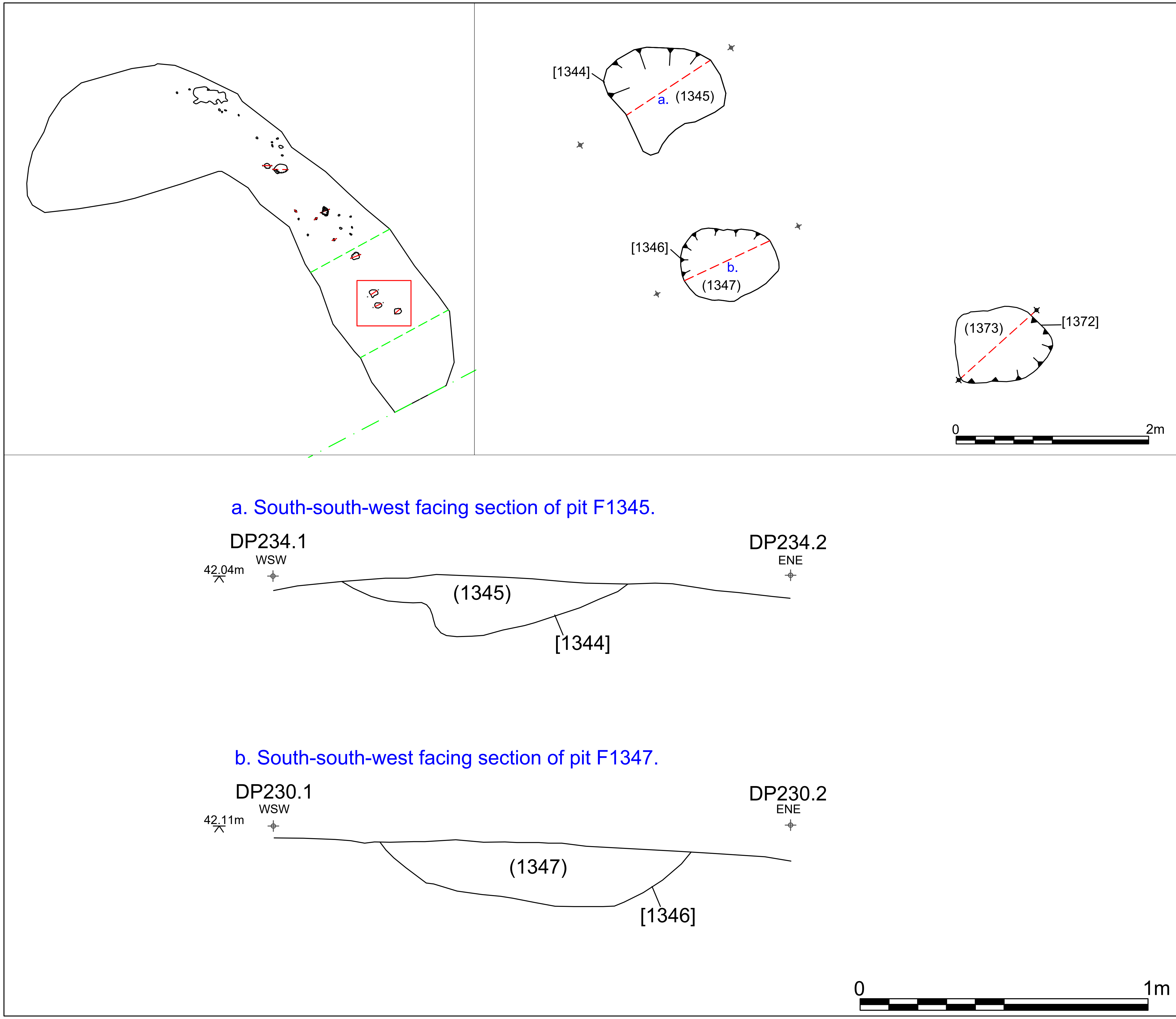
Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1341	1340, 1341	Rooting	1.06m x 0.86m x 0.12m	Dark black brown	Sandy clay		
1343	1342, 1343	Oval prehistoric pit	1.06m x 0.76m x 0.15m	Brown yellow	Sandy peat		
1345	1344, 1345	Treebole	1.12m x 0.99m x 0.21m	Dark black-brown	Sandy clay		
1347	1346, 1347	Ovoid prehistoric pit	1.22m x 0.90mx 0.22m	Dark black brown	Silty peat	Frequent charcoal	2881 – 2637 cal BC

Table 16. Late Neolithic pits in Wetland Basin 2.

Figure 41. View of pits F1341, 1343, F1347, and treebole F1345, looking north-west (scale = 0.5m graduations) with pale brown colluvial layer overlying the upper palaeosol (see baulk in top left background) (see Figure 43).

Figure 42. North-west facing section of pit F1347 (scale = 0.5m graduations).

Figure 43. Plans and sections of pits F1345 and F1347 within Wetland Basin 2.



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4.3.4. 19th century field drainage

4.3.4.1 Similar to Wetland Basin 1 and as noted above, due to the nature of the topographical low in which it was situated, mid-19th century ceramic land drains were identified truncating the archaeological features and deposits described above. This substantial field drainage system was the same as those observed elsewhere across the site as well as in the previous scheme of archaeological works located on the western side of the track leading to Killerby Hall.

4.4. Wetland Basin 3

4.4.1. Introduction

4.4.1.1 Wetland Basin 3 was another natural depression in the local topography characterised by successive primarily wetland deposits dating from the Postglacial period. The area around Wetland Basin 3, located at the north end of the stripped area, measured 46.52m (north/south) by 103.34m (east/west) and covered an area of 0.41ha. Wetland Basin 3 itself occupied the eastern portion of this area though it extended beyond the limit of excavation (Figure 48). Approximately one third was exposed in the excavation area and this was then sample excavated by hand excavation of sondages which were removed in *c*.10cm spits with all finds recorded to spit.

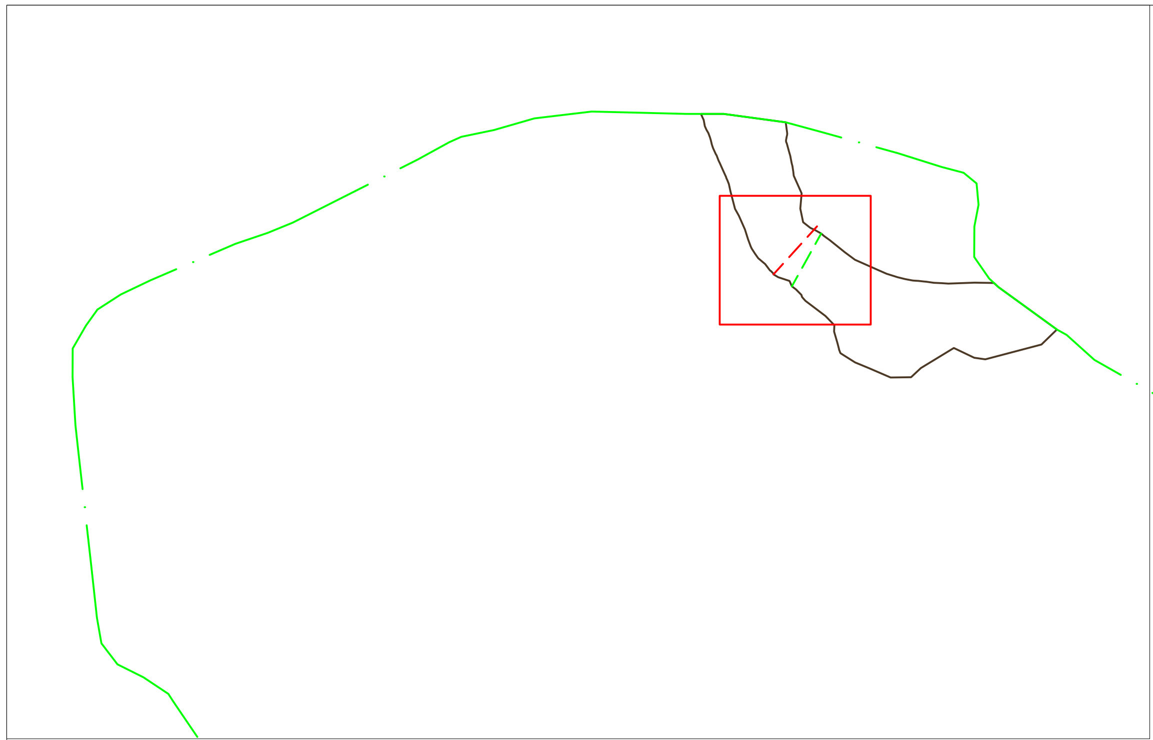
4.4.1.2 Smaller in size than Wetland Basin 1 and Wetland Basin 2, the deposits within Wetland Basin 3 were similar in composition to those of Wetland Basin 2 – comprising successive deposits of sand, marl, and silty clay which overlies the natural sand and gravel substrate (Figure 45, Figure 46 and Figure 47). Like Wetland Basin 2 it took the form of a 'halo' of organic-rich preserved palaeosol around what had likely been a small pond. Within Wetland Basin 3, a substantial dark brown humic layer (1406) lay immediately below the topsoil and contained a wide range and large number of finds, with butchered animal bone by far the most prolific. Other finds included abraded Romano-British pottery: notably a samian ware footring, Nene Valley colour-coated ware sherds, as well as local greyware, a substantial medieval ceramic assemblage attributed to the 13th – 14th century, as well as a range of burnt clay and other CBM which ranged from the Romano-British period but was primarily derived from the medieval period. Other significant finds included two fragments from jet-like bracelets as well as a bone comb fragment which likely dates to the 10th century AD (Figure 48 and Figure 49).

4.4.1.3 Animal bone comprised the most substantial element of the material culture assemblage and is predominantly derived from cattle, but substantial quantities were from sheep and goat as well as rarer species such as crane. Analysis of cut marks on this assemblage indicates that these remains are butchery refuse and radiocarbon dating of animal bone from the layer indicate that these remains date to the late 8th – early 9th century AD in the middle Anglo-Saxon period. A dog tibia produced a date of cal AD 707 - 892 (95.4% probability) (SUERC-98269 (GU57678)), with a potentially tighter range of cal AD 784 – 878 (68.2% probability) and a virtually identical date from a cattle mandible returned a date of cal AD 772 – 892 (95.4% probability) (SUERC-98273 (GU57679)), with a potentially tighter date range of cal AD 779 – 883 (68.2% probability). The presence of earlier and later datable archaeological material within the midden indicates a possible longer use for this small wetland area as a place to discard refuse ranging from the late Romano-British period and into the high medieval.

4.4.1.4 The natural sand and gravel substrate surrounding Wetland Basin 3 was overlaid by buried soil (1652), comprised of mid-grey brown sandy silt which contained occasional small subrounded stones. Significant quantities of animal bone as well as Romano-British burnt clay and ceramic building material were recovered from the top of this deposit (see the specialist analysis chapters below). It is likely that these artefacts lie in the heavily truncated remnants of the Romano-British subsoil immediately onlapping the surface of the sand and gravel substrate.

Figure 44. South-east facing section of sondage through Wetland Basin 3. (scale = 0.5m graduations).

Figure 45. Stratigraphy of Wetland Basin 3.



South-east facing section of Wetland Basin 3.

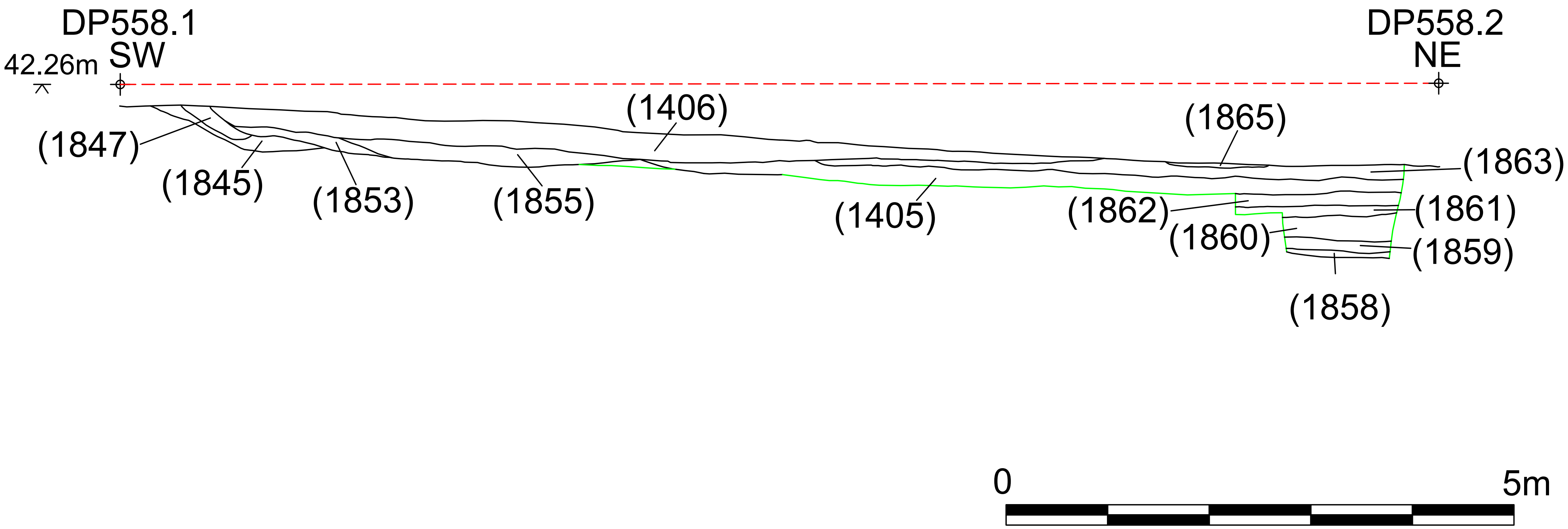


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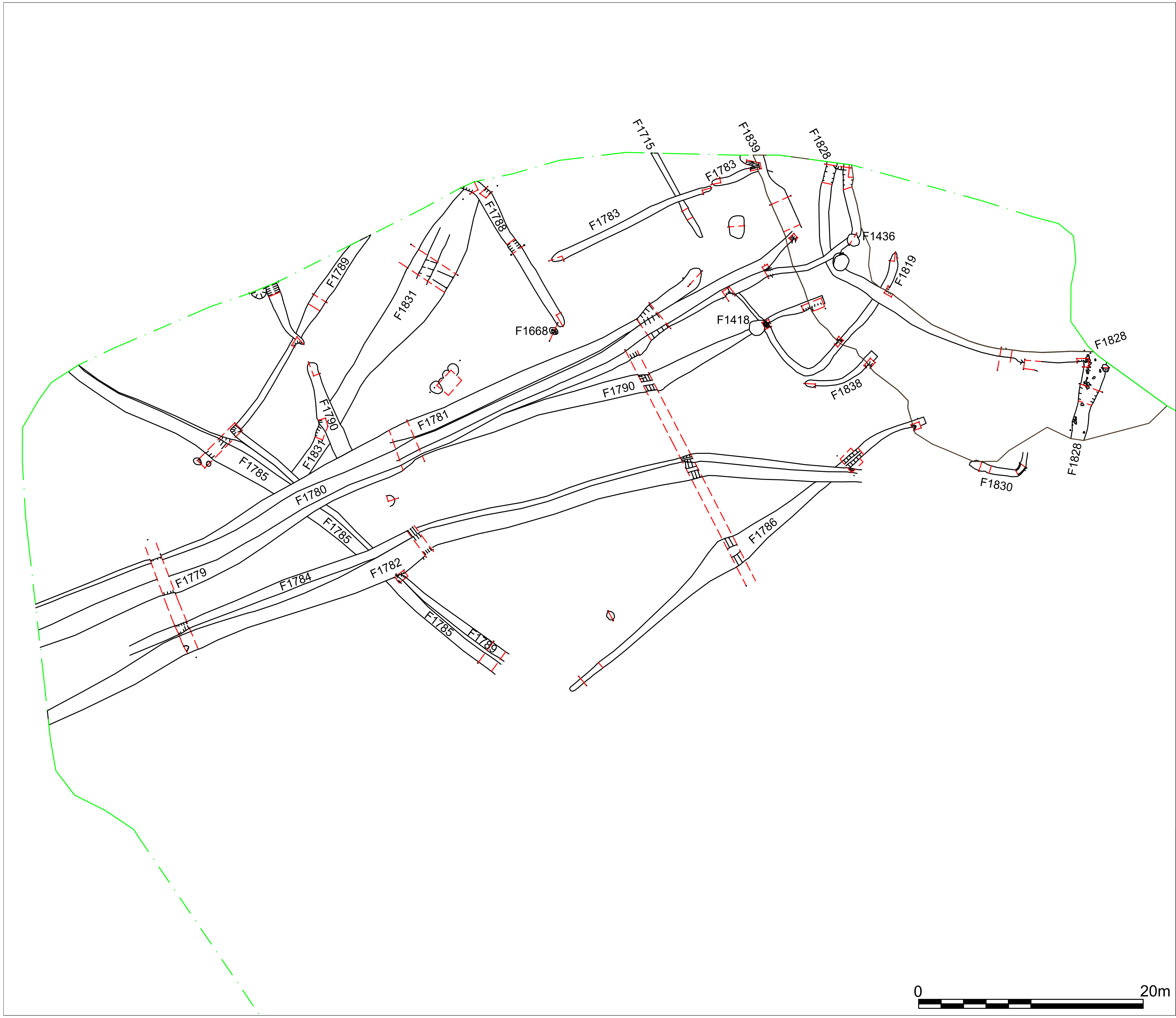
Figure 46. Post-excavation view of Wetland Basin 3, looking south-east (scale = 0.5m graduations).

Figure 47. Oblique post-excavation view of Wetland Basin 3, looking north-west. (scale = 0.5m graduations).

Figure 48. Overview of archaeological features associated with Wetland Basin 3.



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Date: 2019
Drawn by: DGC

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Derbyshire
DE45 1HB

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Figure 49. Phase plan of archaeological features associated with Wetland Basin 3.

Limit of Excavation

Phases

- Later prehistoric (Bronze Age)
- Later prehistoric (Bronze Age to Iron Age)
- Iron Age to Romano-British
- Romano-British
- Romano-British to medieval
- Early medieval
- High medieval
- Medieval droveway - Phase 1
- Medieval droveway - Phase 2
- Medieval droveway - Phase 3
- Post-medieval
- Undated

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4.4.2. Prehistoric boundary ditches

4.4.2.1 Three ditches, F1785, F1787, and F1831, which ran into Wetland Basin 3 were observed truncated by the Iron Age enclosure F1790 and its associated internal divisions to the south of the wetland basin.

4.4.2.2 The earliest ditch, F1831 (Figure 52), aligned north-east/south-west, was truncated by the internal ditch F1788 and the Iron Age enclosure F1790. It appeared to be truncated by boundary ditches F1785 and F1787 which crossed its alignment however the western end of ditch F1831 faded out due to truncation. Ditch F1831 survived for 28.07m in length and had concave sides with an average width of 1.47m, and broad concave base at an average depth of 0.21m. Notably the presence of a recut, F1694 (Figure 50), was identified which was substantially thinner with a width of 0.4m with a narrower concave profile with a flat base and measured up to 0.26m deep suggesting a fence may have replaced this ditch as a boundary feature. No further evidence of recutting was identified along the length of ditch F1831. The fills of both phases comprised a sandy silt which contained fragments of animal bone, but no further archaeological finds.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1692	1691, 1692	Boundary ditch	3.90m x 2.00m x 0.29m	Mid grey brown	Sandy silt	Animal bone	
1694	1693, 1694	Boundary ditch	2.00m x 0.40m x 0.26m	Mid grey brown	Sandy silt		
1702	1701, 1702	Boundary ditch	1.00m x 0.94m x 0.13m	Mid brown grey	Sandy silt		
1719	1718, 1719	Boundary ditch	2.00m x 1.04m x 0.26m	Mid grey brown	Sandy silt	Animal bone	

Table 17. Slots within ditch F1831.

Figure 50. South-west section across ditch F1692 and recut F1694. (scale = 0.5m graduations).

Figure 51. View of relationship of ditch slot F1792 truncated by ditch slot F1699. (scale = 0.1m graduations).

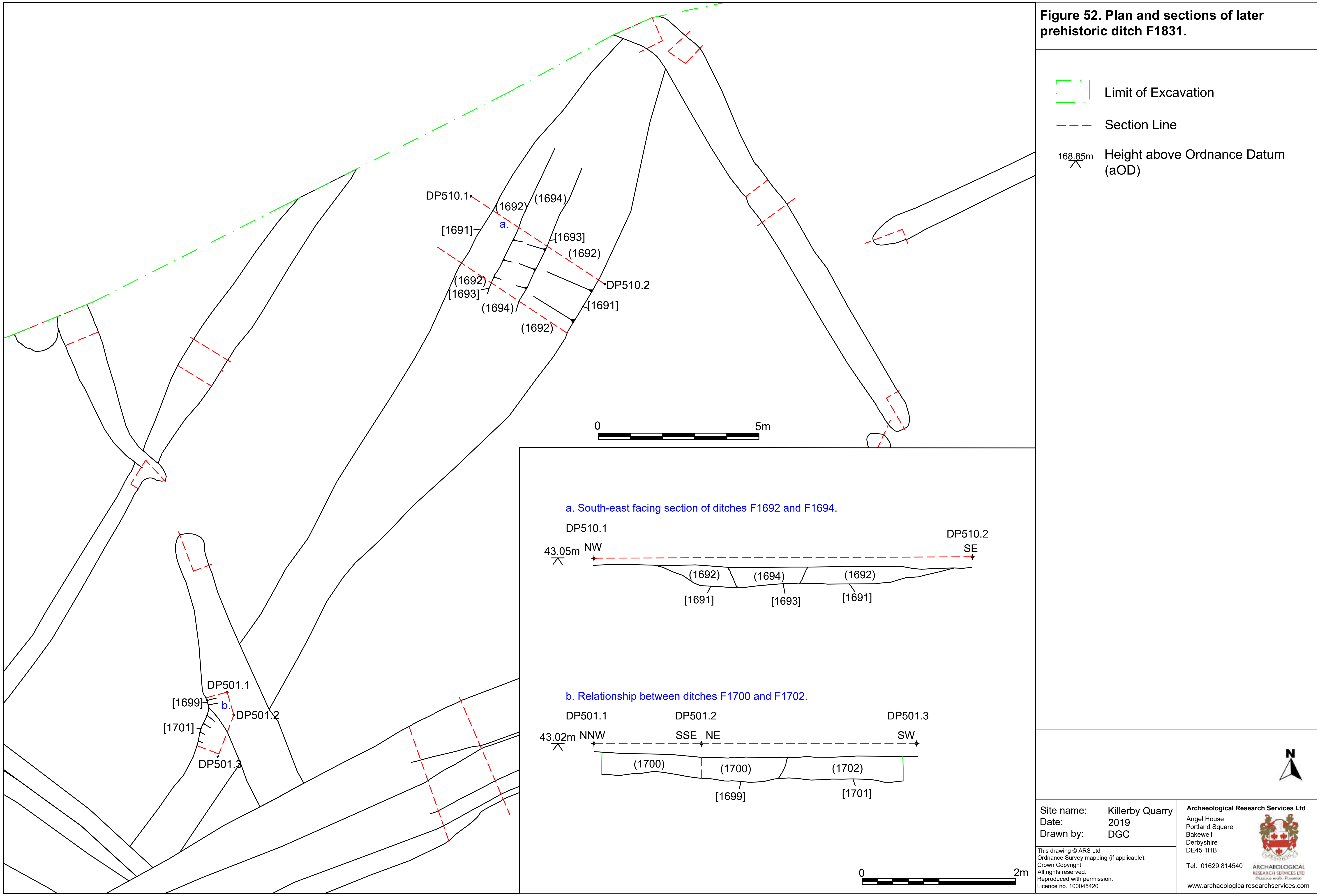

Figure 52. Plan and sections of later prehistoric ditch F1831.

4.4.2.3 The easternmost of the ditches, ditch F1785, was aligned north-west/south-east and survived for 46.65m in length prior to fading out due to truncation. This ditch had a moderately-sloping profile with an average width of 0.68m and a rounded base thickness of 0.19m. It contained a fine compacted sandy silt fill with occasional inclusions of subangular stones, but no other finds and had been cut into the natural sand and gravel substrate (Figure 53).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1717	1716, 1717	Ditch	1.01m x 0.69m x 0.20m	Light brown grey	Sandy silt		
1723	1722, 1723	Ditch	1.00m x 0.45m x 0.11m	Mid grey brown	Sandy silt		
1771	1771, 1772	Ditch	1.00m x 0.90m x 0.26m	Mid orange brown	Sandy silt		

Table 18. Slots within ditch F1785.

Figure 53. South-west facing section of ditch slot F1717. (scale = 0.5m graduations).

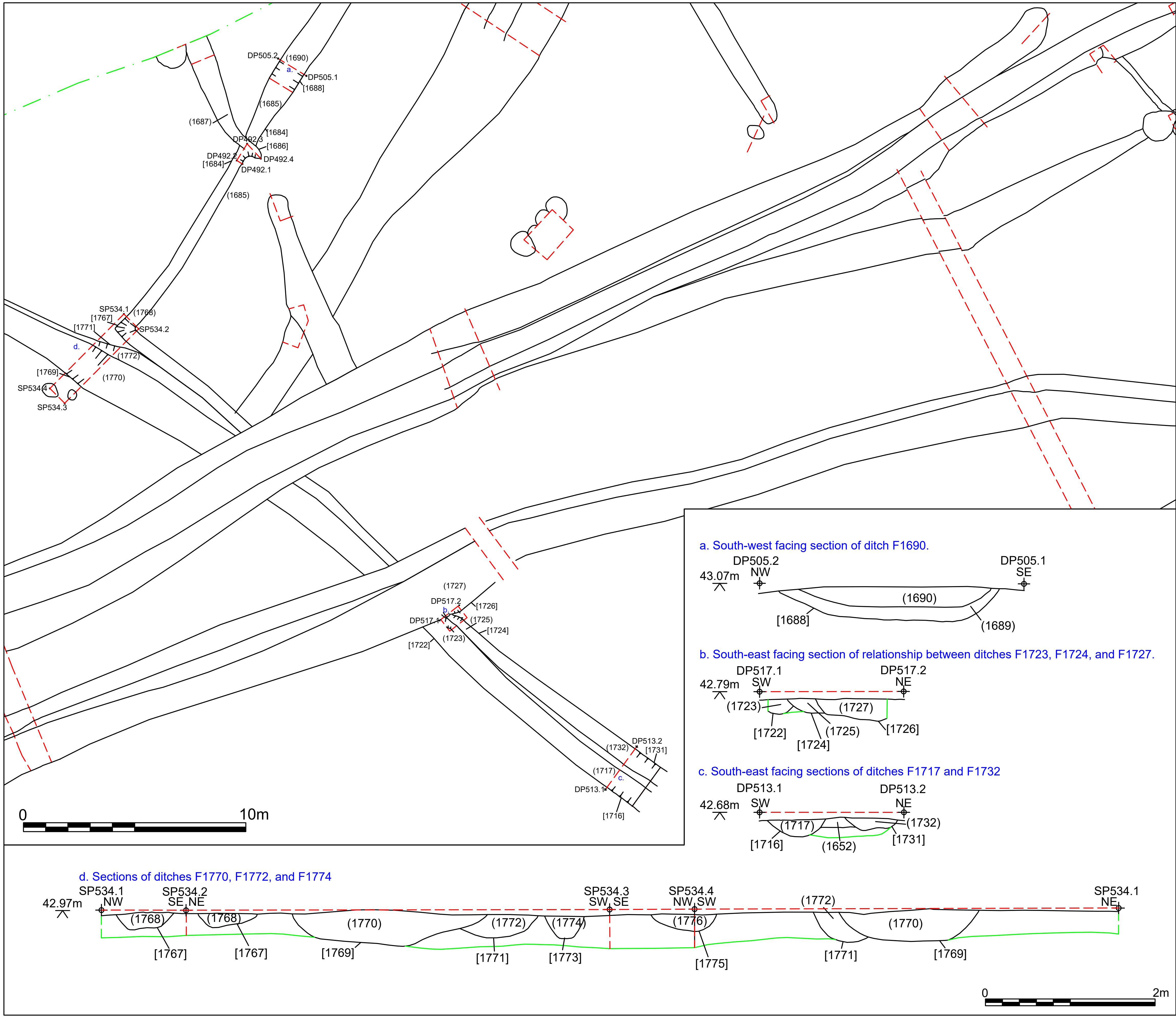

Figure 54. Plan and sections of later prehistoric ditches F1785 and F1789.

Limit of Excavation

Section Line

168.85m Height above Ordnance Datum (aOD)

N

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4.4.2.4 Ditch F1785 was partially truncated along its length by an L-shaped boundary ditch F1789, which in turn was truncated by both the Iron Age enclosure ditch F1790 and all the phases of the northern and southern medieval droveway. Boundary ditch F1789 projected from the northern limit of excavation, aligned north-east/south-west for 20.07m before returning to a north-west/south-east alignment for the remaining 31.54m of the visible length of the ditch. Similar to ditch F1785, ditch F1789 featured a moderately-sloping profile with an average width of 0.62m and a flat/undulating base and being on avergae of 0.17m thick. It contained a compact sandy silt fill with occasional inclusions of subangular stones, but no other finds (Figure 54).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1685	1684, 1685	Ditch	0.85m x 0.76m x 0.17m	Dark brown	Sandy silt		
1690	1688, 1689, 1690	Ditch	1.28m x 1.00m x 0.20m	Dark grey brown	Sandy silt		
1725	1724, 1725	Ditch	1.00m x 0.34m x 0.17m	Mid brown grey	Sandy silt		
1732	1731, 1732	Ditch	1.00m x 0.62m x 0.14m	Mid grey brown	Sandy silt		
1768	1767, 1768	Ditch	0.82m x 0.70m x 0.18m	Light brown grey	Sandy silt		

Table 19. Slots within ditch F1789.


Figure 55. South-west facing section of ditch slot F1768 within ditch F1789 (scale = 0.1m graduations).

4.4.25 Based upon the stratigraphic relationships and the similarity in profiles and fills of ditches F1785 and F1789, these likely represent an earlier phase of field system or enclosure dating to the earlier Iron Age, or even Bronze Age, than the Late Iron Age – Romano-British enclosure ditches that cut these ditch features to the south of Wetland 3. The lack of associated finds makes any greater dating at this stage mere speculation and obtaining a date on the animal bone fragments from ditch F1831 would help gain insight into when the ditch was at least infilled and had gone out of use.

4.4.3. Iron Age/Romano-British enclosure

4.4.3.1 An L-shaped enclosure, F1790, substantially truncated by the medieval droveway (detailed below), was identified projecting south from the northern limit of excavation and returning into Wetland Basin 3 where it weathered out as a result of the soil formation processes and bioturbation within the basin's soil sand sediemnts. The western length of the enclosure which measured 19.79m (north-west/south-east) and 45.28m in length (east-north-east/west-south-west) along its southern return, enclosed an estimated area of 769m^2. A western entrance which measured 1.8m, from terminus to terminus, was also identified as part of this enclosure's circuit (Figure 56, Figure 57 and Figure 59).

4.4.3.2 The profile of the enclosure ditch was characterised by concave sloping sides leading to a flat base containing a sandy silt fill containing a moderate amount of well-sorted small rounded stones as well as fragments of animal bone. As well as the medieval droveway, the enclosure F1790 was truncated by ditch F1819 and by pit F1708. Based upon those stratigraphic relationships and the presence of Romano-British pottery sherds within pit F1708, enclosure F1790 was tentatively ascribed to the Late Iron Age.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1420	1419, 1420	Enclosure ditch	1.00m x 0.50m x 0.15m	Light grey brown	Sandy silt		
1429	1428, 1429	Enclosure ditch	2.00m x 0.79m x 0.32m	Light grey	Compacted sand	Animal bone	
1683	1682, 1683	Enclosure ditch	1.20m x 0.50m x 0.22m	Mid orange-grey	Sandy silt	Animal bone	
1687	1686, 1687	Enclosure ditch terminus	0.92m x 0.46m x 0.20m	Dark brown	Sandy silt	Animal bone	
1699	1699, 1700	Enclosure ditch	0.65m x 0.56m x 0.15m	Mid grey-brown	Sandy silt		
1707	1706, 1707	Enclosure ditch	1.44m x 0.82m x 0.51m	Mid grey-brown	Sandy silt		
1741	1740, 1741	Enclosure ditch	1.86m x 0.84m x 0.34m	Mid orange-brown	Sandy silt	Animal bone	

Table 20. Slots within Iron Age/Romano-British enclosure F1790.

Figure 56. North-east facing section of ditches F1420 and F1422, and pit F1418 (scale = 0.1m graduations).

Figure 57. Oblique view of ditch terminus F1687. (scale=0.5m graduations).

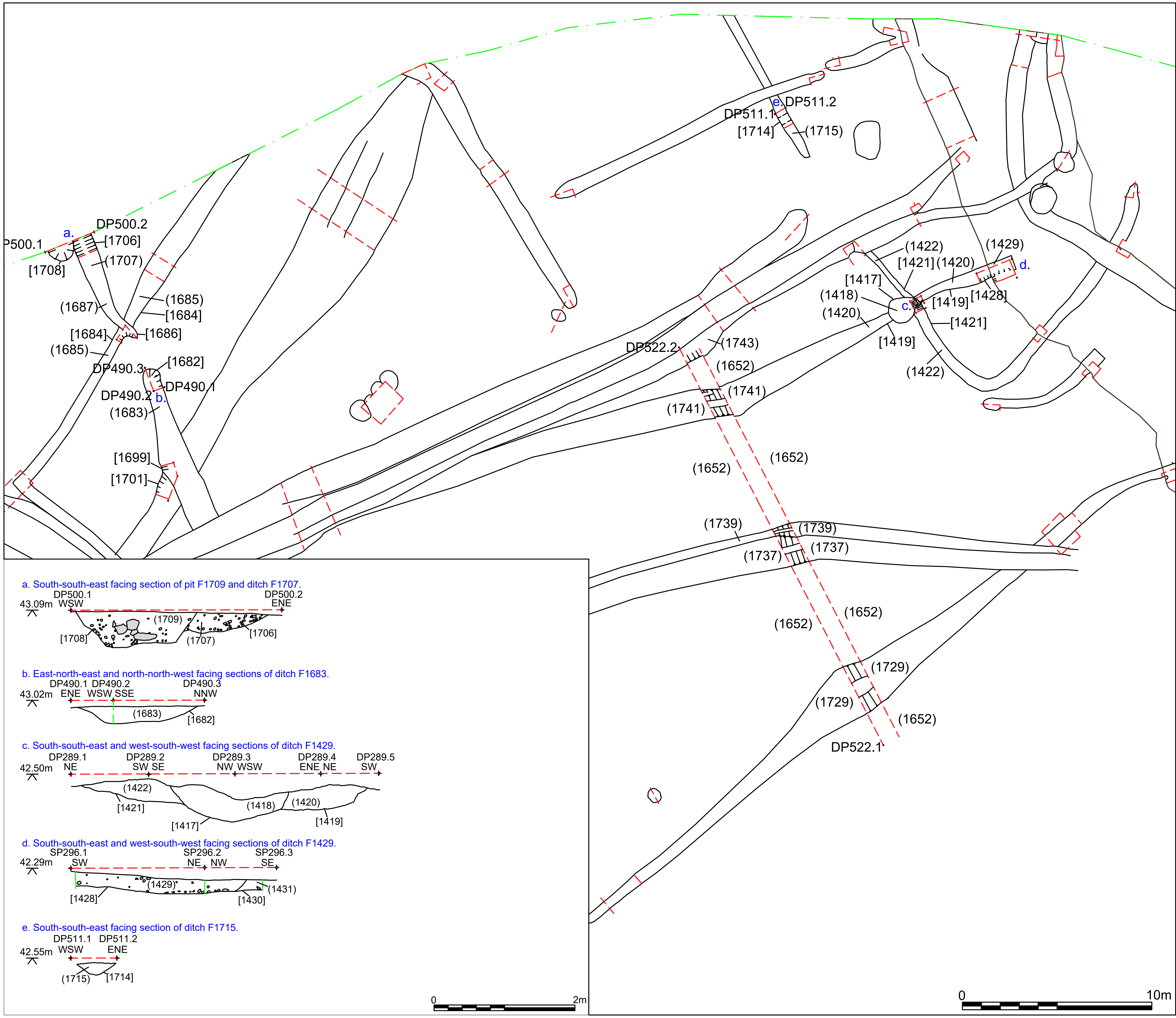
4.4.3.3 One ditch, F1715, possibly reflects internal divisions of enclosure F1790 as it follows a similar north-west/south-east alignment of its western limit and appears to respect the southern ditch. F1715 measured 8.65m in length and featured a v-shaped profile to a depth of 0.17m and contained a fill of dark brown sandy silt, but no finds. In addition, this ditch F1715 was truncated by ditch F1783 and based on the characteristic profile, this could possibly represent the basal remains of a palisade slot rather than a boundary or drainage ditch as identified elsewhere on site (Figure 58).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1715	1714, 1715	Internal division ditch (palisade)	8.65m x 0.60m x 0.17m	Dark brown	Sandy silt		

Table 21. Ditch F1715.

Figure 58. North-west facing section of ditch F1715 (scale = 0.1m graduations).

Figure 59. Plan and sections of Romano-British enclosure ditch F1790.



Limit of Excavation

Section Line

168.85m Height above Ordnance Datum (aOD)

N

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4.4.4. Romano-British pits

4.4.4.1 Pit F1709 truncated the enclosure ditch slot F1707 of enclosure F1790 at the northern limit of excavation (Figure 60). This waste pit was partly obscured by the limit of excavation but was identifiably circular, measuring 1.74m by 0.86m in plan, and featured a moderately-sloping profile [1708] with an uneven flat base. It contained a mid grey-brown sandy silt backfill that contained inclusions of riverine pebbles and stone boulders as well as sherds of Romano-British greyware (GRB2), which can be dated only broadly to the late 2nd century - early 3rd century AD, as well as fragments of animal bone. Based upon the inclusion of animal bone and pottery sherds this was interpreted as a waste pit.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1709	1708, 1709	Circular pit	1.74m x 0.86m x 0.51m	Mid grey-brown	Sandy silt	2nd to 3rd century pottery, animal bone	

Table 22. Pit F1709.

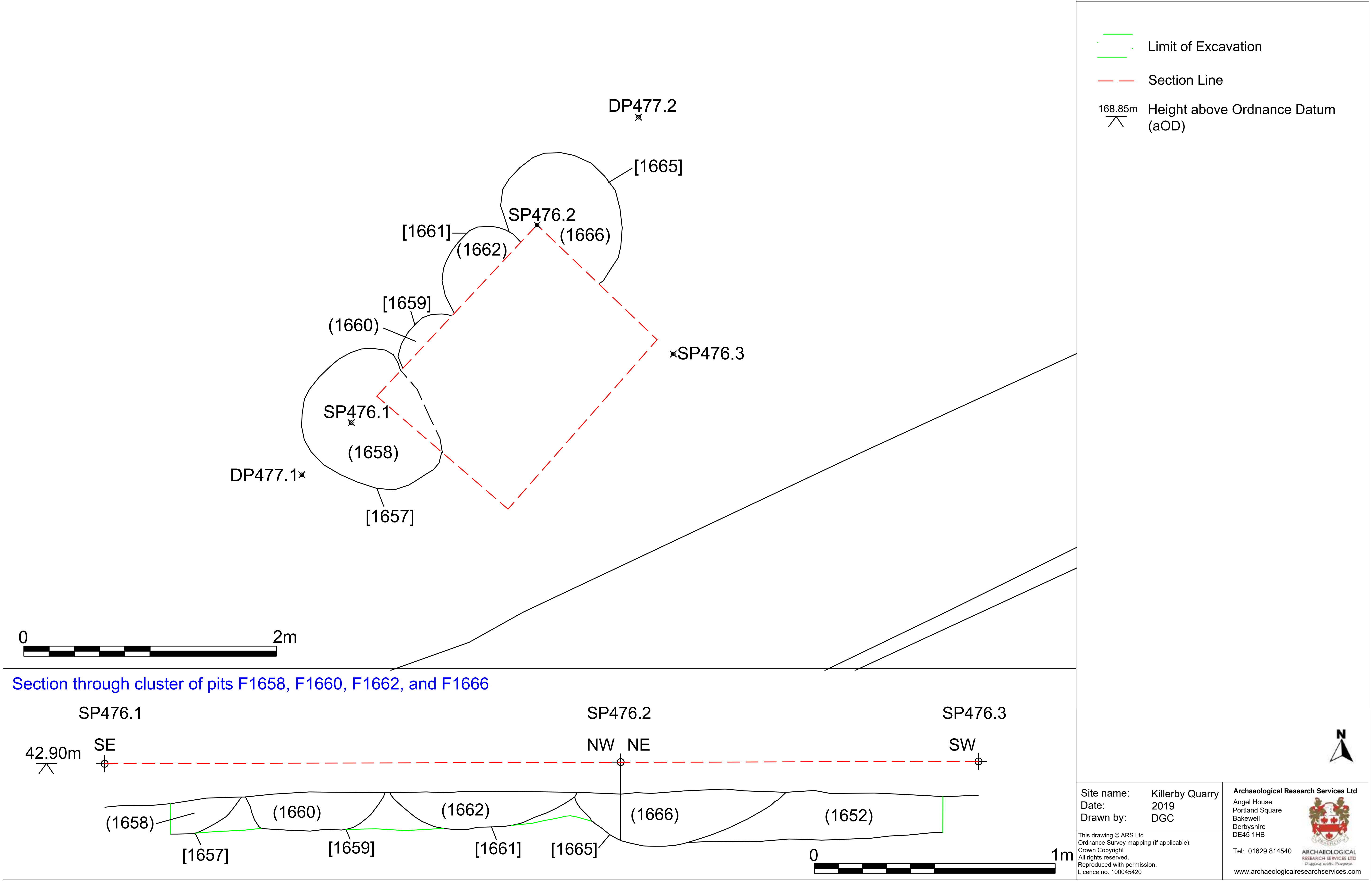
Figure 60. South-south-east facing section of pit F1709 and enclosure ditch F1790. (scale=0.5m graduations).

4.4.4.2 A discrete cluster of four pits was identified 14.43m south of the limit of excavation within the Iron Age enclosure F1788 (Figure 61). These were characterised by similar concave profiles and contained dark grey brown sandy silt fills, however pit F1666 was truncated by pit F1662 which contained a dark grey brown sandy silt which contained a significant portion of small stones, fragments of animal bone, and a fragment of *tegula*. This provides a *terminus ante quem* for pit F1662, dating to the Romano-British period. Based upon the morphological similarity and spatial proximity of pits F1658 and F1660 this would make them broadly contemporary with pit F1666 even if structurally later.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1658	1657, 1658	Subcircular pit	1.14m x 1.14m x 0.16m	Dark grey brown	Sandy silt		
1660	1659, 1660	Subcircular pit	0.58m x 0.58m x 0.16m	Dark grey brown	Sandy silt	Animal bone	
1662	1661, 1662	Subcircular pit	0.76m x 0.76m x 0.16m	Dark grey brown	Sandy silt	Animal bone, *tegula* fragment	
1666	1665,1666	Subcircular pit	1.09m x 1.09m x 0.23m	Dark grey brown	Sandy silt		

Table 23. Romano-British pit cluster.

Figure 61. Plan and section of Romano-British pit cluster.



4.4.5. Romano-British to Medieval features

4.4.5.1 Three features, ditch F1788, pit F1713 and field boundary F1819, were unclear in date but have been attributed to broadly similar phases based upon their stratigraphic relationships. Both pit F1713 and field boundary F1819 were truncated by the medieval droveway, and must therefore pre-date it, while ditch F1788 appeared to respect its northern length suggesting contemporaneity (Figure 62).

4.4.5.2 A small subcircular pit F1713 was identified truncated by southern droveway ditch F1782, which measured 0.48m by 0.40m in plan, with a profile that featured steep sides leading to a flat base, and with a surviving thickness 0.12m. The pit contained a black silty clay (1713) which contained ash, charcoal, and small animal bones. Based upon the nature of the fill and the feature's overall stratigraphic relationships, F1713 has been interpreted as a refuse pit which can be attributed to either the Romano-British or early medieval periods.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1713	1712, 1713	Subcircular refuse pit	0.48m x 0.40m x 0.12m	Dark black brown	Silty clay	Animal bones	

Table 24. Romano-British/early medieval pit F1713.

Figure 62. North-west facing section of pit F1713 and medieval droveway ditch F1782. (scale = 0.1m graduations).

4.4.5.3 Ditch F1819 was directly truncated by northern droveway ditch F1779 and pit F1418 (both detailed below) at its northern end and by ditch F1828. It had an unclear stratigraphic relationship with the presumed Late Iron Age enclosure F1790 due to pit F1418 which truncated both ditches (Figure 56). Overall ditch F1819 was L-shaped, measured 9.31m along a north-west/south-east alignment before a return, aligned north-east/south-west, which measured 12.82m. The ditch had a concave profile and rounded base, and averaged 0.42m in width and its basal fill survived to a thickness of 0.12m. It contained a silty sand fill with small pebble inclusions and fragments of animal bone present.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1422	1421, 1422	Field boundary ditch	1.00m x 0.50m x 0.10m	Light grey brown	Silty sand		
1442	1441, 1442	Field boundary ditch	1.00m x 0.58m x 0.18m	Mid grey brown	Silty sand	Animal bone	
1457	1456, 1457	Field boundary ditch	0.40m x 0.20m x 0.15m	Mid grey brown	Silty sand		
1459	1458, 1459	Field boundary ditch terminus	0.80m x 0.40m x 0.05m	Mid grey brown	Silty sand		

Table 25. Slots within ditch F1819.

4.4.5.4 A segmented boundary ditch F1783, aligned east-north-east/west-south-west, was identified 4.77m south of the limit of excavation. This consisted of two separate ditch sections along the same alignment which survived for a length of 20.34m. The ditch averaged 0.49m wide and had concave sloping sides and an uneven but broadly flat base and survived up to 0.17m deep (Figure 63). The ditch sections were filled with a sandy silt and clay which contained small pebbles as well as fragments of animal bone, but no further finds.

4.4.5.5 This boundary ditch ran broadly parallel with the droveway to the south and truncated the internal division ditch of enclosure F1715, but was itself truncated by ditch F1839. As a result of the spatial and stratigraphic relationships, this segmented boundary ditch is dated to the Romano-British period, but it could possibly represent a phase of medieval land division later superseded by the medieval droveway (Figure 64).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1649	1648, 1649	Segmented ditch	0.99m x 0.82m x 0.17m	Mid grey brown	Sandy silt	Animal bone	
1674	1673, 1674	Segmented ditch	1.00m x 0.53m x 0.20m	Mid grey brown	Sandy silt		

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1678	1677, 1678, 1679	Segmented ditch	0.74m x 0.35m x 0.15m	Dark grey brown (1679) Dark brown grey (1678)	Sandy clay (1679) Silty clay (1678)	Animal bone	
1681	1680, 1681	Segmented ditch	0.80m x 0.26m x 0.14m	Mid grey brown	Silty sand	Animal bone	

Table 26. Slots within segmented ditch F1783.

Figure 63. North-west facing section of ditch terminus F1678 of ditch F1783 (scale=0.1m graduations).

4.4.5.6 A small gully, F1672, was identified in the northern limit of excavation within Wetland Basin 3, broadly aligned west-north-west/east-south-east, which measured 1.71m in length prior to its truncation at its eastern end by ditches F1783 and F1839. Gully F1672 featured a very gentle concave profile and uneven but broadly flat base. It had an average width of 0.91m and survived to 0.12m in depth. It contained a silt fill with occasional animal bone fragments present.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)

1672	1671, 1672	Ditch	1.71m x 0.91m x 0.56m	Mid grey brown	Sandy silt	Animal bone	

Table 27. Ditch F1672.

4.4.5.7 Ditch F1839 was aligned north-north-west/south-south-east, and measured 7.51m in length prior to being truncated by northern droveway ditch F1780. This ditch (F1839) featured a concave profile and an uneven but broadly being on average 0.94m wide and surviving on average to 0.18m in depth. It contained a mid-brown sandy silty fill. No finds were identified from the fill aside from fragments of animal bone.

4.4.5.8 As noted above, ditch F1839 was truncated by the medieval droveway but F1839 cut segmented boundary ditch F1783. Based upon these stratigraphic relationships, this could be interpreted as a potentially early medieval drainage or boundary ditch. Alternatively, this could represent similar phases of boundary shifting during the medieval period which was eventually ultimately superseded by the construction of the droveway, which itself might imply a reorganisation of the landscape away from crop production to livestock rearing.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1676	1675, 1676	Ditch	1.00m x 0.68m x 0.16m	Mid brown	Sandy silt	Animal bone	
1696	1695, 1696	Ditch	2.00m x 1.20m x 0.20m	Mid grey brown	Silty clay	Animal bone	

Table 28. Ditch F1839.

Figure 64. View of relationship between slot F1674 of ditch F1783 and slot F1676 of ditch F1839 (scale=0.5m graduations).

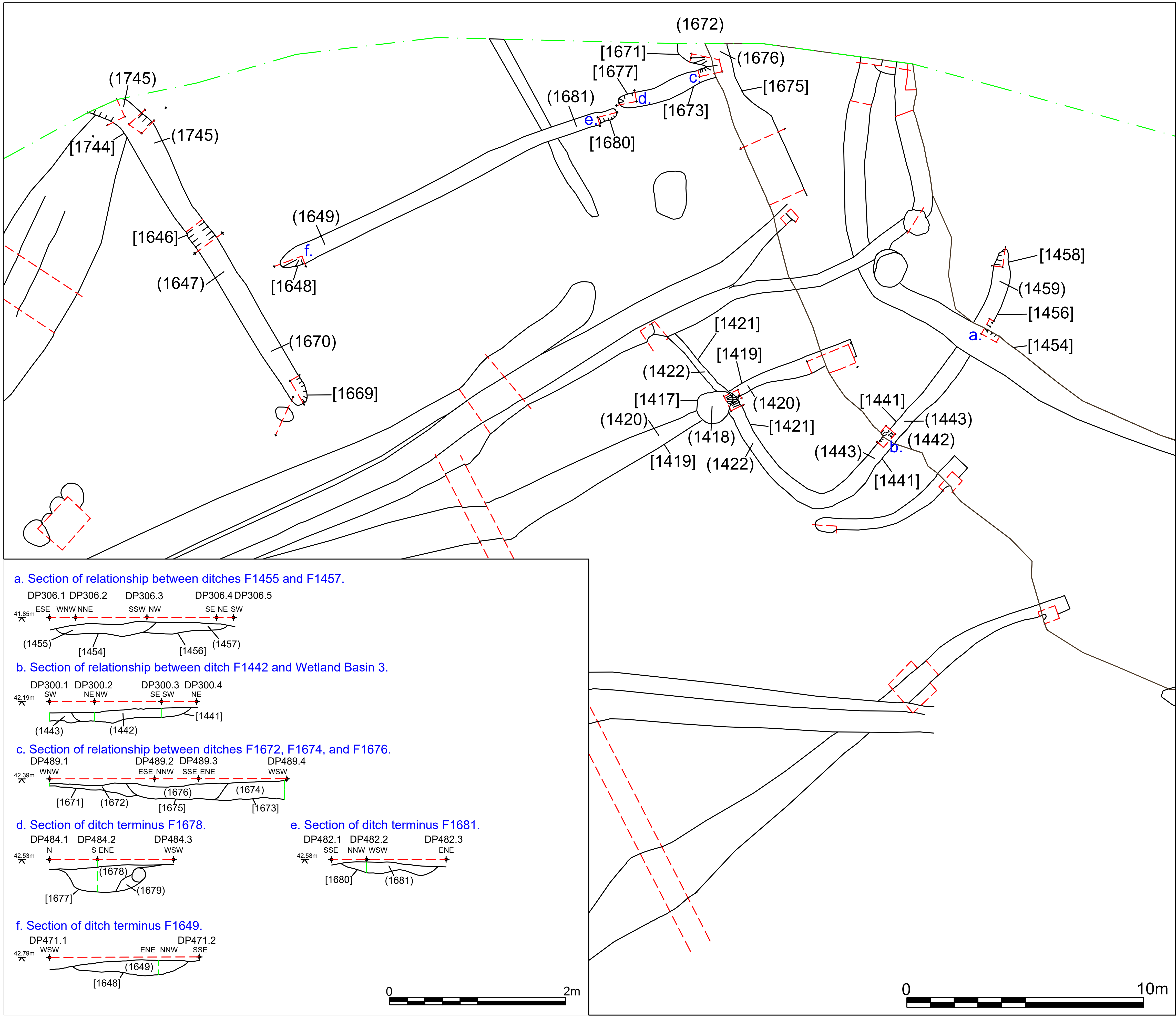


Figure 65. Plan and sections of ditches F1783, F1819, and F1839.

Limit of Excavation

Section Line

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4.4.5.9 Ditch F1788 measured 15.08m in length and featured an average width of 1.06m, however its profile featured concave sloping sides leading to a flat base akin to the external enclosure ditches F1788. It contained a silty clay fill that included moderate-sized pebble inclusions along with fragments of animal bone.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1647	1646, 1647	Ditch	1.50m x 1.00m x 0.40m	Dark brown-orange	Silty clay	Animal bone	
1670	1669, 1670	Ditch	1.21m x 0.90m x 0.22m	Dark brown-orange	Silty clay	Animal bone	
1745	1744, 1745	Ditch	2.00m x 1.30m x 0.26m	Mid grey	Silty clay		

Table 29. Slots within ditch F1788.

4.4.5.10 Overlying ditch F1788, a single fragmentary course of a wall foundation, F1735, comprising roughly hewn sandstone blocks bonded with clay, was found aligned north-east/south-west, truncating ditch F1745. No associated finds were identified within the wall's interstices and it has been tentatively phased to the medieval period based on its stratigraphic relationship of the underlying ditch F1788 (Figure 67).

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1735	1735, 1746, 1747	Wall foundation	1.21m x 0.77m x 0.09m	Light brown-grey	Sandstone		

Table 30. Wall foundation F1735.

Figure 66. View of ditch F1745 and wall foundation F1735, facing south-east.
(scale = 0.5m and 0.1m graduations).

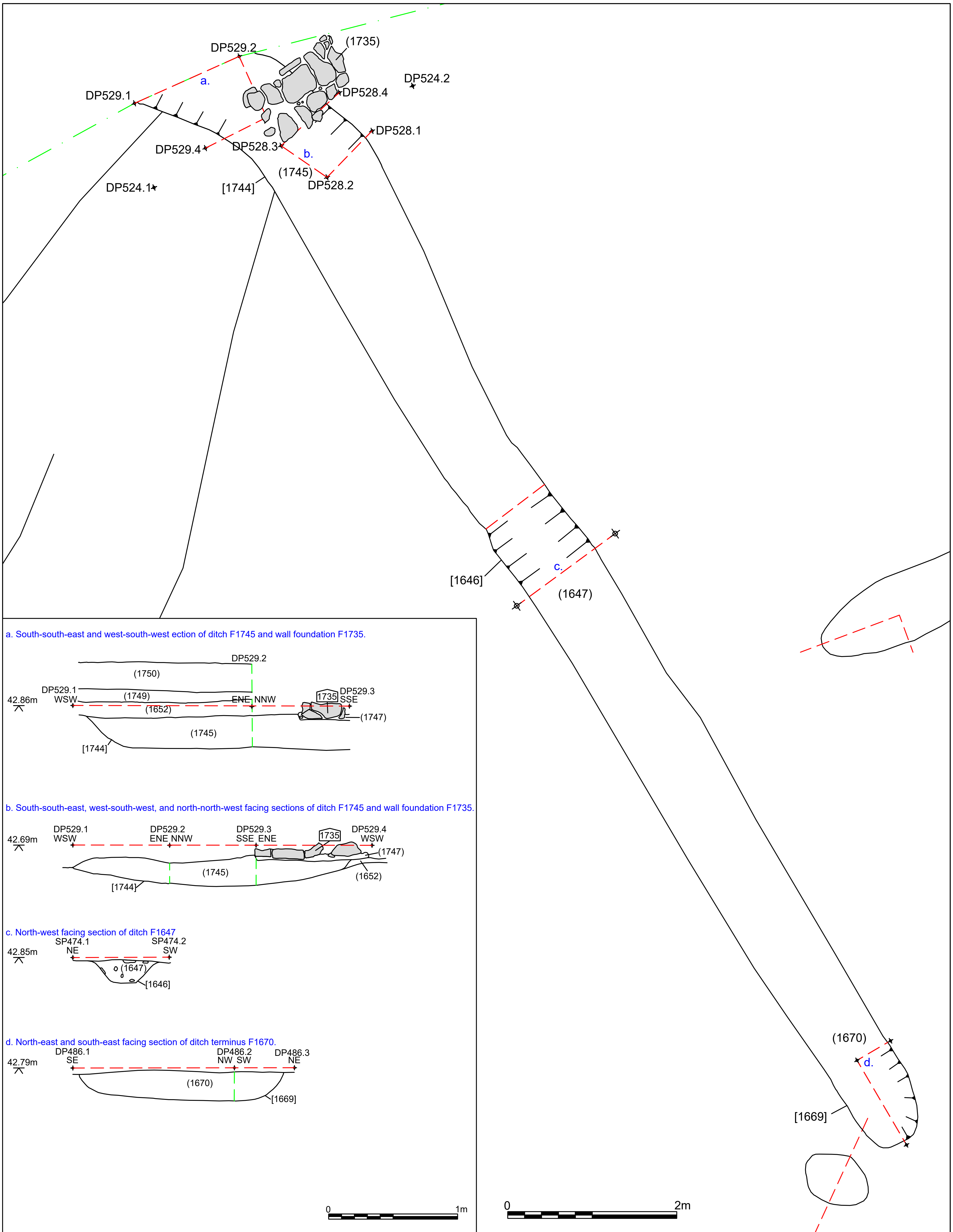

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Figure 67. Plan and sections of ditch F1788 and wall foundation F1735.

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Limit of Excavation

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4.4.6. Early medieval waterbreak and enclosure ditch

4.4.6.1 A curving ditch F1828 was identified projecting from the northern limit of excavation, aligned broadly north/south for a distance of 8.95m before returning along an alignment of north-west/south-east for a further 25.34m. The u-shaped profile of this ditch was characterised by concave sides. It had an average width and depth of 0.68m and 0.15m respectively and contained fill of mid-orange brown sandy silt for the most part with inclusions of subangular stones. No associated finds were identified aside from fragments of animal bone. Ditch F1828 cut enclosure ditch F1819 and in turn was itself truncated by the earliest phase of the northern droveway ditch F1779, ditch F1804, as well as waterbreak F1838 (Figure 68 and Figure 69).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1455	1454, 1455	Ditch	0.40m x 0.20m x 0.20m	Mid orange brown	Silty sand		
1792	1791, 1792	Ditch	1.00m x 0.94m x 0.13m	Mid brown grey	Sandy silt	Animal bone	
1802	1801, 1802	Ditch	1.83m x 0.90m x 0.09m	Mid orange brown	Sandy silt	Animal bone	
1818	1816, 1817, 1818	Ditch	1.00m x 0.66m x 0.19m	Mid orange brown (1817) Mid grey brown (1818)	Silty clay (1817) Clayey silt (1818)	Animal bone	

Table 31. Ditch F1828.

Figure 68. South-facing section of ditch slot F1802 within ditch F1828 truncated by ditch slot F1806 in northern droveway ditch F1779. (scale = 0.5m graduations).

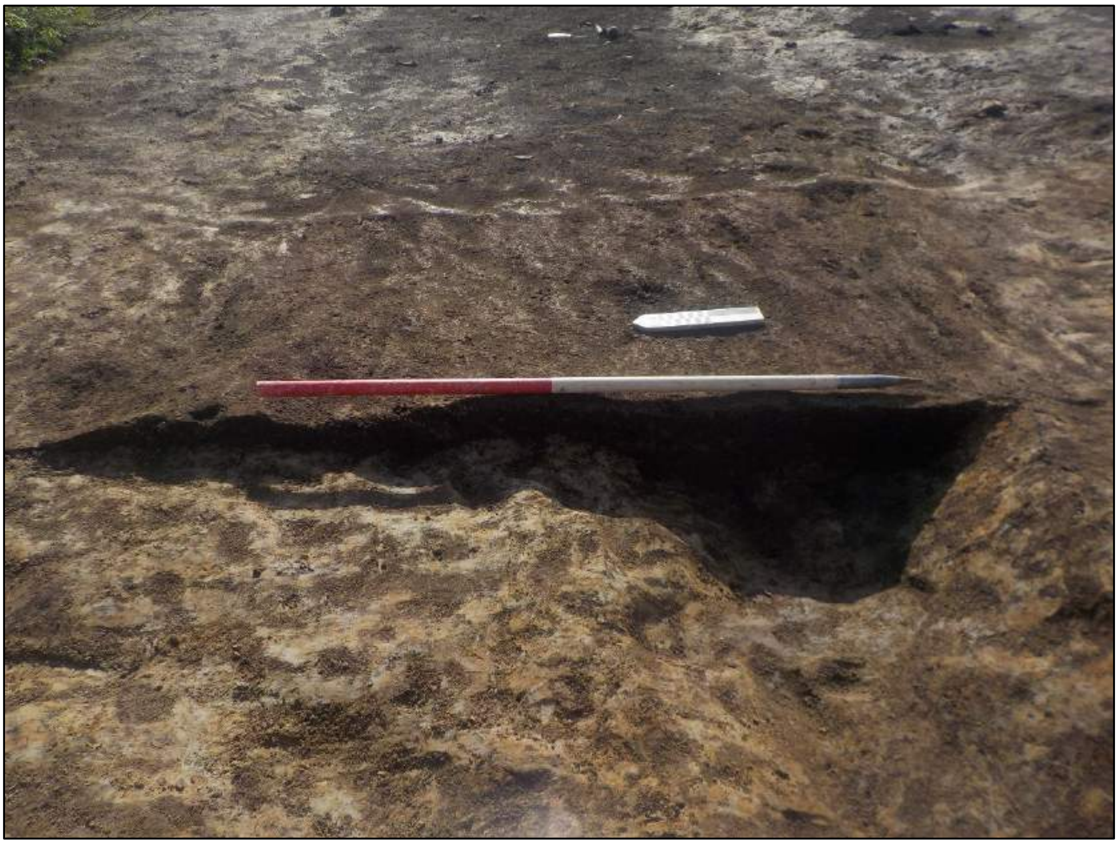

Figure 69. West-facing section of ditch slot F1818 of ditch F1828 (scale=0.5m graduations).

4.4.6.2 Waterbreak F1838, aligned north-north-east/south-south-west, was identified dug within Wetland Basin 3 itself (Figure 70). This measured 7.65m in length with a foundation trench characterised by a profile of moderately-steep sides and an uneven base. It had an average width of 1.35m and survived to 0.09m in depth. Within this foundation trench was a stone waterbreak F1799, with a visible length of 6.29m before it ran into the baulk, it was constructed of substantial stones which averaged between 85mm to 400mm in diameter. This was overlaid by a backfill of grey-brown sandy silt which contained occasional inclusions of waterborne pebbles as well as fragments of animal bone and a residual Mesolithic blade fragment.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1795	1794, 1795	Foundation trench	0.76m x 0.46m x 0.10m	Dark grey brown	Sandy silt	Animal bone	
1800	1798, 1800	Foundation trench	1.70m x 1.50m x 0.09m	Mid grey brown	Sandy silt	Animal bone, Mesolithic blade fragment	
1799	1799	Water break	6.29m x 0.50m x 0.09m	Light grey	Stone		

Table 32. Waterbreak F1838.

4.4.6.3 No definite dating material was obtained from these features however these ditches and the break have been interpreted as water management for Wetland Basin 3, probably to hold water within a perennial and localised pond and prevent it from spreading out more widely across the site. Aside from its truncation by the latest phase of the northern droveway F1779, it does not have a physical relationship with the subsequent archaeological features described below and represents an earlier phase of land use likely dating to the early medieval period.

Figure 70. South-west facing section of waterbreak F1838 (scale = 0.5m graduations).

4.4.5.1 The remains of an early medieval enclosure ditch F1830 were identified, truncating Wetland Basin 3, but with no stratigraphic relationships with other features. This enclosure ditch F1830, aligned east-south-east/west-north-west, measured 4.87m before returning along an alignment of north-north-east/south-south-west for 1.66m before disappearing due to horizontal truncation or the result of the accumulation within Wetland Basin 3. The profile was characterised by steep, sloping sides with an average width of 0.77m leading to a concave base at an average depth of 0.33m. The basal fill of F1830 was a dark orange-brown clay (1808) within slot F1809 overlaid by a further fill of grey-brown sandy silt identified along the enclosure ditch (1797/1809) (Figure 71).

4.4.5.2 Fragments of burnt clay were identified in all the associated fills of F1830 which were identified as fragments of mud brick and analysis of the fabric corresponded with Romano-British/early medieval material identified within the midden (1406). Furthermore, a sample of charred wheat seed (*Triticum aestivum*) was radiocarbon dated and produced a date of cal AD 878 - 987 (95.4% probability; SUERC-94944 (GU56019)), with a marginally tighter date range of cal AD 892 – 967 at 68.2% probability.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1797	1796, 1797	Enclosure ditch	1.00m x 0.73m x 0.31m	Dark grey brown	Sandy silt	Burnt clay	cal AD 878 - 987

1809	1807, 1808, 1809	Enclosure ditch	1.00m x 0.81m x 0.35m	Dark orange brown (1808) Light grey brown (1809)	Clay (1808) Sandy silt (1809)	Burnt clay	

Table 33. Slots within ditch F1830.

Figure 71. South-west facing section of ditch slot F1797 of ditch F1830 (scale =0.1m graduations).

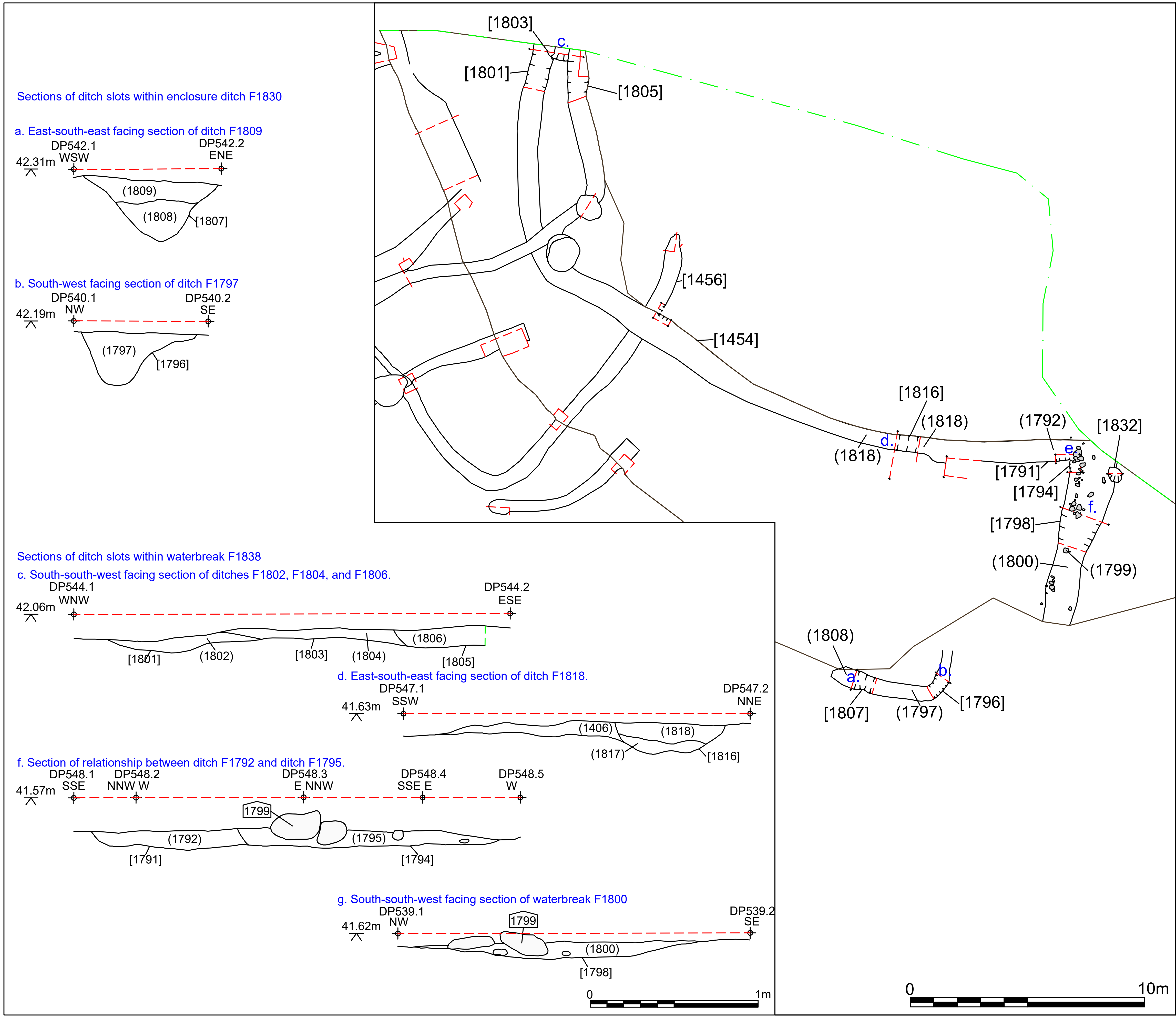

Figure 72. Plan and sections of early medieval ditch F1828, waterbreak F1838, and enclosure ditch F1830.

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4.4.7. Medieval hearth pit

4.4.7.1 An oval pit (F1833) measuring 0.75m by 0.58m, was identified cutting the medieval waterbreak F1838 (Figure 73). It had a concave profile and a flat base and survived to a depth of 0.08m. The fill comprised mid red brown sandy silt (1833) which contained fragments of charcoal, burnt animal bone and two body sherds of iron-rich gritty ware which dates from the mid-13th century to the early 14th century. A sample of charred oat seed (*avena sativa*) recovered from the fill was radiocarbon dated and produced a date of cal AD 774 - 961 (95.4% probability) (SUERC-94948 (GU56021)), with a marginally tighter date range of cal AD 778 – 942 at 68.2% probability.

4.4.7.2 Based upon the relatively shallow profile and the presence of the later ceramic evidence within the fill, F1833 was interpreted as a possible waste pit dating to the high medieval period despite the radiocarbon dating evidence which more accurately represents the dating of the underlying waterbreak F1838 from redeposited material during the digging of pit F1833.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1833	1832, 1833	Oval pit	0.75m x 0.58m x 0.08m	Mid red brown	Sandy silt	13th – 14th century pottery, animal bone	cal AD 774 - 961

Table 34. Waste pit F1833.

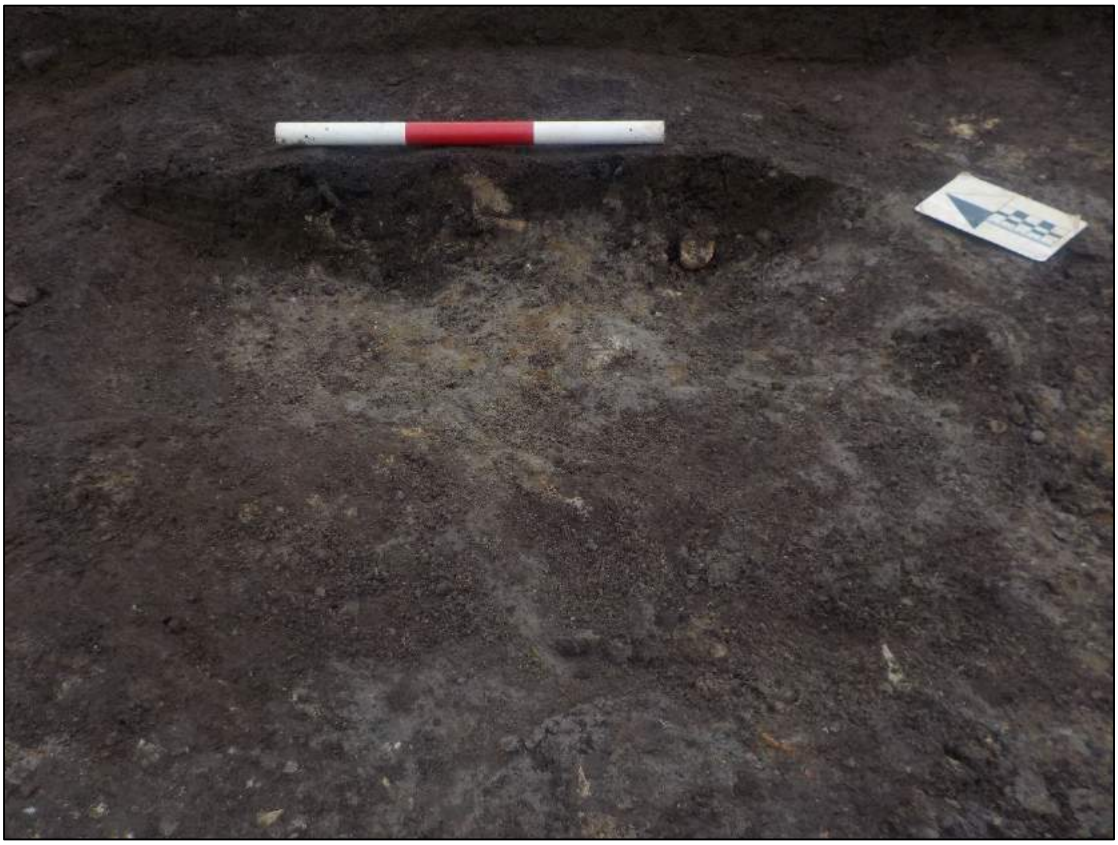

Figure 73. South-west facing section of medieval waste pit F1833 (scale = 0.1m graduations).

4.4.8. Medieval ditches

4.4.8.1 An enclosure ditch F1786, aligned north-east/south-west, was truncated by both phases of the southern medieval droveway ditches (F1782 and F1784 detailed below). This ditch measured 39.93m in length and featured a concave profile with rounded base and survived to an average depth of 0.29m. It contained a light red brown sandy silt fill which contained fragments of charcoal as well as animal bone in both slots F1463 and F1729 (Figure 74).

4.4.8.2 Notably slot F1463 contained fragments of burnt clay, a d-shaped buckle, a body sherd of 13th to 14th century iron-rich Sandy Ware and a body sherd of what was very tentatively identified as 18th century Late Blackware type pottery. As noted in the specialist analysis, this example was highly abraded, lacking both internal and external surfaces and composed of an unusual fabric for this pottery type making positive identification difficult. Furthermore, identification of the d-shaped belt buckle was inconclusive with no positive establishment of the date. Analysis of the burnt clay fabric was identical to a piece of daub identified within the midden (1406), which suggests a medieval date.

4.4.8.3 The fragment of 13th-14th century Sandy Ware along with the ceramic building material corroborates better with the stratigraphic relationships of ditch F1786. It is probable that this ditch represents a phase of medieval enclosure which became redundant with the change in land use signified by the droveway.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1434	1433, 1434	Enclosure ditch	0.80m x 0.50m x 0.18m	Light red brown	Sandy silt		
1463	1462, 1463, 1814, 1815	Enclosure ditch	2.00m x 0.87m x 0.21m	Light grey brown	Sandy silt	Burnt clay, possible 18th century pottery, D-shaped buckle, animal bone	(1463) - cal AD 880–1000
1465	1464, 1465	Enclosure ditch	2.00m x 0.32m x 0.18m	Light grey brown	Silty clay		
1729	1728, 1729, 1730	Enclosure ditch	2.00m x 1.94m x 0.59m x	Mid grey brown (1730) Mid orange brown (1729)	Silty sand (1730) Sandy silt (1729)	Animal bone (1729)	

Table 35. Slots within ditch F1786.

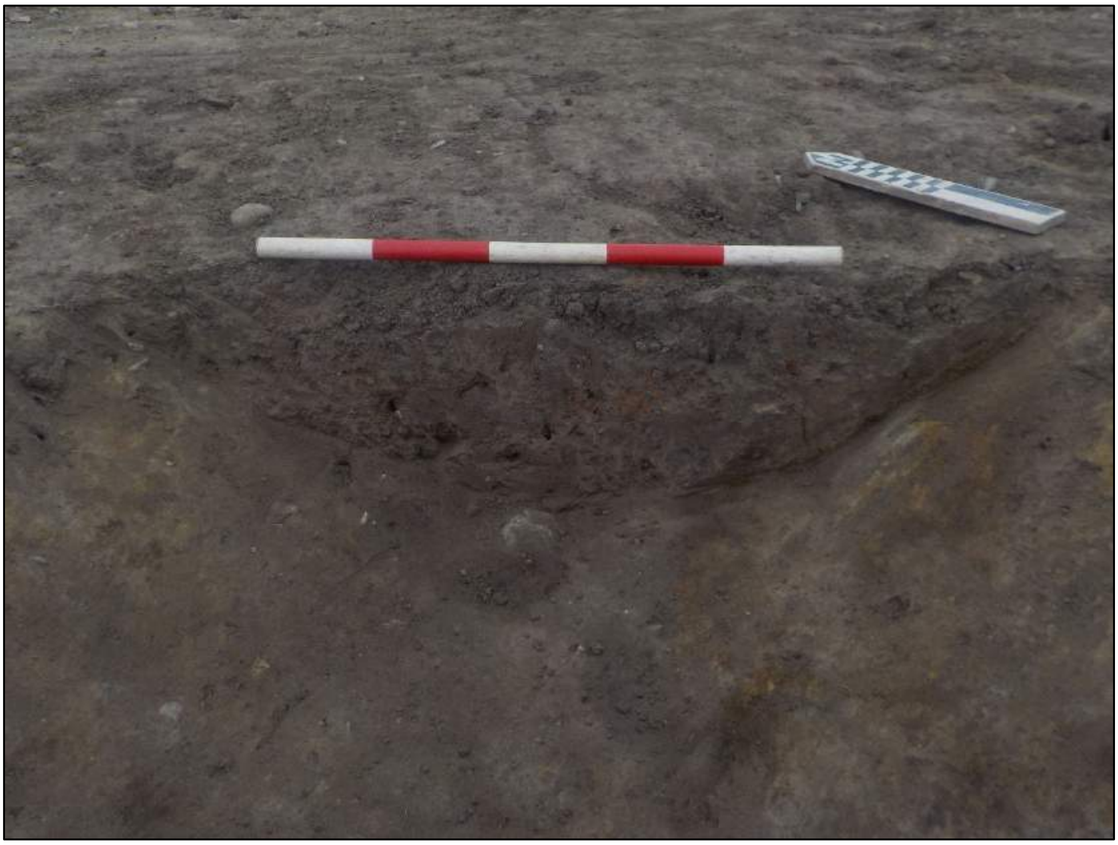

Figure 74. South-west facing section of ditch slot F1463 within ditch F1786 (scale = 0.1m graduations).

4.4.84 Ditch terminus F1804 was identified cutting ditch F1828 but in turn was itself truncated by the latest phase of the northern droveway ditch F1779 (Figure 76). It likely extended beyond the northern limit of excavation. Summarised in Table 36 below, ditch terminus F1804 featured a gently sloping profile with an uneven irregular base. It was filled by a mid grey brown sandy silt (1804) with tiny fragments of animal bone present.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1804	1803, 1804	Ditch terminus	1.00m x 0.32m x 0.08m	Mid grey brown	Sandy silt	Animal bone	

Table 36. Ditch terminus F1804.

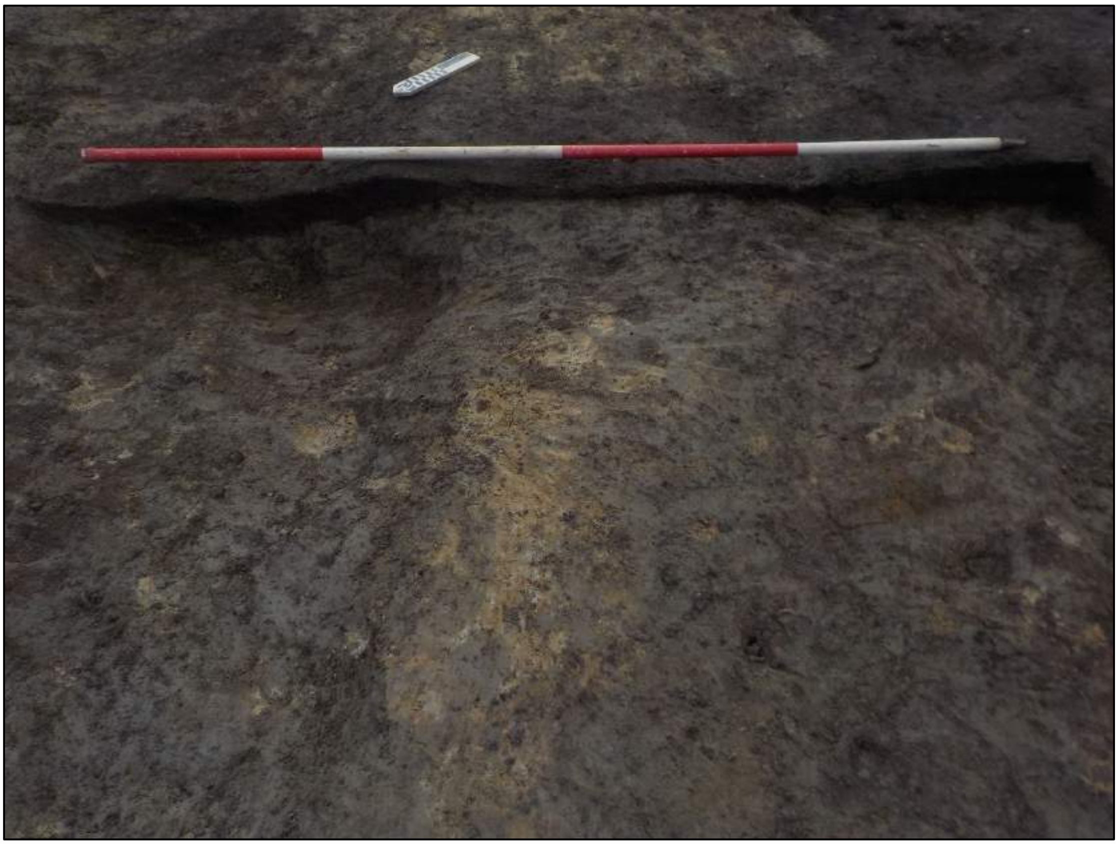

Figure 75. North-west facing sections of waterbreak (F1838) slot F1802, ditch terminus F1804, and northern droveway ditch (F1779) slot F1806 (scale = 0.5m graduations).

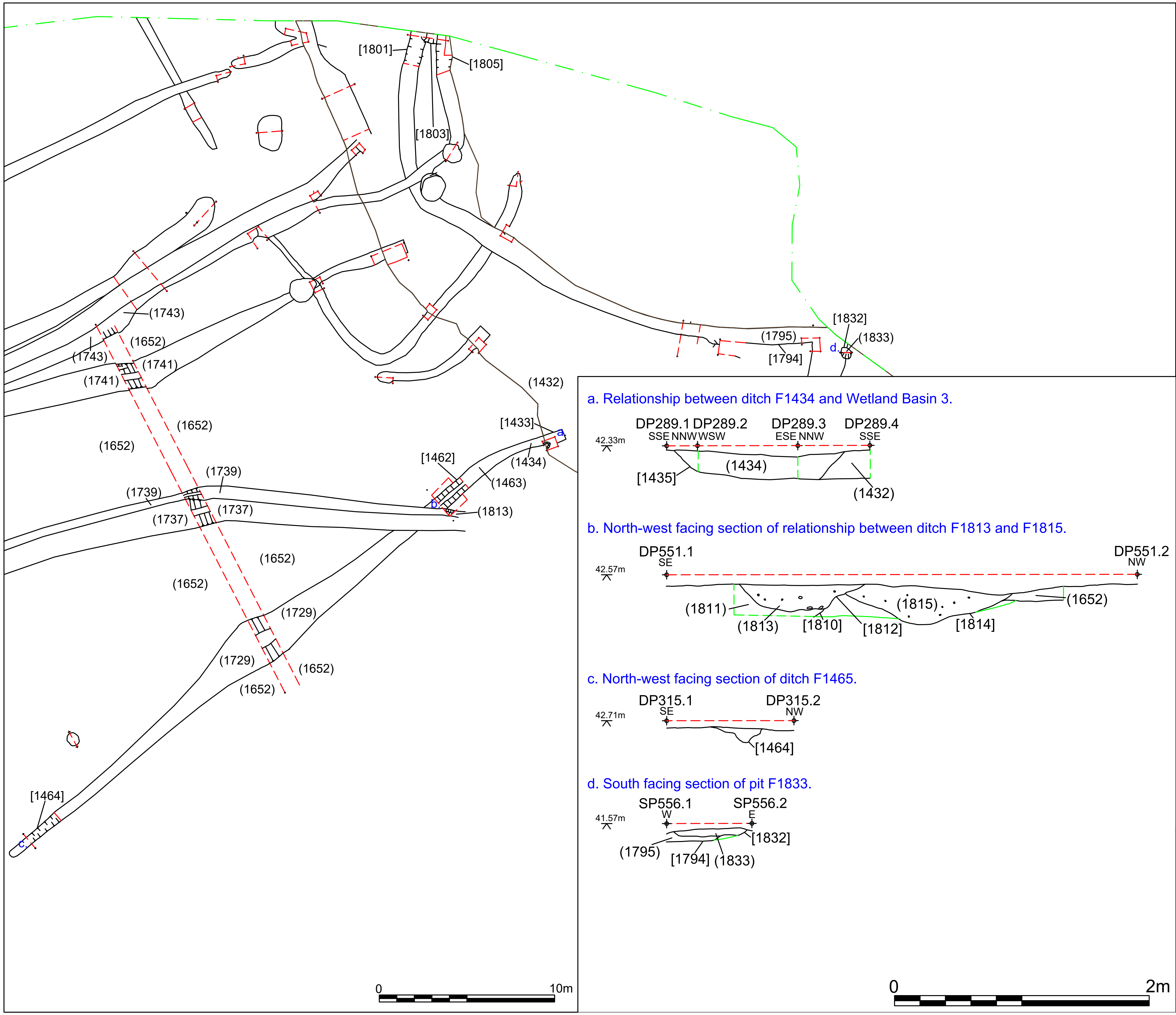

Figure 76. Plan and sections of medieval ditches, F1786 and F1804, and hearth pit F1833.

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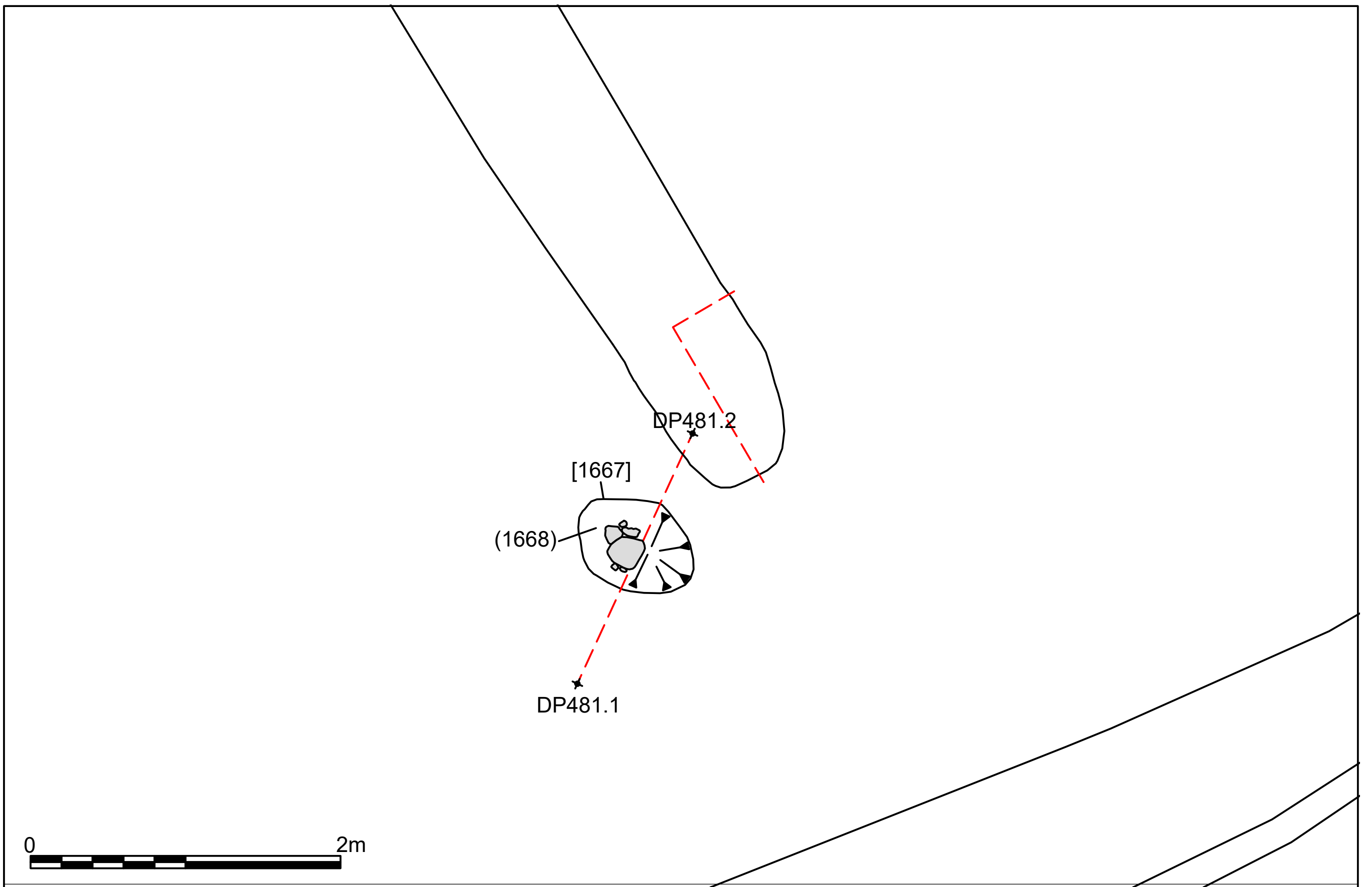
4.4.9. Medieval waste pit

4.4.9.1 A sub-circular pit, F1668, was identified to the west of an internal division ditch F1788 of the Iron Age/Romano-British enclosure (Figure 77). This circular pit measured 0.80m by 0.59m in plan and featured a concave profile [1667] with a rounded base. It survived to a depth of 0.30m and contained mid brown silty sand fill with stone inclusions of varying sizes. Some rooting was noted within the fill, which also produced fragments of animal bone and burnt clay classed as ceramic building material and it is therefore interpreted as a waste pit.

4.4.9.2 Analysis of the ceramic building material indicated it was of a similar fabric to that from ditch F1786, which also contained 13th to 14th century Iron-rich Sandy Ware, as well as midden (1406) which contained several sherds of similarly dated ceramic. Although located within the boundaries of the Romano-British enclosure, based upon the material deposited within it, it can be confidently ascribed to the medieval period.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1668	1667, 1668	Circular pit	0.80m x 0.59m x 0.30m	Mid brown	Silty sand	Animal bone, burnt clay	

Table 37. Pit F1668.



South-east facing section of waste pit F1668.

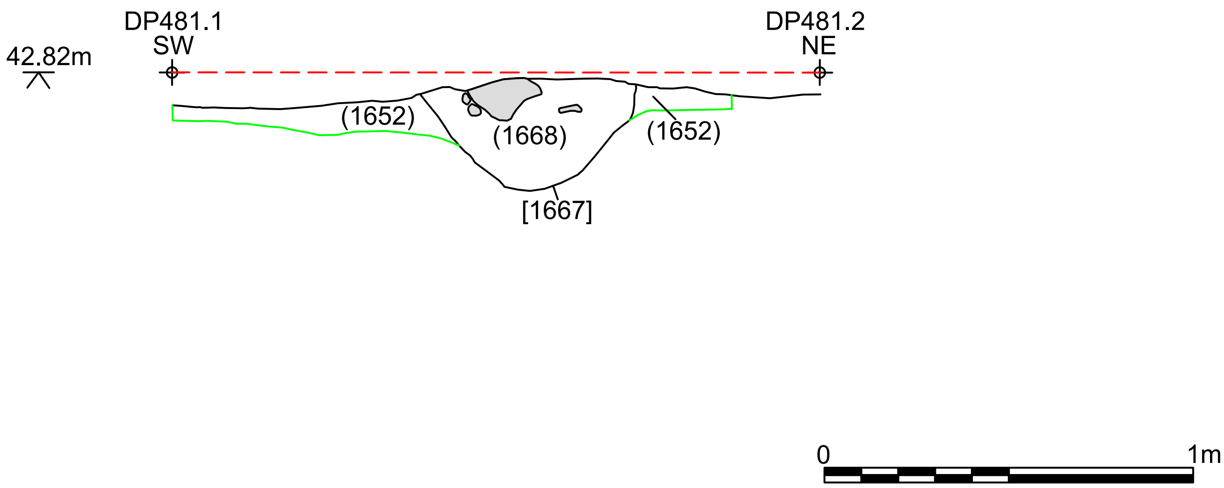


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Figure 77. Plan and section of waste pit F1668.

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4.4.10. Medieval droveway

4.4.10.1 One of the main archaeological features present within the Wetland Basin 3 cluster of features was a droveway characterised by two main ditches which showed multiple phases of activity. The northern droveway ditch was of relatively consistent form along its visible length and contained three phases of use with two recuts (F1779, F1780, and F1781). The southern droveway ditch, however, showed two phases of use with just one re-cut where it was sampled (F1782 and F1784) (Figure 78, Figure 79 and Figure 80).

4.4.10.2 The northern droveway ditch could be observed for 78m in length and had an average width of 3.5m but consisted of three phases which had varying individual dimensions. The earliest phase of the ditch (F1781) was visible for a maximum of *c.* 66.25m in length, it had an average width of 1.14m and average depth of 0.21m (Figure 81). Overall it had a concave profile with a rounded sides and base. The fills of sandy silt became more compacted at the eastern end of the ditch and contained inclusions of small, rounded pebbles as well as fragments of animal bone, but no other finds.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1472	1471, 1472	Droveway ditch	2.00m x 1.06m x 0.26m	Light grey brown	Compacted sand		
1474	1473, 1474	Droveway ditch terminus	2.00m x 1.16m x 0.22m	Light grey brown	Compacted sand		
1656	1655, 1656	Droveway ditch	1.80m x 1.54m x 0.17m	Mid grey brown	Sandy silt	Animal bone	
1758	1757, 1758	Droveway ditch	1.00m x 0.80m x 0.20m	Mid grey brown	Sandy silt	Animal bone	

Table 38. Northern droveway ditch F1781.

Figure 78. West facing section through northern droveway ditch slots F1472, F1468, and F1470 (scale=0.5m graduations).

Figure 79. South facing view of ditch terminus F1474 (scale = 0.1m graduations).

4.4.10.3 The second phase of the northern droveway ditch, F1780, was recorded for 76.75m in length, had an average width of 0.85m and an average depth of 0.29m. Overall, this phase of the northern droveway ditch featured a profile with steep sides and a rounded-flat base. It contained a mid brown-grey sandy silt which contained inclusions of subangular stones and pebbles as well as fragments of animal bone.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1411	1410, 1411	Droveway ditch	0.30m x 0.28m x 0.14m	Mid grey brown	Sandy silt	Animal bone	
1447	1446, 1447	Droveway ditch	0.50m x 0.38m x 0.28m	Mid brown grey	Sandy silt	Animal bone	
1468	1466, 1467, 1468	Droveway ditch	2.00m x 0.85m x 0.48m	Light blue grey (1467) Mid grey-brown (1468)	Sandy silt (1467) Silty sand (1468)	Animal bone (1468)	
1654	1653, 1654	Droveway ditch	2.10m x 1.74m x 0.19m	Mid grey brown	Sandy silt	Animal bone	
1751	1751, 1752	Droveway ditch	1.48m x 1.00m x 0.39m	Dark grey brown	Sandy silt	Animal bone	

Table 39. Northern droveway ditch F1780.

4.4.10.4 The third phase of the northern droveway ditch, F1779, was visible for 77.50m in length, truncating ditch F1828 at its eastern end, before returning along a north-north-west/south-south-east orientation for 9.69m into the northern limit of excavation (Figure 81). As with the previous phases, this ditch featured a steep sided profile with rounded-flat base and contained mid brown-grey sandy silt which contained inclusions of subangular stones as well as fragments of animal bone. This phase of the droveway ditch truncated the ditch terminus F1804 and in turn was truncated by pit F1436 described below.

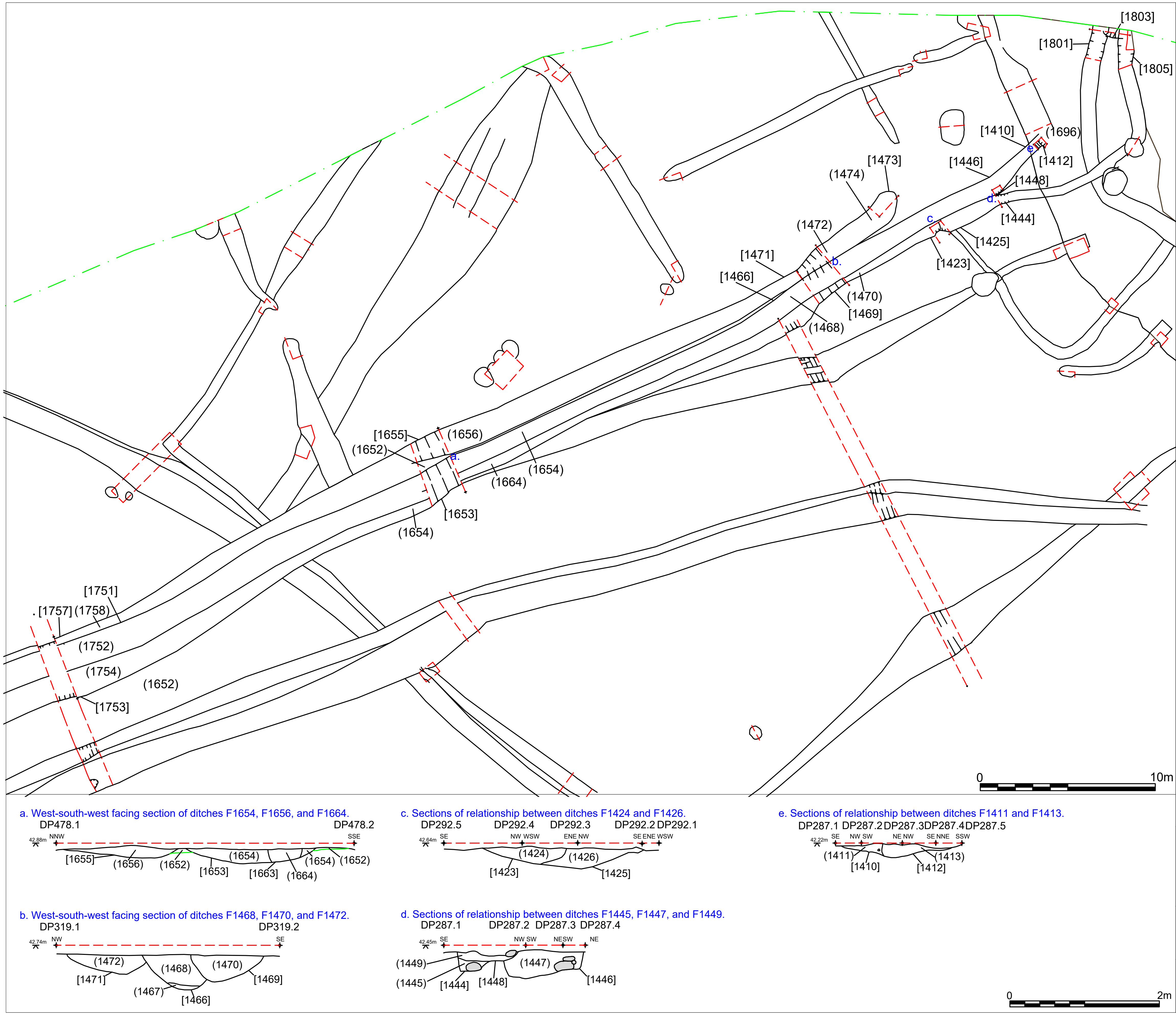
Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1424	1423, 1424	Droveway ditch	0.65m x 0.40m x 0.22m	Mid orange brown	Sandy gravel	Animal bone	
1445	1444, 1445	Droveway ditch	0.70m x 0.40m x 0.25m	Mid brown grey	Sandy silt	Animal bone	
1470	1469, 1470	Droveway ditch	2.00m x 0.98m x 0.36m	Mid yellow grey	Silty sand	Animal bone	
1664	1663, 1664	Droveway ditch	2.10m x 0.46m x 0.17m	Mid grey brown	Sandy silt		

1754	1753, 1754	Droveway ditch	1.44m x 1.00m x 0.52m	Dark grey brown	Sandy silt	Animal bone	
1806	1805, 1806, 1834	Ditch	2.08m x 0.54m x 0.12m	Mid orange brown	Sandy silt	Animal bone	
1821	1820, 1821	Ditch	1.00m x 0.57m x 0.09m	Mid brown	Silty clay		

Table 40. Northern droveway ditch F1779.

Figure 80. Oblique of south-west facing section of northern droveway ditch slots F1751 and F1754 (scale = 0.5m graduations).

Figure 81. Plans and sections of with northern droveway ditches F1781, F1780, and F1779.



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4.4.10.5 The southern droveway ditch comprised two phases with an initial droveway ditch F1782 and a subsequent recut ditch F1784 which were broadly north-east/south-west aligned parallel to the northern droveway ditch (Figure 82, Figure 83 and Figure 84). The initial southern droveway ditch F1782 was visible for 66.50m prior to possible horizontal truncation at the eastern and western ends. This phase of the droveway ditch had an average width of 2.08m. It had moderately-sloping sides leading to a flat base and averaged 0.38m in depth. The ditch had a dark-mid grey brown sandy clay or sandy silt fill which contained a significant quantity of animal bone fragments.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1711	1710, 1711	Droveway ditch	1.69m x 1.00m x 0.27m	Dark grey brown	Sandy clay	Animal bone	
1734	1733, 1734	Droveway ditch	2.75m x 1.00m x 0.42m	Mid grey brown	Sandy silt	Animal bone	
1737	1736, 1737	Droveway ditch	1.81m x 1.00m x 0.44m x	Mid orange brown	Sandy silt	Animal bone	

Table 41. Southern droveway ditch F1782.

Figure 82. East-facing section of southern droveway ditch F1737 and F1739 (scale = 0.5m graduations).

4.4.10.6 The subsequent phase of the southern droveway ditch, F1784, was visible for 75.75m in length from the western limit of excavation to its possible horizontal truncation at its eastern end. This phase of the droveway ditch had an average width and depth of 0.65m and 0.22m respectively. It featured moderately-sloping sides leading to a rounded base. It contained a mid orange-brown sandy silt fill that contained small stones as well as fragments of animal bone.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1739	1738, 1739	Droveway ditch	0.68m x 0.80m x 0.26m	Mid orange brown	Sandy silt	Animal bone	
1756	1755, 1756	Droveway ditch	1.00m x 0.80m x 0.20m	Mid orange brown	Sandy silt		
1813	1812, 1813	Droveway ditch	0.72m x 0.37m x 0.20m	Mid orange brown	Sandy silt	13th to 14th century basal sherd	

Table 42. Southern droveway ditch F1784.

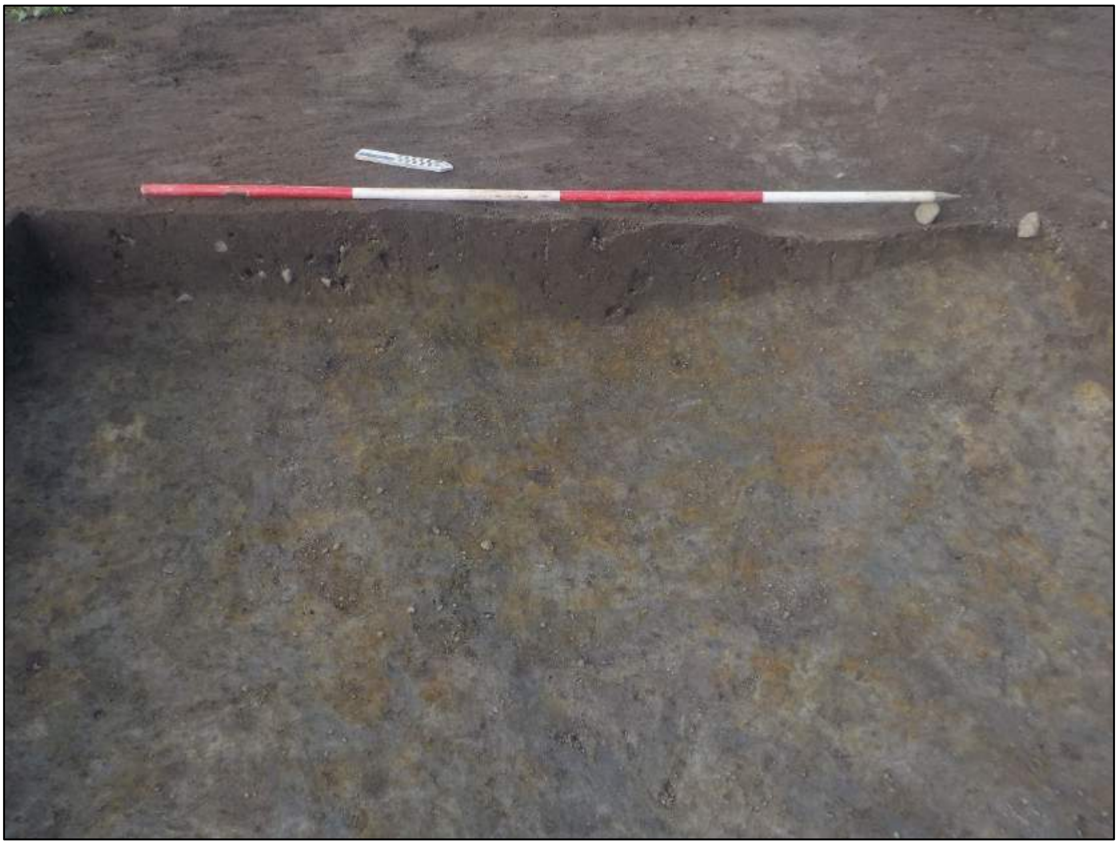

Figure 83. East-north-east section of southern droveway (F1784) ditch slot F1813 (scale=0.5m graduations).

4.4.10.7 Though no definitive material culture was recovered from the earliest phases of the droveway, the latest phase of the southern droveway ditch F1784 contained a basal sherd of iron-rich coarse Sandy Ware which was attributed to the 13th to 14th centuries.

Figure 84. Plans and sections of with southern droveway ditches

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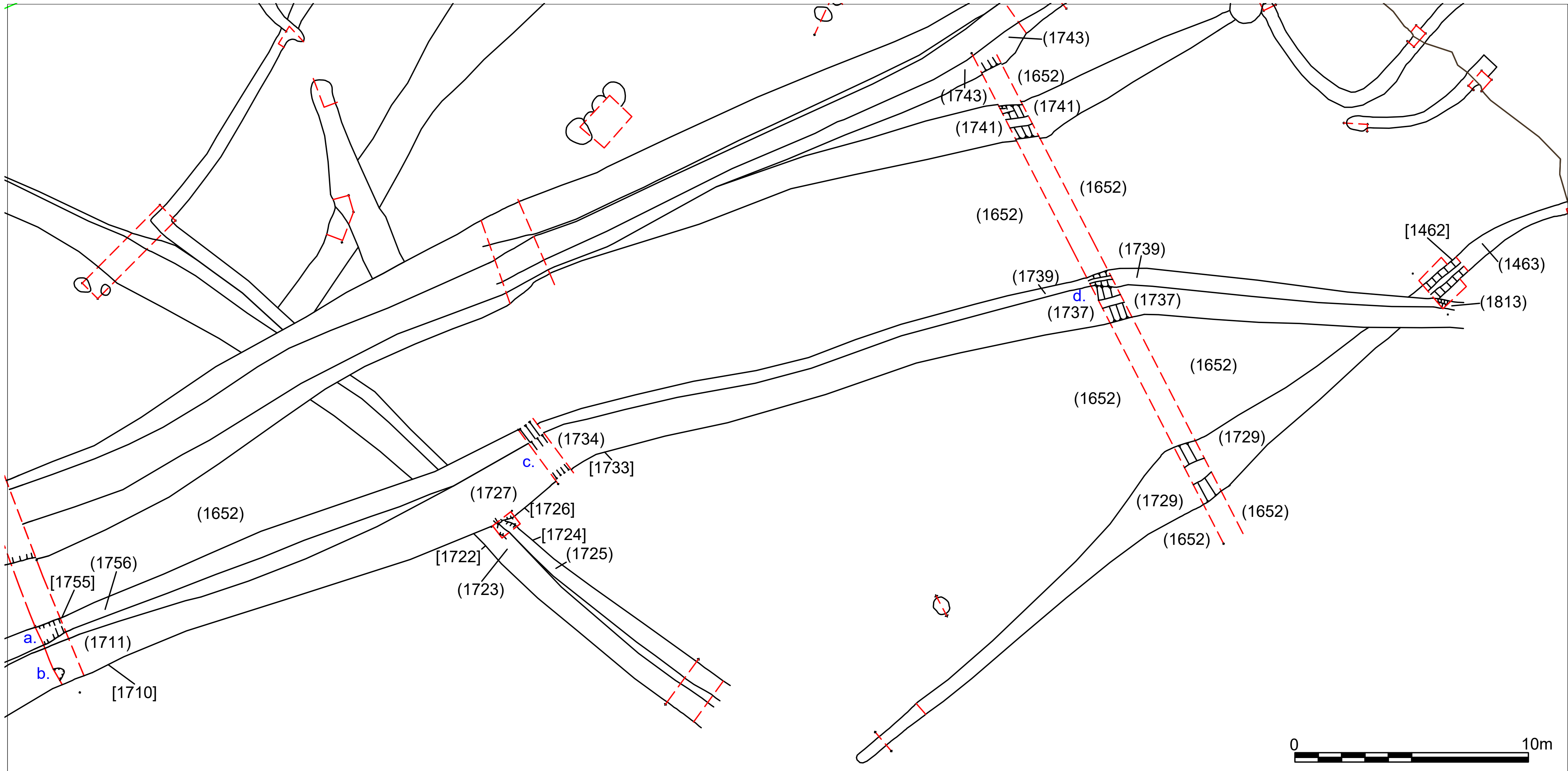
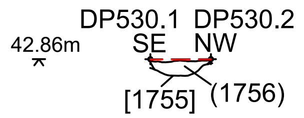
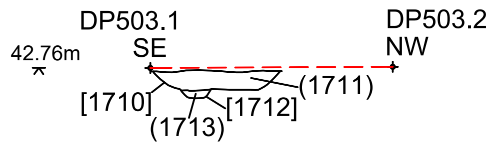


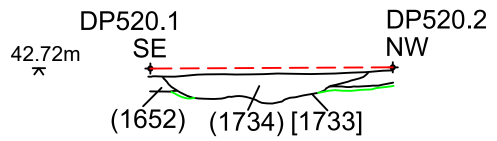
a. North-east facing section of ditch F1756.



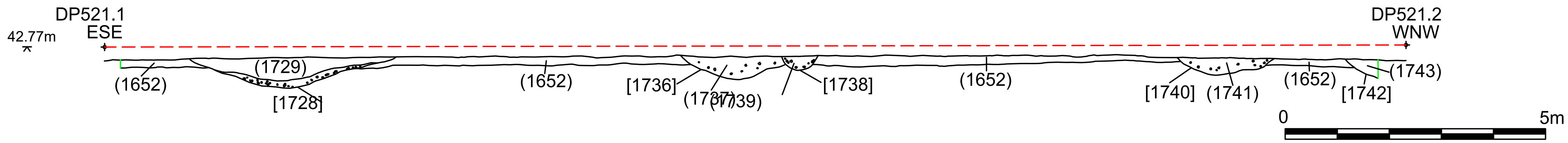
b. North-east facing section of ditch F1711 and pit F1713.



c. North-east facing section of ditch F1734.



d. East-north-east facing section of ditches F1729, F1737, F1739, F1741, and F1743.



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4.4.11. Post-medieval pits

4.4.11.1 Two substantial pits were identified within the vicinity of Wetland Basin 3 truncating several previously described archaeological features. Pit F1418 was subcircular in plan and measured 1.60m by 1.30m and featured a sloping profile [1417] with a concave base. It survived to a depth of 0.22m. It contained a light brown grey silty sand (1418) that included rounded cobbles and subangular stones. This pit cut the relationship between Iron Age enclosure ditch F1790 and the possible Romano-British/early medieval field boundary F1819 (Figure 85). No finds were identified but animal bone was identified on the surface of the pit prior to excavation.


Figure 85. North-east facing section of pit F1418 truncating enclosure ditch F1790 and field boundary ditch F1819 (scale = 0.1m graduations).

4.4.11.2 Circular pit F1436 measured 1.03m by 0.72m in plan and had moderately sloping concave sides with a wide uneven base. It measured up to 0.16m in depth. This pit was heavily affected by rooting and contained a mid orange-brown loamy loose silt (1436), but no associated finds. Pit F1436 truncated northern droveway ditch F1779. Based upon the stratigraphic relationship with the droveway ditch and the composition of the fill, it is very likely that this pit is more recent than the other pit features on the site, being of post-medieval or modern origin, or less likely a natural feature associated with the nearby treebole F1825.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1418	1417, 1418	Subcircular pit	1.60m x 1.30m x 0.22m	Light grey brown	Silty sand	Animal bone	
1436	1435, 1436	Circular pit	1.03m x 0.72m x 0.16m	Mid orange brown	Loamy silt		

Table 43. Post-medieval pits F1418 and F1436.

4.4.12. Undated archaeological features

4.4.12.1 An undated ditch F1838 was identified truncating Wetland Basin 3, approximately 1.75m south-west of ditch F1819, which was broadly curving in plan and aligned north-west/south-east. This ditch featured a steep sided profile and flat base. It had an average width of 0.43m and survived 0.12m deep. It contained a sandy silt fill with occasional inclusions of subrounded stones as well as fragments of animal bone.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1416	1415, 1416	Enclosure ditch	0.90m x 0.72m x 0.10m	Light grey brown	Silty sand	Animal bone	
1461	1460, 1461	Enclosure ditch	0.89m x 0.19m x 0.14m	Mid orange grey	Sandy silt	Animal bone	

Table 44. Slots within ditch F1838.

4.4.12.2 Five discrete undated pits were identified in the vicinity of Wetland Basin 3. One of these pits, F1698, was identified within the Iron Age/Romano-British enclosure. Based upon the relative dating of the pit cluster and pit F1713, as well as the truncating pit F1709, it is likely that this pit F1698 can be broadly attributed between the Romano-British to the medieval period. Similar pits F1774 and F1776 respect the bounds of the enclosure but given the broad range of other associated features they can only be broadly attributed to a similar period. Pits F1651 and F1705 remain undated.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1651	1650, 1651	Irrregular, subcircular pit	1.00m x 0.34m x 0.16m	Light grey brown	Silty sand	Animal bone	
1698	1697, 1698	Subcircular pit	0.60m x 0.23m x 0.20m	Dark brown	Silty clay	Animal bone	
1705	1703, 1705	Circular pit	1.06m x 0.63m x 0.22m	Dark brown	Sandy silt		
1774	1773, 1774	Circular pit	0.46m x 0.46m x 0.26m	Mid orange grey	Sandy silt		
1776	1775, 1776	Oval pit	0.52m x 0.25m x 0.25m	Mid orange grey	Sandy silt		

Table 45. Undated pits in the vicinity of Wetland Basin 3.

4.5. Wetland Basin 4

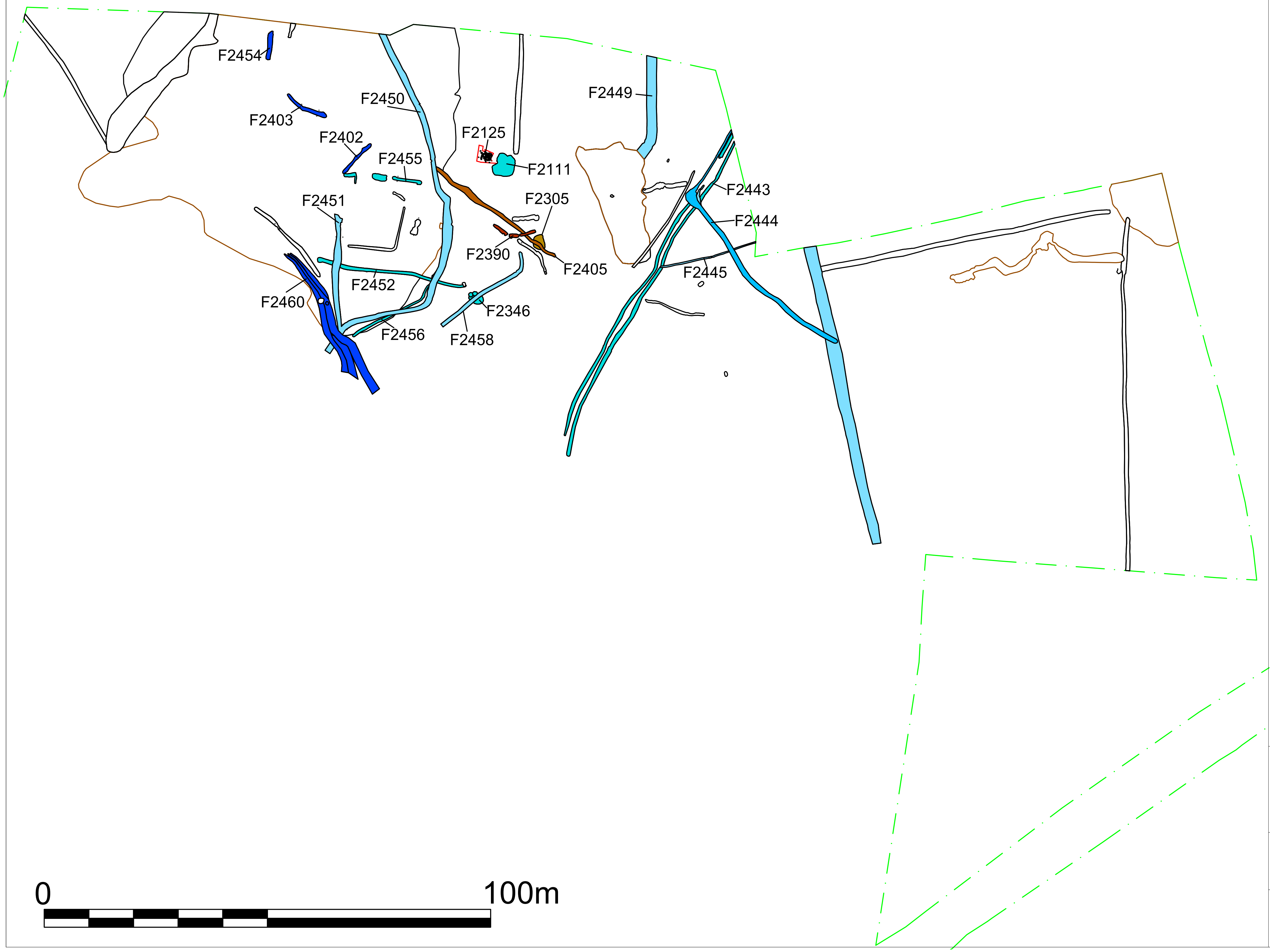
4.5.1. Introduction

4.5.1.1 The area around Wetland Basin 4, located at the north-west of the stripped area, measured 115.80m (north/south) by 281.98m (east/west) and covered an area of 2.12ha (Figure 86 and Figure 87). Wetland Basin 4 itself occupied the north-eastern portion of this area though it extended beyond the limit of excavation. The wetland area was truncated by a substantial number of post-medieval archaeological features attributed through the presence of associated ceramic finds (see below and Figure 87).

Figure 86. View of Wetland Basin 4, looking east.

4.5.1.2 Wetland Basin 4 comprised a natural depression in the local topography characterised by a substrate of successive accumulated deposits dating from the Postglacial period that included white marl overlying sand and gravel. This area was smaller in size than Wetland Basin 1 but substantially larger than Wetland Basins 2 and 3.

Figure 87. Phase plan of archaeological features associated with Wetland Basin 4.



Limit of Excavation

Phases

- Prehistoric
- Later prehistoric
- Early to mid Romano-British
- Romano-British to medieval
- Post-medieval 1
- Post-medieval 2
- Post-medieval 3
- Post--medieval 4
- 19th - 20th century
- Undated
- Natural features

N

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4.5.2. Possible prehistoric pit

4.5.2.1 A substantial oval pit F2305 measuring 4m by 2.54m was located *c.* 46.31m south of the limit of excavation. It survived to a depth of 0.2m and had a gradual, gently sloping profile leading to an irregular base (Figure 90). The primary fill comprised compacted small, rounded pebbles (2296) within a matrix of mid brown clay silt and which contained a substantial assemblage of animal bone. This was overlaid by a naturally accumulated mid grey brown silt (2305) which contained infrequent inclusions of small rounded pebbles. This oval pit, which was cut by ditch F2463, was interpreted as a possible prehistoric waste pit.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**
2305	2295, 2296, 2305	Pit	4.00m x 2.54m x 0.20m	Mid brown (2296) Mid grey brown (2305)	Clay silt (2296) Silt (2305)	Animal bone (2296)

Table 46. Possible prehistoric pit F2305.

4.5.3. Prehistoric boundary ditch

4.5.5.1 An extremely weathered possible boundary ditch F2405, which aligned north-west/south-east and measured approximately 33.38m in length, was identified *c.* 41.03m south of the northern limit of excavation (Figure 88 and Figure 89). Ditch F2405 featured a shallow profile with a broad u-shape with concave sides. It was impacted by heavy rooting and likely horizontal truncation filled by silty sands which contained fragments of animal bone. Ditch F2405 was interpreted as possible late prehistoric boundary which pre-dated the post-medieval period based upon its stratigraphic relationships where it truncated pit F2305 but was truncated by Romano-British enclosure ditch F2381 and post-medieval ditch F2450 at its northern end.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2040	2039, 2040	Ditch	1.00m x 0.45m x 0.17m	Light brown	Silty sand	Animal bone
2206	2205, 2206	Ditch	0.70m x 0.42m x 0.20m	Light brown	Silty sand	
2298	2297, 2298	Ditch	1.00m x 0.94m x 0.19m	Mid orange brown	Silt	
2332	2331, 2332	Ditch	1.20m x 0.80m x 0.20m	Mid orange brown	Silty sand	Animal bone
2375	2374, 2375	Ditch	1.64m x 1.00m x 0.24m	Mid grey brown	Sandy silt	Animal bone
2379	2378, 2379	Ditch	2.00m x 0.60m x 0.13m	Mid orange brown	Clayey silt	

Table 47. Slots within prehistoric to post-medieval boundary ditch F2405.

Figure 88. View of ditch terminus F2206, looking west-south-west (scale = 0.1m graduations).

Figure 89. West-south-west facing section of ditch slot F2332 (scale = 0.1m graduations).

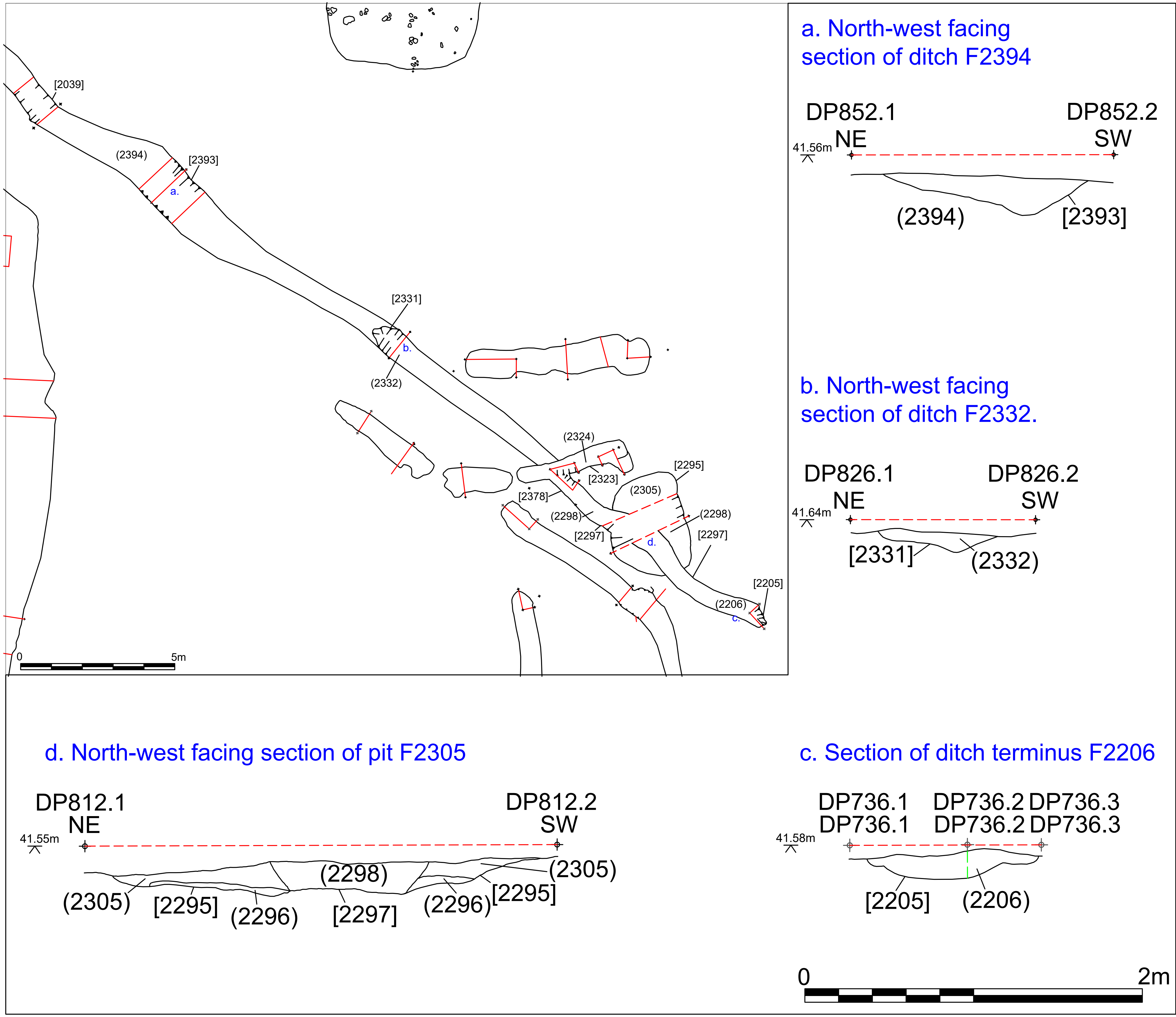

Figure 90. Plan and sections of pit F2305 and boundary ditch F2405.

Limit of Excavation

Section Line

168.85m Height above Ordnance Datum (aOD)

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4.5.4. Romano-British segmented enclosure

4.5.3.1 Adjacent to the large oval pit F2305, an intermittent curving alignment of ditches was identified (Figure 91, Figure 92 and Figure 93). These were disturbed by rooting and bioturbation and only three segments of the enclosure survived, which formed an arc shape in plan.

4.5.3.2 This arc broadly aligned west-north-west/east-south-east measured approximately 9.59m in length and contained three individual surviving ditches with an average length of 3.18m, an average width of 0.62m, and surviving average depth of 0.17m, filled by silty sand deposits.

4.5.3.3 A sherd of Catterick GRB6 grey ware, which typically dates to the 2^{nd} to 3^{rd} century AD, as well as fragments of animal bone, were identified within the ditch terminus slot F2324. As a result, this sequence of ditches was interpreted as the remains of a Romano-British enclosure which was subsequently truncated by the medieval boundary ditch F2463 and subsequent agricultural activity in the vicinity.

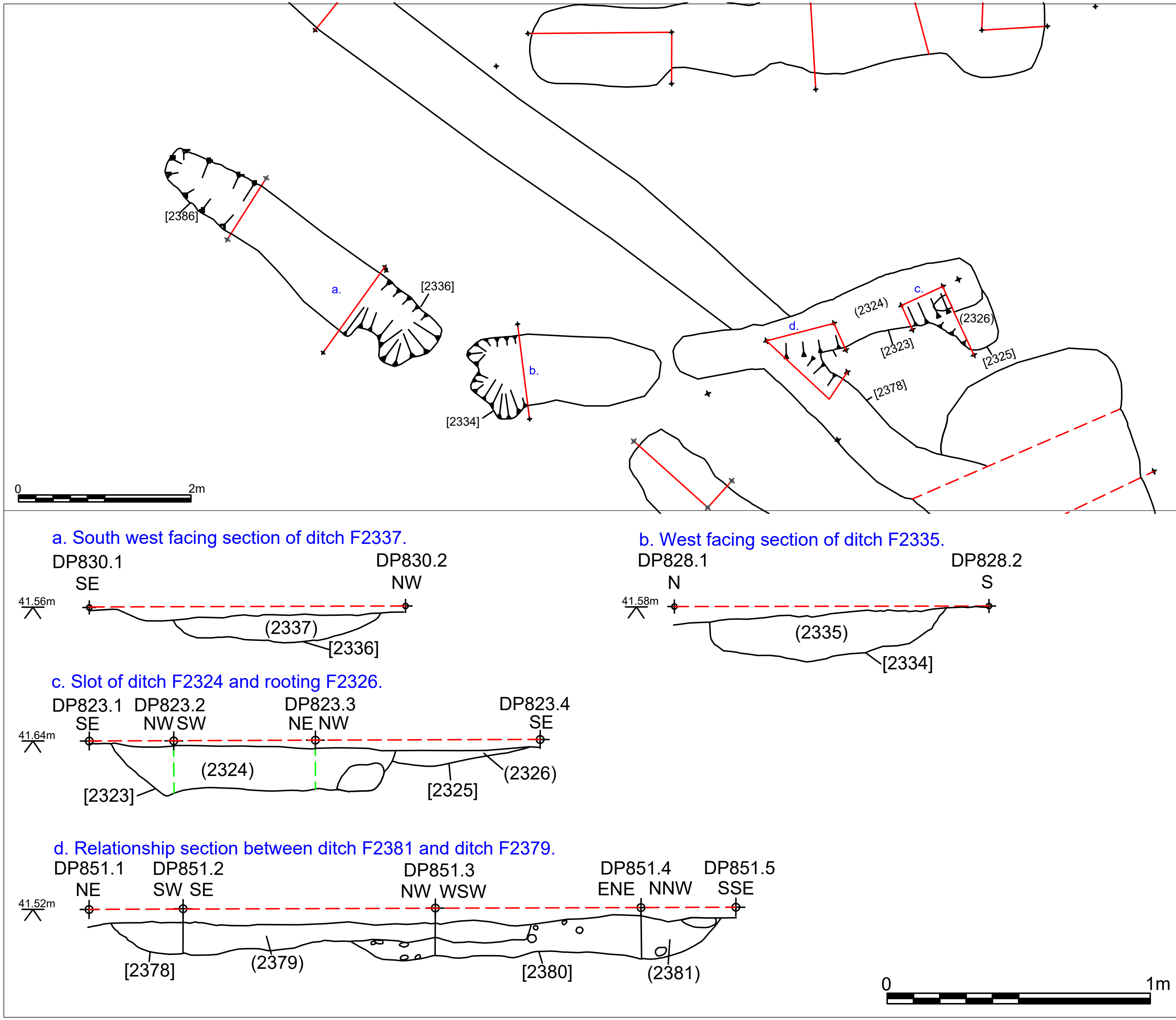
Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2324	2323, 2324	Ditch	1.40m x 0.64m x 0.18m	Mid brown	Silty clay	Animal bone, 2nd-3rd century pottery
2335	2334, 2335	Ditch	1.00m x 0.68m x 0.21m	Dark brown	Silty sand	
2337	2336, 2337	Ditch	1.00m x 0.75m x 0.14m	Dark brown	Silty sand	
2381	2380, 2381	Ditch	3.00m x 0.50m x 0.17m	Mid brown	Silty clay	
2387	2386, 2387	Ditch	1.06m x 0.66m x 0.14m	Mid brown	Silty clay	
2390	2389, 2390	Ditch	1.30m x 0.50m x 0.20m	Mid orange brown	Sandy clay	

Table 48. Romano-British enclosure.

Figure 91. View of relationship of ditch slot F2324 truncated by ditch slot F2326 (scale = 0.1m graduations).

Figure 92. West-south-west facing section of ditch slot F2335 (scale = 0.01m graduations).

Figure 93. Plans and sections of Romano-British segmented enclosure.



Limit of Excavation

Section Line

Height above Ordnance Datum (aOD)

N

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4.5.5. Late Romano-British to early medieval platform

4.5.4.1 A substantial stone platform F2125 was identified *c.*28.04m south of the limit of excavation (Figure 94, Figure 95 and Figure 96). This was bedded in a compacted sandy silt, which overall measured 3.00m by 3.00m in plan and was composed of well-hewn stones that varied in size (see Table 49 for dimensions). Fragments of animal bone, 24 sherds of a Huntcliff-type jar dating from *c.* AD 360 to the early 5th century, and the footring basal sherd from 19th century whiteware were identified from the platform, the latter no doubt being intrusive.

4.5.4.2 The platform was overlaid by a natural accumulation of mid brown grey sandy silt (2126) which contained well-sorted inclusions of small to mid-sized stones, most likely an alluvial deposit in origin. It is possible that the 19th century ceramic sherd from platform F2125 might be an intrusive element from this overlying layer.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2125	2124	Platform construction cut	3.00m x 3.00m	-	-	-
	2125	Platform	0.18m x 0.13m x 0.10m 0.40m x 0.18m x 0.13m	Mid brown grey	Worked stones bedded in compacted sandy silt	Animal bone, 3rd to 5th century AD pottery, 19th century pottery
	2126	Abandonment	3.00m x 3.00m x	Mid brown grey	Sandy silt	

Table 49. Early medieval platform F2125.

Figure 94. View of platform (F2125), looking north-east (scale = 0.5m graduations).

Figure 95. View of platform (F2125), looking south-south-east (scale = 0.5m graduations).

Figure 96. Plan of late Romano-British platform F2125.

Limit of Excavation

Section Line

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4.5.6. Post-medieval waste pit

4.5.6.1 Adjacent to the late Romano-British platform F2125, a substantial pit F2111 was identified which measured 5.00m by 5.00m with a gradually sloping profile [2110] and a flat base (Figure 97). This pit contained backfill of mid grey brown sandy silt (2111) containing stone inclusions which varied significantly in size, as well as small slate and animal bone fragments. Pit F2111 was interpreted as a post-medieval waste pit, or possible demolition material repurposed as landscape levelling, with a likely date of the 17th – 18th century.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2111	2110, 2111	Large subcircular waste pit	5.00m x 5.00m x 0.20m	Mid grey brown	Silty sand	Animal bone

Table 50. Post-medieval waste pit F2111.

Figure 97. North-facing section of waste pit F2111 (scale = 0.5m graduations).

4.5.7. Possible post-medieval pit-cluster

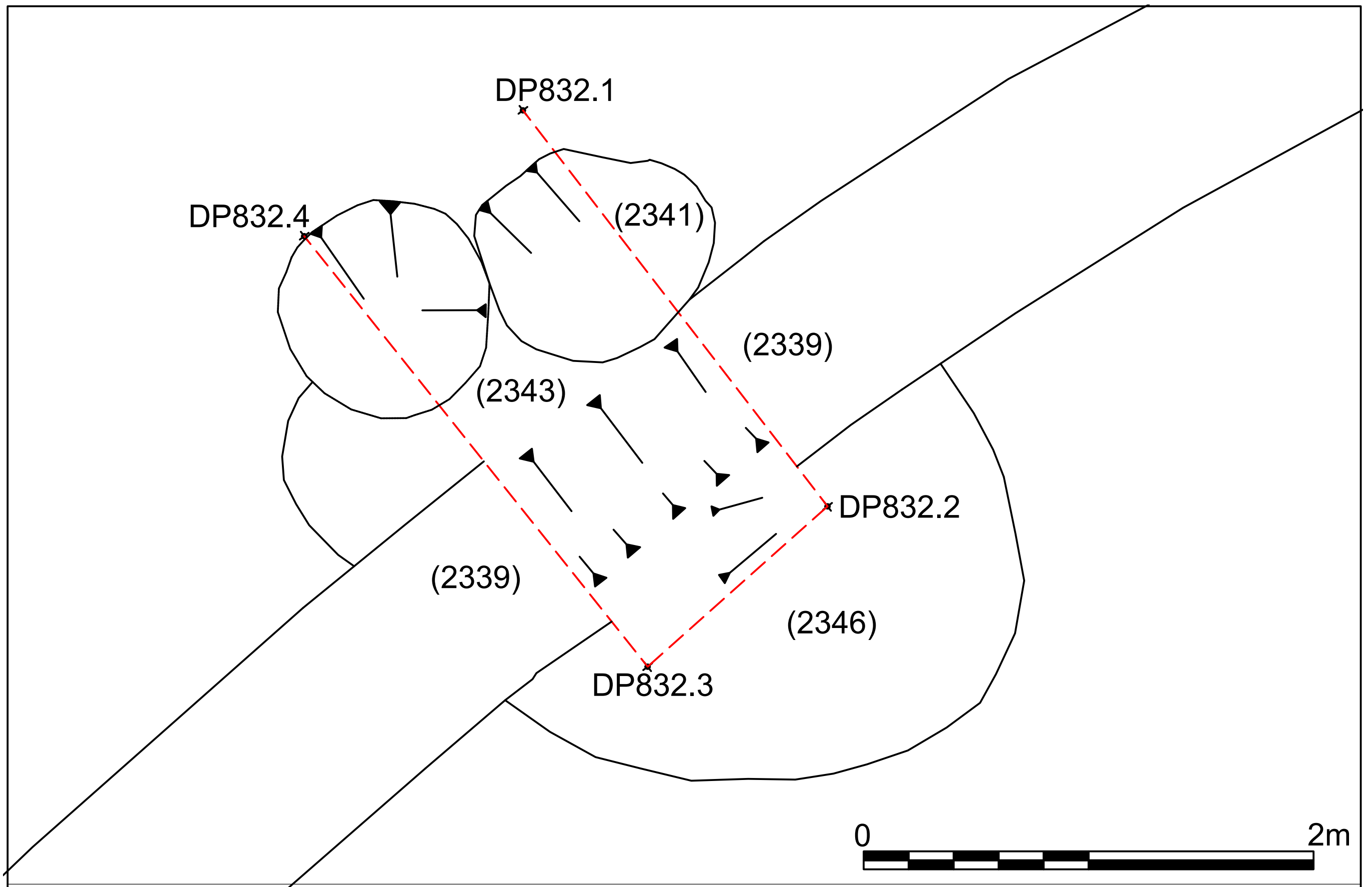
4.5.7.1 A cluster of three pits was identified 60m south of the limit of excavation which were ultimately bisected and truncated by boundary ditch F2458 (discussed below). Though complicated by the post-medieval ditch F2458, it is likely that the larger pit F2346, a subcircular pit featuring a wide, flat base [2344], was the initial pit within the sequence. Pit F2346 contained two fills of mid brown-grey silty sand (2345 and 2346). The lowermost (2345) contained a moderate amount of rounded and subangular gravel indicating deliberate backfilling and was sealed by the upper fill (2346) which contained small numbers of rounded gravel inclusions. No finds were identified in either fills of pit F2346 and its relationship with the other two pits, F2341 and F2343, was unclear (Figure 98 and Figure 99).

4.5.7.2 The other two pits formed a sequence. The initial pit, F2343, was broadly circular in shape with a wide, slightly rounded base [2342], and contained a mid-brown silty sand (2343) with infrequent inclusions of round gravel, but no finds were present. Pit F2343 was truncated by pit F2341 which was broadly circular in plan [2340] and of shallow depth. It was filled by a light grey-brown sandy silt (2341) with rounded gravel inclusions. A fragment of clay pipe stem was found in the fill indicating a post-medieval date. Although likely of the same age, it remains possible that pits F2343 and F2346 may be significantly earlier.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2341	2340, 2341	Circular pit	0.94m x 0.94m x 0.27m	Light grey brown	Sandy silt	Clay pipe stem
2343	2342, 2343	Circular pit	0.37m x 0.37m x 0.19m	Mid brown	Silty sand	
2346	2344, 2345, 2346	Circular pit	0.94m x 0.94m x 0.25m	Mid brown grey	Silty sand	

Table 51. Pit cluster F2346.

Figure 98. Oblique view of slot through pits F2341 and F2343, and ditch slot F2339 of drainage ditch F2458 (scale = 0.5m graduations).



Relationship section of pits F2341, F2346 and ditch F2339.

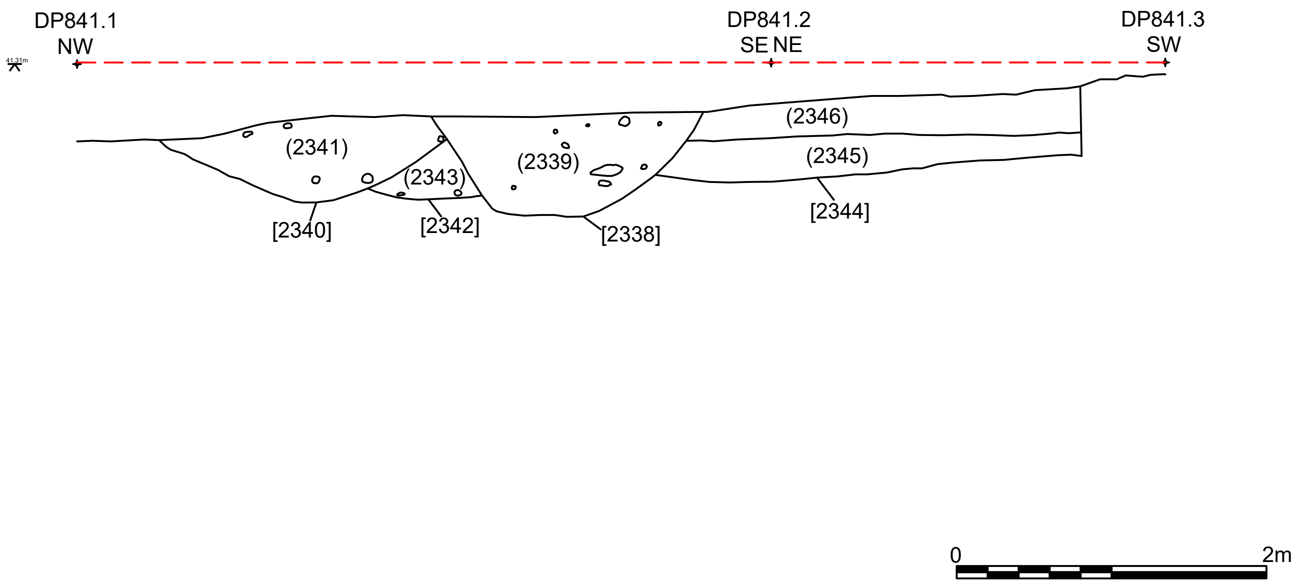


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Figure 99. Plan and section of post-medieval pit cluster.

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Section Line

4.5.8. Post-medieval agricultural boundaries and drainage

4.5.8.1 Wetland Basin 4 and the surrounding area was characterised by successive phases of post-medieval land drainage and agricultural boundaries continuing into the 19th and 20th centuries, the key features of which are summarised below.

4.5.8.2 A broadly L-shaped ditch F2458, which aligned north-east/south-west for *c.*21.7m, prior to returning broadly north/south for *c.*4.17m then terminating, was located approximately 53.62m south of the northern limit of excavation (Figure 100). Ditch F2458 featured a broadly concave profile with gently sloping sides and had an average depth of 0.24m. It contained a white sand with minimal stone inclusions. Within slots F2208 and F2217, an overlying backfill of mid red-brown sandy silt (2208/2217) was identified. In particular, slot F2217 contained fragments of animal bone as well as a burnt sherd of iron-rich Gritty ware dating to the mid-13th to early 14th century. As ditch F2458 truncated pit cluster F2346 (described above), the latter of which contained a fragment of clay pipe stem, it is likely that this represents residual material incorporated into the deliberate backfilling following a period of abandonment and siltation.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2208	2207, 2208, 2209	Ditch	1.00m x 0.91m x 0.20m	Light white grey (2209) Mid red brown (2208)	Sand (2209) Sandy silt (2208)	Animal bone, 13th – 14th century pottery (2208)
2217	2216, 2217	Ditch	0.63m x 0.34m x 0.10m	Mid red brown	Sandy silt	
2339	2338, 2339	Ditch	1.13m x 0.89m x 0.33m	Mid yellow brown	Sandy silt	

Table 52. Slots within post-medieval ditch F2458.

Figure 100. North-west facing section of ditch slot F2308 in post-medieval ditch F2458 (scale = 0.5m graduations).

4.5.8.3 A truncated French drain, F2449, was identified projecting from the northern limit of the excavation, aligned north/south for 20.95m and ran into a natural depression. Drain F2449 featured a broadly concave profile with gently sloping sides and a rounded base with an average depth of 0.47m. At the base of the drain within the northernmost slot 2176, the primary fill was composed of substantial sandstones (2175), interpreted as the degraded base of the drain, sealed by mid orange-brown clayey silt (2176) which contained fragments of animal bone. This was sealed by silt (2177), which was subsequently covered by large stone backfill (2178). The southernmost slot 2190, nearer to the wider natural depression, contained successive deposits within a gently sloping ditch [2189] which featured a broad rounded base (Figure 101). Despite a lack of archaeologically significant finds, the most likely interpretation is that this drain represents post-medieval field drainage intended to send water from this area into the Fiddale Beck to the north.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**
2176	2174, 2176, 2177	Drain	2.22m x 1.40m x 0.40m	Mid orange brown (2176) Mid grey brown (2177)	Clayey silt (2176) Silt (2177)	Animal bone
2175	2175	French drain	0.90m x 0.44m x 0.25m	Light yellow grey	Stone	

2178	2178	French drain backfill	1.40m x 0.80m x 0.05m	Light grey yellow	Stone	
2190	2189, 2190, 2191, 2192	Drain	2.27m x 0.53m	Mid orange brown (2192) Mid blue grey (2191) Mid brown (2190)	Silty sand (2192) Silty clay (2191) Sandy silt (2190)	

Table 53. Slots within post-medieval drain F2449.

Figure 101. South-west facing section of drain slot F2190 of post-medieval drain F2449 (scale = 0.5m graduations).

4.5.8.4 A group of post-medieval hedgerows were identified projecting from the north-eastern corner of the limit of excavation in the area of Wetland Basin 4. These appear to represent the successive phases of agricultural field boundary removed prior to the excavation. Archaeological excavation identified fragments of animal bone and clay pipe stem in numerous slots which would attribute this phase of activity to the post-medieval period.

4.5.8.5 The earliest and the longest of these hedgerows, F2443, extended for approximately 80.4m from the northern limit of excavation. It was orientated north-east/south-west, and featured a typical undulating profile with rooting. This boundary contained naturally-accumulated silty sand and sandy silts, as well as fragments of animal bone within slot F2097, but no other identifiable archaeological material (Figure 102 and Figure 103).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2097	2096, 2097	Hedgerow	1.20m x 0.79m x 0.15m	Light brown	Silty sand	Animal bone
2113	2112, 2113	Hedgerow	0.73m x 0.51m x	Mid orange brown	Sandy silt	
2136	2135, 2136	Hedgerow	1.20m x 1.00m x 0.13m	Light brown	Silty sand	
2154	2153, 2154	Hedgerow	0.80m x 0.65m x 0.10m	Mid grey brown	Silty clay	

Table 54. Slots within post-medieval hedgerow F2443.

Figure 102. South-west facing section of slot F2097 of hedgerow F2443 (scale = 0.01m graduations).

Figure 103. View of relationship slot of hedgerow slots F2113 (F2443), and F2115 and F2117 (F2446) (scale = 0.5m graduations).

4.5.8.6 Approximately 32.18m south-west of the limit of excavation, hedgerow F2443 was truncated by hedgerow F2445, a much thinner boundary which was aligned east-north-east/west-south-west (Figure 104). As with the other hedgerows, the profile was characterised by uneven sides and base and contained moderately clean well-sorted sandy silts suggesting natural accumulation. This hedgerow base contained a fragment of clay pipe stem within slot F2152 suggesting a later post-medieval date for this agricultural boundary – possibly 18th century or later.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2107	2106, 2107	Hedgerow	1.24m x 0.30m x 0.14m	Mid brown	Sandy silt	
2152	2151, 2152	Hedgerow	1.40m x 1.60m x 0.22m	Light grey brown	Sandy silt	Clay pipe stem

Table 55. Slots within post-medieval hedgerow F2445.

Figure 104. South-east facing section of slot F2107 of hedgerow F2445 (scale = 0.1m graduations).

4.5.8.7 Both hedgerows F2445 and F2443 were truncated by hedgerow F2444, which followed a similar north-east/south-west orientation to the latter, and represented another phase of this particular boundary. Unlike hedgerow F2443, hedgerow F2444 was not continuous. It measured *c.* 61.7m in length prior to its truncation by hedgerow F2447 (discussed below). It is likely that it extended for a further 2.78m as hedgerow F2446 which might represent a probable recut of that ditch to form an entrance. As with the previous ditches, F2444 and F2446 possessed uneven profiles and contained a fill of archaeologically sterile naturally-accumulated silts (Figure 105).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2095	2094, 2095	Hedgerow	1.60m x 1.10m x 0.15m	Mid orange brown	Silty sand	
2150	2149, 2150	Hedgerow	1.20m x 1.00m x 0.15m	Light brown	Silty sand	
2156	2155, 2156	Hedgerow	1.10m x 0.75m x 0.10m	Mid grey brown	Silty clay	

Table 56. Slots within post-medieval hedgerow F2444.

Figure 105. South-west facing section of slot F2095 of hedgerow F2444 (scale = 0.5m graduations).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2115	2114, 2115	Hedgerow	1.40m x 1.60m x 0.22m	Light orange brown	Sandy silt	
2117	2116, 2117	Hedgerow	0.95m x 0.49m x 0.38m	Mid orange brown	Sandy silt	
2123	2122, 2123	Hedgerow	1.00m x 0.84m x 0.37m	Mid orange brown	Sandy silt	

Table 57. Slots within post-medieval hedgerow F2446.

4.5.8.8 The final hedgerow in the sequence, F2447, directly truncated all the other hedgerows described above and is therefore considered to be of likely 18^{th} – 19^{th} century date. It projected 17.53m from the northern limit of excavation, aligned north-east/south-west, then returned along a north-west/south-east alignment for a further 46.42m. As with the previous phases, this hedgerow featured an uneven profile with clear evidence of rooting, and which was filled by a naturally-accumulated silt, but no further archaeological material (Figure 106).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds

2081	2080, 2081	Hedgerow	1.24m x 1.16m x 0.90m	Mid grey brown	Sandy silt	
2121	2120, 2121	Hedgerow	1.11m x 0.85m x 0.15m	Mid orange brown	Sandy silt	
2169	2168, 2169	Hedgerow	1.04m x 0.72m x 0.24m	Light orange brown	Silty sand	

Table 58. Slots within post-medieval hedgerow F2447.

Figure 106. South-east facing section of slot F2080 within hedgerow F2447 (scale = 0.5m graduations).

4.5.8.9 Within Wetland Basin 4 itself a succession of intercutting boundary ditches were observed, of which those with definitive stratigraphic relationships are summarised below. Similar to the hedgerows described above which lay approximately 70m to the east, these boundary ditches represented changing agricultural boundaries, or possible stock enclosures, relating to the shifting property limits of the various estates and farms during the period from perhaps as early as the medieval period, but otherwise post-medieval period onwards.

4.5.8.10 The earliest of these boundary ditches was F2452, orientated east-south-east/west-north-west, which measured 33.82m in overall length with an average width of 0.63m (Figure 107). The profile of boundary ditch F2452 was concave with a u-shaped base. It had an average depth of 0.16m and contained a largely archaeological sterile fill of naturally accumulated silts, aside from in slot F2330 which contained fragments of animal bone. This boundary ditch was directly truncated by boundary ditches F2450 and F2450 as well treebole F2266 at its eastern terminus. This boundary ditch possibly represents an earlier phase of enclosure, possibly associated with the possible medieval boundary ditch F2405, but without any certain dating evidence this remains speculative.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2186	2185, 2186	Ditch	2.00m x 0.64m x 0.17m	Light grey brown	Sandy silt	
2196	2195, 2196	Ditch	0.82m x 0.60m x 0.19m	Mid yellow brown	Clayey sand	
2204	2203, 2204	Ditch	1.00m x 0.63m x 0.24m	Mid grey brown	Sandy silt	
2225	2224, 2225	Ditch	2.00m x 0.65m x 0.06m	Light grey brown	Silty sand	
2264	2263, 2264	Ditch	2.00m x 0.52m x 0.08m	Light grey brown	Silty sand	
2330	2329, 2330	Ditch	1.46m x 0.72m x 0.24m	Dark brown	Sandy silt	Animal bone

Table 59. Slots within post-medieval boundary ditch F2452.

Figure 107. West-north-west facing section through slot F2186 of boundary ditch F2452 (scale = 0.5m graduations).

4.5.8.11 Ditch F2451, aligned north/south, measured 25.75m in overall length with an average width of 0.91m. The profile of boundary ditch F2452 was concave with a flat base and had an average depth of 0.25m (Figure 108). It contained naturally accumulated silt and sands. Within slot 2213 a fragment of clay pipe stem was identified indicating a post-medieval date for this boundary ditch. As noted above, boundary ditch F2451 truncated ditch F2452 but was itself truncated at the south by circuitous boundary ditch F2461 discussed below.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2213	2212, 2213	Ditch	1.00m x 0.84m x 0.37m	Mid orange brown	Sandy silt	Clay pipe stem
2322	2321, 2322	Ditch	1.78m x 0.88m x 0.15m	Mid brown	Sand	Animal bone
2328	2327, 2328	Ditch	1.00m x 0.92m x 0.20m	Dark brown	Sandy silt	
2373	2372, 2373	Ditch	1.90m x 1.00m x 0.26m	Mid red brown	Sandy silt	

Table 60. Slots within post-medieval boundary ditch F2451.

Figure 108. North-east facing section of slot F2122 within boundary ditch F2451 (scale = 0.5m graduations).

4.5.8.12 Ditch F2456 was a thin curving shallow linear feature, broadly orientated north-east/south-west, which was truncated by ditch F2450 at its northern terminus and 10.86m from its southern terminus. Similar to ditch F2452, the dating for this ditch is unclear as no finds were identified within the naturally accumulated silt fill. Overall, the ditch measured 21.43m in length and featured a concave profile with an average width of 0.47m and a rounded base, having an average depth of 0.26m. As noted above, it is possible that this represents an earlier phase of agricultural boundary or drainage associated with the earlier phases that included ditches F2405 or F2452, but without diagnostic datable material this remains speculative.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2280	2279, 2280	Ditch	0.75m x 0.51m x 0.26m	Mid red brown	Silty sand	
2292	2291, 2292	Ditch	1.00m x 0.50m x 0.17m	Mid grey brown	Sandy silt	
2303	2302, 2303, 2304	Ditch	1.90m x 0.40m x 0.36m	Mid brown	Silty sand	

Table 61. Slots within post-medieval ditch F2456.

4.5.8.13 A substantial circuitous boundary ditch F2450, which truncated ditches F2405, F2452, F2456 as well as Wetland Basin 4, was identified, oriented north-west/south-east, projecting from the northern limit of excavation. Though it measured *c.* 90m in length overall, this boundary ditch had three returns: the first at 39.73m where the ditch oriented north/south, a second at 63.64m where the boundary returned along an east-north-east/west-south-west alignment and finally a third at 80.9m where the ditch's orientation changed to north-east/south-west prior to its disappearance, most likely due to horizontal truncation by 20th century agriculture (Figure 109).

4.5.8.14 As might be expected the boundary ditch varied somewhat across its length, however the overall profile was concave with a u-shaped base. It had an average width of 1.14m and an average depth of 0.26m. Rooting and bioturbation was noted along the entirety of the ditch which distorted the profile significantly. As with the other ditches, this ditch contained silts, sand and clay from the surrounding natural substrate. Fragments of animal bone, a sherd of mid 19th to early 20th century whiteware, and the remains of an iron horseshoe from the ditch fills indicate that this boundary was either in the process of, or had been fully infilled by the late 19th – early 20th centuries.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2103	2102, 2103	Ditch	1.30m x 0.94m x 0.24m	Light orange brown	Silty sand	Animal bone

2130	2129, 2130	Ditch	1.09m x 1.00m x 0.28m	Mid orange brown	Silty clay	Animal bone, 19th – 20th century pottery
2202	2201, 2202	Ditch	1.35m x 1.00m x 0.08m	Dark brown	Silty sand and loam	
2229	2228, 2229	Ditch	2.00m x 1.25m x 0.17m	Mid grey brown	Sandy silt	
2282	2281, 2282	Ditch	2.00m x 1.25m x 0.21m	Mid orange brown	Silty sand	Animal bone
2290	2289, 2290	Ditch	1.22m x 1.00m x 0.31m	Mid yellow brown	Sandy silt	Animal bone, horseshoe
2301	2299, 2300, 2301	Ditch	1.90m x 1.10m x 0.36m	Mid brown	Silty sand	
2315	2314, 2315, 2318	Ditch	1.90m x 1.20m x 0.41m	Mid grey blue (2318) Dark brown (2315)	Clay (2318) Silty sand (2315)	
2369	2368, 2369	Ditch	1.50m x 0.50m x 0.29m	Mid grey blue	Clay	

Table 62. Slots within post-medieval boundary ditch F2450.

Figure 109. South-east facing section of ditch slot F2229 (scale = 0.5m graduations).

4.5.8.15 An alignment of three ditches, F2232, F2455, and F2459, was identified within the bounds of boundary ditch F2450 which measured a total of 17.5m in length. These three ditches were oriented broadly east/west and formed a segmented boundary. Ditch F2455, the easternmost of the linear features, measured 6.62m in length and had a steep and irregular profile and rounded base. It had an average width of 0.64m and an average depth of 0.15m (Figure 110). The centremost ditch F2232 measured 3.2m in length with a moderately-sloping profile and rounded base. It had an average width of 0.85m and an average depth of 0.19m. The westernmost ditch, F2459, measured 2.87m in length with gently sloping sides and a flat base. It had an average width of 0.75m and an average depth of 0.11m (Figure 111).

4.5.8.16 These ditches contained a naturally accumulated deposits of silt and surrounding weathered-in sands and clays. The uppermost sandy silt (2232) within ditch F2232 contained a sherd of mid-19th century to early 20th century bone china flatware. This indicates a *terminus ante quem* for this boundary, which likely is of post-medieval date in origin prior to it becoming fully infilled by the mid 19th – early 20th centuries.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**
2173	2172, 2173	Ditch	1.00m x 0.70m x 0.13m	Mid orange brown	Sand	

2211	2210, 2211	Ditch	1.00m x 0.57m x 0.17m	Mid orange brown	Silty sand	

Table 63. Slots within post-medieval ditch F2455.

Figure 110. Oblique view of slot F2173 within post-medieval ditch F2455 (scale = 0.1m graduations).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2215	2214, 2215	Ditch	0.86m x 0.31m x 0.16m	Mid orange brown	Sandy silt	
2232	2231, 2232, 2233, 2234	Ditch	1.40m x 0.83m x 0.22m	Mid orange brown (2234) Mid blue grey (2233) Mid orange brown (2232)	Sandy silt (2234) Silty clay (2233) Sandy silt (2232)	19^{th} – 20^{th} century pottery

Table 64. Slots within post-medieval ditch F2232.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2146	2145, 2146	Ditch	2.87m x 0.69m x 0.10m	Mid red brown	Sandy clay	

2148	2147, 2148	Ditch	2.87m x 0.81m x 0.11m	Mid red brown	Sandy clay	

Table 65. Slots within post-medieval ditch F2459.

Figure 111. West-south-west facing section of slot F2146 within post-medieval ditch F2459 (scale = 0.01m graduations).

4.5.9. 19th to 20th century land boundaries

4.5.9.1 An alignment of intercutting boundary ditches was identified truncating the southern bounds of Wetland Basin 4. These ditches were orientated north-east/south-west with a maximum length of 36.68m. Ditches F2460 and F2461 had concave profiles and rounded bases with successive fills suggesting multiple phases of use (Figure 112). They were filled with mixtures of clay, silts and sands. No finds were recovered from the earlier ditch F2460 but the subsequent ditch F2461 contained fragments of animal bone within slots F2367 and F2375 and a sherd of mid-13th century to early 14th century iron-rich sandy ware was identified within slot F2307. Despite the dating of the pottery, ditches F2460 and F2461 truncated ditches F2450 and F2451, both of which contained post-medieval and 19th century material culture indicating they are late in the sequence and of early modern date, the medieval pottery no doubt being residual.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2309	2308, 2309	Ditch	1.44m x 0.49m x 0.37m	Mid brown grey	Sandy clay	

2311	2310, 2311	Ditch	1.10m x 1.00m x 0.35m	Dark grey brown	Silty sand	
2356	2354, 2355, 2356	Ditch	1.12m x 0.61m x 0.49m	Mid brown orange (2355) Mid brown red (2356)	Silty clay	
2371	2370, 2371	Ditch	1.00m x 0.35m x 0.19m	Light red brown	Sandy clay	
2377	2376, 2377	Ditch	1.00m x 0.88m x 0.10m	Mid grey brown	Sandy silt	

Table 66. Slots within post-medieval boundary ditch F2460.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**
2307	2306, 2307	Ditch	1.42m x 0.49m x	Mid brown grey	Sandy clay	13^{th} – 14^{th} century pottery
2352	2351, 2352	Ditch	1.00m x 0.75m x 0.18m	Mid brown grey	Silty clay	
2365	2364, 2365	Ditch	1.00m x 0.63m x 0.21m	Mid orange brown	Silty sand	
2367	2366, 2367	Ditch	1.35m x 1.00m x 0.38m	Mid red brown	Sandy clay	Animal bone
2375	2374, 2375	Ditch	1.64m x 1.00m x 0.24m	Mid grey brown	Sandy silt	Animal bone

Table 67. Slots within post-medieval boundary ditch F2461.

Figure 112. North-west facing section of ditch slots F2356 (boundary ditch F2460) and F2352 boundary ditch F2461) (scale = 0.5m graduations).

4.5.9.2 Another boundary ditch F2404 was identified projecting from the northern limit of excavation, which aligned north/south and measured approximately 26.82m in length. This ditch F2405 featured a shallow profile with concave sides and rounded base (Figure 113). It had an average width of 0.94m and an average depth of 0.26m. Ditch F2404 contained a succession of naturally accumulated silts which contained fragments of animal bone and sherds of 19th – 20th century glass.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
1986	1985, 1986, 1987, 1988	Boundary ditch	1.15m x 0.93m x 0.35m	Light grey brown (1986) Mid brown grey (1987) Mid orange brown (1988)	Sandy silt	19th – 20th century glass (1986, 1988)
1994	1993, 1994	Boundary ditch	1.50m x 0.90m x 0.30m	Mid orange brown	Sandy silt	Clay pipe stem
2109	2108, 2109	Boundary ditch	1.12m x 1.00m x 0.15m	Mid red brown	Silty sand	Animal bone

Table 68. Slots within post-medieval boundary ditch F2404.

Figure 113. View of ditch slots F2109 (post-medieval boundary ditch F2404) and pit F2111, looking south-east (scale = 0.5m graduations).

4.5.9.3 Another pair of hedgerows, F2402 and F2454, were identified truncating Wetland Basin 4. Hedgerow F2402 was located *c*. 5.46m and hedgerow F2454 situated *c*. 18.71m south of the northern limit of excavation. As with the previous hedgerows identified during these excavations, these hedgerows featured shallow irregular profiles and broadly flat, irregular bases. Hedgerow F2402 was oriented north-north-east/south-south-west and measured *c.* 6.5m in length, having an average width of 0.82m and average depth of 0.14m. Hedgerow F2454 was aligned north-west/south-east, measured *c.* 10.05m in length, and had an average width of 0.71m and average depth of 0.29m (Figure 114).

4.5.9.4 Both hedgerows contained naturally-accumulated sandy silts. The fill within slot F2270 contained sherds of a 19th century brown salt glazed stoneware bottle and a 19th century yellow glazed coarseware bowl. In addition, both hedgerows formed a substantial southeastern field entrance which measured 8.92m in width which further confirms that these hedgerows date to the late 19th century or early 20th century given the substantial access needed for agricultural machinery from that period onwards.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2142	2141, 2142	Hedgerow	1.00m x 0.83m x 0.09m	Mid grey brown	Sandy silt	
2160	2159, 2160	Hedgerow	1.00m x 0.90m x 0.21m	Mid grey brown	Sandy silt	

2182	2181, 2182	Hedgerow	1.00m x 0.73m x 0.13m	Mid grey brown	Sandy silt	

Table 69. Slots within modern hedgerow F2402.

Figure 114. View of slot F2160 in modern hedgerow F2402, looking west (scale = 0.1m graduations).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2262	2261, 2262	Hedgerow	1.40m x 0.92m x 0.59m	Mid brown grey	Silty sand	
2270	2269, 2270	Hedgerow	1.08m x 1.00m x 0.35m	Light grey brown	Sandy clay	19th century pottery

Table 70. Slots within post-medieval ditch F2454.

A further hedgerow F2403, orientated north-east/south-west, which measured *c.* 9.06m in length and featured a shallow irregular profile with a broadly flat, irregular base. It had an average width of 0.71m and at an average depth of 0.29m. As in other examples, hedgerow F2403 contained naturally-accumulated silts and the fill in slot F2258 contained sherds of 19th – 20th century glass, and based on which the hedgerow was attributed to the early to mid-20th century.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds

2256	2255, 2256	Hedgerow	1.04m x 0.61m	Dark grey brown	Sandy silt	
2258	2257, 2258	Hedgerow	2.00m x 0.83m x 0.14m	Mid orange brown	Sandy silt	19th – 20th century glass
2268	2267, 2268	Hedgerow	1.20m x 0.68m x 0.11m	Mid orange brown	Sandy silt	

Table 71. Slots within modern hedgerow F2403.

The remains of an animal burial, F2184, were identified within the vicinity of Wetland Basin 4 approximately 22.43m south of the northern limit of excavation. Subrectangular pit [2183] was orientated north-east/south-west, and its profile comprised a gradual break of slope leading to concave sides and an uneven base. The pit [2183] contained the remains of a horse which had then been backfilled with fine light brown silty sand (2184). This pit was interpreted as a post-medieval animal burial, likely 19th century in date, based on the quality of preservation of the remains and the character of the surrounding features.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2184	2183, 2184	Animal burial	0.86m x 0.33m x 0.18m	Light brown	Silty sand	Horse burial

Table 72. Animal burial F2184.

4.5.10. Undated archaeological features

Around Wetland Basin 4, eleven undated archaeological features were identified that consisted of three undated hedgerows, two undated ditches which appear to relate to agricultural boundaries and drainage, and six undated discrete pits. In addition to identifiable archaeological features, rooting and bioturbation was identified throughout and around the vicinity of Wetland Basin 4 which frequently truncated and/or obscured the observed archaeology.

Three hedgerows, F2406, F2448, and F2453, were identified in the vicinity of Wetland Basin 4 which did not have any firm stratigraphic relationships or contain any datable material culture. Based on their similarity to the other hedgerows, these have been tentatively attributed to the post-medieval period.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2144	2143, 2144	Hedgerow	1.00m x 0.56m x 0.14m	Dark brown	Silty sand	
2167	2166, 2167	Hedgerow	1.00m x 0.58m x 0.09m	Dark brown	Silty sand	
2171	2170, 2171	Hedgerow	1.20m x 0.80m x 0.20m	Dark red brown	Silty sand	Animal bone

Table 73. Slots within post-medieval hedgerow F2406.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2095	2094, 2095	Hedgerow	1.60m x 1.10m x 0.08m	Mid orange brown	Silty sand	
2180	2179, 2180	Hedgerow	1.30m x 0.95m x 0.08m	Mid brown grey	Silty sand	

Table 74. Slots within post-medieval hedgerow F2448.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2278	2277, 2278	Ditch	1.52m x 0.80m x 0.10m	Light grey brown	Silty sand	
2294	2293, 2294	Ditch	2.00m x 1.11m x 0.24m	Mid brown	Silty sand	

Table 75. Slots within post-medieval hedgerow F2453.

Similarly, two ditches, F2457 and F2462, lacked firm stratigraphic relationships or datable material culture, however, based on their spatial relationships, these have been tentatively attributed to at least the post-medieval period, and are possibly associated with 19th century agricultural boundaries.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
1990	1989, 1990	Ditch	1.35m x 0.92m x 0.19m	Mid red brown	Silty clay	Animal bone
1992	1991, 1992	Ditch	1.52m x 0.94m x 0.22m	Light yellow brown	Sandy silt	Animal bone, clay pipe stem

Table 76. Slots within post-medieval ditch F2457.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2241	2240, 2241	Ditch	0.90m x 0.42m x 0.14m	Light brown	Silty sand	
2252	2251, 2252	Ditch	1.10m x 0.72m x 0.14m	Mid grey brown	Silt	
2272	2271, 2272	Ditch	1.30m x 0.86m x 0.28m	Light brown	Silty sand	

Table 77. Slots within post-medieval ditch F2462.

Six undated pits were identified in the vicinity of Wetland Basin 4, the majority of these features had no other defining characteristics or finds whereby a confident interpretation could be determined. These are summarised in Table 78 below.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds
2132	2131, 2132	Ovoid pit	1.30m x 0.82m x 0.54m	Dark brown	Silty sand	Animal bone
2134	2133, 2134	Oval pit	1.40m x 1.10m x 0.17m	Mid brown	Sand	Animal bone
2138	2137, 2138	Treebole	1.58m x 1.42m x 0.12m	Dark red brown	Clayey silt	
2247	2246, 2247	Elongated pit	1.34m x 0.60m x 0.34m	Dark brown	Silty sand loam	
2284	2283, 2284	Circular pit	1.56m x 1.50m x 0.42m	Mid orange brown	Silty clay	
2286	2285, 2286	Circular pit	1.88m x 1.14m x 0.22m	Mid brown grey	Silty clay	

Table 78. Undated pits within the vicinity of Wetland Basin 4.

4.6. The Ridge and surrounding area

4.6.1. Introduction

4.6.1.1 The area between Wetland Basins 2, 3, 4, and the conveyor route, was designated under the convenient heading as 'the Ridge' given that this was at a higher elevation than the surrounding wetlands which lay to its west, north and east. The area of the Ridge was characterised by topsoil (1001) and subsoil (1002) overlying a natural substrate of Postglacial sand and gravel with occasional deposits of clay. The uppermost area of the Ridge was characterised by a gently sloping plateau area that reached a height of 46.4m aOD that descended gently 178m south-west to Wetland Basin 1 to a height of 41.2m aOD, whereas to the west the ridge descended abruptly to Wetland Basin 2 to a height of 41.87m aOD, whilst to the north-east the plateau again descended gently to Wetland Basin 4 which lay at a height of 41.77m aOD.

4.6.1.2 There were 24 datable archaeological features identified on the Ridge which encompassed a wide range and chronology of archaeological activity dating from the Late Neolithic period to Early Bronze Age, through to the late Iron Age and Romano-British periods, as well as post-medieval agricultural activity dating from the 17th and 18th centuries (Figure 115 and Figure 116).

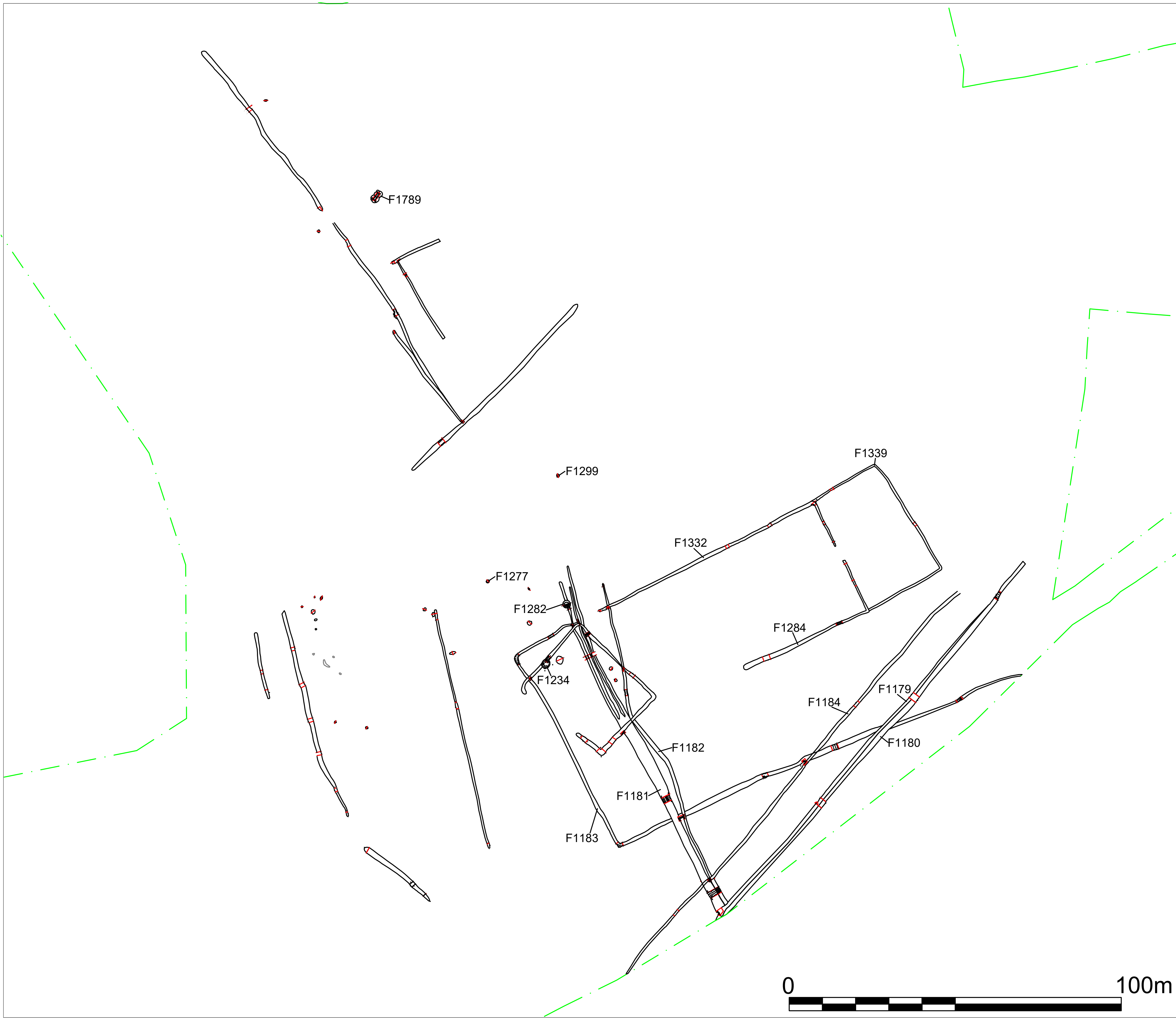

Figure 115. Overview of archaeological features associated with the Ridge.

Limit of Excavation

Section Line

N

Site name: Killerby Quarry
Date: 2021
Drawn by: DGC

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Portland Square
Bakewell
Derbyshire
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Figure 116. Phase plan of archaeological features associated with the Ridge.

Limit of Excavation

Phases

- Prehistoric
- Early Bronze Age
- Possible Late Bronze Age to Early Iron Age
- Possible Iron Age
- Late Iron Age enclosure 2A
- Late Iron Age enclosure 2B
- Romano-British
- Early medieval
- Medieval
- Post-medieval
- Undated

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4.6.2. Prehistoric pits

4.6.2.1 A single pit F1299 was identified near the centre of the Ridge, 160.88m to the north and 120.98m to the east of the limit of excavation, which measured 0.95m by 0.80m in plan with a depth of 0.32m below the start of the archaeological horizon which here lay at 46.35m aOD (Figure 117). Characterised by concave sides and u-shaped base, pit F1299 was filled with a fine dark brown silty sand (1299) containing small to mid-sized stones, as well as charcoal fragments, and a possible Mesolithic flint flake.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1299	1298, 1299	Circular waste pit	0.95m x 0.80m x 0.32m	Dark brown	Silty sand	Possible Mesolithic flint flake Charcoal	

Table 79. Prehistoric pit (F1299).

Figure 117. West facing section of pit F1299 (scale = 0.1m graduations).

4.6.2.2 A sequence of nine intercutting pits F1789 was identified on the northern Ridge, 273.43m to the north and 120.78m to the east of the limit of excavation. The overall group (referred to as F1789) measured 3.90m (north-east/south-west) by 2.12m (north-west/south-east) in plan with a maximum depth 0.86m below the start of the archaeological horizon (at 45.86m aOD). The details of individual pits are summarised in Table 80 and shown in Figure 118, Figure 119 and Figure 120.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1438	1437, 1438,	Subcircular prehistoric waste pit	1.32m x 1.32m x 0.26m	Mid orange brown	Sandy silt	Beaker sherds, three hammerstones, lithic tools	
1440	1439, 1440	Subcircular prehistoric waste pit	0.54m x 0.54m x 0.19m	Mid grey-brown	Sandy silt		
1476	1475, 1476	Subcircular prehistoric waste pit	0.83m x 0.83m x 0.41m	Mid grey-brown	Sandy silt		
1478	1478, 1486, 1487	Subcircular prehistoric pit	1.50m x 1.50m 0.45m	Mid brown-grey (1487) Mid grey-brown (1478)	Silty sand (1487) Sandy silt (1478)		
1479	1477, 1479	Subcircular prehistoric waste pit	1.72m x 1.72m x 0.45m	Mid grey-brown	Silty sand	Possible core stone tool	
1481	1480, 1481	Prehistoric pit	1.16m x 1.16m x 0.56m	Mid grey-brown	Silty sand		
1483	1482, 1483	Subcircular prehistoric pit	0.72m x 0.72m x 0.20m	Mid brown	Sandy silt		
1485	1484, 1485	Subcircular prehistoric pit	0.79m x 0.79m x 0.45m	Mid brown	Sandy silt		
1633	1632, 1633	Subcircular prehistoric pit	0.73m x 0.73m x 0.27m	Mid brown	Sandy silt		

Table 80. Intercutting late prehistoric pits (F1789) on the Ridge.

Figure 118. North-west facing running section through pit cluster F1789 (scale = 0.5m graduations).

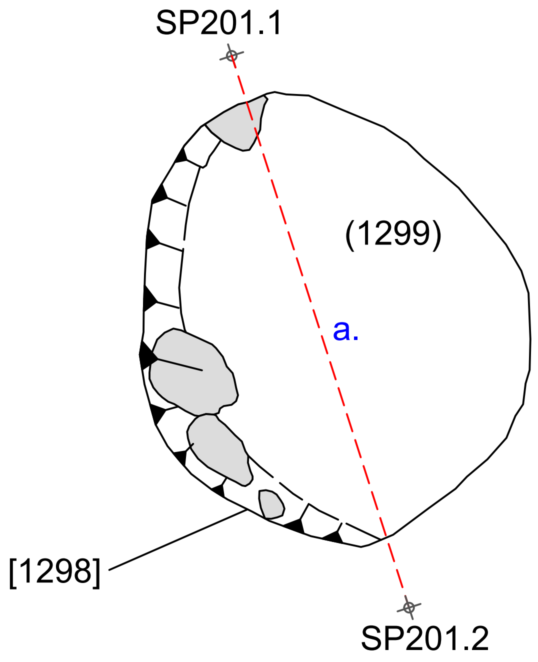
Figure 119. South-east facing section of pits F1438 and F1440 (scale = 0.5m graduations).

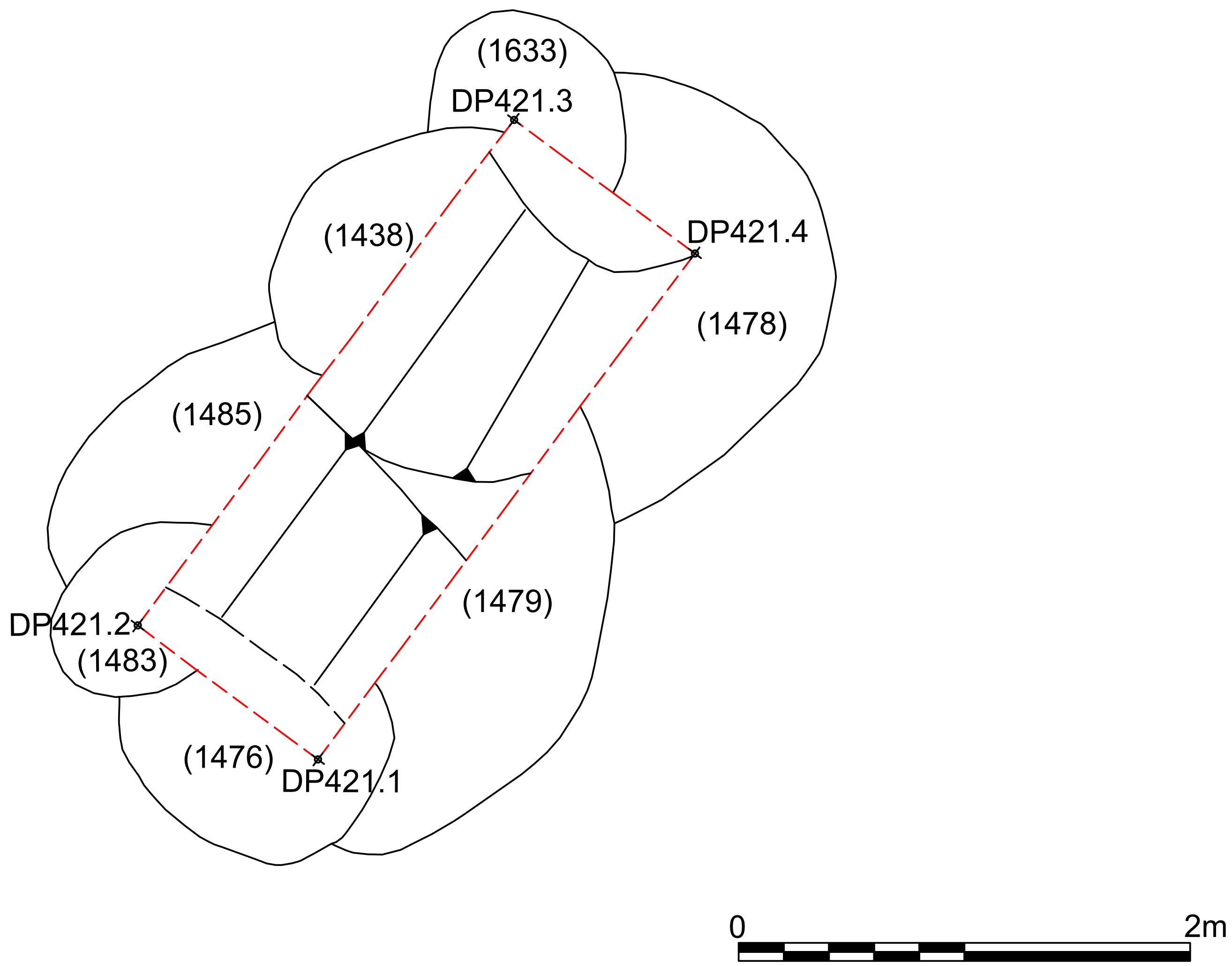
Figure 120. Plans and sections of prehistoric pit F1234 and pit cluster F1789.

Limit of Excavation

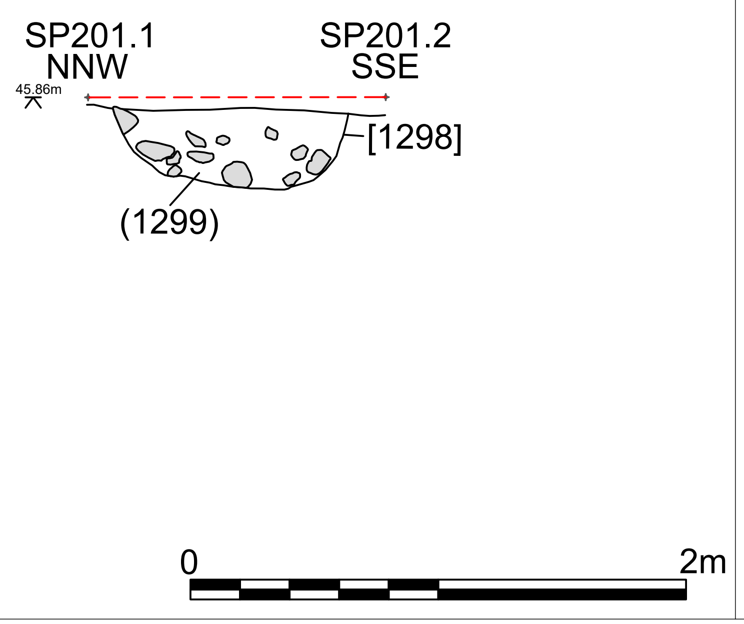
Section Line

168.85m Height above Ordnance Datum (aOD)

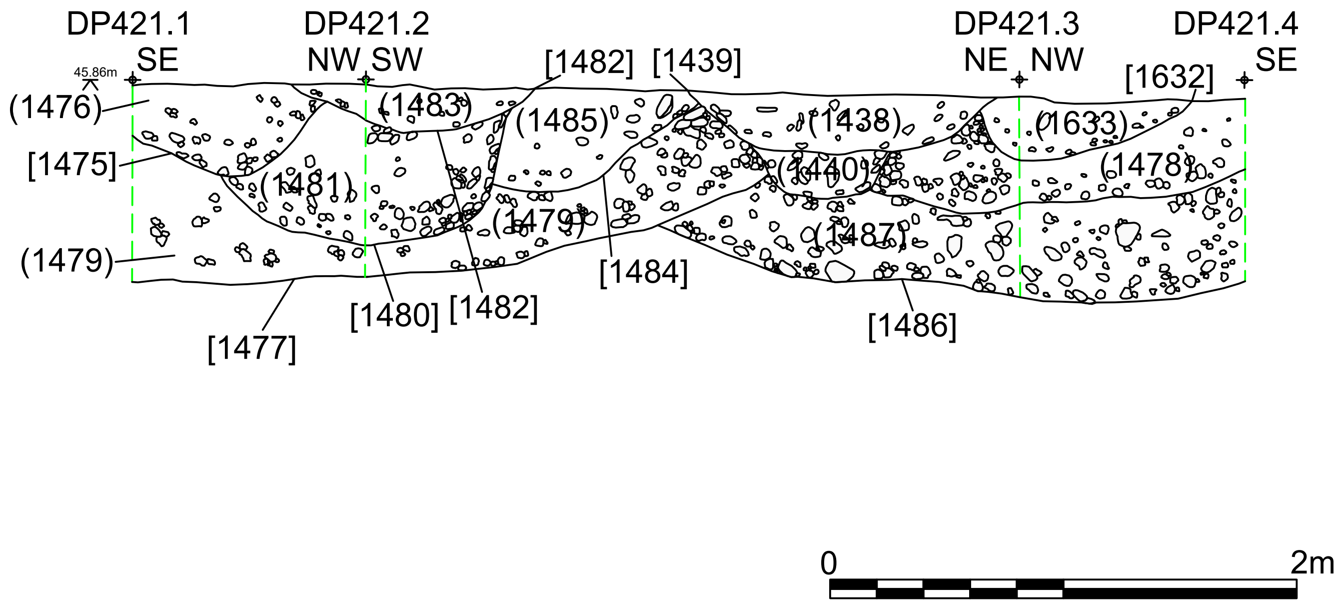




a. East-south-east facing section of pit F1299.



Sections of pit cluster F1789.



N

Site name: Site name
Date: Date
Drawn by: Initials

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4.6.3. Possible late Bronze Age to early Iron Age enclosure 1

4.6.3.1 Three successive phases of enclosure tentatively dated from the Iron Age to the Romano-British period were identified centred at 105.75m to the north and 106.11m to the east of the limit of excavation. This sequence consisted of an initial Ridge Enclosure 1 (F1183) which appears to have been abandoned then truncated by a series of drainage ditches. Later a subsequent phase of ditches F1339 and F1284 comprised Ridge Enclosure 2, located along the same alignment to the east. Ridge Enclosure 2 was extended and enclosed to the east and a former entrance to the main enclosure provided access to this annex. A third phase of enclosure (F1285) represents the final phase of activity and representa a later development as this series of boundary ditches has a different alignment to the previous phase.

4.6.3.2 Ridge Enclosure 1 (F1183) was broadly aligned east-north-east/west-south-west, and measured *c.*132.38m by *c.*66.45m, encompassing an internal area of *c*. 8976m^2 (Figure 121 and Figure 122). The southern terminus of the enclosure boundary was situated outside of the limit of excavation but the north and south return for the western boundary ditch were identified. The remains of a possible entrance, or terminus, were identified in the northern boundary, but this area was severely truncated by palaeochannel F1182, and ditches F1281, F1296, and F1269. The depositional sequence within the ditches excavated in Ridge Enclosure 1 comprised a primary fill of mixed silty sand and gravel deposits (1109; 1125; 1131) likely caused by slumping, which were then sealed by a secondary fill of light to mid brown silty sands (1110; 1125; 1132) that lacked inclusions. This latter fill characterised the majority of the deposits within the remainder of the excavated slots within these boundary ditches (Figure 123).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1110	1108, 1109, 1110	Enclosure ditch	2.00m x 1.34m x 0.35m	Mid brown-grey (1109) Light brown (1110)	Silty sand		
1125	1123, 1124, 1125	Enclosure ditch	2.00m x 0.96m x 0.22m	Dark grey-brown (1124) Light red-brown (1125)	Sand		
1129	1128, 1129	Enclosure ditch	1.00m x 1.14m x 0.25m	Dark grey brown	Silty sand		
1132	1130, 1131, 1132,	Enclosure ditch	1.00m x 1.66m x 0.48m	Mid red-brown (1131) Mid brown (1132)	Silty sand		
1178	1151, 1152, 1178	Enclosure ditch	1.00m x 0.80m x 0.24m	Mid brown	Silty sand and gravel (1152) Silty sand (1178)		
1202	1201, 1202	Enclosure ditch	3.00m x 0.84m x 0.34m	Mid grey-brown	Silty sand		
1216	1215, 1216	Enclosure ditch	2.00m x 0.67m x 0.12m	Light grey brown	Silty sand		
1244	1243, 1244	Enclosure ditch	3.00m x 0.77m x 0.27m	Mid grey-brown	Silty sand		
1265	1264, 1265	Enclosure ditch	1.00m x 0.86m x 0.12m	Mid grey-brown	Silty sand		
1279	1278, 1279	Possible ditch terminus	0.45m x 0.23m x 0.15m	Mid grey-brown	Silty sand		

Table 81. Ridge Enclosure 1 (F1183).

Figure 121. North-west facing section of ditch slot F1110 within Ridge Enclosure 1 (F1183) (scale = 0.5m graduations).

Figure 122. South-west facing section of ditch slot F1244 within Ridge Enclosure 1 (F1183) (scale = 0.1m graduations).

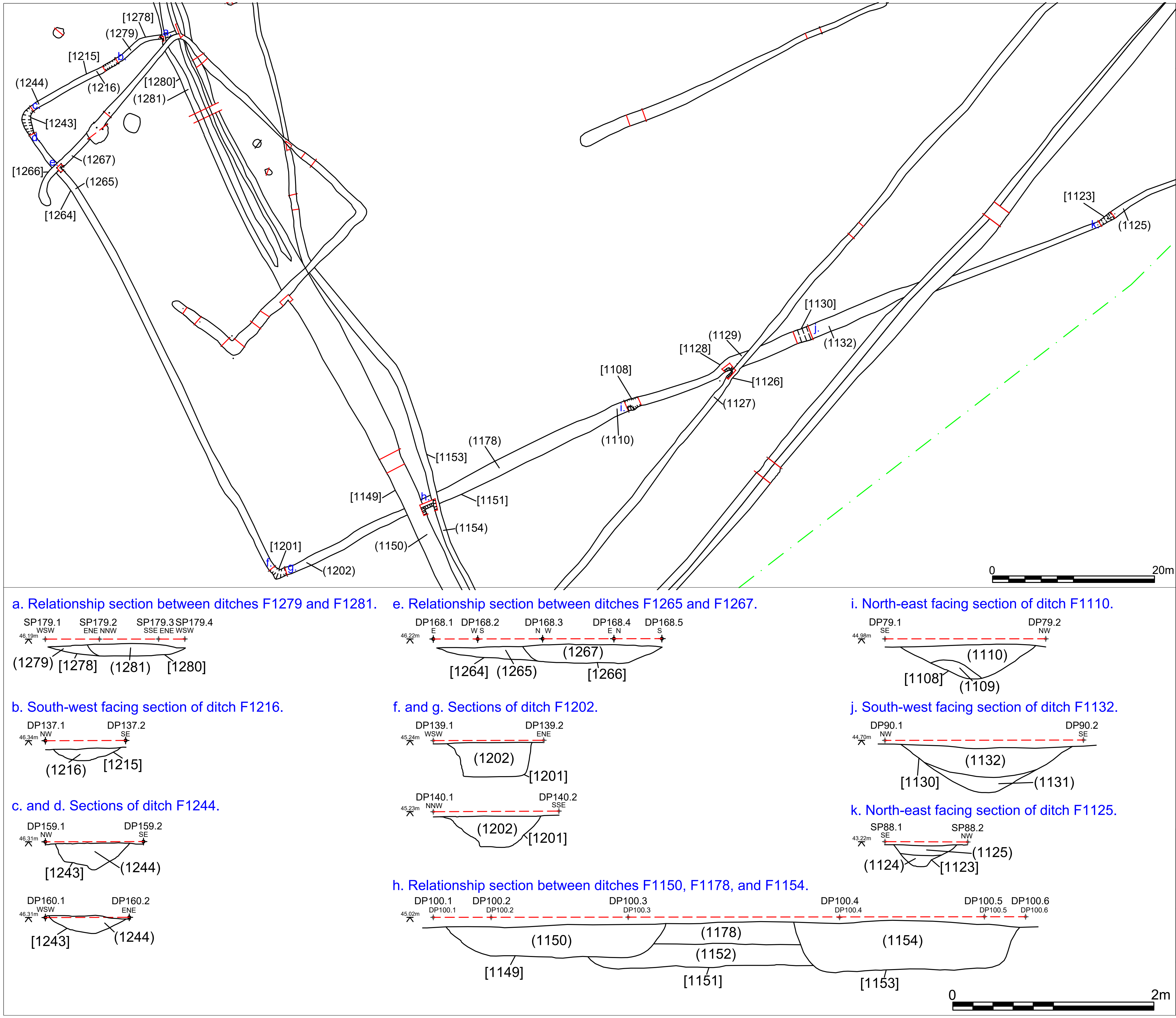

Figure 123. Plan and sections of slots within late Bronze Age to late Iron Age enclosure 1.

Limit of Excavation

Section Line

168.85m Height above Ordnance Datum (aOD)

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4.6.4. Possible Iron Age boundary ditch

4.6.4.1 Four ditches, aligned broadly north-west/south-east, were observed truncating Ridge Enclosure 1 (F1183). Three of these: F1269, F1281, and F1297 converged into a single substantial ditch F1181 at an average of 48.85m from their termini with a fourth broadly parallel, whilst F1182 meandered alongside it to the east. This substantial ditch F1811 also demonstrated evidence of re-excavation (F1114/F1116) following sedimentation (Figure 124).

4.6.4.2 The three smaller ditches (F1269, F1281, and F1297 summarised in Table 82) that converged into ditch F1181 all featured rounded profiles with concave sides and rounded bases. They contained silty sand fills with rounded gravel and river cobbles.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1269	1241, 1242, 1268, 1269	Boundary ditch	0.68m x 0.17m	Mid brown	Silty sand containing rounded gravel and river cobbles		
1281	1237, 1238, 1272, 1273, 1280, 1281,	Boundary ditch	0.75m x 0.35m	Mid brown	Silty sand containing rounded gravel and river cobbles		
1297	1239, 1240, 1296, 1297	Boundary ditch	0.45m x 0.25m	Mid brown	Silty sand containing rounded gravel and river cobbles		

Table 82. Drainage ditches which converged into ditch F1181.

Figure 124. South-south-east facing section of ditch slot F1269 and ditch slot F1271 of Ridge Enclosure 3 (F1285) (scale = 0.5m graduations).

4.6.4.3 Channel F1811, which aligned north-west/south east, continued for a length of 67.04m into the southern limit of the excavation area. This ditch featured a profile with gently-sloping concave sides leading to a broad flat base (Figure 125). It contained a dark brown silty-sand with well-sorted rounded gravel and river cobble inclusions. This fill was truncated by the re-excavated ditch F1146 that followed the alignment and profile of the previous ditch F1181 indicating a relatively short period of accumulation prior to the recut. This in turn contained an accumulated mid brown silty sand which also contained rounded gravels and river cobbles. Fragments of animal bone, identified as either sheep or goat, were found in slot F1145 which showed evidence of animal gnawing as well as marrow extraction (see specialist report below).

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1181	1111, 1112, 1138, 1143, 1144, 1148, 1149, 1150, 1157, 1158, 1288, 1289	Boundary ditch	67.04m x 0.79m x 0.35m	Dark brown	Silty sand containing rounded gravel and river cobbles		
1146	1113, 1114 1145, 1146	Boundary ditch re-excavation	67.04m x 2.36m x 0.47m	Mid brown	Silty sand containing rounded gravel and river cobbles	Animal bone	

Table 83. Ditch F1181 and recut.

Figure 125. South-east facing section of ditch slots F1112 (ditch F1181), recut F1114, and ditch slot F1116 (ditch F1182) (scale = 0.5m graduations).

4.6.4.4 Ditch F1182 was located east of ditch F1181, broadly aligned north-east/south-west, and measured *c.*103.38m in length. This was a meandering ditch with an average width of 0.75m and an average depth of 0.32m below the archaeological horizon. It had gently curving concave sides and a flat base (Figure 126 and Figure 127). This ditch fill contained silty sand with substantial amounts of subrounded gravel and river cobbles. Based upon its overall morphology and the composition of the fill, this might represent a drainage channel running across the sand and gravel surface, rather than an associated ditch feature per se, following the abandonment of Ridge Enclosure 1 (F1183).

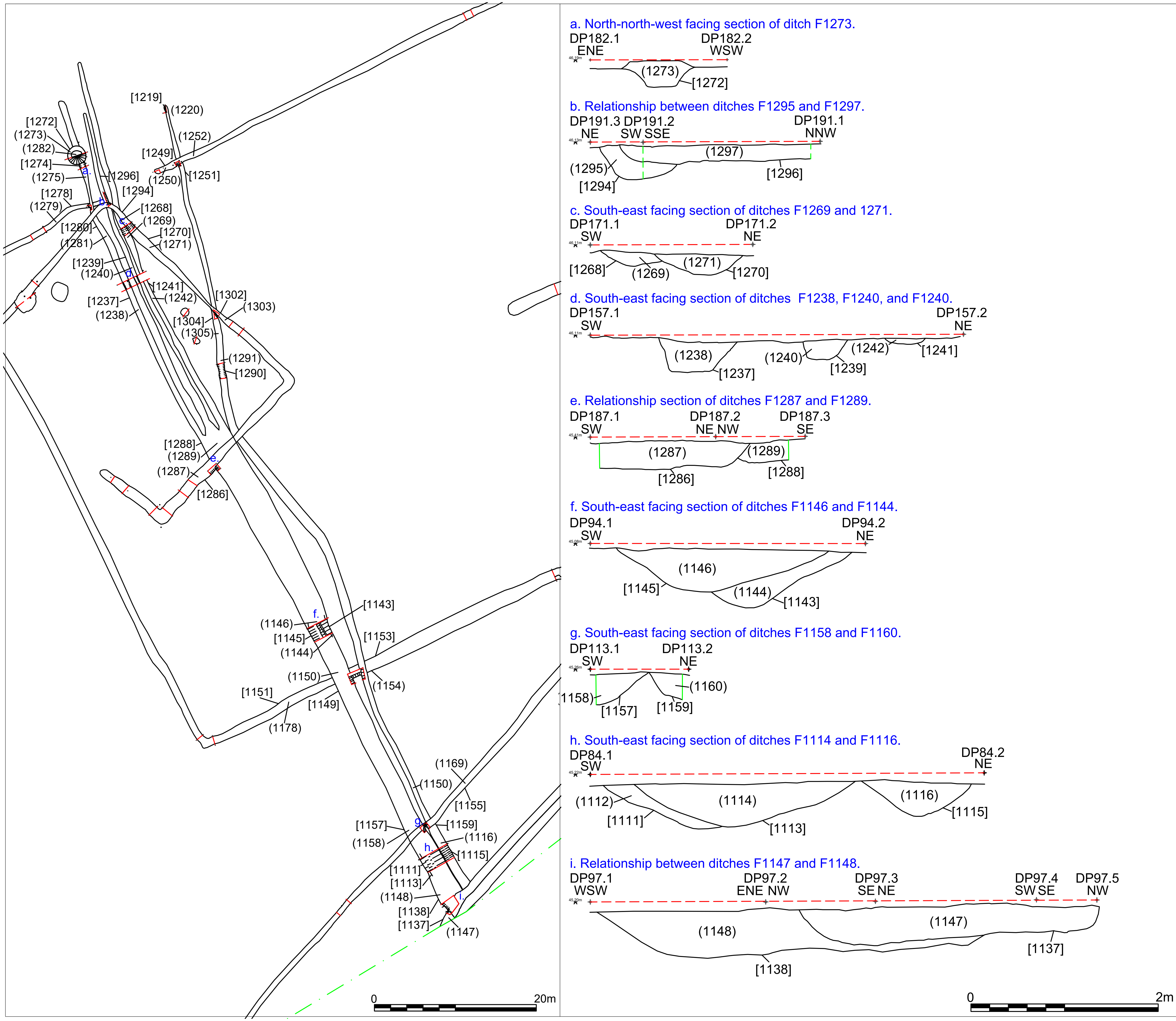
4.6.4.5 These ditches and the possible drainage channel represent a significant change in the division of the landscape from what had gone before, with the phase of previous enclosure abandoned. This transition likely dates to sometime in the Iron Age but was relatively short-lived with the older form of agricultural enclosure reasserted during the late Iron Age.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1116	1115, 1116,	Boundary ditch	1.96m x 1.16m x 0.38m	Mid red-brown	Silty sand containing rounded gravel and river cobbles		
1154	1153, 1154	Boundary ditch	1.00m x 0.84m x 0.52m	Mid brown	Silty sand containing subrounded gravel		
1160	1159, 1160,	Boundary ditch	1.00m x 0.80m x 0.35m	Mid brown	Silty sand containing subrounded gravel		
1220	1219, 1220,	Boundary ditch	0.85m x 0.20m x 0.17m	Mid yellow-brown	Silty clay		
1252	1251, 1252,	Boundary ditch	1.00m x 0.60m x 0.18m	Mid brown	Silty sand containing subrounded gravel		
1291	1290, 1291,	Boundary ditch	1.88m x 0.79m x 0.41m	Mid brown	Silty sand containing subrounded gravel		
1305	1304, 1305,	Boundary ditch	1.20m x 0.83m x 0.24m	Dark grey brown	Silty sand containing subrounded gravel		

Table 84. Ditch slots within ditch F1182.

Figure 126. South-east facing section of ditch slot F1291 of ditch F1182 (scale = 0.1m graduations).

Figure 127. Plans and sections of possible Iron Age boundary ditch F1181 and drainage ditch F1182.



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4.6.5. Late Iron Age enclosure 2

4.6.5.1 Ridge Enclosure 2 appears to have been divided into two possible phases of construction (Figure 131). An initial phase, Ridge Enclosure 2A (F1339), appears to have been truncated on the eastern side by a later phase of remodelling/consolidation: Ridge Enclosure 2B (F1284). The latter phase comprised two boundary ditches that form the northern (F1332) and southern portions of that phase of the enclosure as well as an entrance located at the eastern end.

4.6.5.2 The observable extent of Ridge Enclosure 2A (F1339) measured *c.* 35.76m, north-west to south-east, and 24.71m, north-east to south-west, with an internal area of c. 884m^2. Ridge Enclosure 2A showed a similar sequence of infilling as Ridge Enclosure 1 with deposits of mid red-brown silty sand (1313) and mid yellow-brown mottled silty sand (1338) indicative of abandonment and gradual infilling via weathering as opposed to necessarily deliberate backfilling (Figure 128).

4.6.5.3 Based upon the spatial relationship between Ridge Enclosure 1 (F1183) and Enclosure 2A (F1339), and the alignment of their northern boundaries, it is thought that they might at one time have been part of the same, larger, enclosure (Figure 115). The subsequent recut of Enclosure 2B, and natural weathering processes, are thought to have obscured the relationship between the two. Furthermore, north/south aligned ditches F1181 and F1182 may also have masked any potential relationship between the two enclosures. With this in mind, the possible maximum length (north-east/south-west aligned) of Ridge Enclosure 2A (F1339) measured *c.* 95.17m with a width of 35.76m (north-west to south-east) and a total internal area of *c*. 3370m^2.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1313	1312, 1313	Enclosure ditch	1.00m x 0.47m x 0.31m	Mid red-brown	Silty sand		
1338	1337, 1338	Enclosure ditch	1.00m x 0.81m x 0.25m	Mid yellow-brown	Mottled silty sand		

Table 85. Ridge Enclosure 2A (F1339).

Figure 128. North-north-west facing section of ditch slot F1313 of Ridge Enclosure 2A (F1339) (scale = 0.5m graduations).

4.6.5.4 As noted above, Ridge Enclosure 2B (F1284) consisted of two boundary ditches which formed the northern and southern portions of that phase of the enclosure. These were separated by an entrance in the east which measured *c.* 4.93m wide between the termini (Figure 129). Overall, Ridge Enclosure 2B measured 72.93m in length (east-north-east/west-south-west aligned), 36.83m wide (north-north-west/south-south-east aligned), enclosing an approximate internal area of 2686m^2.

4.6.5.5 The northern ditch (F1332) which formed part of Ridge Enclosure 2B (F1284) measured 72.93m in length with a return at its eastern end where it continued broadly south-east for 14.55m. The profile of this ditch was notably v-shaped in some portions, notably F1322, and had an average depth of 0.3m below the start of the archaeological horizon. The sandy silt fill appears to have accumulated through natural siltation rather than deliberate backfilling, although this is not certain.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1250	1249, 1250	Enclosure ditch	1.00m x 0.82m x 0.20m	Dark brown	Sandy silt		
1292	1292, 1293	Enclosure ditch terminus	0.58m x 0.62m 0.29m	Light grey brown	Sandy silt		

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1322	1321, 1322	Enclosure ditch	1.00m x 0.60m x 0.26m	Mid brown grey	Sand		
1324	1323, 1324	Enclosure ditch	1.00m x 0.91m x 0.42m	Dark red brown	Sandy silt		
1326	1325, 1326	Enclosure ditch	1.00m x 0.90m x 0.30m	Dark red brown	Silty sand		
1329	1328, 1329	Enclosure ditch terminus	1.20m x 0.36m x 0.14m	Mid red-brown	Silty sand		
1334	1333, 1334	Enclosure ditch	1.10m x 0.74m x 0.56m	Mid grey brown	Sand		

Table 86. Northern ditch (F1332) comprising Ridge Enclosure 2B (F1284).

Figure 129. North-west facing section of northern ditch terminus F1329 of northern ditch (F1332) (scale = 0.1m graduations).

4.6.5.6 The southern ditch of Ridge Enclosure 2B (F1284) measured 41.16m in length with a return at its eastern end where it continued north-west for 16.83m. The profile of this ditch was also notably v-shaped in some portions, notably F1322, with an average depth of 0.3m below the archaeological horizon (Figure 130). As in the earlier phases, the deposition appears to have been the result of natural accumulation and siltation with some of the slumping noted in the Ridge Enclosure 1.

4.6.5.7 A sample of charred bird cherry seed (*prunus avium*), recovered from slot F1320 of Ridge Enclosure 2B was radiocarbon dated to 47 cal BC - cal AD 57 (95.4% probability) (SUERC-94943 (GU56018)), with a potentially narrower date range of 39 cal BC - cal AD 25 (68.2% probability). This would indicate that this remodelling and reduction of the enclosure during this phase would likely date to the late Iron Age immediately prior to the Roman invasion of the region. No finds were identified in the other phases of enclosure and despite the absence of datable material, based upon the overall form and appearance in plan, this overall enclosure sequence is dated to the very latest phase of the Brigantian Iron Age.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1307	1306, 1307	Enclosure ditch	2.00m x 0.61 x 0.27m	Mid red-brown	Silty sand		
1311	1310, 1311	Enclosure ditch	2.00m x 0.62m x 0.25m	Mid red-brown	Silty sand		
1318	1300, 1301, 1318	Enclosure ditch	2.00m x 097m x 0.39m	Mid grey brown	Silty sand and gravel (1301) Silty sand (1318)		
1320	1319, 1320	Enclosure ditch	2.00m x 0.77m x 0.30m	Mid yellow-brown	Silty sand		47 cal BC - cal AD 57

Table 87. Southern ditches comprising Ridge Enclosure 2B (F1284).

Figure 130. North-north-west facing section of ditch slot F1310 of southern ditches comprising Ridge Enclosure 2B (F1284) (scale = 0.1m graduations).

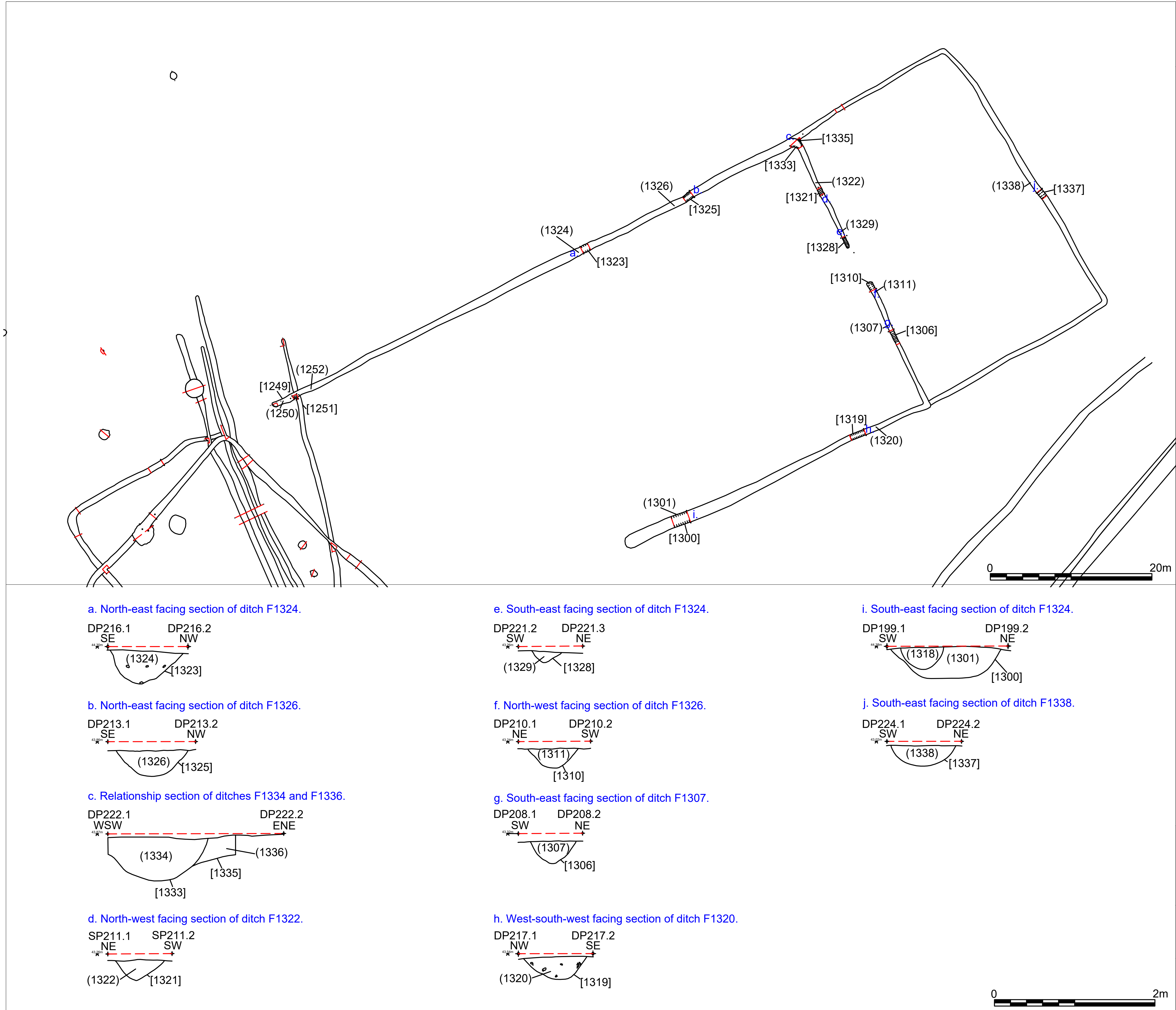

Figure 131. Plan and sections of slots within late Iron Age enclosure 2.

Limit of Excavation

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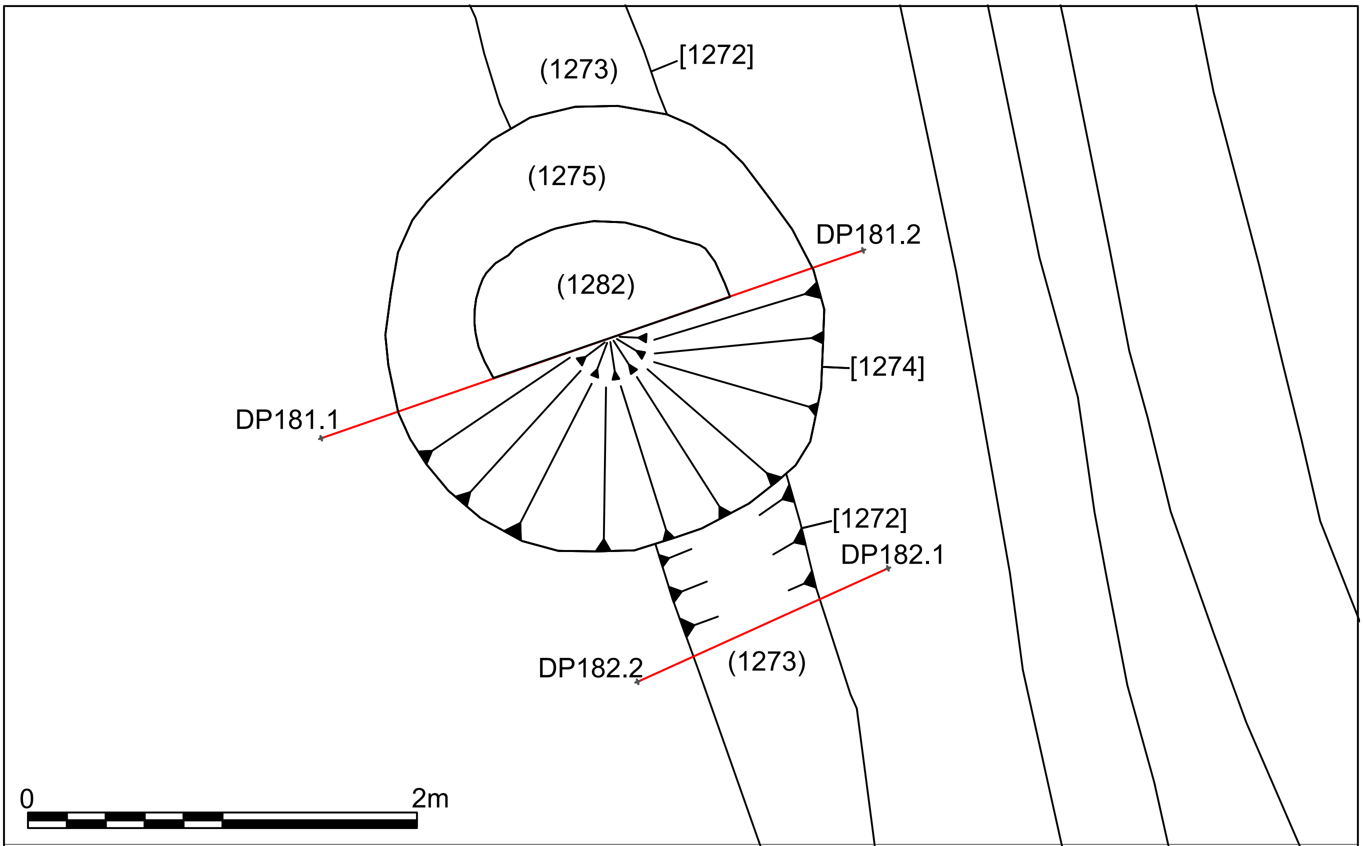
4.6.6. Possible Iron Age pit

4.6.6.1 Outside of the enclosures on the Ridge, *c.* 5.04m north of Ridge Enclosure 1, a circular pit F1282 which truncated drainage ditch F1281 was located (Figure 132 and Figure 133). It measured 2.2m in diameter and had a depth of 0.96m below the start of the archaeological horizon which here lay at 46.25m aOD. Two fills were contained within the pit, the lowermost comprised a mid black-brown silty sand (1275) that contained inclusions of gravel and river cobbles, and an uppermost fill of mid yellow-brown silty sand (1282). No finds were identified from either fill which precludes any confident dating aside from its stratigraphic relationship to the previous phase of enclosure described above.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1282	1274, 1275, 1282	Circular pit	2.20m x 2.20m x 0.96m	Mid black brown (1275) Mid yellow brown (1282)	Silty sand		

Table 88. Possible Iron Age pit F1282.

Figure 132. South-east facing section of pit F1282 (scale = 0.5m graduations).



South-south-east facing section of pit F1282

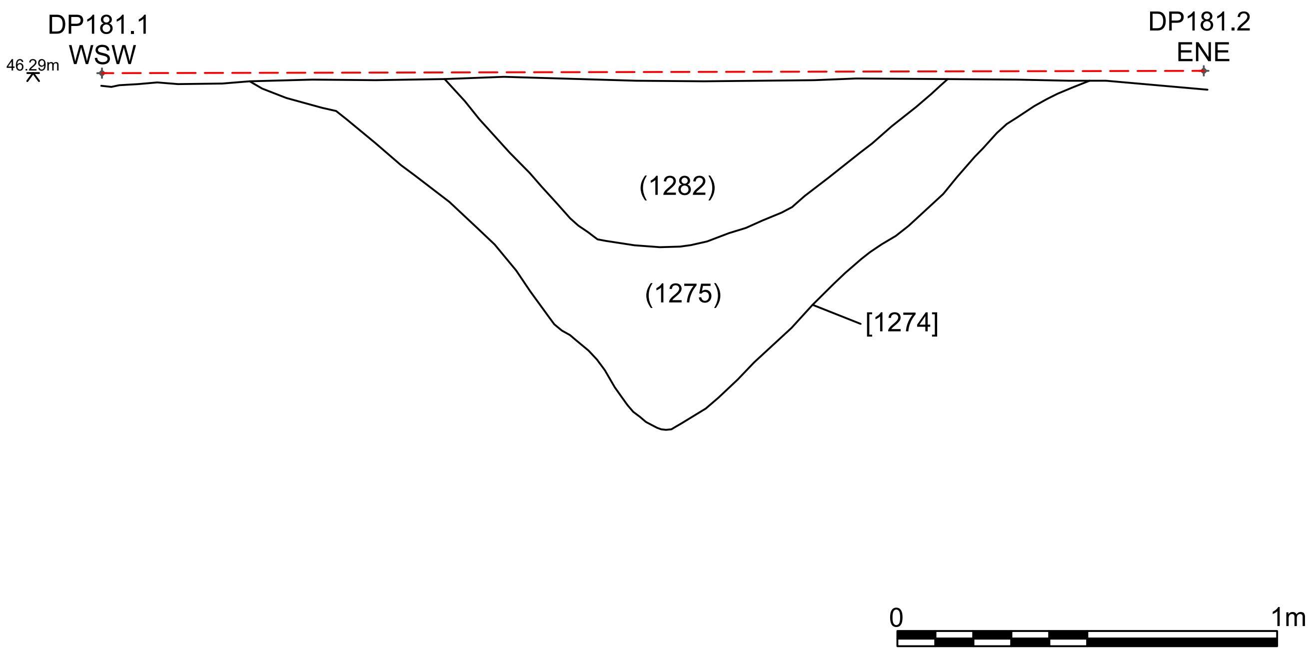


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Figure 133. Plan and section of possible Iron Age pit F1282.

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4.6.7. Early medieval pit

4.6.7.1 A substantial pit F1234 was identified near the centre of the Ridge, 105.75m to the north and 106.11m to the east of the limit of excavation. This pit (F1234) measured 2.66m by 2.48m in plan and was0.43m deep below the start of the archaeological horizon which here lay at 46.35m aOD (Figure 134 and Figure 135). Two fills were contained within the pit, the lowermost comprised a dark black-brown silty clay (1230) that contained significant quantities of burnt wood and pink-orange heat affected clay. This silty clay (1230) contained significant charcoal and burnt wood. A fragment of shortlived hazel roundwood charcoal was radiocarbon to cal AD 892 – 1020 (95.4% probability) (SUERC-98268 (GU57677)), with a possible closer date range of cal AD 898 – 994 (68.2% probability). Palaeoenvironmental sampling and analysis identified remains of pea (*pisum* sativum) which was sampled for radiocarbon dating. This sample produced a radiocarbon date of cal AD 1640 – 1939 (95.4% probability) (SUERC-94943 (GU56018)), with a tighter date range of cal AD 1649 – 1794 (68.2% probability). Based upon the existing date derived from the in situ charcoal and the uneven profile of the pit, as well as the rooting observed during excavation, it is likely that the pea is intrusive, representative of later disturbance, and can safely be discounted.

4.6.7.2 At a depth of 0.30m below the archaeological horizon, this dark silty clay (1230) was overlaid by light brown grey sand (1234) that contained very frequent, well-sorted inclusions of small subrounded stones, and was interpreted as naturally accumulated material (Figure 136). The profile of the pit [1229] was characterised by a sharp break of slope at the top of the pit with steeply sloping sides on the eastern edge and gently sloping sides at the west that lead to an irregular and uneven base. This pit was truncated by the medieval enclosure (F1285). No other finds were identified in association with this pit which was interpreted as the remains of a hearth or possibly a waste pit that was subsequently abandoned.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1234	1229, 1230, 1234	Subcircular prehistoric hearth	2.66m x 2.48m x 0.30m	Dark black brown mottled by orange-pink (1230) Light brown grey (1234)	Silty clay (1230) Sand (1234)		cal AD 892 – 1020 cal AD 1640 – 1939

Table 89. Early medieval pit (F1234).

Figure 134. Mid-excavation view of pit F1234. (scale = 0.5m graduations).

Figure 135. View of prehistoric pit F1234, looking north-west following excavation (scale = 0.5 graduations).

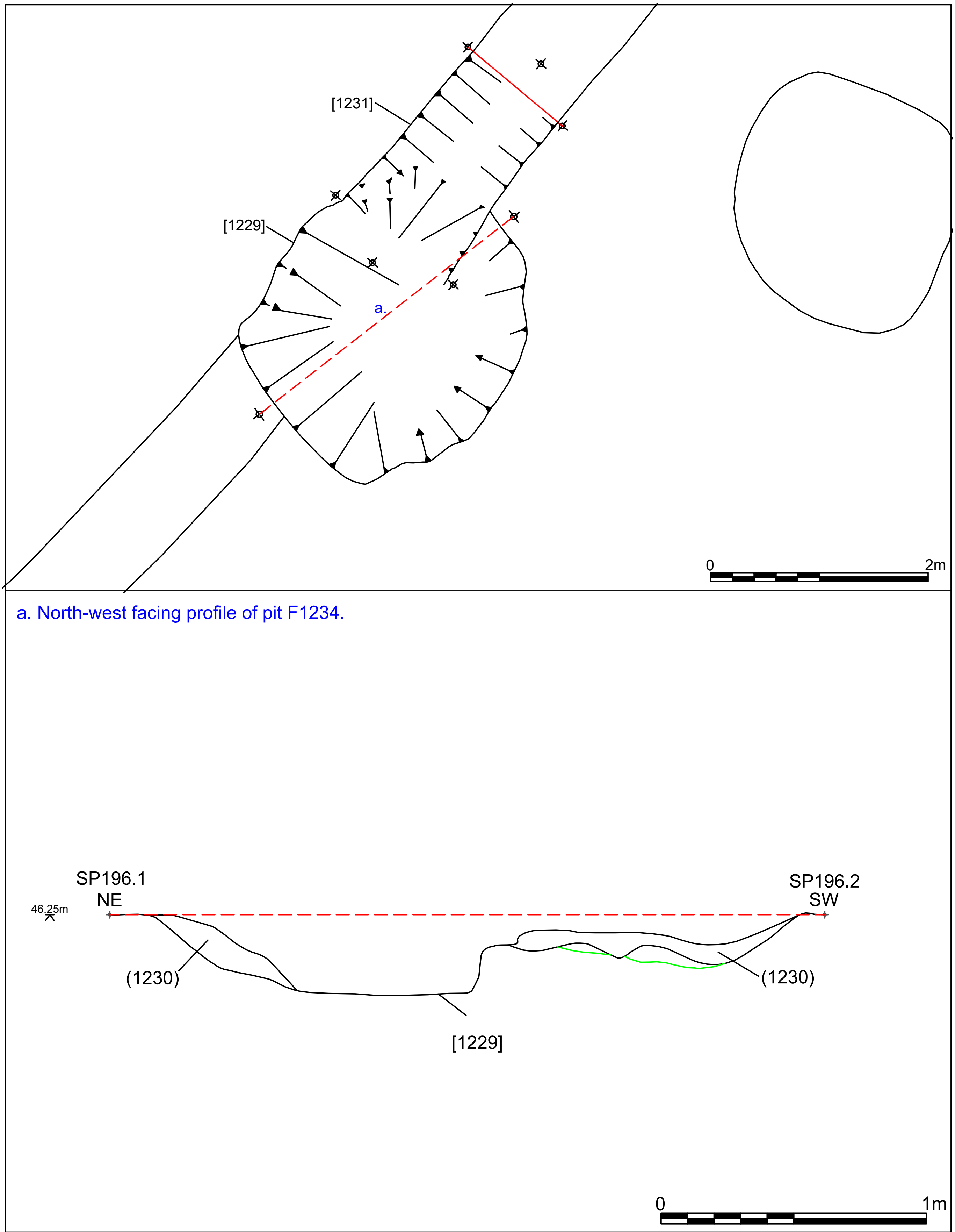

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Figure 136. Plan and section of early medieval pit F1234.

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4.6.8. Possible medieval enclosure

4.6.8.1 A later enclosure on on the Ridge, Enclosure F1285, was more modest in size compared to the previous enclosures. It measured *c.* 32.21m in length, *c.*23.30m wide, and featured an internal area of *c*. 702m^2, and differed in alignment from the previous Late Iron Age enclosures being orientated north-west/south-east (Figure 137 and Figure 138). A broad entrance, measuring *c.* 19.34m terminus to terminus, was located on the western side of the enclosure boundary. This boundary truncated the previous phases of enclosure described above notably Ridge Enclosure 1 (F1183), ditches F1237, F1239, F1241, and the early medieval pit F1230, and encompassed pits F1228, F1246, and F1248.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1186	1185, 1186	Enclosure ditch	2.00m x 1.32m x 0.18m	Light grey-brown	Silty sand		
1212	1211, 1212	Enclosure ditch	1.80m x 1.30m x 0.40m	Dark brown	Silty sand		
1214	1213, 1214	Enclosure ditch	1.80m x 0.90m x 0.25m	Mid grey-brown	Silty sand		
1232	1231, 1232	Enclosure ditch	3.00m x 1.38m z 0.22m	Light grey-brown	Silty sand		
1263	1261, 1262, 1263	Enclosure ditch	1.00m x 1.68m x 0.21m	Light grey-brown (1262) Dark grey brown (1263)	Sandy silt and gravel (1262) Silty sand (1263)		
1267	1266, 1267	Enclosure ditch	1.00m x 0.86m x 0.18m	Dark brown	Sandy silt		
1271	1270, 1271	Enclosure ditch	0.94m x 0.94m x 0.22m	Light red-brown	Silty sand		
1287	1286, 1286	Enclosure ditch	1.24m x 0.37m x 0.28m	Mid red-brown	Silty sand		
1303	1302, 1303	Enclosure ditch	1.10m x 0.77m 0.20m	Dark grey brown	Sandy silt		

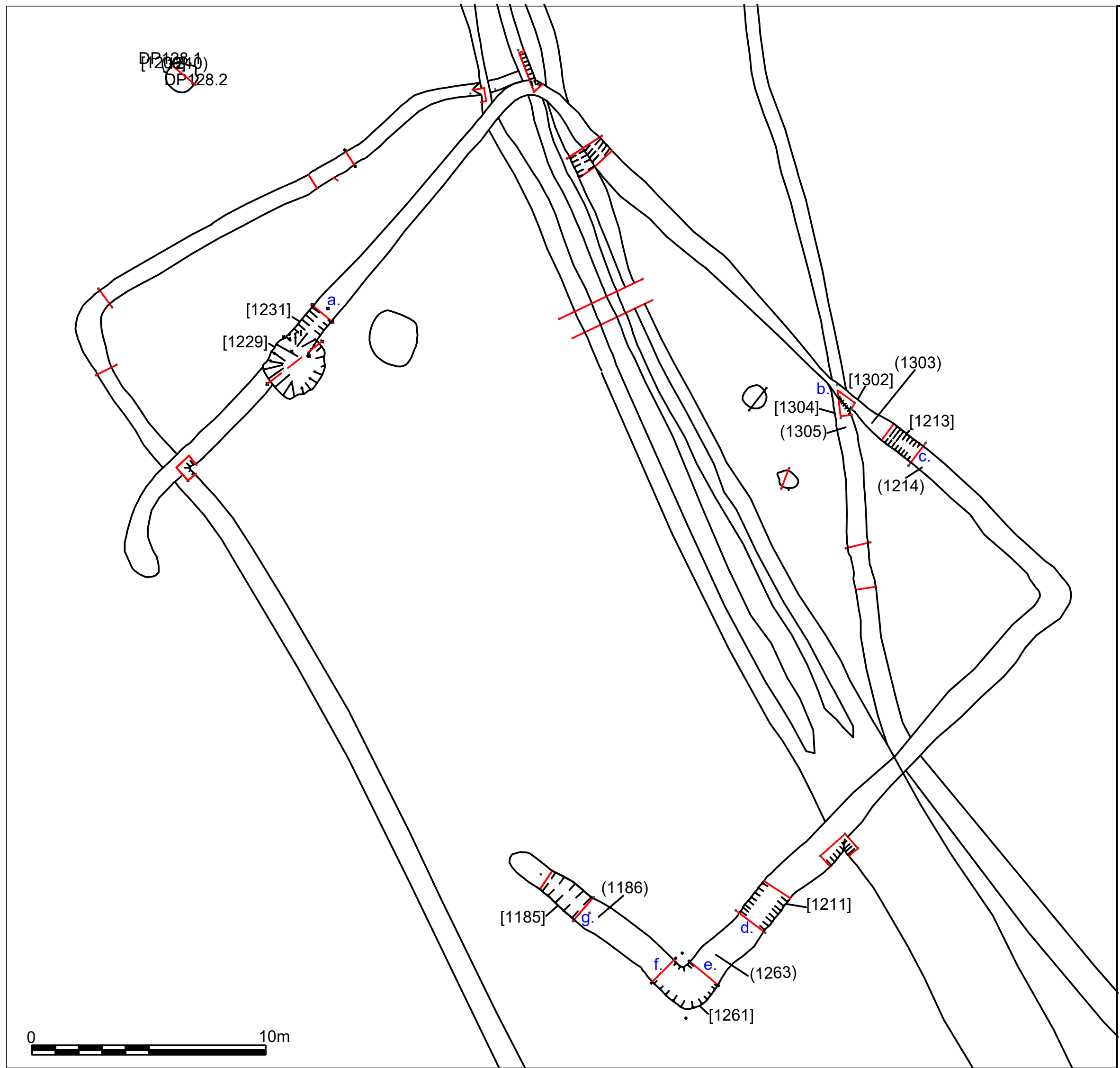
Table 90. Medieval enclosure F1285.

4.6.8.2 Similar to other archaeological features on the Ridge, the fill of this enclosure’s ditches was subject to natural siltation and infilling when it went into disuse. One exception was evidence in the south-eastern corner of the enclosure F1263 which demonstrated evidence of deliberate backfilling in its lowermost deposit of well-sorted sandy silt and gravel (1262), no doubt indicating remodelling of the enclosure ditch during construction which was subsequently sealed by naturally accumulated silty sand (1263).

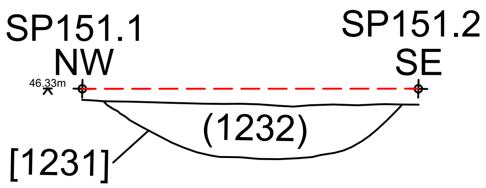
Figure 137. View of slot F1263 of enclosure F1285, looking north (scale = 0.5m graduations).

4.6.8.3 Based on its stratigraphy, Ridge Enclosure 3 is tentatively dated to either the Romano-British, or more likely, medieval period. However, it should be noted that it occupies a similar spatial alignment and position in the stratigraphic sequence to post-medieval boundary ditches F1179, F1180, and F1184 and that it could in fact be a much later addition to the Killerby landscape.

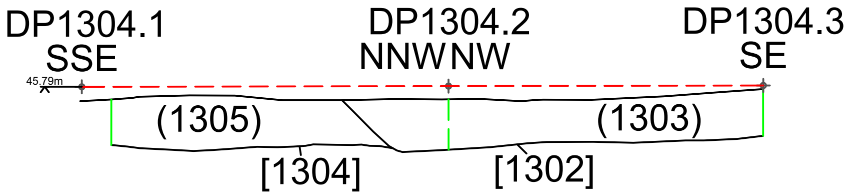
Figure 138. Plans and sections of possible medieval enclosure.



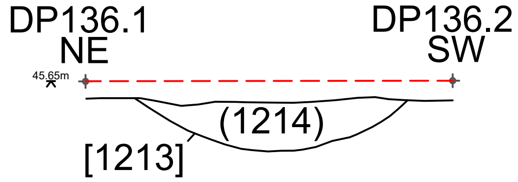
a. South-west facing section of ditch F1232.



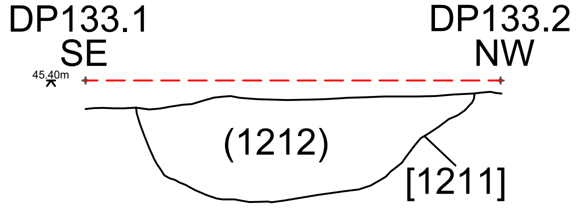
b. Relationship between ditches F1303 and F1305.



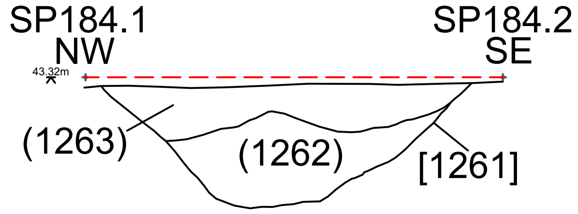
c. North-west facing section of ditch F1214.



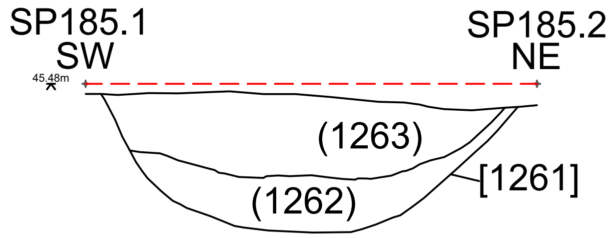
d. North-east facing section of ditch F1214.



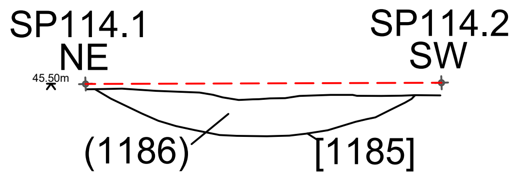
e. South-west facing section of ditch F1214.



f. South-east facing section of ditch F1214.



g. North-west facing section of ditch F1214.



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4.6.9. Post-medieval field system

4.6.9.1 At the southern portion of the limit of excavation, two post-medieval agricultural field boundary ditches (F1179 and F1180) and a possible drainage ditch (F1184) were identified (Figure 141 and Figure 139). These were aligned north-west/south-east and truncated ditches F1181 and F1182 and Ridge Enclosure 1 (F1183) described above.

4.6.9.2 Ditch F1184 measured 152.41m in length, averaged 0.24m in depth, and had a rounded profile. It had a fill of mid brown silty sand. Based upon its relatively smaller size in comparison to the adjacent ditch F1179, and its recut F1180, this was interpreted as a drainage ditch rather than an agricultural field boundary. No finds were identified within this feature.

4.6.9.3 Located an average of 9.50m south-west of drainage ditch F1184, the boundary ditch F1179 measured 124.66m in length, averaged 0.35m in depth, and displayed rounded sides and a flat base (Figure 140). It contained a mid-brown silty sand with infrequent subrounded stones. This fill was truncated by the subsequent recut F1180. This boundary ditch measured 152.41m in length, averaged 0.30m deep, and featured a similar profile to its predecessor - rounded concave sides and a flat base. Sherds from a 17th century green glazed sandy ware bowl and an 18th century slipware bowl along with fragments of CBM were identified in the fill (1082) of the recut.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1179	1085, 1086, 1102, 1103, 1137, 1147	Field boundary ditch	124.66m x 1.01m x 0.35m	Mid brown	Silty sand		
1180	1081, 1082, 1083, 1084, 1104, 1105,	Field boundary recut	139.23m x 1.42m x 0.30m	Mid grey-brown	Silty sand	17th to 18th century pottery sherds, post-medieval brick	
1184	1117, 1118, 1119, 1120, 1126, 1127, 1155, 1169	Post-medieval field drainage	152.41m x 0.62m x 0.24m	Mid brown	Silty sand		

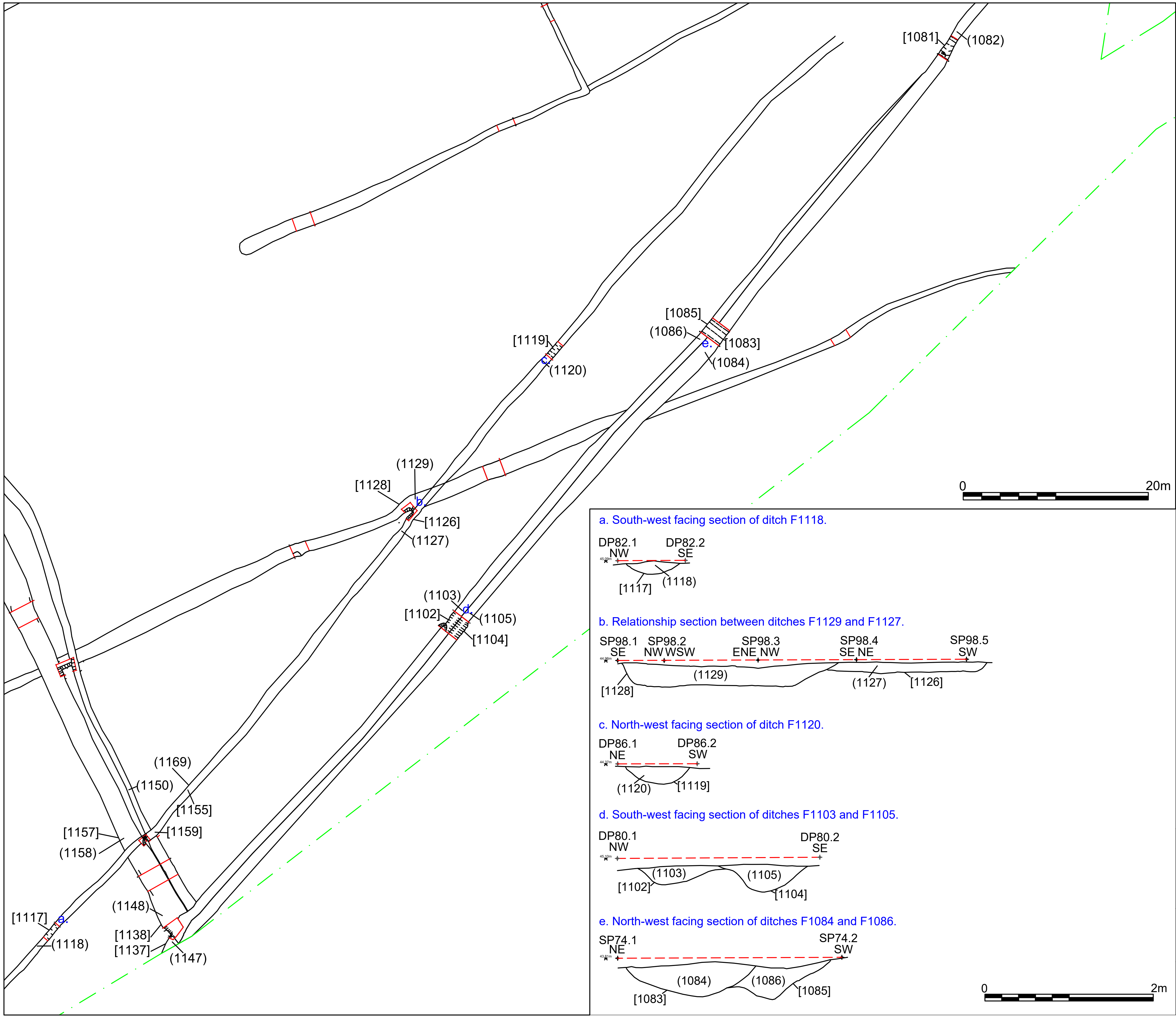
Table 91. Post-medieval field boundary and drainage on the Ridge.

4.6.9.4 Based upon their spatial relationship it is likely that ditches F1179/F1180 and F1184 represent parts of the same field system. They could be interpreted as the possible remains of a droveway, but this can likely be discounted based upon the relatively shallow average depth of ditch F1184 in comparison to the field boundary ditches F1179/F1180. It is possible that these represent the remains of an earlier field system which had fallen definitively out of use by the 18th century, however these boundaries broadly correspond with depictions from the First Edition Ordnance Survey map of the area.

Figure 139. South-east facing section of ditch slots F1103 (F1179) and F1105 (F1180) (scale = 0.5m graduations).

Figure 140. North-west facing section of ditch slot F1120 of post-medieval field drainage F1184 (scale = 0.1m graduations).

Figure 141. Plan and sections of post-medieval field system.



Limit of Excavation

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4.6.10. Undated archaeological features

4.6.10.1 Across the Ridge, 22 undated archaeological features were identified on the Ridge which consisted of 10 undated ditches, the majority of which relate to agricultural boundaries and drainage, and 12 undated pits. They are summarised below in Table 92 and Table 93.

4.6.10.2 Ring gully F1226 was identified projecting from the southern boundary of the limit of excavation approximately 40m east of Wetland Basin 2 (Figure 142). The gully, or groove, had a rounded profile with an uneven base and contained a light grey-brown silty clay with inclusions of small, subrounded stones, but no finds. This was the only fill within the gully. This could be interpreted as the remains of a ring ditch or roundhouse drip gully, but lack of associated finds and poor preservation preclude definitive identification which was further exacerbated by the post-medieval to modern plough scarring identified truncating the feature. The agricultural ditches F1383, F1391, F1393, F1405, and F1409 could be Romano-British in date as they resemble features identified during the excavations dating to the later phases of the Scotch Corner excavations (see Fell 2020). This is a tentative interpretation and these features and the remainder could equally be interpreted as post-medieval in date with finds being residual in nature, as is the case with hedgerow F1381, which contained a possible Mesolithic retouched blade within a fill of mid grey-brown silty sand (1367), but possessed the uneven profile and bioturbation typical of heavy rooting.

Feature	**Contexts**	**Description**	**Average dimensions (m)**	**Colour of fill**	**Composition**	**Finds**	**Calibrated date range (95.4% probability)**
1064	1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1037, 1038, 1053, 1054	Agricultural ditch		Dark grey-brown	Silty clay		
1065	1035, 1036, 1049, 1050, 1058, 1059	Agricultural ditch		Dark brown	Sandy silt		
1066	1060, 1061, 1062, 1063	Agricultural ditch		Light brown-yellow	Sandy silt		

1226	1195, 1196, 1217, 1218, 1219, 1220, 1224, 1225	Undated ring gully		Light grey-brown	Silty clay		
1381	1366, 1367, 1380, 1381	Hedgerow		Mid grey-brown	Silty sand	Possible Mesolithic retouched blade	
1383	1370, 1371, 1382, 1383	Agricultural field boundary		Dark grey-brown	Silty sand		
1391	1364, 1365, 1390, 1391	Agricultural field boundary		Mid grey-brown	Sand	Animal bone	
1393	1362, 1363, 1376, 1377, 1392, 1393	Agricultural field boundary		Mid grey-brown	Sandy silt	Animal bone	
1405	1396, 1397, 1404, 1405	Agricultural field boundary		Mid brown	Sandy silt	Animal bone	
1409	1394, 1395, 1408, 1409	Agricultural field boundary		Mid brown	Sandy silt	Animal bone	

Table 92. Undated ditches on the Ridge.

Figure 142. View of ring gully F1226, looking south-west (scale = 0.5m graduations).

4.6.10.3 Twelve undated pits were found across the Ridge. Three of these, F1228, F1246, and F1248, were located within the enclosures and might have related to those phases of activity. Without reliable dating evidence these pits can only be tentatively dated to the Iron Age/Romano-British period.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1046	1045, 1046	Oval pit	0.66m x 0.34m x 0.08m	Mid brown-grey	Silty sand		
1048	1047, 1048	Oval pit	1.33m x 0.62m x 0.11m	Mid brown-grey	Silty sand		
1052	1051, 1052	Oval pit	1.28m x 1.26m x 0.11m	Mid brown	Sandy silt		
1057	1056, 1057	Oval pit	1.02m x 0.48m x 0.21m	Mid brown-orange	Sandy silt		
1188	1187, 1188	Suboval pit	2.00m x 0.77m x 0.30m	Dark brown	Silty sand		
1194	1193, 1194	Irregular circular pit	1.20m x 0.50m x 0.35m	Mid yellow-brown	Silty sand		

1198	1197, 1198	Circular pit	0.98m x 0.98m x 0.11m	Light grey brown	Silty sand		
1228	1227, 1228, 1235, 1236	Circular pit	2.30m x 2.10m x	Dark grey (1236) Mid grey (1235) Dark brown (1228)	Silty sand (1236 and 1235) Sandy silt (1228)		
1246	1245, 1246	Subcircular pit	0.82m x 0.50m x 0.30m	Mid grey brown	Silty sand		
1248	1247, 1248	Circular pit	0.95m x 0.95m x 0.52m	Mid grey brown	Silty sand		
1361	1360, 1361	Subcircular pit	0.66m x 0.66m x 0.23m	Dark grey brown	Sand		
1368	1368, 1369	Suboval pit	0.75m x 0.25m x 0.30m	Light orange-brown	Silty clay		

Table 93. Undated pits on the Ridge.

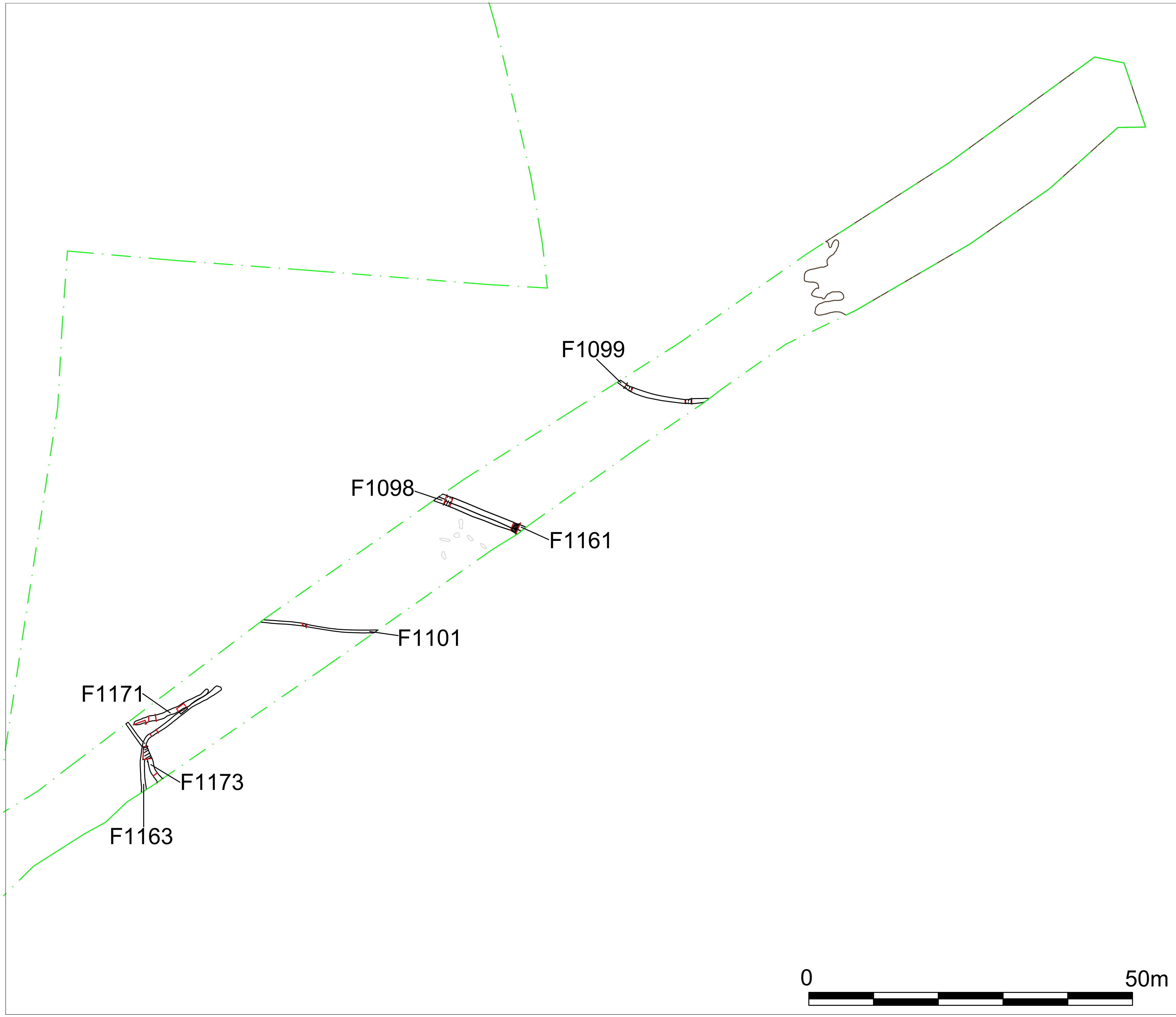
4.7. Conveyor Route

4.7.1. Introduction

4.7.1.1 In the southeastern corner of the site was the projecting spur of the conveyor route for the quarry which formed a linear corridor. This area measured *c.*210m north-east by south-west from the main area of the quarry with an average width of *c*.10m covering a total area of *c.* 0.21*ha*. The eastern end of this area extended over a wetland basin for a length of *c.* 60m covering an area of *c*. 670m^2. This comprised dark organic deposits similar to those encountered in Wetlands 1.

4.7.1.2 Along the length of the proposed conveyor belt seven ditches of uncertain date, were identified cutting across the route and which were broadly aligned north-west/south-east. Four of these features (F1098, F1099, F1101, and F1161) aligned more precisely with field boundaries on 19th century Ordnance Survey mapping and were interpreted as late post-medieval agricultural drainage and boundary ditches. Three further ditches (F1163, F1171, and F1173) were less precisely aligned but are interpreted as earlier features, possibly prehistoric in date. Like the other areas in proximity to the wetland basins, these features were truncated by 19th and 20th century ceramic land drainage (Figure 143 and Figure 144).

Figure 143. Overview of archaeological features associated with the conveyor route.



Limit of Excavation

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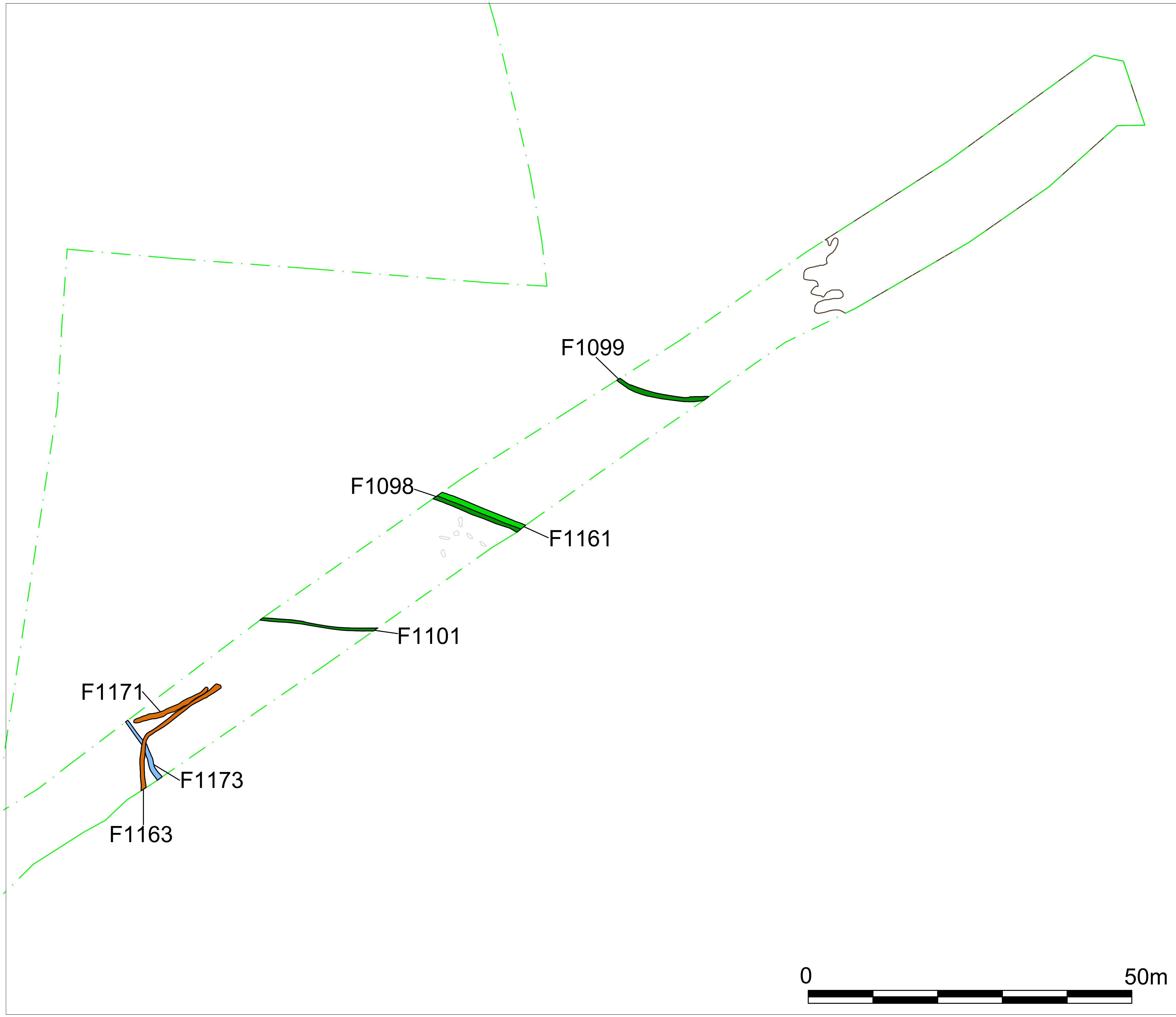
Figure 144. Phase plan of archaeological features associated with the conveyor route.



Limit of Excavation

Phases

Possible watercourse

Possible prehistoric

Post-medieval

Post-medieval (recut)

N

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4.7.2. Possible prehistoric ditches

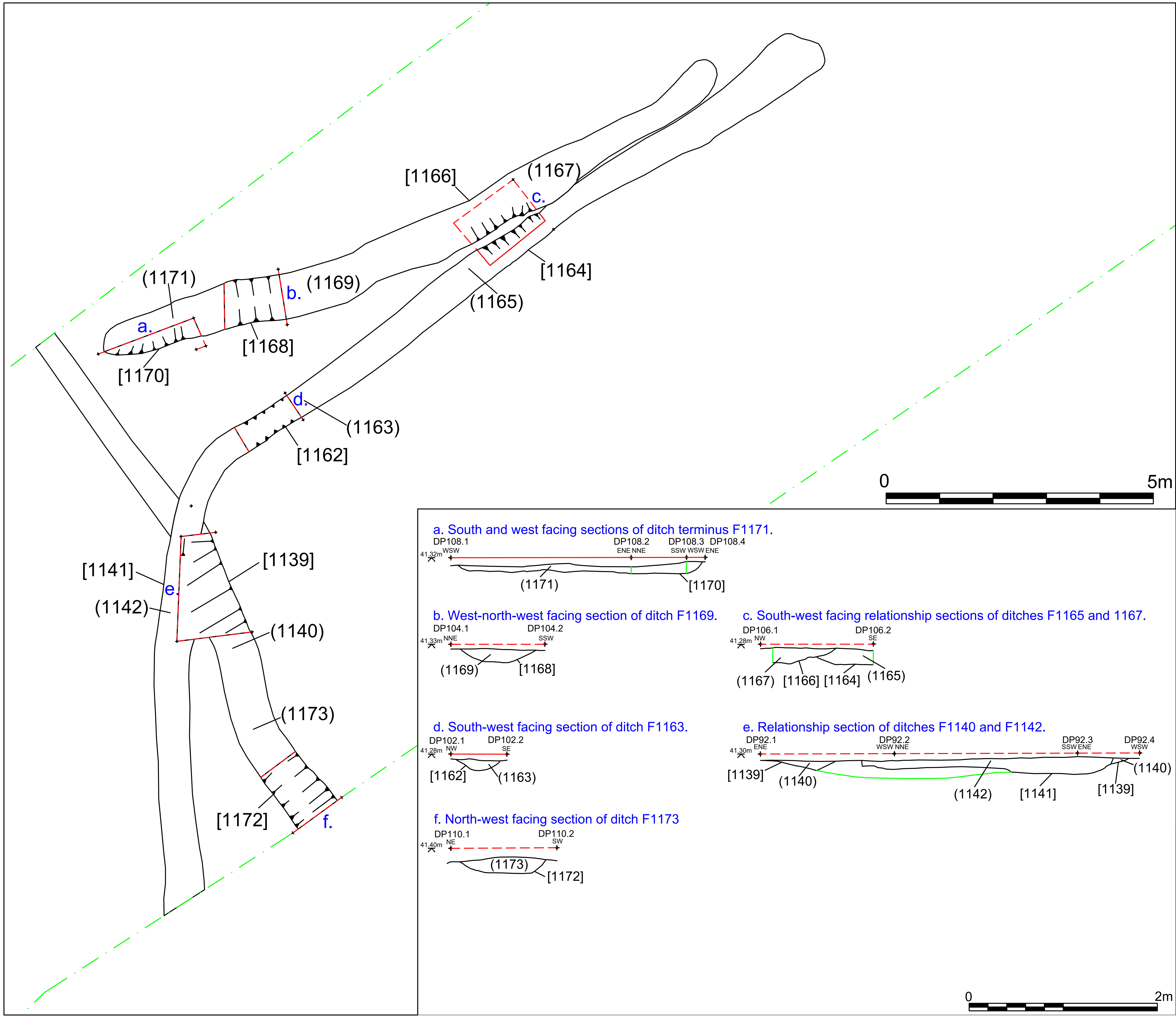
4.7.2.1 A sequence of three ditches located 184.28m from the north-east end of the conveyor route were tentatively interpreted as prehistoric in date (Table 94). An initial ditch (F1173), filled by a fine grey silty sand (1173) free of inclusions interpreted as a ditch, or possibly a watercourse, was truncated by a ditch (F1163), probably for drainage, that broadly aligned north/south for 7.57m, before turning north-east/south-west for 13.59m. It was filled by a mid brown-grey sand (1142; 1163). A third ditch F1171, also probably for drainage, truncated the curving ditch F1163 to the north. Ditch F1171 was filled with a light grey-brown silty sand (1167; 1169; 1171) (Figure 145 and Figure 146). No finds were recovered from any of the ditch fills.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1163	1141, 1142, 1162, 1163,	Curving drainage ditch	21.55m x 0.46m x 0.11m	Mid grey-brown	Sand	-	
1171	1166, 1167, 1168, 1169, 1170, 1171	Drainage ditch	12.60m x 0.85m x 0.15m	Light grey-brown	Fine silty sand	-	
1173	1164, 1165, 1172, 1173	Ditch or 'watercourse'	10.27m x 0.86m x 0.18m	Light grey	Fine silty sand	-	

Table 94. Possible prehistoric ditches on the proposed conveyor route.

Figure 145. South-west facing section of ditch slot F1169 of drainage ditch F1171 (scale = 0.1m graduations).

Figure 146. Plans and sections of ditches F1163, F1171, and F1173.



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4.7.3. Possible post-medieval agricultural ditches

4.7.3.1 Two possible post-medieval agricultural boundary ditches were found along the conveyor route, their attribution being based on correlating them to field boundaries shown on 19th century historic OS mapping. The first ditch (F1161) that was filled by successive deposits of silty sand. The primary fill was a mid-grey fine silty sand (1092; 1098) which in turn was overlain by a mid-brown silty sand. This ditch (F1161) had then been recut by a second ditch (F1098) that in turn was ultimately infilled by a mid-grey silty sand (1090; 1098). No finds were recovered from either of the ditches.

4.7.3.2 Broadly parallel, and on either side of boundary ditch (F1161), two drainage gullies were identified which appeared to respect its alignment. Situated 30.45m north-east of boundary ditch F1161, a slightly curving drainage gully F1099 broadly aligned north-west/south east was located (Figure 147, Figure 148 and Figure 149). It was filled by a mid-grey silty sand (1094). Another sinuous drainage gully, F1101, was located 28.23m west of boundary ditch recut F1098 and was filled by a similar fine mid-grey silty sand (1101). Neither of these ditches contained any finds but they were tentatively interpreted as post-medieval agricultural drainage ditches based upon their similar alignment and slight profiles which differed to the deeper profiles of boundary ditches F1161 and F1098.

Feature	Contexts	Description	Average dimensions (m)	Colour of fill	Composition	Finds	Calibrated date range (95.4% probability)
1099	1087, 1088, 1093, 1094	Curving drainage gully	13.94m x 0.75m x 0.32m	Mid-grey	Fine silty sand	-	
1098	1089, 1090, 1097, 1098	Agricultural boundary ditch, recut of F1161	13.89m x 0.99m x 0.25m	Mid-grey	Fine silty sand	-	
1161	1091, 1092, 1097, 1098, 1161	Agricultural boundary ditch	13.89m x 0.88m x 0.25m	Mid-grey Mid brown (1161)	Fine silty sand	-	
1101	1100, 1100	Drainage gully	17.60m x 0.49m x 0.06m	Mid-brown	Fine silty sand	-	

Table 95. Possible post-medieval agricultural ditches on the conveyor route.

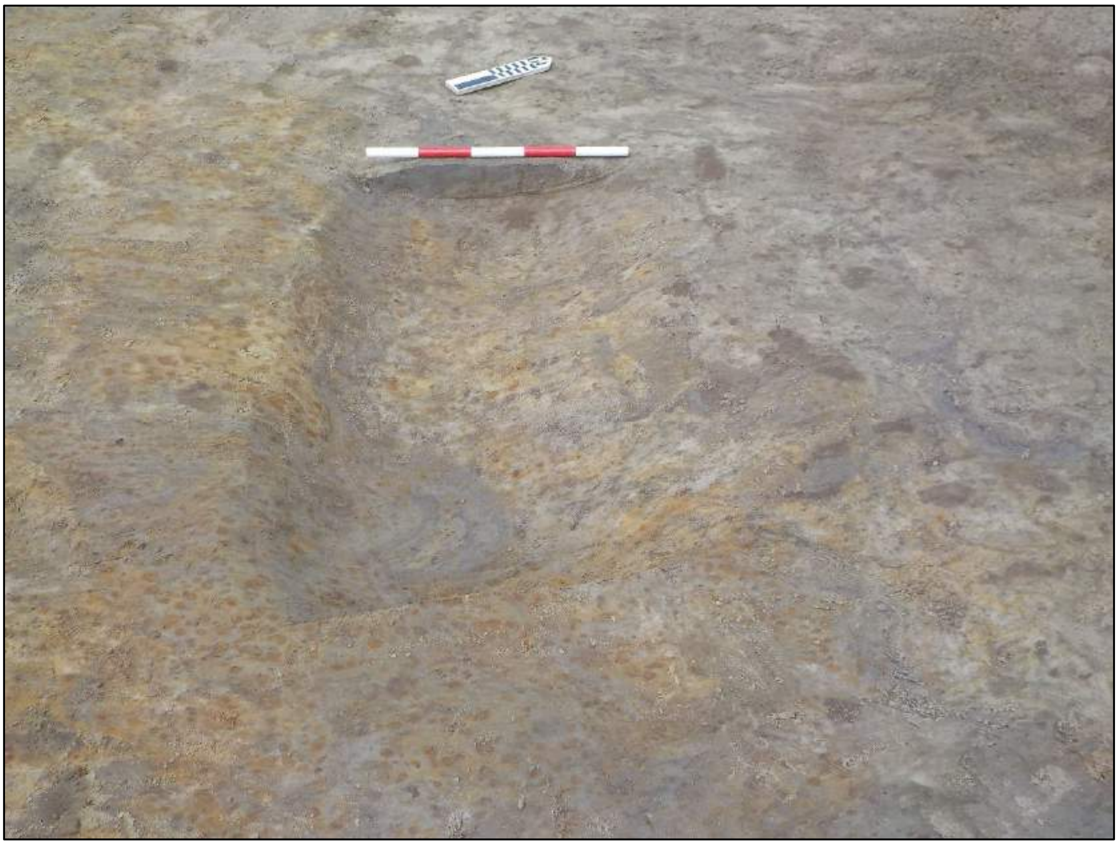
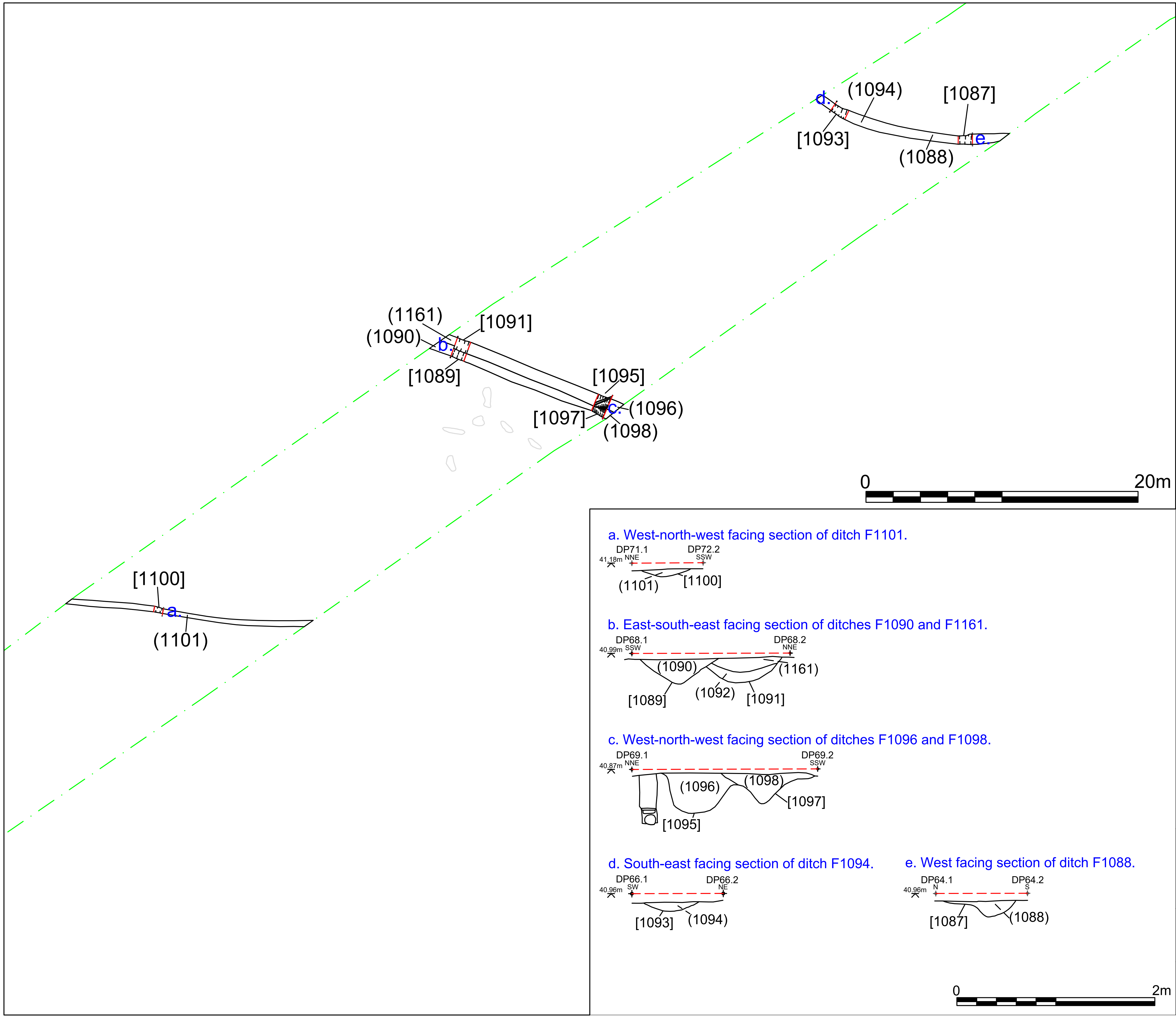


Figure 147. South-east facing section of ditch slot F1094 of drainage gully F1099 (scale = 0.1m graduations).

Figure 148. South-east facing section of ditch slots F1088 (ditch F1099), recut F1090 (recut F1098), and ditch slot F1092 (boundary ditch F1161) (scale = 0.5m graduations).

Figure 149. Plans and sections of ditches F1099, F1101, and F1161.



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5 RADIOCARBON DATING

Derek Hamilton (SUERC) and Clive Waddington

5.1. Introduction

5.1.1 A total of 54 radiocarbon dates are available on single-entities (Ashmore 1999) of charcoal, charred and waterlogged plant macrofossils, bone, and bulk peat and organic sediment recovered from natural and archaeological activity excavated at Killerby Quarry (Table 96). This includes the samples from the 2019 excavations documented in this report, but also the samples from all previous phases of work, so that a comprehensive radiocarbon analysis and probabilistic modelling can be undertaken for the site as a whole. It also helps the reader by combining this data rather than having to cross reference across different reports. All the samples were processed at the Scottish Universities Environmental Research Centre (SUERC) following methods outlined in Dunbar et al. (2016) and were graphitised and measured following Naysmith *et al*. (2010). SUERC maintains rigorous internal quality assurance procedures, and participation in international inter-comparisons (Scott 2003; Scott et al. 2010) indicates no laboratory offsets, thus validating the measurement precision quoted for the radiocarbon ages.

5.1.2 Conventional radiocarbon ages (Stuiver and Polach 1977) are presented in Table 96, where they are quoted in accordance with the Trondheim convention (Stuiver and Kra 1986). Calibrated date ranges were calculated using the calibration curves of Reimer et al. (2020) and OxCal v4.4 (Bronk Ramsey 1995; 1998; 2001; 2009) and are presented as single ranges rounded outward to 10 years. The italicised dates presented in the text below are posterior density estimates derived from mathematical modelling of archaeological problems and have been rounded outward to five years. These dates can change with the addition of new data or when the modelling choices are varied.

5.2. Methodological approach

5.2.1 A Bayesian approach has been applied to the interpretation of the chronology for Killerby (Buck *et al*. 1996). Although simple calibrated dates are accurate estimates of the radiocarbon age of samples, this is not, usually, what archaeologists really wish to know. It is the dates of the archaeological events represented by those samples that are of interest. At Killerby, for example, the radiocarbon dating was used to address such questions as:

1. What is the full date range of human activity at Killerby Quarry?

2. When is the first human activity recognised in the landscape by way of very high microcharcoal abundance in stratified, sealed anaerobic sediments from KB5?

3. When do the first Mesolithic remains date to, how long did Mesolithic activity last for, and was it punctuated or continuous? When do the other Mesolithic structures most likely date to?

4. When is the first Neolithic activity apparent and how long can Neolithic activity be documented for?

5. Is there any evidence in the dating for a hiatus between the Late Mesolithic and Early Neolithic activity, given what appears to be the continued use of the wooden platform in kettle hole KB5 and the presence of Late Mesolithic and Early Neolithic flintwork amongst the timber platform layers?

6. When is the first Bronze Age activity and how long did this last for?

5.2.2 This chronology can be estimated not only by using the absolute dating derived from the radiocarbon measurements, but also by using the relationships between samples and the relative dating information provided by the archaeological phasing.

5.2.3 Methodology is now available which allows the combination of these different types of information explicitly, to produce realistic estimates of the dates of archaeological interest. It should be emphasised that the posterior density estimates produced by this modelling are not absolute. They are interpretative estimates, which can and will change as further data become available and as other researchers choose to model the existing data from different perspectives. The technique used is a form of Markov Chain Monte Carlo sampling and has been applied using the program OxCal v4.4 (http://c14.arch.ox.ac.uk/). Details of the algorithms employed by this program are available in Bronk Ramsey (1995; 1998; 2001; 2009) or from the online manual. The algorithm used in the models can be derived from the OxCal keywords and bracket structure shown in Figures 151 and 153.

5.3. The Samples

5.3.1 The 54 dated samples come from natural peat accumulation and features associated with pits and wooden structures. The majority of dates form one of three groupings (Kettle Basin 5, Wetland Basin 1, and Wetland Basin 2) that are described and modelled below as independent areas. The three areas, along with the remaining 11 radiocarbon results are also discussed all together.

Kettle Basin 5

5.3.2 There are 17 radiocarbon results that form a sequence of dates from deposits in Kettle Basin 5 (KB5). At the base of the sequence there is result (SUERC-79306) from waterlogged rowan wood in (1022). Just above that are two dated samples of waterlogged bog bean from (1026), with SUERC-79305 at the base and SUERC-79304 from near the top. The immediately overlying layer (1025) has a single radiocarbon result (SUERC-79300) on another sample of waterlogged bog bean. The sequence then has three undated layers (1011), (1027), and (1010).

5.3.3 The three layers above (1010) have radiocarbon dates from the natural fills, as well as dates on archaeological remains that are within and cut through those layers. There are two results from (1008), visible in section in KB5, and a third from the equivalent layer in the evaluation core. The lower portion of the natural fills in (1008) were dated by the humic acid in two samples of bulk peat (SUERC-79298) and (SUERC-26095). The upper portion has a date (SUERC-79297) also on the humic acid of a bulk peat sample.

5.3.4 Cut into (1008) was an oak post associated with a platform structure. A fragment of waterlogged hazel twig used as packing for the oak post was dated (SUERC-80723) near the base of the cut and is modelled as stratigraphically unrelated to the upper natural fill date (SUERC-79297) as well as the date (SUERC-80722) of the lowermost platform timber of oak, which was within (1008). The uppermost timber was within the overlying (1006) and that date (SUERC-80721) on waterlogged oak is considered later than the lower timber and associated dates.

5.3.5 There is a date (SUERC-79308) from oak charcoal in a charcoal-rich feature (1034) excavated near the bottom of (1006), while a burnt deposit (1045) cutting into the top of (1006) has a date (SUERC-79307) on a fragment of Maloideae charcoal. The humic acid fraction of bulk peat from the natural fills also produced radiocarbon results from near the base (SUERC-79411) and near the top in the section (SUERC-79296) and the evaluation core (SUERC-26094).

5.3.6 From within the overlying (1014) there are a final two dates (SUERC-79301 and -79307) on single samples of hazel and charcoal from the fills of pits (1016) and (1013), respectively, cutting into layers (1006) and (1008).

Wetland Basin 1

5.3.7 There are 17 radiocarbon dates from natural peat growth and archaeological deposits in the areas initially designated Kettle Basin 6 (KB6) and Wetland Basin 1 (WB1), which have been combined into a single sequence and referred to here simply as Wetland Basin 1.

5.3.8 The base of the sequence is an undated glacial clay (1922). The humic acid of a bulk peat sample near the top of the overlying marl (6003) was dated (SUERC-79316). This was immediately followed by a dark brown peat (1920) from which the humic acid from two bulk peat samples were dated. The first (SUERC-94949) was from (1921) in WB1, while the other (SUERC-79317) was from (6004) in KB6.

5.3.9 The dark brown peat was overlain by a reedy peat (1919) from which there is one date (SUERC-94950) on the humic acid of a bulk peat sample. The reedy peat has a number of structures built on its surface and there are five radiocarbon dates associated with three of them.

5.3.10 There is one radiocarbon result each from Structures 1a and 1b. SUERC-94932 is from waterlogged pine structural timber (1897) from Structure 1a, while SUERC-92017 is from the bark of waterlogged alder structural timber (1873) from Structure 1b. There are three results from Structure 2:

SUERC-94931 – waterlogged structural timber of alder (2408)
SUERC-92016 – bark from a waterlogged structural timber of alder (2411)
SUERC-92018 – willow charcoal from hearth (2437)

5.3.11 The structures were within a brown peat (1918) that has a single result (SUERC-94951) on a humic acid from a bulk sample of the peat near the top of the layer. Layer (1918) was overlain by an orange peat (1917) that has a single date (SUERC-94952) on the humic acid fraction of a sample within the layer. This is followed by a date (SUERC-95144) on a humic acid from the overlying brown peat (1916).

5.3.12 There are three radiocarbon results from the humic acid fraction of three bulk samples of peat in a final peat layer (1915). SUERC-98267 was from WB1 layer (1915), while SUERC-79314 and -79315 were from the equivalent layers (6001) and (6002), respectively, in KB6.

5.3.13 Finally, recovered from the subsoil (1002) that sealed the peat layers, there are two results (SUERC-94933 and -98263) from the stump of a field maple tree.

Wetland Basin 2

5.3.14 There are nine radiocarbon dates from contexts associated with palaeosols and archaeological features in the area designated as Wetland Basin 2 (WB2). The base of the sequence is sterile sand and gravel (1908) just above which there is a radiocarbon result (SUERC-94940) on the humic acid fraction of a bulk palaeosol (peat-textured) sample in layer (1893). There are two radiocarbon dates (SUERC-94939 and -98266) also on the humic acid fraction of bulk palaeosol samples taken from near the top of (1893). Layer (1893) is sealed by a thick and sterile sand deposit, most likely a wind-blown sand.

5.3.15 Overlying this sand there are four radiocarbon results from layer (1223), also on the humic acid fraction of bulk palaeosol samples. Three of the results (SUERC-94934, 94938, and -98264) date from the early-Middle Mesolithic, while a fourth (SUERC-98265) dates to the Late Mesolithic. On first glance, the three earlier Mesolithic results appear to be roughly the same date, but when considered with the dating of the material below the wind-blown sand, suggests perhaps bioturbation or spreading of material due to the prehistoric pit digging, mixing of material and backfilling of these features. Similarly, the fact the Late Mesolithic result was from near the bottom of the layer suggests anthropogenic mixing occurring around the time of the identified pit-digging activity.

5.3.16 The pit digging led to material being dated from two pits cutting (1223). There is a Late Mesolithic result (SUERC-94941) on a fragment of unidentified charcoal in (1375). There is another result (SUERC-92015) that is Neolithic on a fragment of oak charcoal in (1347). Layer (1223) is sealed by a layer (1222) of colluvium that contained Romano-British ceramics.

Other Killerby radiocarbon results

5.3.17 There are 11 other radiocarbon results from other areas investigated as part of the archaeological investigations at Killerby, and which are not directly tied to other dates as part of a stratigraphic sequence or discrete spatial grouping. These are presented as calibrated results in Figure 149.

5.3.18 There are four results on the humic acid fraction bulk peat samples in four evaluation cores: SUERC-29096 (Kettle Basin 8); SUERC-29097 (Kettle Basin 10); SUERC-29098 (Kettle Basin 11); and SUERC-29102 (Kettle Basin 14).

5.3.19 A dog and cattle bone were dated (SUERC-98269 and -98273) from spit (1406) in Wetland Basin 3. The two results are statistically consistent (T'=0.1; df=1; T'(5%)=3.8); Ward and Wilson 1978) and so the two measurements could be the same actual age, which suggests a high degree of chronological consistency in the material in this deposit. Also from the Wetland Basin 3 area are a date (SUERC-94944) on a charred wheat grain in spit (1463), which was part of ditch fill F1797, and another date (SUERC-94948) on a charred oat from the fill of a pit (1833).

5.3.20 On the ridge top to the east of Wetland Basin 2 (Landform Element 1d) there is a date (SUERC-94943) from a charred bird cherry seed from the fill of a rectilinear enclosure ditch (1320). There are also two results (SUERC-98268 and -94943) on a fragment of hazel charcoal and charred pea, respectively, in the fill (1230) from a large pit on the same ridge. These two results are very different and either the 9th–10th century cal AD hazel charcoal is an accurate date for the pit, or this is residual and the 17th–early 20th century charred pea is the more accurate date.

5.4. The Models

5.4.1 There are three chronological models that were constructed, one each for Kettle Basin 5, Wetland Basin 1, Wetland Basin 2, and Wetland Basin 3. The models follow the stratigraphic relationships noted above.

KB5

5.4.2 The model for Kettle Basin 5 has good agreement (Amodel=100). It estimates the earliest dated sample in the sequence is *13,320–13,055 cal BC* (*95% probability*; Fig. 151; *SUERC-79306: (1022)*), while the latest dated sample in the sequence is *1115–910 cal BC (95% probability*; Fig. 151; *SUERC-79310: (1016)*).

5.4.3 The timbers from the Mesolithic platforms date to *5560–5470 cal BC (92% probability*; Fig. 151; *SUERC-80722: (1008b)/SF176)*) and *4795–4680 cal BC (95% probability*; Fig. 151; *SUERC-80723: (1008b)/F1020*). The third timber platform dates to the onset of the Bronze Age, to *2470–2300 cal BC* (*95% probability*; Fig. 151; *SUERC-80721: (1006a)/SF119*)).

5.4.4 The two radiocarbon dates from (1026) estimate the rise in microcharcoal that was identified in that area of the environmental core can be dated to between *11,350–11,165 cal BC* (*95% probability;* Fig. 151; *SUERC-79305: (1026)*) and *11,015–10,810 cal BC (95% probability*; Fig. 151; *SUERC-79304: (1026)*).

WB1

5.4.5 The initial model for WB1 failed to converge on an answer (Amodel=0). When looking at the calibrated dates in sequence, the first thing that was apparent was that the two results from layer (1920) were a few thousand years more recent in date than the underlying date (SUERC-79316) from layer (6003) and the overlying date (SUERC-94950) from layer (1919). This has been explained taphonomically as possibly being the result of humic acids moving down the profile or bio-/anthropogenic turbation resulting in the underlying material appearing more recent. This is further reinforced by the fact that the dates from the structures in the next layer above (1919) are also slightly older than these dates. Therefore SUERC-79317 and -94949 have been excluded from further modelling. The other area of the initial model that was clearly problematic were the two results (SUERC-94933 and -98263) on the maple tree stump (1895) that caps the entire sequence. Despite being from the same stump, one result was Mesolithic and the other Romano-British in date. Although SUERC-94933 is too old, given its position in the overall dated sequence, the quality control information in the lab records make it impossible to determine if the Romano-British result (SUERC-98263) is accurate. As such, both results have been excluded and it should be noted that the tree stump could be Romano-British in date.

5.4.6 The subsequent run of the model, after having excluded those four results still has low agreement (Amodel=51). The model provides a low individual agreement for SUERC-94952, which is younger than the date (SUERC-95144) from the overlying peat (1916). While it is actually possible the result from (1916) is incorrect, that would result in around 1 m of peat to have formed in 200–300 years, or 30–50 mm per year. This is far quicker than one might ever expect and so the younger date on the humic acid has been excluded. The final model has good agreement (Amodel=74) and estimates the earliest dated sample in the sequence is *10,805–10,770 cal BC* (*95% probability*; Fig. 152; *SUERC-79316: (6003*)), while the latest dated non-excluded sample in the sequence is *7070–6825 cal BC* (*95% probability*; Fig. 152; *SUERC-79314: (6001*)).

5.4.7 The primary archaeological features in WB1 are the wooden structures that were recovered within layer (1918). The five radiocarbon dates associated with these three structures are later than SUERC-94950, which is from the underlying peat, and earlier than SUERC-94951 from the top of the (1918) peat. Therefore the model ‘breaks’ the sequence into three sequential elements that allow for an unknown amount of time to have passed between the date in (1919) and the construction of the platform, but also for an unknown amount of time to pass between the construction and use of the platforms and the final date near the top of the peat layer, which is clearly much later than the period when the platforms could have been in use since they are covered by the peat. These structures are estimated to have been constructed in *9320–8770 cal BC* (*95% probability*; Fig. 152; *start: Structures (WB1)*) and to have gone out of use in *8825–8515 cal BC* (*85% probability*; Fig. 152; *end: Structures (WB1*)). The use of these structures in WB1 could have spanned a period of up to *690 years* (*95% probability*; Difference between *start: Structures (WB1)* and *end: Structures (WB1*)), but the highest single probabilities are skewed toward younger spans (*1–435 years; 68% probability*).

WB2

5.4.8 The initial model for WB2 has very low agreement (Amodel=0.1). A radiocarbon dated sample from the top of (1893) and (1223) appear to be inverted (SUERC-98266 and -98264, respectively). These two samples were separated by a wind-blown sand layer (1875) and so the dating suggests there has been downward mobility in the humic acids resulting in these humic acid dates being too young, or more probably by Neolithic pit digging which could have introduced later material further down the profile during the backfilling. There is a similar problem with a young date (SUERC-98265) in (1223), which may be the result of activity associated with the terminal Mesolithic and Late Neolithic pit digging activity that cuts into this layer. These three dates have been excluded from the final model, which has good agreement (Amodel=99). This model estimates the earliest dated samples in the sequence dates to *9280–8950 cal BC* (*95% probability*; Fig. 153; *SUERC-94940: (1893*)), while the latest sample from one of the two pits in the sequence dates to *2885–2630 cal BC* (*95% probability*; Fig. 153; *SUERC-92015: (1347*)). The material sampled from the fill of the second pit dates to *4350–4250 cal BC* (*95% probability*; Fig. 153; *SUERC-94941: (1375*)).

WB3

5.4.9 There are four radiocarbon dates from three features in Wetland Basin 3, which relate to unexpected early medieval activity evidenced in the area. The model for this area has good agreement (Amodel=96), and the dates suggest this activity dates to between *cal AD 540–890* (*95% probability*; Fig. 154; *start: Early Medieval*) and *cal AD 775–1195* (*95% probability*; Fig. 154; *end: Early Medieval*). The overall span of the activity was probably no more than *560 years* (*95% probability*; Fig. 159; *span: Early Medieval*). The low number of dates in a model usually result in accurate, but imprecise, date estimates. The four results are all statistically consistent (T'=6.6; df=3; T'(5%)=7.8; Ward and Wilson 1978) and could be the same actual age, which is usually indicative of a shorter rather than longer period of time being represented by the dated material.

5.5. Discussion

5.5.1 When the radiocarbon dating programme for Killerby was being devised it had a number of questions it aimed to provide answers for (above). The full range of the directly dated prehistoric human activity that was radiocarbon dated, excluding the Late Glacial indirect evidence from microcharcoal, spanned from either *9125–9015 cal BC* (*32% probability*: Fig. 155; *first: Mesolithic*) or *8925–8780 cal BC* (*63% probability*) to *2470–2300 cal BC* (*95% probability*; Fig. 155; *SUERC-80721: (1006a)/SF119)*, or a period of *6345 to 6755 years* (*95% probability*; Fig. 156). When taking into account the Iron Age/Romano-British and early medieval activity on site, the total span of dated human activity at Killerby spanned *9645–10,180 years* (*95% probability*; Difference between *first: Mesolithic* and *end: Early Medieval*). The environmental evidence, in the form of increased microcharcoal, however, suggests that humans were in the area and altering the landscape by *11,015–10,810 cal BC* (*95% probability*; Fig. 151; *SUERC-79304: (1026*)), potentially an additional millennium or more prior to the Early Mesolithic structures.

5.5.2 The overall span of directly dated Mesolithic activity was *4010–4410 years* (*95% probability*; Fig. 157; *span: Mesolithic*). There are insufficient dates to adequately conclude whether Mesolithic activity was continuous or not, but given the pulses of activity observed from the recovered evidence as it currently stands, there appears to be punctuated phases of quite tightly defined Mesolithic activity across the site. Some of the archaeology at Killerby dates to the earliest Mesolithic, like the tepee structures and some activity around Wetland Basin 2, whilst others date to the later Mesolithic, such as the timber platform in Kettle Basin 5 and some of the pit digging in Wetland Basin 2.

5.5.3 It is not clear if the timber platform in Kettle Basin 5 was in use continuously from the Late Mesolithic into the Neolithic due to the number and results of the dates obtained, however, it is evident that the timber platform was at least re-used in the Late Neolithic. Whether this was through punctuated use of the feature and kettle hole, or as part of a long-lasting use spanning these periods remains unclear, but the former would seem more likely given the wide spacing of the dates from the upper and lower timbers.

5.5.4 The radiocarbon dating identified transitional Mesolithic/Neolithic activity at Killerby. This is represented by one sampled archaeological feature, which is dated to either *4350–4315 cal BC* (*37% probability*; Fig. 155; *SUERC-94941: (1375*)) or *4300–4250 cal BC* (*58% probability*). There are also two radiocarbon dates from Neolithic features, suggesting that activity occurred in the periods *3330–2920 cal BC* (*95% probability*; Fig. RC-5; *SUERC-79308: (1034)*) and *2885–2630 cal BC* (*95% probability*; Fig. 155; *SUERC-92015: (1347*)).

5.5.5 The final radiocarbon dating from clear prehistoric activity dates from the Neolithic/Bronze Age transition to the end of the Bronze Age. The transitional date comes from a timber element in the uppermost part of the platform in Kettle Basin 5 and which dates to *2470–2300 cal BC* (*95% probability*; Fig. 155; *SUERC-80721: (1006a)/SF119)*. Approximately a half century later (*1880–1610 cal BC; 95% probability;* Fig. 155; *SUERC-79307: (1045*)), there is the burnt deposit in Kettle Basin 5, which is followed by slightly later dates in the Middle Bronze Age (*1520–1410 cal BC; 95% probability;* Fig. 155; *SUERC-79309: (1013))* and terminal Bronze Age (*1110–910 cal BC; 95% probability*; Fig. 155; *SUERC-79310: (1016))*. The Bronze Age activity spanned a considerable period, *1255–1530 years* (*95% probability*; Fig. 158; Difference between *end: Bronze Age* and *start: Bronze Age*).

5.5.6 The rectilinear enclosure and related field system dates to the end of the Iron Age or earliest period of Roman presence in the North (*50 cal BC–cal AD 110*; *95% probability*; Fig. 155; *SUERC-94943: (1320*)).

5.5.7 Finally, it is important to once again highlight that the dating for the unexpected early medieval activity evidenced in the area of Wetland Basin 3 estimates it began in *cal AD 540–890* (*95% probability*; Fig. 154; *start: Early Medieval*) and ended in *cal AD 775–1195* (*95% probability*; Fig. 154; *end: Early Medieval*), covering a span of up to *560 years* (*95% probability*; Fig. 159; *span: Early Medieval*).

Table 96: Radiocarbon dates from Killerby.

Lab ID	Context [Location]	Context description	Material dated	δ13C (‰)	Radiocarbon age (BP)	Calibrated date (68% probability)	Calibrated date (95% probability)
SUERC-79306	(1022) [KB5]	Post Glacial initial fill of Kettle Basin 5 (lower boundary)	Waterlogged rowan	−9.5	12,704 ±32	13,280–13,140 cal BC	13,330–13,060 cal BC
SUERC-79305	(1026) [KB5]	Organic-rich clayey silt (lower boundary) within Kettle Basin 5	Waterlogged bogbean	−26.4	11,312 ±32	11,290–11,210 cal BC	11,360–11,260 cal BC
SUERC-79304	(1026) [KB5]	Organic-rich clayey silt (upper boundary) within Kettle Basin 5	Waterlogged bogbean	−26.3	10,956 ±32	10,960–10,830 cal BC	11,020–10,800 cal BC
SUERC-79300	(1025) [KB5]	Fibrous, humic peat (upper boundary) within Kettle Basin 5	Waterlogged bogbean	−25.0	10,809 ±32	10,810–10,780 cal BC	10,870–10,770 cal BC
SUERC-26095	2.31-2.52m BGL [KB5]	Kettle Basin 5 evaluation core	Bulk peat: Humic Acid	−27.9	9885 ±65	9450–9260 cal BC	9670–9240 cal BC
SUERC-79298	(1008a) [KB5]	Organic sediment (upper boundary) within Kettle Basin 5	Bulk peat: Humic Acid	−28.3	6813 ±32	5730–5660 cal BC	5750–5630 cal BC
SUERC-80722	(1008b)/SF176 [KB5]	Base of timber platform within Kettle Basin 5	Waterlogged oak	−28.6	6540 ±25	5530–5470 cal BC	5610–5410 cal BC
SUERC-80723	(1008b)/F1020 [KB5]	Timber packing material for oak post within Kettle Basin 5	Short-lived waterlogged hazel branch	−29.6	5863 ±23	4790–4700 cal BC	4800–4680 cal BC
SUERC-79297	(1006b) [KB5]	Organic sediment (lower boundary) within Kettle Basin 5	Bulk peat: Humic Acid	−28.6	4687 ±32	3520–3370 cal BC	3610–3360 cal BC
SUERC-79308	(1034) [KB5]	Charcoal-rich fill of feature within Kettle Basin 5	Oak charcoal	−25.7	4425 ±32	3270–2930 cal BC	3330–2920 cal BC
SUERC-80721	(1006a)/SF119 [KB5]	Timber from uppermost part of platform within Kettle Basin	Waterlogged oak	−26.5	3910 ±20	2470–2340 cal BC	2470–2300 cal BC
SUERC-79307	(1045) [KB5]	Burnt deposit within Kettle Basin 5	Charcoal: Maloideae	−26.2	3405 ±32	1750–1630 cal BC	1880–1610 cal BC

SUERC-79296	(1006a) [KB5]	Organic sediment (upper boundary) within Kettle Basin 5	Bulk peat: Humic Acid	−28.6	3361 ±32	1740–1560 cal BC	1740–1530 cal BC
SUERC-79309	(1013) [KB5]	Fill of circular pit within Kettle Basin 5	Oak charcoal	−28.8	3200 ±32	1500–1440 cal BC	1520–1410 cal BC
SUERC-26094	1.52-1.57m BGL [KB5]	Kettle Basin 5 evaluation core	Bulk peat: Humic Acid	−29.3	3040 ±45	1390–1220 cal BC	1420–1120 cal BC
SUERC-79310	(1016) [KB5]	Fill of pit containing limestone slabs within Kettle Basin 5	Hazel charcoal	−26.9	2837 ±32	1050–930 cal BC	1110–910 cal BC
SUERC-94950	(1919) [WB1]	Wetland Basin 1 organic sediment	Bulk peat: Humic Acid	−24.1	10,769 ±25	10,800–10,770 cal BC	10,810–10,770 cal BC
SUERC-79316	(6003) [KB6]	Pale yellow silty sand marl	Bulk peat: Humic Acid	−21.7	10,713 ±32	10,790–10,750 cal BC	10,800–10,730 cal BC
SUERC-92018	(2437) [WB1]	Lower charcoal deposit from hearth within Structure 2	Charcoal: Willow (Salix sp.) roundwood	−28.1	9551 ±27	9120–8800 cal BC	9130–8760 cal BC
SUERC-94931	(2408) [WB1]	Structure 2 timber SF1302	Waterlogged alder (Alnus sp.)	−31.5	9541 ±23	9120–8790 cal BC	9130–8760 cal BC
SUERC-92016	(2411) [WB1]	Structure 2 timber SF1306	Waterlogged alder bark	−31.5	9531 ±27	9120–8770 cal BC	9130–8750 cal BC
SUERC-94932	(1897) [WB1]	Structure 1 timber SF1240 8300	Waterlogged pine (Pinus sp.)	−27.5	9521 ±25	9120–8760 cal BC	9130–8740 cal BC
SUERC-94949	(1921) [WB1]	Wetland Basin 1 organic sediment	Bulk sediment: Humic Acid	−25.8	9450 ±25	8780–8640 cal BC	8810–8630 cal BC
SUERC-92017	(1873) [WB1]	Y-shaped Structure 1 timber SF1235	Waterlogged alder bark	−27.5	9435 ±27	8760–8640 cal BC	8800–8620 cal BC
SUERC-79317	(6004) [KB6]	Dark brown/black peat	Bulk sediment: Humic Acid	−25.1	9257 ±32	8560–8350 cal BC	8620–8330 cal BC
SUERC-94951	(1918) [WB1]	Wetland Basin 1 organic sediment	Bulk peat: Humic Acid	−28.0	9190 ±24	8430–8300 cal BC	8540–8290 cal BC
SUERC-94933	(1895) [WB1]	Tree stump	Field maple (Acer campestre)	−24.9	9070 ±25	8300–8260 cal BC	8300–8240 cal BC
SUERC-95144	(1916) [WB1]	WB1 Organic Sediment	Bulk sediment: Humic Acid	−27.9	8943 ±24	8250–8010 cal BC	8260–7960 cal BC
SUERC-94952	(1917) [WB1]	WB1 organic sediment	Bulk peat: Humic Acid	−28.2	8802 ±23	7950–7810 cal BC	8170–7740 cal BC

SUERC-98267	(1915) [WB1]	WB1 organic sediment	Bulk sediment: Humic Acid	−27.3	8678 ±31	7720–7600 cal BC	7750–7590 cal BC
SUERC-79315	(6002) [KB6]	Dark brown organic-rich clay	Bulk sediment: Humic Acid	−28.4	8519 ±32	7590–7540 cal BC	7600–7530 cal BC
SUERC-79314	(6001) [KB6]	Dark brown/black peat	Bulk sediment: Humic Acid	−27.1	8029 ±32	7060–6830 cal BC	7070–6820 cal BC
SUERC-98263	(1895) [WB1]	(1895) Tree stump overlying Wetland Basin 1	Wood: Field maple (Acer campestre)	−24.5	1898 ±24	cal AD 120–210	cal AD 70–220
SUERC-94940	(1893) [WB2]	Lower WB2 palaeosol (lower boundary)	Bulk peat: Humic Acid	−26.5	9721 ±27	9260–9200 cal BC	9290–8950 cal BC
SUERC-98264	(1223) [WB2]	Upper WB2 palaeosol (upper boundary)	Bulk sediment: Humic Acid	−28.0	8696 ±32	7730–7600 cal BC	7800–7590 cal BC
SUERC-94939	(1893) [WB2]	Lower WB2 palaeosol (upper boundary)	Bulk peat: Humic Acid	−29.2	8549 ±24	7600–7540 cal BC	7600–7530 cal BC
SUERC-94934	(1223) [WB2]	Upper WB2 palaeosol (upper boundary)	Bulk sediment: Humic Acid	−28.4	8544 ±25	7600–7540 cal BC	7600–7530 cal BC
SUERC-98266	(1893) [WB2]	Lower WB2 palaeosol (upper boundary)	Bulk sediment: Humic Acid	−28.6	8318 ±29	7470–7340 cal BC	7510–7190 cal BC
SUERC-94938	(1223) [WB2]	Upper WB2 palaeosol (lower boundary)	Bulk sediment: Humic Acid	−28.2	8309 ±25	7470–7330 cal BC	7490–7190 cal BC
SUERC-98265	(1223) [WB2]	Upper WB2 palaeosol (lower boundary)	Bulk sediment: Humic Aci	−28.6	5645 ±23	4540–4440 cal BC	4550–4370 cal BC
SUERC-94941	(1375) [WB2]	Fill of pit within Wetland Basin 2	Indeterminate charcoal	−27.5	5448 ±23	4340–4260 cal BC	4350–4250 cal BC
SUERC-92015	(1347) [WB2]	Silty peat fill of pit within Wetland Basin 2	Oak charcoal	−24.3	4168 ±27	2880–2690 cal BC	2890–2630 cal BC
SUERC-26096	2.30m BGL [KB8]	Kettle Basin 8 evaluation core	Bulk peat: Humic Acid	−24.1	12,325 ±80	12,850–12,160 cal BC	12,900–12,120 cal BC
SUERC-26102	1.64m BGL [KB14]	Kettle Basin 14 evaluation core	Bulk peat: Humic Acid	−29.3	2240 ±45	390–200 cal BC	400–170 cal BC
SUERC-94943	(1320) [Landform Element 1d]	Enclosure ditch fill on the Ridge	Charred seed: Bird cherry (Prunus avium)	−26.1	1999 ±24	40 cal BC–cal AD 60	50 cal BC–cal AD 110
SUERC-26098	1.12m BGL [KB11]	Kettle Basin 11 evaluation core	Bulk peat: Humic Acid	−29.5	1505 ±45	cal AD 530–640	cal AD 430–650

SUERC-26097	1.55m BGL [KB10]	Kettle Basin 10 evaluation core	Bulk peat: Humic Acid	−29.4	1395 ±45	cal AD 600–670	cal AD 570–780
SUERC-98269	(1406) [WB3]	Wetland Basin 3 spit	Bone: Dog tibia	−20.9	1203 ±26	cal AD 780–880	cal AD 700–900
SUERC-98273	(1406) [WB3]	Wetland Basin 3 spit	Bone: Cattle mandible	−22.5	1194 ±23	cal AD 770–890	cal AD 770–900
SUERC-94948	(1833) [WB3]	Pit fill in the vicinity of Wetland Basin 3	Charred seed: Oat (Avena sativa)	−26.4	1162 ±24	cal AD 7770–950	cal AD 770–980
SUERC-94944	(1463) F1797-ditch [WB3]	Wetland Basin 3 spit Ditch fill	Charred seed: Wheat (Triticum aestivum)	−23.1	1125 ±23	cal AD 890–980	cal AD 880–1000
SUERC-98268	(1230) [Landform Element 1d]	Fill of pit on ridge	Roundwood charcoal: Hazel (Corylus avellana)	−27.0	1086 ±25	cal AD 890–1000	cal AD 890–1020
SUERC-94943	(1230) [Landform Element 1d]	Fill of pit on the Ridge	Charred seed: Pea (Pisum sativum)	−26.0	235 ±24	cal AD 1640–1800	cal AD 1630–1950

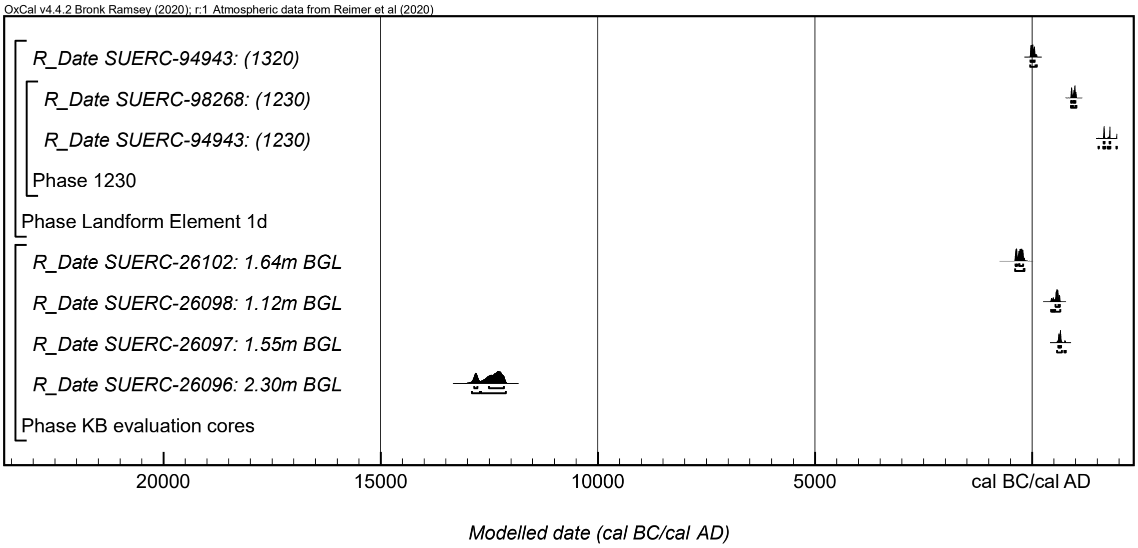


Figure 150. Calibrated dates for unmodelled radiocarbon measurements from Killerby.

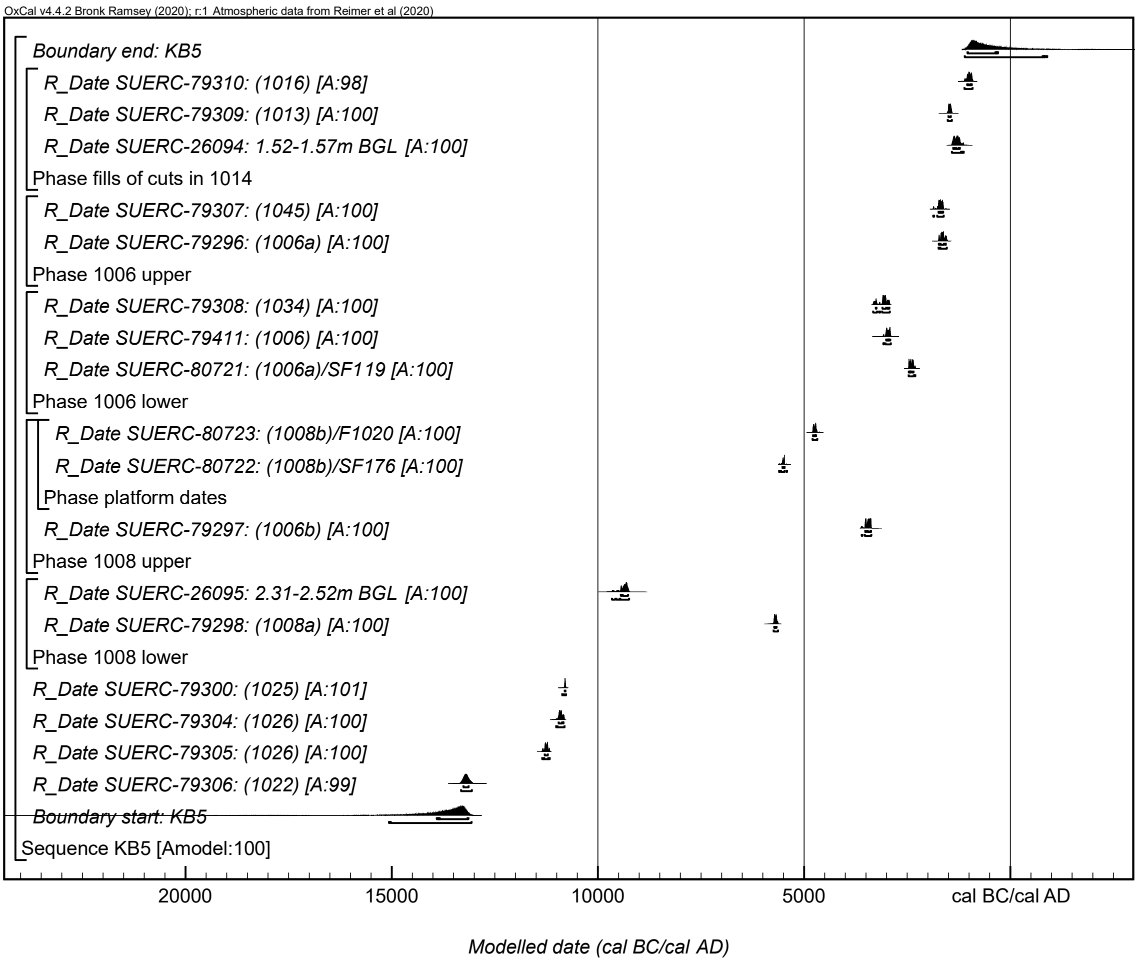


Figure 151. Chronological model for the radiocarbon dates from Killerby Kettle Basin 5 (KB5). Each distribution represents the relative probability that an event occurred at some particular time. For each of the radiocarbon measurements two distributions have been

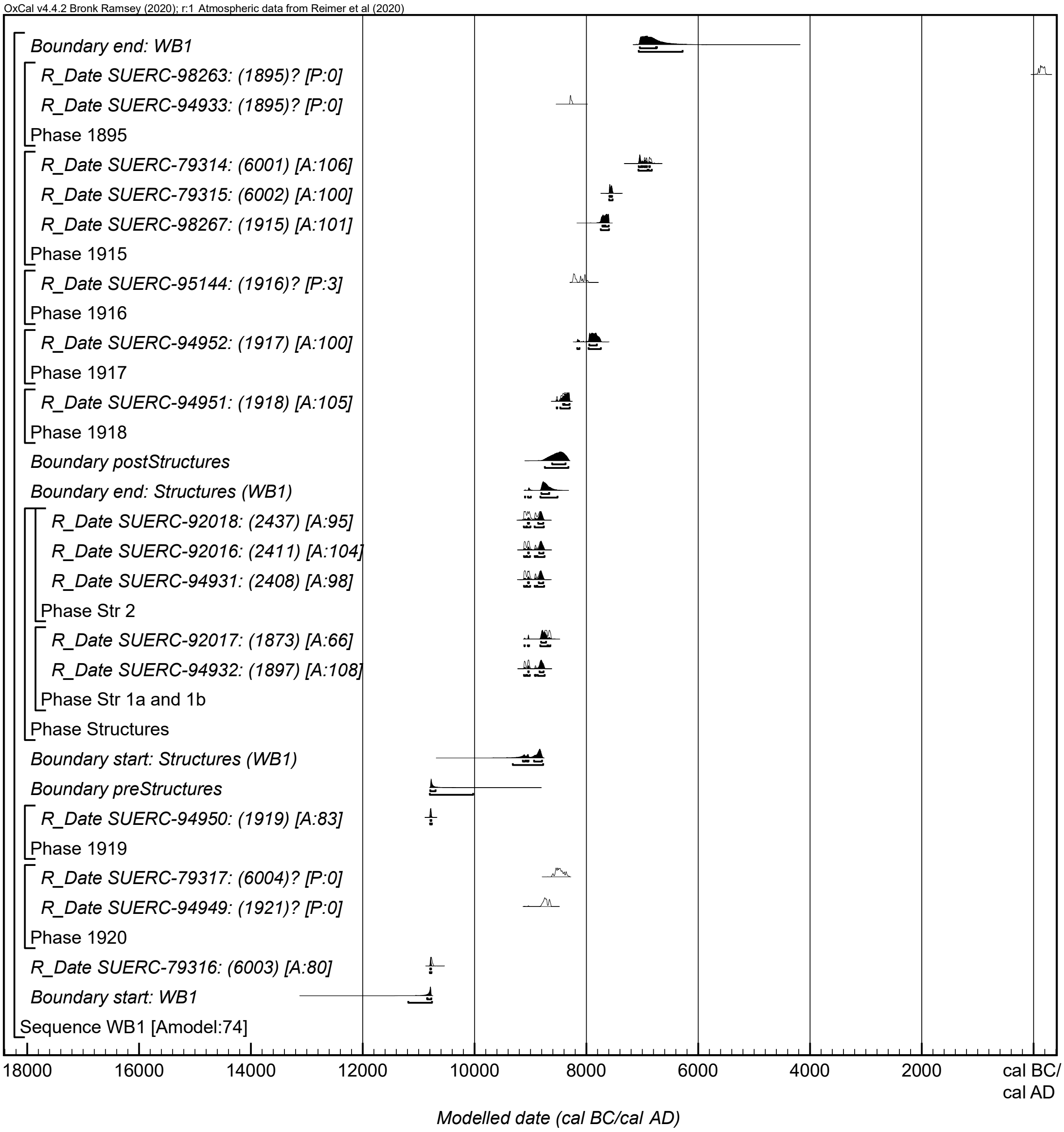


Figure 152. Chronological model for the radiocarbon dates from Killerby Wetland Basin 1 (WB1). The model is as described in Fig. 151.

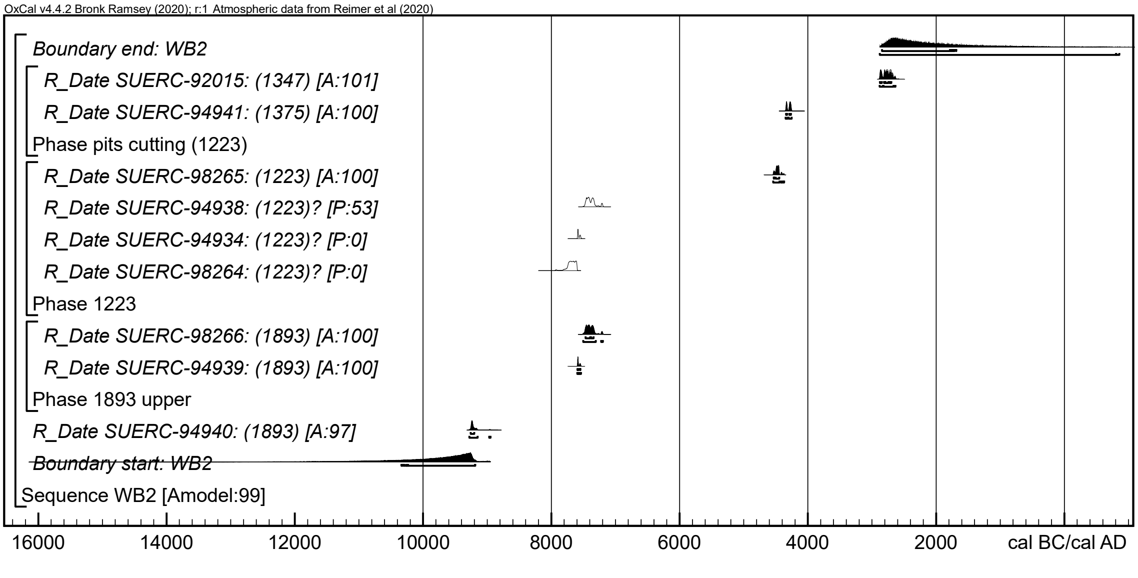


Figure 153. Chronological model for the radiocarbon dates from Killerby Wetland Basin 2 (WB2). The model is as described in Fig. 151.

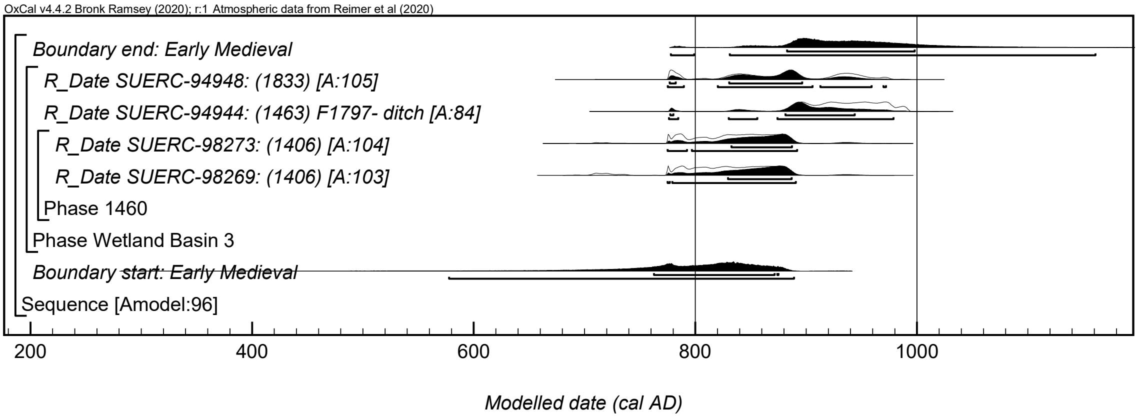


Figure 154. Chronological model for the radiocarbon dates from Killerby Wetland Basin 3 (WB3). The model is as described in Fig. 151.

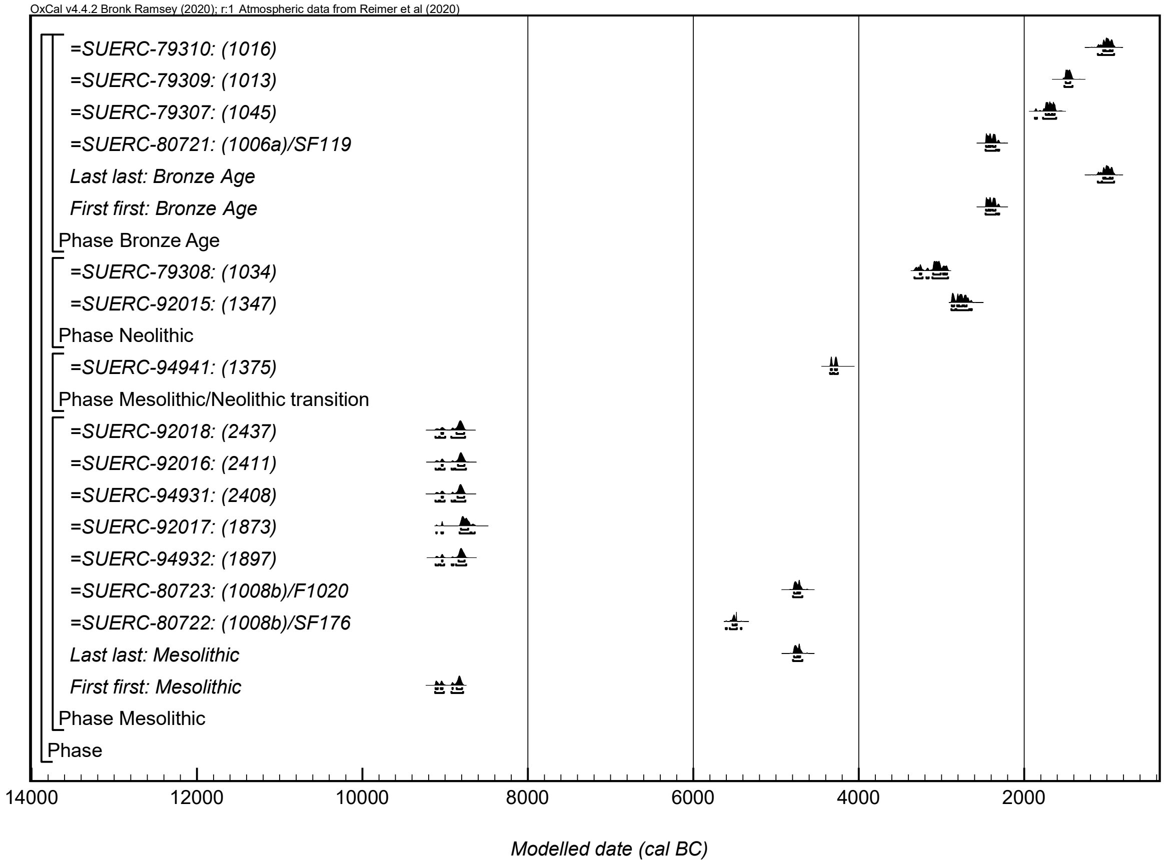


Figure 155. Summary figure of the modelled dates from archaeological features at Killerby, presented by archaeological period. The probabilities are derived from the modelling presented in Figs. 151 and 153.

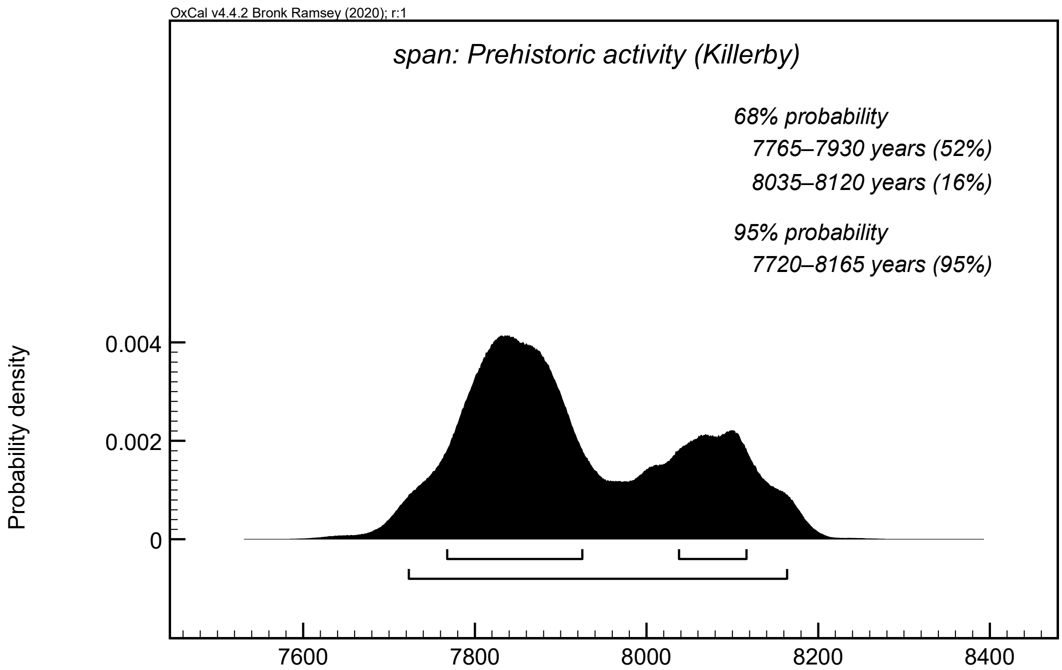


Figure 156. Span of all prehistoric human activity directly dated at Killerby. The probability is the calculated Difference between first: Mesolithic and last: Bronze Age shown in Figure 155.

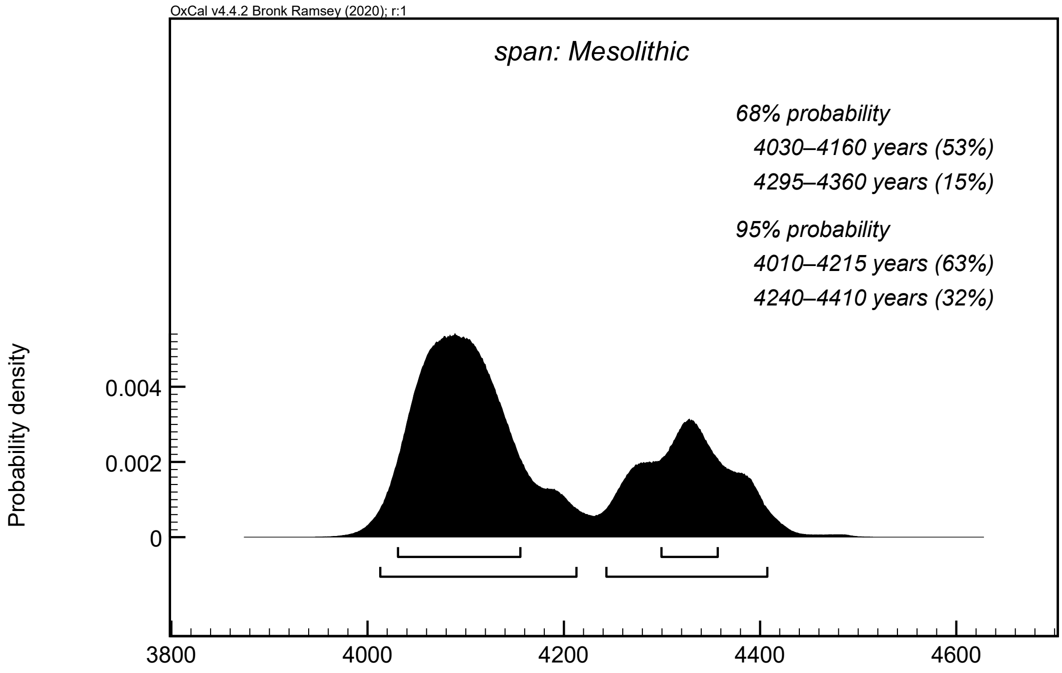


Figure 157. Span of directly dated Mesolithic at Killerby. The probability is the calculated Difference between first: Mesolithic and last: Mesolithic shown in Figure 155.

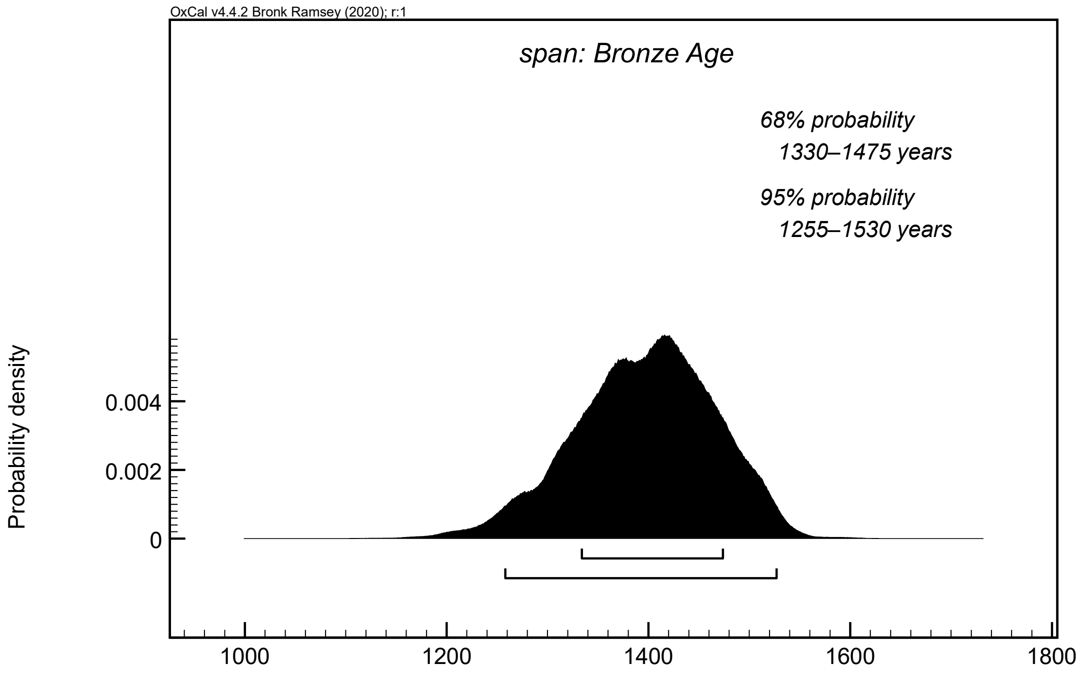


Figure 158. Span of the Bronze Age at Killerby. The span is the difference between the probabilities end: Bronze Age and start: Bronze Age, shown in Fig. 155.

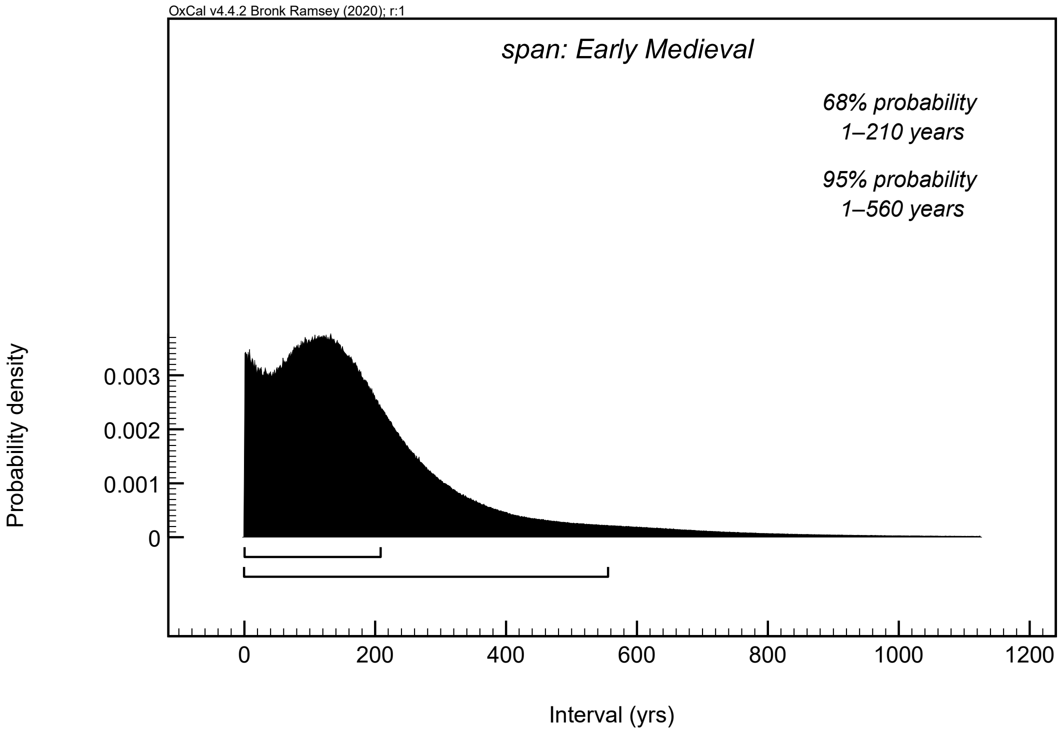


Figure 159. Span of the early medieval activity in Wetland Basin 3 at Killerby. The span is the difference between the probabilities end: Early Medieval and start: Early Medieval, shown in Fig. 154.

6 PALAEOENVIRONMENTAL ANALYSIS

Luke Parker

6.1. Introduction

6.1.1 Analysis was undertaken on archaeobotanical and charcoal remains recovered from the bulk-sampled fills of archaeological and natural features. These features were primarily located around and within four geomorphological landforms that were identified on site as wetland basins. These landforms likely formed the focus of much of the (pre)historic archaeological activity uncovered on site. Ditched enclosures and pits were also present throughout the areas of higher elevation of the site; located along a central ridge composed of glacio-fluvial sands and gravels.

6.1.2 Notable archaeological remains were uncovered within and around Wetland Basins 1a, 1b, and 3. Wetland Basin 1 yielded the waterlogged remains of two timber structures. Both were composed of long, narrow-width lengths of wood which had been roughly modified by having branches and twigs removed in order to form long, narrow poles, which would have composed the primary structural timbers. Smaller pieces of wood were also found, alongside a spread of charred wood within one of the structures. These were situated within a peat layer which could be stratigraphically correlated to a peat layer nearby which was dated to the Mesolithic period. Their form is consistent with a type which represents domestic dwellings. Wetland Basin 3 contained extensive evidence for medieval and Romano-British archaeology comprised of ditched enclosures, pits and structural remains. A number of these features contained significant deposits of animal bone displaying evidence for butchering.

6.2. Methods

6.2.1 Extensive bulk sediment sampling was undertaken at the site, with an indiscriminate sampling strategy employed whereby all contexts which were viewed as being of archaeological or palaeoenvironmental significance had 40L of bulk sediment sample extracted. Where the context contained less than 40L of sediment, 100% of the context was sampled.

6.2.2 Non-waterlogged bulk fill samples were processed via water floatation through a siraf-style flotation tank using a 500 µm flotation mesh and a 500 µm sieve. Heavy residues were cleaned and searched for archaeological finds and non-floating palaeoenvironmental remains. Flots were weighed, air dried, and scanned using a low-power binocular microscope (x40).

6.2.3 For waterlogged bulk fill samples, 10L of was taken from each fill or stratigraphic unit. Processing was achieved using the method described by Kenward *et al.* (1980) where a gentle disaggregation of material is achieved by wash-over followed by sieving into 5mm, 1mm, and 500µm size fractions.

6.2.4 Botanical macrofossil identification was undertaken using a low-power binocular microscope (x40). Botanical macrofossil identification utilised plates and guides from Martin and Barkley (2000) and Cappers *et al.* (2006), as well as comparison with a modern reference collection. Plant nomenclature follows Stace (1997). Cereal identification utilised the guide by Jacomet (2006). All botanical macrofossils present were assessed. Uncharred organic material was identified and roughly quantified even where waterlogging was not present.

6.2.5 Up to twenty charcoal fragments were identified per sample. For the charcoal spread within Structure 2 thirty fragments were identified. Charcoal was sieved through a 5mm sieve and half of the identified fragments were taken from the >5mm fraction and half of the fragments were taken from the <5mm fraction. Charcoal with a size of >2mm was fractured to obtain clean sections on the tangential, transverse, and radial planes. These could then be identified using a high power Leica GXML3030 binocular microscope (up to x600). Species identification was undertaken using plates and guides from Scoch *et al.* (2004) as well as comparison with a modern reference collection.

6.2.6 The two waterlogged wood structures were named Structures 1 and 2. The waterlogged wooden timbers from Structures 1 and 2, within Wetland Basin 1a and 1b respectively, were each carefully uncovered by hand. Surrounding peat was removed to expose the timbers which then permitted detailed *in-situ* recording and photography. Specialised wood-recording sheets were filled out for each individual timber. Efforts were made to distinguish between waterlogged timbers and charred wood from the charcoal spread; however this separation could be difficult due to the charring of structural timbers. Distinction was made by identifying smaller fragments which were, ideally, completely carbonised wood. Each piece of waterlogged wood structural timber was carefully lifted by hand and each piece kept as intact as possible. These were then washed on-site, labelled, and wrapped in cling-film for transit and storage. The underlying timbers, then exposed by removal of overlying timbers, were then separately recorded and removed. Successive layers of wood were revealed, recorded and removed. Excavation, recovery, and recording was undertaken with consultation from wood specialist Michael Bamforth. A single sub-sample was recovered from each individual timber for further wood analysis. This sub-sample was taken from where timbers had naturally fractured or broken *in-situ.* Sub-sampling from the extremities of the timbers was avoided as these could display evidence for prehistoric wood removal or working.

6.2.7 All sub-sampled timbers were analysed. Transverse, tangential, and radial sections were cut from each fragment of waterlogged wood using a scalpel or razor blade, and were identified using a Leica DME binocular microscope (up to x400). The identified species, degree of ring curvature, whether sapwood was visible, and the presence of radial cracks was recorded. No tyloses were visible on any identified fragment. Where the fragments were at least half of a complete roundwood cross-section (i.e. from the central pith to the outermost ring) the radius of the cross-section, the presence/absence of bark, a tree ring count, and the season of felling as inferred through the growth extent within the final growth cycle was also recorded. Cross-section radius easurements were taken, where possible, from the pith to the bark-xylem boundary. Compression of the wood was noted and so radius measurements were made along the longest cross-section axis. It was occasionally difficult to identify the stage of the final growth cycle due to the outermost ring becoming degraded or compressed, even if the xylem/bark boundary was visible. Fragments with only the larger earlywood pores being present were classed as either very earlywood or earlywood (depending on the degree to which these pores were formed) which identifies them as being spring/summer felling. Fragments with at least some smaller latewood vessels were classed as latewood and therefore autumn/winter felled.

6.3. Waterlogged Wood Analysis

6.3.1 The two waterlogged structures were morphologically distinct but located within roughly stratigraphically comparable locations within the Wetland Basin 1 peat. Structure 1 was characterised by two long poles, around five metres in length, each with two protrusions at the distal extremities which led to a y-shaped resemblance. Two more structural timbers of similar width and length were located around six metres away from the y-shaped timbers.

6.3.2 Structure 2 was composed of a collection of around 85 individual timbers, wood fragments, and narrow-width structural timbers, including long-length timbers of over ten metres in length, overlying a charcoal spread. Two more long poles were located around ten metres away from the charcoal spread and structural remains. Small numbers of wood fragments were also found associated with these two sets of timbers. Of the 85 individual pieces of waterlogged wood, 21 displayed varying degrees of charring; ranging from a lightly charred exterior to extensive carbonisation through the entire thickness of the wood. It was often challenging to meaningfully distinguish between charred structural timbers and charred wood from the charcoal spread.

6.3.3 There was a notable difference in the condition between Structures 1 and 2. Structure 2 was well preserved, with the integrity of the wood being relatively high (particularly considering the age), whereas the preservation of Structure 1 was poor. Structure 2 displayed a degree of compression, though this did not impact analysis in any meaningful way. Structure 1 had been compressed by a similar degree, however the surface of much of the wood had developed distinct radial fracturing alongside the microscopic wood anatomy completely collapsing and fusing for a large proportion of the timbers (see Figure x below). The nature of the degradation of Structure 1 wood is consistent with drying out of the timbers. The peat sediment overlying Structure 1 was thinner than what overlay Structure 2, which would have struggled to maintain adequate water saturation once the topsoil had been removed. This resulted in the timbers drying out prior to being excavated and their subsequent recovery. Compression of both structures was likely the result of the weight of overlying sediment on the wood over the large amount of time since the timbers had been deposited.

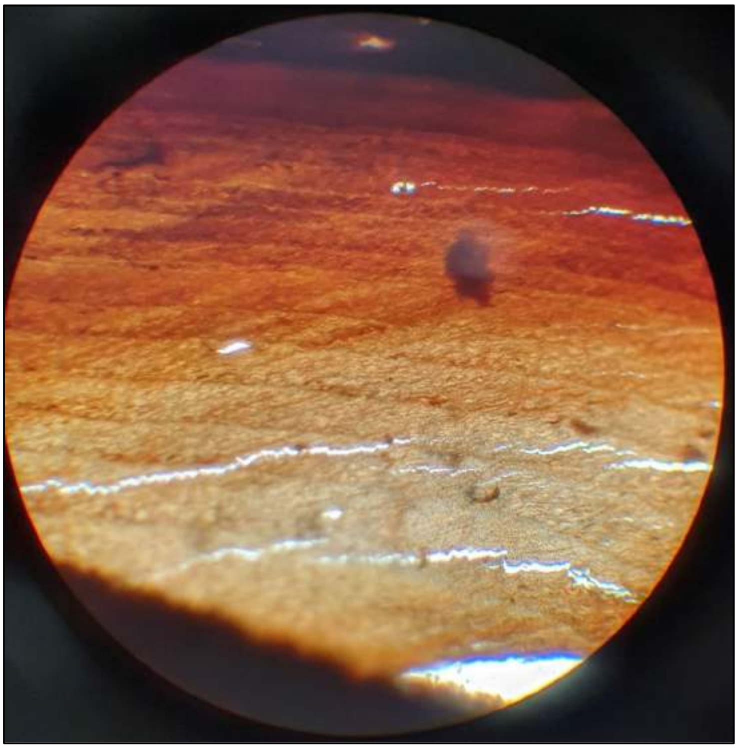


Figure 160. Collapsed anatomical structure of wood fragment (SF1237) from Structure 1 (shown at x40 magnification).

6.4. Waterlogged Wood Identifications

6.4.1 The majority of wood fragments from both structures were clearly of the Betulaceae family. They generally displayed the clear and characteristic vessel patterning on the transverse section, alongside tangentially-visible uniseriate or biserate (when within aggregate arrangements) rays. The fragments were differentiated as either alder (*Alnus sp.*; for the large majority) or hazel (*Corylus avellana*; in a small minority) by displaying clear radial ray homogeneity or heterogeneity respectively. Occasionally, where the pith was visible, it displayed the distinctive y-shaped pith characteristic of alder. Further differentiation was occasionally possible by the presence of longer perforation plates.

6.4.2 A small number of birch (*Betula sp.*) fragments were distinguished by the above Betulaceae characteristics though with an absence of aggregate rays, wider 2-4 cell ray widths, and tiny-sized vessel pits.

6.4.3 Willow/poplar (*Salix/Populus sp.*) is not possible to differentiate based on wood anatomy. Willow/poplar displayed uniseriate rays, simple perforation plates and large, angular vessel pits.

6.4.4 Pine (*Pinus sp.*) was clearly identified by a lack of vessels and the presence of resin canals. Growth ring boundaries were distinct.

6.4.5 The single fragment of dogwood (*Cornus sanguinea*) in Structure 1 was identified due to the 3- to 5- seriate ray widths visible on the tangential plane, which were distinctly heterogenous on the radial plane. Long scalariform perforation plates were observable.

6.5. Structure 1

6.5.1 Table 96 displays the results from analysis of wood fragments from Structure 1:

S.F. No.	Str. No.	Context	Species	Ring Curvature	Sapwood visible?	Ring no.	Radius distance	Season	Notes
1235	1873		Indet		Y?		26mm	Indet	Anatomical structure completely collapsed
1236	1873		Indet		Y?		27mm	Indet	Anatomical structure completely collapsed
1237	1873		Indet		Y?		26mm	Indet	Anatomical structure completely collapsed
1238	1873		Alder (Alnus sp.)	4	y	15	21mm	Indet	
	1876		Pine (Pinus sp.)	4	n		13mm	Indet	
	1877		Pine (Pinus sp.)	4	y		14mm	Indet	
1239	1897		Indet				21mm	Indet	Anatomical structure completely collapsed
1240	1897		Pine (Pinus sp.)				18mm	Indet	Anatomical structure completely collapsed
1241	1897		Indet				18mm	Indet	Anatomical structure completely collapsed
		1883	Pine (Pinus sp.)	3	n		~26mm	Indet	
1264		G1958	Indet					Indet	Anatomical structure completely collapsed
1272			Birch (Betula sp.)	3	n		~20mm	Indet	Anatomical structure completely collapsed
1277		1974	Dogwood (Cornus sanguinea)	3	y	56 +/- 3	32mm	Indet	

Table 96. Wood identification details from Structure 1.

6.5.2 Due to the poor preservation quality of the Structure 1 wood, relatively limited information could be recovered from the fragments. All wood pieces were relatively narrow-width (<30mm radius) Species identification was generally challenging (other than for the pine which has very distinctive anatomical characteristics); with anatomical features being degraded or collapsed due to post-depositional processes. Confidently identifying growth ring numbers was rare and determining felling season not possible for any recovered fragment. The two y-shaped timbers (SF1235 and SF1236) could not be identified to species level due to post-depositional degradation. One timber (SF1238) adjacent to the two y-shaped timbers (SF1235 and SF1236) was identified as alder. One of the timbers (SF1240) situated six metres away from the two y-shaped timbers (SF1235 and 1236) was identified as pine, as were three other nearby fragments. A single fragment of waterlogged wood adjacent to the two y-shaped timbers (SF1235 and 1236) was identified as birch (*Betula sp.*) and a single fragment was identified as dogwood.

6.5.3 No clear evidence for tool marks was observable on any wood fragment from Structure 1. The placement of the timbers, particularly the crossed y-shaped timbers (SF1235 and 1236), appeared deliberate and was unlikely to have been due to the occurrence of natural processes (see Figure 161).

Figure 161. Aerial photograph of Structure 1. Note the deliberate placement of the crossed y-shaped timbers (left) and the two parallel timbers (right).

6.5.4 The proximal and distal ends of any Structure 1 timbers do not display any clear tool marks. They appear relatively rough, ragged, and are indicative of tearing or ripping rather than cutting using tools. Bark was visible on the y-shaped timbers (SF1235 and 1236) as well as one of the nearby parallel timbers (SF1240). Although bark was not visible on the other timbers, there was no indication of deliberate bark removal. Branches were absent from the timbers and would have been removed in order to produce relatively straight lengths of wood. There is no evidence for the use of tools in removing these branches and would likely have been removed by hand. The distal extents of the y-shaped timbers (SF1235 and SF1236) did not show any evidence for tool marks and the distinct y-shape was likely formed by separation of undesirable wood by hand. The narrowness of the timbers makes modification and felling by hand practical and would not require the use of tools.

6.6. Structure 2

6.6.1 The following table displays the results following analysis of wood fragments from Structure 2:

S.F. No.	Species	Ring Curvature	Sapwood visible?	Radial Cracks	Ring no.	Radius distance	Season?	Notes
1301	Alder (Alnus sp.)	4	y	y	24 +/- 3	27mm	Earlywood	
1302	Alder (Alnus sp.)	4	y	y	23 +/-3	23mm	Earlywood	
1303	Alder (Alnus sp.)	5	y		6	8mm	Earlywood	
1304	Alder (Alnus sp.)	4	y		24 +/- 1	24mm	Earlywood	
1305	Alder (Alnus sp.)	3	y		11 +/- 1	32mm	Earlywood	
1306	Alder (Alnus sp.)	4	y	y	11 +/- 1	22mm	Earlywood	
1307	Willow (Salix sp.)	4	y	n	11 +/- 1	16mm	Earlywood	
1308	Alder (Alnus sp.)	4	y		11 +/- 1	32mm	Earlywood	
1309	Alder (Alnus sp.)	4	y		18 +/- 2	26mm	Earlywood	
1310	Alder (Alnus sp.)	4	y		20 +/- 1	18mm	Earlywood	
1311	Alder (Alnus sp.)	5			6	12mm	Latewood	
1312	Alder (Alnus sp.)	5			4	8mm	Earlywood	
1313	Alder (Alnus sp.)	5	y		7	4mm	Earlywood	
1314	Alder (Alnus sp.)	5	Y	N	17	11mm	Latewood	
1315	Alder (Alnus sp.)	2		y				Lightly charred
1316	Alder (Alnus sp.)	4	y		12	21mm	Earlywood	
1317	Alder (Alnus sp.)	5	y	y			Latewood	
1318	Alder (Alnus sp.)	4			20	21mm	Earlywood	
1319	Birch (Betula sp.)	5	y	n	8	12mm	Latewood	

1320	Hazel (Corylus avellana)	4	y					
1321	Alder (Alnus sp.)	5	y		7	11mm	Earlywood	
1322	Alder (Alnus sp.)	4						
1323	indet.							Badly deformed by drying
1324	Alder (Alnus sp.)	4	n		N/A	18mm		
1325	Alder (Alnus sp.)	5	y		7 +/- 2	9mm		
1326	Alder (Alnus sp.)	4	y		25 +/-3	29mm	Earlywood	
1327	Alder (Alnus sp.)	5	y		8	18mm		
1329	cf. Alder (Alnus sp.)	4	n			14mm		Badly deformed by drying
1330	Alder (Alnus sp.)	4	y		16	24mm	Earlywood	
1332	Willow (Salix sp.)	4	n	y		19mm		Outer surface charred
1333	Alder (Alnus sp.)	4	n			32mm		
1335	cf. Alder (Alnus sp.)	3	n			12mm		Deformed by drying
1336	Alder (Alnus sp.)	5	y		13	8mm	Earlywood	
1334	Alder (Alnus sp.)		y		14 +/- 2	12mm	Earlywood	
1337	Alder (Alnus sp.)	5	y		4	3mm	Earlywood	
1339	cf. Alder (Alnus sp.)	4	n					Badly deformed by drying
1340	Alder (Alnus sp.)	4	y		26 +/- 4	14mm	Earlywood	
1341	Alder (Alnus sp.)	4	y		13 +/- 2	28mm	Latewood	3rd ring displaying extreme stress indicator
1342	Hazel (Corylus avellana)	5			7	3mm	Earlywood	
1344	Alder (Alnus sp.)	5	y		19	16mm	Earlywood	
1346	cf. Alder (Alnus sp.)	4				?		Heavily charred

1347	Alder (Alnus sp.)	4		y				Heavily charred
1348	Alder (Alnus sp.)	5	y	y				Heavily charred
1349	Alder (Alnus sp.)	5	y	y			Earlywood	Heavily charred
1350	Alder (Alnus sp.)	4	y			?		Heavily charred
1351	Alder (Alnus sp.)	4	y					Heavily charred
1354	Alder (Alnus sp.)	4	n					Heavily charred and quite fragmented
1355	Alder (Alnus sp.)	3	y			23mm	Earlywood	Deformed by drying
1356	Alder (Alnus sp.)	4						Heavily charred
1357	Alder (Alnus sp.)	4						Moderately charred
1358	Alder (Alnus sp.)	4	y	y	8	24mm	Earlywood	Lightly charred
1360	Alder (Alnus sp.)	5	y		6	7mm	Latewood	
1361	cf. Alder (Alnus sp.)	4				?		Deadwood- fragmented by pre-depositional rotting
1363	Alder (Alnus sp.)	3	n			~32mm		
1364	cf. Alder (Alnus sp.)	4	y			~30mm		Deformed by drying. Lightly charred at proximal end
1365	Alder (Alnus sp.)				11 +/-3	22mm		
1366	Alder (Alnus sp.)	5	y	y		12mm		
1367	Alder (Alnus sp.)	4		y				Heavily charred and fragmented
1368	Alder (Alnus sp.)	3	y	y				Heavily charred and fragmented
1369	Alder (Alnus sp.)	4	n			14mm		Deformed by drying
1371	Alder (Alnus sp.)	4				18mm		
1372	Alder (Alnus sp.)	5	y		8	8mm		

1374	Alder (Alnus sp.)	4	y		?	?		
1375	Alder (Alnus sp.)	5	y			17mm	Earlywood	Highly compressed
1377	Hazel (Corylus avellana)	4	y			?		Moderately charred
1378	Alder (Alnus sp.)	4	y			14mm		Heavily charred
1379	Alder (Alnus sp.)	5	y	y	6	4mm	Earlywood	
1380	Alder (Alnus sp.)	4	y			23mm		Lightly charred
1381	Alder (Alnus sp.)	5	y	y	19	14mm	Latewood	Lightly charred
1382	Hazel (Corylus avellana)	4	y	n		24mm		Moderately charred
1383	Alder (Alnus sp.)	5	y	y		13mm	Earlywood	Heavily charred
1387	Alder (Alnus sp.)				5	5mm		
1396	Willow (Salix sp.)	4	y			22mm		Lightly charred
1325	Alder (Alnus sp.)	5	y		11	13mm	Earlywood	

Table 97. Wood identification details from Structure 2.

6.6.2 Due to the better preservation of the wood from Structure 2 there was a greater range and quality of data recovery from the timbers. Species identification was more frequently possible and undertaken with a greater degree of confidence. Where identification was more challenging it was due to the effects of drying causing the collapse of wood anatomy, similar to Structure 1. This drying of the wood had occurred at a much lesser degree than Structure 1, likely due to thicker overlying peat which generally maintained sufficient water saturation for adequate preservation. Due to this improved preservation it was also possible to frequently identify the outermost growth ring and determine the season within the final growth cycle at which it had been felled. Growth ring counts were also practical for more timbers and wood fragments than for Structure 2.

6.6.3 Small (~2mm diameter) holes were visible on the surface of the majority of the timbers (see Figure 162). The shape of the holes was relatively angular and is most likely to be due to the effects of rooting than from insect damage (Bamforth, M. pers. comm.). Indeed, small rootlets could infrequently be observed within the holes when the timbers were recorded and lifted.

Figure 162. Structure 2 timbers SF1305 (lower) and 1307 (upper). Note the small rooting holes scattered throughout the surface of the timbers.

6.6.4 All fragments were relatively narrow widths, with the largest pieces being 32mm radius on their widest radial widths. There was a mixture of branchwood and trunk-wood which was used for Structure 2. It was often difficult to distinguish between the two, however the length of some of the primary structural timbers (*i.e.* SF1301, SF1302, SF1304, or SF1305) of over eight metres long is highly suggestive of main trunk wood rather than branches. All wood had been modified in a similar fashion to Structure 1; with the proximal and distal ends of the timbers not displaying any clear tool marks and were rough and ragged breaks. Bark was present on the majority of fragments and there is no evidence for deliberate de-barking of the wood. Branches and twigs had been removed from the structural timbers in order to produce relatively straight lengths of wood. As with Structure 1, there was no evidence for the use of tools in the removal of branches. One exception was present for one of the two longer poles (SF1304) which were part of the primary concentration of wood for Structure 2. This piece displayed a probable tool facet where a branch had been separated from the main pole by a glancing blow from an edged tool. As with Structure 1, it appears likely that most modification of the wood was done by hand, rather than with tools. Timber SF1304 is the exception to this where it does appear that a single branch may have been removed using an edged tool.

Figure 163. Timber SF1304 displaying a potential tool facet created when the wood was de-branched (circled in black).

6.6.5 The majority of the identified wood fragments were alder (at 86% of the total with 52 pieces), which included all of the primary structural timbers and the two nearby long poles (SF1301 and 1302). A minority of the smaller pieces of wood were hazel (four fragments), three pieces were willow, and a single piece was birch.

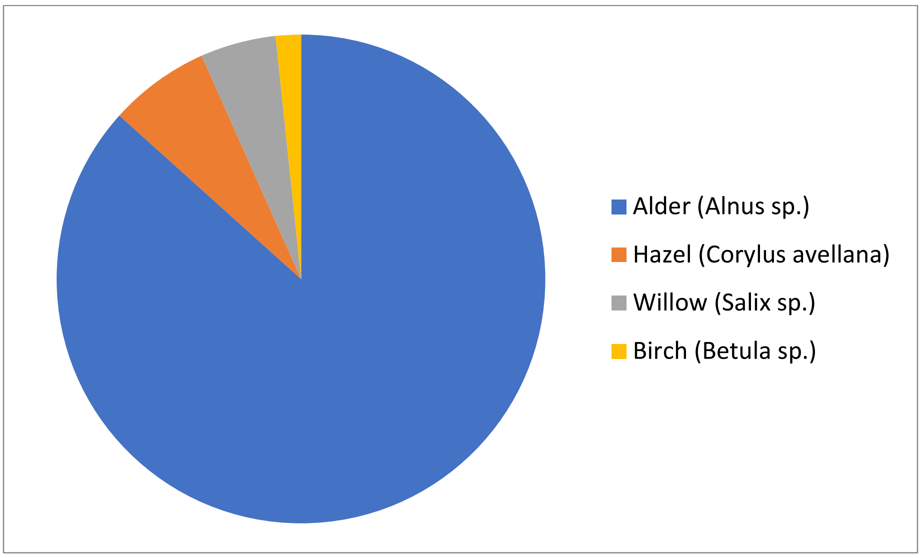


Figure 164. The relative proportions of different wood species which composed Structure 2.

Figure 165. The two long timbers F2408 and F2409 set aside from Mesolithic Structure 2 showing wood type.

Figure 166. Plan of Structure 2 upper level long timbers and fireplace F2413 timbers showing wood types. .

Figure 167. Plan of fireplace F2413 after removal of upper timbers showing wood types.

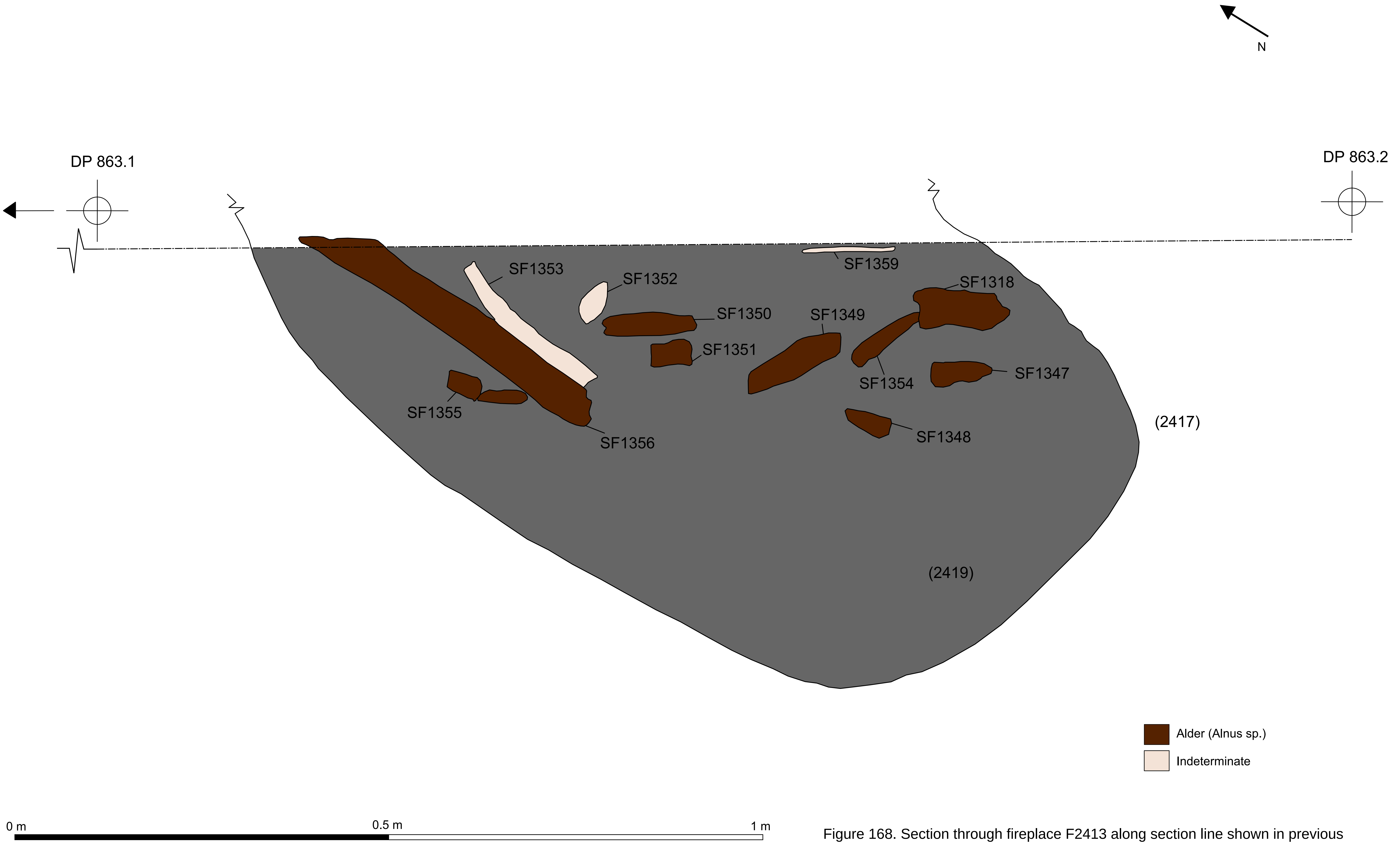


Figure 168. Section through fireplace F2413 along section line shown in previous figure with wood types shown.

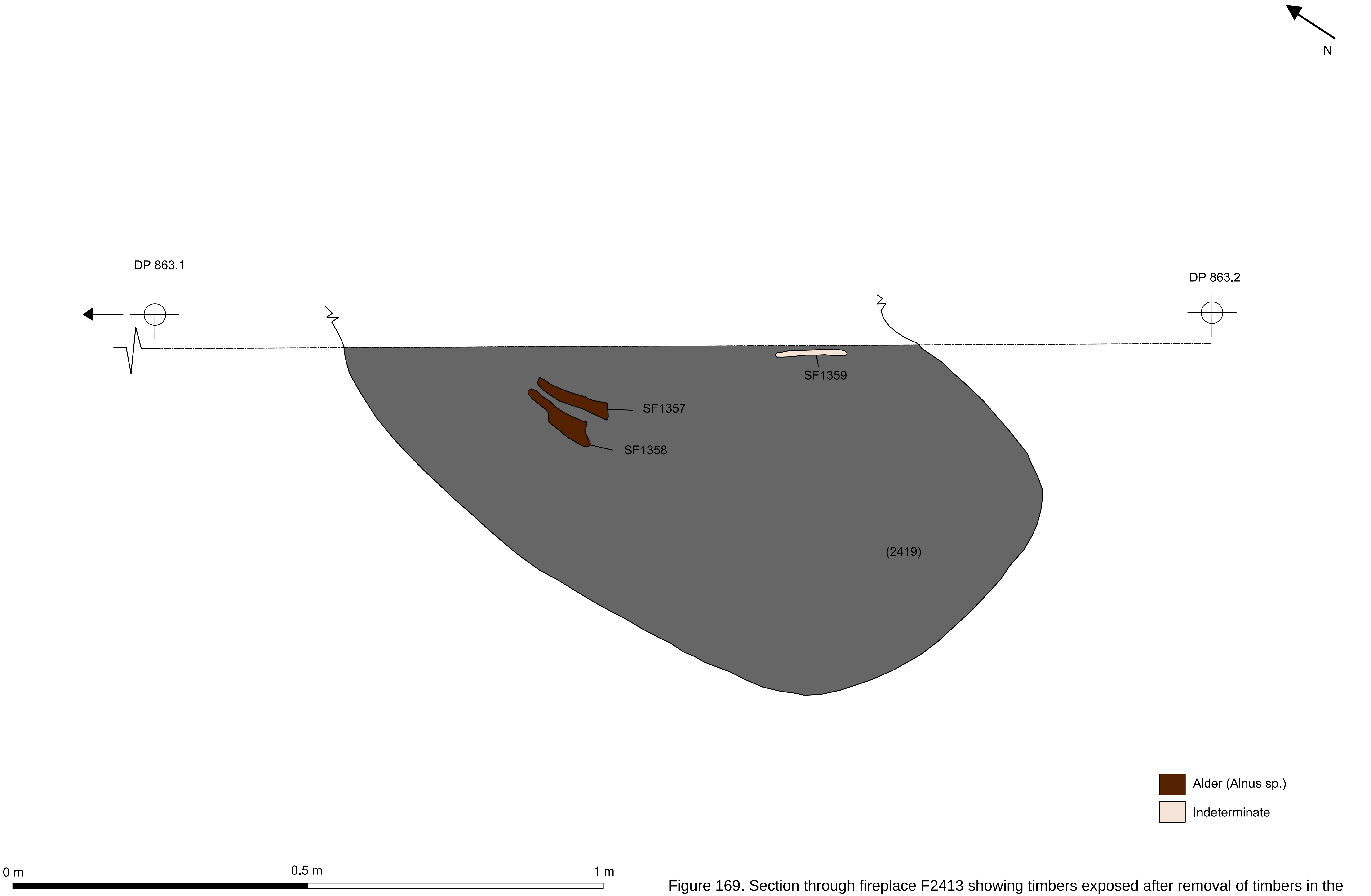


Figure 169. Section through fireplace F2413 showing timbers exposed after removal of timbers in the section along same section line as in previous figure with wood types shown.

6.6.6 As shown above in Figure 165 to Figure 169, there is no clear pattern in the distribution for the different species of wood. What is clear is the dominance of alder wood which was used to construct the structure.

6.6.7 The similarity of width, form, species, and proximity for the two long poles (SF1301 and SF1302) to the timbers from Structure 2 makes it highly likely that they are from the same structure.

6.6.8 Of the 85 individual pieces of wood which composed Structure 2, it was possible to identify the felling season for 34 pieces. The majority (27 pieces) possessed final growth rings which terminated early in the growth cycle; with a relatively small number of the earlywood vessels having formed. This earlywood growth likely represents growth during the late spring or early summer seasons. The remaining seven pieces displayed a distinctly larger quantity of vessel formation within the final growth ring, suggesting termination late in the growth cycle. This latewood growth likely represents growth during the early autumn season. Although it is not possible to accurately judge how much growth was remaining within this final cycle, considering the quantity of vessels which had formed it is likely that the majority of growth had completed by the point of felling for these pieces.

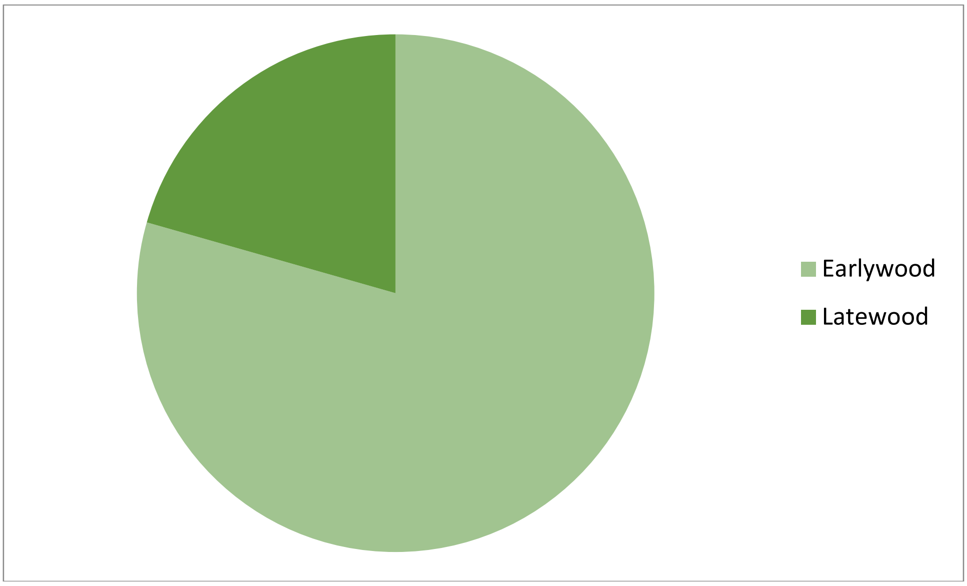


Figure 170. Proportion of wood pieces from Structure 2 where the final growth ring could be identified as either earlywood or latewood when felled.

6.6.9 Figure 171 to Figure 175 display the distribution of the wood pieces whose felling season could be identified:

Figure 171. The two long timbers F2408 and F2409 set aside from Mesolithic Structure 2 showing felling season.

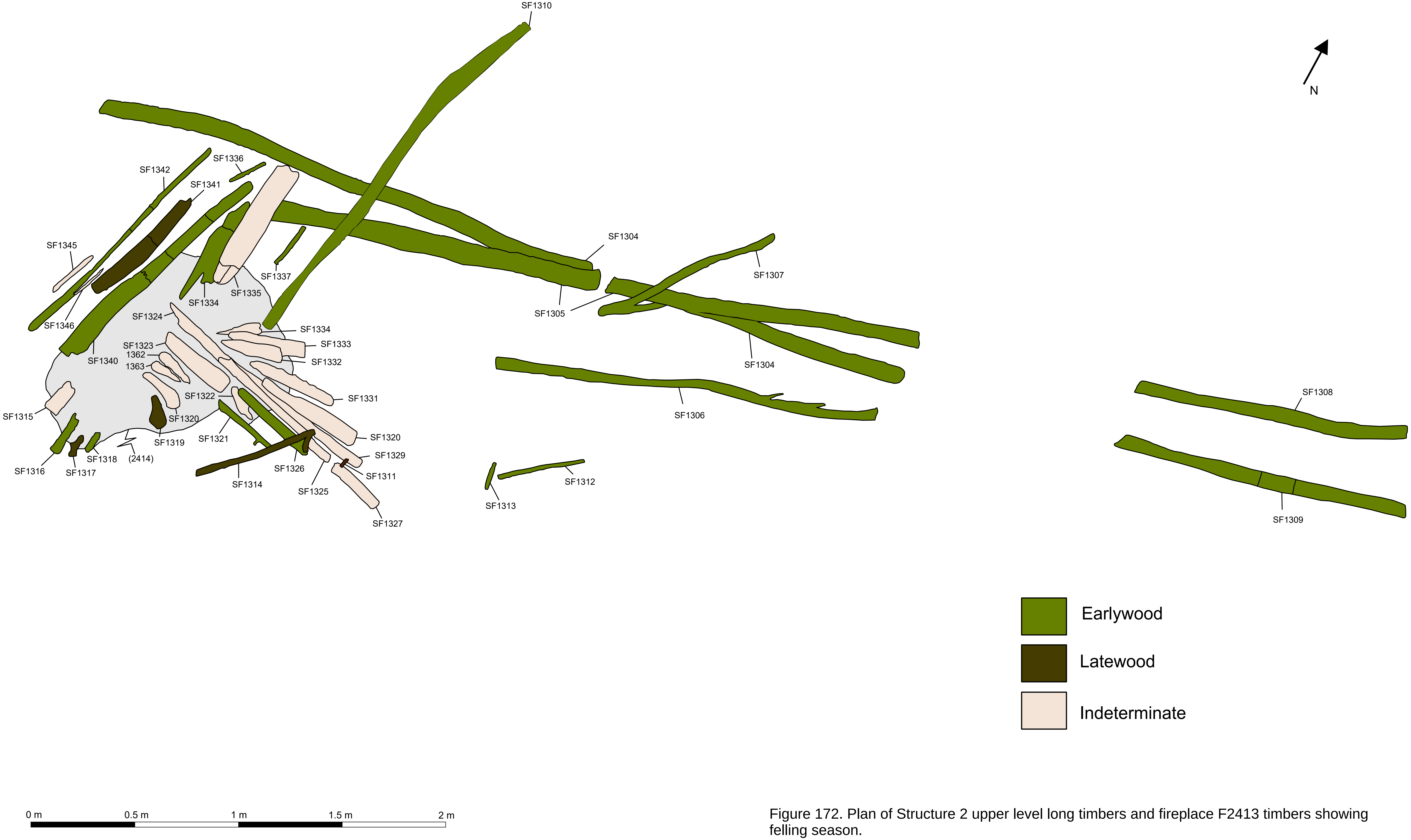


Figure 172. Plan of Structure 2 upper level long timbers and fireplace F2413 timbers showing felling season.

Figure 173. Plan of fireplace F2413 after removal of upper timbers showing felling season.

Figure 174. Section through fireplace F2413 along section line shown in previous figure with felling season shown.

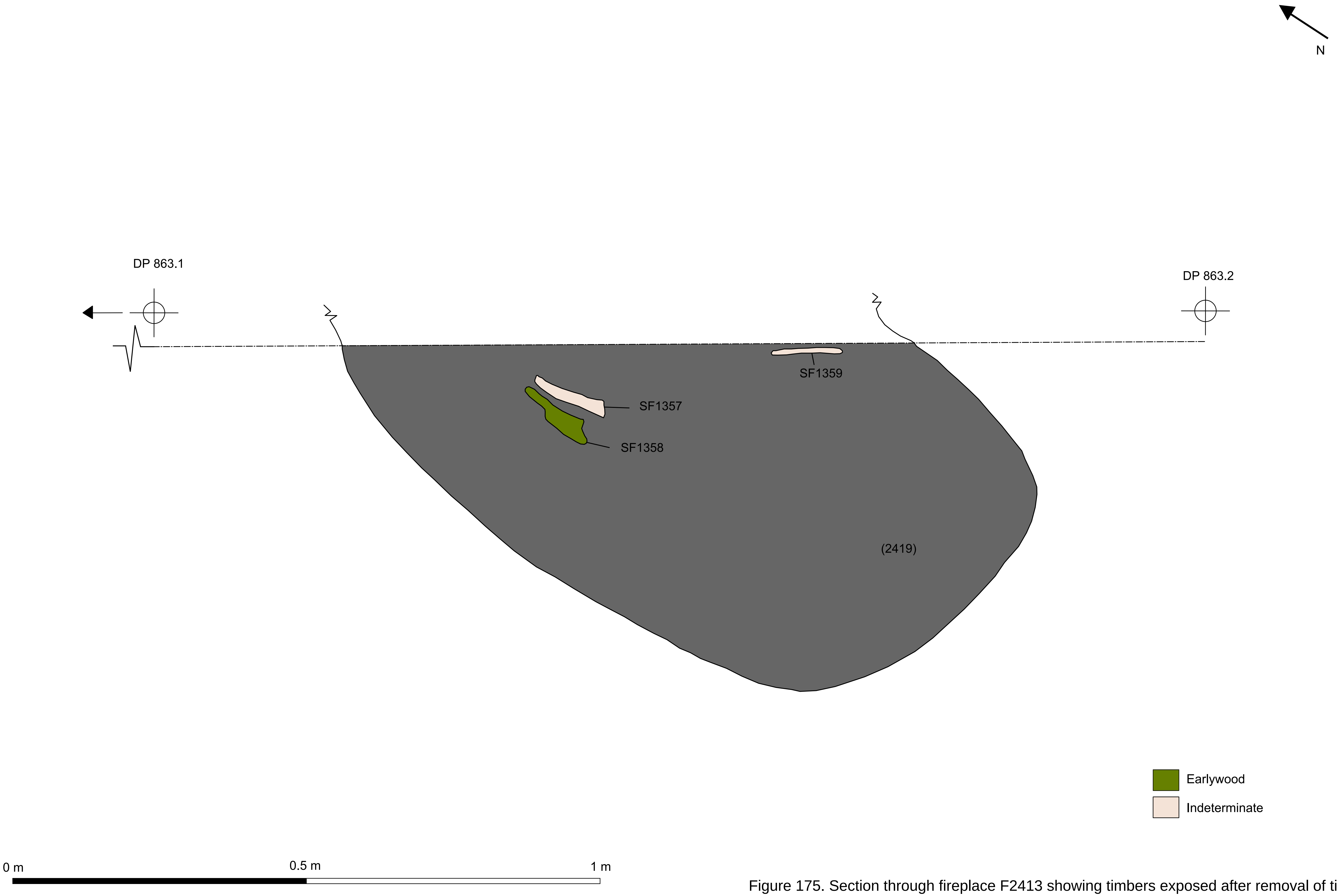


Figure 175. Section through fireplace F2413 showing timbers exposed after removal of timbers in the section along same section line as in previous figure with felling season shown.

6.6.10 As with the species distribution, there does not appear to be any meaningful pattern for seasonal distribution of the wood. There is a clear dominance of wood which was felled during the late spring/early summer.

6.6.11 By using a combination of wood age and wood diameter, it is possible to distinguish between managed and unmanaged trees. Managed and unmanaged tree branches (roundwood) display distinctive distributions on an age/wood radius scatter graph (Out *et al.* 2013). By comparing the age/wood radius graph scatter distributions from the Structure 2 wood with coppiced alder branches measured by Out *et al.* (2017) it is possible to determine whether there are indications as to whether past woodland management was occurring. Helpfully, Out *et al.* (2017) utilised alders one of their modelled species which makes the comparison more applicable. The data used by Out *et al.* (2017) are from Moesgaard, Denmark, rather than Britain, however the environmental conditions are viewed as not being different enough to make the comparisons inappropriate.

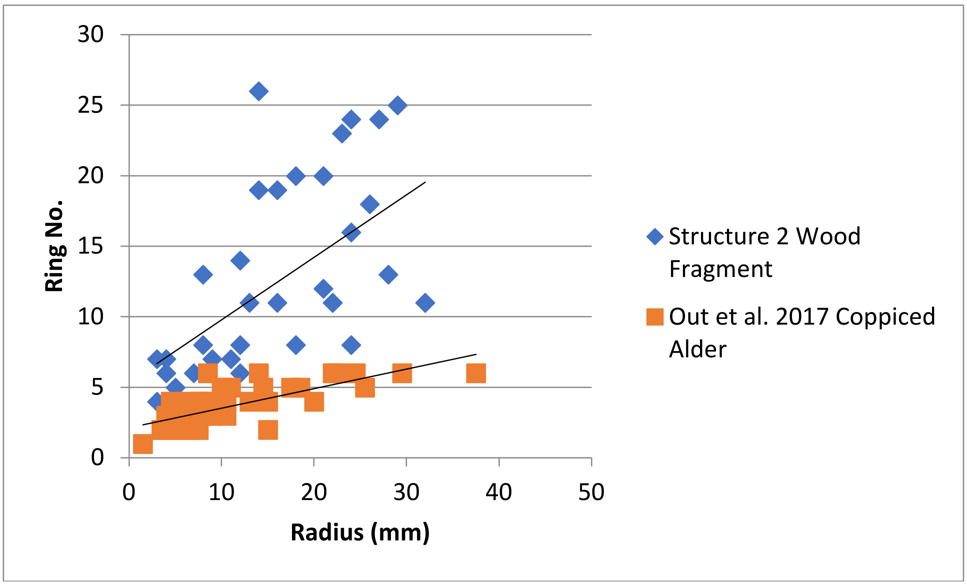


Figure 176. Age/wood radius distributions of wood fragments from the Structure 2 wood fragments and the Moesgaard Skovmøllevej South coppiced alder measurements given by Out, Hanninen and Vermeeren (2017).

6.6.12 As shown in Figure 176, the scatter distributions between the Structure 2 wood and the coppiced alder measurements given by Out *et al.* (2017) are different, suggesting that the Structure 2 wood is from unmanaged and uncoppiced sources. It should be noted that Out *et al.* (2017) state that sample groups should include at least 50 wood fragments in order to provide firm conclusions to be reached about woodland management, however in this case only 34 pieces were possible. Morphological characteristics such as the presence of heels or distinct fluctuations in tree-ring width can also indicate management techniques such as coppicing, however these were not present for the Structure 2 wood.

6.6.13 The charcoal spread underlying the waterlogged wood timbers from Structure 2 was sampled for further analysis. Although treated as a discrete deposit separate from the Structure 2 timbers, it was often difficult to distinguish between charcoal and charred structural timbers. The condition of the charcoal fragments was excellent; with anatomical features clearly visible, large charred wood pieces being recovered relatively intact, and little or no erosion of the material. No charred archaeobotanical macrofossils were recovered from the charcoal spread (2437) underlying Structure 2. The following Table 98 contains charcoal identifications from the charcoal spread underlying Structure 2:

Fragment size	Species	Ring Curvature	Season
9mm	Alder (Alnus sp.)	5	Earlywood
12mm	Alder (Alnus sp.)	5	
10mm	Alder (Alnus sp.)	5	
8mm	Alder (Alnus sp.)	5	
7mm	Birch (Betula sp.)	5	
14mm	Alder (Alnus sp.)	4	
24mm	Alder (Alnus sp.)	4	
12mm	Alder (Alnus sp.)	4	
22mm	Alder (Alnus sp.)	4	Earlywood
28mm	Alder (Alnus sp.)	4	
32mm	Alder (Alnus sp.)	4	
12mm	Alder (Alnus sp.)	5	
22mm	Alder (Alnus sp.)	3	
12mm	Alder (Alnus sp.)	5	
15mm	Alder (Alnus sp.)	5	
18mm	Birch (Betula sp.)	5	
22mm	Alder (Alnus sp.)	5	
28mm	Alder (Alnus sp.)	5	Earlywood
17mm	Alder (Alnus sp.)	5	
20mm	Hazel (Corylus avellana)	5	
24mm	Alder (Alnus sp.)	4	Earlywood
12mm	Alder (Alnus sp.)	5	
16mm	Alder (Alnus sp.)	5	
8mm	Alder (Alnus sp.)	5	
22mm	Alder (Alnus sp.)	5	
12mm	Alder (Alnus sp.)	5	
22mm	Alder (Alnus sp.)	5	
12mm	Alder (Alnus sp.)	5	
16mm	Alder (Alnus sp.)	5	
20mm	Alder (Alnus sp.)	5	

Table 98. Identifications of charcoal fragments from the charcoal spread (2437) underlying Structure 2.

6.6.14 Of the 30 identified fragments, 27 were alder, 2 were hazel and 1 was birch. All were rounwood fragments with a relatively high degree of ring curvature and very similar to the smaller wood fragments from Structure 2. Where seasonality could be identified the final growth ring was during the earlywood stage of growth. Other than the degree of carbonisation, there is no discernable anatomical difference between the charcoal fragments from the charcoal spread (2437) and the partially-charred wood from Structure 2. All fragments displayed evidence for radial cracks. The presence of radial cracks has, in the past, been seen as an indicator for the combustion of green wood, however more recent experimental research has questioned this (see Théry-Parisot and Henry, 2012).

6.7. Discussion

6.7.1 The condition of Structure 1 poses a serious limitation on what interpretations can be developed. It was not possible to identify the species for a large proportion of the timbers from Structure 1, owing to the poor condition of the wood, and identifying further characteristics such as felling season or ring counts was also not possible. However, disregarding the poor state of preservation the radiocarbon age of 8786-8636 calBC (95.4% probability; SUERC-92017(GU53969)) and the scarcity of similar such waterlogged finds still renders this structure a significant discovery.

6.7.2 It is clear that both Structure 1 and 2 are composed of long poles which were felled and modified into timbers (other than one example in Structure 2) by hand. Off-shoots and small branches were snapped off by hand to form poles and single lengths of wood which could be used to construct what would have been domestic structures.

6.7.3 The use of alder in Structure 2 is fairly unsurprising, given the local palaeoenvironment which would have surrounded the structures. The palsa bog sediment within which Structure 2 was found, surrounded by wetland, would undoubtedly have had alder growing locally within its prefered damp environment. The use of alder would have been an ideal choice for the environment. Other than its local accessibility, alder is notably resistant to rotting in wet environments which would have been a useful trait for a structure constructed in a palsa bog.

6.7.4 The felling season, as interpreted from the outermost growth ring, suggests that the majority of the wood, including all major structural timbers, was during the late spring/early summer. A minority of mostly smaller pieces were felled during the autumn season. It is likely that the wood was gathered, and the structure constructed and occupied during the late spring/early summer. Wood was then added later to the structure during the autumn. The structure, composed of locally available wood which could be easily harvested, modified, and constructed into a dwelling, would have been ideal for a temporary purpose. It is difficult to ascertain whether the structure was continuously occuped from the late spring/early summer through into the autumn, or whether the structure was constructed during the late spring/early summer, temporarily abandoned, and then reoccupied in the autumn when the structure was reestablished and replenished with new wood. Were the structure continuously occupied then one would expect the presence of associated material culture, which here was completely absent. Prolonged activity would also be expected to produce some archaeobotanical evidence for occupation, particularly in the form of the ubiquitous charred hazelnut shells or possibly some degree of internal stratification to the charcoal, were this the result of repeated burning events within a hearth (e.g. Waddington, 2007).

6.7.5 There was no discernable difference between the charcoal and the Structure 2 wood. Both were predominantly alder of similar ring curvatures and thickness when fully intact. A number of the wood pieces determined to be part of Structure 2, rather than the charcoal spread, but were still heavily charred; some being charred throughout the entire width of the wood (see Figure 177 below, noting SF1356). The inward-facing tips of a number of the structural timbers were charred where they were overlying or protruding into the boundaries of the charcoal spread (2437).

Figure 177. Section through the charcoal spread and the Structure 2 timbers. Note the large piece of Structure 2 timber (circled; SF1356) within the charcoal spread and the similarity with a number of surrounding uncharred Structure 2 timbers.

6.7.6 The difficulty in distinguishing and disentangling the Structure 2 timbers and the charred wood fragments from the charcoal spread (2437), coupled with the indistinguishable microscopic characteristics, make it challenging to identify the two as discrete wood deposits. It is possible that the charcoal actually results from the burning of Structure 2 timber either *in-situ* or following dismantling of the structure. With the latter scenario possibly being supported by the presence of two very similar long poles (SF1301 and SF1302) within close distance to Structure 2 which are undoubtedly from the same structure, yet deliberately separated from the structure and placed nearby.

6.8. Archaeobotany Results

6.8.1 Extensive bulk sediment sampling was undertaken throughout excavation. As stated above in the methodology, all contexts which were viewed as being either archaeological in nature, or of palaeoenvironmental significance, were sampled. However, sampling and processing of natural, palaeoenvironmental contexts yielded little in terms of identifiable palaeoenvironmental macrofossils. Extensive archaeobotanical remains were recovered from the Romano-British and medieval archaeology associated with Wetland Basin 3; primarily in the form of significant charred cereal assemblages. Extensive contamination was abundant throughout the site as a result of bioturbation from either agricultural activity or organic growth associated with the wetland areas. The initial stages of plant regrowth had occurred throughout the quarry following topsoil stripping, leading to the regular intrusion of goosefoot (*Chenopodium sp.*), catchfly (*Silene sp.*) and dandilion (*Taraxacum officinale*) seeds. On the northern ridge area, stinging nettle (*Urtica dioica*) seeds were commonly recovered within the flots. The archaeology associated with Wetland Basin 3 also contained large inputs of buttercup (*Ranunculus sp.*) seeds from recent plant growth on stripped land and the occasional belladona (*Atropa belladonna*) or black nightshade (*Solanum nigrum*) seed from nearby more wooded areas. The area surrounding Wetland Basin 3 also displayed abundant rabbit activity, with droppings periodically present within bulk samples.

6.8.2 Organic growth associated with the wetland areas was commonly observed within wetland samples in the form of indeterminate, heavily degraded and dried-out organic matter; appearing almost minerogenic in nature. It was often found alongside other slightly less degraded and less 'minerogenic textured' organic matter, though this is still of the same origin. This is likely ancient organic material from the wetland basins which was not permenantly water saturated and therefore degraded. Iron oxide contamination was also abundant within this indeterminate organic material and likely results from a periodically fluctuating water table (Bohn *et al.* 2001). No identification or further analysis is possible on this degraded organic material (labelled indeterminate organic material in Table 120 and Table 121 below). The results of bulk sampling from archaeological features are detailed in Table 120 and Table 121 in Appendix II: Specialist Report Appendices.

6.8.3 Other than from the archaeology associated with Wetland Basin 3, the archaeobotanical assemblages are restricted to limited quantities of small (<2mm) charcoal fragments and a few (<5 individuals) charred, fragmented cereal grains. These small concentrations of cereal grains were varieties of wheat in the form of either spelt (*Triticum spelta*) or possibly free-threshing wheat (*Triticum nudum*), alongside barley (*Hordeum sp.*), and/or indeterminate cereal grain.

6.8.4 The northern ridge, atop which were a number of enclosure ditches and pits which yielded little in terms of archaeobotanical remains beyond the aforementioned scattered small concentrations of cereal grains. An exception was the fill (1230) of pit [1229] which was composed of a significant proportion of charcoal alongside ten peas (*Pisum sativum*) and a single charred cherry stone.

6.8.5 At the northern base of the northern ridge, to the south of the Wetland Basin 3 area, was pit [1360] which contained a fill (1361) yielding a large charcoal assemblage alongside a cereal assemblage of over a hundred charred cereal grains. The assemblage was composed of 86 barley (*Hordeum sp.*) grains, 38 oats (*Avena sp.*), 3 malted wheat grains (*Triticum nudum/spelta*), and a single rye (*Secale cereale*) grain. Alongside the 38 oats was an oat still within the floret (*Avena sativa*) and a single floret with the oat grain missing.

6.9. Wetland Basin 3

6.9.1 Within the Wetland Basin 3 area, a high proportion of sampled archaeological contexts contained quantities of small (<2mm) fragments of charcoal alongside charred cereal assemblages of varying sizes. Pottery and small finds suggested a multi-phase archaeological sequence, consisting of an earlier Romano-British alongside a (perhaps more prolific) medieval phase. Significant deposits of butchered animal bone totalling 72kg were recovered from this area from a number of different species of domesticated animals. Charred cereal remains were recovered in large concentrations from a number of contexts which included charred grains, chaff, un-processed cereals, and associated agricultural weeds. Charred cereal grains were the most commonly found cereal reamins within the contexts associated with Wetland Basin 3. Wheat, barley, oats and rye were all present within these contexts.

6.9.2 The wheat grains proved challenging to distinguish as being either spelt or free-threshing varieties of wheat. Although many wheat grains within an assemblage possessed the characteristic short, squat form which could indicate free-threshing wheat, others were relatively narrow and more robustly shaped as could be expected for spelt wheat. The absence for clear, angular profiles for the grains could be seen as reflecting the former being more likely. Grains were occasionally so well preserved that the characteristic surface 'wrinkles' were visible and the shape were very clearly evident as indicating free-threshing wheat. Under those circumstances, the grains are identified as being free-threshing wheat. Otherwise, grains are identified as naked wheat/spelt wheat in order to reflect this uncertainty in identification. In four contexts (1361, 1705, 1797, 1833) notable numbers of these wheat grains were malted. Rachis segments which were identified as free-threshing hexaploid wheat (*Triticum aestivum*) were recovered from the fill (1797) of ditch corner [1796] which may be taken as identifying the species of wheat which is being recovered from these contexts. However, as it is likely that the archaeology in Wetland Basin 3 represents multi-phase activity there is the possibility that the variety of wheat has changed throughout the archaeological activity at this part of the site.

6.10. Wetland Basin 3 Discussion

6.10.1 All major species of cereals which were consumed in Roman Britain were recovered from within Wetland Basin 3, suggesting that a wide diversity of cereal production and utilisation was occurring.

7 Palaeoentomological Analysis

Denisa Cretu

7.1. Introduction

7.1.1 Analysis was undertaken on 120L of archaeological material from peat deposits, as well as clay and pit fills. These features were primarily located in Wetland Basin 1 and associated with Structure 2. The analysis was primarily undertaken in order to recover beetle (order Coleoptera) fossil remains to provide a better understanding of the environmental conditions prevalent at the time and possible human related activities.

7.2. Methods

7.2.1 Sediment sampling was undertaken specifically for palaeoentomological analysis, where 10L of bulk sediment were sampled from each context. These sediments were targeted due to their potential archaeological and palaeoenvironmental importance, as well as due to their organic rich composition, which represents ideal preservation conditions for insect remains.

7.2.2 Processing was undertaken following the standard method of paraffin flotation outlined by Kenward *et al.* (1980). The bulk samples were thoroughly cleaned in a siraf-style flotation tank using a 300 µm flotation mesh and a 300 µm sieve. The residual material was processed by paraffin flotation in order to isolate and concentrate the insect fossils. The recovered flot was then cleaned and scanned using a low-power binocular microscope (x40).

7.3. Results and Discussion

7.3.1 The samples processed yielded very small amounts of insect remains. Table 99 presents the samples processed and a summary of the results.

Sample no	Context no	Description	Materials recovered
	1910	Marl deposit in Wetland Basin 1	50-100 fly puparia
	1915	Peat deposit in Wetland Basin 1	50-100 fly puparia, 4 elytra
	1916/1918	Peat deposits in Wetland Basin 1	50-100 fly puparia, 1 elytra
	1919	Peat deposit in Wetland Basin 1	>100 fly puparia, 3 elytra
250	2031	Fill of pit	>100 fly puparia
247	2415	Charcoal layer, mixed with peat	50-100 fly puparia, 5 elytra
248	2419	Organic sediment immediately underlying Wetland Basin 1 fire	50-100 fly puparia
249	2429	Clay fill under hearth	>100 fly puparia, 2 elytra
256	2439	Peat deposit	50-100 fly puparia, 4 elytra
258	2441	Clay deposit	>100 fly puparia, 2 elytra
7			50-100 fly puparia, 3 elytra
			50-100 fly puparia, 2 elytra

Table 99. Recovered fossil insect remains from sampled contexts.

7.3.2 The flots were very rich in degraded plant material, however no charred palaeobotanical remains have been recovered. The most abundant insect remain recovered were fly (order *Diptera*) puparia.

7.3.3 Very small numbers of beetle remains have been recovered from most samples, with the exception of contexts (1910), (2031) and (2419), where no identifiable fossil remains were present. Peat deposits which have been overlain by large volumes of sediment may become compressed, which can in turn make the extraction of fossil insect remains difficult (Elias, 2009). The compact nature of the peat deposits analysed here might represent one of the reasons why very small quantities of insect fossil remains have been recovered.

7.3.4 Due to the very low number of beetle fossil remains in each assemblage, no further identification and analysis of the fossil fragments is recommended.

8 Animal Bone

Milena Grzybowksa

8.1. Material

8.1.1 The material consisted of 72.683kg of disarticulated and articulated animal bone dated to Early Mesolithic through to post-medieval period. Most of bone fragments were recovered from contexts associated with early medieval layer (1406) located in Wetland Basin 3, whereas smaller quantities collected from ditches, pits, and a foundation trench. Recovery was undertaken by sampling and hand collection.

8.2. Methods

8.2.1 The analysis follows *Animal Bones and Archaeology: Guidelines for best practice* (Baker and Worley 2019).

8.2.2 Where possible, bone fragments were identified to species, where this was not possible due then attribution was made to broader taxonomic groups. Ribs, vertebrae (excluding the axis and atlas) and unidentifiable specimens were assigned to a size-class: 'large mammal' (cattle-size), 'medium mammal' (sheep-size), 'small mammal' (cat-size) and micromammal (rat-size). Identification of problematic taxa followed morphological criteria (Payne 1985, Halstead and colleagues 2002, Zeder and Lapham 2010, and Prummel and Frisch 1986 – sheep/goat, Lister 1996 – red/fallow deer, Callou 1997 – rabbit/hare, Johnstone 2004 – donkey/horse/mule). All specimens were recorded and given an identification number.

8.2.3 All refitted specimens were recorded and given a unique identification number (IDBone, IDTeeth). Surface preservation of bone was scored using a five stage system (poor, bad, moderate, good, and excellent). Incidence of burning and gnawing were recorded along with characteristics of butchery marks. The preservation of bone and the location of any butchery marks were recorded using a zoning system devised by Dobney and Rielly (1988). Completeness of elements was recorded using five stage system (5%, 25%., 50%, 75%, 100%) to inform on fragmentation of bone.

8.2.4 Species abundance was presented using the Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI). NISP count refers to the number of refitted specimens identified to an element and a taxon, thus a group of fragments derived from the same bone comprise one specimen. Body part frequencies utilised Minimum Number of Elements (MNE) and Minimum Animal Units (MAU). MNE and derived MAU were based on Dobney and Rielly (1988) zoning system, and were calculated taking side and age into consideration. MNI was estimated on the basis of MAU and ageing and sexing results. For dentition, MNI was calculated from the greater number of most abundant tooth combined with wear stage and side of the mandibular dentition

8.2.5 Tooth eruption and wear for cattle and pig were recorded using Grant's (1982) system. Sheep/goat mandibular wear was assessed following Payne (1973, 1987). Bovid (cattle, sheep/goat) mandibular wear assessment was undertaken for mandibles (with two or more ageable teeth), single deciduous premolars and third molars. Horse age was calculated using crown-height measurements (Levine 1982). Epiphyseal fusion stages were recorded and ages assigned using Silver's (1969) timings for epiphyseal closure.

8.2.6 Measurements of mature specimens were taken following the standards of von den Driesch (1976) and Davis (1992). Data provided by the *Animal Bone Metrical Archive Project* (Centre for Human Ecology and Environment 1995) were used for comparison of measurements.

8.2.7 A detailed data set for the disarticulated animal bone assemblage is provided in spreadsheet format.

8.3. Results

8.3.1. Introduction

8.3.1.1 A total assemblage of 1924 refitted (3554 unrefitted) fragments of animal bone was analysed. The analysis of disarticulated animal bone of each period is followed by discussion of articulate animal bone groups (ABGs). Epiphyseal fusion, tooth wear and metric data is provided in an Animal Bone Appendix.

8.3.2. Taphonomy

8.3.2.1 Over half of specimens presented good surface preservation (

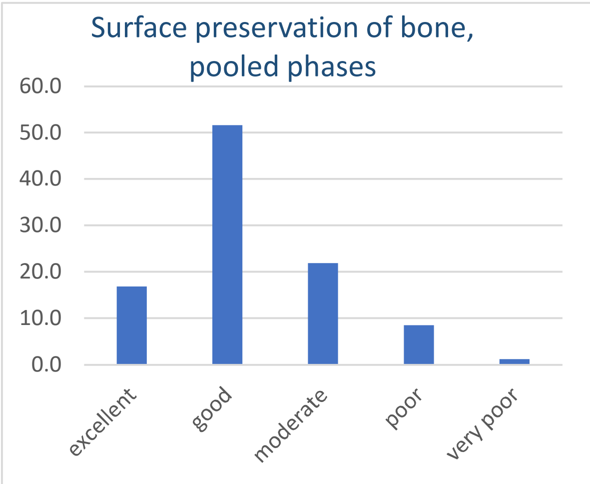


Figure 178), however condition of bone varied across periods (

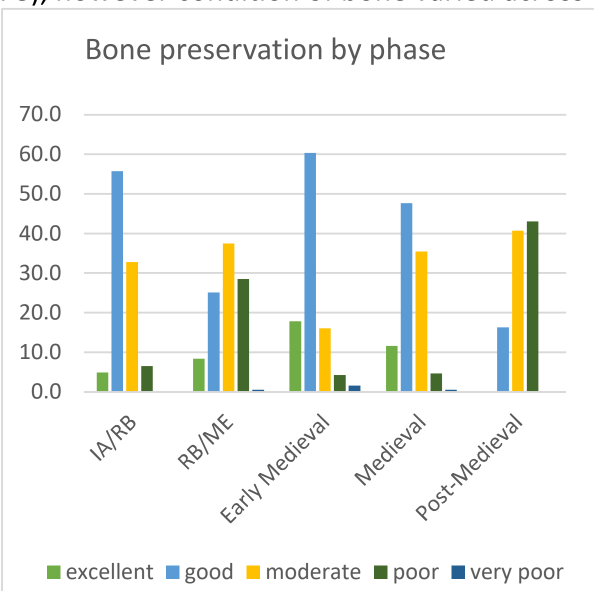


Figure 179) and type of features (Figure 180). Bone fragments recovered from a likely rapidly sealed foundation trench shaped the excellently preserved Early Medieval assemblage. Absence of butchery marks in EMA bone likely owes to a comparably increased fragmentation of elements of large mammals, which otherwise contribute the highest proportion of butchery marks. Relatively poor preservation associated with pits suggests a long-term use of these features. Good surface condition of bone, recovered from the deposit (1406), indicated a favourable burial environment, which positively impacted on the

observability of butchery and gnawing marks. Poorly preserved bone fragments from peat contributed to the overall poor preservation of RB/ME material and somewhat counterintuitively, an accelerated deterioration of organic material from peats have been reported (Boethius *et al*. 2020).

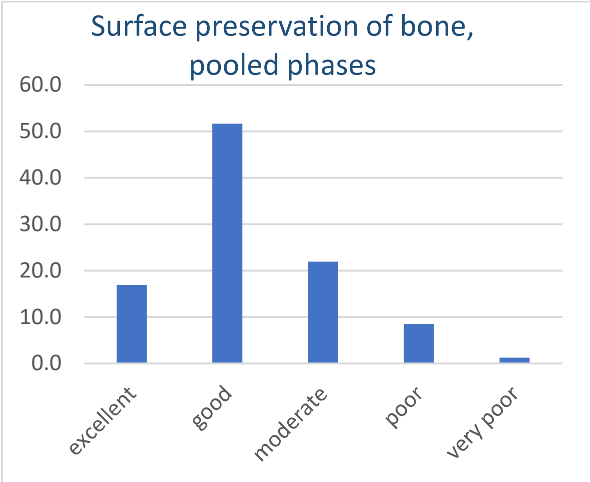


Figure 178. Surface preservation of animal bone.

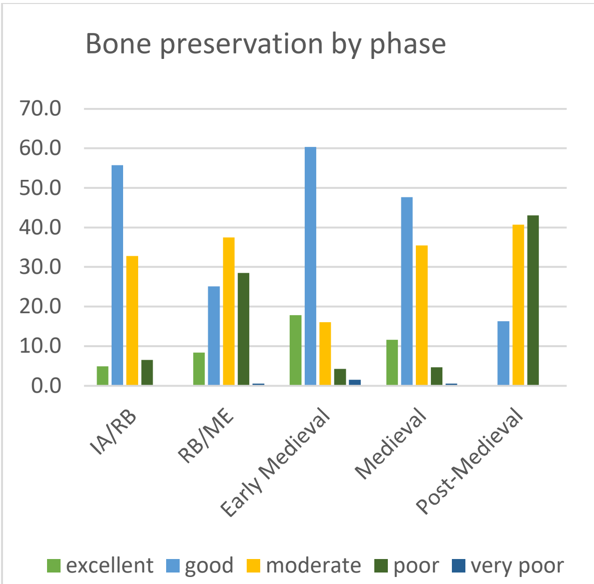


Figure 179. Surface preservation by phase.

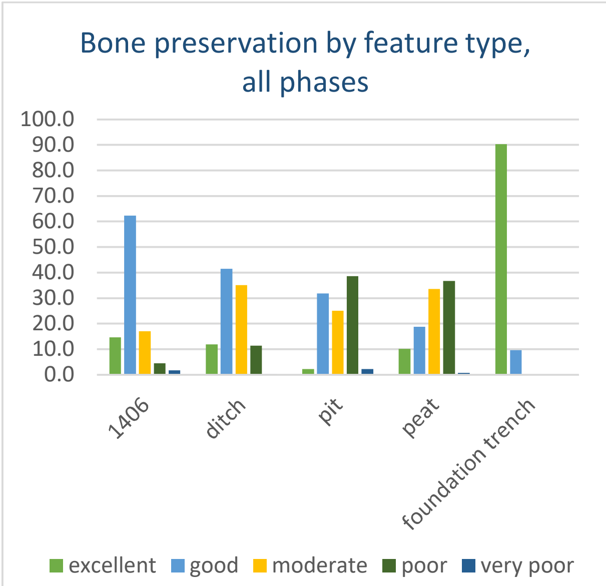


Figure 180. Surface preservation by feature type.

8.3.2.2 Material gnawed by carnivores was recovered mostly from ditches and deposit (1406) (

	EMESO	MBA/IA	IA	IA/RB	RB	RB/ME	HM	EMA	ME	PM
Gnawed count	0	0	2	3	0	1	1	138	8	9
Gnawed%				6.7		0.6		10.5	4.7	11.5
Burnt count	7	0	0	0	0	0	0	14	3	0
Burnt%								1.0	1.8	0.0
Butchered count	0	0	0	2	1	3	0	69	12	2
Butchered%				4.4		1.7		5.2	7.0	2.5

count – refitted identified elements, includes size-classed classified

Table 100). Gnawing affected all main domesticates, indicating a pre-depositional carnivore access to bone of all taxa through deliberate feeding or animal scavenging. Overall low frequency of burnt bone on site may result from a sampling bias, survivability of calcined bone or reflect a true absence or thermally altered bone. Fragmentation of bone varied between phases, with the highest observed in RB/ME (

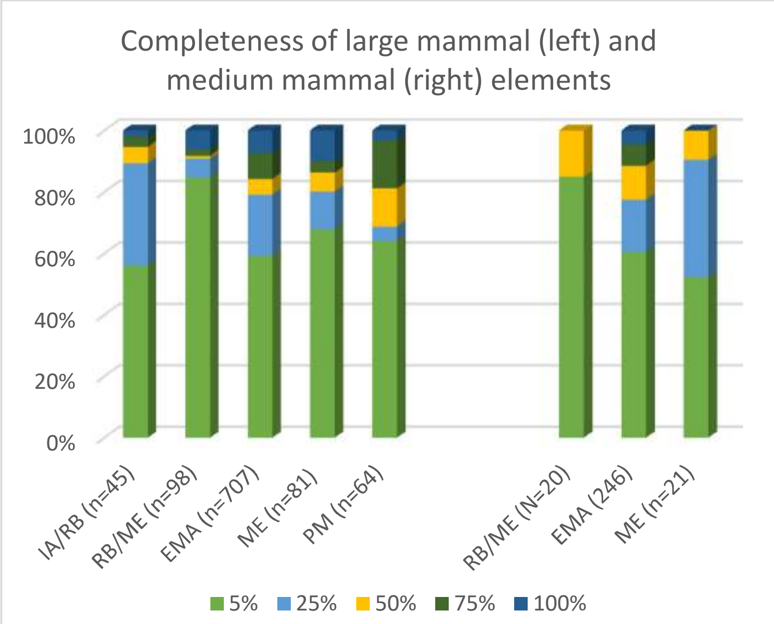


Figure 181) and ME (Figure x) phase. Diversity of taxa seemed to increase with the size of the assemblage (**Error! Reference source not found.**).

	EMESO	MBA/IA	IA	IA/RB	RB	RB/ME	HM	EMA	ME	PM
Gnawed count	0	0	2	3	0	1	1	138	8	9
Gnawed%				6.7		0.6		10.5	4.7	11.5
Burnt count	7	0	0	0	0	0	0	14	3	0
Burnt%								1.0	1.8	0.0
Butchered count	0	0	0	2	1	3	0	69	12	2
Butchered%				4.4		1.7		5.2	7.0	2.5

count – refitted identified elements, includes size-classed classified

Table 100. Prevalence of taphonomic alterations of disarticulated animal bone, all phases.

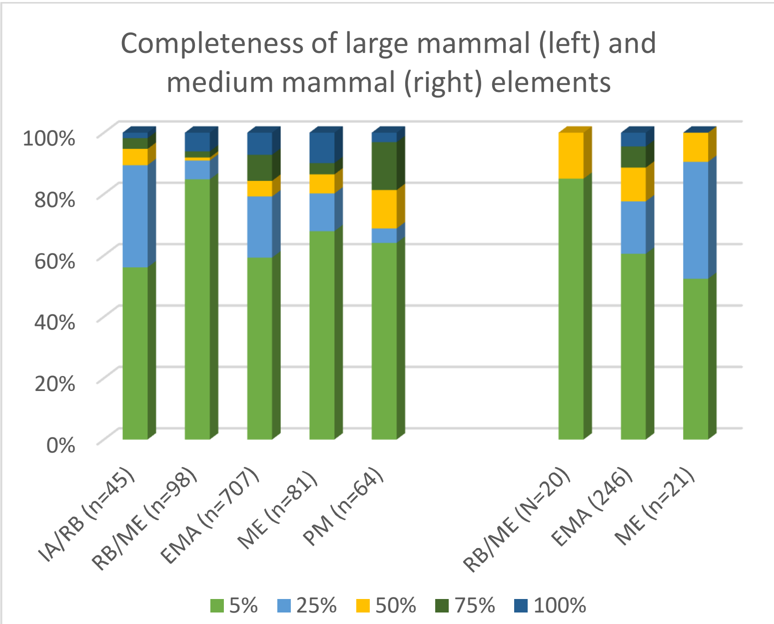


Figure 181. Completeness of skeletal elements per phase (pooled identified and unidentified large and medium mammals bone fragments, here 'ME all' comprise EMA, HM and ME material).

Phase		Cattle *Bos taurus*	Sheep *Ovis aries*	Sheep/goat *Ovis/Capra*	Pig *Sus domesticus*	Equid *Equus* sp.	Horse*/donkey**	Dog	dog/wolf	red deer	Domestic fowl	Leporid/hare *	Cattle/red deer	Sheep/goat/roe deer	Arvicola	Gruiformes	Large mammal	Medium mammal	Small mammal	mammal	Bird/crane*	IND
Early Mesolithic	NISP					1											1					7
	MNI					1																
MBA/IA	NISP			2													1					
	MNI			1																		
IA	NISP			1													1	1				
	MNI			1																		
IA/RB	NISP	7		1	1				2								50	1				
	MNI	1		1	1				1													
RB	NISP	1											1									1
	MNI	1																				
RB/ME	NISP	42		4		2	1*		2		1		2				61	18	1	57		
	MNI	4		1		1 incl. EQC	1*		1		1											
Early Medieval	NISP	193	18	56	18	48	2*	6	9	7	4	1*	37	11	1	1	514	167	7	285	6 incl. 1*	5
	MNI	9 (Tooth wear)	2 (MTC)	4 incl. OVA	4 (2F, 2M) C	3 incl. EQC	1*	1	1 incl. dog	1	1	1*										
High Medieval	NISP	1		3		1 EQC											2			30		
		1		1		1																
Medieval	NISP	22	1	7 incl. OVA	2	4 incl. EQA	1**		1	1			2	1			53	14		70		
	MNI	4		1		1																
Post-Medieval	NISP	13		4	1	2 incl. EQC	1		1			1					46	3		12		
	MNI	1		1	1	1			1			1										

Table 101. Species representation of animal bone, all phases.

8.3.3. Mesolithic

8.3.3.1 Early Mesolithic palaeosol (1223) included highly fragmented specimens, comprising well preserved fully calcined bone and poorly preserved unburnt equid cheek tooth, likely of a native horse (NISP:1, MNI:1). Such specimens are very rare in British Early Mesolithic contexts with the latest examples of post-Pleistocene native horses dating to 8600 cal. BC (Bendrey 2010, 11). The species remains absent from the British Isles until re-introduction during the Late Neolithic/Early Bronze Age.

8.3.4. Middle Bronze Age/ Iron Age

8.3.4.1 The Middle Bronze Age/Iron Age material (NRF:3) is highly fragmented and moderately preserved disarticulated bone derived from a ditch (1719, 1692). Species included a sheep/goat (NISP:2, MNI:1) as well as an unidentified large mammal specimen. No gnawing or butchery marks were observed.

8.3.5. Undated prehistoric

8.3.5.1 Undated prehistoric material was highly fragmented and poorly preserved (NRF:3) derived from a fill of a single pit (2296). Identified specimens comprised elements of a cattle cranium, including horncore and maxillary first and second molar (NISP:3, MNI:1). No gnawing or butchery marks were observed.

8.3.6. Iron Age

8.3.6.1 Iron Age boundary ditch re-cut fill (1145) contained well-preserved and highly fragmented bone (NRF:3). Taxa included a sheep/goat (NISP:1) as well as large and medium mammals. Presence of gnawing marks indicated the access of a carnivore to the discarded bone fragments, however overall good preservation of the fragments suggests their relatively rapid burial. Human manipulation of sheep metacarpal suggests bone marrow extraction.

8.3.7. Iron Age/Romano British

8.3.7.1 Well preserved Iron Age/Romano-British assemblage (NRF:62) (

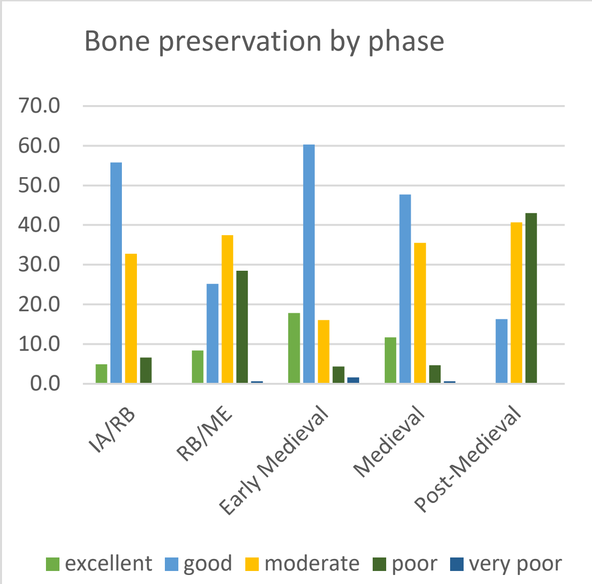


Figure 179) derived exclusively from enclosure ditches (1429) and (1741). A proportion of elements from the latter ditch showed gnawing marks and cuts (

	EMES O	MBA /IA	IA	IA/R B	RB	RB/M E	HM	EMA	ME	PM
Gnawed count	0	0	2	3	0	1	1	138	8	9
Gnawed%				6.7		0.6		10.5	4.7	11.5
Burnt count	7	0	0	0	0	0	0	14	3	0
Burnt%								1.0	1.8	0.0
Butchered count	0	0	0	2	1	3	0	69	12	2
Butchered%				4.4		1.7		5.2	7.0	2.5

count – refitted identified elements, includes size-classed classified

Table 100). Identified specimens represented domestic cattle, sheep, pig and dog/wolf (Table 101). Remaining fragments represented almost exclusively large mammal. Mandibular wear of a single elderly cattle jaw suggested the beast were also kept for secondary products, such as milk, traction or manure.

8.3.8. Romano-British

8.3.8.1 A small Romano-British assemblage (NRF:3), deriving from a ditch (2324) and a tree bole (1660), was characterised by a mixed preservation of bone. Taxa included cattle (NISP:1) and large ungulate (NISP:1) (Table 101). The presence of neonatal metatarsal suggested local breeding of cattle, whereas cut marks identified on the specimen provided evidence for the skinning of the animal.

8.3.9. Romano-British/Medieval

8.3.9.1 The Romano-British/Medieval assemblage (NRF:191) derived from ditches (1442, 1459, 1647, 1649, 1669, 1672, 1676, 1678, 1680, 1688 and 1843), buried soil (1652) and a pit (1713). The bone was characterized by a moderate preservation (

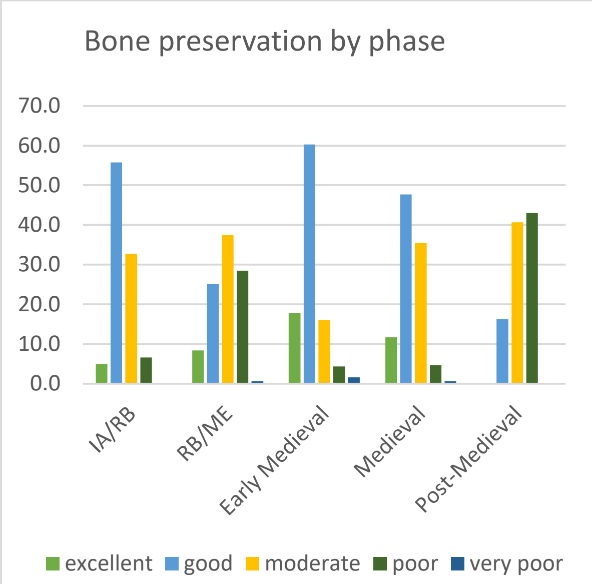


Figure 179) and a high fragmentation (

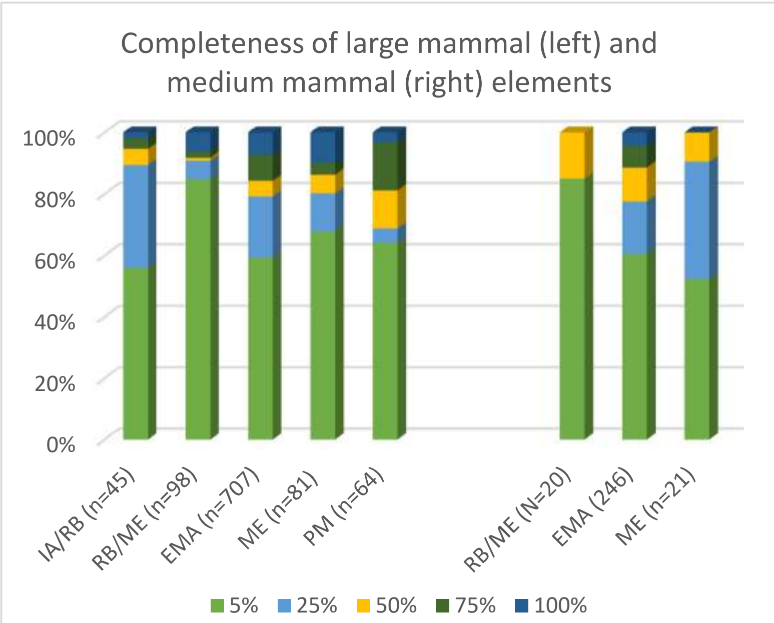


Figure 181). The latter may reflect a higher level of deliberate carcass dismemberment in comparison to IA/RB and later phases. A small proportion of fragments were affected by gnawing, whereas no evidence of burning was identified (

	EMESO	MBA/IA	IA	IA/RB	RB	RB/ME	HM	EMA	ME	PM
Gnawed count	0	0	2	3	0	1	1	138	8	9
Gnawed%				6.7		0.6		10.5	4.7	11.5
Burnt count	7	0	0	0	0	0	0	14	3	0
Burnt%								1.0	1.8	0.0
Butchered count	0	0	0	2	1	3	0	69	12	2
Butchered%				4.4		1.7		5.2	7.0	2.5

count – refitted identified elements, includes size-classed classified

Table 100). Disarticulation cut marks were identified exclusively on cattle remains (9.4% of cattle) or on 1.7% of all refitted specimens (

	EMESO	MBA/IA	IA	IA/RB	RB	RB/ME	HM	EMA	ME	PM
Gnawed count	0	0	2	3	0	1	1	138	8	9
Gnawed%				6.7		0.6		10.5	4.7	11.5
Burnt count	7	0	0	0	0	0	0	14	3	0
Burnt%								1.0	1.8	0.0
Butchered count	0	0	0	2	1	3	0	69	12	2
Butchered%				4.4		1.7		5.2	7.0	2.5

count – refitted identified elements, includes size-classed classified
Table 100).

8.3.9.2 Size of the assemblage allows for stating the presence of the species however precludes establishing age profiles of the mammals. Identified domestic taxa included cattle, sheep/goat, horse, dog/wolf and chicken (Table 122). Cattle was identified most frequently (Table 101, Figure 182). Epiphyseal fusion of bones indicated presence of mostly adult and some subadult cattle. The beasts were culled within their second, third and later years of life. Presence of neonatal cattle suggested their local breeding. Large bovid skeletal elements derived from all areas of body. The absence of pig remains could reflect a true absence of the animals from site, alternatively the species was concealed within the 'medium mammal' category (Figure 182 and Figure 183). Identification of a disarticulated chicken bone tentatively suggests consumption of the bird. Its presence in Romano-British/Medieval context is potentially informative. Chicken in Romano-British period was predominantly a bird associated with grave offerings and sports entertainment. Although some evidence of domestic fowl being eaten exists (Poole 2010, 158), its consumption was reportedly considered a taboo (*ibidem*) and only became a normality during the following Medieval period.

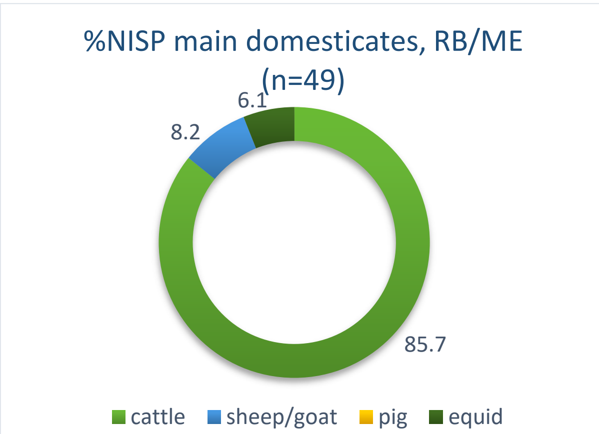


Figure 182. %NISP of main domesticates, RB/ME.

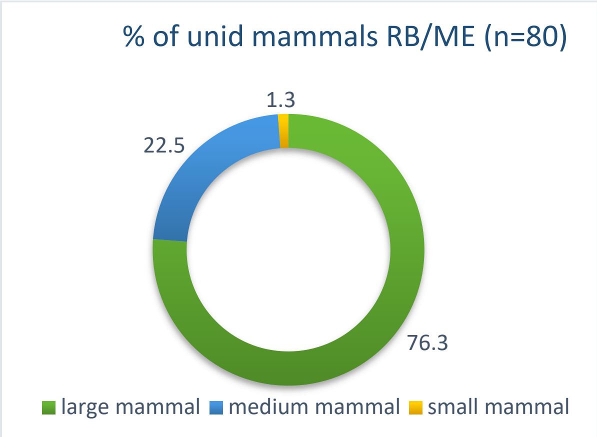


Figure 183. Quantification of unidentified mammals, RB/ME.

8.3.10. Early medieval

8.3.10.1 The early medieval bone assemblage derived from a deposit (1406) (NRF: 1305), fills of enclosure ditch (1802, 1818), a waterbreak (1795) and a foundation trench (1800). The latter deposits are discussed first, followed by the analysis of deposit (1406), whereas cumulative phase data is presented in Table 100 and Table 101 and Figure 179 to Figure 181.

8.3.10.2 A predominantly excellent preservation owed to a large share of bone fragments recovered from a likely rapidly sealed foundation trench. A proportion of bone from ditches and the trench were affected by gnawing (5.6%). Conversely no burning or butchery marks were identified. Domestic taxa included large and small bovid, equid (horse/mule/donkey) and canid. The epiphyseal fusion and tooth wear of cattle, showed the presence of adult individuals, suggestive of keeping animals for secondary products.

Deposit (1406)

8.3.10.3 The assemblage was characterised by good preservation and relatively low fragmentation. A comparatively large proportion of bones (10.8%) showed carnivore (90.3%) and less frequently rodent gnawing marks (9.7%), indicative of bone that had not been buried immediately. Medium mammals, and pigs in particular (Table 102), were more frequently affected by carnivore gnawing (17.1% and 29.0%, respectively) than large mammals (8.6%), whereas the reverse was true for rodent marks. Burnt bones were rare (1.1%), which may indicate the exclusion of hearth/open fire waste in the deposit. A proportion of bone fragments from all levels of the deposit (surface, spit1, spit 2 and spit 3) showed one-sided drying cracks (4.2%), indicative of subaerial weathering. Large mammal bone (94.0% of all affected fragments) as well as elements of scapulae and mandibles were more frequently affected. Overall, taphonomic markers indicated that bone from deposit (1406) was being discarded over an extended period of time, and exposed to scavengers.

	Cattle	Sheep /goat	Pig	Equid	Horse	Dog/w olf	Cattle /Red deer	Sheep /goat/ roe deer	Unid LM	Unid MM	Unid M
Rodent gnawing	3			1	1		1		3	2	
Carnivore gnawing	23	9	4	4	1	1	2	3	31	17	7
Gnawing total (R, C and unidentified)	28	10	4	6	2	1	3	4	40	24	11

Table 102. Presence (NISP) of gnawing marks per taxon, deposit (1406), wetland basin 3.

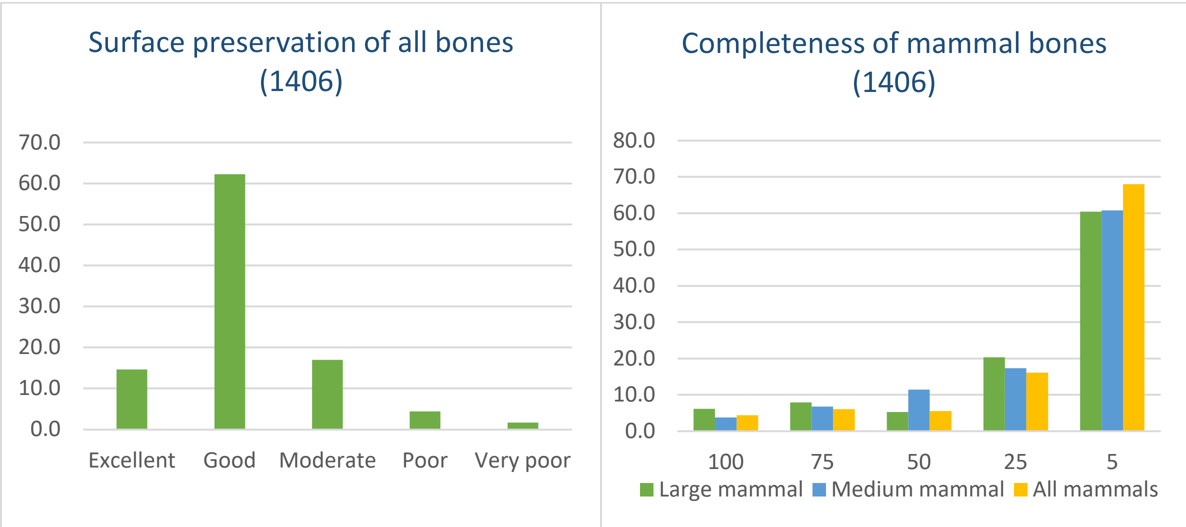


Figure 184. Preservation and completeness of animal bone from High Medieval deposit (1406), Wetland Basin 3.

Species representation

8.3.10.4 Cattle (*Bos taurus*) was by far the most abundant species in deposit (1406), followed by sheep/goat (*Ovis/Capra*) (Table 103, Figure 185). A quarter of caprine (*Ovis/Capra*) elements were identified as sheep (*Ovis aries*) and none as goat, suggesting that most, if not all, small bovids likely derived from the former species. Based on MNI count (Figure 9, B-C), pigs (*Sus scrofa*) were equally represented. The NISP and MNI (Figure 185, B-C) figures for swine show a significant discrepancy, likely owing to sexing of pig's canines – a method not applied for MNI calculation of the remaining species. Equid (horse, mule, donkey) elements were found frequently. Of these a small proportion (4.1%) was identified as horse (*Equus caballus*) and while no donkey/mule were positively identified, their presence is likely. Dogs (*Canis familiaris*) were also present. Wild taxa were represented by a red deer (*Cervus elaphus*) and a hare (*Lepus europaneus*). Infrequent bird bones included domestic fowl (*Gallus gallus*) and a single specimen (tarsometatarsus), likely of a common crane (*Grus grus*) (Figure 185).

	Cattle *Bos taurus*	Sheep *Ovis aries*	Sheep/goat *Ovis/Capra*	Pig *Sus domesticus*	Equid *Equus* sp.	Horse*/donkey**	Dog	dog/wolf	red deer	Domestic fowl	Leporid/hare *	Cattle/red deer	Sheep/goat/roe deer	Arvicola	Gruiformes	Large mammal	Medium mammal	Small mammal	mammal	Bird/crane*	IND
NISP	183	18	54	18	47	2*	6	8	7	4	1*	37	10	1	1	465	161	7	266	6 incl. 1*	3
%NISP	46.1	4.5	13.6	4.5	11.8	0.5	1.5	2.0	1.8	1.0	0.3	9.3	2.5	0.3	0.3						
MNI	9 (Tooth wear)	2 (MTC)	4 incl. OVA	4 (2F, 2M) C	3 incl. EQC	1*	1	1 incl. dog	1	1	1*										

Table 103. Species representation in deposit (1406), wetland basin 3, early medieval.

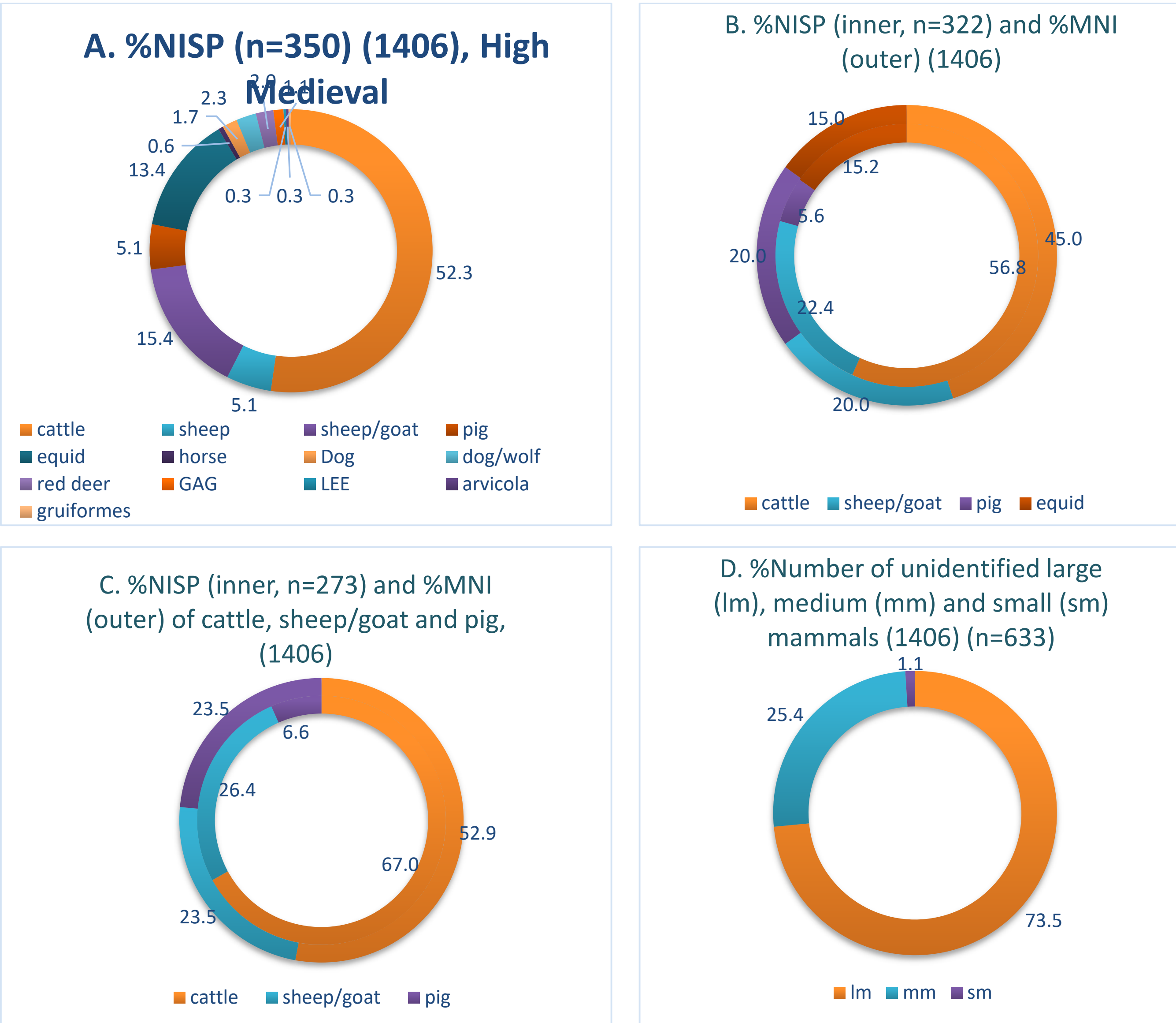


Figure 185. Species representation in deposit (1406), Wetland Basin 3, Early Medieval.

Figure 186. Tarsometatarsus of a large bird (?crane), (1406), (scale = 8cm with 1cm increments).

Body parts distribution

8.3.10.5 Skeletal elements distribution is shown for cattle (Figure 187 and Figure 188), sheep/goat (Figure 189), pig (Figure 190) and equid (Figure 191). Frequent large bovids remains, comprising all body parts, allowed for %MAU calculations (Figure 187). Mandible and lower limbs (tibia, metacarpal, metatarsal, calcaneus and first phalanx) were best represented. Bone fragments were mainly low utility elements, followed by a middle utility elements and few specimens deriving from high meat yielding parts. Considering the skeletal areas of bovids separately, cattle elements were mostly representing right hind limb of the body (33.3%), whereas sheep/goat the contralateral limb (34.5%, left hind). Body parts distribution of sheep/goat differed slightly, showing pelvis, followed by tibia and mandible as the most frequent elements (Figure 189). Among equid remains, pelvis, followed by scapula, axis and metacarpal, were most frequent (Figure 191). The few identified pigs elements derived predominantly from areas characterised by a low and middle carcass utility (Figure 190). Discrepancies in diversity of the elements per taxa may be related to differences in sample sizes. Notwithstanding, for all taxa the body parts distribution suggests discard of a primary butchery refuse with smaller proportion of elements from meatier parts of the carcass.

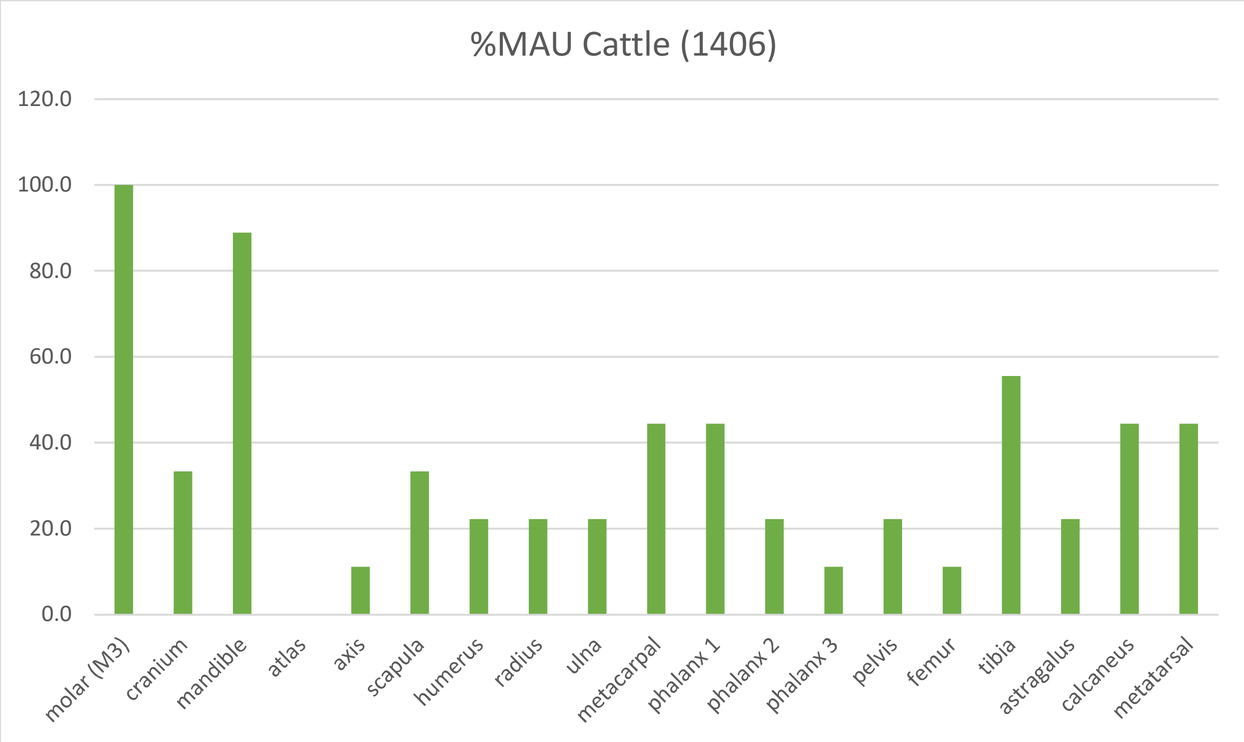


Figure 187. MAU% calculated based on maximum MAU (M3).

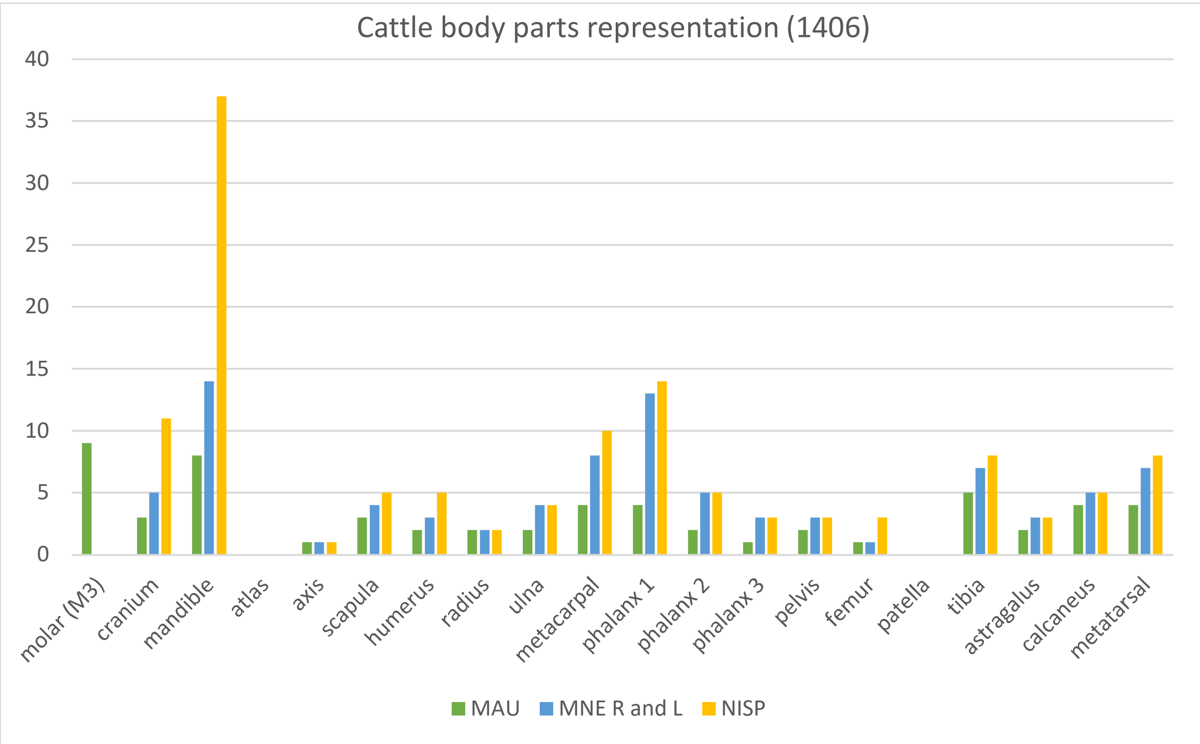


Figure 188. Element distribution (NISP, MNE) for cattle, deposit (1406), Early Medieval.

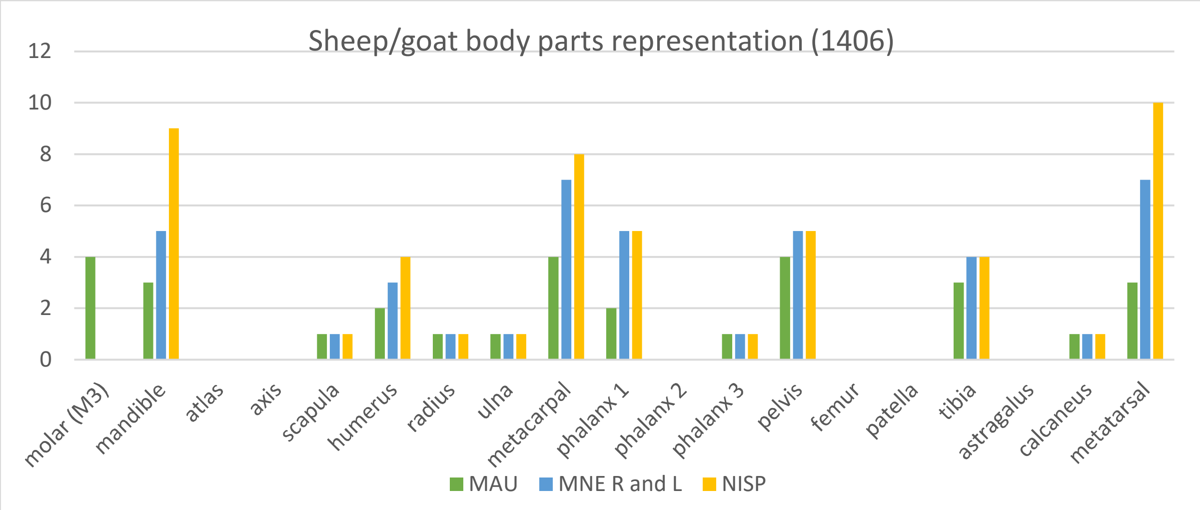


Figure 189. Element distribution (NISP, MNE) for sheep/goat, Early Medieval (1406).

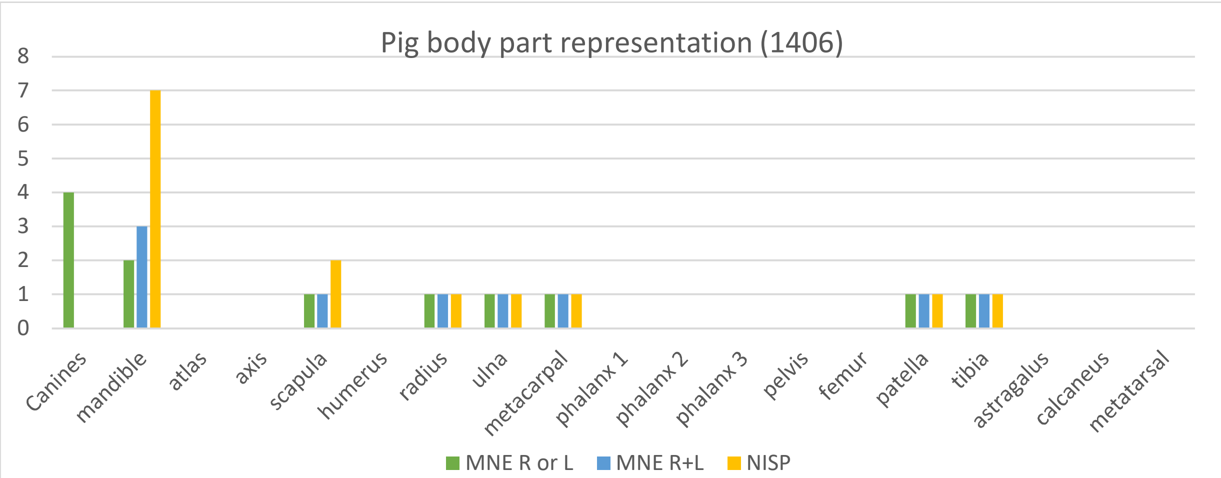


Figure 190. Element distribution (NISP, MNE) for pig, Early Medieval (1406).

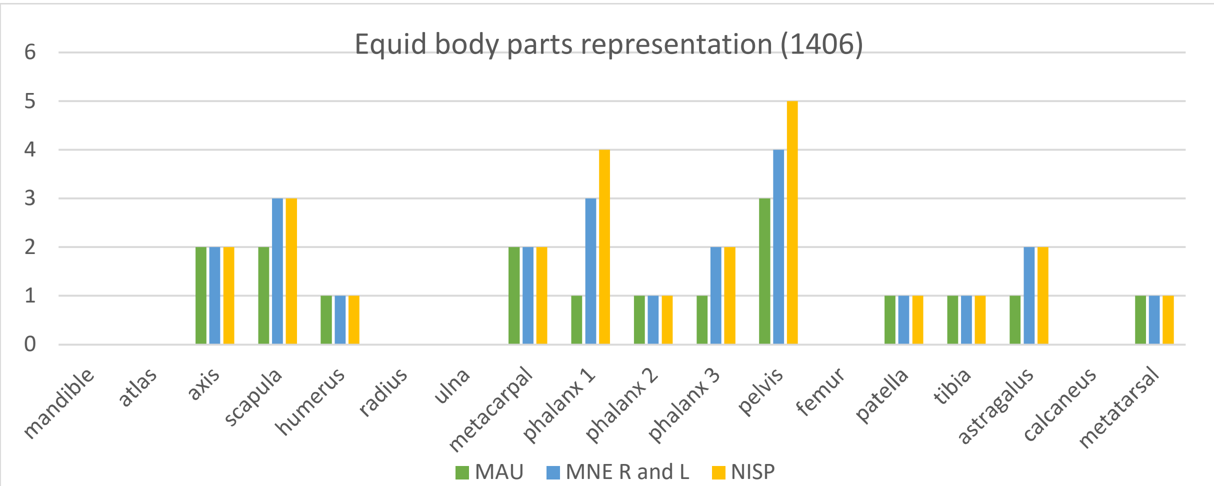


Figure 191. Element distribution (NISP, MNE) for equid, Early Medieval (1406).

Ageing and sexing

8.3.10.6 Tooth wear ($n_{mandibles}$=9) and epiphyseal fusion data provided a consistent pattern. Most animals were killed as older adults (O'Connor's 1988 'Adult3') and elderly

(n_{oa+e}=4) and less frequently during the second year of life (Table 104, Figure 192). Most elements were from fully mature adults, and some represented animals killed at intermediate stage of bone fusion, which supports dental data (Figure 192, A-B). This pattern is indicative of a focus on secondary products, such as manure and traction, with less stress on consumption of tender meat. Sheep/goat showed different distribution, with most individuals killed at earlier stages of development (Table 104, Figure 192, B). Results of epiphyseal fusion analysis were corroborated by mandibular tooth wear ageing of caprines, proving presence of infants, juveniles, subadult and young adult individuals (Table 105). This indicated that meat production, including lamb, were the focus of caprine husbandry. While long bone fusion data for pigs is suggestive of killing predominantly of adult individuals, the tooth wear record showed the presence of a minimum of two subadult and one adult individuals, consistent with husbandry focused on meat. Post-cranial elements of neonatal individuals, indicated that cattle (neonatal MNI:2),caprines (neonatal MNI:2) and equid (neonatal MNI:1) were bred locally. The presence of a probable pig's neonatal remains and the proportion of boar:sows (Table 101), also suggests a possible local breeding of swine.

Taxon	Phase of fusion	Fused	Unfused	Fusing	F%
MBA/IA					
Cattle	Early				
	Medium	1			
	Late				
IA/RB					
Cattle	Early	3			
	Medium				
	Late				
RB					
Cattle	Early				
	Medium	1			
	Late				
RB/ME					
Cattle	Early	6			
	Medium	1			
	Late	1			
Sheep/goat	Early				
	Medium	1			
	Late				
EMA					
Cattle	Early	29	2		93.5
	Medium	13	8		61.9
	Late	8	2	1	81.8
EMA: deposit (1406) only					
cattle	Early	28	2		90.3
	Medium	12	8		60.0
	Late	6	2	1	(77.7)
Sheep/goat	Early	17	3		94.4
	Medium	9	1		90.0
	Late		1		
Pig	Early	1	0		
	Medium	1	1		
	Late				
Equid	Early	7			
	Medium	2			
	Late	1			
HM					
Cattle	Early	1			
	Medium				
	Late				
Medieval					
Cattle	Early	7			
	Medium	4	1		
	Late	1			
Equid	Early	2			
	Medium	2			
	Late				
Post-Medieval					
Cattle	Early	3			
	Medium	1			
	Late	1			

Table 104. Epiphyseal fusion of main domesticates, all phases.

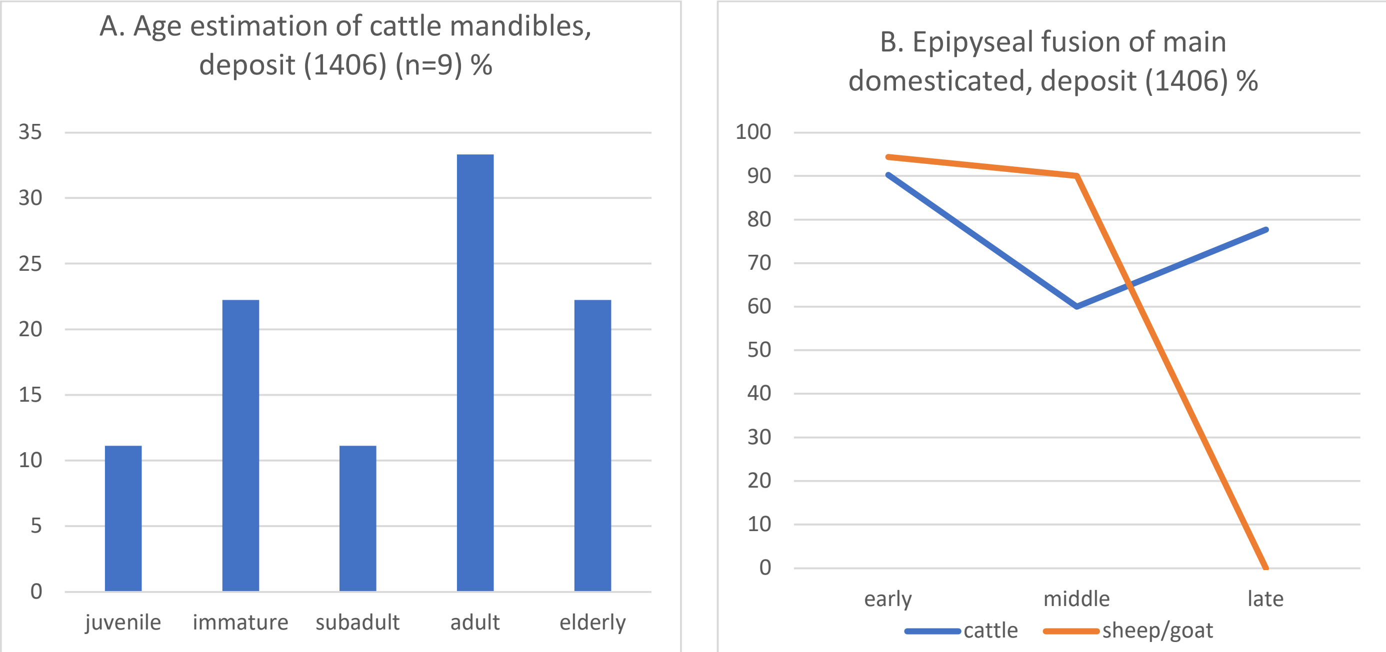


Figure 192. Cattle mandibular tooth wear (A) and epiphyseal fusion of cattle and sheep/goat (B), deposit (1406), Early Medieval.

Payne (1973)	AGE CLASS	Early Medieval	Medieval	Post-Medieval	Suggested age
A	infant, young				0-2m
B	infant, old				2-6m
A/B	infant	1			0-6m
C	juvenile	1			6m-1y
D	subadult				1-2y
E	subadult	1			2-3y
F	adult, young	1	1	1	3-4y
G	adult, young				4-6y
H	adult, middle				6-8y
I	adult, senile				8y+

Table 105. Sheep/goat MNI based on teeth, per phase.

Butchery marks

8.3.10.7 A proportion of bone fragments (5.6%) from midden (1406) showed cuts, chops and combinations thereof (Table 106), applied by fine and large blades, as well as cleavers. The marks resulted from disarticulation/dismembering, defleshing, marrow and tendon extraction, and skinning. Equids presented chop marks on pelvis and lumbar vertebra, suggestive of dismembering of the carcass. A fifth (22.3%) of all refitted elements showed fresh bone fractures.

	Cuts	Chops	Cuts and chops	TTL	NISP	%NISP
Cattle	8	2		10	150	6.7
Sheep/goat	3			3	55	5.5
Pig				0	14	0.0
Equid		3		3	33	9.1
Large ungulate (CB)	2	3	1	6	37	16.2
Large mammal	20	7	7	34	465	7.3
Medium mammal	4	2	4	10	161	6.2
Mammal	2	1		3	266	1.1
TTL	39	18	12	69	1228	5.6
%TTL	56.5	26.1	17.4			

Table 106. Butchery marks, (1406) Early Medieval.

8.3.10.8 A mid-shaft of caprine tibia presented multiple tool, chisel-like marks (Figure 193), possibly an evidence of an abandoned attempt of tool production. This adds to the mixed character of the (1406) deposit, likely representing a general waste rather than a carcass processing site.

Figure 193. Worked mid-shaft of caprine tibia, SF905, (1406), spit 3, wetland basin 3, High Medieval, dorso-lateral aspect, distal to the left (scale= 6cm with 1cm increments).

Pathological changes

8.3.10.9 Pathological changes were observed on feet of cattle and equid bones. Although deformation and osteoarthritis of bovid metacarpals (Figure 194 and Figure 195) can be caused by and old age, the medio-lateral asymmetry and abnormal changes pattern of palmar and dorsal aspects of cattle metapodium (SF1067) may constitute an adaptation to draught work (Bartosiewicz 2013). A complete abnormal fusion of equid proximal and intermediate phalanges was observed on a single specimen. This, so-called 'high ring bone' (Figure 196), results from a chronic inflammation of the pastern joint and has been associated with chronic degenerative joint disease, trauma and work-related strain on the tendons and ligaments attaching to both phalanges (ibidem). Its presence may suggest the use of equids as draught animals.

Figure 194. Trochlear asymmetry and osteoarthritis of right metacarpal, cattle, SF 1067, spit 3, deposit (1406), wetland basin 3, Early Medieval, dorsal aspect (scale = 8cm with 1cm increments).

Figure 195. Eburnation and grooving (arrow) indicative of osteoarthritis, lateral trochlea of right metacarpal, cattle, SF 1067, spit 3, deposit (1406), wetland basin 3, Early Medieval, oblique view.

Figure 196. Fusion of proximal (P1) and intermediate (P2) phalanges, equid, SF 275, surface, deposit (1406), wetland basin 3, Early Medieval, anterior aspect (scale = 8cm with 1cm increments).

Animal Bone Groups (ABG) (1406)

8.3.10.10 Animal bone groups recovered from deposit (1406) included partial skeletons of a dog, a dog/wolf, a cattle, caprines and a cat (Table 107). Skeletons showed good surface preservation and varied level of completeness (Table 107). Animals were discarded as both partial skeletons and in some instances as whole carcasses. Vertebra and ribs of large bovid ABG15 showed cutting and chopping marks applied with cleavers, fine and large blades alike, indicating a partial body discard subsequent to dismembering of the carcass. When a whole-carcass deposition occurs, a subsequent dismemberment, through attested for deposit (1406) carnivore scavenging, would be expected. This would have resulted in partial incorporation of some skeletal elements into the disarticulated bone assemblage. Post-depositional disarticulation and movement of the carcasses within deposit (1406) was confirmed by a spatial distribution of ABG19, where multiple canine elements were excavated from varied locations in separate clusters (ABG19a-f) and subsequently re-articulated during the osteological analysis, to form a single partial skeleton.

8.3.10.11 ABG19 provided further insight into the character of dogs deposition. ABG19 showed a severe antemortem cranial trauma (Figure 197) as well as an injury induced and further abnormal changes of the spine, discussed in detail below. The trauma-related pathology and the evidence of a casual discard of ABG19, in either partially or fully articulated state, fullfill the criteria of an 'expedient' type (as defined by Perri 2017) of dog deposition. Proposed explanation of such disposal of animals include their culling due to illness or being perceived as community pests (ibidem). Dissimilar aetiology characterized bovid ABGs. Presence of neonatal cattle and sheep/goat likely reflected breeding-related casualties and further attest their local breeding.

8.3.10.12 Overall, the canid ABGs derived from a minimum number of two adult and one non-adult dog. The relatively high presence of skeletons of dogs and a cat within deposit (1406) suggests it's midden-like character. Such deposits would provide a convenient mode of unwanted carcass disposal, further explaining a frequent admixture of equid remains within this context.

Taxon	ABG number	Find number	Body area	Skeletal completeness	Age	Preservation, fragmentation	MNI
cattle	15	1058	Skull, thorax, distal front limbs	21-40%	<18 months	Excellent, minimal fragmentation; cuts, chops marks	1
	18	1399	Front limbs, pelvis, distal hind limb	41-60%	Neonatal	Excellent	
Sheep /goat	10	582, 583	Cervical vertebrae	0-20%	Adult	Good	2
	13	1078	Metapodia	0-20%	Non-adult	Good-moderate	
Dog/ wolf	12	1388	Skull, mandible and vertebrae and metapodium	0-20%	Adult?	Excellent, minimal fragmentation	3
	16	980	Front limbs,	0-20%	Adult?	Excellent, minimal fragmentation	
	17	1351	Skull, thorax, front and hind limbs	61-80%	8-10 months	Excellent, minimal fragmentation (except for skull)	
	19a,b,c, d,e,f,g	1087, 1088, 1089, 1048, 1070, 1083, 1085, 1092	Dog: skull (healed trauma), thorax (pathology of vertebra), front limbs	41-60%	Adult?	Excellent, minimal fragmentation	
Cat	11	678	Mandible and front limbs	21-40%	Adult?	Excellent, minimal fragmentation	1

Table 107. Summary of animal bone groups, deposit (1406), Early Medieval.

Pathology ABG19

8.3.10.12 ABG19 included canine skull displaying a well-healed depression fracture (Figure 197) of the left frontal, immediately above the rim of the orbit. This type of fracture would result from a direct blunt force trauma to the head. Character and a predictable, within an archaeological context, position of the fracture (Bartosiewicz 2013), suggests the lesion results from a maltreatment. The fracture would be sustained from a right-handed person, well in advance of the animal’s death. Three articulating lumbar vertebrae of the same individual showed pathological changes, including a possible mal-union of spinous process fracture, a severe disc herniation and extensive syndesmophytes, further substantiating interspecies violence interpretation.

Figure 197. Well-healed depression fracture (arrow) of skull, dog, ABG19, (1406), High Medieval (scale=8cm with 1cm increments).

Summary of animal bone assemblage from deposit (1406)

8.3.10.13 The sample of bone material obtained from deposit (1406) provided evidence for locally bred, cattle, sheep, pig and horse. Ageing and pathological data suggested that cattle were valued for their labour in the early medieval period. Cattle were the most prevalent species from the deposit and beef undoubtedly constituted the largest portion of produced meat, supplemented by veal, lamb and mutton. In medieval England a higher value was attached to beef and pork than to sheep/goat (Albarella 2019), with the latter found in larger quantities in rural locations (*ibidem*). The Killerby assemblage is therefore not typical with its predominance of adult cattle, and resembles high-status sites (Albarella 2019). Caprine remains from deposit (1406) indicate that wool production was not a major concern. The presence of pre-adult sheep/goat remains typically characterise a high status and urban assemblages for the period (Albarella 2019, Fig 8.29). Furthermore, the deposit included a rare addition of a likely crane (Albarella 2019, 209), a bird that has been associated with aristocratic feasts (Woolgar 1999). Zooarchaeological evidence confirmed that the presence of cranes, along with herons, were a feature of high status/manorial sites (Albarella and Thomas 2002) and tended not to be recovered from rural locales (Albarella 2019, Fig 8.23), a conclusion based on the presence of a single element of the large bird per site (*ibidem*). Increased diversity of taxa within deposit (1406) and the evidence of venison consumption, are some of the markings of the animal assemblages of better-off consumers. Considering the above characteristics of the assemblage, namely a high cattle and low caprine presence, both bovid age profiles and finally inclusion of an rare large bird, it is plausible to suggest that the deposit (1406) may be associated with food provisioning to a high status/urban locale, such as a manor. Swine-related characteristics of the assemblage however, obscure the picture. Low frequency of high carcass utility parts of swine, suggest the exporting of the meatier parts to other locales, where pork consumption was more affordable. Alternatively, its low frequency may stem from a taphonomic bias, as suggested by an increased level of gnawed pig's elements from deposit (1406).

8.3.10.14 The high presence of equids noted warrants discussion. Equid bones are typically found at increased frequencies on rural, low status sites, where non-food animals are expected to be better represented (horse =>30% of horse+cattle NISP, Albarella 2019, 200). A high proportion of equid remains (equid= 21.1% of equid+cattle NISP) characterized deposit (1406). The butchery marks on equid elements suggests horsemeat was either consumed on site, processed to obtain dog meat or alternatively chopped to more manageable pieces to ease the discard of the carcass. If the latter, the increased proportion of equid should be expected in the midden-like deposit (1406), as this would be a preferred location of disposal of large carcass of unwanted meat along with relatively numerous (minimum four) bodies of community pests (discussed above). In the view of other features ascribed to a wider 'medieval phase' (see below), the high proportion of equid in Early medieval period may reflect the unique character of the deposit (1406).

8.3.10.15 Overall, deposit (1406) comprised mostly primary butchery refuse, a considerable amount of secondary butchery waste and numerous haphazard partial/whole body depositions of various species and finally a possible tool production discards. All this suggests the deposit represents a midden, likely located at some distance from the occupation/residential area. The domesticated species proportions, age profiles and body parts distribution of the disarticulated elements suggest a production site, possibly provisioning neighbouring high status/manorial consumers.

8.3.11. High medieval

8.3.11.1 High medieval animal bone (NRF:37) was recovered from a droveway ditch (1813). A single element showed gnawing marks and no further taphonomic changes. Taxa included large animal <?> bovid, horse and canid.

8.3.12. Medieval

8.3.12.1 The medieval assemblage derived from fills of ditches (fill 1410, 1411, 1424, 1445, 1447, 1463, 1467, 1470, 1654, 1656, 1711, 1729, 1734, 1737, 1739, 1754, 1804, 1806, 1815, 1834 and 1845) and of a pit (1833). The bone was characterized by good/moderate preservation (Figure 179) and relatively moderate fragmentation (Figure 181). A proportion of fragments were affected by gnawing and burning (Table 100). There was a high proportion of bone showing butchery cut marks (7.0%) (Table 100Table 100).

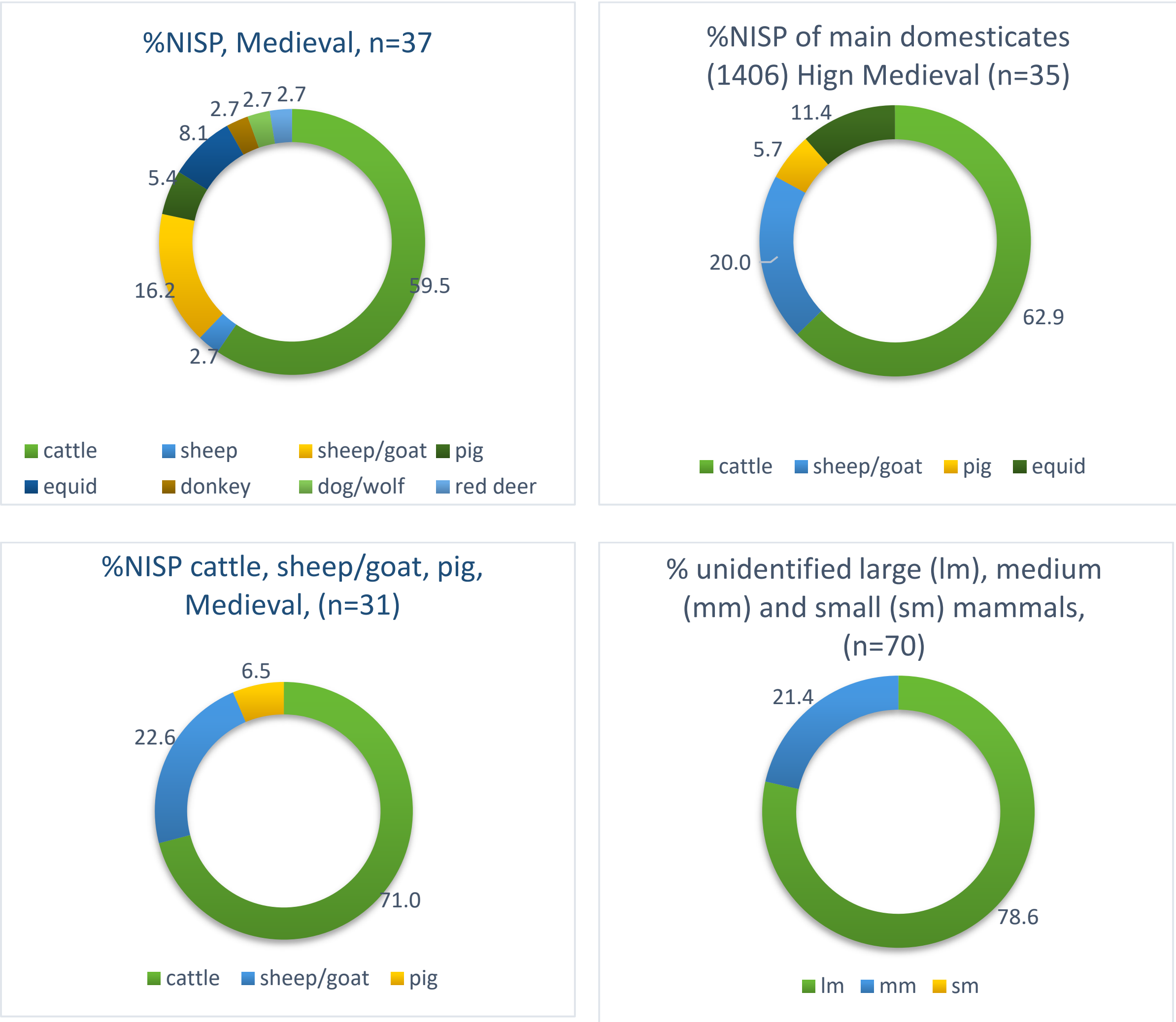
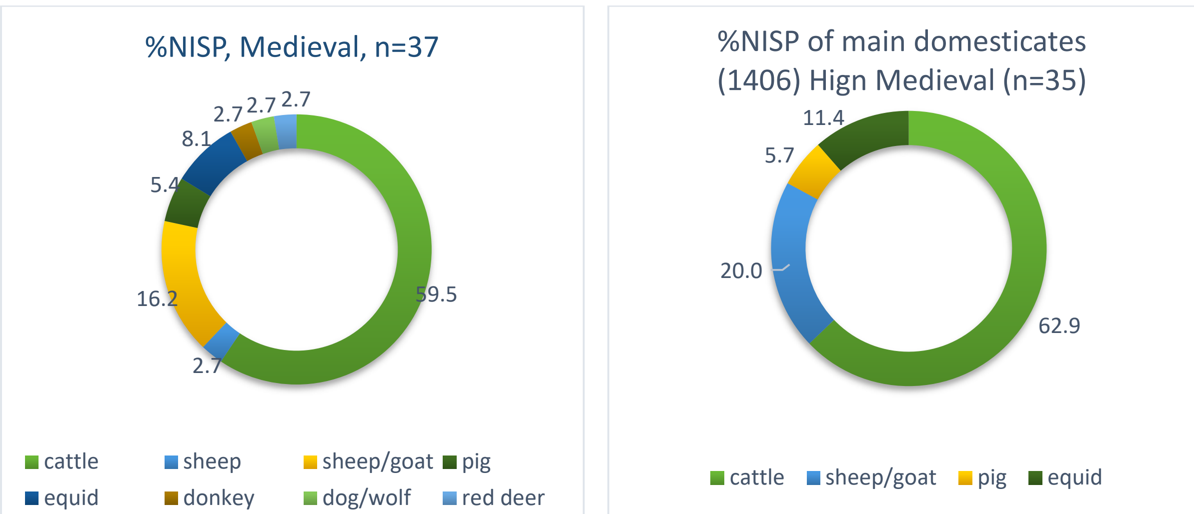
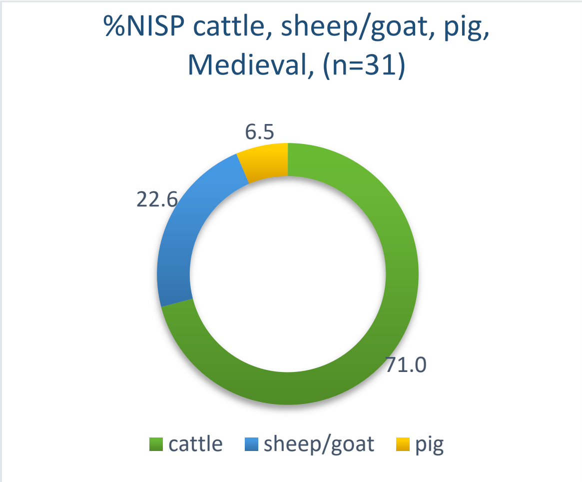


Figure 198. Species representation in Medieval phase.

8.3.12.2 Identified domestic taxa included cattle, sheep, pig, donkey, equid, dog/wolf and red deer (Table 101,





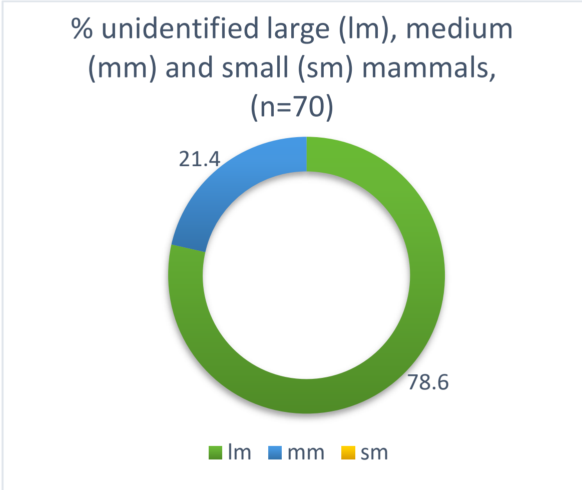


Figure 198). The frequencies of domestic taxa largely follow High Medieval pattern, with increased cattle but lower equid proportions. Cattle mandibular tooth wear indicated presence of immature and elderly individuals, suggesting keeping the animal for meat and secondary products. Sheep dental wear indicated the animal was killed at the young adult age. Represented at lower frequencies than in High Medieval phase equid remains, underlying a likely unique character of the deposit (1406). Presence of donkey (*Equus asinus*) is consistent with reintroduction of the species to the British Isles after the Norman Conquest (Johnstone 2018).

ABG Medieval

8.3.12.3 Medieval animal bone group ABG24 (Table 108), recovered from ditch (1834) comprised two articulating thoracic vertebrae of a large mammal. Gnawing indicated that carnivores had access to the partial carcass prior to its final deposition.

Context	Taxon	ABG number	Find number	Body area	Skeletal completeness	Age	Preservation, fragmentation	Bone ID
(1834)	Large mammal	24	958, 960	Two thoracic vertebrae	0-20%	A	Good, carnivore gnawing	

Table 108. Animal bone group, Medieval.

8.3.13. Post-Medieval

8.3.13.1 Post-medieval animal bone came from ditches (fills: 2103, 2130, 2109, 2119, 2176, 2190, 2206, 2208, 2226, 2245, 2282, 2290, 2322, 2330, 2332, 2367 and 2456), pits (fills: 1435, 2184 and 2238) and natural features (2162, 2188 and 2266). Bone showed relatively low fragmentation. The highest level of gnawing for site indicated that carnivores had access to the bone prior to its eventual burial and suggested a prolonged use of the features, which is also reflected in the relatively poor surface preservation. Rare butchery marks comprised cuts indicative of defleshing of bones.

8.3.13.2 Identified taxa included cattle, sheep/goat, pig, horse, equid, dog/wolf and leporid (hare/rabbit) (Table 101). Mandibular tooth wear indicated the presence of small and large bovids, which was corroborated by the epiphyseal fusion of cattle (Table 104).

ABG Post-Medieval

8.3.13.3 Animal bone group ABG20, recovered from a pit (2184), comprised of a fully articulated fairly complete skeleton of an equid (Table 109). Occasional gnawing marks suggests that the burial of the animal occurred not immediately upon its death, but prior to the body disarticulation due to natural decomposition processes. Skull manifested four large maxillary abscesses, whereas multiple post-cranial elements showed prolific new woven bone formation (Figure 199). Considering both skeletal changes the animal likely suffered from a possibly infectious disease, active at the time of death.

Context	Taxon	ABG number	Body area	Skeletal completeness	Age	Preservation, fragmentation, pathology	ID Bone
(2184)	Equid	20	Skull, cervical vertebrae, right forelimb, left hind limb, feet, ribs	41-60	1-2 years old	Excellent, Minimal fragmentation, occasional gnawing: spine of axis and femoral condyle Pathology; widespread NBF	1385

Table 109. Animal bone group, Post-Medieval.

Figure 199. Dental abcesses (upper and lower left, arrows) and new woven bone (lower right, arrows) of equid ABG20, (2184), Post-Medieval.

8.4. Recommendation

8.4.1 It is recommended to retain Prehistoric through to post-medieval assemblage. Poor preservation of the Early Mesolithic equid tooth may preclude a successful aDNA/ZooMS analysis, however an attempt of radiocarbon dating is recommended. Spatial distribution of the animal bone in the midden is also recommended.

9 POTTERY

9.1. Prehistoric Pottery

Robin Holgate

9.1.1 A total of 29 potsherds were recovered from the fill (1438) of pit F1437, which is situated on the Ridge. The assemblage, which includes five rimsherds, three basesherds and 21 bodysherds, comprises fragments of a rusticated Beaker vessel.

9.1.2 The pottery was finger-washed or washed gently with a soft brush and left to air dry. The pottery was examined macroscopically with the aid of a x10 hand lens.

9.1.3 The vessel has a light orange to light brown outer surface with a light brown inner surface and a dark grey core. Tempering includes mainly sand with some grog less than 2mm across and crushed angular stone (?quartz) less than 3mm across. There were no traces of carbonised residues on inner surfaces. The vessel is hand-made, probably coil-built, and wall thickness varies from 6mm to 7mm. Surface colouration and condition is typical of the oxidising effects on the lower outer surfaces and the reducing effects on, in some cases, the rim, as well as inside the vessels, caused by the vessels being placed upside down in an open bonfire.

9.1.4 Given the relatively small number of potsherds there is some uncertainty in reconstructing the form of the pottery vessel. The vessel, with flared rim has a diameter at the rim of c.140mm and c.110mm at the base, and could be considered as being an example of either a long-necked or S-shaped profile beaker.

9.1.5 The vessel has two comb-impressed rows immediately beneath the rim, below which are at least three rows of fingertip impressed decoration.

9.1.6 The assemblage comprises about a tenth of a rusticated Beaker vessel.

9.1.7 Most of the pottery fragments are abraded, which could be interpreted as fragments of a broken vessel from a working area or a midden which has been deposited in the pit. The vessel, in both form and decoration, is consistent with Case's (1977) Middle Beaker phase or Needham's (2005, 209) 'the fission horizon' which he summarises as 'Beaker as instituted culture, c.2250-1950 cal BC' in his sequence of the character of Beaker grave groups.

9.2. Romano-British Pottery

Ruth Leary with contributions from Gwladys Monteil

9.2.1 The pottery was catalogued following the guidelines published jointly by the Prehistoric Ceramic Research Group, the Study Group for Romano-British Pottery and the Medieval Pottery Research Group (Barclay et al. 2018).

9.2.2 Forty-two sherds of Roman pottery were recovered from the excavations (474g. EVES 0.32). The sherds were abraded and very abraded and were scattered through seven contexts The Roman pottery comprised two small sherds of samian, 14 grey ware sherds, one sherd from a BB1 jar, 24 sherds from a HUN CG jar and one Nene Valley colour-coated ware sherd. A samian sherd from (1406) SF1049 is an abraded fragment from a footring, probably from a dish, the fabric is Lezoux and dating AD120-200, 3.2g. A second samian from (1407) spit 1 (SF712) is a very abraded rim sherd from a bead-rim dish (0.6g.) of similar date range. A fragment from grey ware jar base came from 1406 spit 1 (Sf 414), 51.3g) and this and a fragment from a grey ware base from (2324) SF13970 (6.5g.) are of Catterick GRB6 grey ware (Leary et al. forthcoming) and, although not closely datable is long lived in the 2nd-3rd century. A bodysherd from (1709) SF1176 also belongs to this GRB6 grey ware group. Another bodysherd from (1222) SF27 (7.6g.) belong to the GRB2 grey ware group at Catterick which is a little earlier in date range, late 1st to the early 3rd century. Layer (1223) contained 10 grey ware sherds (GRB2, 39.8g.) similar to those from 1222. A rim and bodysherd from a BB1 jar with upright rim decorated on the neck with a burnished wavy line (38.1g. EVES 0.15) also came from this context and belongs to the mid-2nd century (Gillam 1976, no.2) after which the incidence of burnished wavy line on the necks of such jars declined.

9.2.3 The Nene Valley colour-coated ware sherd is a very abraded base from a small beaker (13.7g.) with white clay and a brown slip (Tomber and Dore 1998 LNV CC). This came from 1406 spit 1 SF 589. The form of beaker cannot be reconstructed but the size and form of the base is similar to those of the mid-3rd and mid-4th century rather than the mid-2nd to mid-3rd century (Gillam 1970 nos 52, 55, 82 rather than nos 77, 79, 80 or 84—88). This is likely but not certainly the date range of this small vessel. Twenty-four HUN CG sherds from a Huntcliff type jar (306.3g. EVES 0.17) came from stone surface (2125) and dates to *c.* AD360-early 5th century.

9.2.4 The very small group suggests that the area excavated is not the focus of Roman settlement but that ceramic deposition of Roman pottery was taking place somewhere nearby. The group, even although it is very small, includes locally produced grey wares, traded British fine ware and imported samian from Central Gaul suggesting it derives from a settlement which is integrated with the trade and supply network serving Catterick and which is sufficiently affluent to purchase traded and imported fine wares. All the wares present are common at Catterick (Leary *et al*. forthcoming) and their presence at Killerby is another indication of the flow of goods from Catterick to rural settlements scattered over its hinterland.

Fabric

GRB2 This ware group is characterised by having a medium-light grey fabric with a clean matrix and medium quartz inclusions. Sometimes the slip or self-slip has fired a darker grey colour. It is finer than GRB6 but may form a continuum with it.

GRB6 This is a hard light to medium grey ware with moderate, medium quartz. It is harder and a little coarser than GRB2

HUN CG calcite-gritted ware. As Tomber and Dore 1998 HUN CG.

LNV CC white clay with brown colour coat, characterised by well-sorted silt- to fine sand-sized quartz, red iron-rich inclusions, and red and white pellets. The clay may contain fine sparse silver mica, but this is not a distinguishing feature. Quartz, the only common inclusion, is normally <0.1mm. The Lower Nene Valley products are associated with a number of kilns found throughout the area at Warsford, Stibbington, Sibson-cum-Stibbington, Chesterton, Water Newton, Yaxley, Normangate Field (Castor) and Stanground, Cambridgeshire.

9.3. Medieval and Post-medieval Pottery

Chris Cumberpatch

9.3.1. Introduction

9.3.1.1 The assemblage of medieval and later pottery from Killerby Quarry, Darlington (KIL19-PSA) was examined by the author between the 8th and 10th April 2020. It consisted of sixty sherds of pottery weighing 945 grams representing a maximum of fifty-six vessels. The data are summarised in Table 1. A quantity of ceramic building material and stone was included with the pottery and is listed in Table 2. The site also produced an assemblage of Roman pottery which is the subject of a separate report (see Section 9.2 above).

9.3.2. The pottery

9.3.2.1 The earliest sherds in the assemblage came from context 1406 (SFN457 and 552) and were of Buff Gritty ware type. Buff Gritty wares date to the period between mid/late 12th and mid/late 13th century and, together with their finer counterpart, Buff Sandy ware, are widespread across north-east England although the location and organisation of production remains obscure. Named variants include the Tees Valley A wares and the preference for light, buff-firing wares may extend to types such as Brandsby ware.

9.3.2.2 The largest group of medieval wares in the assemblage were the Iron-rich Sandy wares and Iron-rich Gritty wares. The term 'Iron-rich' to describe and define a group of wares with a distinctive orange or red colour has been adopted from Vaughan's discussion of pottery from Newcastle (2007:176-7) in which she distinguishes them from the contemporary Early Glazed wares with reduced fabrics and the earlier iron-poor buff wares. Characterised by hard red or orange fabrics containing quartz and red grit (between 0.5mm and 1mm or larger), strikingly similar to the range of inclusions found in the earlier Buff/Gritty wares and Early Glazed wares), the sherds in question were thin and often burnt & sooted externally. As the names imply, coarser (gritty) variants were distinguished from finer (sandy) variants with two sherds (context 1406, SFN 1056 and context 1813, SFN 1151) falling between the two groups. A date range between the mid 13th and early 14th century is suggested for these wares which seem to represent a deliberate move away from the earlier buff-firing wares. Few vessel forms could be identified with most sherds seeming to come from hollow wares, probably jars and cooking pots.

9.3.2.3 Context 1406 contained a group of four sherds which appeared to be from the same vessel although none could be shown to join (SFN 363, 604, 607 and 5845). The sherds were significantly thicker than other examples of comparable dark orange Iron-rich Sandy wares although the fabric, with its sandy texture and moderate quantities of quartz and red grit up to 0.5mm in size, was broadly similar, hence the use of the same term (with 'type' to denote the distinction) in the data tables.

9.3.2.4 Late medieval to early post-medieval wares were represented by sherds of Green Glazed Sandy ware of 16th to 17th century date. The majority of the sherds were from dishes or bowls, typical of this type of pottery.

9.3.2.5 Early modern wares were represented by sherds of Slipware (context 1082, SFN 24) and Late Blackware (context 1222, SFN 21). Both of these types are typical of 18th century assemblages.

9.3.2.6 Context 1463 contained a very heavily abraded sherd (SFN 186) which lacked both of its surfaces although a dense pattern of small impressed or rouletted chevrons survived externally. These contained the decayed remnants of black glaze on a fine buff to pale pink body with fine quartz. Although it could not be definitely identified, the sherd may be an 18th century Late Blackware type, albeit with a softer and slightly sandier fabric than is normal.

9.3.2.7 Nineteenth century pottery consisted of sherds of tableware (Bone China, Blue-bodied ware, transfer printed Whiteware). Plates and other flatwares appeared to be the commonest functional types present. Utilitarian wares were represented by Brown Salt Glazed Stoneware and Yellow Glazed Coarseware. The former included two bottles (context 1894, SFN 2131; context 2269, SFN 2187) and various cooking vessels. The Yellow Glazed Coarseware sherd came from a pancheon.

9.3.3. Discussion

9.3.3.1 The largest and earliest single group of sherds came from midden 1406. It was dominated by sherds of Iron-rich Sandy and Gritty wares with a smaller quantity of Buff Gritty wares. Similar but smaller groups (often single sherds) came from contexts 1429, 1483, 1749, 1813, 1833, 2208 and 2307. Of these, only context 2208 was mentioned in the context information where it was described as the ‘post-medieval fill of curving ditch’. Despite this, the sherd was of medieval date, although it could be residual in a later context.

9.3.3.2 Green Glazed Sandy ware was present in contexts 1082, 2238, 2239 and an unstratified context. In the case of context 1082, the sherd was associated with a sherd of 18th century Slipware and context 2239 contained a small group of Green Glazed Sandy wares, as did the unstratified contexts. The remaining contexts contained only single sherds.

9.3.3.3 The remaining contexts contained early modern (context 1222) and recent pottery, the latter either as single sherds or in very small groups.

9.3.3.4 Overall, the assemblage was a heterogeneous one which included one medieval group (context 1406) and one early post-medieval group (context 2239) alongside a limited number of contexts containing small quantities of pottery spanning the medieval and modern periods.

9.3.3.5 Once the project is complete the assemblage should be deposited in the appropriate local museum of finds depository where it will be available for further research in the future. This is of particular importance as there is, as yet, no regional ceramics reference collection for the north-east of England.

10 BURNT CLAY, MORTAR, STONE AND CERAMIC BUILDING MATERIAL

Phil Mills

10.1. Introduction

10.1.1 There were 195 fragments, 3369.6g of material presented for study. This contained burnt clay, ceramic building material (CBM), mortar and stone which are reported on separately by material type in the sections below, The material was examined by context with fragments grouped together by a fabric type series, form was identified, where possible, otherwise recorded as unidentifiable or B/T (Brick/ tile) for CBM, no of fragments, No and weight, Wt were recorded, with complete dimensions recorded in mm, as well as evidence for sooting (recorded as '1' for evidence of burning). Given the overlap between high fired burnt clay and CBM, uncertain attributions were recorded as confidence '1' for probable fabric type.

10.2. Burnt clay

10.2.1 There were 162 fragments of burnt clay, weighing 2607.6g presented for study. The Catalogue of burnt clay is shown in Table 110. This material included a fragment of possible mud brick and some flat pieces at c 20 mm thick, possibly oven plates or shelves. Much of the burnt clay was perhaps undefined for kiln furniture but may have derived from ovens.

Context	SF No	Fabric Code	Function	Confiden	NoSh	Wt	Thickness	Soot	Comments
1406	437	D13	Daub		1	41.6	0		
1406	438	D13	Unidentified		50	395	0		
1406	441	D11	Unidentified		2	40.2	0		
1406	442	D13	Unidentified		2	12.6	0	1	
1406	443	D13	Unidentified		1	8.7	0		
1406	444	D13	Unidentified		1	3.6	0		
1406	445	D13	Unidentified		3	24.5	0		
1406	449	D13	Unidentified		2	8.8	0		
1406	484	D13	Daub		1	177.3	34		wattle 2 parallel stick impressions – c. 10mm in diameter
1406	618	D12	Unidentified		1	1.5	0		
1406	619	D13	Unidentified		1	2.2	0		
1406	766	D13	Unidentified		1	2.7	0		
1406	924	D13	Unidentified		7	17.3	0		
1463	189	D13	Unidentified		1	14.6	0		
1652	1179	D11	unidentified	1	1	38	0		
1668	1169	D11	Unidentified		14	585.6	30		large fragments - possible

Context	SF No	Fabric Code	Function	Confiden	NoSh	Wt	Thickness	Soot	Comments
									hearth or oven base?
1797	1372	D11	Unidentified		21	294.1	0		large c 40mm biggest mud brick?
1808	1270	D11	Unidentified		34	627.4	0		one piece c 32mm thick
1841	1132	D11	Unidentified		5	201.1	0		organic impressions
1841	1133	D11	Unidentified		13	111	0		

Table 110. Burnt clay catalogue.

10.2.2 There were fragments of daub from (1406) with one large example showing two parallel wattles c, 10mm in diameter (Figure 200). Direct dating of the burnt clay was not possible, although there are medieval parallels of the type of impression from Micklefield (Mills 2020) suggesting a medieval date. The burnt clay from the possible Roman features comprise relatively large lumps (up to c. 30mm long) which may derive from an oven.

Figure 200. Wattle impression from (1406).

10.2.3 Table 111 shows the break down by context type for the burnt clay. There is a high quantity from the midden (including the daub) with a large quantity from ditches and a small amount from pits the mean sherd weight (MSW) was calculated by Wt/No and shows that the fragments form the midden were smaller than that deposited in ditches, suggesting that this material was dumped in layer (1406) after use elsewhere.

Context Type	**No**	**Wt**	**MSW**
Occupation Deposits	0.6%	1.5%	38.0
Ditch	45.7%	47.9%	16.9
Layer	45.1%	28.2%	10.1
Pit	8.6%	22.5%	41.8
N	***162***	***2607.8***	***16.1***

Table 111. Burnt clay by context type.

10.3. Ceramic Building Material

10.3.1 There were 3 fragments, 17g of post medieval brick and 13 fragments, 104.6g, of possible Roman tile. These are listed in Table 112.

Context	SF No	Fabric Code	Function	NoSh	Wt	Comments
1082	18	TZ21.31	Brick	3	17	
1406	444	T11.31	B/T	1	2	
1406	448	T11.31	B/T	3	34	
1652	1179	T11.32	B/T	1	7	
1662	1152	T11.31	B/T	3	56	from tegula
2075	1282	T13	B/T	5	6	

Table 112. CBM catalogue.

10.4. Stone

10.4.1 There were 11 fragments of stone weighing 464.5g. these are listed in Table 113, There was a burnt sandstone flat fragment c 10mm thick which was possible from a tile, and a water rolled siltstone gravel sized piece. The gravel came from a ditch and the possible tile came from the midden layer (1406).

Context	SF No	Fabric Code	Function	NoSh	Wt	Thickness	Soot	Comments
1406	460	ST11	Flat	10	458	10	1	Tile??
2269	1288	ST01	Unidentified	1	6.5	0	1	

Table 113. Stone catalogue.

10.5. Mortar

10.5.1 There were 6 fragments of mortar, weighing 165.6g. These are listed in Table 114. This included some medieval bonding mortar and a weathered pieces of probable opus signinum. These all came from the midden layer.

Context	SF No	Fabric Code	Function	NoSh	Wt	Comments
1406	304	m012	bonding mortar	3	16.6	
1406	spit 1	m011	opus signinum	3	149	weathered

Table 114. Mortar catalogue.

10.6. Discussion

10.6.1 The Roman material is made up of some small fragments of CBM and perhaps some burnt clay possible from an oven, and a possible fragment of *opus signinum* present residually. A cluster of similar *opus signinum* has been noted nearby at Bridge Farm (Mills 2012; 2015) Some of this material may have been brought into the site after the Roman period The low level of material would suggest that it derives form a basic rural settlement.

10.6.2 The majority of the burnt clay appears is probably medieval and appears mainly to have been deposited as refuse.

10.6.3 It is not possible to determine the date of the burnt stone possible tile, as only thickness survives and could be of Roman or later date.

11 COARSE STONE TOOLS AND LITHICS

11.1. Coarse Stone Tools

Clive Waddington

11.1.1. Introduction

11.1.1.1 A total of 10 coarse stone implements were retrieved from the buried and sealed land surfaces in Wetlands 2 and 3, the fills of pits and a ditch, together with one unstratified find from the topsoil during the 2019 investigations (Table 115 and Table 133). They include: a possible hammerstone from the unstratified topsoil, one hammerstone and one rubbing stone from the fill of a pit (1438) within pit cluster F1789 on the ridge of higher ground; two probable hammerstones and a notched stone possibly used for cordage from buried Mesolithic soil (1223) around Wetland Basin 2; and bevel pebbled tool and a double perforated stone from the buried soil (1406) around Wetland Basin 3, a rubbing stone form the fill of pit (1479) within pit cluster F1789, and a further rubbing stone from the fill of a droveway ditch (1741) associated with Wetland Basin 3.

11.1.1.2 The stones are all of immediately local origin, with most being river-rounded cobbles in origin and likely recovered from the nearby course of the river Swale or from the fluvio-glacial and tills that form the immediately surrounding landscape.

Feature Number	Context Number	Feature type/description	Area of site	No. of implements	Description of implements
-	Unstratified	Topsoil		1	1 probable hammerstone
WB2	(1223)	Sealed Mesolithic soil around Wetland Basin 2	Wetland Basin 2	3	2 probable hammerstones and a notched stone
WB3	(1406)	Buried soil around Wetland Basin 3	Wetland Basin 3	2	1 bevel ended tool and 1 perforated stone
1788	(1741)	Fill of northern droveway ditch	Wetland Basin 3	1	Rubbing stone
1789	(1438)	Fill of pit containing Beaker ceramic sherds	The Ridge	2	1 hammerstones and 1 rubbing stone
1789	(1479)	Fill of pit	The Ridge	1	Rubbing stone

Table 115. The coarse stone assemblage by context.

11.1.2. Hammerstones

11.1.2.1 Four hammerstones were identified, one on a quartzite pebble FN1364 from the topsoil, two quartzitic sandstone pebbles FN65 and FN148b from the buried Mesolithic soil (1223) in Wetland Basin 2, and one on a red sandstone pebble from the fill of a Beaker pit (1438) on the higher ground of the ridge with clear evidence for wear on its narrow end. All four are ovoid in shape with FN148b being slightly more spherical. They vary in size (see Table 133) and have pock marks at one end, or both ends in the case of the hammerstone from the fill of pit (1438), resulting from their use to bash another hard material, probably a lithic material, whether for flint knapping or for other purposes.

Figure 201. Hammerstones FN65 (left) and FN 148b (right) from the sealed Mesolithic soil (1223) around Wetland Basin 2.

Figure 202. Rubbing stone FN1206 (left) and hammerstone FN1203 (right), both from fill of pit (1479) that contained Beaker ceramic sherds.

11.1.3. Coarse stone rubbing/smoothing tools

11.1.3.1 Four coarse stone rubbing tools were recovered. A sandstone pebble FN586 (see Figure 203) was retrieved from the buried soil around Wetland Basin 3 (1406) which also contained multiperiod artefacts including Neolithic flint arrowheads as well as Roman ceramics and medieval animal bone meaning this bevelled pebble rubbing tool could date from anything between the Mesolithic through to medieval periods although its affinities are undoubtedly Mesolithic. This artefact has clear wear at its broad end and is typical of bevel ended tools found in stratified middle Mesolithic contexts, as for example at Howick and Low Hauxley (Waddington 2007; Waddington and Bonsall 2016) where it is thought they were used as skin softeners.

Figure 203. Bevelled pebble fine-grained sandstone rubbing tool FN586 found in buried multi-period soil (1406) around the edge of Wetland Basin 3.

11.1.3.2 A medium grained sandstone rubbing tool FN1206 with flat rubbing surface and clear wear patterns on its flat surface and at its broad end was recovered from the Beaker pit (1438) on the ridge top along with hammerstone FN1203 (Figure 202). It is not clear what this rubbing or smoothing stone was used for, but tasks such as skin or fabric softening, or even to smooth wood may be possible.

11.1.3.3 A quartzitic medium grained sandstone rubbing stone FN1202 recovered from pit (1479) is of elliptical shape with a smooth, flat surface and with wear visible in the central part of the flat surface and with a chip missing from its narrower end that was probably chipped off during excavation. It has wear patterns visible on the central part of its flat surface as well as at the base of its wider end where it meets the flat surface (see Figure XXXX). It is not clear what this rubbing or smoothing stone was used for, but tasks such as skin or fabric softening, or even to smooth wood may be possible.

11.1.3.4 A fine grained sandstone, broadly elliptical, rubbing stone FN1170 was recovered from a droveway ditch fill (1741) associated with Wetland 3. It has a smooth, flat rubbing surface and has smoothing/wear visible across much of its flat surface. It is not clear what this rubbing or smoothing stone was used for, but tasks such as skin or fabric softening, or even to smooth wood may be possible.

11.1.4. Notched Stone

11.1.4.1 A dome-shaped sandstone cobble FN157b able to be held in one hand with a flat underside that has a notch pecked out of it in its centre and with what appears to be soot on its domed surface was recovered from the Mesolithic soil (1223) around the edge of

Wetland Basin 2. The immediate purpose of this stone is not clear, however one possibility is that the central notch on its ‘underside’ was used to accept a vertical stick that could have formed the rotating shaft for cordage. Twisting a stick rapidly and with pressure applied, on to a piece of wood with dry wood shavings is a well-established and very ancient way of starting a fire. This bow drill method is very effective a heavy stone that would apply weight to the vertical ‘drill’ held in one hand, while the other hand worked the bow the twist the drill rapidly would create the necessary friction to create embers and start a fire. What appears to be soot on the domed surface may have got there as a consequence of being left near or in amongst a resultant fire. No other example of a Mesolithic ‘bow drill’ cordage kit has yet been found and so if this is indeed what it was used for, it represents a unique find.

Figure 204. Notched stone FN157b from sealed Mesolithic soil (1223) around Wetland Basin 2 showing domed upper side with what appears to be soot on it.

Figure 205. Notched stone FN157b showing the flat lower side with a notch pecked out of it.

11.1.5. Perforated Stone

11.1.5.1 An unusual medium grained sandstone pebble FN1170 with two perforations that travel all the way through the stone and positioned perpendicular to each other was recovered from the buried multiperiod soil (1406) around Wetland Basin 3 where there was a considerable amount of medieval animal bone as well as flint and other coarse stone artefacts from the Mesolithic and Neolithic. It is therefore not clear when this artefact dates to. The perforations have been drilled right through the stone (Figure 206 and Figure 207) suggesting that it may have had cord/rope/string threaded through in both directions. Given it was found on the edge of a wetland it is possible this may have been used as part of a net, perhaps for fishing or related purposes.

Figure 206. Perforated sandstone stone artefact FN185 with perpendicular perforations found in buried multiperiod soil (1406) around Wetland Basin 3.

Figure 207. Perforated sandstone stone artefact FN185 from different angle showing the both perforations that both continued right through the stone.

11.1.6. Discussion

11.1.6.1 The coarse stone assemblages contains a variety of implements that includes hammerstones, rubbing stones, a bevel ended tool, a double perforated stone and a notched stone that could possibly be part of a Mesolithic cordage kit. The stone implements from buried Mesolithic soil (1223) are of particular interest as they are from a secure and very old context. They add an important contribution to the Mesolithic activity evidenced elsewhere on the site suggesting a wide range of diverse, but perhaps related, activities across this area of landscape by those setting up their camps around the wetland margins here from as early as the late 10th millennium cal BC.

11.2. Chipped lithics

Clive Waddington and Robin Holgate

11.2.1. Introduction

11.2.1.1 In total 111 chipped lithics and an additional two axeheads were retrieved from the 2010 Killerby excavations, ranging in date from the Late Upper Palaeolithic to the Early Bronze Age (Table 116). Apart from three chipped lithics from unstratified contexts associated with Wetland Basin 4, the lithics came from 22 different contexts that included palaeosols as well as pits and ditches, although it was the buried palaeosols that proved the most productive. The upper palaeosol and its related deposits around Wetland Basin 2 produced 65 chipped lithics together with the complete, and very rare in northern Britain, a complete example of a flaked flint axehead FN92, whilst palaeosol layer (1406) around Wetland Basin 3 produced 18 chipped lithics which included amongst other pieces the two Neolithic arrowheads FNs.621 and 1130. A broken ground and polished Neolithic axehead segment FN1366 was found at the top of the substratum on the ridge top to the east of Wetland Basin 2 close to pit (1438) that produced Beaker ceramics was located.

11.2.1.2 Although it is possible that one or two of the stratified lithics are either residual or intrusive within the contexts within which they occur, the majority of pieces are considered to reside in their original context of discard. All finds were located according to the context in which they were found and each find was bagged and given a unique find number. Measurements are given for complete pieces only in accordance with lithic recording conventions (Saville 1980). A full catalogue with details of each individual lithic was produced (Table 134). Table 117 below shows the breakdown of lithic types by context. Although the assemblage of lithic material is relatively small, the assemblage falls into two distinct categories and a probable third: a Mesolithic component which forms the majority of the assemblage, a small Neolithic component which, although small, is clearly set apart from the Mesolithic material, and a probable Late Upper Palaeolithic component best observed by the unusual tanged point FN87 found in the Wetland Basin 2 palaeosol (1223) and the backed blade FN620 found in the Wetland Basin 3 palaeosol (1406). This mirrors the assemblage of lithics recovered from the excavations of Kettle Hole KB5, as well as the more substantial assemblage recovered from the fieldwalking.

11.2.2. Chronology

11.2.2.1 Two pieces could potentially date to the Late Upper Palaeolithic – Early Holocene (*c*.13,000 - c.9700 cal BC), these being tanged point FN87 and a backed blade FN620 found in the palaeosol (1406) around Wetland Basin 3. About a third of the assemblage can be characterised as Mesolithic (*c*.9700 - 4000 cal BC) in date and this includes both early and late pieces such as the early Mesolithic microlith FN1371 from around Wetland Basin 2 and the later Mesolithic microlith fragment from the upper layer of peat in Wetland Basin 1. Other typical Mesolithic pieces include the flaked stone axehead

FN92 and the burin FN1244 from Wetland Basin 2 deposits (123 and 1893 respectively). The Mesolithic material is sometimes patinated and it contributes virtually all of the chipped chert component. Just below 10% of the assemblage can be characterised as Neolithic and includes such typical type fossils as the Neolithic ground and polished stone axehead fragment, a leaf-shaped arrowhead and a transverse arrowhead as well as typical scrapers and blade forms mostly made from high quality flint imported to the area. With the exception of the axehead, the Neolithic material is unpatinated, and all pieces are in fresh condition. The rest of the material remains unattributable as it cannot be dated with confidence.

11.2.3. Distribution

11.2.3.1 Approximately 58% of the assemblage (65 pieces) came from the palaeosol and related deposits around Wetland Basin 2, an area which clearly formed a focus for Mesolithic processing and craft activities. It is notable that two probable hammerstones and a notched stone that could be associated with ofre making were also recovered from the same palaeosol deposit (1223) from which the majority of the chipped Mesolithic lithic finds came from. A total of 18 chipped pieces came from the palaeosol around Wetland Basin 3 and this included both Mesolithic and Neolithic pieces. This reflects the fact that this buried palaeosol contained artefacts of mixed age throughout its profile including a very substantial assemblage of early medieval processed animal bone as well as Romano-British ceramics. The processing activities that evidently took place around the edge of this wetland, particularly in the early medieval period was no doubt largely responsible for churning up this wet soil and hence the mixing of artefacts from the Mesolithic to the medieval period throughout its profile. Other Neolithic material was found on the ridge top to the east of Wetland Basin 2, such as the Neolithic stone axehead FN1366, whilst all the Late Neolithic-Early Bronze Age material was recovered from the 'Beaker Pit' (1438), also on the ridge top not far from where the Neolithic stone axehead was discovered. The lack of flints recovered from Wetland Basin 1 is no doubt largely due to much of this peat having to be carefully machined off in spits in the search for Mesolithic structural remains, and which proved very effective in identifying two separate tepee structures. The downside to this approach, however, was that it meant that without hand excavation of the peat the opportunity to find chipped lithics throughout most of the peat profile was reduced. Where a 1m square test pit was excavated in this peat, in this case for the recovery of samples for pollen and sedDNA analysis, a single broken fragment of a later Mesolithic narrow blade microlith was recovered. This indicates that Mesolithic chipped flints were present in and around this wetland, but due to the methodology employed the opportunity to recover such artefactual remains was limited. It was notable, however, that even though the tepee sites were fully excavated by hand, no chipped lithcis were found associated with them.

11.2.4. Raw Material

11.2.4.1 The lithic raw material is of two main types: flint and chert. Artefacts made from chert comprise 58% of the assemblage (66 pieces), those from flint comprise 40% of the assemblage (45 pieces) and the remaining two artefacts are made from mudstone and volcanic tuff respectively. Around half of the assemblage has varying amounts of cortex which is mostly thin and abraded, indicating the relatively small size of nodules used in many cases.

11.2.4.2 The chert is virtually all grey with 26 classed as medium grey, 18 as light grey, 13 as dark grey and 2 as blue grey, the rest of the pieces being unidentifiable due to patination. Chert can be found as a naturally occurring rock within the underlying Carboniferous Limestone solid geology which outcrops within the river channel of the nearby Swale where it is a rock bed river. In addition, there is one fire-fractured, medium grey unworked piece of chert.

11.2.4.3 Whilst much of the flint is from unknown provenance some pieces clearly originate from secondary till or fluvioglacial deposits, the nearest sources being in the relatively local superficial till deposits that extend from the Killerby area south and east to the Yorkshire coast south of the North York Moors; some of the other pieces came from chalk strata with the Yorkshire Wolds being the nearest source to the site. Only a relatively small number of the chipped flints are patinated, although some such as the flaked flint axehead are heavily patinated. Where colours could be discerned most of the flint was a form of grey with 17 light grey, 11 medium grey, 3 brown grey, 1 dark grey, plus 3 brown and 2 red brown pieces.

11.2.5. Flaking and Manufacture

11.2.5.1 Two main strategies were pursued on working flint at the site. The first involved detaching blades and bladelets from cores using mainly soft hammers; care was taken to prepare the platform edge of the cores by abrasion prior to flaking and the width of butts on the resulting removals was minimal. The second flint-working strategy, which was in common usage from the Late Neolithic period onwards, involved detaching flakes from cores using hard, probably stone, hammers without abrading the platform edges of the cores in between detaching each flake. One core, recovered from the upper level of (1223) in wetland basin 2 had been flaked in this fashion. Two of the flakes removed from cores in this way that were recovered from deposit (1223) within wetland basin 2 and pit fill (1438) respectively were then fabricated with abrupt or semi-abrupt retouch on the dorsal surface into a piercer and an end scraper.

11.2.5.2 The backed blade FN620 from spit 1 of the upper level of (1406) in Wetland Basin 3 is fabricated on the dorsal surface of a large blade with abrupt and semi-abrupt retouch which, despite being broken, has a maximum width of 26mm and is 5mm thick which is within the range of implements on long blades typically found at Late Upper Palaeolithic sites in England, for example Hengistbury Head in Dorset (Barton 1992). The tanged point from (1223) in Wetland Basin 2 was fashioned on a soft hammer-struck blade with semi-abrupt retouch, whilst the microlith fragment from (1381) had been shaped with abrupt retouch to form a point at the proximal end of the bladelet.

11.2.5.3 The two arrowheads that were recovered (a leaf-shaped arrowhead from spit 1 of the upper level of (1406) in wetland basin 3 and an oblique arrowhead from spit 4 of (1406) in wetland basin 3) were both fashioned bifacially by pressure flaking but may not have been manufactured at the site.

11.2.5.4 The flaked flint axehead from deposit (1223) within Wetland Basin 2, which is patinated white, is of a thin-butted form. It was initially flaked into a preform: both faces and the cutting edge were then ground and polished. A flake had been detached from the butt end before it was discarded. As with the arrowheads it is unlikely that the axehead was manufactured at the site given this was made from a substantial piece of flint.

11.2.6. Types

11.2.6.1 A range of tool types is present within the lithic assemblage and these are summarised in Table 116 below. The number of implements in the lithic assemblage totals 13 pieces (25% of the assemblage). A range of tool types – mainly cutting, piercing and scraping tools, along with project points and an axe – is present as summarised in Table 116 below.

Type	**No.**
Bashed lump	1
Flakes	41
Blades	12
Chips	8
Bladelets	5
Cores and core flakes	8
Burin	1
Edge trimmed blades	6
Edge trimmed Flakes	11
Retouched blades	2
Scrapers	10
Backed point	1
Tanged point	1
Microliths	2
Leaf-shaped arrowhead	1
Oblique arrowhead	1
Flaked flint axehead	1
Ground and polished stone axehead	1
Total	113

Table 116. The lithic assemblage by type.

11.2.6.2 Two artefacts could potentially be Late Upper Palaeolithic – Early Holocene in date: a tanged point FN and a broken backed point FN620. The tanged point resembles Ahrensburgian-style tanged points which occur in Scotland and North East England (Balin et al. 2018; Pederson et al. 2016, 100), although it is not a typical point, being quite blunt at its tip. It is clearly tanged, but it does not fall neatly into any tanged point category, Ahrensburgian being considered the closest typological affinity. The backed point is comparable with backed points found at Late Upper Palaeolithic sites, for example Hengistbury Head in Dorset (Barton 1992, 124-7), and may have broken in use at the site.

Figure 208. Tanged point FN found in Wetland Basin 2 palaeosol (1223) with abrupt retouch visible either side of its basal tang. Note its unusual triangular section, its proximal end is at the top which means its tip is somewhat blunt for a tanged point.

Figure 209. Backed blade FN620 found in Wetland Basin 3 palaeosol (1406) with abrupt retouch running the full length of each long side, broken obliquely across the top and was evidently a much longer blade implement in its original form.

11.2.6.3 There are two microliths, one a complete broad blade microlith from the edge of the Wetland Basin 2 palaeosol, and the other a microlith fragment from (1381). A third possible narrow blade microlith is the small broken bladelet segment (1367) recovered from peat (1915) in Wetland Basin 1. An obliquely snapped retouched blade FN1244 is probably a small burin or microburin made on light grey chert. There are also a number of narrow blade cores, together with classic abruptly retouched Mesolithic scrapers and edge trimmed and retouched blades, and the rare flaked flint axehead. This suggests that the Late Upper Palaeolithic and Mesolithic activity at the site resulted from undertaking a selection of specialist tasks, focused around the small wetlands across the site, on an intermittent basis.

Figure 210. A broad blade microlith FN1371 found at the edge of Wetland Basin 2 palaeosol (1223) made on pale brown flint.

Figure 211. Burin FN1244 found in the Wetland Basin 2 deposit (1893) with retouch all down left hand edge and oblique snap across the top.

Figure 212. The heavily patinated flaked flint axehead FN92 Found in the upper palaeosol (1223) of Wetland Basin 2 with opposed notches approximately half way along its body on either side where it was evidently attached to its haft.


Figure 213.The other side of the flaked flint axehead FN92.

11.2.6.4 The obviously Neolithic implements include the leaf-shaped arrowhead with a broken tip, an oblique arrowhead and a ground and polished broken axehead recovered from around Wetland Basin 3 and the ridge top respectively. Leaf-shaped arrowheads, mostly round-based forms, have been found in Early Neolithic contexts in Yorkshire (Manby 1988, 52), whilst oblique arrowheads and thin-butted axeheads occur in Middle Neolithic and Late Neolithic contexts, including burials (Manby 1988, 73). The selective nature of these implements suggests that deliberate deposition of the arrowheads at least in what would have been watery contexts cannot be ruled out.

Figure 214. Transverse arrowhead FN1130 (left) and the leaf shaped arrowhead FN621 (right), both found in Wetland Basin 3 palaeosol (1406).

Figure 215. The ground and polished volcanic tuff axehead FN1366 found in the top of the substrate (1005) on top of the ridge to the east of Wetland Basin 2 with the break clearly visible on the left and its smooth butt end to the right.

Figure 216. The other side of the ground and polished axehead FN1366.

11.2.6.5 Other implements of Neolithic and Early Bronze Age date included a scraper, blades and flakes which largely came from the fill of pits located on the higher ground between Wetland Basins 2, 3 and 4, including from pit fill (1438), part of pit cluster F1789, and which also contained fragments of Beaker pottery.

Context Number	Feature type/description	Area of site	No. of flints	Description of flints
Unstratified	-	Near Wetland Basin 4	3	Blade, 2 edge trimmed blades
1002	Subsoil		1	Edge trimmed blade
1005	Top of substrate		5	Axehead, flakes and blades
(1223)	Upper palaeosol around the edge of Wetland Basin 2	Wetland Basin 2	41	4 flakes, 3 blades, 1 bladelet, 1 core, 1 ?hammerstone, 1 piercer, 1 tanged point, 1 axehead
(1275)	Primary fill of pit	The Ridge	2	2 flakes (1 x fire-fractured)
(1277)		Wetland Basin 2	3	Scraper, blade, edge trimmed flake
(1299)		Wetland Basin 2	1	Flake
(1325)		Wetland Basin 2	1	Retouched blade
(1381)			1	Edge trimmed blade
(1406)	Palaeosol around Wetland Basin 3	Wetland Basin 3	18	Flakes, blades, scraper, arrowheads
(1438)	Fill of Beaker pit	The Ridge	12	Flakes, blades and a scraper

Context Number	Feature type/description	Area of site	No. of flints	Description of flints
(1479)			1	Core
(1639)			1	Flake
(1647)			1	Scraper
(1692)			1	Edge trimmed blade
(1800)			1	Edge trimmed blade
(1875)		Wetland Basin 2	5	Edge trimmed flakes, scraper, flake
(1892)		Wetland Basin 2	1	Core
(1893)		Wetland Basin 2	10	Flakes, chips, burin, edge trimmed flake
(1908)		Wetland Basin 2	1	Edge trimmed flake
(1915)	Upper peat	Wetland Basin 1	1	Narrow blade bladlet (poss. microlith fragment)
(1941)			1	Core flake
(2250)			1	Edge trimmed flake

Table 117. The lithic assemblage by context.

11.2.7. Discussion

11.2.7.1 The Late Upper Palaeolithic - Mesolithic debitage and implements from deposits within Wetland Basins 2 and 3 are likely to have been discarded in the course of sporadic short-stay, specialised activities undertaken around wetlands at the site, for example hunting and initial processing of animal carcasses. The extraordinarily high abundance of microcharcoal in the Late glacial sediments from both the kettle hole (KB5) and from the equivalent sediments preserved at the base of Wetland Basin 1 adds to the evidence for Late glacial hunter-gatherer activity at this site.

11.2.7.2 The wetland basins continued to be a focus for activity throughout the Mesolithic period with important Early Mesolithic implements present in the form of the flaked flint axehead and the broad blade microlith which, combined with the radiocarbon dated Early Mesolithic tepee structures and hearth in Wetland Basin 1 and the continued extraordinarily high abundance of microcharcoal in the Early Mesolithic sediments from KB5, indicate episodic visits to this area with occasional short-stay camp sites and hunting/procurement activities focused around the various small wetlands.

11.2.7.3 The pattern for the Later Mesolithic includes continued activity in and around the wetlands which compliments the discovery of the Late Mesolithic timber platform constructed on the pond edge within the kettle hole KB5.

11.2.7.4 The Neolithic implements are mostly highly specialised implements, typically considered to have particular symbolic resonance in the case of arrowheads and axeheads. All are made from exotic material with the axehead appearing to be made from Langdale Tuff from Cumbria (ie. Group VI) based on surface observation, whilst the arrowheads are both made on high quality imported flint. The two arrowheads were either lost or deliberately disposed of in a watery setting (Wetland Basin 3), just like the Neolithic leaf-shaped arrowhead FN148 recovered from above the timber platform in kettle hole KB5 elsewhere on the site. The Neolithic axehead had been broken, and probably deliberately, immediately prior to its deposition on the ridge top, and the deposition of broken Neolithic axeheads is something that has been observed widely across Neolithic structured deposits, usually in waste pits of one sort or another, from sites throughout Britain. It is possible that the breaking of the Neolithic axeheads somehow 'killed' them as power objects and by burying them they were returned to the earth from whence they had came. Therefore, the burying of axeheads may have been associated with removing certain symbolically charged objects from daily circulation, destruction of their power and returning them to their place of origin. It is interesting to speculate on why this may have taken place, but if the object had failed its owner, or perhaps it may have been an object belonging to a foe, then such circumstances may have rendered their destruction and disposal not just desirable, but essential.

11.2.7.5 A pit containing sherds from a broken Beaker, together with 12 chipped flints mostly flakes and blades, but also including a scraper, was found on the ridge top near to where the Neolithic broken axehead was found. This is intriguing as it suggests that by this time it was not the wetlands themselves that formed the focus of human activity, but rather the high ground around the wetlands that was attractive for certain activities of a potential votive nature, similar perhaps to the preceding Neolithic activity, although with less concern for the wetlands. It is interesting to note that after this time the area seems to have become a landscape given over to farming and the attention switched to the high, dry areas rather than the wetlands, until that is, the early medieval times when Wetland 3 was chosen for animal processing and carcass disposal on a prodigious scale.

12 METALWORK

Roger Doonan

12.1. Introduction

12.1.1 Excavations commissioned by Tarmac Ltd at Killerby Quarry and undertaken by Archaeological Research Services Ltd (ARS Ltd) between April and September 2019 have produced a small assemblage of metal finds. This report details these finds and assesses their research potential.

12.2. Method

12.2.1 A small assemblage of metalwork, Table 118. Metal finds, was examined in order to assess its potential for further research. All finds were examined by hand in order to confirm field identification, material and artefact type. Where necessary samples were lightly cleaned using soft brushes and distilled water/alcohol to aid material and type identification. All samples were photographed prior to and after cleaning.

12.2.2 Where appropriate individual finds were examined microscopically to assist with identification of accreted remains and/or fabrication. Where material was ambiguous or hard to identify chemical analysis was undertaken to confirm material type.

12.3. Results

12.3.1. Introduction

12.3.1.1 The assemblage comprised a total of four objects, 3 ferrous objects and 1 copper alloy. Table 118. Metal finds details the find examined alongside their field ID and associated contextual information.

Small find No	Context	Field ID	Notes	Image (scale 867-2cm, 188-5cm, 1204 2cm, 351-10cm)
867	1406	Coin "Cu"	Corroded with possible evidence of mineral preserved organics	
188	1463	D-shaped Buckle	Corroded. Strongly magnetic suggesting remnant metallic phase	
1204	1429	Iron	-	
351	1406	Metal Fe	Corroded. Strongly magnetic suggesting remnant metallic phase	

Table 118. Metal finds

12.3.2. SF867

Wt 6.5g. Dimensions Ø 26mm, 1.2-2.1mm thickness

12.3.2.1 Identified as a copper coin in the field, the artefact appeared heavily corroded with green corrosion products dominating all surfaces apart from where covered in iron-rich soil concretions. The object is circular in form with a single segment either missing or intentionally omitted. Figure 1 shows the obverse and reverse faces prior to cleaning and highlight the corrosion products and ferruginous concretions on the surface.

Light cleaning using a soft brush with distilled water found the ferruginous concretion to be soft and readily removed. Figure 2 shows the object after cleaning with considerable detail revealed. Upon realising that the object was not a coin, cleaning was ceased and the object dried thoroughly (see page 11 for larger image).

12.3.2.2 Cleaning revealed detail that suggests stylistically the object might be considered Early Medieval, possibly Anglo-Saxon or Anglo/Hiberno-Scandinavian. It features an interlaced design with possible zoomorphic feature(s) (serpent head). Such examples of detailed interlacing are often thought to be “chip carved” although the design could equally be achieved through casting. The work seems of good quality and craftsmanship (see discussion for further comments).

12.3.2.3 Further examination found there to be three perforations arranged in a symmetrical pattern with the centre perforation being diametrically opposed to the mid-point of the absent segment. These perforations and their orientation point towards that the object being a decorative mount with the missing segment possibly being an intentional aspect of design. The absence of any attachment (or sign of) on the reverse argues against its identification as a disc-headed pin or brooch. However, these latter two suggestions should be considered further. If correctly identified as a mount then it may have been attached to a wooded box, a mount for harnesses or horse tack, or other personal effect.

Figure 217. Copper alloy ‘mount/brooch’ prior to cleaning. (left. obverse, right. reverse; scale = 2cm).

Figure 218. After cleaning, showing detail of interlaced design and possible zoomorphic feature. (scale = 2cm).

12.3.2.4 Further examination indicated an additional metallic layer that could indicate that the object was originally gilded. To confirm these observations the object was subjected to chemical analysis using XRF and a detailed microscopic examination.

Microscopic and Chemical Analysis

12.3.2.5 XRF analysis of the 'mount' indicated that it was made of tin bronze. An average of 6% tin was provided across 5 analyses although over-representation of tin in corrosion compounds suggests the actual figure to be lower. The object is best considered as a low tin bronze.

12.3.2.6 In addition to identifying tin, XRF analyses also found a strong gold peak which supported the observations of a gilded layer having been applied to the mount. A silver peak was also noted but it remains unclear whether this is associated with the gold gilding or a constituent of the alloy itself. Figure 219 shows the spectra for the analysis of the obverse surface of the mount and the strong gold peak. The presence of gold was also confirmed visually through microscopic analysis (Figure 220) where the gold layer is visible beneath copper corrosion products).

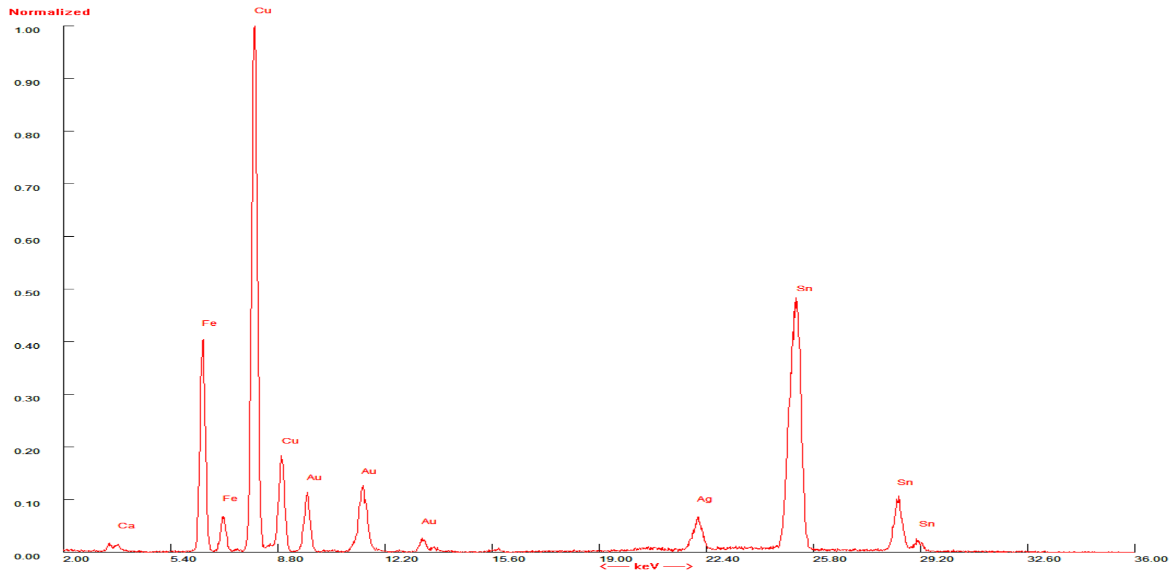


Figure 219. X-Ray Spectrum of copper alloy object showing gold and silver peaks.

Figure 220. Photomicrograph of SF867, showing area of gold gilding under copper corrosion.

12.3.3. SF188

Wt 10.9g. Dimensions 39mm, Ø 6mm

12.3.3.1 Identified as a 'D' shaped buckle when excavated, the artefact is clearly ferrous and heavily corroded. It is strongly magnetic indicating that metallic iron is present. The form suggests a 'D' shape and may have formed the frame of a buckle. The return that would have formed the completed 'D' is missing. This absence means there is no bar which may have supported the prong and chape. Examination found no evidence of a prong stay or rest on the D frame which may point towards a belt stay rather than a buckle. In light of this ambiguity it is probably best described as a belt fitting.

12.3.3.2 The aperture is sufficient to tolerate a belt of ~20mm suggesting that it may have been for personal use or some aspect of horse tack/harness or similarly light application. It is a non-diagnostic form and remains difficult to ascribe a precise date.

Figure 221. 'D' shaped belt fitting showing corrosion. (left. front. right, reverse. Scale = 5cm).

12.3.4. SF351

Wt 49.8g. Dimensions 148 x 13 x 4mm

12.3.4.1 A flat, tapered iron bar, heavily corroded and covered in ferruginous concretions. The artefact is strongly magnetic suggesting that there are remnants of metallic iron. No surface decoration or detail can be seen.

12.3.4.2 Despite the heavy corrosion it is apparent that the item tapers to a gentle point at each terminal. The least corroded terminal exhibits an asymmetry to the taper suggestive of use-wear. The bar may have been used in a gouging, prying or piercing manner as might be expected for a heavy awl. There is no evidence for mineral preserved organics in any of the corrosion products.

Figure 222. Tapered bar (possible awl). (left. side 1, right. side 2. Scale = 10cm)

12.3.5. SF1204

Wt 7.0g. Dimensions 45mm long, 4mm thick

12.3.5.1 An iron fragment showing evidence of heavy corrosion. Despite the condition of the object it is apparent it is formed of a straight bar that terminates in a webbed joint that bifurcates to form a 'Y' shape. All terminals appear broken preventing the better identification of the object. It is likely that it is some kind of fitting possibly related to dress or a light fitting for a box. The object is strongly magnetic indicating that it contains remnants of metallic iron.

Figure 223. Ferrous fitting fragment showing state of corrosion. (Scale = 2cm).

12.4. Discussion

12.4.1 All finds are derived from sealed contexts and can therefore be further understood through considering their contextual associations.

12.4.2 The 'mount/brooch'(?) and the ferrous awl-like tool both come from context 1406 of Wetland Basin 3 (WB3). 1406 is described as a fine dark peat with occasional small-large stone inclusions and produced lithics, pottery, ceramic building material and animal bones. It is tentatively suggested by the excavators that it is a possible midden though the heavy truncation of this context by later ditches should be considered and the possibility that these finds are intrusive from later ditch deposits reviewed.

12.4.3 Stylistically, the 'mount/brooch' is best described as having a defined rimmed border with an openwork interlaced design. The exposed portion of interlaced design is suggestive of a coiled ribbon animal(s) possibly in combat. Defining features appear to be the tight coiling and the presence of an angular rhomboid feature that is possibly an eye. With the confirmed presence of a gold gilding and the fine metalwork it is clearly a fine piece of metalwork. Comparative examples might be found in the Pitney Brooch from Somerset (Hinton 1974, Wilson 1984) and a poorer example from Wisbech in Cambridgeshire (see Figure 224). Given the similarity of some of the decorative elements the Killerby is tentatively identified as being an exceptional example of the *Urnes style* and with elements of Scandinavian affiliation. If this identification is correct then a date of the second half of the 11th century would be most fitting.

Figure 224. Examples of late 11th century openwork brooches. Wisbech brooch (left) Pitney brooch (right).

12.4.4 The 'D' shaped belt fitting (SF 188) was recovered from context 1463. This is described as the fill of ditch (1462) and comprised light grey-brown sandy silt with fragments of charcoal. It produced animal bone, pottery, and ceramic building materials. Again located in WB3 the context was considered the backfill of a Roman period boundary ditch.

12.4.5 The 'Y' shaped ferrous fitting (SF1204) was recovered from context 1429. This is described as a light grey compacted sand with inclusions of small, rounded pebbles. In addition to the ferrous fitting it produced fragments of animal bone. Context 1249 is understood as the basal fill of ditch 1428.

12.4.6 At present two pieces of evidence can be used to point towards the dating of some of the assemblage. The distinctive style of the decorative features for SF867 (mount/brooch) indicate an Early Medieval date probably 10-11th century. The 'D' shaped belt fitting is also thought to derive from a backfill that is likely post-Roman in date. Likewise, this would tend to reinforce the Early Medieval date indicated by the 'mount/brooch'. The other elements of the assemblage, the awl-like tool and 'Y' fitting would not be incongruent for this date.

12.4.7 All members of the assemblage showed evidence of heavy corrosion and or significant ferruginous concretions. Nonetheless, light cleaning of the copper alloy and assessment by magnet for the ferrous material has shown that all members are in a condition where remnant metallic phases remains and would allow further analytical enquiry.

12.4.8 The finding of Early Medieval metalwork complements the range of materials and archaeological evidence recovered from Killerby and extends the value of archaeological enquiry at the site. Early Medieval finds have not been extensive to date highlighting the value of the 'mount/brooch' and potentially other pieces of metalwork. The regional research framework suggests a paucity of Early Medieval evidence compared to earlier periods, with strong contrasts between evidence in the west and east of the region highlighting the potential of Killerby's relatively central location for informing a fine-grained regional strategy. Most evidence for Early Medieval metalwork has come from known (eastern) cemeteries and chance detector finds. Nonetheless, the Resource Assessment distributions emphasise the relative sparse nature of the Early Medieval resource (Roskams and Whyman 2007).

12.4.9 The close association with Roman activity at Killerby and the finding of Early Medieval material culture connects with issues identified by Roskams and Whyman in the RRF (ibid). The concern that Early Medieval settlement may be concealed in Roman sites which continued into later centuries, or obscured by those of a later medieval date with unrecognised origin (Roskams and Whyman 2007, 33) may be a concern that can be addressed with current post-excavation studies and future excavations at the site. Again, careful stratigraphic analysis coupled with any dating evidence offers the potential for archaeological work at Killerby to comment on these matters.

12.5. Conclusions and Recommendations

12.5.1 The state of preservation of this assemblage is good although light cleaning is recommended prior to storage. Storage should be in controlled and monitored conditions to ensure the stability of the finds and their future research potential.

12.5.2 The 'brooch/mount' is an important find and it is recommended that this is further assessed by a period specialist to gain insight on stylistic elements that may assist with dating. The object has further research potential when combined in a comparative study with other finds from the region or of similar style. It is recommended that an interpretive drawing is made of the object. Work done at the assessment stage has established alloy type (low tin bronze) and the presence of precious metal gilding; no further analytical work is recommended at this stage.

12.5.3 The ferrous finds are difficult to identify with certainty but in light of their secure contexts they may offer future research potential for researchers interested in period specific aspects of iron working and use. Beyond adequate storage facilities no further work is recommended at this point.

12.5.4 In summary, the assemblage of metal finds from 2019 excavations at Killerby are small but with some important members. No further work is recommended currently apart from drawing and further stylistic assessment of the 'mount/brooch'. The material should be retaining in appropriate storage as it has the potential to be of use to future research studies. The material highlights the further potential for Killerby to provide much needed knowledge on the Early Medieval period as is highlighted in the regional research framework.

13 Other Small Finds

13.1. Jet-like Bracelets

Roger Doonan

13.1.1 Two bracelet fragments (SF184 and SF633) were recovered from a fine dark brown peat (1406) in association with lithics, pottery, CBM and animal bones. The deposit is cut by a series of ditches and is considered a possible midden within Wetland Basin 3. Small Find 633 comprised 4 adjoining fragments while SF 184 was a single fragment.

13.1.2 Bracelet Fragment SF 184

13.1.2.1 A single fragment of bracelet comprising 23% of a whole (3.9g) (Figure 225). The internal diameter is 54mm and external diameter 66mm. The cross-section of SF 184 is plano-convex (Figure 226) with a width of 11.1mm and a height of 8.2mm.

13.1.2.2 SF184 is fashioned from a very fine grained jet-like material and highly polished on the outward facing surface. The fractured cross-section is dark brown and the polished outer surface black. There are two visible iron oxide inclusions (1-2mm). The inner surface shows a series of roughly parallel lines that tend to wander. These marks are presumably remnants of the fabrication stage and their irregular character point to a slow turning technique such as might be typical of a hand or rudimentary pole lathe.

13.1.2.3 Chemical analysis undertaken by XRF allowed comparison with criteria established by Penton 2008 that may assist in the identification of material type. Table 1 shows the results of analysis and points towards SF 184 being possible Jet.

Figure 225. Internal Surface and profile of bracelet SF184.

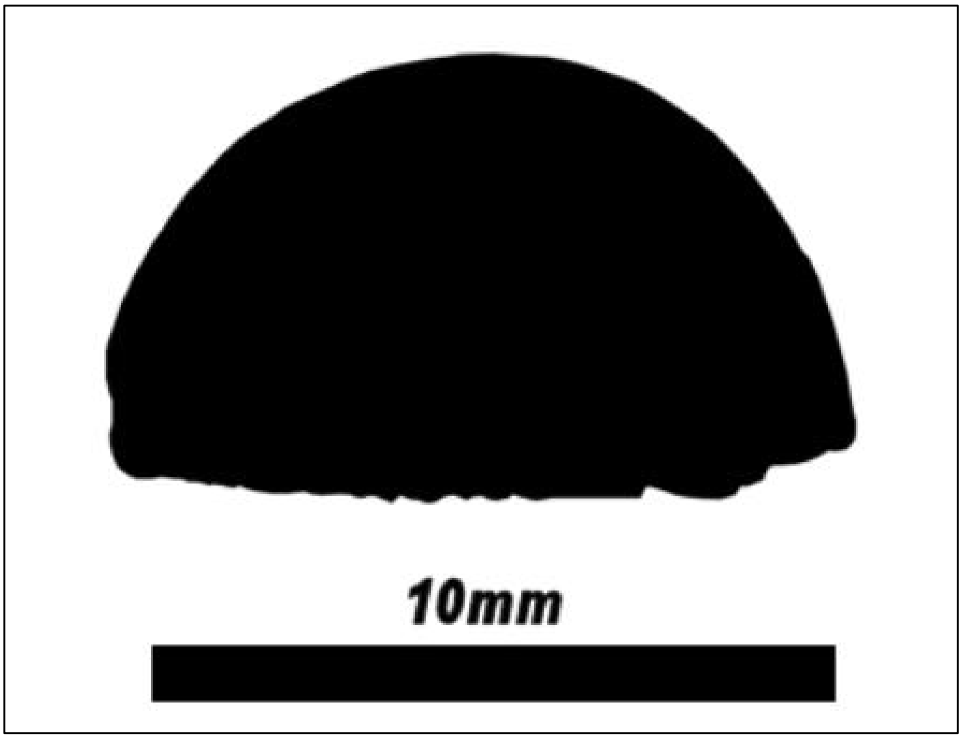


Figure 226. Cross-section profile of bracelet SF184.

13.1.3 Bracelet Fragment SF 633

13.1.3.1 Four fragments of a bracelet comprising 25.5% of a whole (1.6g, 2.2g, 2.4g and 1.0g) (Fig 3). The parts join to form a single undecorated fragment having delaminated in-situ. The internal diameter is 46mm and external diameter 64mm. The fragment does not survive in full cross section with 14.1mm remaining at a height of 11.2mm providing a projected eliptical cross-sectional width of 18.1mm (Fig 4).

13.1.3.2 SF633 is fashioned from a very fine-grained jet-like material and highly polished on the outward facing surface. There is some wear on the surface although some may be related to archaeological retrieval. The fractured cross-section is dark brown and the polished outer surface black. Chemical analysis undertaken by XRF allowed comparison with criteria established by Penton 2008 that may assist in the identification of material type. Table 1 shows the results of analysis and points towards SF 633 most likely being shale.

Figure 227. Internal Surface and profile of assembled bracelet SF633.

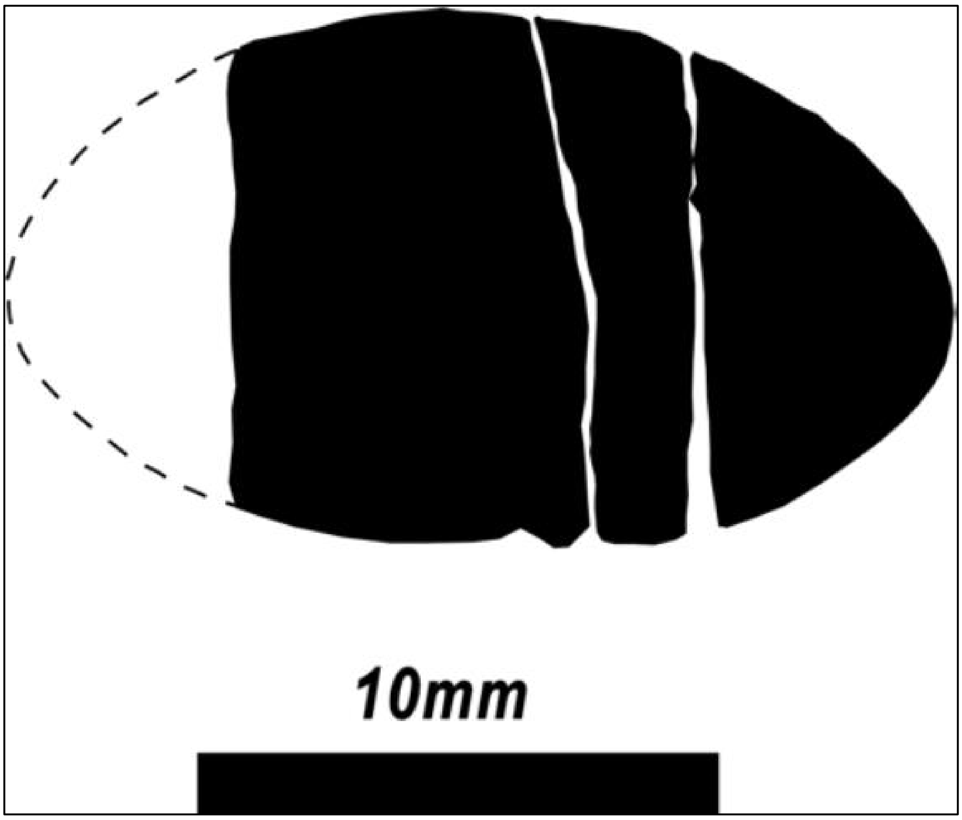


Figure 228. Cross-section profile of bracelet SF633.

Element	Conc. (ppm)	Material	Δ184	Δ633
Fe	<600	Jet	Yes (1200ppm)	
	1600-1800	Lignite		
	>5000	Shale and Cannel coal		Yes
K	<600	Shale		
	400-1000	Jet		
	>1000	Jet and Cannel coal	Yes	Yes
Ti	>1000	Jet	No	No
Sr	<50	Jet and Cannel coal	Yes	No
Cr	<40	Possible jet	Yes	No
V	Presence	Possible jet	No	No
Zr	Presence	Possible jet	Yes	Yes
Zn	Presence	Possible jet	Yes	Yes
Pb	Presence	Possible shale	No	Yes
Rb	Presence	Possible shale	No	Yes
Al	High	Shale	N/A	N/A
Si	High	Shale	N/A	N/A
Ca/Cu	Variable	Too variable		

Table 119. Criteria for distinguishing between Jet, Cannel coal and Shale by chemical analysis (shaded area based on data from Penton 2008) with results for SF 184 and 633 attached.

13.1.4 Discussion

13.1.4.1 The bracelets are difficult to date on stylistic grounds alone although they are commonly found in the Iron Age and Roman periods, although they occasionally occur in post-Roman contexts. The association of material in Wetland Basin 3 make them a challenging material type to date with any certainty. Jet like bracelets---bit of context

13.1.4.2 Morphologically, the two bracelets differ in cross section with SF 633 being a much heavier example at almost twice the thickness. However, both bracelets are similar in size with internal diameters of 54mm and 46mm. These are small apertures and if worn on the limbs they are unsuitable as body adornments for any individuals other than young infants. That both are similar in size suggests that they could have been used together in unison or together side by side. The small size may point towards a kind of ring toggle used as a dress accessory, such as for drawing together a shawl or similar.

13.1.4.3 Identification of material type is challenging and a range of techniques have been advocated to assist in the discrimination of Jet, Shale and Cannel coal. Based on chemical analysis undertaken with XRF and following Penton's scheme it is suggested that SF184 is possibly Jet while SF 644 is most likely shale. However, subsequent microscopic examination failed to identify any wood like structure typical of Jet in SF 184. Further, microscopic examination showed two small inclusions of iron oxide in SF 184 suggesting it is unlikely to be Jet and more probably shale. The identification of Jet-like materials remains challenging and is best determined by a combination of several techniques including the use of FT-IR.

13.1.4.4 There is some evidence of fabrication details in the markings on the inside of the bracelets in the form of concentric scoring albeit uneven. Such markings point towards a method of turning for the bracelets and most likely a relatively slow technique as might be envisaged with a hand cranked or pole lathe. The eccentric nature of the inner and outer diameters suggests that the bracelets were remounted in between the cutting of the inner and outer.

12.1.5 Conclusion

13.1.5.1 Both bracelets are good examples of turned bracelets made from Jet-like material. On balance the material is most likely shale although the possibility remains that SF 184 might be Jet.

13.1.5.2 The similarity and small size of the internal diameters suggest that these items were used together and may have been used for small infants or as some dress accessory.

13.2. Antler Comb

Roger Doonan

13.2.1 Introduction

13.2.1.1 The terminal end of an antler/bone comb (Figure 229) was recovered from a fine dark brown peat (1406) in association with lithics, pottery, CBM and animal bones. The deposit is cut by a series of ditches and is considered a possible midden within Wetland Basin 3. The overall length of the recovered antler/bone comb measured 82mm and its weight was 15.9g.

Figure 229. SF955 Antler/bone handled comb showing both sides. Note presence of iron rivets.

13.2.2 Description

13.2.2.1 The comb is constructed from three parts, two antler scales that locate and keep in place an antler comb plate. The two scales are fixed by two iron rivets that have corroded. The scales extend beyond the comb plate to form a handle 43mm long.

13.2.2.2 The area of the scales is decorated from the location of the comb plate onwards with an incised repeating chevron and rectilinear design (Figure 229).

13.2.2.3 The comb plate is positioned in a purposefully cut recess and has been fashioned with care and precision. The comb teeth show little evidence of wear (beading) although only a few near the end survive. The pitch of the teeth was determined as 0.6mm (Figure 230).

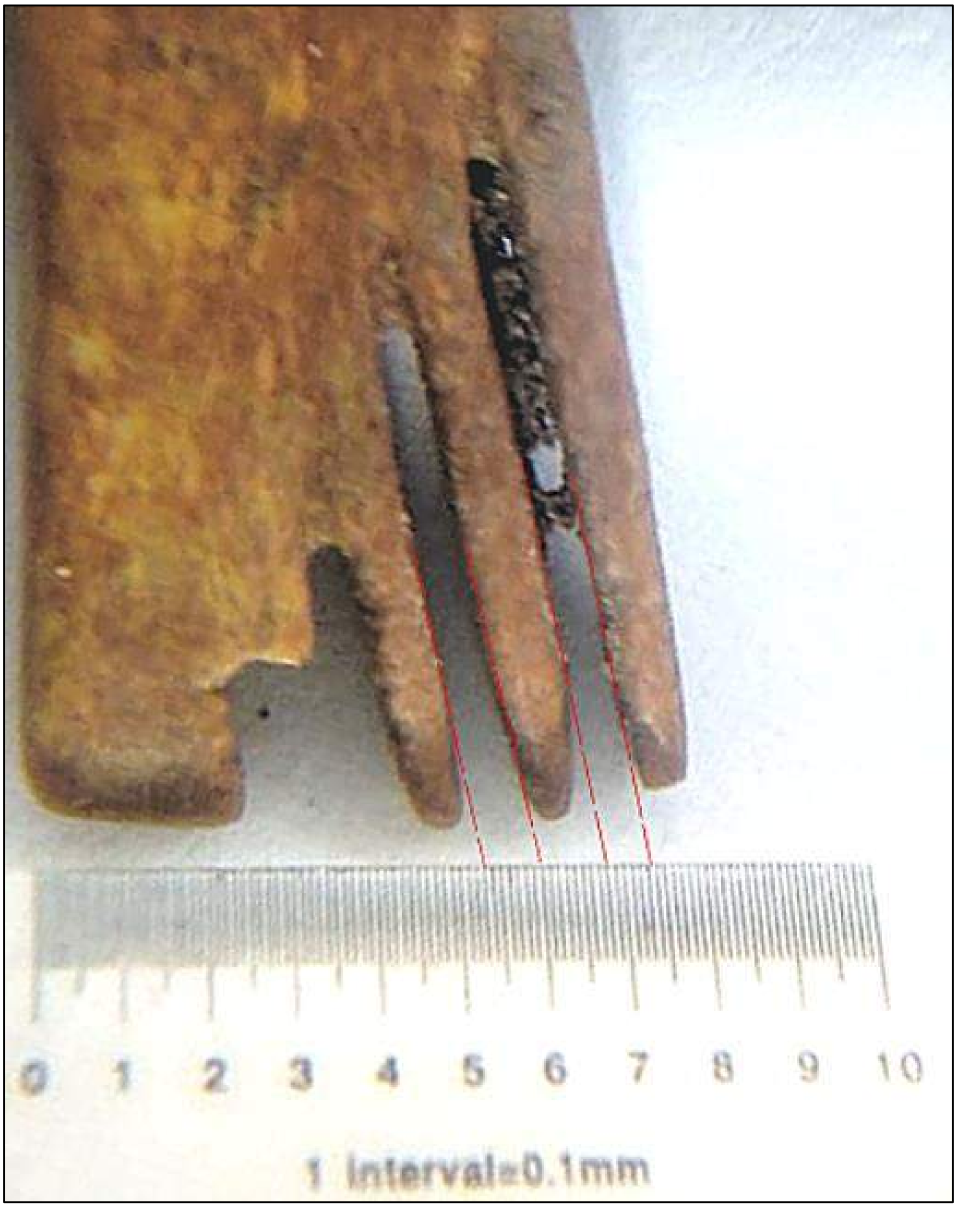


Figure 230. Photomicrograph showing detail of comb teeth.

13.2.2.4 Examination of the handle terminus revealed an amygdaloidal form with major and minor axes of 15.8mm and 11.8mm respectively. It was apparent that the compacta evident in each scale do not align suggesting that rather than the comb being cut and fashioned from a single tine, it is instead made from a variety of pieces that have been worked to carefully meet, perhaps with the assistance of heat.

Figure 231. Terminus of Antler Comb showing misaligned compacta.

13.2.3 Discussion

13.2.3.1 Antler combs are not an uncommon find from early medieval settlement and funerary contexts (Ashby 2007), although Iron Age and Romano-British combs also occur. The frequent opportunities for loss coupled with their low intrinsic value mean that they are considered useful for dating (Ashby 2007).

13.2.3.2 According to Ashby, “combs can be briefly divided into single-sided (i.e. bearing teeth on one edge only) and double-sided forms, of one-piece and composite construction (the latter consisting of two to four connecting plates riveted to a larger number of toothplates using rivets of iron, copper alloy or occasionally bone)” (2007, 1).

13.2.3.2 The Killerby comb is a composite form and is best understood as a Type 3 according to Ashby’s classification. Type 3 are described as asymmetric and handled combs (see MacGregor 1985, 87, 91-2; Riddler 1990; 1998). Handled combs have a longitudinal handle formed from a single antler tine, or a pair of bone strips (Figure 232). They are known on the Continent but are more common in Anglo-Saxon England (Riddler 1990), and typically date to the period between the 8th and 11th centuries.

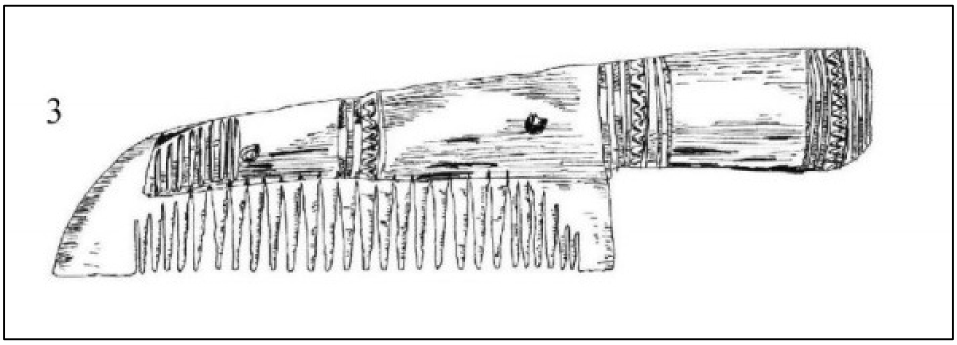


Figure 232. Type 3 from Ashby's classification based on a reconstruction from Yorkshire (Ashby 2007).

13.2.3.3 Another example comes from the British Museum (1915,1208.209) (Figure 233) which is described as an Antler comb with handle and decorated with incised lines and zigzag. Its provenance is uncertain having been donated by collector Arthur Ransome although it is presumed to date to the 10-11th century AD. No similar parallel to the Killerby comb could be identified.

Figure 233. The antler comb from the British Museum (1915,1208.209) presumed to date from the 10-11th Cent. AD.

13.2.3.4 The fabrication of the Killerby comb can be understood from its examination. Two antler scales were cut and worked to a close fit and then rebated equally to accommodate the comb plate. This was then fixed with the assistance of a series of light iron rivets. Cut marks on the scales adjacent to the comb plate show that the teeth were cut once the plate was fixed in position (Figure 234). Once cut it is apparent that the crown of each tooth was chamfered and profiled to facilitate combing actions.

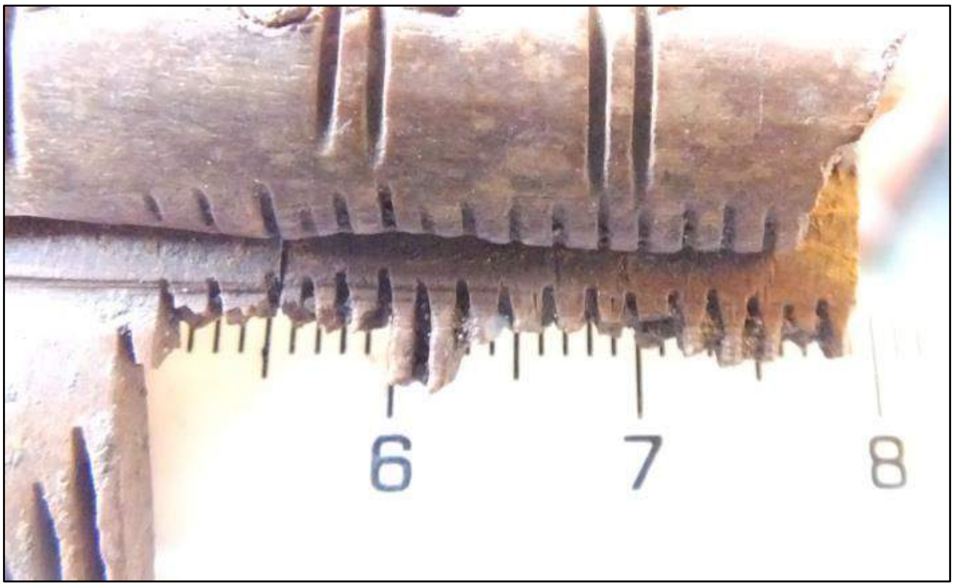


Figure 234. Saw marks from the cutting of the comb's teeth can be seen to extend to the surface of the antler scale indicating that the comb plate was cut once the comb plate was fixed in position.

13.2.4 Conclusion

13.2.4.1 The Killerby comb is a well-preserved example of an asymmetric antler comb that can be identified as a Type 3 (Ashby's classification). The decoration of the antler scales is not uncommon although an exact parallel for Killerby decoration cannot be found. It is probably best dated to the 10th Century AD as it seems at this point antler was the preferred material. Based upon a few notable examples, handled combs of this period were once assumed to be of Scandinavian origin. Somewhat later, this was revised to a Frisian origin as few examples could be cited from Scandinavia and when they did occur they were often dated to a later period. More recently, Riddler has questioned Frisian origins again on the basis of a paucity in Frisian contexts (Riddler 1990). Instead, Riddler draws attention to the numerous combs of this type present in Anglo-Saxon contexts with *Hamwic* and London being examples where many occur. On this basis, the current consensus is that these objects are now best considered Anglo-Saxon.

13.2.4.2 While the form is well recognised the decorative aspects have not been found to offer any further insight into the object. However, the comb survives with teeth in place although the majority are lost, but it provides the basis for metric comparative studies (Ashby 2007). Further, the composite nature of the comb and fabrication marks allow for a detailed understanding of how it was made and comparisons on this basis might offer an productive line of future enquiry.

13.3. Bone point/awl

13.3.1 A carefully fashioned bone point (Figure 235) was recovered from a mid grey-brown sandy silt with occasional inclusions of small stones and animal bone. Located within WB3, it was considered the backfill of a Roman ditch. The overall length of the recovered bone point measured 129.6mm and its weight was 13.4g.

Figure 235. Bone point recovered from ditch fill (1845).

13.3.2 The bone shows clear evidence of working having been fashioned into a point that might have been used in the fashion of an awl or similar. It is probably (add species ID).

13.3.3 The use of bone as a material for tool manufacture is not unusual in many periods although a comparative example has not been identified at present.

14 DISCUSSION

14.1 The archaeological and geoarchaeological works undertaken at Killerby Quarry represent an innovative approach to both evaluation and mitigation that have resulted in the recovery stunning and rare discoveries that will inform future methodologies as well as contributing significantly to understanding the Late Glacial and Early Holocene archaeology and palaeoenvironment in Britain and north-west Europe. The focus of this report has been the extensive excavations that took place in 2019, and which form the largest single piece of work that has taken place on the site so far. The 2019 works focused on the most sensitive geoarchaeological and archaeological areas of the site which means it is unlikely that, although there will no doubt be some further archaeological finds and features recorded on the site, the bulk of the archaeological works has now been completed. The majority of the deposits that will contribute to understanding the Late Upper Palaeolithic-Mesolithic (ie. the period of Stone Age hunter-gatherers), which comprise the most significant findings from the site, have been excavated which means that a coherent account of these findings can be published. A fuller discussion of the results setting them in their regional context is being prepared for publication in monograph form. The palaeoenvironmental findings from the whole site to date have been published together (Hudson *et al*. 2022). The methodological approach to these innovative excavations in the context of the English Planning System have also been published (Waddington in press), whilst preliminary notes on the Mesolithic archaeology have also been published (Waddington *et al*. 2020).

14.2 It is worth noting that due to the Covid-19 pandemic there has been delays in acquiring radiocarbon dates which has slowed down the post-excavation and analysis of the data. Additional work to maximise the research and information gain from the recovered materials, including Bayesian modelling of the radiocarbon dates for the key stratigraphic sequences on the site and sedimentary DNA analysis of the peat sequence in Wetland Basin 1, is continuing. Once this work is complete a digital monograph is being produced that will summarise all the archaeological and geoarchaeological works to date and will include the full in-depth interpretation of the site, taking into account this additional research and also placing these findings in the wider regional and north-west European context. This discussion will focus on the basic interpretive outline for the 2019 discoveries and set these in the context of the previous works at the site including the fieldwalking (Waddington *et al*. 2009), excavations of the kettle hole (KB5) (Hunter and Waddington 2018) and the access road and weighbridge area (Cockcroft 2019).

14.3 The Vale of Mowbray has experienced significant archaeological excavation in recent years, unsurprising given location as a prominent north-south, but also east-west routeway covering the area between the North York Moors and Howardian Hills to the eats and the Pennines to the West. The topographic configuration that has created this strategic area of landscape has meant this area has been an important routeway going back to prehistoric times as has been widely recognised (e.g. Vyner 2007; Speed *et al*. 2018; Ross and Ross 2021). Most recently the A1M Leeming to Barton expansion produced a wealth of archaeological data which has provided a valuable resource for comparing the results of this phase of excavation at Killerby, especially given the proximity of those works to the site of Killerby Quarry (Speed and Holst 2018; Fell 2020; Ross and Ross 2021). Aggregate extraction has also resulted in valuable archaeological findings through previous schemes at

Nosterfield and elsewhere in the Swale-Ure washlands (Bridgland *et al.* 2011). The recent community archaeology project at the adjacent Kiplin Hall Estate provided a synthesis of the developing manorial estate within the region as well as valuable comparanda for both prehistoric lithics as well as medieval and post-medieval pottery and ceramic building material assemblages (Brightman 2017).

Late Upper Palaeolithic - Mesolithic

14.4 The earliest evidence for human activity identified at Killerby was associated with the deposits in kettle hole (KB5) carried out in 2017 which produce extraordinarily high abundances of microcharcoal within a deeply stratified and sealed organic-rich clay silt which was radiocarbon dated to 10958-10764 cal BC (95.4% probability) or probably 10873-10794 cal BC (68.2% probability) (SUERC-79304 (GU79304)) (Hunter and Waddington 2018) during the latest phase of the Windermere Interstadial – early part of the Younger Dryas, together with the chipped lithic evidence that includes Late Upper Palaeolithic- very Early Holocene material including the tanged point and backed blade recovered from this latest phase of work (see Chipped Lithic section above), as well as some of the broad and heavily patinated blade implements recovered from the Killerby fieldwalking (Waddington *et al*. 2009, 5). Evidence for human occupation during the Late Upper Palaeolithic is predominantly weighted towards southern Britain, though the recent radiocarbon dating of bone artefacts from caves in the Yorkshire Dales (Jacobi and Lord 2011), and the discovery of Late Upper Palaeolithic site at Rubha Port, Islay (Mithen *et al*. 2015), the lithic scatter site at Biggar in the Scottish Borders (Saville *et al*. 2007; Ballin, T. *et al*. 2018), and subsequent reassessment of the available Scottish lithic assemblages (Ballin 2017) and Late Upper Palaeolithic lithic finds in Northumberland (Waddington and Passmore 2012) and County Durham (Coggins *et al*. 1989) testifies to at least sporadic human activity in northern Britain, most likely during the mild Windermere interstadial, broadly 13,400 – 11,000 BC. This evidence is supplemented by the Killerby fieldwalking carried in 2008 which identified a lithic assemblage of predominantly Late Glacial-Early Holocene date across the area. The majority of this assemblage was attributed to the Early Mesolithic but possible Late Upper Palaeolithic examples in that assemblage were identified in the form of larger blades and their heavy patination. Despite a resurgence of interest, examples of Late Upper Palaeolithic sites within Northern Britain are still very rare with the aforementioned evidence of cave occupation in the Yorkshire Dales being the nearest. Despite the lack of discrete buried features directly associated with these early lithics, stratified anthropogenic pits identified at the base of both Wetland Basins 1 and 2 represent evidence of early prehistoric activity within the Killerby landscape which are likely to be of Late Upper Palaeolithic date, although no suitable material for radiocarbon dating was retrieved that could have confirmed this. Although pit F2431 within Wetland Basin 1 might represent a deposit related to the overlying Mesolithic hearth, the more stratigraphically secure pits, F1899, F1901, and F1905, within the lowest deposit of Wetland Basin 2 represent the most convincing features resulting from human activity within the latter stages of the Late Upper Palaeolithic.

14.5 Mesolithic activity identified by the 2019 Killerby excavations was characterised by what appears to be three camp sites in Wetland Basin 1, which during this period would have comprised a low-lying enclosed basin occupied by a pond and marshland around which peat began to accumulate. These comprised timber-framed short-stay shelters made from timber immediately available on site in the form of wetland-tolerant alder. The timber appears to have been harvested expediently with the mobile groups choosing long straight saplings or larger fallen branches based upon the minimal amount of tooling present. As short-stay camps adjacent to perennially resource-rich locales, the position of these three structures on the peat margin is suggestive of occupation during the drier months of the year when the pond receded and dried out sufficiently to make a suitable campsite. All the structures appear to have been rapidly dismantled once they were no longer needed as demonstrated by the charring of the roof timbers of Structure 2 as it was brought down over the still-hot hearth. Strucutre2 produced radiocarbon dates from one its structural timbers and hearth centring on the 91st century cal BC, as did a timber from Structure 1a, whilst the timber from Structure 1b produced a date a few generations later centred on the 88th – 87th centuries cal BC. All three structures date to the Early Mesolithic period and Structures 1a and 2 are contemporary with the earliest phases of activity identified at Star Carr, near Flixton in the Vale of Pickering, *c.* 80km east of Killerby Quarry (Milner *et al.* 2018), where construction dwellings possibly occupied seasonally began in the 91st century cal BC. Star Carr is notable for its Mesolithic timber platform, the construction of which began in the 90th century cal BC. A similar, albeit much smaller, structure was identified during the excavation of kettle hole KB5, although the platform at Killerby dates to the Late Mesolithic with its earliest phase radiocarbon date to the 56th – 55th century cal BC (Hunter and Waddington 2018, 13). The similarities with Star Carr probably end here as the Early Mesolithic structures and wider Early Mesolithic activity represented by the lithics around Wetland Basin 2 at Killerby are consistent with short-stay episodic use of this hummocky landscape interspersed with small well-defined wetlands and ponds close to the watercourse and routeway of the River Swale. Star Carr was a Lakeside settlement used by larger groups over several centuries on the margin of a large pro-glacial lake where settlement forms consistent with longer stays, as well as evidence for fishing, hunting and ritual/symbolic activities was present. Taking this into account the sites at Killerby would appear to have been used as short stay hunting/resource acquisition camps whereas the site at Star Carr is more likely to have been used as base camp or aggregation locale used for longer periods. These sites could therefore have been used as different parts of the same settlement and subsistence system documenting different aspects of the seasonal cycle, but which worked together as part of layered pattern of subsistence, residence and mobility.

14.6 The substantial lithic assemblage gathered over multiple phases of archaeological fieldwork around Killerby Quarry indicates an active Mesolithic landscape where groups and individuals frequently passed through, but also stopped and used this pond-rich River Swale riparian hinterland where episodic temporary occupation allowed for the exploitation of the Killerby wetlands. The use of river corridors by Mesolithic groups has been documented further south in the Vale of York by archaeological fieldwork around the Neolithic Thornborough monument complex (Harding 2013). Here, the distribution of Mesolithic lithic artefacts was focused along the River Ure, as well as former tributaries and natural springs in its vicinity. As noted above, the fieldwalking lithic assemblage from Killerby was dominated by Mesolithic finds, both Early and Later, particularly in the vicinity of Field 1 where Wetland Basin 1 was located and the chipped lithic assemblage recovered from the 2019 excavations, much of it from the buried palaeosol around Wetland Basin 2, was also dominated by Mesolithic material. This material included a flaked flint Mesolithic axe head, microliths, and a range of Mesolithic blade fragments and cores, coarse stone tools that included two hammerstones and a notched sandstone cobble which may have been part of a cordage (fire starting) kit from palaeosol (1223) the radiocarbon dates from which show that this wetland edge soil started to form in the Early Mesolithic. Other Mesolithic implements were identified in the buried multiperiod palaeosol (1406) in Wetland Basin 3 as well in the fill of the medieval waterbreak F1838. Many of the hedgerow ditches in the vicinity of Wetland Basin 4 and the Ridge also contained residual lithic material. Examples of Mesolithic material within discrete features during this phase of excavation are limited to pit F1299 identified on the Ridge. This is comparable with the identifiable lithic material from the previous phase of excavation where a probable Mesolithic blade fragment was found in the subsoil (Cockcroft 2019, 43), while the excavation of kettle hole KB5 also produced an assemblage of Late Mesolithic chipped lithics associated with the well-preserved Late Mesolithic timber platform, the initial construction of which was dated to the 56th - 55th centuries BC (Hunter and Waddington 2017).

Neolithic – Early Bronze Age

14.7 The Swale-Ure washlands are the focus of a range of late prehistoric monuments which date from the Neolithic and Early Bronze Age. These consist of examples such as the spectacular Middle Neolithic cursus monument at Scorton, which measured 2km in length, located *c.*5km to the north of Killerby Quarry. Recent excavations identified the presence of a Late Neolithic timber enclosure at Marne Barracks, *c.*2.5km north of the quarry, which dated to 2530–2310 cal BC (Hale *et al.* 2009) and which is likely to be contemporary with the initial phase of henge building associated with Vyner's 'Great North Route' along the Permian Ridge from Catterick to Cana Barn to the south (2007; Bridgland *et al.* 2011). Less monumental mortuary activity identified during the A1M expansion was characterised by Early to Middle Bronze Age cremation burials such as the example at West Lodge, near Killerby, which dated to *c.*1921–1700 cal BC (Speed and Holst 2018, 26). At the time of writing, what appears to be an Early Bronze Age cremation burial deposited inside a Food Vessel has been excavated from the bagging plant area of Killerby Quarry (ARS Ltd *in prep*).

14.8 Neolithic and Early Bronze Age finds and features were identified during the 2019 Killerby excavations, although in low concentrations and in this respect mirrors the pattern provided by the fieldwalking study and that recovered from Kettle Hole KB5 where the kettle hole fill contained sedimentation episodes visible around the edges of the kettle hole fill resulting from tree and shrub clearance which appeared to be indicative of agricultural intensification in the surrounding area during the Early Neolithic period, as well as continued use of the Late Mesolithic platform into this period where a broken leaf-shaped flint arrowhead and a heavily burnt Neolithic flint knife were recovered from the peat, and which have been interpreted as resulting from opportunistic hunting, taking advantage of nearby wildlife watering within the hollow (Hunter and Waddington 2017).

14.9 Most of the diagnostic Neolithic artefacts from the 2019 excavation were found as unstratified or as residual material. These included a broken ground and polished fine-grained igneous stone axe head of probable Langdale Tuff from the top of the substrate (1005) on the Ridge adjacent to the Beaker pit complex F1789, and a leaf-shaped arrowhead and an oblique arrowhead from the palaeosol (1406) around the edge of Wetland Basin 3. In addition, radiocarbon dating has confirmed the Late Neolithic phasing of the pit cluster containing pits F1343 and F1347 within Wetland Basin 2 where a sample of oak charcoal from the fill of F1347 produced a calibrated date of 2881 – 2637 cal BC (95.4% probability) (SUERC-92015 (GU53967)). The pit cluster F1789 identified on the Ridge could represent activity dating from the Late Neolithic but based upon the abraded Beaker fragments found in the fill are more likely to correspond with Beaker period activity a few centuries after the Late Neolithic activity. With the recent find of a cremation burial in a Food Vessel from the bagging plant area on an area of higher gravel to the south of Wetland Basin 1 (ARS Ltd forthcoming), as well as a Bronze Age dated burnt spread and features in the fill of kettle hole KB5, this evidence indicates the presence of smaller groups residing in the area during the Bronze Age with features representing a combination of domestic activities including burning and waste disposal as well as cremation burial. This could relate to the establishment of more permanent farming settlement as the wetlands began to dry out and the dryer areas given over to pasture and some arable cultivation.

Bronze Age – Iron Age

14.10 There is very little surviving evidence for the Middle Bronze Age through to the Later Iron Age at Killerby Quarry, with some activity continuing into the Bronze Age from kettle hole KB5. The earliest enclosures identified on the Ridge and the earliest phases in Wetland Basin 3 could represent the remains of Late Iron Age enclosure. Despite the Early to Middle Bronze Age cremation burials at Catterick Racecourse and Scotch Corner to the north and the Late Bronze Age burial site at Bowbridge Lane, *c.* 2.57km south (Speed and Holst 2018), the lack of finds from this period at Killerby form part of the wider picture where the period between the Early Bronze Age and the Late Iron Age is relatively poorly understood in the Vale of Mowbray (Brightman 2017). Some activity relating to the later prehistoric period has been noted, such as the Late Bronze Age rapier recovered from near Catterick Bridge (Burgess 1995), and the recent excavations at Scotch Corner as part of the A1 widening scheme which identified sporadic activity that ultimately developed into permanent occupation during the Late Iron Age as the control of the surrounding area became more centralised as result of increasing dominance by the *Brigantes* (Fell 2020)*.* Fell proposes that the settlement at Scotch Corner became a direct subsidiary of the Stanwick *oppidum* (Fell 2020, 667), thus the gravitational pull caused by the nearby oppidum could explain the presence of the Late Iron enclosures at Killerby and the intensification of agricultural production which they no doubt represent. This demand for agricultural produce appears to have continued directly into the Romano-British period with the impact of the presence of a large Roman military population and the creation of the nearby town at *Caractonium* (modern day Catterick) following the Roman occupation of the *Brigantes'* territory in AD75 and the final consolidation of their control by AD 150.

Romano-British

14.11 Romano-British ceramics were found by fieldwalking adjacent to the A1 trunk road (Speed and Holst 2018; Fell 2020), which follows the course of Roman Dere Street. Residual Roman ceramics were identified at the top of the palaeosol of Wetland Basin 2 (1223), which contained late 1st to early 3rd century AD Romano-British Greyware as well as mid-2nd century AD Black Burnished ware and an overlying colluvial layer contained a sherd of Greyware, which was also attributed to the late 1st to the early 3rd century AD. As this was likely a result of colluviation and possibly some mixing by later post-medieval land drainage (discussed further below), this provided a *terminus post quem* probably around the late 2nd century to the early 3rd century for the significant colluvial event that ended the soil formation in Wetland Basin 2. This event may indeed be anthropogenic as further north at Scotch Corner, significant reorganisation of the agricultural landscape took place and the area was abandoned as the focus of Roman occupation focused on the settlement of *Caractonium* (Fell 2020). A substantial amount of the Romano-British ceramics as well as fragments of two contemporary jet bracelets were identified as residual finds amongst the early medieval use of the multiperiod palaeosol and overlying deposits in Wetland Basin 3. These included sherds of Samian Ware dating to AD 120 – 200, as well as sherds of Catterick Greyware dating to approximately the 2nd to 3rd century AD. Late Roman fabrics were also represented with sherds from a mid-3rd to mid-4th century Nene Valley beaker identified amongst these finds.

14.12 Corresponding finds were identified in a limited range of features across the site, sherds of Catterick Greyware, dating to the 2nd or 3rd century AD, were identified in pit F1709 which marginally truncated a possible Iron Age or early Romano-British enclosure F1790 identified near Wetland Basin 3. A stone platform F2125 contained 24 sherds from a Huntcliff type jar within its interstices which appears to date its use to the Late Roman or possibly sub-Roman periods as they date to the late 4th or early 5th century AD. There may be other Romano-British archaeological features as some of the undated ditches on the Ridge are morphologically reminiscent of similar examples identified during the later phases of the Scotch Corner site which exhibited similar changing patterns of land use (Fell 2020). This activity likely represents the presence of an as-yet unidentified, affluent farmstead or farming settlement which supplied the town of *Caractonium* on the edge of its agricultural hinterland. The Killerby discoveries compliment the excavations which took place at Low Street as part of the A1 widening scheme which identified a period of settlement decline at *Caractonium* during the late 3rd to the 4th centuries AD. Between *c.* AD 270–360, roadside settlements at Low Street, Scurragh House and Scotch Corner emerged but were rapidly abandoned as populations began to centralise again in the larger settlements such as *Caractonium* (Ross and Ross 2021).

Early Medieval

14.13 Archaeological investigation of early medieval activity in North and East Yorkshire has traditionally focused on York and the East Riding though there is evidence of substantial settlements during this period at Catterick, Ripon, and Alborough (Wilson 1996; Loveluck 2003; Hall 2003). Evidence from the archaeological excavations around Catterick identified occupation continuing beyond AD 410 with a definitive presence in the late 5th and early 6th century AD (Wilson 1996). In addition, the A1 widening excavations noted the presence of burials at Bainesse from the early 5th century AD and also noted that there appeared to be a significant influx of individuals into the region primarily from the north-east of Britain (2018, 656). This corroborates the historical record, such as it is, for this period. The medieval Britonic poem *Y Goddodin* attributed to Aneirin and dated to the 7th – 11th centuries laments the slain warriors of the *Votadini* (also known as the *Goddodin*) and supporting Britonic kingdoms who attacked the Anglian kingdoms of *Deira* and *Bernicia* and fought at the battle of *Catreath* (identified with Catterick) around AD 600. Both kingdoms had expanded across what would become northeastern England and *Bernicia* would eventually encompass the kingdoms of the *Votodini* by the early 7th century AD. Ross and Ross note that the period at the close of the 6th century saw a significant decline in post-Roman *Cataractonium* and a gradual shift southwards to Castle Hills (Ross and Ross 2021, 949; Wilson 1996, 6-7).

14.14 Although no early Anglian activity has been attested at Killerby, there is good evidence for activity from the latter half of the early medieval period within the Wetland Basin 3 deposits where radiocarbon dating of the animal bone midden produced dates of cal AD 707 – 892 (95.4% probability)(SUERC-98269 (GU57678)) and cal AD 772 – 892 (95.4% probability)(SUERC-98273 (GU57679)), the nearby hearth and waterbreak provided a date of cal AD 774 – 961 (95.4% probability)(SUERC-94948 (GU56021)) and the infill of an enclosure ditch on the adjacent ridge produced a date of cal AD 878 – 987 (95.4% probability)(SUERC-94944 (GU56019)). Evidence of butchery as well as residual wattle and other CBM suggests an intensification of activity during the late 8th – 9th centuries in this part of the site, whilst the dating of the enclosure ditch infill might relate to abandonment of this area in the 10th century, or that more land was being brought into agricultural production as further intensification took place and perhaps there was a shift to more arable rather than pasture.

14.15 This increase in activity extends into the period of Danish settlement of York and the old Deiran hinterland of Northumbria following the invasion of much of eastern England by the Viking Great Army in AD 865 and the following hundred or so years of resulting conflict culminating in the Battle of Brunanburgh in AD 937 when the English ascendency was restored and the fledgling polity of England was established. The establishment of the Danelaw appears to have resulted in the reorganisation of some previously established settlements in Yorkshire such as Wharram Percy and Cottam in the East Riding (Hall 2003). This is supplemented by evidence of burials with associated Scandinavian burial goods from the period at both Wensley and Camphill in the Ure-Swale washlands, as well as the presence of treasure identified from this period such as the Bedale hoard, discovered by metal detectorists approximately 7.5km south of Killerby in 2012 (Griffiths 2012), and the Gilling sword located *c.*12.1 km north-west in 1976 (Watkin 1986). The antler comb and mounted brooch from Killerby were found amongst the Wetland Basin 3 early medieval midden material and are therefore likely to be of the same 8th – 9th century date, although they could be from as late as the 10th or 11th centuries AD. Pit F1230 on the Ridge also dates to this period with a radiocarbon date derived from charcoal within its fill of cal AD 892 – 1020 (95.4% probability) (SUERC-98268 (GU57677)). The presence of the livestock processing area around Wetland Basin 3, together with the presence of Anglian period pits and enclosure infills suggests the presence of a nearby early medieval farming settlement, and one which may have had its roots in an earlier Romano-British or post-Roman holding/farmstead.

Medieval

14.16 According to the Domesday Book, the manor of Killerby was held by Edwin, Earl of Mercia, whose regional seat of power was located at Gilling West *c.*13km to the north west, who along with his brother Morcar, Earl of Northumbria, and Waltheof rebelled against William I in early 1069. William's reprisal, known as the 'Harrying of the North', lasted until the spring of 1070 and ultimately led to the Breton Alan Rufus to be named Earl of Richmond which encompassed the wapentake of Hang and consequently the manor of Killerby. According to the Domesday Book, Killerby formed part of the 'berewick', or outlying estate to the manor of Catterick which was directly maintained by Alan Rufus (Page 1914; Powell-Smith 2011). By 1281, the estate was held by Brian Fitz Alan, Lord of Bedale, who successfully obtained license to crenellate his dwelling in 1291, however, he died without living male heirs in 1306 and the manor of Killerby went into the hands of the Grey family until 1485 when it passed to the Crown (Page 1914). Moorhouse has noted that the significant farm complexes required to support medieval manorial residences often persisted long after the focus and wealth of the nobility shifted elsewhere (Moorhouse 2003, 192).

14.17 Medieval ceramic finds were noted as part of the Killerby fieldwalking particularly to the north-east of the current area of excavations and closer to the River Swale, which were attributed as a residual scatter used to break up the alluvial soil for agricultural purposes. The likely epicentre of a medieval manor would be the location of the current Killerby Hall but Brian Fitz Alan's tenure at Killerby would correspond with the phases of medieval activity dating to the 13th to 14th century. The use of the droveway would corroborate with the increased demand because of the construction and development at the nascent Killerby Castle.

14.18 Ownership of the Killerby estate was contested by multiple grantings of the manor in fee by Henry VII. After multiple owners, the estate was alienated to Richard Cleburne by Sir George Bowes in 1569. The Cleburne family held the manor tenuously thanks to financial wrangling and legal contestation until the mid-17th century. Historically, ownership of the Killerby estate was entirely unclear until 1809 when it came into the possession of the Booth family who are noted as the owners in the 1841 tithe mapping. By the publication of the Victoria County History in 1914, the estate was held by trustees of the Booth family (Page 1914). Most archaeological features identified during the excavation of the access road and the weighbridge areas were established as post-medieval and which identified a sequence of natural features such as tree boles which characterised shifting post-medieval boundaries and culminated with the 18th century construction of Killerby High Cottages and the boundary wall visible on the 1857 Ordnance Survey, as well as the ubiquitous presence of land drainage dating to the mid-19th century or later (Cockcroft 2018).

14.17 Post-medieval features identified across this most recent phase of excavation works, aside from 19th century land drainage which was concentrated in the lower lying areas of the site around Wetland Basins 1 and 2 (similar land drainage was noted in the western portion of the access road excavation), appear to focus around the area of Wetland Basin 4. The majority of these Wetland Basin 4 features have been interpreted as successive attempts at land drainage into Fiddale Beck to the north, or possibly relating to a small stone-built building, noted outside the limit of excavation and identifiable on historic mapping (such as the 1857 Ordnance Survey map). The remainder of other post-medieval activity identified during this phase of excavation appears to relate to shifting boundaries and contested ownership of the area. This was very likely exacerbated by the Cleburne family's seeming financial and legal issues in the lead up to, and following, the English Civil War, as well as unclear ownership of the Hall's estates during the 18th and 19th century.

15 PUBLICITY, CONFIDENTIALITY AND COPYRIGHT

15.1 Any publicity will be handled by the client.

15.2 ARS Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

16 STATEMENT OF INDEMNITY

16.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

17 ARCHIVE

17.1 A digital and paper archive will be prepared by ARS Ltd, consisting of all primary written documents, plans, sections, photographs and electronic data, which will be deposited with The Yorkshire Museum.

17.2 The archive will be prepared in line with the recommendations provided by CIfA's (2014d) *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives,* the Society of Museum Archaeologists' (1993) *Selection, Retention and Dispersal of Archaeological Collections*. *Guidelines for use in England, Wales and Northern Ireland.*

17.3 All artefacts and associated material will be cleaned, recorded, properly stored and deposited in the archive.

17.4 A full set of annotated, illustrative pictures of the site, excavation, features on CD or DVD ROM will be deposited with the report.

17.5 An OASIS online record http://ads.ahds.ac.uk/project/oasis/ has been initiated and completed for this work and all parts of the OASIS online form completed for submission to the HER. This will include an uploaded pdf version of the entire report (a paper copy will also be included within the archive).

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19 REFERENCES

ABMAP – Animal Bone Metrical Archive Project, University of Southampton 2003, accessed on the 20 Sept 2016.

Albarella, U. 2019. *Review of Animal Bone Evidence from Central England*. Research Report Series 61/2019. Portsmouth. Historic England.

Albarella, U. and Thomas, R. 2002. 'They dined on crane': Bird consumption, wild fowling and status in medieval England'. *Acta Zoologica Cracoviensia* 45: 23–38.

Ashby S. 2007 Bone and Antler Combs. *The Finds Research Group AD700-1700. Datasheet 40.*

Ashmore, P.J., 1999. Radiocarbon dating: avoiding errors by avoiding mixed samples. *Antiquity* 73: 124–130.

Ballin, T.B. 2017. Beyond Howburn: the new Scottish Late Upper Palaeolithic. In: *British Archaeology* 2017 (Nov-Dec): 26-31.

Ballin, T.B., Saville, A., Tipping, R., Ward, T., Housley, R., Verrill, L., Bradley, M. Wilson, C., Lincoln, P. and MacLeod, A. 2018. *Reindeer hunters at Howburn Farm, South Lanarkshire*. Oxford, Archaeopress Publishing.

Baker, P. and Worley, F. 2019. *Animal bones and Archaeology: Guidelines for best practice*. English Heritage.

Barclay, A., Knight, D., Booth, P., Evans, J., Brown, D.H. and Wood, I. 2016. *A Standard for Pottery Studies in Archaeology.* Prehistoric Ceramics Research Group, Study Group for Romano-British Pottery and Mediaeval Pottery Research Group.

Barton, R.N.E. 1992. *Hengistbury Head, Dorset. Volume 2: The Late Upper Palaeolithic & Early Mesolithic Sites*. Oxford University Committee for Archaeology Monograph No. 34.
Bartosiewicz, L. and Gal, E. 2013. *Shuffling Nags, Lame Ducks: The Archaeology of Animal Disease*. Oxbow Books.

Bell, A. And Evans, J. 2002. Brick and Tile from CfA sites. In: Wilson, P.R. 2002. *Cataractonium. Roman Catterick and its Hinterland. Excavations and research, 1958-1997*. York, English Heritage. CBA Research Report 128: 520-521.

Bendrey, R. 2010. The horse, in O'Connor, T. and Sykes, N. (eds.) *Extinctions and Invasions: A Social History of British Fauna*. Windgather Press: 10-16.

Boethius, A., Kjällquist, M., Magnell, O., Apel, J. 2020. Human encroachment, climate change and the loss of our archaeological organic cultural heritage: Accelerated bone deterioration at Ageröd, a revisited Scandinavian Mesolithic key-site in despair. *PLoS ONE* 15(7): e0236105. https://doi.org/10.1371/journal.pone.0236105

Bohn, H., McNeal, B., O'Connor, G. 2001. *Soil Chemistry. 3rd Edition*. John Wiley & Sons, Chichester.

Braadbaart, F. Poole, I., van Brussel, A. 2009. Preservation Potential of Charcoal in Alkaline Environments: An Experimental Approach and Implications for the Archaeological Record. *Journal of Archaeological Science* 36(8): 1672-1679.

Bridgland, D., Innes, J., Long, A. and Michael, W. (eds.) 2011. *Late Quaternary Landscape Evolution of the Swale-Ure Washlands, North Yorkshire* (1 vols). Oxford, Oxbow.

Brightman, J. 2017. *Charting Chipeling. The Archaeology of the Kiplin Estate*. Northallerton, Solstice Archaeology Ltd.

Bronk Ramsey, C., 1995. Radiocarbon calibration and analysis of stratigraphy: the OxCal program. *Radiocarbon* 37: 425–430.

Bronk Ramsey, C., 1998. Probability and dating. *Radiocarbon* 40: 461–474.

Bronk Ramsey, C., 2001. Development of the radiocarbon calibration program. *Radiocarbon* 43: 355–363.

Bronk Ramsey, C., 2009. Bayesian analysis of radiocarbon dates. *Radiocarbon* 51: 337–360.

Buck, C.E., Cavanagh, W.G., Litton, C.D., 1996. *Bayesian approach to interpreting archaeological data*. John Wiley & Sons, Chichester.

Bull, G. and Payne, S. 1982. 'Tooth eruption and epiphysial fusion in pigs and wild boar' in *Ageing and Sexing Animal Bones from Archaeological Sites*, (eds) B. Wilson, C. Grigson, S. Payne. Oxford: BAR 109.

Burgess, C.B. 1995. A Bronze Age rapier from Catterick Bridge. In: *Yorkshire Archaeological Journal* 67: 1 – 5.

Burpoe, M. 2019. *Killerby Quarry, North Yorkshire. Setting Assessment*. Archaeological Research Services Ltd.

Callou, C. 1997. *Diagnose Différentielle des Principaux Éléments Squelettiques du Lapin (Genre Oryctolagus) et du Lièvre (Genre Lepus) en Europe Occidentale. Fiches d'Ostéologie Animale pour l'Archéologie Série B: Mammifères 8*. Paris: Centre de Recherches Archéologiques du Centre National de la Recherche Scientifique.

Cappers, R., Bekker, R. and Jans, J. 2006. *Digitale Zadenatlas Van Nederland/Digital Seed Atlas of the Netherlands.* Barkhuis.

Case, H. 1977. The Beaker Culture in Britain and Ireland. In Mercer, R. (Ed.) Beakers in Britain and Europe. British Archaeological Reports Supplementary Series 26: 71-89.

Clarke, D.L. 1970. *Beaker Pottery of Great Britain and Ireland*. Cambridge University Press, Cambridge.

Cockcroft, D. 2018. *Archaeological Excavations at Killerby Quarry, North Yorkshire. Proposed Access Road, Office, and Weighbridge Areas*. Archaeological Research Services Ltd.

Coggins, D., Laurie, T. and Young, R. 1989. The Late Upper Palaeolithic of the North Pennine dales in the light of recent research. In C. Bonsall (ed.) *The Mesolithic in Europe. Papers Presented at the Third International Symposium, Edinburgh 1985*. Edinburgh, John Donald: 164-74.

Davis, S. 1992. *A rapid method for recording information about mammal bones from archaeological sites*. English Heritage Ancient Monuments Laboratory Report 19/92.

Dobney, K., Reilly, K. 1988. *A method for recording archaeological animal bones: the use of diagnostic zones*. Circaea 5(2): 79-96.

Driesch, A. von den. 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites*. Cambridge, Massachusetts: Peabody Museum of Archaeology and Ethnology, Harvard University, Bulletin 1.

Dunbar, E., Cook, G.T., Naysmith, P., Tripney, B.G., Xu, S., 2016. AMS 14C dating at the Scottish Universities Environmental Research Centre (SUERC) Radiocarbon Dating Laboratory. *Radiocarbon* 58: 9–23.

Elias, S., 2009. *Advances in Quaternary Entomology*. Elsevier: 10.

Fell, D.W. 2020. *A1 Leeming to Barton. Contact, Concord and Conquest. Britons and Romans at Scotch Corner.* Northern Archaeological Associates Monograph Series 5. Barnard Castle: Northern Archaeological Associates Ltd.

Gillam, J. P. 1970. *Types of Roman Coarse Pottery Vessels in Northern Britain*. 3rd edition, Newcastle.

Gillam, J. P., 1976, Coarse fumed ware in northern Britain and beyond. In: *Glasgow Archaeology Journal* 4: 57- 89.

Grant, A. 1982. The use of tooth wear as a guide to the age of domestic ungulates in Wilson, B, Grigson, C and Payne, S (eds), *Ageing and Sexing Animal Bones from Archaeological Sites*. BAR British Series 109. Oxford: British Archaeological Reports: 91-108.

Griffiths, R. 2012. YORYM-CEE620: A EARLY MEDIEVAL HOARD Web page. Available at: https://finds.org.uk/database/artefacts/record/id/504460 [Accessed: 25 Jun 2021 14:57:39]

Hale, D. Platell, A. and Millard, A. 2009. A Late Neolithic Palisaded Enclosure at Marne Barracks, Catterick, North Yorkshire. *Proceedings of the Prehistoric Society* 75: 265 – 304.

Hall, R. A. 2003. Yorkshire, AD 700 – 1066. In Manby, T.G., Moorhouse, S. and Ottaway, P. 2003. *The Archaeology of Yorkshire: An assessment at the beginning of the 21st century. Yorkshire Archaeological Society Occasional Paper No. 3*. Leeds: Yorkshire Archaeological Society.

Halstead. P, Collins. P, 2002. Sorting the Sheep from the Goats: Morphological Distinctions between the Mandibles and Mandibular Teeth of Adult Ovis and Capra. *Journal of Archaeological Science* 29: 545–553.

Harding, J. 2013. *Cult, Religion, and Pilgrimage. Archaeological Investigations at the Neolithic and Bronze Age Monument Complex of Thornborough, North Yorkshire. CBA Research Report 174.* York: Council for British Archaeology.

Hillman, G., Mason, S., de Moulins, D., Nesbitt, M. 1996. Identification of Archaeological Remains of Wheat: the 1992 London Workshop. *Circaea* 12.2: 195-209.

Hinton, D.A. 1974. *A Catalogue of the Anglo-Saxon Ornamental Metalwork in the Department of Antiquities, Ashmolean Museum*. Oxford.

Holmes, M. 2017. *Southern England: A Review of Animal Remains from Saxon, Medieval and Post-Medieval Archaeological Sites*. Research Report Series 08/2017. Historic England, Portsmouth.

Hudson, S.M., Waddington, C., Pears, B., Ellis, N., Parker, L., Hamilton, D., Grev Also, I., Hughes, P. and Brown, A. 2022. Lateglacial and Early Holocene palaeoenvironmental change and human activity at Killerby Quarry, North Yorkshire, UK. *Journal of Quaternary Science* (2022): 1-20. ISSN 0267-8179. DOI: 10.1002/jqs.3488.

Hunter, F.J., McDonnell, J., Pollard, A.M., Morris C.R., Rowlands C.C. 2007. The scientific identification of archaeological jet-like artefacts. *Archaeometry* 35(1): 69 – 89.

Hunter, P. and Waddington, C. 2018. *Archaeological Excavation of a 'Kettle Hole' (KB5) at Killerby Quarry, North Yorkshire*. Archaeological Research Services Ltd.

Isserlin, R. 2002. Brick and Tile from Catterick Bridge (site 240), Honey pot Lane (Site 251), Catterick racecourse (site 273) and Thornborough Farm (site 452) In: Wilson, P.R. 2002. *Cataractonium. Roman Catterick and its Hinterland. Excavations and research, 1958-1997.* York, English Heritage. CBA Research Report 128.

Jacobi, R. and Lord, T. 2011. Earliest Humans in the Yorkshire Dales. In: *Prehistory in the Yorkshire Dales: recent research and future prospects*. York: PLACE/Yorkshire Dales Landscape Research Trust.

Jacomet, S. 2006. *Identification of cereal remains from archaeological sites,* 2nd Edition. IPAS, Basel University.

Johnstone, C.J. 2004. *A biometric study of equids in the Roman world*. Unpublished PhD Thesis, University of York.

Johnstone, C.J. 2018. Donkeys and mules, in T. O'Connor and N. Sykes (eds) *Extinctions and invasions. A social history of British fauna*. Oxbow Books, Windgather Press.

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

Leary, R., Monteil, G., Hudak, E. and Cumberpatch, C. (forthcoming). Ceramic Vessels. In S. Ross and C. Ross. *Establishment, Consolidation and Retreat*. NAA Monograph Series.

Levine, M. A. 1982. The use of crown height measurements and eruption-wear sequences to age horse teath, in B. Wilson, C. Grigson, S. Payne (eds), *Ageing and Sexing Animal Bones from Archaeological Sites*. British Archaeological Reports British Series 109, Oxford: 223-250.

Lister, A. 1996. The Morphological Distinction between Bones and Teeth of Fallow Deer (Dama dama) and Red Deer (Cervus elaphus). *International Journal of Osteoarchaeology* 6: 119-43.

Loveluck, C. 2003. The Archaeology of Post-Roman Yorkshire, AD 400 to 700: Overview and Future Directions for Research. In Manby, T. G., Moorhouse, S. and Ottaway, P. 2003. *The Archaeology of Yorkshire: An assessment at the beginning of the 21st century. Yorkshire Archaeological Society Occasional Paper No. 3*. Leeds: Yorkshire Archaeological Society.

MacGregor, A. 1985. *Bone, Antler, Ivory and Horn: The Technology of Skeletal Materials since the Roman Period*. Croom Helm, London.

Manby, T.G. 1988. The Neolithic Period in Eastern Yorkshire. In Manby, T.G. (ed.) *Archaeology in Eastern Yorkshire. Essays in Honour of T.C.M. Brewster FSA.* Department of Archaeology and Prehistory, University of Sheffield: 35-88.

Milner, N, Conneller, C., and Taylor, B. 2018. *Star Carr Volume 1: A Persistent Place in a Changing World*. York: White Rose University Press. DOI: https://doi.org/10.22599/book1.

Martin, A. and Barkley, W. 2000. *Seed Identification Manual*. University of California Press.
Stace, C. 1992. *New Flora of the British Isles*. 2nd Edition. Cambridge.

Mithen, S., Wicks, K, Pirie, A, Riede, F. Lane, C., Banerjea, R., Cullen, V., Gittens, M. and Pankhurst, N. 2015. A Lateglacial archaeological site in the far north-west of Europe at Rubha Port an t-Seilich, Isle of Islay, western Scotland: Ahrensburgian-style artefacts, absolute dating and geoarchaeology. *Journal of Quaternary Science* 30 (5): 396-416.

Mills, P.J.E. 2012. *The CBM from Bridge Farm, Catterick, BFC12*. Unpublished report for WYAS.

Mills, P.J.E. 2015. *The CBM from Bridge Farm Catterick, BFC14*. Unpublished report for WYAS.

Mills P.J.E. 2020. *The CBM and Burnt clay form Micklefield MIC18*. Unpublished report for WYAS.

Moorhouse, S. 2003. Medieval Yorkshire: a Rural Landscape for the Future. In Manby, T.G., Moorhouse, S. and Ottaway, P. 2003. *The Archaeology of Yorkshire: An assessment at the beginning of the 21st century. Yorkshire Archaeological Society Occasional Paper No. 3*. Leeds: Yorkshire Archaeological Society.

Naysmith, P., Cook, G., Freeman, S., Scott, E.M., Anderson, R., Dunbar, E., Muir, G., Dougans, A., Wilcken, K., Schnabel, C., Russell, N., Ascough, P., Maden, C., 2010. 14C AMS at SUERC: improving QA data from the 5 MV tandem AMS and 250 kV SSAMS. *Radiocarbon* 52: 263–271.

Needham, S. 2005. Transforming Beaker Culture in North-West Europe; Processes of Fusion and Fission. *Proceedings of the Prehistoric Society* 71: 171-217.

O'Connor, T.P. 1988. *Bones from the General Accident Site, Tanner Row (The Archaeology of York 15(2))*. Council for British Archaeology, London.

Out, W., Vermeeren, C. and Hanninen, K. 2013. Branch Age and Diameter: Useful Criteria for Recognising Woodland Management in the Present and Past? *Journal of Archaeological Science* 40: 4083-4097.

Out, W., Vermeeren, C. and Hanninen, K. 2017. Using Branch Age and Diameter to Identify Woodland Management: New Developments. *Journal of Human Palaeoecology* 23(3): 254-266.

Page, W. 1914. 'Parishes: Catterick', in Page, W. (ed). *A History of the County of York North Riding: Volume 1*. London: Victoria County History, p. 301-313. Available at: http://www.british-history.ac.uk/vch/yorks/north/vol1/pp301-313 [Last accessed 21 October 2020].

Parker, L. and Passmore, D. 2018. *Killerby Geoarchaeological and Palaeoenvironmental Analysis.* Archaeological Research Services Ltd.

Parker, L. 2021. *Killerby Quarry Geoarchaeological Study.* Archaeological Research Services Ltd. ARS Ltd Report 2021/46.

Payne, S. 1973. Kill-off patterns in sheep and goats: the mandibles from Asvan Kale´. *Anatolian Studies* 23: 281–303.

Payne, S. 1985. Morphological distinctions between the mandibular teeth of young sheep, Ovis, and goats, Capra. *Journal of Archaeological Science* 12: 139–147.

Payne, S. 1987. Reference codes for wear states in the mandibular cheek teeth of sheep and goats. *Journal of Archaeological Science* 14: 609–614.

Pederson, K., Waddington, C., Bonsall, C., Ritchie, G.A. and Davies, J. 2016. Chipped Stone Tools. In Waddington, C. and Bonsall, C. *Archaeology and Environment on the North Sea Litteral. A Case Study from Low Hauxley*. Archaeological Research Services Ltd and Northumberland Wildlife Trust Ltd: 93-127.

Penton, S. 2008. *Cumwhitton, Cumbria: Analytical investigation of jet-like objects from a Viking cemetery*. Archaeological Conservation Report Centre for Archaeology. Research Department Report Series no. 18-2008.

Perri, A. 2017. A typology of dog deposition in archaeological contexts. In Rowley-Conwy, P., Serjeantson, D. and Halstead, P. *Economic zooarchaeology: studies in hunting, herding and early agriculture*. Oxbow Books.

Poole, K. 2018. Bird introductions, in O'Connor, T. and Sykes, N. (eds.) *Extinctions and Invasions: A Social History of British Fauna*. Windgather Press: 156-165.

Powell-Smith, A. 2011. Killerby [Hall] – Open Domesday Project. Available at: https://opendomesday.org/place/SE2596/killerby-hall/ [Last accessed 21 October 2020].

Prummel, W. and Frisch, H. 1986. A guide for the distinction of species, sex and body side in bones of sheep and goat. *Journal of Archaeological Science* 13: 567–577.

Reimer, P.J., Austin, W.E.N., Bard, E., Bayliss, A., Blackwell, P.G., Ramsey, C.B., Butzin, M., Cheng, H., Edwards, R.L., Friedrich, M., Grootes, P.M., Guilderson, T.P., Hajdas, I., Heaton, T.J., Hogg, A.G., Hughen, K.A., Kromer, B., Manning, S.W., Muscheler, R., Palmer, J.G., Pearson, C., Plicht, J.v.d., Reimer, R.W., Richards, D.A., Scott, E.M., Southon, J.R., Turney, C.S.M., Wacker, L., Adolphi, F., Büntgen, U., Capano, M., Fahrni, S.M., Fogtmann-Schulz, A., Friedrich, R., Köhler, P., Kudsk, S., Miyake, F., Olsen, J., Reinig, F., Sakamoto, M., Sookdeo, A., Talamo, S., 2020. The IntCal20 Northern Hemisphere Radiocarbon Age Calibration Curve (0–55 cal kBP). *Radiocarbon* 62: 725–757.

Riddler, I. 1990. Saxon Handled Combs from London. *Transactions of the London and Middlesex Archaeological Society* 41: 9-20.

Roskams, S. and Whyman, M. 2007. *Yorkshire Archaeological Research Framework: A report prepared for the Yorkshire Archaeological Research Framework*. English Heritage, York.

Ross, S. and Ross, C., with C Antink, J Baines, R Brickstock, C Britton, Catherine Chisman, S Collison, H. E. M. Cool, A Croom, Andrew Crowson, J Cruse, Rachel Cubitt, Chris Cumberpatch, J Cussans, S Doyal, Andrew Durkin, David W Fell, Elizabeth Foulds, L Gardiner, Margarita Gleba, David Griffiths, K Hartley, M Henig, Mark Hoyle, E Hudak, Dawn Knowles, R Leary, R Mackenzie, G Monteil, Q Mould, J Murgatroyd, C Neal, G Perry, R Reynolds, Damien Ronan, Julie Shoemark, R Simpson, N Sleaford, Greg Speed, David Starley, Oskar Sveinbjarnarson, A Teasdale, R Tomlin, Z Veres, D Williams, E Wright, 2021. *Cataractonium: Establishment, Consolidation and Retreat.* Northern Archaeological Associates. York, Archaeology Data Service [distributor] https://doi.org/10.5284/1078331

Saville, A. 1980. On the measurement of struck flakes and flake tools. *Lithics* 1: 16- 20.

Saville, A., T.B. Ballin, and T. Ward. 2007. Howburn near Biggar, south Lanarkshire: preliminary notice of a Scottish inland early Holocene lithic assemblage. *Lithics. The Journal of the Lithics Study Society* 28: 41-49.

Scoch, W., Heller, I., Schweingruber, F. and Kienast, F. 2004. Wood Anatomy of Central European Species. Online version: www.woodanatomy.ch

Scott, E.M., 2003. The Third International Radiocarbon Intercomparison (TIRI) and the Fourth International Radiocarbon Intercomparison (FIRI) 1990–2002: results, analysis, and conclusions. *Radiocarbon* 45: 135–408.

Scott, E.M., Cook, G.T., Naysmith, P., 2010. A report on phase 2 of the Fifth International Radiocarbon Intercomparison (VIRI). *Radiocarbon* 52: 846–858.

Silver, I. A. 1969. The ageing of domestic animals, in Brothwell, D and Higgs, E (eds.) *Science in Archaeology*. Thames and Hudson, London: 283-302.

Speed, G. P. and Holst, M. 2018. *A1 Leeming to Barton. Death, Burial, and Identity 3000 Years of Death in the Vale of Mowbray.* Northern Archaeological Associates Monograph Series Volume 4. Barnard Castle: Northern Archaeological Associates Ltd.

Speed, G.P., Rowe, P., Russ, H. and Gardiner, L.F. 2018. A game of two (unequal) halves: The Early Mesolithic site at Little Holtby, near Leeming, North Yorkshire. *Mesolithic Miscellany* 26(1): 49-87.

Stace, C. 1992. *New Flora of the British Isles*. 2nd Edition. Cambridge.

Stuiver, M., Kra, R.S., 1986. Editorial comment. *Radiocarbon* 28: ii.

Stuiver, M., Polach, H.A., 1977. Reporting of 14C data. *Radiocarbon* 19: 355–363.

Théry-Parisot, I., Auréade, H. 2012. Seasoned or Green? Radial Cracks Analysis as a Method for Identifying the Use of Green Wood as Fuel in Archaeological Charcoal. *Journal of Archaeological Science* 39: 381-388

Tomber, R. and Dore, J. 1998. *The National Roman Fabric Reference Collection: A Handbook.* London: Museum of London Archaeology Service Monograph No. 2.

Tomek, T., Bocheński, Z.M. 2009. *A key for identification of domestic bird bones in Europe: preliminary determination*, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków.

van der Veen, M., Livarda, A., Hill, A. 2008. New Plant Foods in Roman Britain- Dispersal and Social Access. *Environmental Archaeology* 13(1): 11-36.

Vaughan, J. 2007. The medieval and early post-medieval pottery. In: Nolan, J. and Vaughan, J. Excavations at Oakwellgate, Gateshead, 1999. *Archaeologia Aeliana* 37: 165-197.

Vyner, B. 2007. A Great North Route in Neolithic and Bronze Age Yorkshire: The Evidence of Landscape Monuments. In: *Landscapes* 1: 69 – 84.

Waddington, C. 2007. *Mesolithic Settlement in the North Sea Basin. A Case Study from Howick, North-East England.* Oxbow Books and English Heritage, Oxford.

Waddington, C. 2014. *Killerby Sand and Gravel Quarry, Killerby. Planning Application and Environmental Statement*.

Waddington, C. 2016. Bevelled Pebbles, Pebble Tools and Ochreous Material. In Waddington, C. and Bonsall, C. *Archaeology and Environment on the North Sea Littoral. A Case Study from Low Hauxley*. Archaeological Research Services Ltd and Northumberland Wildlife Trust Ltd: 128-37.

Waddington, C. (in press). Advances in archaeological prospection: the geoarchaeological shift. *Proceedings of the 25th International Conference on Cultural Heritage and New Technologies*, November 2021. Heidelberg: Propylaeum. DOI:

Waddington, C., Brightman, J. and Shakarian, J. 2009. *Killerby Prospect Fieldwalking Evaluation*. Appendix 7.3 in Killerby Sand and Gravel Quarry, Killerby, North Yorkshire. Environmental Statement. Wardell Armstrong. https://www.archaeologicalresearchservices.com/wp-content/uploads/2018/08/Fieldwalking-Study-2009.pdf

Waddington, C. and Passmore, D. 2008. *Killerby Prospect Historic Environment Assessment. Phase 1: Assessment Report*. Archaeological Research Services Ltd.

Waddington, C. Passmore, D. & Shakarian, J. 2009. *Killerby Prospect Archaeological Evaluation Report*. Archaeological Research Services Ltd.

Waddington, C., Passmore, D., Hunter, P. and Parker, L. 2020. A note on an exceptionally preserved Early Mesolithic camp and other remains at Killerby, UK. *Mesolithic Miscellany* 28 (2): 64-78.

Ward, G.K., Wilson, S.R., 1978. Procedures for comparing and combining radiocarbon age determinations: a critique. *Archaeometry* 20: 19–32.

Watkin, J. R. 1986. A Late Anglo-Saxon Sword from Gilling West, N. Yorkshire. In: *Journal of Medieval Archaeology* 30: 93 – 99.

Wilson D. M. 1984. *Anglo Saxon Art*. London.

Wilson, P.R. 2002. *Cataractonium. Roman Catterick and its Hinterland. Excavations and research, 1958-1997*. York, English Heritage. CBA Research Report 128.

Wilson, P. R., Cardwell, P., Cramp, R.J., Evans, J., Taylor-Wilson, R. H., Thompson, A., Wacher, J. S., Anderson, S., Bayley, J., Bayliss, A., Briscoe, T., Buckley, C., Crowfoot, E., Mould, Q., Reynolds, N., Thubron, D., Thubron, S., Waldron, T., Warwick, R. and Watson, J. 1996. Early Anglian Catterick and Catraeth. In: *Medieval Archaeology* 40(1): 1 – 61.

Woolgar, C. M. 1999. *The Great Household in Late Medieval England*. Yale University Press, New Haven and London.

APPENDIX I: CONTEXT REGISTER

Context	Type	Description
1001	Deposit	Topsoil
1002	Deposit	Subsoil
1003	Deposit	Marl natural substrate
1004	Deposit	Sand natural substrate
1005	Deposit	Sand and gravel natural substrate
1006	Deposit	Natural glacial till
1007	Cut	Modern drainage ditch cut, filled by redeposited natural (1008)
1008	Fill	Redeposited natural backfill of drainage ditch [1008]
1009	Group	Modern land drain/drainage ditch comprising ditch slots [1007], [1010], [1012], and [1014]
1010	Cut	Modern drainage ditch cut, filled by backfill (1011)
1011	Fill	Backfill of drainage ditch [1008]
1012	Cut	Modern drainage ditch cut, filled by backfill (1013)
1013	Fill	Redeposited natural backfill of drainage ditch [1012]
1014	Cut	Modern drainage ditch terminus, filled by backfill (1015)
1015	Fill	Redeposited natural backfill of drainage ditch [1014]
1016	Cut	Undated posthole
1017	Fill	Accumulated fill of posthole [1016]
1018	Cut	Tree bole
1019	Fill	Accumulated fill of tree bole [1018]
1020	Cut	Undated pit
1021	Fill	Backfill of pit [1020]
1022	Cut	Undated pond
1023	Fill	Secondary accumulated fill of pond [1022]
1024	Fill	Basal accumulated fill of pond [1022]
1025	Cut	Undated drainage ditch
1026	Fill	Naturally accumulated fill of drainage ditch [1025]
1027	Cut	Undated drainage ditch
1028	Fill	Naturally accumulated fill of drainage ditch [1027]
1029	Cut	Undated drainage ditch
1030	Fill	Naturally accumulated fill of drainage ditch [1029]
1031	Cut	Undated drainage ditch
1032	Fill	Naturally accumulated fill of drainage ditch [1031]
1033	Cut	Undated drainage ditch
1034	Fill	Naturally accumulated fill of drainage ditch [1033]
1035	Cut	Undated drainage ditch
1036	Fill	Naturally accumulated fill of drainage ditch [1035]
1037	Cut	Undated drainage ditch
1038	Fill	Naturally accumulated fill of drainage ditch [1037]
1039	Cut	Undated pit
1040	Fill	Accumulated fill of pit [1039]
1041	Cut	Undated pit
1042	Fill	Accumulated fill of pit [1041]
1043	Cut	Undated pit/posthole
1044	Fill	Accumulated fill of pit [1043]
1045	Cut	Undated pit/posthole
1046	Fill	Accumulated fill of pit [1045]
1047	Cut	Undated pit/posthole
1048	Fill	Accumulated fill of pit [1047]
1049	Cut	Undated drainage ditch terminus
1050	Fill	Naturally accumulated fill of drainage ditch [1049]

Context	Type	Description
1051	Cut	Undated pit/posthole
1052	Fill	Accumulated fill of pit [1051]
1053	Cut	Undated drainage ditch
1054	Fill	Accumulated basal fill of drainage ditch [1053]
1055	Fill	Accumulated secondary fill of drainage ditch [1053]
1056	Cut	Undated pit/posthole
1057	Fill	Accumulated fill of pit [1056]
1058	Cut	Undated drainage ditch terminus
1059	Fill	Accumulated fill of drainage ditch [1058]
1060	Cut	Undated drainage ditch
1061	Fill	Accumulated fill of drainage ditch [1060]
1062	Cut	Undated boundary ditch
1063	Fill	Accumulated fill of boundary ditch [1062]
1064	Group	19th/20th century agricultural boundary/drainage ditch comprising ditch slots [1025], [1027], [1029], [1031], [1037] and [1053]
1065	Group	19th/20th century agricultural boundary/drainage ditch comprising ditch slots[1033], [1035], [1049] and [1058]
1066	Group	19th/20th century agricultural boundary/drainage ditch comprising ditch slots [1060] and [1062]
1067	Cut	Undated posthole
1068	Fill	Accumulated basal fill of posthole [1067]
1069	Cut	Rooting
1070	Fill	Rooting
1071	Cut	Rooting
1072	Fill	Rooting
1073	Fill	Accumulated secondary fill of posthole [1067]
1074	Skeleton	19th/20th century sheep burial
1075	Cut	Grave for sheep burial
1076	Fill	Backfill of grave [1075] sheep burial
1077	Cut	Undated boundary ditch
1078	Fill	Accumulated fill of boundary ditch [1077]
1079	Cut	Undated boundary ditch
1080	Fill	Accumulated fill of boundary ditch [1079]
1081	Cut	Agricultural boundary ditch
1082	Fill	Post-medieval backfill of boundary ditch [1081]
1083	Cut	Recut of agricultural boundary ditch
1084	Fill	Accumulated fill of recut boundary ditch [1083]
1085	Cut	Undated boundary ditch
1086	Fill	Accumulated fill of boundary ditch [1085]
1087	Cut	Undated boundary ditch
1088	Fill	Accumulated fill of boundary ditch [1087]
1089	Cut	Recut of agricultural boundary ditch
1090	Fill	Accumulated fill of recut boundary ditch [1089]
1091	Cut	Undated boundary/drainage ditch
1092	Fill	Redeposited natural backfill of boundary ditch [1091]
1093	Cut	Undated agricultural gully
1094	Fill	Accumulated fill of gully [1093]
1095	Cut	Undated enclosure/boundary ditch
1096	Fill	Accumulated fill of enclosure/boundary ditch [1095]
1097	Cut	Undated enclosure/boundary ditch
1098	Fill	Accumulated fill of enclosure/boundary ditch [1097]
1099	Group	Undated agricultural gully comprising ditch slots [1087] and [1093]
1100	Cut	Undated agricultural gully

Context	Type	Description
1101	Fill	Accumulated fill of gully [1100]
1102	Cut	Undated ditch
1103	Fill	Accumulated fill of ditch [1102]
1104	Cut	Undated ditch
1105	Fill	Accumulated fill of ditch [1104]
1106	Cut	Undated drainage ditch
1107	Fill	Accumulated fill of drainage ditch [1106]
1108	Cut	Undated boundary ditch
1109	Fill	Accumulated primary fill of boundary ditch [1108]
1110	Fill	Accumulated secondary fill of boundary ditch [1108]
1111	Cut	Undated agricultural ditch
1112	Fill	Accumulated fill of ditch [1111]
1113	Cut	Undated agricultural ditch
1114	Fill	Accumulated fill of ditch [1113]
1115	Cut	Undated enclosure ditch
1116	Fill	Accumulated fill of enclosure ditch [1115]
1117	Cut	Undated enclosure ditch
1118	Fill	Accumulated fill of enclosure ditch [1117]
1119	Cut	Undated drainage ditch
1120	Fill	Accumulated fill of drainage ditch [1119]
1121	VOID	
1122		
1123	Cut	Undated boundary ditch
1124	Fill	Accumulated primary fill of boundary ditch [1123]
1125	Fill	Accumulated secondary fill of boundary ditch [1123]
1126	Cut	Undated drainage ditch
1127	Fill	Accumulated fill of drainage ditch [1126]
1128	Cut	Undated drainage ditch
1129	Fill	Accumulated fill of drainage ditch [1128]
1130	Cut	Undated boundary ditch
1131	Fill	Accumulated primary fill of boundary ditch [1123]
1132	Fill	Accumulated secondary fill of boundary ditch [1123]
1133	Deposit	Naturally accumulated peat
1134	Deposit	Decaying organic matter
1135	Deposit	Natural glacial sand
1136	Deposit	Naturally accumulated peat
1137	Cut	Undated boundary ditch
1138	Cut	Undated boundary ditch
1139	Cut	Undated boundary ditch
1140	Fill	Accumulated fill of drainage ditch [1139]
1141	Cut	Undated drainage ditch
1142	Fill	Accumulated fill of drainage ditch [1141]
1143	Cut	Undated boundary ditch
1144	Fill	Accumulated fill of boundary ditch [1143]
1145	Cut	Undated boundary ditch
1146	Fill	Accumulated fill of boundary ditch [1125]
1147	Fill	Fill of ditch [1137]
1148	Fill	Fill of ditch [1138]
1149	Cut	Undated boundary ditch
1150	Fill	Accumulated fill of boundary ditch [1149]
1151	Cut	Undated drainage ditch
1152	Fill	Fill of drainage ditch [1151]
1153	Cut	Undated boundary ditch

Context	Type	Description
1154	Fill	Accumulated fill of boundary ditch [1153]
1155	Cut	Undated ditch
1156	Fill	Fill of ditch [1155]
1157	Cut	Undated ditch
1158	Fill	Fill of ditch [1157]
1159	Cut	Undated ditch
1160	Fill	Fill of ditch [1159]
1161	Fill	Redeposited natural fill backfill of boundary ditch [1091]
1162	Cut	Undated curvilinear ditch
1163	Fill	Naturally accumulated fill of ditch [1162]
1164	Cut	Undated ditch
1165	Fill	Naturally accumulated fill of ditch [1164]
1166	Cut	Undated drainage ditch
1167	Fill	Accumulated fill of ditch [1166]
1168	Cut	Undated drainage ditch
1169	Fill	Accumulated fill of ditch [1168]
1170	Cut	Undated drainage ditch terminus
1171	Fill	Accumulated fill of ditch [1170]
1172	Cut	Undated watercourse
1173	Fill	Accumulated fill of watercourse [1172]
1174	Cut	Cut of ditch
1175	Fill	Fill of ditch [1174]
1176	Cut	Cut of ditch
1177	Fill	Fill of ditch [1176]
1178	Fill	Naturally accumulated fill of drainage ditch [1151]
1179	Group	Undated ditch, comprising ditch slots [1137], [1077], [1102] and [1083]
1180	Group	Undated ditch, comprised of ditch slots [1079], [1104] and [1081]
1181	Group	Undated boundary ditch, comprising ditch slots [1145], [1149], [1111], [1138], and [1157]
1182	Group	Undated boundary ditch, comprising ditch slots [1153] and [1115]
1183	Group	Undated boundary ditch, [1151], [1201], [1205], [1108], [1110], [1128], [1130] and [1123]
1184	Group	Undated ditch, comprising ditch slots [1117], [1155], [1126], and [1119]
1185	Cut	Undated ditch
1186	Fill	Backfill of ditch [1185]
1187	Cut	Undated sub-oval pit
1188	Fill	Backfill of sub-oval pit [1087]
1189	Cut	Undated sub-circular pit
1190	Fill	Backfill of sub-circular pit [1089]
1191	Cut	Undated gully
1192	Fill	Accumulated fill of gully [1091]
1193	Cut	Undated sub-circular pit
1194	Fill	Accumulated fill of sub-circular pit [1093]
1195	Cut	Undated curvilinear ditch
1196	Fill	Naturally accumulated fill of ditch [1195]
1197	Cut	Undated circular pit
1198	Fill	Accumulated fill of pit [1197]
1199	Cut	Undated ditch
1200	Fill	Accumulated fill of ditch [1199]
1201	Cut	Undated ditch
1202	Fill	Backfill of ditch [1201]
1203	Cut	Undated ditch
1204	Fill	Backfill of ditch [1203]

Context	Type	Description
1205	Cut	Undated ditch terminus
1206	Fill	Naturally accumulated fill of ditch [1205]
1207	Cut	Undated pit
1208	Fill	Backfill of pit [1207]
1209	Cut	Undated pit
1210	Fill	Backfill of pit [1209]
1211	Cut	Undated ditch
1212	Fill	Backfill of ditch [1211]
1213	Cut	Undated ditch
1214	Fill	Naturally accumulated fill of ditch [1213]
1215	Cut	Undated drainage ditch
1216	Fill	Naturally accumulated fill of drainage ditch [1215]
1217	Cut	Undated curvilinear ditch
1218	Fill	Naturally accumulated fill of ditch [1217]
1219	Cut	Undated curvilinear ditch terminus
1220	Fill	Naturally accumulated fill of ditch [1219]
1221	Deposit	Uppermost naturally accumulated sand in Wetland Basin 2
1222	Deposit	Naturally deposited silty sand within Wetland Basin 2
1223	Deposit	Naturally deposited peat within Wetland Basin 2
1224	Cut	Undated curvilinear ditch terminus
1225	Fill	Naturally accumulated fill of ditch [1224]
1226	Group	Undated curvilinear ditch comprising ditch slots [1195][1217][1219] and [1224]
1227	Cut	Undated pit
1228	Fill	Accumulated fill of pit [1227]
1229	Cut	Prehistoric pit
1230	Fill	Basal backfill of pit [1229]
1231	Cut	Prehistoric to Romano-British boundary ditch
1232	Fill	Accumulated fill of ditch [1231]
1233	Fill	Natural sand substrate from overcut of pit [1229]
1234	Fill	Accumulated secondary fill of pit [1229]
1235	Fill	Accumulated fill of pit [1227]
1236	Fill	Accumulated primary fill of pit [1227]
1237	Cut	Undated ditch
1238	Fill	Accumulated fill of ditch [1237]
1239	Cut	Undated ditch
1240	Fill	Accumulated fill of ditch [1239]
1241	Cut	Undated ditch
1242	Fill	Accumulated fill of ditch [1241]
1243	Cut	Undated ditch
1244	Fill	Fill of ditch [1243]
1245	Cut	Undated pit
1246	Fill	Backfill of pit [1245]
1247	Cut	Undated pit
1248	Fill	Backfill of pit [1247]
1249	Cut	Undated ditch
1250	Fill	Accumulation fill of ditch [1249]
1251	Cut	Undated ditch
1252	Fill	Accumulation fill of ditch [1251]
1253-58	**VOID**	
1259	Deposit	Naturally accumulated marl
1260	Deposit	Naturally formed peat and clay deposit
1261	Cut	Undated enclosure ditch

Context	Type	Description
1262	Fill	Redeposited primary fill of ditch [1261]
1263	Fill	Accumulated secondary fill of ditch [1261]
1264	Cut	Undated ditch
1265	Fill	Accumulated fill of ditch [1264]
1266	Cut	Undated ditch
1267	Fill	Accumulated fill of ditch [1266]
1268	Cut	Undated boundary ditch
1269	Fill	Accumulated fill of ditch [1268]
1270	Cut	Undated enclosure ditch
1271	Fill	Accumulated fill of ditch [1270]
1272	Cut	Undated ditch
1273	Fill	Accumulated fill of ditch [1272]
1274	Cut	Undated circular pit
1275	Fill	Accumulated primary fill of pit [1274]
1276	Cut	Waste pit
1277	Fill	Backfill of pit [1276]
1278	Cut	Undated ditch
1279	Fill	Accumulated fill of ditch [1278]
1280	Cut	Undated ditch
1281	Fill	Accumulated fill of ditch [1280]
1282	Fill	Accumulated secondary fill of pit [1274]
1283	Cut	Rooting
1284	Group	Rectilinear enclosure ditch comprising ditch slots [1215], [1243], [1266], [1278], [1290], [1300], [1306], [1310], [1319], [1323] and [1325]
1285	Group	Rectilinear enclosure ditch comprising ditch slots [1185], [1261], [1211], [1286], [1288], [1213], [1270], [1229], [1231], [1233], [1283], [1294] and [1264].
1286	Cut	Undated enclosure ditch
1287	Fill	Accumulated fill of ditch [1286]
1288	Cut	Undated boundary ditch
1289	Fill	Accumulated fill of ditch [1288]
1290	Cut	Undated boundary ditch
1291	Fill	Backfill of ditch [1290]
1292	Cut	Undated ditch terminus
1293	Fill	Accumulated fill of ditch terminus [1292]
1294	Cut	Undated enclosure ditch
1295	Fill	Accumulated fill of ditch [1294]
1296	Cut	Undated boundary ditch
1297	Fill	Accumulated fill of ditch [1296]
1298	Cut	Prehistoric pit
1299	Fill	Backfill of pit [1298]
1300	Cut	Undated enclosure ditch
1301	Fill	Backfill of ditch [1300]
1302	Cut	Undated ditch
1303	Fill	Accumulated fill of ditch [1302]
1304	Cut	Undated ditch
1305	Fill	Accumulated fill of ditch [1304]
1306	Cut	Undated possible enclosure ditch
1307	Fill	Accumulated fill of ditch [1306]
1308	Cut	Undated ditch
1309	Fill	Accumulated fill of ditch [1308]
1310	Cut	Undated enclosure ditch terminus
1311	Fill	Accumulated fill of ditch [1310]

Context	Type	Description
1312	Cut	Undated boundary/enclosure ditch
1313	Fill	Accumulated fill of ditch [1312]
1314	Deposit	Overlying subsoil of Wetland Basin 2
1315	Deposit	Overlying subsoil of Wetland Basin 2
1316	Deposit	Overlying subsoil of Wetland Basin 2
1317	Cut	Undated boundary/enclosure ditch
1318	Fill	Accumulated fill of ditch [1317]
1319	Cut	Prehistoric to Romano-British boundary ditch
1320	Fill	Accumulated fill of ditch [1319]
1321	Cut	Undated curvilinear ditch
1322	Fill	Accumulated fill of ditch [1321]
1323	Cut	Undated enclosure ditch
1324	Fill	Backfill of ditch [1323]
1325	Cut	Undated enclosure ditch
1326	Fill	Backfill of ditch [1325]
1327	Deposit	Natural sand deposit from glacial melt
1328	Cut	Undated enclosure ditch terminus
1329	Fill	Accumulated fill of ditch [1328]
1330-31	**VOID**	
1332	Group	Undated enclosure ditch comprising ditch slots [1323] and [1325]
1333	Cut	Undated enclosure ditch
1334	Fill	Accumulated fill of ditch [1333]
1335	Cut	Possible Roman curvilinear ditch
1336	Fill	Accumulated fill of ditch [1335]
1337	Cut	Undated boundary/enclosure ditch
1338	Fill	Accumulated fill of ditch [1337]
1339	Group	Undated rectilinear ditch comprising ditch slots [1312] and [1328]
1340	Cut	Rooting
1341	Fill	Rooting
1342	Cut	Undated pit
1343	Fill	Backfill of pit [1342]
1344	Cut	Rooting
1345	Fill	Rooting
1346	Cut	Possible Mesolithic pit
1347	Fill	Accumulated fill of pit [1346]
1348-57	**VOID**	
1358	Deposit	Naturally formed peat layer
1359	Deposit	Deposit within Wetland Basin 2
1360	Cut	Undated waste pit
1361	Fill	Backfill of pit [1360]
1362	Cut	Undated enclosure ditch
1363	Fill	Backfill of ditch [1362]
1364	Cut	Undated ditch
1365	Fill	Accumulated fill of ditch [1364]
1366	Cut	Undated ditch
1367	Fill	Accumulated fill of ditch [1366]
1368	Cut	Undated pit
1369	Fill	Backfill of pit [1368]
1370	Cut	Undated ditch terminus
1371	Fill	Accumulated fill of ditch [1370]
1372	Cut	Prehistoric pit
1373	Fill	Accumulated decomposed vegetation within pit [1372]
1374	Cut	Possible Mesolithic pit

Context	Type	Description
1375	Fill	Natural infill of pit [1374]
1376	Cut	Undated ditch
1377	Fill	Accumulated fill of ditch [1376]
1378	Cut	Undated sub-oval pit
1379	Fill	Natural infill of pit [1378]
1380	Cut	Possible hedgerow
1381	Fill	Natural infill of hedgerow [1380]
1382	Cut	Undated ditch
1383	Fill	Accumulated fill of ditch [1382]
1384	Cut	Undated waste pit
1385	Fill	Backfill of pit [1384]
1386	Cut	Possible Mesolithic pit
1387	Fill	Natural infill of pit [1386]
1388	Cut	Possible Mesolithic pit
1389	Fill	Natural infill of pit [1388]
1390	Cut	Undated ditch terminus
1391	Fill	Backfill of ditch [1390]
1392	Cut	Undated boundary ditch
1393	Fill	Fill of ditch [1392]
1394	Cut	Undated boundary ditch
1395	Fill	Backfill of ditch [1394]
1396	Cut	Undated boundary ditch
1397	Fill	Backfill of ditch [1396]
1398	Cut	Rooting
1399	Fill	Rooting
1400	Cut	Rooting
1401	Fill	Rooting
1402	Cut	Rooting
1403	Fill	Rooting
1404	Cut	Undated ditch
1405	Fill	Backfill of ditch [1404]
1406	Deposit	Sand within Wetland Basin 3
1407	Deposit	Possible animal processing site within Wetland Basin 3
1408	Cut	Undated boundary ditch terminus
1409	Fill	Backfill of ditch [1408]
1410	Cut	Undated ditch terminus
1411	Fill	Accumulated fill of ditch [1410]
1412	Cut	Undated ditch
1413	Fill	Accumulated fill of ditch [1412]
1414	Deposit	Sandy silt layer in wetland basin 3
1415	Cut	Undated enclosure ditch
1416	Fill	Backfill of enclosure ditch [1415]
1417	Cut	Undated pit
1418	Fill	Fill of pit [1417]
1419	Cut	Undated gully
1420	Fill	Accumulated fill of gully [1419]
1421	Cut	Undated gully
1422	Fill	Accumulated fill of gully [1421]
1423	Cut	Undated ditch
1424	Fill	Backfill of ditch [1423]
1425	Cut	Undated ditch
1426	Fill	Accumulated fill of ditch [1425]
1427	Deposit	Colluvial accumulation overlying peat within Wetland Basin 3

Context	Type	Description
1428	Cut	Undated ditch
1429	Fill	Accumulated fill of ditch [1428]
1430	Cut	Undated gully
1431	Fill	Accumulated fill of gully [1430]
1432	Deposit	Clay silt deposit within Wetland Basin 3
1433	Cut	Undated enclosure ditch
1434	Fill	Backfill of enclosure ditch [1433]
1435	Cut	Undated Pit
1436	Fill	Backfill of pit [1435]
1437	Cut	Early bronze age Pit
1438	Fill	Backfill of pit [1437]
1439	Cut	Undated Pit
1440	Fill	Backfill of pit [1439]
1441	Cut	Undated gully
1442	Fill	Accumulated fill of gully [1441]
1443	Deposit	Sand deposit within Wetland Basin 3
1444	Cut	Undated ditch
1445	Fill	Backfill of ditch [1444]
1446	Cut	Undated ditch
1447	Fill	Backfill of ditch [1446]
1448	Cut	Undated circular pit
1449	Fill	Backfill of pit [1448]
1450	Cut	Undated ditch
1451	Fill	Backfill of ditch [1450]
1452	Cut	Undated ditch
1453	Fill	Accumulated fill of ditch [1452]
1454	Cut	Undated ditch
1455	Fill	Accumulated fill of ditch [1454]
1456	Cut	Undated ditch
1457	Fill	Accumulated fill of ditch [1456]
1458	Cut	Undated ditch terminus
1459	Fill	Accumulated fill of ditch [1458]
1460	Cut	Undated ditch terminus
1461	Fill	Backfill of ditch [1460]
1462	Cut	Undated boundary/enclosure ditch
1463	Fill	Backfill of ditch [1462]
1464	Cut	Undated ditch
1465	Fill	Accumulated fill of ditch [1464]
1466	Cut	Undated ditch
1467	Fill	Accumulated primary fill of ditch [1466]
1468	Fill	Accumulated secondary fill of ditch [1466]
1469	Cut	Undated ditch
1470	Fill	Accumulated fill of ditch [1469]
1471	Cut	Undated ditch
1472	Fill	Accumulated fill of ditch [1471]
1473	Cut	Undated ditch terminus
1474	Fill	Accumulated fill of ditch [1473]
1475	Cut	Undated pit
1476	Fill	Backfill of pit [1475]
1477	Cut	Prehistoric pit
1478	Fill	Redeposited natural, secondary fill of pit [1486]
1479	Fill	Backfill of pit [1477]
1480	Cut	Undated pit

Context	Type	Description
1481	Fill	Backfill of pit [1480]
1482	Cut	Undated pit
1483	Fill	Backfill of pit [1482]
1484	Cut	Prehistoric pit
1485	Fill	Backfill of pit [1484]
1486	Cut	Undated pit
1487	Fill	Primary accumulated/Backfill of pit [1486]
1488	Cut	Rooting
1489	Fill	Rooting
1490	Cut	Rooting
1491	Fill	Rooting
1492	Cut	Rooting
1493	Cut	Rooting
1494	Fill	Rooting
1495	Cut	Rooting
1496	Fill	Rooting
1497	Cut	Rooting
1498	Fill	Rooting
1499	Cut	Rooting
1500	Fill	Rooting
1501	Cut	Rooting
1502	Fill	Rooting
1503	Cut	Rooting
1504	Fill	Rooting
1505	Cut	Rooting
1506	Fill	Rooting
1507	Cut	Rooting
1508	Fill	Rooting
1509	Cut	Rooting
1510	Fill	Rooting
1511	Cut	Rooting
1512	Fill	Rooting
1513	Cut	Rooting
1514	Fill	Rooting
1515	Cut	Rooting
1516	Fill	Rooting
1517	Cut	Undated Posthole
1518	Fill	Naturally accumulated fill of posthole [1517]
1519	Cut	Rooting
1520	Fill	Rooting
1521	Cut	Rooting
1522	Fill	Rooting
1523	Cut	Rooting
1524	Fill	Rooting
1525	Cut	Rooting
1526	Fill	Rooting
1527	Cut	Rooting
1528	Fill	Rooting
1529	Cut	Rooting
1530	Fill	Rooting
1531	Cut	Rooting
1532	Fill	Rooting
1533	Cut	Rooting

Context	Type	Description
1534	Fill	Rooting
1535	Cut	Rooting
1536	Fill	Rooting
1537	Cut	Rooting
1538	Fill	Rooting
1539	Cut	Rooting
1540	Fill	Rooting
1541	Cut	Rooting
1542	Fill	Rooting
1543	Cut	Rooting
1544	Fill	Rooting
1545	Cut	Rooting
1546	Fill	Rooting
1547	Cut	Rooting
1548	Fill	Rooting
1549	Cut	Rooting
1550	Fill	Rooting
1551	Cut	Rooting
1552	Fill	Rooting
1553	Deposit	Peat layer within Wetland Basin 1
1554	Deposit	Peat layer within Wetland Basin 1
1555	Deposit	Peat layer within Wetland Basin 1
1556	Deposit	Peat layer within Wetland Basin 1
1557	Deposit	Peat layer within Wetland Basin 1
1558	Deposit	Clay layer within Wetland Basin 1
1559	Deposit	Marl deposits within Wetland Basin 1
1560	Deposit	Clay layer within Wetland Basin 1
1561	Deposit	Clay layer within Wetland Basin 1
1562	Deposit	Clay layer within Wetland Basin 1
1563	Deposit	Clay layer within Wetland Basin 1
1564	Deposit	Clay layer within Wetland Basin 1
1565	Cut	Undated possible posthole
1566	Fill	Naturally accumulated fill of posthole [1565]
1567	Cut	Undated possible posthole
1568	Fill	Naturally accumulated fill of posthole [1567]
1569	Cut	Undated possible posthole
1570	Fill	Naturally accumulated fill of posthole [1569]
1571	Cut	Rooting
1572	Fill	Rooting
1573	Cut	Rooting
1574	Fill	Rooting
1575	Cut	Rooting
1576	Fill	Rooting
1577	Cut	Rooting
1578	Fill	Rooting
1579	Cut	Rooting
1580	Fill	Rooting
1581	Cut	Rooting
1582	Fill	Rooting
1583	Cut	Rooting
1584	Fill	Rooting
1585	Cut	Rooting
1586	Fill	Rooting

Context	Type	Description
1587	Cut	Rooting
1588	Fill	Rooting
1589	Cut	Rooting
1590	Fill	Rooting
1591	Cut	Undated posthole
1592	Fill	Backfill of posthole [1591]
1593	Fill	Preserved wooden post from posthole [1591]
1594	Cut	Rooting
1595	Fill	Rooting
1596	Cut	Rooting
1597	Fill	Rooting
1598	Cut	Undated circular pit
1599	Fill	Accumulated fill of pit [1598]
1600	Cut	Rooting/possible undated posthole
1601	Fill	Rooting/accumulated fill of posthole [1600]
1602	Cut	Rooting/possible undated posthole
1603	Fill	Rooting/accumulated fill of posthole [1602]
1604	Cut	Rooting/possible undated posthole
1605	Fill	Rooting/accumulated fill of posthole [1604]
1606	Cut	Possible undated stakehole
1607	Fill	Accumulated fill of stakehole [1606]
1608	Cut	Rooting/possible undated posthole
1609	Fill	Rooting/accumulated fill of posthole [1608]
1610	Cut	Rooting/possible undated posthole
1611	Fill	Rooting/accumulated fill of posthole [1610]
1612	Cut	Possible undated posthole
1613	Fill	Accumulated fill of posthole [1612]
1614	Cut	Possible modern pit
1615	Fill	Accumulated fill of pit [1614]
1616	Cut	Possible undated posthole
1617	Fill	Accumulated fill of posthole [1616]
1618	Cut	Rooting/possible undated posthole
1619	Fill	Rooting/accumulated fill of posthole [1618]
1620	Cut	Rooting/possible undated posthole
1621	Fill	Rooting/accumulated fill of posthole [1620]
1622	Cut	Rooting/possible undated posthole
1623	Fill	Rooting/accumulated fill of posthole [1622]
1624	Cut	Rooting/possible undated posthole
1625	Fill	Rooting/accumulated fill of posthole [1624]
1626	Cut	Rooting/possible undated posthole
1627	Fill	Rooting/accumulated fill of posthole [1626]
1628	Cut	Rooting/possible undated posthole
1629	Fill	Rooting/accumulated fill of posthole [1628]
1630	Cut	Rooting/possible undated posthole
1631	Fill	Rooting/accumulated fill of posthole [1630]
1632	Cut	Undated pit
1633	Fill	Backfill of pit [1632]
1634	Deposit	Peat deposit
1635	Deposit	Peat deposit
1636	Deposit	Peaty sand deposit near Wetland Basin 1
1637	Cut	Undated possible pit
1638	Fill	Upper backfill of pit [1637]
1639	Fill	Primary backfill of pit [1637]

Context	Type	Description
1640	Cut	Possible undated posthole
1641	Fill	Accumulated fill of posthole [1630]
1642	Cut	Possible modern bomb crater
1643	Fill	Tertiary accumulated fill of crater [1642]
1644	Fill	Secondary accumulated fill of crater [1642]
1645	Fill	Primary accumulated fill of crater [1642]
1646	Cut	Undated enclosure ditch
1647	Fill	Backfill of ditch [1646]
1648	Cut	Undated segmented ditch
1649	Fill	Naturally accumulated fill of ditch [1648]
1650	Cut	Undated pit
1651	Fill	Backfill of pit [1650]
1652	Deposit	Potential Roman occupation deposit across Wetland Basin 3
1653	Cut	Undated ditch
1654	Fill	Naturally accumulated fill of ditch [1653]
1655	Cut	Undated ditch
1656	Fill	Naturally accumulated fill of ditch [1655]
1657	Cut	Undated pit/posthole
1658	Fill	Accumulated fill of pit/posthole [1657]
1659	Cut	Undated pit
1660	Fill	Accumulated fill of pit [1659]
1661	Cut	Undated pit
1662	Fill	Backfill of pit [1661]
1663	Cut	Undated curvilinear ditch
1664	Fill	Naturally accumulated fill of ditch [1663]
1665	Cut	Undated pit
1666	Fill	Accumulated fill of pit [1665]
1667	Cut	Undated pit
1668	Fill	Backfill of pit [1667]
1669	Cut	Undated boundary/drainage ditch
1670	Fill	Naturally accumulated fill of ditch [1669]
1671	Cut	Undated ditch/gully
1672	Fill	Naturally accumulated fill of ditch [1671]
1673	Cut	Undated segmented boundary ditch
1674	Fill	Naturally accumulated fill of ditch [1673]
1675	Cut	Undated ditch
1676	Fill	Naturally accumulated fill of ditch [1675]
1677	Cut	Undated boundary ditch terminus
1678	Fill	Naturally accumulated fill of ditch [1677]
1679	Fill	Naturally accumulated fill of ditch [1677]
1680	Cut	Undated boundary ditch terminus
1681	Fill	Naturally accumulated fill of ditch [1680]
1682	Cut	Undated boundary ditch terminus
1683	Fill	Backfill of ditch [1682]
1684	Cut	Undated ditch
1685	Fill	Naturally accumulated fill of ditch [1684]
1686	Cut	Undated ditch terminus
1687	Fill	Naturally accumulated fill of ditch [1686]
1688	Cut	Undated ditch
1689	Fill	Accumulated primary fill of ditch [1688]
1690	Fill	Backfilled secondary fill of ditch [1688]
1691	Cut	Undated boundary ditch
1692	Fill	Backfill of ditch [1691]

Context	Type	Description
1693	Cut	Undated recut of ditch
1694	Fill	Backfill of ditch [1693]
1695	Cut	Undated boundary ditch
1696	Fill	Backfill of ditch [1695]
1697	Cut	Undated pit
1698	Fill	Accumulated fill of pit [1697]
1699	Cut	Undated ditch
1700	Fill	Accumulated fill of ditch [1699]
1701	Cut	Undated ditch
1702	Fill	Accumulated fill of ditch [1701]
1703	Cut	Cut of posthole
1704	Cut	Post packing from [1703]
1705	Fill	Fill of post hole [1703]
1706	Cut	Cut of ditch
1707	Fill	Fill of Ditch [1706]
1708	Cut	Cut of Pit
1709	Fill	Fill of Pit [1708]
1710	Cut	Cut of ditch
1711	Fill	Fill of cut [1710]
1712	Cut	Cut of pit truncated by [1710]
1713	Fill	Fill at cut [1712]
1714	Cut	Cut or ditch
1715	Fill	Fill or ditch [1714]
1716	Cut	Cut of ditch
1717	Fill	Fill of [1717]
1718	Cut	Cut of ditch
1719	Fill	Fill of ditch [1718]
1720	Cut	Cut of possible pit
1721	Fill	Fill of possible pit [1720]
1722	Cut	Cut of ditch
1723	Fill	Fill of [1722]
1724	Cut	Cut of ditch
1725	Fill	Fill of [1724]
1726	Cut	Cut of ditch
1727	Fill	Fill of [1726]
1728	Cut	Cut of ditch
1729	Fill	Upper fill of [1722]
1730	Fill	Lower fill of [1722]
1731	Cut	Cut of ditch
1732	Fill	Fill of [1731]
1733	Cut	Cut of ditch
1734	Fill	Fill of ditch [1733]
1735		Foundation Wall
1736	Cut	Cut of ditch
1737	Fill	Fill of [1736]
1738	Cut	Cut of ditch
1739	Fill	Fill of [1738]
1740	Cut	Cut of ditch
1741	Fill	Fill of [1740]
1742	Cut	Cut of ditch
1743	Fill	Fill of [1742]
1744	Cut	Cut of ditch
1745	Fill	Fill of cut [1744]

Context	Type	Description
1746	Cut	Construction of (1735)
1747	Fill	Binding material of (1735)
1748	Fill	Demolition layer above (1735)
1749	Fill	Subsoil
1750	Fill	Top soil
1751	Fill	Cut of ditch
1752	Fill	Cut of ditch
1753	Fill	Cut of ditch
1754	Fill	Fill of cut [1751]
1755	Fill	Cut of ditch
1756	Fill	Fill of cut [1753]
1757	Fill	Cut of ditch
1758	Fill	Fill of cut (1757)
1759	**VOID**	
1760		
1761	Cut	Cut of stake hole
1762	Fill	Fill at cut [1761]
1763	Cut	Cut of ditch
1764	Fill	Fill of [1763]
1765	Cut	Cut of ditch
1766	Fill	Fill of [1765]
1767	Cut	Cut of ditch
1768	Fill	Fill of [1767]
1769	Cut	Cut of ditch
1770	Fill	Fill of [1769]
1771	Cut	Cut of ditch
1772	Fill	Fill of [1771]
1773	Cut	Cut of possible pit
1774	Fill	Fill of [1775]
1775	Cut	Cut of possible pit
1776	Fill	Fill of [1775]
1777	Cut	Cut of pit
1778	Fill	Fill of [1777]
1779	Cut	Group NE-SW ditch Wetland Basin 3
1780	Fill	Group NE-SW ditch WB3
1781	Cut	Group NE-SW ditch WB3
1782	Cut	Group NE-SW ditch WB3
1783	Cut	Group NE-SW ditch WB3
1784	Cut	Group NE-SW ditch WB3
1785	Cut	Group NE-SW ditch WB3
1786	Cut	Group NE-SW ditch WB3
1787	Cut	Group NE-SW ditch WB3
1788	Cut	Group NE-SW ditch WB3
1789	Group	Pit sequence (Ridge)
1790	Cut	Group WB3 ditch
1791	Cut	Cut of ditch
1792	Fill	Fill of ditch [1791]
1793	**VOID**	
1794	Cut	Cut of ditch
1795	Fill	Fill of ditch [1794]
1796	Cut	Cut of ditch (corner slot)
1797	Fill	Fill of [1796]
1798	Cut	Cut of foundation trench

Context	Type	Description
1799	Structure	Stones within [1798
1800	Fill	Fill of [1798]
1801	Cut	Cut of ditch
1802	Fill	Fill of [1802]
1803	Cut	Cut of ditch
1804	Fill	Fill of ditch [1805]
1805	Cut	Cut of ditch
1806	Fill	Fill of [1805]
1807	Cut	Cut of linear ditch
1808	Fill	Fill of [1807]
1809	Fill	Upper fill of [1807]
1810	Cut	Cut of ditch
1811	Fill	Fill of [1810]
1812	Cut	Cut of ditch
1813	Fill	Fill of [1812]
1814	Cut	Cut of ditch
1815	Fill	Fill of [1814]
1816	Cut	Cut of ditch/hedgerow
1817	Fill	Primary fill of [1816]
1818	Fill	Secondary fill of [1816]
1819	Group	Enclosure in WB3
1820	Cut	Stoney linear
1821	Fill	Fill of cut [1820]
1822	Cut	Cut of pit
1823	Fill	Fill of cut [1822]
1824	Cut	Recut at [1822]
1825	Fill	Fill at recut [1824]
1826	Cut	Curvilinear ditch
1827	Fill	Fill at cut [1826]
1828	Group	NW-SE ditch in side WB3
1829	Group	E/W Ditch on edge of WB3
1830	Group	Ditch in SE area of WB3
1831	Group	Ditch in SE area of WB3
1832	Cut	Cut of possible pit
1833	Fill	Fill of [1832]
1834	Fill	Secondary fill of [1805]
1835	Fill	Redeposited marl possibly remains of a bank on the inner edge of [1805]
1836	Group	Group E-W Ditch cutting WB3
1837	Group	Sediment Layer of WB3 AKA (1406)
1838	Group	Group Stone bank in WB3 NE-SW
1839	Group	Group NW-SE ditch on N limit of WB3
1840	Cut	Cut of ditch terminus (half section)
1841	Fil	Fill of ditch terminus [1840]
1842	Cut	Cut of ditch
1843	Fill	Fill at cut (1842)
1844	Cut	Recent/Dredge of WB3
1845	Fill	Fill of [1844]
1846	Cut	Cut of ditch
1847	Fill	Fill of [1846]
1848	Cut	Cut of ditch
1849	Fill	Fill of ditch [1848]
1850	Cut	Cut of ditch
1851	Fill	Fill of [1850]

Context	Type	Description
1852	Cut	Recut/dredge of WB3
1853	Fill	Fill of [1852]
1854	Fill	Recut/dredge of WB3
1855	Fill	Fill of [1854]
1856	Fill	Recut/dredge of WB3
1857	Cut	Cut of WB3
1858	Fill	Primary fill of [1857] WB3
1859	Fill	Secondary fill of [1857]
1860	Fill	Third fill of [1857]
1861	Fill	Fourth fill of [1857]
1862	Fill	Fifth fill of [1857]
1863	Fill	Marl of WB3
1864	Cut	Cut of ditch
1865	Fill	Fill of [1864]
1866	Fill	Top fill of WB1A
1867	Fill	Top fill of WB1B
1868	Fill	Sand fill of WB2
1869	Cut	Cut
1870	Fill	Fill
1871	Cut	Cut
1872	Fill	Fill
1873	Structure	Post Structure
1874	Skeleton	Sheep Skeleton
1875	Deposit	Sandy deposit Vett B Z
1876	Structure	Possible long wooden pole/rooting
1877	Structure	Possible long wooden pole/root
1878	Structure	Possible long wooden pole/root
1879	Structure	Possible wood lattice/weave
1880	Structure	Wood fragments
1881	Structure	Wood fragments
1882	Structure	Wood fragments
1883	Structure	Wood fragments
1884	Structure	Wood fragments
1885	Structure	Wood fragments
1886	Structure	Wood fragments
1887	Structure	Wood fragments
1888	Structure	Wood fragments
1889	Group	Group no. for 1876-1888
1890	Deposit	Possible root
1891	Cut	Cut of possible pit within WB3
1892	Fill	Fill of [1891]
1893	Deposit	Dark coarse sand found in wetland basin 2
1894	Deposit	Spit 1 for tree trunk WB1
1895	Structure	Tree Trunk WB1
1896	Cut	Drain running through [1895] WB1
1897	Structure	Early Mesolithic timber structure
1898	Cut	Cut of pit WB2
1899	Fill	Fill of [1898]
1900	Cut	Cut of small pit
1901	Fill	Fill of [1902]
1902	Cut	Cut of natural feature
1903	Fill	Fill of [1902]
1904	Cut	Cut of small pit

Context	Type	Description
1905	Fill	Fill of [1904]
1906	Cut	Cut of drain
1907	Fill	Fill of drain [1906]
1908	Deposit	Natural deposit below (18930 in WB2
1909	Deposit	Natural clay in WB1
1910	Deposit	Marl deposit in WB1
1911	Deposit	Dark brownish green peat/wood?
1912	Deposit	Mid brownish orange peat
1913	Cut	Cut of land drain
1914	Fill	Fill of land drain [1913]
1915	Deposit	Dark brownish grey peat
1916	Deposit	Dark Greyish brown peat
1917	Deposit	Mid brownish orange peat
1918	Deposit	Dark greyish brown peat
1919	Deposit	Mid greenish brown peat/wood?
1920	Deposit	Dark brownish green peat/wood?
1921	Deposit	Dark brownish green peat/wood?
1922	Deposit	Dark brownish green peat/wood?
1923	Deposit	Mid orangish brown peat
1924	Deposit	Dark reddish brown peat
1925	Deposit	Dark reddish brown laminate of (1915)
1926	Deposit	Dark brownish grey Laminate of (1915
1927	Deposit	Dark reddish brown laminate of (1915)
1928	Deposit	Dark brownish grey laminate of (1915)
1929	Deposit	Dark reddish brown laminate of(1915)
1930	Deposit	Dark greyish brown laminate of (1916)
1931	Deposit	Dark reddish brown laminate of (1916)
1932	Deposit	Dark greyish brown laminate of (1916)
1933	Deposit	Dark greyish brown laminate of (1917)
1934	Deposit	Dark greyish brown laminate of (1917)
1935	Deposit	Dark reddish brown laminate of (1917)
1936	Deposit	Dark greyish brown laminate of (1917)
1937	Deposit	Dark reddish brown laminate of (1917)
1938	Deposit	Dark greyish brown laminate of (1917)
1939	Deposit	Dark reddish brown laminate of (1917)
1940	Deposit	Dark greyish brown laminate of (1922)
1941	Deposit	Dark greyish brown laminate of (1922)
1942	Deposit	Dark greyish brown laminate of (1922)
1943	Deposit	Dark greyish brown laminate of (1922)
1944	Deposit	Dark greenish brown laminate of (1927)
1945	Deposit	Dark reddish brown peat
1946	Deposit	Dark greenish brown peat
1947	Cut	Cut at post hole in wetland basin 2
1948	Fill	Fill at cut [1947]
1949	Cut	Cut at post hole in wetland basin 2
1950	Fill	Fill at cut [1949]
1951	Deposit	Spit in WB1
1952	Deposit	Spit in WB1
1953	Deposit	Spit in WB1
1954	Deposit	Spit in WB1
1955	Deposit	Spit in WB1
1956	Cut	Cut at post hole
1957	Fill	Fill of posthole

Context	Type	Description
1958	Structure	Cluster of timbers
1959	Deposit	
1960	Cut	Cut of tree throw WBI
1961	Fill	Fill of tree throw WBI
1962	Structure	Wood S.F 1267
1963	Structure	Wood S.F 1268
1964	Structure	Wood S.F 1272
1965	Structure	Wood S.F 1264
1966	Structure	Wood S.F 1265
1967	Structure	Wood S.F. 1266
1968	Structure	Wood S.F 1213
1969	Structure	
1970	Cut	Cut of pit
1971	Fill	Fill of pit [1970]
1972		Wood WBI
1973		Charcoal deposit around 1972 WBI
1974		Wood in WBIB
1975		Wood structure and charcoal WBI
1976		Wood in WBIB
1977		Wood in WBIB
1978	Cut	Cut of tree hole
1979	Fill	Fill of tree hole
1980		Wood in WBI
1981	Cut	Cut of pit
1982	Fill	Fill of [1981]
1983	Cut	Cut of pit
1984	Fill	Fill of [1983]
1985	Cut	Cut of ditch
1986	Fill	Fill of ditch [1985]
1987	Fill	Fill of ditch [1985]
1988	Fill	Fill of ditch [1985]
1989	Cut	Cut of ditch
1990	Fill	Fill of ditch [1989]
1991	Cut	Cut of ditch Terminus
1992	Fill	Fill of ditch Terminus [1992]
1993	Cut	Cut of ditch
1994	Fill	Fill of ditch [1994]
1995		
1996		
1997		
1998		
1999	Cut	Cut of boundary ditch
2000	Fill	Fill of boundary ditch [1999]
2001	Cut	Cut of ditch
2002	Fill	Fill of ditch [2001]
2003	Cut	Cut of ditch
2004	Fill	Fill of ditch [2003]
2005	Fill	Fill of ditch [2003]
2006	Cut	Cut of ditch
2007	Fill	Fill of ditch [2006]
2008	Fill	Fill of ditch [2006]
2009	Fill	Fill of ditch [2006]
2010	Cut	Cut of ditch Terminus

Context	Type	Description
2011	Fill	Fill of ditch Terminus [2011]
2012-29		
2030	Cut	Cut of pit
2031	Fill	Fill of pit [2031]
2032	Cut	Box cut
2033	Fill	Fill of box cut [2033]
2034	Cut	Cut of ditch
2035		
2036		
2037	Cut	Cut of ditch
2038	Fill	Fill of ditch [2037]
2039	Cut	Cut of ditch
2040	Fill	Fill of ditch [2039]
2041	Cut	Construction cut
2042	Fill	Fill of construction cut [2041]
2043	Fill	Fill of construction cut [2041]
2044	Cut	Recut of [2041]
2045	Fill	Fill of cut [2044]
2046	Structure	Culvert built for drainage
2047	Fill	Fill of culvert (2046)
2048	Cut	Cut of pit
2049	Fill	Fill of pit [2048]
2050	Cut	Cut for waterway
2051	Fill	Fill of waterway [2050]
2052	Cut	Cut of pit
2053	Fill	Fill of pit [2053]
2054	Cut	Cut of pit
2055	Fill	Fill of pit [2054]
2056	Cut	Cut of ditch
2057	Fill	Fill of ditch [2057]
2058	Cut	Cut of ditch
2059	Fill	Fill of ditch [2059]
2060	Cut	Cut of ditch
2061	Fill	Fill of ditch [2060]
2062	Fill	Fill of ditch [2056]
2063		
2064	Cut	Natural Waterway
2065	Fill	Fill of waterway [2064]
2066		
2067		
2068	Group	[2060] [2072] [2078]
2069	Cut	Cut of ditch
2070	Fill	Fill of ditch [2069]
2071	Fill	Fill of ditch [2069]
2072	Cut	Cut of ditch
2073	Fill	Fill of ditch [2072]
2074	Cut	Cut of ditch
2075	Fill	Fill of ditch [2074]
2076	Cut	Linear Gully
2077	Fill	Fill of gully [2076]
2078	Cut	Cut of ditch
2079	Fill	Fill of ditch [2078]
2080	Cut	Construction cut

Context	Type	Description
2081	Fill	Fill of construction cut [2080]
2082	Cut	Hedgerow
2083		**VOID**
2084	Group	[2032] [2048] [2050] [2074] [2037]
2085	Deposit	Mid yellowish brown, stony deposit
2086	Deposit	Fine banded white or grey laminate
2087	Deposit	Medium Dark brown loam
2088	Deposit	Medium orange silty loam
2089	Deposit	Medium coarse grey silty sand
2090	Deposit	Yellowish white
2091	Deposit	Medium dark brown loam
2092	Cut	Hedgerow
2093	Fill	Fill of hedgerow [2092]
2094	Cut	Cut of ditch
2095	Fill	Fill of ditch [2094]
2096	Cut	Cut of linear ditch
2097	Fill	Fill of ditch [2096]
2098	Cut	Shallow ditch
2099	Fill	Fill of ditch [2098]
2100	Cut	Hedgerow terminus
2101	Fill	Fill of terminus [2100]
2102	Cut	Cut of linear ditch
2103	Fill	Fill of ditch [2102]
2104	Cut	Circular pit
2105	Fill	Fill of pit [2104]
2106	Cut	Cut of root-affected ditch
2107	Fill	Fill of ditch [2106]
2108	Cut	Cut of terminus ditch
2109	Fill	Fill of ditch terminus [2108]
2110	Cut	Post medieval pit
2111	Fill	Fill of pit [2110]
2112	Cut	Possible ditch or hedgerow
2113	Fill	Fill of [2112]
2114	Cut	Possible hedgerow
2115	Fill	Fill of [2114]
2116	Cut	Possible hedgerow
2117	Fill	Fill of [2116]
2118	Cut	Possible hedgerow
2119	Fill	Fill of [2118]
2120	Cut	Possible hedgerow
2121	Fill	Fill of [2120]
2122	Cut	Possible hedgerow
2123	Fill	Fill of [2122]
2124	Cut	Construction cut
2125	Structure	Stones forming a possible man-made platform
2126	Deposit	Medium mid-greyish-brown sandy silt
2127	Cut	Sub circular feature filled with pebbles
2128	Fill	Fill of [2127]
2129	Cut	Cut of ditch
2130	Fill	Fill of ditch [2129]
2131	Cut	Cut of pit
2132	Fill	Fill of pit [2131]
2133	Cut	Cut of ditch

Context	Type	Description
2134	Fill	Fill of ditch [2133]
2135	Cut	Cut of ditch
2136	Fill	Fill of ditch [2135]
2137	Cut	Cut of ditch
2138	Fill	Fill of ditch [2137]
2139	Cut	Cut of ditch
2140	Fill	Fill of ditch [2139]
2141	Cut	Cut of ditch terminus
2142	Fill	Fill of ditch terminus [2141]
2143	Cut	Linear ditch
2144	Fill	Fill of ditch [2143]
2145	Cut	Elongated shallow pit
2146	Fill	Fill of pit [2145]
2147	Cut	Elongated ditch terminus
2148	Fill	Fill of ditch terminus [2147]
2149	Cut	Cut of ditch
2150	Fill	Fill of ditch [2149]
2151	Cut	hedgerow
2152	Fill	Fill of hedgerow [2151]
2153	Cut	Hedgerow
2154	Fill	Fill of hedgerow [2153]
2155	Cut	Cut of hedgerow
2156	Fill	Fill of hedgerow [2155]
2157	Cut	Cut of ditch
2158	Fill	Fill of ditch [2157]
2159	Cut	Cut of ditch terminus
2160	Fill	Fill of ditch terminus [2159]
2161	Cut	Animal burrow
2162	Fill	Fill of animal burrow [2161]
2163	Deposit	Peat fill
2164	Cut	Enclosure ditch terminus
2165	Fill	Fill of ditch enclosure [2164]
2166	Cut	Linear ditch terminus
2167	Fill	Fill of ditch [2167]
2168	Cut	Linear ditch corner
2169	Fill	Fill of linear ditch corner [2168]
2170	Cut	Cut of ditch
2171	Fill	Fill of ditch [2170]
2172	Cut	Cut of ditch terminus
2173	Fill	Fill of ditch terminus [2172]
2174	Cut	Cut of ditch
2175	Fill	Large stones – fill of ditch [2174]
2176	Fill	Secondary fill of [2174]
2177	Fill	Tertiary fill of [2174]
2178	Deposit	Large stones
2179	Cut	Cut of terminus ditch
2180	Fill	Fill of terminus ditch [2179]
2181	Cut	Cut of shallow ditch
2182	Fill	Fill of ditch [2181]
2183	Cut	Cut of ditch
2184	Fill	Fill of ditch [2183]
2185	Cut	Cut of ditch
2186	Fill	Fill of ditch [2185]

Context	Type	Description
2187	Cut	Cut of ditch
2188	Fill	Fill of ditch [2187]
2189	Cut	Cut of ditch
2190	Fill	Fill of ditch [2189]
2191	Fill	Middle Fill of ditch [2189]
2192	Fill	Lower Fill of ditch [2189]
2193	Cut	Cut of ditch – possible hedgerow
2194	Fill	Fill of ditch [2193]
2195	Cut	Cut of ditch
2196	Fill	Fill of ditch [2195]
2197	Cut	Cut of enclosure ditch
2198	Fill	Fill of enclosure ditch [2197]
2199	Cut	Cut of ditch
2200	Fill	Fill of ditch [2199]
2201	Cut	Cut of ditch/hedgerow
2202	Fill	Fill of ditch/hedgerow [2201]
2203	Cut	Cut of ditch
2204	Fill	Fill of ditch [2203]
2205	Cut	Cut of ditch
2206	Fill	Fill of ditch [2205]
2207	Cut	Cut of curvilinear ditch
2208	Fill	Fill of curvilinear ditch [2207]
2209	Fill	Primary fill of ditch [2207]
2210	Cut	Cut of ditch
2211	Fill	Fill of ditch [2210]
2212	Cut	Cut of ditch
2213	Fill	Fill of ditch [2212]
2214	Cut	Cut of ditch
2215	Fill	Fill of ditch [2214]
2216	Cut	Cut of curvilinear ditch
2217	Fill	Fill of curvilinear ditch [2216]
2218	Cut	Cut of ditch terminus
2219	Fill	Fill of ditch terminus [2218]
2220	Cut	Cut of curved enclosure ditch terminus
2221	Fill	Fill of curved enclosure ditch terminus [2220]
2222	Cut	Cut of linear feature/ditch
2223	Fill	Fill of linear feature/ditch [2222]
2224	Cut	Cut of ditch
2225	Fill	Fill of ditch [2224]
2226	Cut	Cut of ditch
2227	Fill	Fill of ditch [2226]
2228	Cut	Cut of ditch
2229	Fill	Fill of ditch [2228]
2230	Group	[2172] [2197] [2220] enclosure ditch group
2231	Cut	Cut of terminus ditch
2232	Fill	Upper fill of terminus [2231]
2233	Fill	Middle fill of terminus [2231]
2234	Fill	Primary fill of terminus [2231]
2235	Cut	Cut of pit
2236	Fill	Fill of pit [2235]
2237	Cut	Cut of pit
2238	Fill	Fill of pit [2237]
2239	Fill	Fill of pit [2237]

Context	Type	Description
2240	Cut	Cut of linear feature
2241	Fill	Fill of [2240]
2242	Cut	Shallow oval pit
2243	Fill	Fill of pit [2242]
2244	Cut	Cut of ditch/hedgerow
2245	Fill	Fill of ditch [2244]
2246	Cut	Cut of pit
2247	Fill	Fill of ditch [2246]
2248	Cut	Cut of animal grave
2249	Fill	Fill of animal grave [2248]
2250	Skeleton	Animal skeleton from cut [2248] possibly cow
2251	Cut	Cut of terminus ditch
2252	Fill	Fill of terminus ditch [2251]
2253	Cut	Enclosure ditch terminus
2254	Fill	Fill of ditch [2253]
2255	Cut	Cut of ditch terminus
2256	Fill	Fill of ditch terminus [2255]
2257	Cut	Curvilinear enclosure ditch
2258	Fill	Fill of enclosure ditch [2257]
2259	Cut	Enclosure ditch terminus
2260	Fill	Fill of enclosure ditch terminus [2259]
2261	Cut	Cut of ditch terminus
2262	Fill	Fill of ditch terminus [2261]
2263	Cut	Cut of terminus ditch
2264	Fill	Fill of terminus ditch [2263]
2265	Cut	Cut of ditch
2266	Fill	Fill of ditch [2265]
2267	Cut	Curvilinear segmented ditch
2268	Fill	Fill of ditch [2267]
2269	Cut	Cut of ditch terminus
2270	Fill	Fill of ditch [2269]
2271	Cut	Cut of ditch
2272	Fill	Fill of ditch [2271]
2273	Cut	Cut of ditch
2274	Fill	Fill of ditch [2273]
2275	Cut	Cut of ditch terminus
2276	Fill	Fill of ditch terminus [2275]
2277	Cut	Cut of ditch terminus
2278	Fill	Fill of ditch terminus [2277]
2279	Cut	Cut of ditch
2280	Fill	Fill of ditch [2279]
2281	Cut	Cut of ditch
2282	Fill	Fill of ditch [2281]
2283	Cut	Cut of pit
2284	Fill	Fill of pit [2283]
2285	Cut	Cut of pit
2286	Fill	Fill of pit [2285]
2287	Cut	Cut of ditch
2288	Fill	Fill of ditch [2287]
2289	Cut	Cut of ditch
2290	Fill	Fill of ditch [2289]
2291	Cut	Cut of ditch
2292	Fill	Fill of ditch [2291]

Context	Type	Description
2293	Cut	Cut of ditch terminus
2294	Fill	Fill of ditch terminus [2293]
2295	Cut	Cut of ditch
2296	Fill	Fill of ditch [2295]
2297	Cut	Cut of ditch
2298	Fill	Fill of ditch [2297]
2299	Cut	Cut of ditch
2300	Fill	Fill of ditch [2299]
2301	Fill	Fill of ditch [2299]
2302	Cut	Cut of ditch
2303	Fill	Fill of ditch [2302]
2304	Fill	Fill of ditch [2302]
2305	Fill	Secondary fill of ditch [2295]
2306	Cut	Linear ditch terminus
2307	Fill	Fill of ditch terminus [2306]
2308	Cut	Linear ditch
2309	Fill	Fill of linear ditch [2308]
2310	Cut	Linear ditch
2311	Fill	Fill of linear ditch [2310]
2312	Cut	Circular pit
2313	Fill	Fill of circular pit [2312]
2314	Cut	Cut of linear ditch
2315	Fill	Fill of ditch [2314]
2316	Cut	Cut of ditch terminus
2317	Fill	Fill of ditch terminus [2316]
2318	Fill	Fill of ditch [2314]
2319	Cut	Cut of ditch
2320	Fill	Fill of ditch [2319]
2321	Cut	Cut of ditch
2322	Fill	Fill of ditch [2321]
2323	Cut	Cut of ditch
2324	Fill	Fill of ditch [2323]
2325	Cut	Cut of ditch
2326	Fill	Fill of ditch [2325]
2327	Cut	Cut of ditch
2328	Fill	Fill of ditch [2327]
2329	Cut	Cut of ditch
2330	Fill	Fill of ditch [2329]
2331	Cut	Cut of ditch
2332	Fill	Fill of ditch [2331]
2333	Deposit	Mid orange/brown damp sandy clay
2334	Cut	Cut of ditch terminus
2335	Fill	Fill of ditch terminus [2234]
2336	Cut	Cut of ditch terminus
2337	Fill	Fill of ditch terminus [2236]
2338	Cut	Linear ditch
2339	Fill	Fill of linear ditch [2238]
2340	Cut	Circular pit
2341	Fill	Fill of pit [2340]
2342	Cut	Truncated pit
2343	Fill	Fill of truncated pit [2342]
2344	Cut	Cut of ditch
2345	Fill	Fill of ditch [2344]

Context	Type	Description
2346	Fill	Upper fill of ditch [2344]
2347	Cut	Cut of ditch terminus
2348	Fill	Fill of ditch terminus [2347]
2349	Cut	Cut of ditch terminus
2350	Fill	Fill of ditch terminus [2349]
2351	Cut	Linear ditch
2352	Fill	Fill of linear ditch [2251]
2353	Fill	Fill of linear ditch [2251]
2354	Cut	Linear ditch
2355	Fill	Fill of linear ditch [2254]
2356	Fill	Fill of linear ditch [2254]
2357	Cut	Linear ditch
2358	Fill	Fill of linear ditch [2257]
2359	Fill	Fill of linear ditch [2257]
2360	Cut	Cut of ditch
2361	Fill	Fill of ditch [2360]
2362	Cut	Circular pit
2363	Fill	Fill of pit [2362]
2364	Cut	Linear ditch
2365	Fill	Fill of linear ditch [2264]
2366	Cut	Cut of ditch
2367	Fill	Fill of ditch [2366]
2368	Cut	Cut of linear ditch
2369	Fill	Fill of ditch [2368]
2370	Cut	Cut of ditch
2371	Fill	Fill of ditch [2370]
2372	Cut	Cut of ditch
2373	Fill	Fill of ditch [2372]
2374	Cut	Cut of ditch
2375	Fill	Fill of ditch [2374]
2376	Cut	Cut of ditch
2377	Fill	Fill of ditch [2376]
2378	Cut	Cut of ditch
2379	Fill	Fill of ditch [2378]
2380	Cut	Cut of ditch
2381	Fill	Fill of ditch [2381]
2382	Fill	Secondary fill of ditch [2372]
2383	**VOID**	
2384	**VOID**	
2385	Deposit	Mid orangish/brown sandy clay
2386	Cut	Cut of ditch terminus
2387	Fill	Fill of ditch [2386]
2388	Fill	Fill of cut [2360]
2389	Cut	Cut of ditch
2390	Fill	Fill of ditch [2389]
2391	Cut	Cut of ditch
2392	Fill	Fill of ditch [2391]
2393	Cut	Cut of ditch
2394	Fill	Fill of ditch [2393]
2395	Cut	Cut of ditch
2396	Fill	Fill of ditch [2395]
2397	Cut	Cut of ditch
2398	Fill	Fill of ditch [2397]

Context	Type	Description
2399	Cut	Cut of slot
2400	Fill	Upper fill of slot [2399]
2401	Fill	Primary fill of slot [2399]
2402	Group	[2257] [2255] [2267]
2403	Group	[2159] [2181] [2267]
2404	Group	[1993] [1995] [2108]
2405	Group	[2039] [2331] [2378] [2205]
2406	Group	[2166] [2170] [2143]
2407	Group	[2408] [2409] Timbers
2408	Wood	Timber pieces
2409	Wood	Wood pearling
2410	Group	Structure 2
2411	Structure	Structural timber of Structure 2
2412	Structure	Roof purlin of Structure 2
2413	Structure	Hearth wood of Structure 2
2414	Deposit	Upper Hearth charcoal of Structure 2
2415	Deposit	Lower Hearth charcoal of Structure 2
2416	Structure	Hearth kindling of Structure 2
2417	Structure	Charred timber of Structure 2
2418	Deposit	Dark blackish brown peat
2419	Deposit	Organic sediment underlying Structure 2 hearth
2420	Deposit	Dark reddish brown peat
2421	Deposit	Thin dark blackish brown peat
2422	Deposit	Band of dark reddish brown fibrous peat
2423	Deposit	Dark blackish brown peat
2424	Deposit	Dark blackish brown peat
2425	Deposit	Dark reddish/brown fibrous peat
2426	Deposit	Mid reddish brown peat with lensing
2427	Deposit	Dark reddish/brown fibrous peat
2428	Deposit	Marl
2429	Deposit	Clay underlying hearth
2430	Cut	Cut of pit
2431	Fill	Fill of pit [2430]
2432	Deposit	Grey brown clay with reed inclusions
2433	Deposit	Grey clay with reed inclusions
2434	Deposit	Brown clay
2435	Deposit	Lower Hearth charcoal of Structure 2
2436	Structure	Charred timber of Structure 2
2437	Deposit	Layer of charcoal
2438	Deposit	Very dark red/brown peat
2439	Deposit	Brown/grey clay
2440	Deposit	Brown/grey silty clay
2441	Deposit	Fine mid-brown clay
2442	Deposit	Fine mid-brown clay
2443	Group	Hedgerow [2096] [2112] [2135] [2152]
2444	Group	[2094] [2120] [2149] [2155]
2445	Group	[2106] [2151]
2446	Group	[2114] [2080]
2447	Group	[2172] [2116]
2448	Group	[2094] [2179]
2449	Group	Linear ditch [2174] [2189]
2450	Group	Long linear ditch running north to south. Containing features [2102], [2129], [2201], [2244], [2314], [2218], [2281], [2299], [2289], [2368]

Context	Type	Description
2451	Group	North to South linear ditch containing features [2321], [2212], [2188], 2327], [2372]
2452	Group	Group containing features [2329], [2185], [2224], [2263], [2195], [2203]. Relationship with pit [2265]
2453	Group	Group containing features [2277], [2293]. No relationship with other features.
2454	Group	Group containing features [2261], [2269]
2455	Group	Group containing features [2172], [2210]
2456	Group	Group containing features [2279], 2291], [2302]
2457	Group	Group containing features [1989], [1991]
2458	Group	Group containing features [2207], [2344], [2205]
2459	Group	Group containing features [2145], [2147]
2460	Group	Linear ditch running east to west. Group containing features [2308], [2310], [2454], [2370], [2376].
2461	Group	Linear ditch running east to west. Group containing features [2306], [2351], [2361], [2366], [2374]
2462	Group	Linear ditch running east to west. Group containing features [2240], 2251], [2271].
2463	Group	Group containing features [2205], 2297], [2331], [2374]
2464		
2465	Cut	Cut of ditch
2466	Cut	Cut of linear
2467	Fill	Fill of linear [2466]
2468	Cut	Cut of ditch
2469	Fill	Fill of ditch [2468]
2470	Cut	Cut of ditch
2471	Fill	Fill of ditch [2470]
2472	Cut	Cut of linear
2473	Fill	Fill of linear [2472]
2474	Cut	Cut of linear
2475	Fill	Fill of linear [2474]
2476	Cut	Cut of linear
2477	Fill	Fill of linear [2476]
2478	Cut	Cut of linear
2479	Fill	Fill of linear [2478]
2480	Cut	Cut of ditch
2481	Fill	Fill of ditch [2480]
2482	Cut	Cut of sub circular pit
2483	Fill	Primary fill of sub circular pit [2482]
2484	Fill	Secondary fill of sub circular pit [2482]
2485	Cut	Cut of linear
2486	Fill	Fill of linear [2485]
2487	Cut	Cut of curvilinear
2488	Fill	Fill of curvilinear [2485]
2489	Cut	Cut of curvilinear
2490	Fill	Fill of curvilinear [2489]
2491	Cut	Cut of sub circular pit
2492	Fill	Secondary fill of [2491]
2493	Fill	Primary fill of [2491]
2494	Fill	Upper fill of [2496]
2495	Fill	Lower fill of [2495]
2496	Cut	Cut of linear ditch. Filled by (2494) and (2495)
2497	Cut	Cut of linear ditch

Context	Type	Description
2498	Fill	Fill of linear ditch [2497]
2499	Fill	Fill of ditch. Filled by [2500]
2500	Cut	Cut of ditch. Filled by (2499)
2501	Cut	Cut of linear. Filled by (2502)
2502	Fill	Fill of linear. Filled by of [2501]
2503	Cut	Cut of linear terminus filled by (2504)
2504	Fill	Fill of linear terminus. Filled of [2503]
2505	Cut	Cut of ditch. Filled by (2506)
2506	Fill	Fill of ditch. Fill of [2505]
2507	Cut	Cut of curvilinear.
2508	Fill	Fill of curvilinear [2507]

APPENDIX II: SPECIALIST REPORT APPENDICES

Palaeoenvironmental Archaeobotany Results

The following tables display the results of bulk sampling from archaeological features:

Sample No.	1	7	2	4	9	5	6
Context No.	1013	1021	1021	1044	1043	1046	1048
Description	Fill of ditch [1012]		Backfill of pit [1020]	Fill of pit/posthole [1043]	Fill of pit	Fill of pit [1045]	Fill of pit [1047]
Flot notes	5% rootlets; 95% indeterminate organic material		90% rootlets, 9% degraded plant material, 1% small (<2mm) indeterminate charcoal fragments	100% rootlets	80% rootlets, 20% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, worm and fly egg cases	100% rootlets	40% rootlets, 40% small (<2mm) charcoal fragments, 20% moderate (2-10mm) charcoal fragments, 5-10 goosefoot (*Chenopodium sp.*) seeds
Sample Volume	40L		40L	5L	30L	30L	15L
Flot Weight	90.1g	5.61g		0.05g	5.78g	0.23g	1.03g
Molluscs			++				
Charred plant macrofossils							
Cereals							
Barley (*Hordeum sp.*) grain					1		
Indet. Cereal grain					3		

Sample No.	7	8	13	14	15	16
Context No.	1050	1042	1070	1076	1094	1098
Description	Fill of probably hedgerow terminus [1050]	Fill of pit [1041]	Rooting	Fill of sheep burial [1075]	Fill of ditch [1093]	Fill of ditch [1097]
Flot notes	70% rootlets, 20% degraded plant material, 10% small (<2mm) indeterminate charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, worm and fly egg cases	30% rootletss, 40% small (<2mm) indeterminate charcoal fragments, 30% moderate (2-10mm) charcoal fragments, 6 goosefoot (*Chenopodium sp.*) seeds	80% rootlets, 20% degraded plant material, 3 uncharred buttercup (*Ranunculus sp.*) seeds	100% rootlets, 1 uncharred elder (*Sambucus nigra*) seed, 2 uncharred bramble (*Rubus sp.*) seeds, 4 goosefoot (*Chenopodium sp.*) seeds, 11 small <10mm) bone fragments	100% rootlets, 30-50 Polygonaceae seeds, 20-30 goosefoot (*Chenopodium sp.*) seeds, fly puparia	90% molluscs, 8% rootlets, 2% (<2mm) charcoal fragments, 1 elder (*Sambucus nigra*) seed
Sample Volume	20L	20L	10L	20L	40L	20L
Flot Weight	1.02g	2.02g	39.05g	18.92	3.98g	13.44g
Molluscs		+	++	+++	+++	+++++

Sample No.	17	18	28	19	20	21
Context No.	1120	1132	1134	1146	1188	1190
Description	Fill of ditch [1119]	Fill of ditch [1130]	Peat within eastern depression/plant field	Fill of ditch [1145]	Fill of pit [1187]	Fill of pit [1187]
Flot notes	92% rootlets, 8% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 2 worm egg cases	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	98% indeterminate organic material, 2% rootlets	90% rootlets, 10% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 1 catchfly (*Silene sp.*) seed	85% rootlets, 15% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 1 catchfly (*Silene sp.*) seed	100% rootlets, 10-20 goosefoot (*Chenopodium sp.*) seeds, 1 catchfly (*Silene sp.*) seed
Sample Volume	20L	40L	40L	20L	20L	20L
Flot Weight	0.75g	1.48g	243.45g	1.78g	2.46g	1.38g
Molluscs						
Charred plant macrofossils						
Cereals						
Indet. Cereal grain					2	

Sample No.	22	25	32	23	27	26
Context No.	1192	1194	1196	1202	1208	1210
Description	Fill of ditch [1191]	Fill of pit [1193]	Fill of ditch [1195]	Fill of ditch [1201]	Fill of pit [1207]	Fill of pit [1209]
Flot notes	100% rootlets, fly puparia	100% rootlets, 3 goosefoot (*Chenopodium sp.*) seeds	95% rootlets; 5% small (<2mm) indeterminate charcoal fragments; 1 medium (8mm) charcoal fragment; 10 goosefoot (Chenopodium) seeds	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	90% rootlets, 10% indeterminate organic material; 3 small (<2cm) pieces of bone	80% rootlets, 15% degraded plant material, 5% small (<2mm) indeterminate chacoal fragments, 50-60 goosefoot (*Chenopodium sp.*) seeds
Sample Volume	30L	10L	40L	20L	3L	40L
Flot Weight	1.90g	0.60g	4.26g	0.71g	48.28g	6.69g
Molluscs						
Charred plant macrofossils						
Cereals						
cf. Naked wheat (*Triticum nudum*)						1

Sample No.	31	33	70	73	77	78
Context No.	1218	1220	1223	1223	1223	1223
Description	Fill of ditch [1217]	Fill of ditch terminus [1219]	Organic fill of wetland basin 2	Organic fill of wetland basin 2	Organic fill of wetland basin 2	Organic fill of wetland basin 2
Flot notes	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments; 2 goosefoot (Chenopodium) seeds	100% rootlets; 6 goosefoot (*Chenopodium sp.*) seeds	5% rootlets; 80% indeterminate organic material; 15% moderate (2-10mm) charcoal fragments	80% indeterminate organic material; 20% degraded plant material	80% indeterminate organic material; 10% rootlets, 10% degraded plant material	80% indeterminate organic material; 10% rootlets, 10% degraded plant material
Sample Volume	40L	8L	5L	Spot sample	Spot sample	Spot sample
Flot Weight	2.84g	3.14g (0.39g charcoal)	103.03g	3.00g	59.67g	22.96g
Molluscs						

Sample No.	34	39	37	38	53	42
Context No.	1225	1228	1230	1232	1234	1234
Description	Fill of ditch terminus [1224]	Fill of possible well [1227]	Fill of pit [1229]	Fill of ditch [1231]	Fill of pit [1229]	Fill of pit [1233]
Flot notes	100% rootlets; 2 goosefoot (*Chenopodium*) seeds	100% rootlets, 3 uncharred goosefoot (*Chenopodium sp.*) seeds	10% rootlets, 25% small (<2mm) charcoal fragments, 35% moderate (2-10mm) charcoal fragments, 30% large (>10mm) charcoal fragments, 30-40 goosefoot (*Chenopodium sp.*) seeds, 1 elder (*Sambucus nigra*) seed, 1 fly puparium	40% rootlets, 40% small (<2mm) charcoal fragments, 20% moderate (2-10mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 2 hemlock (*Conium maculatum*) seeds	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments	15% rootlets, 85% indeterminate organic material
Sample Volume	10L	20L	40L	30L	40L	
Flot Weight	0.42g	1.77g	40.55g	3.50g	3.48g	164.28g
Molluscs			+			

Sample No.	40	41	43	44	45	39
Context No.	1235	1236	1238	1240	1246	1288
Description	Middle fill of possible well [1227]	Lowermost fill of possible well [1227]	Fill of ditch	Fill of ditch (1240)	Fill of pit (1246)	Uppermost fill of possible well [1227]
Flot notes	100% rootlets, 10-20 goosefoot (*Chenopodium sp.*) seeds	100% rootlets	100% rootlets, 5-10 goosefoot (*Chenopodium sp.*) seeds	90% rootlets, 5% degraded plant material, 5% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds	100% rootlets, 10-20 uncharred goosefoot (*Chenopodium sp.*) seeds	100% rootlets; 18 goosefoot (*Chenopodium*) seeds
Sample Volume	20L	20L	20L	20L	40L	20L
Flot Weight	1.61g	1.19g	2.54g	3.37g	5.96g	0.55g
Molluscs						
Charred plant macrofossils						
Cereals						
Indet. Cereal grain			1		1	

Sample No.	45	46	48	47	50	52
Context No.	1246	1248	1275	1277	1291	1299
Description	Fill of pit [1246]	Fill of pit [1247]	Fill of pit [1274]	Fill of pit [1276]	Fill of ditch [1290]	Fill of pit [1298]
Flot notes	100% rootlets; 22 goosefoot (*Chenopodium*) seeds	98% rootlets; 2% small (<2mm) charcoal fragments; 20-30 goosefoot (*Chenopodium*) seeds	50% rootlets; 50% small (<2mm) charcoal fragments; 3 dandelion (*Taraxacum officinale*) seeds	30% rootlets; 70% small (<2mm) charcoal fragments	90% rootlets, 7% small (<2mm) charcoal fragments, 3% moderate (2-10 mm) charcoal fragments, 10-20 Polygonaceae seeds, 20-30 goosefoot (*Chenopodium sp.*) seeds	98% rootlets; 2% small (<2mm) charcoal fragments; 13 goosefoot (*Chenopodium*) seeds; 1 domesticated apple (*Malus domestica*) seed; 1 rabbit dropping
Sample Volume	40L	40L	20L	40L	40L	40L
Flot Weight	2.12g	10.83g	9.51g	22.45g	2.34g	2.71g
Molluscs		+				
Charred plant macrofossils						
Cereals						
Indet. Cereal grain					3	

Sample No.	55	51	56	62	63	64
Context No.	1301	1307	1309	1311	1320	1329
Description	Fill of linear [1300]	Fill of enclosure ditch [1306]	Fill of linear [1300]	Fill of terminus [1310]	Fill of enclosure ditch [1319]	Fill of terminus [1328]
Flot notes	95% rootlets; 5% small indeterminate charcoal fragments; 14 goosefoot (Chenopodium) seeds; 8 stinging nettle (Urtica dioica) seeds	80% rootlets; 20% small (<2mm) charcoal fragments; 20-30 goosefoot (*Chenopodium*) seeds	98% rootlets; 2% small indeterminate charcoal fragments; 6 goosefoot (Chenopodium) seeds	95% rootlets; 5% small indeterminate charcoal fragments; 16 goosefoot (Chenopodium) seeds; 10 stinging nettle (*Urtica dioica*) seeds	70% rootlets; 30% small (<2mm) charcoal fragments; 40-60 stinging nettle (*Urtica dioca*) seeds	75% rootlets; 25% small indeterminate charcoal fragments; 12 goosefoot (Chenopodium) seeds; 4 stinging nettle (*Urtica dioica*) seeds; 8 dock (*Rumex sp.*) seeds
Sample Volume	40L	40L	40L	30L	40L	20L
Flot Weight	4.81g		2.93g	4.84g	9.56g	1.45g
Molluscs						
Charred plant macrofossils						
Cereals						
cf. Spelt wheat (*Triticum spelta*) grain	2					
Barley (*Hordeum sp.*) grain						1
cf. Barley (*Hordeum sp.*) grain	1					
Indet. Chaff						
Indet. Cereal grain		2			2	4

Sample No.	65	65	67	66	74
Context No.	1331	1341	1345	1347	1358
Description		Fill of treebole in WB2	Fill of pit [1344]	Fill of trebole	Fill surrounding fallen tree
Flot notes		90% indeterminate organic material, 10% rootlets	20% rootlets, 80% indeterminate organic material	90% indeterminate organic material, 5% moderate (2-10mm) charcoal fragments, 2% large (>10mm) charcoal fragments, 3% rootlets	10% rootlets; 90% indeterminate organic material
Sample Volume		40L	40L	40L	20L
Flot Weight	163.25g	47.71g	366.68g	211.25g	196.41g
Molluscs					+

Sample No.	79	81	81	82	89
Context No.	1361	1363	1369	1371	1373
Description	Fill of pit [1360]	Fill of ditch [1362]	Fill of ditch [1362]	Fill of ditch [1370]	Wetland Basin 2 pit
Flot notes	10% rootlets, 5% uncharred wood fragments, 45% small (<2mm) charcoal fragments, 30% medium (2-10mm) charcoal fragments, 10% large (>10mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 2 catchfly (*Silene sp*) seeds, 10-20 Polygonaceae seeds	100% rootlets	98% rootlets; 4 goosefoot (*Chenopodium*) seeds; 5 common lime (*Tilia x europaea*) seeds and 3 pollinated lime flowers	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments; 3 stinging nettle (Urtica dioca) seeds; 1 goosefoot (*Chenopodium*) seed	60% indeterminate organic material; 29% rootlets; 6% small (<2mm) charcoal fragments; 4% medium (2-10mm) charcoal fragments
Sample Volume	20L	40L	40L	20L	40L
Flot Weight	37.94g	18.07g	3.91g	5.60g	240.54g
Molluscs					
Charred plant macrofossils					
Cereals					
Naked wheat/spelt (*Triticum nudum sp./spelta*) malted grain	3				
Rye (*Secale cereale)*	1				
Oats (*Avena sp.*) grain	38				
Oats (*Avena sativa*) grain within florets	1				
Oats (*Avena sativa*) florets	1				
Barley (*Hordeum sp.*) grain	86				
Indet. Rachis	2				

Sample No.	90	83	88	91	92	84
Context No.	1375	1377	1383	1387	1389	1391
Description	Wetland Basin 2 pit	Fill of ditch [1376]	Fill of ditch [1382]	Fill of pit [1386]	Fill of pit [1388]	Fill of terminus [1391]
Flot notes	60% indeterminate organic material; 37% rootlets; 1% small (<2mm) charcoal fragments; 2% medium (2-10mm) charcoal fragments	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments; 4 stinging nettle (Urtica dioca) seeds; 8 catchfly (*Silene sp.*) seeds	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments; 3 goosefoot (*Chenopodium)*seeds	60% indeterminate indeterminate organic material; 39% rootlets; 1% small (<2mm; mostly roundwood) charcoal fragments	5% rootlets; 95% indeterminate organic material	98% rootlets; 2% small (<2mm) indeterminate charcoal fragments; 20-30 Polygonaceae seeds
Sample Volume	40L	40L	10L	40L	40L	20L
Flot Weight	211.15g	5.11g	1.00g	613.46g	230.64g	8.63g
Molluscs		+			+	
Charred plant macrofossils						
Cereals						
Indet. Cereal grain		3				

Sample No.	85	87	196	197	198	199
Context No.	1399	1403	1406/SPIT1	1406/SPIT2	1406/SPIT3	1406/SPIT4
Description	Fill of possible treebole	Fill of possible treebole	Spit 1 of WB3	Spit 2 of WB3	Spit 3 of WB3	Spit 4 of WB3
Flot notes	10% rootlets, 50% degraded plant material, 40% indeterminate organic material, 5 bramble (*Rubus sp.*) seeds	95% indeterminate organic material, 3% degraded plant material, 2% rootlets	50% rootlets, 35% small (<2mm) charcoal fragments, 15% moderate (2-10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 30-40 Polygonaceae seeds	95% rootlets, 5% moderate (2-10mm) to large (>10mm) charcoal fragments, 10-20 uncharred buttercup (*Ranunculus sp.*) seeds, 60-70 uncharred sedge (*Carex sp.*) seeds, 20-30 uncharred goosefoot (*Chenopodium sp.*) seeds	50% rootlets, 50% small (<2mm), moderate (2-10mm) and large (>10mm) charcoal fragments, 60-70 uncharred goosefoot (*Ranunculus sp.*) seeds, 60-70 uncharred sedge (*Carex sp.*) seeds, 1 uncharred elder (*Sambucus nigra*) seed	50% rootlets, 20% degraded plant material, 20% small (<2mm) charcoal fragments, 10% moderate (2-10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds
Sample Volume	40L	10L	20L	20L	20L	20L
Flot Weight	426.34g	150.15g	7.8g	30.58g	30.69g	26.01
Molluscs	++	++++				
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain			5			
Naked wheat (*Triticum nudum*)				2	1	
Oat/Rye (*Avena sp./Secale cereale)*					1	
Barley (*Hordeum sp.*) grain			4			
Indet. Rachis					1	
Indet. Cereal grain			14	15	2	

Sample No.	93	94	95	96	103	97
Context No.	1409	1409	1427	1436	1438	1459
Description	Fill of ditch [1382]	Fill of ditch [1382]	Deposit ?	Overgrown pit	Fill of pit [1437]	Fill of terminus [1458]
Flot notes	100% rootlets and modern cereal chaff debris	100% rootlets	90% rootlets; 10% small (<2mm) charcoal fragments; 20-30 dock (*Rumex sp.*) seeds; 8 goosefoot (*Chenopodium*) seeds; 3 dandelion (*Taraxacum officinale*) seeds; 8 rabbit droppings	80% rootlets; 20% small (<2mm) charcoal fragments; 1 large (>10mm) charcoal fragment; 20-30 goosefoot (*Chenopodium*) seeds; 1 catchfly (Silene sp.) seed; 2 dandelion (*Taraxacum officinale)* seeds; 3 pale persicaria (*Persicaria lapathifolia*); 1 black nightshade (*Solanum nigrum*) seed	98% rootlets; 3 common lime (*Tilia x europaea*) seeds and 1 pollinated lime flowers	80% rootlets; 20% small (<2mm) charcoal fragments; 12 goosefoot (*Chenopodium*) seeds; 4 catchfly (Silene sp.) seeds; 3 dandelion (*Taraxacum officinale)* seeds; 2 rabbit droppings
Sample Volume	20L	40L	15L	5L	40L	10L
Flot Weight	9.78g	1.79g	21.41g	18.42g	4.28g	22.58g
Molluscs						+++
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain		17	5	2		
Wheat (*Triticum sp.*) rachis		1				
Rye (*Secale cereale)*		2	7	10		
cf. Rye (*Secale cereale*) grain						1
Oats (*Avena sp.*) grain		88				
Barley (*Hordeum sp.*) grain		33				5
cf. Barley (*Hordeum sp.*) grain				1		1
Indet. Chaff		1				
Indet. Cereal grain		42		15		11

Sample No.	86	98	100	99	102	101
Context No.	1460	1461	1463	1465	1467	1470
Description	Fill of possible treebole	Fill of ditch terminus [1460]	Fill of ditch [1462]	Fill of ditch [1464]	Primary fill of ditch [1466]	Fill of ditch [1469]
Flot notes	100% molluscs	70% rootlets; 12 dock (*Rumex sp.*) seeds; 20-30 goosefoot (*Chenopodium*) seeds; 2 belladona (*Atropa belladonna*) seeds	80% rootlets; 20% small (<2mm) charcoal fragments; 8 goosefoot (*Chenopodium*) seeds; 2 rabbit droppings	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 5-10 Polygonaceae seeds	55% rootlets, 25% small (<2mm) charcoal fragments, 20% moderate (2-10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	85% rootlets, 10% small (<2mm) charcoal fragments, 5% moderate (2-10mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 20-30 Polygonaceae seeds, 11 catchfly (*Silene sp.*) seeds, fly puparia
Sample Volume	40L	10L	40L	20L	10L	40L
Flot Weight	0.05g	2.95g	9.27g	4.83g	5.52g	13.77g
Molluscs		+				++
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain		8				5
Naked wheat (*Triticum nudum*)					4	
Rye (*Secale cereale)*		8			4	
cf. Rye (*Secale cereale*) grain			2			1
Oats (*Avena sp.*) grain					27	5
Barley (*Hordeum sp.*) grain			2		4	
cf. Barley (*Hordeum sp.*) grain			1			
Indet. Cereal grain		7			50-100	18

Sample No.	104	105	106	111	112
Context No.	1479	1489	1491	1494	1496
Description	Lower fill of pit [1477]	Fill of rooting [1488]	Fill of treebole [1490]	Fill of rooting [1493]	Fill of treebole [1495]
Flot notes	100% rootlets	30% rootlets, 70% indeterminate organic material	40% rootlets, 30% degraded plant material, 30% indeterminate organic material	40% rootlets, 30% degraded plant material, 30% indeterminate organic material	10% rootlets; 90% indeterminate organic material
Sample Volume	30L	10L	10L	10L	10L
Flot Weight	1.16g	26.07g	148.92g	58.51g	61.96g
Molluscs		+++++	+++	+++	+++

Sample No.	107	108	113	109	110	117
Context No.	1498	1500	1502	1504	1506	1508
Description	Fill of rooting [1497]	Fill of rooting [1499]	Fill of treebole [1501]	Fill of treebole [1503]	Fill of treebole	Fill of treebole [1507]
Flot notes	60% indeterminate organic material, 40% rootlets	70% indeterminate organic material, 25% rootlets, 5% twigs, 1 uncharred catchfly (*Silene sp.*) seed	50% rootlets, 20% degraded plant material, 30% indeterminate organic material	40% rootlets, 10% ligneous material, 50% indeterminate organic material	50% indeterminate organic material, 10% rootlets, 40% degraded plant material	50% rootlets, 50% indeterminate organic material
Sample Volume	5L	5L	10L	10L	5L	5L
Flot Weight	14.71g	3.47g	70.62g	45.91g	30.52g	9g
Molluscs	+++++	++++	++		++++	+++++

Sample No.	118	116	114	115	119
Context No.	1510	1512	1514	1516	1518
Description	Fill of treebole [1509]	Fill of treebole [1511]	Fill of treebole [1513]	Fill of treebole [1515]	Fill of stakehole [1517]
Flot notes	40% rootlets; 60% indeterminate organic material; 1 uncharred grass (Poaceae) seed	40% rootlets, 30% degraded plant material, 30% indeterminate organic material, 5-10 uncharred buttercup (*Ranunculus sp.*) seeds	50% rootlets, 25% degraded plant material, 25% indeterminate organic material, 3 goosefoot (*Chenopodium sp.*) seeds, 40-50 butercup *(Ranunculus sp.*) seed	5% rootlets, 95% indeterminate organic material	40% rootlets, 60% indeterminate organic material
Sample Volume	5L	5L	10L	10L	20L
Flot Weight	41.11g	38.32g	45.02g		6.31g
Molluscs	+++++	+++++	+++		+++

Sample No.	122	120	121	126	125	123
Context No.	1528	1530	1532	1534	1536	1538
Description	Fill of treebole	Fill of treebole [1529]	Fill of treebole [1531]	Fill of rooting	Fill of Rooting	Fill of treebole
Flot notes	70% indeterminate organic material, 20% degraded plant material, 10% rootlets	50% rootlets, 30% degraded plant material, 20% indeterminate organic material, 6 goosefoot (*Chenopodium sp.*) seeds, 1 grass (Poaceae) seed, 1 sedge (*Carex sp.*) seed	85% indeterminate organic material, 10% degraded plant meterial, 5% rootlets	40% rootlets; 60% indeterminate organic material; 30-40 goosefoot (Chenopodium) seeds	20% rootlets, 80% indeterminate organic material	15% rootlets; 85% indeterminate organic material
Sample Volume	20L	20L	20L	5L	40L	20L
Flot Weight	57.09g	70.93g	72.5g	37.68g	100.42g	162.68g
Molluscs		+++++	+++	+++++	+++++	+++++

Sample No.	127	128	129	130	131	136
Context No.	1542	1544	1546	1548	1550	1566
Description	Fill of rooting	Fill of treebole	Fill of treebole	Fill of treebole	Fill of rooting	Fill of posthole [1565]
Flot notes	40% rootlets, 40% indeterminate organic material, 20% degraded plant material	40% rootlets, 30% degraded plant material, 30% indeterminate organic material, 10-20 buttercup (*Ranunculus sp.*)	10% rootlets; 90% indeterminate organic material	40% rootlets, 60% indeterminate organic material, 4 buttercup (*Ranunculus sp.*) seeds, 1 catchfly (*Silene sp.*) seed	50% rootlets, 50% indeterminate organic material, 1 uncharred grass (Poaceae) seed, 1 uncharred birch (*Betula sp.*) seed	80% rootlets, 20% indeterminate organic material, 15-20 uncharred buttercup (*Ranunculus sp.*) seed
Sample Volume	20L	20L	10L	10L	5L	5L
Flot Weight	38.58g	181.49g	510.06g	122.06g	11.69g	7.18g
Molluscs	++	++	+++++	++	++++	+++
Charred plant macrofossils						
Cereals						
cf. Naked wheat (*Triticum nudum*)		2				

Sample No.	137	138	132	133	134	135
Context No.	1568	1570	1574	1576	1578	1582
Description	Fill of posthole [1567]	Fill of posthole [1569]	Fill of treebole	Fill of treebole	Fill of treebole	Fill of treebole
Flot notes	80% indeterminate organic material, 20% rootlets, 1 uncharred buttercup (*Ranunculus sp.*) seed	40% degraded plant material, 40% indeterminate organic material, 20% rootlets, 5-10 buttercup (*Ranunculus sp.*) seed	10% rootlets; 90% indeterminate organic material	15% rootlets, 15% degraded plant material, 70% indeterminate organic material	20% rootlets, 30% degraded plant material, 50% indeterminate organic material	40% rootlets, 40% degraded plant material, 20% indeterminate organic material, 70-80 uncharred buttercup (*Ranunculus sp.*) seeds
Sample Volume	5L	5L	5L	10L	10L	20L
Flot Weight	9.15g	7.84g	361.16g	519.75g	98.26g	15.27g
Molluscs	+	+	+		+++	

Sample No.	140	141	139	142	147	155
Context No.	1586	1588	1589	1590	1593/1597	1601
Description	Fill of rooting area	Fill of treebole	Fill of rooting [1583]	Fill of treebole / possible feature	Fill of treebole	Fill of posthole [1600]
Flot notes	40% rootlets; 60% degraded plant material, 100+ buttercup (*Ranunculus sp.*) seeds	40% rootlets; 60% indeterminate organic material; 30-40 goosefoot (Chenopodium) seeds	15% rootlets, 85% indeterminate organic material, 1 rabbit dropping, 1 dandelion (*Taraxacum officinale*) seed	50% rootlets, 50% indeterminate organic material, 1 uncharred elder (*Sambucus nigra*) seed	60% rootlets, 40% degraded plant material, 200+ buttercup (*Ranunculus sp.*) seeds	70% rootlets, 30% indeterminate organic material, 3 uncharred buttercup (*Ranunculus sp.*) seeds
Sample Volume	10L	30L	20L	30L	10L	10L
Flot Weight	26.55g	28.87g	156.13g	25.96g	72.73g	3.57g
Molluscs	++	+++++	+++++	+++++	+	++++

Sample No.	156	157	158	156	160	161
Context No.	1603	1605	1607	1609	1611	1613
Description	Fill of posthole [1602]	Fill of posthole [1604]	Fill of posthole [1606]	Fill of posthole [1608]	Fill of possible posthole	Fill of possible posthole
Flot notes	60% rootlets, 40% indeterminate organic material	70% rootlets, 30% indeterminate organic material, 20-30 uncharred buttercup (*Ranunculus sp.*) seeds	70% rootlets, 28% indeterminate organic material, 2% small (>2mm) to moderate (2-10mm) charcoal fragments, 1 uncharred thistle (*Cirsium arvense*) seed	50% rootlets, 20% degraded plant material, 30% indeterminate organic material, 5-10 uncharred buttercup (*Ranunculus sp.*) seeds	58% degraded plant material, 40% rootlets, 2% indeterminate organic material, 80-100 buttercup (*Ranunculus sp.*) seeds	100% rootlets
Sample Volume	10L	10L	10L	10L	10L	10L
Flot Weight	4.22g	2.12g	16.57g	3.73g	13.43g	2.13g
Molluscs	+++	+++			++++	++

Sample No.	162	146	148	149	150	171	152
Context No.	1615	1617	1619	1621	1623	1625	1627
Description	Fill of possible pit	Fill of posthole [1616]	Fill of possible posthole	Fill of possible posthole	Fill of possible posthole	Fill of pit [1667]	Fill of possible pit
Flot notes	35% rootlets, 63% degraded plant material, 2% indeterminate organic material, 100+ buttercup (*Ranunculus sp.*) seeds	40% rootlets, 60% degraded plant material, 100+ buttercup (*Ranunculus sp.*) seeds	40% rootlets, 60% degraded plant material, 100+ buttercup (*Ranunculus sp.*) seeds	45% rootlets, 55% degraded plant material, 100+ buttercup (*Ranunculus sp.*) seeds	45% rootlets, 55% degraded plant material, 80-100 buttercup (*Ranunculus sp.*) seeds	50% rootlets; 45% indeterminate organic material; 5% small (<2mm) charcoal fragments; 22 goosefoot (*Chenopodium*) seeds; 2 catchfly (*Silene sp.*) seeds	40% rootlets, 60% degraded plant material, 100+ buttercup (*Ranunculus sp.*) seeds
Sample Volume	20L	10L	10L	10L	10L	20L	30L
Flot Weight	13.75g	3.05g	11.14g	5.18g	38.39g	28.11g	14.96g
Molluscs	++++	++	++++	+++	++	++++	+++

Sample No.	153	154	163	164	165	166
Context No.	1629	1631	1641	1646	1649	1651
Description	Fill of possible posthole	Fill of possible posthole	Fill of possible posthole	Fill of ditch slot	Fill of ditch terminus	Fill of possible pit
Flot notes	100% rootlets, 50-60 uncharred buttercup (*Ranunculus sp.*) seeds	40% indeterminate organic material, 40% degraded plant material, 20% rootlets, 100+ buttercup (*Ranunculus sp.*) seeds	100% rootlets, 100+ buttercup (*Ranunculus sp.*) seeds, 1 goosefoot (*Chenopodium sp.*) seed	70% rootlets, 30% small (<2mm), moderate (2-10mm) and large (>10mm) charcoal fragments, 5-10 uncharred goosefoot (*Chenopodium sp.*) seeds	90% rootlets, 10% small (<2mm) charcoal fragments, fly puparia	60% rootlets, 30% small (<2mm) charcoal fragments, 10% moderate (2-10mm) charcoal fragments
Sample Volume	30L	10L	5L	40L	40L	20L
Flot Weight	3.89g	26.30g	12.86g	4.05g	4.73g	8.14g
Molluscs	+++	++	+++			
Charred plant macrofossils						
Cereals						
Naked wheat (*Triticum nudum*)						9
Rye (*Secale cereale)*						2
Oats (*Avena sp.*) grain						11
Oat/Rye (*Avena sp./Secale cereale)*				2		
Barley (*Hordeum sp.*) grain					1	6
Multi-rowed Barley (*Hordeum sp.*) grain						1
Indet. Cereal grain				2	6	36

Sample No.	167	168	171	169	170	172
Context No.	1656	1660	1668	1678	1681	1683
Description	Fill of ditch [1655]	Fill of pit [1659]	Fill of ditch [1667]	Fill of ditch terminus [1677]	Fill of ditch terminus [1680]	Fill of ditch terminus [1682]
Flot notes	80% rootlets; 20% small (<2mm) charcoal fragments; 12 goosefoot (*Chenopodium*) seeds; 1 dandelion (*Taraxacum officinale)* seeds*;* 1 elderberry (*Sambucus nigra*) seed	90% rootlets, 10% (<2mm) charcoal fragments; 10-20 goosefoot (*Chenopodium sp.*) seeds	95% rootlets, 5% small (<2mm) charcoal fragments	70% rootlets; 5 dock (*Rumex sp.*) seeds; 6 stinging nettle (*Urtica dioca*) seeds; 2 hemlock (*Conium maculatum*) seeds; 3 black nightshade (*Solanum nigrum*) seeds	100% rootlets	100% rootlets
Sample Volume	20L	10L	40L	20L	10L	10L
Flot Weight	11.25g	4.79g	6.24g	15.04g	8.16g	7.49g
Molluscs		+		+++		
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain	6		1	6		
Naked wheat (*Triticum nudum*)					1	
Rye (*Secale cereale)*				10		
cf. Rye (*Secale cereale*) grain	2					
cf. Oats (*Avena sp.*)			1			
Oat/Rye (*Avena sp./Secale cereale)*					1	
Barley (*Hordeum sp.*) grain			2	7	2	
cf. Barley (*Hordeum sp.*) grain					3	1
Indet. Cereal grain	8	3	13	4	42	4

Sample No.	178	173	174	175	176	177
Context No.	1692	1696	1698	1705	1709	1713
Description	Fill of ditch [1691]	Fill of ditch [1695]	Fill of pit [1697]	Fill of pit [1703]	Fill of pit [1708]	Fill of pit [1712]
Flot notes	80% rootlets; 30-50 dock (*Rumex sp.*) seeds; 5 stinging nettle (*Urtica dioca*) seeds	100% rootlets, 10-20 goosefoot (*Chenopodium sp.*) seeds, 3 buttercup (*Ranunculus sp.*) seeds, 1 2mm bone fragment	95% rootlets, 5% small (<2mm) charcoal fragments, 5-10 goosefoot (*Chenopodium sp.*) seeds, 1 catchfly (*Silene sp.*) seed	80% indet. charred cereal grains, 20% rootlets, 20-30 goosefoot (*Chenopodium sp.*) seeds, 5-10 catchfly (*Silene sp.*) seeds, 10-20 Polygonaceae seeds	80% rootlets; 20% small (<2mm) charcoal fragments; 8 goosefoot (*Chenopodium*) seeds; 5 dandelion (*Taraxacum officinale)* seeds*;* 2 elderberry (*Sambucus nigra*) seeds; 2 blackberry (*Rubus* sp.) seeds; 4 dock *(Rumex* sp.) seeds	5% rootlets, 40% small (<2mm) charcoal fragments, 35% moderate (2-10mm) charcoal fragment, 20% large (>10mm) charcoal fragments,
Sample Volume	40L	20L	30L	30L	20L	20L
Flot Weight	10.29g	5.84g	2.62g	9.09g	20.03g	37.78g and 9.38g (Charcoal)
Molluscs		++				
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain	2			61	8	
Naked wheat/spelt (*Triticum nudum sp./spelta*) malted grain				11		
cf. Naked wheat (*Triticum nudum*)						1
Rye (*Secale cereale)*				13	2	
cf. Rye (*Secale cereale*) grain	1					
Oats (*Avena sp.*) grain				42		
Barley (*Hordeum sp.*) grain		3		86	13	
cf. Barley (*Hordeum sp.*) grain		2				
Indet. Cereal grain	1	17		80% of total flot	16	2

Sample No.	150	180	181	193	182	183
Context No.	1717	1717	1729	1737	1752	1753
Description		Fill of poss. Posthole	Fill of ditch [1728]	Fill of ditch [1736]	Fill of ditch [1751]	Fill of ditch [1754]
Flot notes		70% rootlets; 20% small (<2mm) charcoal fragments; 10% medium (2-10mm) charcoal fragments; 18 dock (*Rumex sp.*) seeds; 5 knotweed (*Persicaria sp.*) seeds; 7 goosefoot (*Chenopodium*) seeds	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, 2 catchfly (*Silene sp.*) seeds	85% rootlets, 15% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	60% rootlets, 30% small (<2mm) charcoal fragments, 10% (2-10mm) charcoal fragments, 10-20 Polygonaceae seeds	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, 2 catchfly (*Silene sp.*) seeds
Sample Volume		20L	20L	20L	10L	30L
Flot Weight	5.56g	6.3g	3.44g	8.11g	2.57g	8.05g
Molluscs						
Charred plant macrofossils						
Cereals						
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain		6				
Naked wheat (*Triticum nudum*)			1			1
cf. Naked wheat (*Triticum nudum*)				29		
Rye (*Secale cereale)*		1				
Oats (*Avena sp.*) grain			1	10	1	2
Barley (*Hordeum sp.*) grain		1		4	1	2
Indet. Cereal grain		1	3	63	8	22

Sample No.	184	186	187	188
Context No.	1756	1762	1797	1802
Description	Fill of ditch [1755]	Layer above wall [1735]	Fill of ditch corner slot [1796]	Fill of ditch [1801]
Flot notes	95% rootlets, 5% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, 2 catchfly (*Silene sp.*) seeds	80% rootlets; 20% small (<2mm) charcoal fragments; 18 goosefoot (*Chenopodium*) seeds; 5 catchfly (*Silene sp.*) seeds; 10-15 rabbit droppings	5% rootlets, 80% indet. Charred cereal grains, 5% small (<2mm) charcoal fragments, 1 large (>10mm) charcoal fragments, 10% indet. Charred cereal straw fragments, 20-30 uncharred goosefoot (*Chenopodium sp.*) seeds, 20-30 catchfly (*Silene sp.*) seeds, 10-20 charred oat (*Avena sp.*) awn fragments	60% rootlets; 20% small (<2mm) charcoal fragments; 20% large (>10mm) charcoal fragments; 22; 3 dandelion (*Taraxacum officinale)* seeds
Sample Volume	10L	20L	40L	20L
Flot Weight	1.10g	7.04g	50.2g	21.20g (and 1.87g charcoal)
Molluscs				
Charred plant macrofossils				
Cereals				
Naked wheat/spelt (*Triticum nudum sp./spelta*) malted grain			10	16
Bread wheat (*Triticum aestivum*) rachis			20	
Naked wheat/Barley (*Triticum nudum/Hordeum sp.*) grain			61	
Rye (*Secale cereale)*				29
cf. Rye (*Secale cereale*) grain		1	3	
Oats (*Avena sativa*) grain			405	
Oats (*Avena sativa*) grain within florets			41	
Oats (*Avena sativa*) florets			24	
Barley (*Hordeum sp.*) grain		1 +	795 (59 glumed)	18
Barley (*Hordeum sp.*) malted grain			2	
Lax-eared barley rachis segments (*Hordeum vulgare*)			11	
Indet. Cereal grain	8	1	80% of total flot	32

Sample No.	189	190	192	194	195
Context No.	1806	1813	1833	1841	1851
Description	Fill of ditch [1805]	Fill of ditch [1812]	Cut of pit [1832]	Fill of ditch terminus [1840]	Fill of ditch [1850]
Flot notes	60% rootlets; 20% small (<2mm) charcoal fragments; 20% medium (2-10mm) charcoal fragments; 30-40 goosefoot (*Chenopodium*) seeds; 4 catchfly (*Silene sp.*) seeds; 2 elderberry (*Sambucus nigra*) seeds	100% rootlets	5% rootlets, 5% large (>10mm) charcoal fragments, 6% small (<2mm) charcoal fragments, 14% moderate (2-10mm) charcoal fragments, 70% indet. Charred cereal grains, 1-20 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	50% rootlets, 50% small (<2mm), moderate (2-10mm) and large (>10mm) charcoal fragments, 20-30 uncharred goosefood (*Chenopodium sp.*) seeds, 5-10 uncharred buttercup (*Ranunculus sp.*) seeds, 2 uncharred sedge (*Carex sp.*) seeds
Sample Volume	40L	10L	20L	10L	10L
Flot Weight		1.60g	55.78g and 8.32g (charcoal)	2.76g	14.95g
Molluscs			++		
Charred plant macrofossils					
Cereals					
Naked wheat/spelt (*Triticum nudum sp./spelta*) grain			477		
Naked wheat/spelt (*Triticum nudum sp./spelta*) malted grain			93		
Naked wheat (*Triticum nudum*)					2
Rye (*Secale cereale)*			58		2
Oats (*Avena sp.*) grain				7	53
Oats (*Avena sativa*) grain			151		
Oats (*Avena sativa*) grain within florets			39		
Oats (*Avena sativa*) florets			20		
Barley (*Hordeum sp.*) grain			79 (33 glumed)	2	7
Indet. Culm internodes			3		
Indet. Cereal grain	>100	5	70% of total flot	22	>100

Sample No.	207	208	209	210	211	212
Context No.	1866	1892	1899	1901	1903	1905
Description	Upper fill of wetland basin 1a	Fill of pit [1891]	Fill of pit [1898]	Fill of pit [1900]	Fill of natural feature [1902]	Fill of small pit [1904]
Flot notes	50% degraded plant material, 10% rootlets, 34% indeterminate organic material, 2% small (<2mm) indeterminate charcoal fragments, 3% moderate (2-10mm) charcoal fragments, 1% large (>10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	40% rootlets, 40% indeterminate organic material, 15% small (<2mm) indeterminate charcoal fragments, 5% moderate (2-10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds	60% indeterminate organic material, 40% rootlets, 1 uncharred goosefoot (*Chenopodium sp.*) seed	60% indeterminate organic material, 40% rootlets,	60% indeterminate organic material, 40% rootlets, 5 uncharred goosefoot (*Chenopodium sp.*) seeds	40% rootlets, 40% degraded plant material, 20% indeterminate organic material
Sample Volume	Spot sample	30L	20L	10L	20L	10L
Flot Weight	45.04g	70.26g	12.69g	2.35g	20.68g	13.21g
Molluscs	+	++			+	
Charred plant macrofossils						
Cereals						
Naked wheat (*Triticum nudum*)					5	
cf. Naked wheat (*Triticum nudum*)					4	
Indet. Cereal grain					4	

Sample No.	213	214	215	221	220	218
Context No.	1948	1950	1957	2031	2038	2061
Description	Fill of posthole [1947]	Fill of posthole [1949]	Fill of posthole [1956]	Fill of pit [2030]	Fill of ditch [2037]	Fill of ditch
Flot notes	80% rootlets, 20% small (<2mm) charcoal fragments, 1 elder (*Sambucus nigra*) seeds, 5-10 goosefoot (*Chenopodium sp.*) seeds	95% rootlets, 5% small (<2mm) charcoal fragments, 5-10 goosefoot (*Chenopodium sp.*) seeds	100% rootlets, 5-10 goosefoot (*Chenopodium sp.*) seeds	49% rootlets, 20% degraded plant material, 30% indeterminate organic material, 5% small (2mm) charcoal fragments, 5% moderate (2-10mm) charcoal fragments, 100+ goosefoot (*Chenopodium sp.*) seeds, 1 bramble (*Rubus sp.*) seed, 10-20 elder (*Sambucus nigra*) seeds	96% indeterminate organic material, 4% rootlets	90% molluscs, 8% rootlets, 2% small (<2mm) charcoal fragments, 5 Polygonaceae seeds, 1 elder (*Sambucus nigra*) seed, 1 bramble (*Rubus sp.*) seed,, 13 goosefoot (*Chenopodium sp.*) seeds, 2 fly puparia
Sample Volume	10L	10L	10L	40L	40L	30L
Flot Weight	1.47g	0.58g	1.51g	53.74g	67.69g	20.99g
Molluscs				++++	++	
Charred plant macrofossils						
Cereals						
Indet. Cereal grain	1					1

Sample No.	219	219	222	225	223	226
Context No.	2079	2097	2105	2125	2128	2132
Description		Fill of ditch [2078]	Fill of pit/posthole [2104]	Sample from possible cobbled surface	Fill of pit/posthole [2127]	Fill of pit [2131]
Flot notes		80% molluscs, 10% rootlets, 2% indeterminate organic material, 2% small (<2mm) charcoal fragments, 1% moderate (2-10mm) charcoal fragments, 12 goosefoot (*Chenopodium sp.*) seeds, 2 elder (*Sambucus nigra*) seeds	95% rootlets, 5% (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, 1 pale persicaria (*Persicaria sp.*) seed	100% rootlets, 30-40 goosefoot (*Chenopodium sp.*) seeds, 50-60 Polygonaceae seeds	95% rootlets, 5% small (<2mm) charcoal fragments, 10-20 Polygonaceae seeds, 20-30 goosefoot (*Chenopodium sp.*) seeds	90% rootlets, 7% small (<2mm) charcoal fragments, 3% moderate (2-10mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds
Sample Volume		40L	10L	Spot sample	10L	40L
Flot Weight	28.91g	34.05g	2.24g	26.05g	6.69g	4.57g
Molluscs			+	+++	+	++
Charred plant macrofossils						
Cereals						
Oats (*Avena sp.*) grain					1	
Indet. Cereal grain		1			1	

Sample No.	224	228	227	229	230	231
Context No.	2134	2196	2198	2208	2232	2250
Description	Fill of pit [2133]	Fill of enclosure ditch terminus [2195]	Fill of enclosure ditch [2197]	Fill of ditch [2207]	Fill of terminus [2231]	Animal grave
Flot notes	100% rootlets, 5-10 elder (*Sambucus nirgra*) seeds, 20-30 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, very small (<2mm) bone fragments	90% rootlets, 10% small (<2mm) charcoal fragments, 10-20 goosefoot (*Chenopodium sp.*) seeds, 30-40 Polygonaceae seeds	94% rootlets, 4% small (<2mm) charcoal fragments, 2% moderate (2-10mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 1 elder (*Sambucus nigra*) seed	85% rootlets, 5% small (<2mm) charcoal fragments, 3% moderate (2-10mm) charcoal fragments, 2% large (>10mm) charcoal fragments, 5% indeterminate minerogenic matter	85% rootlets, 10% small (<2mm) charcoal fragments, 5% moderate (2-10mm) charcoal fragments, 60-100 goosefoot (*Chenopodium sp.*) seeds, 60-100 Polygonaceae seeds, 1 catchfly (*Silene sp.*) seed	95% rootlets, 5% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 10-20 Polygonaceae seeds, 2 elder (*Sambucus nigra*) seeds
Sample Volume	10L	20L	20L	10L	20L	30L
Flot Weight	7.80g	2.95g	5.29g	2.48g	36.35g	42.37g
Molluscs				+		+
Charred plant macrofossils						
Cereals						
Barley (*Hordeum sp.*) grain			1			
Indet. Cereal grain			1		2	

Sample No.	232	239	240	241
Context No.	2268	2280	2282	2284
Description	Fill of segmented ditch [2267]	Fill of ditch [2279]	Fill of ditch [2281]	Fill of pit [2285]
Flot notes	40% rootlets, 60% indeterminate organic material, 20-30 goosefoot (*Chenopodium sp.*) seeds, 40-50 Polygonaceae seeds, 1 rabbit dropping	95% rootlets, 5% small (<2mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds, 3 Polygoaceae seeds	80% rootlets, 15% small (<2mm) charcoal fragments, 5% moderate (2-10mm) charcoal fragments, 10-20 Polygonaceae seeds, 30-40 goosefoot (*Chenopodium sp.*) seeds, 200+ elder (*Sambucus nigra*) seeds	90% rootlets, 7% small (<2mm) charcoal fragments, 3% moderate (2-10mm) charcoal fragments, 20-30 goosefoot (*Chenopodium sp.*) seeds
Sample Volume	20L	20L	40L	20L
Flot Weight	50.22g	2.11g	30.50g	
Molluscs	+++			
Charred plant macrofossils				
Cereals				
Naked wheat (*Triticum nudum*)			1	3
Rye (*Secale cereale)*				1
Oats (*Avena sp.*) grain			1	2
Indet. Cereal grain		2	1	2

Sample No.	244	243	243
Context No.	2348	2365	2364
Description	Fill of terminus [2348]	Fill of ditch [2264]	
Flot notes	90% degraded plant material, 10% rootlets, 20-30 goosefoot (*Chenopodium sp.*) seeds, 5-10 Polygonaceae seeds, 6 catchfly (*Silene sp.*) seeds, 1 pale persicaria (*Persicaria sp.*) seed, 1 fly puparium	95% rootlets, 5% small (<2mm) charcoal fragments, 5-10 catchfly (*Silene sp.*) seeds, 10-20 Polygonaceae seeds, 10-20 goosefoot (*Chenopodium sp.*) seeds, fly insect remains	
Sample Volume	20L	50L	
Flot Weight	2.09g	2.56g	3.71g
Molluscs		++	
Charred plant macrofossils			
Cereals			
Indet. Cereal grain		3	

Table 120. Flot contents recovered from archaeological contexts. Percentages given as percentage of total flot. Uncharred non-cereal remains considered to be modern contamination (see methodology).
Quantification of molluscan remains: + =0-10 individuals, ++ =11-20 individuals, +++ =21-30 individuals, ++++ =30-50 individuals, +++++ =>50 individuals.

Sample No.	37	38	44	63	64
Context No.	1230	1232	1240	1320	1329
Description	Fill of pit [1229]	Fill of ditch [1231]	Fill of ditch (1240)	Fill of enclosure ditch [1319]	Fill of terminus [1328]
Charred Plant Macrofossils					
Pea (*Pisum sativum*)	10		1		1
Bird cherry (*Prunus avium*)				2	
Cherry (cf. *Prunus sp.*)	1				
Common vetch (*Vicia sativa*)		1			
Sample No.	94	96	102	166	
Context No.	1409	1436	1467	1651	
Description	Fill of ditch [1382]	Fill of overgrown pit	Primary fill of ditch [1466]	Fill of possible pit	
Charred Plant Macrofossils					
Pea (*Pisum sativum*)	2		1		
Broad bean (Vicia faba)	1				
Stinking mayweed (*Crepis foetida*)					
Common vetch (*Vicia sativa*)		2			
Creeping buttercup (*Ranunculus repens*)	1				
Knapweeds (*Centaurea sp.*)	1				
Brome grass (*Bromus sp.*)				1	
Asteraceae	1				
Polygonaceae	2				

Context No.	168	174	175	186	187
Description	1660	1698	1705	1762	1797
Charred Plant Macrofossils	Fill of pit [1659]	Fill of pit [1697]	Fill of pit [1703]	Layer above wall [1735]	Fill of ditch corner slot [1796]
Pea (*Pisum sativum*)					2
Stinking mayweed (*Crepis foetida*)				1	141
Common vetch (*Vicia sativa*)					9
Wild radish (*Raphanus sp.*)	1				
Creeping buttercup (*Ranunculus repens*)					7
St John's wort (*Hypericum perforatum*)					1
Scentless mayweed (*Matricaria perforata*)					1
Catchfly (*Silene dioica*)					1
Field mustard (*Sinapis arvensis*)					3
Poppy (*Papaver rhoeas*)					1
Stinging nettle (*Urtica dioica*)					5
Mustard family (*Brassica sp.*)					2
Dock (*Rumex* sp.)			1	1	47
Knapweeds (*Centaurea sp.*)					7
Sedge (*Carex sp.*)					17
Thistle (*Cirsium arvense)*					6
Clover/medick type (*Medicago/Trifolium type*)					5
Dog rose (*Rosa canina*)					1
Brome grass (*Bromus sp.*)		1			
Lady's Mantle (*Alchemilla sp.*)					9
Pale persicaria (*Persicaria sp.*)			1		10
Goosefoot (*Chenopodium sp.*)			6		2

Context No.	168	174	175	186	187
Description	1660	1698	1705	1762	1797
Charred Plant Macrofossils	Fill of pit [1659]	Fill of pit [1697]	Fill of pit [1703]	Layer above wall [1735]	Fill of ditch corner slot [1796]
Buckwheat (*Fallopia sp.*)			2		2
Asteraceae					
Polygonaceae					15
Poaceae			1		
Sample No.	189	192	194	195	208
Context No.	1806	1833	1841	1851	1892
Description	Fill of ditch [1805]	Cut of pit [1832]	Fill of ditch terminus [1840]	Fill of ditch [1850]	Fill of pit [1891]
Charred Plant Macrofossils					
Pea (*Pisum sativum*)	2				
Broad bean (Vicia faba)	1				
Cleavers (*Galium aparine*)		4		1	1
Wild radish (*Raphanus sp.*)		2			
Mustard family (*Brassica sp.*)					>100
Dock (*Rumex* sp.)		4			
Brome grass (*Bromus sp.*)			1		
Lady's Mantle (*Alchemilla sp.*)		1			
Pale persicaria (*Persicaria sp.*)		2			
Goosefoot (*Chenopodium sp.*)		3			
Buckwheat (*Fallopia sp.*)		4			
Polygonaceae		2			
Poaceae			1		

Table 121. Recovered charred non-cereal archaeobotanical remains from archaeological contexts

Animal Bone Catalogue

Table 122. Animal bone groups (ABG), all phases.

Phase	Context number	ABG no	Sample/skeleton number	taxon	elements	Preservation /Fragmentation and colour	Completeness %	Age category	ageing epiphyseal fusion	Pathology and butchery, non-metric traist	Bone ID number *(included in counts)
HM	(1406)	10?	<582>, <583>	Sheep/goat Ovis/Capra	Axis and atlas	None/ Good/medium brown	0-20 (1%)	Adult	Final phase	n/a	* 361 - 362
HM	(1406)	11	<678>	Cat *Felis catus*	L mandible, L and R humeri, L scapula, R radius and R ulna (all fused)	Excellent, minimal fragmentation	21-40%	Adult?		n/a	391 - 395
HM	(1406)	12	<1388>	Dog *Canis familiaris*	R mandible: I2, I3, C, P3, P4, M1, M2; R MCIV, cranium and vertebra	Minimal/ Excellent/ Dark brown	0-20	A?	?	n/a	437 - 440
HM	(1406)	13?	<1078>	Sheep/goat *Ovis/Capra*	R MC1, R MT1	None/ Good-moder./ Medium bronw	0-20 (2%)	N	Fused prenatal, open middle fusing; neonatal size	n/a	443 - 444
HM	(1406)	15	<1058>	Cattle *Bos taurus*	Cranium, vertebra, ribs (7 frags), MC1, P2	Minimal/ Excellent/ Medium brown	21-40	<18 months	Early –unfused, prenatal – fused	n/a	488 - 494
HM	(1406)	18	<1399> Spit 2	Cattle *Bos taurus*	R and L: humeri, ulnae, radii, femora, scapulae, tibiae, MC1, MT1, ilia, ischia Scapular tuberosity unfused, MTC and MTT's halves fusing	None / Excellent 22 fr	41-60	Neonatal?	All bones unfused, <10 months (Silver 69); diaphyseal lengths suggestive of neonate (Prummel)	None observed	509
HM	(1406)	16	<980>	Canid	L radius, and ulna, R ulna and MCII	Minimal/ Excellent	0-21	A	Fused all bones	n/a	495 - 498

Phase	Context number	ABG no	Sample/skeleton number	taxon	elements	Preservation /Fragmentation and colour	Completeness %	Age category	ageing epiphyseal fusion	Pathology and butchery, non-metric traist	Bone ID number *(included in counts)
HM	(1406)	17	<1351>	Canid	Fragmentary skull, L mandible with P3, P4, M1, M2, M3, axis, 1x cervical (3-7), 4x lumbar, fragments of R and L scapulae, L radius, L ulna, R:MCIV, MCV, ; L: MCII, MCIII, MCV, 3 x carplas, astragalus, calcaneus; R tibia, L Femur; R: MTII-MTV; L: MTII-MTV; 6 x R ribs, 11x L ribs; unsided: 7 x first phalanges, 2 x second phalanges, 3 x third phalanes	Minimal (except for severely fragmented skull) / Excellent	61-80	SB	All unfused saved for phalanges, MTT; MTC – fusing	None observed	499
HM	(1406)	19a,b,c,d,e,f,g	<1087-1089> <1048> <1070> <1083> <1085> <1092>	Dog	L mandible with I2, I3, C, P1, P2, P3, P4, M1, M2, M3; R and L : scapulae, humeri; R: pelvis, radius; 8 x R ribs (heads), 6 x L ribs (heads);26 rib fragments, 1 x 2 x cervical vertebra, 2 x thoracic, 3 x lumbar (pahto) and sacrum; R MCIII, L: MCIII, MCIC, MCV, 1 x proximal phalanx, 1 x carpal, 2 x thoracic spinous process	Minimal /Excellent/ 72 fr	41-60	A	All fused, fused endplates	Pathology of lumbar vertebrae, healed trauma to the skull	433. 442, 469, 511, 616 - 619
ME	(1834)	24	<958> <960>	Large mammal	Articulating 2 thoracic vertebrae	Minimal/ Good/ Medium brown	0-20 (1%)	A	Final – fusing endplates	Carnivore gnawing	945, 946
?	(2464)	26	n/a	Equid	R metacarpals MCII, MCIII, MCIV, 1st phalanx articulating all	Minimal, none / Good/ Medium brown	0-20	?	Fused middle >18 months old	NBF on lateral and medial aspect of first phalanx,	1032 - 1035

Phase	Context number	ABG no	Sample/skeleton number	taxon	elements	Preservation /Fragmentation and colour	Completeness %	Age category	ageing epiphyseal fusion	Pathology and butchery, non-metric traist	Bone ID number *(included in counts)
IN/ MO	(1076)	27	SK1074 , <14>, <112>, <212>	Sheep	Complete skeleton; mandibular teeth: dp4, dp3, dp2, and M1 visible in crypt	Minimal,/ Excelent/ Medium brown	80-100	Neonatal 2-6 months, dP4: 11L, M1 not in war	All unfused long bones, fusing vertebral centers	FE: 95mm, HU: 76mm, RA:79.5mm, MC:76.5mm, MT:82mm Possibly modern	1039
IN/ MO	(1076)	28	SK1074	Sheep	14 right ribs and 11 left ribs	Minimal/ Excellent/ Medium brown	0-20	A	Fused	Possibly modern	1386
?	(2184) 2 BAGS	20	n/a	Equid	Skull complete, maxillary teeth: mandible R and L 40-60%, , mandibular teeth: L lower: i1, i2, i3,I1(unerupted), dp2, dp3, dp4, M1,P(unerupted); R mandibular: teeth lower: i2, i3, I1(unerupted), dp2, dp3, dp4, M1, M2(erupting), P2(unerupted); Occipital, C1-C7, R: humerus (distal), radius (prox), ulna; L: femur (cmplt), tibia, R and L calcaneus, L astragalus, 4 right and 4 left ribs, carpals/tarsals x 5; articulating P1, P2 and P3; P3, MTTII	Minimal, minimal RE, occa gnawing: spine of axis and femoral condyle /Excellent/ 140 fr	41-60	SB>1y<2y (Silver 69)	All: U except: P1 (F), P2(F), P3(F), H(G), endplates(G/U) Fusion age: c 15-18 months (Silver 69)	NBF of long bones (HU, RA, UL. FE, TI) and axis, , 1 x left rib ventrally, C6 – ventral laminae bilateraly	1385
?	(1135)	21	n/a	Cattle *Bos taurus*	Axis (cattle), 6 L and 2 R ribs, 6 unsided rib fragments, 6 thoracic vertebrae, 1 cervical vertebra, 1 lumbar vertebra	Minimal/ Excellent/ Medium brown	0-20	SB/A	<5y All endplates unfused	2 x cuts (1 vertebra, 1 rib); two lytic lesions of lumbar vertebral body	739 - 749

Phase	Context number	ABG no	Sample/skeleton number	taxon	elements	Preservation /Fragmentation and colour	Completeness %	Age category	ageing epiphyseal fusion	Pathology and butchery, non-metric traist	Bone ID number *(included in counts)
?	(2134)	22	<224>	Cattle *Bos taurus*	R: dist humerus (F), proximal radius (F) and ulna (UX), anterior 1st phalanx (F), 2nd phalanx (F) and 3rd phalanx (F) – articulating, 3 left ribs and 420 fragments of ribs, 15 unidentified LM frgamens, and 20 long bone fragments, 1 (7 frags) uninedntified bone (photo)	Severe / Good	0-20	n/a	18mo-3.5y Early fused, late unfused	Caudal border of left rib with proliferative flat lesion (55mm x 13mm) PHOTO	831, 137 7
	(2132) [2131]	23	<226>	Cattle *Bos taurus*	Complete skeleton; Measurements of MTC – most likely modern; appearance of trabeculae – fresh, much lighter than cortex (white), likely modern – the skeleton recording not completed.	Moderate/ Good	80-100	A	Late fused (HU proximal), final fusing (fusing endplates)	Dense trabecular all elements, extremely porous alveolar bone in L maxilla, abnormal outline of zygomatic orbital rim – bilaterally, faint porosity of mandibular alveoli – systemic disease	913, 1375 , 1376
?	(2495)	25	n/a	Sheep *Ovis aries*	Skull (40%), R: mandible with: M1, M2, M3; L mandible, R maxilla with: P4 and M1; L maxilla with: P3, P4, M1; 3 x first phalanges (F), 2 x second phalanges (F), 2 x third phalanges (F); R and L metacarpus (F), R metatarsus (F), L tibia (F)	Minimal; skull – moderate/ Good/ Medium brown	20-40	A 4-6y (G)	Late phase: fused >3 y	Absent foramen below P3; Cut 2 x parallel at medial z5 on R mandible, and 2 x patrallel chop saggital plane through skull	103 0
?	(2250)	14	SK2249 <231>	Cattle *Bos taurus*	Fragment of R and L occipital, R zygomatic, R maxilla, right mandible; teeth: occipital, zygomatic; all teeth R: upper: M1, M2, M3, dp4, dp3, dp2, P3, P2, P4; lower: M1, M2, M3, dp4, dp3, dp2, I x 2, ix 2; teeth left: 1 x I; R and L: scapula, humerus, radius, ulna; L MTC, R and L; femur, tibia, MTT, 4 x	Minimal/ Excellent/4medi um brown	61-80	SB MWS:27-29	18 months	None observed	1384

Phase	Context number	ABG no	Sample/skeleton number	taxon	elements	Preservation /Fragmentation and colour	Completeness %	Age category	ageing epiphyseal fusion	Pathology and butchery, non-metric traist	Bone ID number *(included in counts)
					anterior phalanx1, 4x anterior phalanx2, 4 x posterior phalanx , 4 x posterior phalanx 2, 8 x phalanx 3; R and L scaphocuboid, 14 x tarsals/carpals, L pelvis, 13 x R ribs, 10x L ribs, C1, C2, 4 x cervical, 14 x thoracic, 2 x lumbar, sacrum R and L patella						

TAXA CODES

B	Cattle (*Bos taurus*)
OVA	Sheep (*Ovis aries*)
O	Sheep (*O. aries*)/goat (*Capra hircus*)
EQ	Equid (*Equus* sp.*)* (horse/donkey/mule)
EQC	Horse (*Equus caballus*)
EQA	Donkey (*Equus asinus*)
CEE	Red deer (*Cervus elaphus*)
CV	Dog/wolf
CAF	dog (*Canis familiaris*)
FEC	cat (*Catus felis*)
CB	cattle/red deer (*Bos/Cervus*)
OCC	sheep/goat/roe deer (*Ovis/Capra/Caprelous caprelous*)
LE	hare/rabbit (*Lepus, Oryctolagus*)
LEE	hare (*Lepus europaneus*)
GAG	domestic fowl (*Gallus gallus*)
GG	Common crane (*Grus grus*)
M	mammal
LM	large mammal (cattle size)
MM	medium mammal (sheep size)
SM	small mammal (cat size)

ELEMENT CODES:

Dp4	Deciduous fourth molar
P4	Fourth premolar
M1	First molar
M2	Second molar
M3	Third molar
M12	Second or third molar
SC	scapula
HU	humerus
RA	radius
UL	ulna
PE	pelvis
FE	femur
AS	astragalus
P1	1st phalanx
P2	2nd phalanx
P3	3rd phalanx
MT1	metatarsal
MC1	metacarpal
VEC	cervical vertebra
VET	thoracic vertebra
VEL	lumbar vertebra
VE	vertebra
RI	rib
LBS	long bone shafts
IND	indeterminate

L	left
R	right
U	unsided
UE	unfused epiphysis
UD	unfused diaphysis
UX	unfused diaphysis and epiphysis
F	fused
G	fusing

Table 123. Epiphyseal fusion of cattle bones, deposit (1406), High Medieval.

Context	ID	SPECIMENS	ELEM	TAXA	L/R	FUSP	FUSD
1406	336	1	CA	B	R	UX	
1406	338	1	CA	B	R	UD	
1406	337	1	CA	B	L	UD	
1406	450	1	FE	B	R	F	
1406	356	1	FE	B	L		F
1406	526	1	HU	B	L	UE	
1406	28	1	HU	B	L	UD	F
1406	446	1	HU	B	R	G	
1406	478	1	HU	B	L		F
1406	348	1	HU	B	R		F
1406	342	1	MC1	B	L	F	UD
1406	341	1	MC1	B	R	F	F
1406	6	1	MC1	B	L	F	F
1406	448	1	MC1	B	R	F	F
1406	452	1	MC1	B	L	F	
1406	4	1	MC1	B	L		F
1406	10	1	MP1	B	U		F
1406	451	1	MT1	B	L	F	UX
1406	1	1	MT1	B	R	F	UD
1406	7	1	MT1	B	L	F	UD
1406?	1334	1	MT1	B	R		UD
1406	5	1	MT1	B	R		F
1406	340	1	MT1	B	L		F
1406	650	1	P1	B		UX	
1406	462	1	P1	B	U	UD	F
1406	722	1	P1	B	U	UD	
1406	501	1	P1	B	L	F	F
1406	11	1	P1	B	U	F	F
1406	12	1	P1	B	U	F	F
1406	13	1	P1	B	U	F	F
1406	319	1	P1	B		F	
1406	320	1	P1	B		F	
1406	321	1	P1	B		F	
1406	322	1	P1	B		F	
1406	323	1	P1	B		F	
1406	324	1	P1	B		F	
1406	16	1	P2	B	U	F	F
1406	463	1	P2	B	U	F	F
1406	464	1	P2	B	U	F	F
1406	325	1	P2	B		F	
1406	651	1	P2	B		F	
1406	19	1	P3	B	U	F	F
1406	466	1	P3	B	U	F	
1406	8	1	RA	B	R	F	
1406	9	1	RA	B	R	F	
1406?	1331	1	TI	B	R	F	F
1406	540	1	TI	B	L	F	
1406	32	1	TI	B	R		F
1406	27	1	TI	B	L		F
1406	328	1	TI	B	R		F
1406	330	1	TI	B	R		F
1406	449	1	TI	B	R		F
1406	38	1	UL	B	L	F	
1406	358	1	UL	B	L	F	

Table 124. Epiphyseal fusion of mammals excl. cattle, deposit (1406), High Medieval.

Context	ID	SPECIMENS	ELEM	TAXA	L/R	FUSP	FUSD
1406	1247	1	MCV	S	R		UD
1406	413	1	RA	S	L	F	
1406	653	1	TI	S	R		F
1406	350	1	HU	OVA	R		F
1406	344	1	MC1	OVA	R	F	F
1406	454	1	MC1	OVA	L	F	F
1406	30	1	MT1	OVA	L	F	F
1406	343	1	MT1	OVA	R	F	F
1406	453	1	MT1	OVA	R	F	F
1406	461	1	P1	OVA	R	F	F
1406	329	1	TI	OVA	L		F
1406	1136	1	TI	OVA	L		F
1406	22	1	CA	O	R	F	F
1406	484	1	HU	O	L		F
1406	351	1	HU	O	L		F
1406	516	1	MC1	O	L	F	UD
1406	345	1	MC1	O	R	F	F
1406	456	1	MC1	O	L	F	
1406	455	1	MT1	O	L	F	
1406	539	1	P1	O	R	UD	F
1406	518	1	P1	O	U	F	F
1406	538	1	P1	O	L	F	F
1406	1072	1	P1	O		F	
1406	1323	1	RA	O	L	F	
1406	555	1	UL	O	R	UD	
1406	479	1	HU	EQ	R		F
1406	445	1	MC1	EQ	R	F	F
1406	459	1	MC1	EQ	L	F	
1406	1192	1	MT1	EQ	L		F
1406	29	2	P1	EQ	U	F	F
1406	15	1	P1	EQ	U	F	F
1406	465	1	P1	EQ	R	F	F
1406	318	1	P1	EQ	U	F	
1406	591	1	P3	EQ	U	F	
1406	410	1	SC	EQ	L	F	
1406	473	1	TI	EQ	R	F	
1406	1063	1	MCIII	CV	R	F	
1406	500	1	MT III	CV	R	F	F
1406	347	1	mt4	CV	L	F	F
1406	517	1	P3	CEE	U	F	
1406 ?	1332	1	TI	CEE	L		F
1406	365	1	CA	CB	R	UD	
1406	1295	1	FE	CB	L	F	
1406	349	1	HU	CB	R		F
1406	458	1	MP1	CB	L		UE
1406	1307	1	MP1	CB	U		UD
1406	457	1	MT1	CB	L	F	
1406	119	1	P1	CB	U		F
1406	135	1	RA	CB	R		F
1406	673	1	FE	LM	U		F
1406 ?	1348	1	FE	MM	R	UD	UD
1406	485	1	HU	LM	L		F
1406	1132	1	P1	LM	U		F
1406	41	1	TI	MM	R		UD
1406	42	1	TI	MM	R		UD
1406	1147	1	TI	MM	L		UD
1406	436	1		LM	U		UD

Table 125. Epiphyseal fusion of mammal bones, all phases excl. High Medieval.

Phase	Context	ID	SPECIMENS	ELEM	TAXON	L/R	FUSP	FUSD
EMA	1818	925	1	FE	B	R	F	F
EMA	1802	679	1	MT1	B	L	F	F
EMA	1802	685	1	mt3	CV	L	F	
IA/RB	1429	957	1	RA	LM	L	F	
IA/RB	1741	732	1	P1	B		F	
IA/RB	1741	726	1	SC	B	L	F	
IA/RB	1429	762	1	mC3	CV	L	F	F
IA/RB	1429	763	1	HU	CV	R		F
MBA/IA	1792	709	1	TI	LM	L	UE	
MBA/IA	1792	690	1	TI	B	L		F
ME	1804	610	1	HU	LM	R		F
ME	1815	819	1	TI	MM	R	UD	
Me	1463	692	1	MC1	B	R	F	F
ME	1806	694	1	MT1	B	L	F	F
Me	1463	696	1	P1	B		F	F
ME	1410	973	1	P1	B	U	F	F
Me	1424	723	1	P2	B		F	F
ME	1806	698	1	HU	B	L		F
ME	1656	813	1	MT1	B	U		F
ME	1410	972	1	RA	B	R		F
ME	1734	793	1	MP1	B	U		F
ME	1654	879	1	CA	B	R	UD	
Me	1463	693	1	MC1	EQ	R	F	F
ME	1834	943	1	MT1	EQ	R	F	F
PM	2238	969	1	P2	B	U	F	F
PM	1435	475	1	RA	B	L	F	F
PM	2456	1017	1	MT1	B	L		F
PM	2367	711	1	RA	B	R	F	
PM	2103	689	1	TI	EQ	L		F
PM	2162	1355	1	TI	LE	R	UD	UD
RB	1660	836	1	MT1	B	L	F	
RB/Me	1676	614	1	FE	SM	R		F
RB/Me	1652	977	1	HU	B	L	F	F
RB/Me	1652	987	1	P1	B	U	F	F
RB/Me	1649	872	1	TI	B	L		F
RB/Me	1652	984	1	MT1	B	R	F	
RB/Me	1652	983	1	MT1	B	R	F	
RB/Me	1647	780	1	P2	B		F	
RB/Me	1652	992	1	RA	B	L	F	
RB/Me	1649	874	1	P1	CB	U	F	F
RB/Me	1652	995	1	CA	CV	R	F	F
RB/Me	1652	993	1	TI	O	R		F
RB?	1672	713	1	CA	B	L	UD	
RB-PM	1748	704	1	MC1	O	R	F	
U	1135	750	4	VET	LM	U	UD	UD
U	1135	748	1	VET	L M	U	F	F
U	1461	691	1	MT1	B	R	F	
U	1135	757	1	RA	B	R	F	
U	1698	686	1	RA	EQ	R	F	F
U	2283	776	1	TI	FEC	R		F
UNK	2492	1013	1	RA	B	L		F
UNK	2466	1026	1	RA	B	R		F
UNK	2488	1010	1	P3	CEE	U	F	F

Table 126. Cattle MNI based on teeth, all phases.

MWS	O'Connor	IA/RB	RB/ME	ME	PM
1-2	Neonatal				
2-8	Juvenile			1	
8-20	Immature			2	
23-32	subadult		1	1	
33-46	Adult		1	3	1
≥46	Elderly	1		2	

Table 127. Sheep/goat MNI based on teeth, all phases.

Payne (1973)	AGE CLASS	IA/RB	RB/ME	HM	MEonly	MEall	PM	Suggested age
A	infant, young							0-2m
B	infant, old							2-6m
A/B	infant			1		1		0-6m
C	juvenile			1		1		6m-1y
D	subadult							1-2y
E	subadult			1		1		2-3y
F	adult, young			1	1	2	1	3-4y
G	adult, young							4-6y
H	adult, middle							6-8y
I	adult, senile							8y+

Table 128. Pig MNI based on teeth, all phases.

MWS	O'Connor	HM
1-2	Neonatal	
2-8	Juvenile	
8-20	Immature	
23-32	subadult	2
33-46	Adult	1
≥46	Elderly	
Female/Male		2F/2M

Table 129. Equid MNI based on teeth, all phases.

Age	RB/ME	HM (1406)	ME only	ME all
6-7y		1		1
9-11y	1	1		1
14-17y (EQA)			1	1
20y		1		1

Table 130. Metric data for animal bones, all phases.

Context	Find no	Phase	ELEM	TAXA	L/R	1	4	5	6	7	8	9	10	11	18	19	15a	15b	15c	45	46	ID
1406	1020	HM	HC	B	?R															47	37	486
1406	1079	HM	HC	B	L															23.2	21.2	637
1406?		HM	HC	B	R															69.3	49.7	1350
1442	87	RB/EM?	N	B	R						77.6						57.5	36.7				963
1406	1349	HM	N	B	L													44.5 (Erup)	30.0 (erup)			524
1406		HM	N	B	R					129.8	60.2	47.9					68.5	41.7	31.6			646
1406?		HM	N	B	R					131.4	82.9	46.3					64.7	45.8	33.3			1325
1410	814	HM?	N	B	R						79.9											970
1800	1141	Me	N	B	R					130.5	78.8	41.5		100.3			72.1	42.2	32.9			914
1406	1349	HM	N	CAF	R		120.4	116.8	121.1	77.7	73.5	68.5	36.5	40.5	35.2	0						527
1406	1388	HM	N	CV	R	(132)							36	18.7	(52.7)	24.3						437
1406	678	HM	N	FEC	L			18		7.2			8.6	0								391
1406	631	HM	N	O	L									33.5								385
1406	666	HM	N	O	R									42.5								386
1834	956	Me/PM	N	O	L													22.6	16.1			944
1406	1097	HM	N	OVA	L					70.3	47.2											404
1406	555	HM	N	OVA	R						49.1							21.5	18.4			384
2466		PM?	N	OVA	R				133.3	70	47.5	21.8					35.1	22.0	15.1			1027

** - pathological specimen, ()- abraded

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
504	146	1351		25		1	3			RI		LM	U			G			
911	1795	1161		05	EMA	2	2			LBS		IND	U			G			
701	1800	1165		100	EMA	1	1	1	AS		B		R			E			
702	1800	1163		100	EMA	1	1	1	AS		B		R			E			
915	1800	1141		75	EMA	2	3			RI	B		R			E			
921	1800	1141		05	EMA	2	2			IND		LM	U			E			
871	1800	1159		05	EMA	1	1			LBS		LM	U			G			
547	1800	1158		05	EMA	1	1			RI		LM	R			G			
916	1800	1141		05	EMA	12	12			RI		LM	U			E			
923	1800	1141		05	EMA	1	1			RI		LM	L			E			
920	1800	1141		05	EMA	2	2			VE		LM	U			E			
919	1800	1141		75	EMA	2	2			vel		LM	U			E			
922	1800	1141		05	EMA	1	1			Vet		LM	U			E			
917	1800	1141		100	EMA	2	2			vet		LM	U			E			
918	1800	1141		100	EMA	1	1			vet		LM	U			E			
924	1800			05	EMA	1	3			IND		M	U			G			G
914	1800	1141		100	EMA	1	1	1	N		B		R			E			
679	1802	1183		100	EMA	1	1	1	MT1		B		L			E			C
685	1802	1183		100	EMA	1	1	1	mt3		CV		L			G			
680	1802	1183		100	EMA	1	1	1	AS		EQ		R			E			
681	1802	1183		75	EMA	1	1		TI		mm		L			G			C
684	1802	1183		05	EMA	1	1		N		OCC		L			G			
683	1802	1183		05	EMA	2	2			IND		LM	U			G			
682	1802	1183		05	EMA	1	1			LBS		LM	U			E			
925	1818	1135		75	EMA	1	1	1	FE		B		R			E			G
942	1818	1181		75	EMA	1	1	1	UL		B		R			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
937	1818	1181		05	EMA	1	1		MP1		O		U			G			
936	1818	1181		100	EMA	1	1	1	P3		O		U	U		G			
927	1818	1135		05	EMA	16	16			RI		LM	U			E			
933	1818	1135		05	EMA	2	2			vec		LM	U			G			
941	1818	1181		100	EMA	1	1			vec		LM	U			E			
931	1818	1135		05	EMA	1	1			vet		LM	U			G			
932	1818	1135		25	EMA	1	1			vet		LM	U			G			
935	1818	1135		05	EMA	7	7			IND		M	U			G			
940	1818	1181		05	EMA	2	2			IND		M	U			B			
938	1818	1181		05	EMA	3	3			LBS		M	U			G			
928	1818	1135		05	EMA	3	3			RI		M	U			E			
934	1818	1135		05	EMA	3	3			VE		M	U			G			
929	1818	1135		25	EMA	1	1		RA			MM	R			E			G
930	1818	1135		05	EMA	2	2			LBS		MM	U			G			
939	1818	1181		05	EMA	2	2			LBS		MM	U			M			
926	1818	1135		25	EMA	1	1		CR		B		L			E			
1383	1223	49		05	EMeso		7			varied			U			G		Cw	
962	1223	127		25	EMeso	1	4			tooth	B/Eq		U			B			
1354	1223	127		25	EMeso	1	4			rtooth	EQ		U			B			
1045	1406	707		not a bone	HM											g			
1281	1406	663			HM		2			not bone						g			
1374	1406	805		50	HM	1	3	1	N		arvicola		R			G			
18	1406	495		100	HM	1	1	1	AS		B		R			E	T		
427	1406	1173		100	HM	1	1	1	AS		B		L			M			C
474	1406	996		100	HM	1	1	1	AS		B		R			G			
299	1406	259		75	HM	1	7	1	AX		B		U			E			
338	1406	773		75	HM	1	1	1	CA		B		R			G	P		R

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
336	1406	565		100	HM	1	2	1	CA		B		R			G			
24	1406	391		75	HM	1	1	1	CA		B		R			G			C
337	1406	802		75	HM	1	1	1	CA		B		L			G			
426	1406	1173		75	HM	1	1	1	CA		B		R			M			C
37	1406	292		05	HM	1	3		CR		B		U			G			
283	1406	281		05	HM	1	1		CR		B		U			G			
503	1406	1351		05	HM	1	30		CR		B		R			G			
661	1406			05	HM	1	1	1	CR		B		R			E			
1125	1406	598		05	HM	1	1		CR		B		L			E			
1168	1406	576		05	HM	1	1		CR		B		L			G			
657	1406			25	HM	1	2	1	CR		B		b			M			
421	1406	1109		50	HM	1	31	1	CR		B		B			M			
1079	1406	800		05	HM	2	2		CRg		B		U			E			
450	1406	1055		05	HM	1	1	1	FE		B		R			M	T		
356	1406	848		25	HM	1	1	1	FE		B		L			G			
1187	1406	821		50	HM	1	1		FE		B		L			x			
124	1406	227		05	HM	1	6		HC		B		U			G			
295	1406	269		05	HM	1	2		HC		B		U			G			
550	1406	1398		05	HM	1	3		HC		B		U			G			
636	1406	1091		05	HM	1	1		HC		B		U			G			
637	1406	1079		05	HM	1	1		HC		B		L			M			
1193	1406	807		05	HM	1	3	1	HC		B		U			M			
2	1406	335		25	HM	1	20		HC		B					G			
304	1406	258		25	HM	1	20		HC		B		U			M			
486	1406	1020		50	HM	1	1	1	HC		B		?R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
487	1406	1038		75	HM	1	1	1	HC		B		?L			G			
514	1406	1087		75	HM	1	3	1	HC		B		R			G			
446	1406	965		25	HM	1	1	1	HU		B		R			G	T		
478	1406	1018		75	HM	1	1	1	HU		B		L			G	T		C
526	1406	1349		05	HM	1	1	1	HU		B		L			E			
348	1406	716		25	HM	1	1	1	HU		B		R			G			C
28	1406	318		75	HM	1	1	1	HU		B		L			E			
341	1406	792		100	HM	1	1	1	MC1		B		R			G			C
452	1406	1073		25	HM	1	1	1	MC1		B		L			G			
1181	1406	845		25	HM	1	1		MC1		B		U			M			G
4	1406	533		50	HM	1	1	1	MC1		B		L			G			
150	1406	193		50	HM	1	1		MC1		B		U			G			C
184	1406	365		50	HM	1	1		MC1		B		R			G			C, R
6	1406	455		75	HM	1	1	1	MC1		B		L			G			
342	1406	611		75	HM	1	1	1	MC1		B		L			E			
448	1406	1067		75	HM	1	1	1	MC1		B		R			G			
10	1406	708		05	HM	1	2		MP1		B		U			G			
1357	1406	1069		25	HM	1	1		MP1		B		U			E			C
467	1406	1070		05	HM	1	3		MT1		B		U			M			C
451	1406	1346		100	HM	1	2	1	MT1		B		L			G			C
5	1406	454		25	HM	1	1	1	MT1		B		R			G			C
340	1406	769		50	HM	1	1	1	MT1		B		L			E			
1	1406	335		75	HM	1	1	1	MT1		B		R			G			
7	1406	321		75	HM	1	5	1	MT1		B		L			G			
652	1406			75	HM	1	2		MT1		B		L			B			C
53	1406	251		05	HM	1	1	1	N		B		R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
55	1406	264		05	HM	1	4	1	N		B		L			p			
91	1406	323		05	HM	1	9	1	N		B		L			G			
204	1406	483		05	HM	1	1		N		B		U			E			
222	1406	450		05	HM	1	4		N		B		R			M			
242	1406	514		05	HM	1	1		N		B		L			G			
371	1406	507		05	HM	1	6	1	N		B		L			B			
372	1406	735		05	HM	1	1		N		B		R			G			
373	1406	853		05	HM	1	3	1	N		B		L			G			
377	1406	644		05	HM	1	1		N		B		U			G			
378	1406	706		05	HM	1	1		N		B		U			G			
420	1406	1117		05	HM	1	6	1	N		B		L			A			
430	1406	1395		05	HM	1	1	1	N		B		L			G			
534	1406	1358		05	HM	1	1		N		B		R			G			
647	1406			05	HM	1	1	1	N		B		R			G			
1151	1406	553		05	HM	1	1		N		B		L			G			
646	1406			100	HM	1	1	1	N		B		R			G			
54	1406	311		25	HM	1	11	1	N		B		R			p			
380	1406	588		25	HM	1	1	1	N		B		R			G			C
412	1406	1392		25	HM	1	1	1	N		B		L			G			C
418	1406	1004		25	HM	1	1	1	N		B		R			G			
428	1406	971		25	HM	1	1	1	N		B		L			G			
429	1406	1393		25	HM	1	1	1	N		B		R			G			C
431	1406	1016		25	HM	1	2	1	N		B		R			G			
533	1406	1358		25	HM	1	1	1	N		B		L			G			R
648	1406			25	HM	1	1	1	N		B		R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
656	1406			25	HM	1	1	1	N		B		L			G			C
1082	1406	771		25	HM	1	8		N		B		L			E			
368	1406	580		50	HM	1	1	1	N		B		R			G			
370	1406	537		50	HM	1	5	1	N		B		L			G			
408	1406	1039		50	HM	1	1	1	N		B		R			G			
524	1406	1349		50	HM	1	1	1	N		B		L			E			
367	1406	719		75	HM	1	4	1	N		B		R			G			
501	1406	1351		50	HM	1	1	1	P1		B		L			G	P		C
11	1406	361		100	HM	1	1	1	P1		B		U	A		G			
12	1406	472		100	HM	1	2	1	P1		B		U	A		G			
13	1406	500		100	HM	1	1	1	P1		B		U	A		G			
319	1406	573		100	HM	1	1	1	P1		B			A		E			
321	1406	605		100	HM	1	1	1	P1		B			A		E			
322	1406	851		100	HM	1	1	1	P1		B			A		E			
323	1406	939		100	HM	1	1	1	P1		B			U		G			
650	1406			100	HM	1	2	1	P1		B			A		G			
21	1406	214		50	HM	1	4	1	P1		B		U			G			
320	1406	754/750		75	HM	1	1	1	P1		B			A		G			
324	1406	893		75	HM	1	1	1	P1		B			A		G			
462	1406	997		75	HM	1	1	1	P1		B		U			G			
722	1406	spit 3		75	HM	1	1	1	P1		B		U			G			
16	1406	232		100	HM	1	1	1	P2		B		U	A		G			
325	1406	740		100	HM	1	1	1	P2		B			A		E			
463	1406	1051		100	HM	1	1	1	P2		B		U	A		G			
464	1406	1343		100	HM	1	1	1	P2		B		U	P		G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
651	1406			100	HM	1	1	1	P2		B			A		G			
19	1406	377		100	HM	1	1	1	P3		B		U			G			
245	1406	509		100	HM	1	1	1	P3		B		R			M			C
466	1406	1344		100	HM	1	1	1	P3		B		U			G			
398	1406	833		25	HM	1	1	1	PE		B		R			G	T		
528	1406	1358		50	HM	1	1	1	PE		B		L			G			
100	1406	241		75	HM	1	16	1	PE		B		L			G			
9	1406	405		25	HM	1	2	1	RA		B		R			E			
8	1406	490		50	HM	1	1	1	RA		B		R			G			
542	1406	1356		25	HM	1	1		SC		B		R			G	?T		C
102	1406	223		05	HM	1	4	1	SC		B		L			G			
149	1406	192		05	HM	1	1		SC		B		U			G			
1260	1406	865		05	HM	1	1	1	SC		B		L			G			
369	1406	580		75	HM	1	6	1	SC		B		L			G			C
32	1406	471		50	HM	1	1		TI		B		R			G	T		
540	1406	1357		05	HM	1	1	1	TI		B		L			G			
330	1406	610		25	HM	1	1	1	TI		B		R			G			
449	1406	1067		25	HM	1	1	1	TI		B		R			G			
328	1406	726		50	HM	1	1	1	TI		B		R			G			
27	1406	314		75	HM	1	3	1	TI		B		L			G			C
39	1406	240		50	HM	1	2	1	UL		B		R			M	T		R
38	1406	376		25	HM	1	1	1	UL		B		L			M			
335	1406	823		50	HM	1	1	1	UL		B		R			M			
358	1406	603		50	HM	1	1	1	UL		B		L			G			
48	1406	518		05	HM	1	5		X		B		R			G			
447	1406	965		100	HM	1	1	1	zyg		B		R			G			
381	1406	846		05	HM	4	4			teeth	B		U			A			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1232	1406	929		05	HM	1	1			tooth	B		U			B			
1268	1406	854		100	HM	1	1			vel	B		U			G			
261	1406	525		05	HM	1	1		CR		B?		L			G			
527	1406	1349		100	HM	1	1	1	N		CAF		R			E			
390	1406	775		75	HM	1	1	1	RA		CAF		L			G			
40	1406	855		50	HM	1	1	1	UL		CAF		R			E			C
45	1406	373		05	HM	1	1		X		CAF		R			G			
644	1406			05	HM	1	1		AT		CB		U			G			
1080	1406	787		25	HM	1	1	1	AT		CB		U			M			
365	1406	719		50	HM	1	1		CA		CB		R			G			
531	1406	1358		05	HM	1	2		CR		CB		L			E	P		
515	1406	1087		05	HM	1	1		CR		CB		R			G			
1295	1406	696		25	HM	1	3		FE		CB		L			M			
349	1406	406		25	HM	1	1	1	HU		CB		R			M			C
458	1406	1060		05	HM	1	1		MP1		CB		L			G			
1307	1406	700		05	HM	1	1		MP1		CB		U			G			
1165	1406	568		05	HM	1	1		MT1		CB		U			G			
457	1406	1059		25	HM	1	1	1	MT1		CB		L			G			
229	1406	424		05	HM	1	1		N		CB		L			G			
374	1406	661		05	HM	1	1		N		CB		U			G			
376	1406	624		05	HM	1	1		N		CB		U			G			
379	1406	711		05	HM	1	1		N		CB		R			G			
1176	1406	554		05	HM	1	1		N		CB		R			E			
119	1406	233		05	HM	1	3		P1		CB		U			G			
1235	1406	938		25	HM	1	1		PE		CB		L			G	T		R
1203	1406	819		05	HM	1	1		PE		CB		R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
238	1406	535		25	HM	1	4		PE		CB		L			G			
672	1406			25	HM	1	1	1	PE		CB		L			G			
105	1406	343		05	HM	1	1		RA		CB		L			G			
135	1406	226		05	HM	1	2		RA		CB		R			G			
425	1406	1173		05	HM	1	1		RA		CB		L			G			
1077	1406	788		05	HM	1	1		SC		CB		L			E	t,p		
543	1406	986		25	HM	1	1		SC		CB		L			B	P		
188	1406	389		05	HM	2	6		SC		CB		L			M			
255	1406	516		05	HM	1	7		SC		CB		R			G			
1113	1406	724		05	HM	1	2		SC		CB		L			G			
397	1406	662		25	HM	1	1	1	SC		CB		L			G			
423	1406	1173		25	HM	1	1		SC		CB		L			G			C
1083	1406	738		25	HM	1	6		SC		CB		L			M			
1111	1406	798		25	HM	1	1		SC		CB		L			G			
1360	1406	1096		25	HM	1	1			hyoid?	CB		U			G			
159	1406	292		05	HM	0	0			TOO	CB		U			G			
517	1406	1087		100	HM	1	1	1	P3		CEE		U			E			
168	1406	113		05	HM	1	2	1	SC		CEE		R			G			C
1364	1406	362		50	HM	1	1		fibula		CV		U			E			
1063	1406	710		25	HM	1	1	1	MCIII		CV		R			E			
500	1406	1351		100	HM	1	1	1	MT III		CV		R			G			
347	1406	665		100	HM	1	1	1	mt4		CV		L			G			
1053	1406	729		05	HM	1	1	1	N		CV		L			E			
353	1406	557		100	HM	1	1	1	patella		CV		L			G			
399	1406	714		50	HM	1	1	1	PE		CV		L			G			
339	1406	55		100	HM	1	1	1	AS		EQ		R			G	P		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1366	1406	436		25	HM	1	5	1	AS		EQ		L			M			
441	1406	967		75	HM	1	1	1	AX		EQ		U			G			C
640	1406			75	HM	1	1	1	AX		EQ		U			G			
479	1406	1123		25	HM	1	1	1	HU		EQ		R			G			
445	1406	965		100	HM	1	1	1	MC1		EQ		R			M			
459	1406	1070		25	HM	1	1	1	MC1		EQ		L			G			C
1192	1406	803		25	HM	1	1		MT1		EQ		L			G			
409	1406	1039		25	HM	1	2	1	N		EQ		R			M			
29	1406	275		100	HM	2	1	1	P1		EQ		U	A		E			
318	1406	733		100	HM	1	1	1	P1		EQ		U			M			
465	1406	988		100	HM	1	1	1	P1		EQ		R			E			
15	1406	429		25	HM	1	3	1	P1		EQ		U	U		M			
307	1406	274		100	HM	1	2	1	P3		EQ		U			E			
591	1406	995		25	HM	1	3	1	P3		EQ		U			M		Cp	
354	1406	426		50	HM	1	1	1	patella		EQ		L			G			
33	1406	326		25	HM	1	6	1	PE		EQ		L			M			
1293	1406	684		25	HM	1	1	1	PE		EQ		R			G			
1294	1406	683		25	HM	1	7	1	PE		EQ		R			M			
31	1406	253		25	HM	1	1	1	SC		EQ		R			G			C
96	1406	327		25	HM	1	34	1	SC		EQ		L			B			
410	1406	1039		25	HM	1	2	1	SC		EQ		L			M			
1175	1406	599		05	HM	1	1			RI	EQ		U			G			G
244	1406	506		25	HM	1	1			RI	EQ		R			E			
35	1406	550		100	HM	1	1			VE	EQ		U			E			
364	1406	719		100	HM	1	1			VE	EQ		U			G			
641	1406			75	HM	2	2			VEC	EQ		U			G			
1097	1406	779		75	HM	1	1			vel5	EQ		U			G	P		
1214	1406	916		25	HM	1	2	1	PE		EQ?		R			G	P		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
264	1406	502		05	HM	1	1		PE		EQ?		R			G			
521	1406	1087		100	HM	1	1	1	coracoid		GAG		R			E			
1372	1406	643		100	HM	1	1	1	HU		GAG		L			E			
676	1406			75	HM	1	1	1	Tibiotarsus		GAG		L			E			
1373	1406	606		75	HM	1	1	1	tibiotarsus		GAG		R			G			
332	1406	699		25	HM	1	1	1	TI		LEE		R			G			
22	1406	372		100	HM	1	1	1	CA		O		R			G			
468	1406	1070		05	HM	1	1		HC		O		R			G			
484	1406	1084		25	HM	1	1	1	HU		O		L			E	T		
67	1406	396		25	HM	1	1		HU		O		R			G			C
351	1406	623		50	HM	1	1		HU		O		L			G			C
1254	1406	878		25	HM	1	17		MC1		O		U			G			
345	1406	943		50	HM	1	4	1	MC1		O		R			B			
456	1406	974		50	HM	1	1	1	MC1		O		L			M			C
1043	1406	739		50	HM	1	1		MC1		O		L			G			C
1092	1406	777		50	HM	1	1		MC1		O		R			G			C
516	1406	1087		75	HM	1	1	1	MC1		O		L			G			
62	1406	398		05	HM	1	3		MT1		O		U			G			C
388	1406	829		25	HM	1	1		MT1		O		U			M			C
1094	1406	751		25	HM	1	1		MT1		O		U			G			C
1109	1406	770		25	HM	1	1		MT1		O		U			E			
1191	1406	827		50	HM	1	1		MT1		O		L			G			
455	1406	1047		75	HM	1	1	1	MT1		O		L			G			
649	1406			05	HM	2	2	1	N		O		R			G			
1183	1406	843		05	HM	1	1	1	N		O		L			M			
385	1406	631		50	HM	1	1	1	N		O		L			G			
386	1406	666		50	HM	1	1	1	N		O		R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
518	1406	1087		100	HM	1	1	1	P1		O		U	A		E			
538	1406	1063		100	HM	1	1	1	P1		O		L	A		G			
1072	1406	718		50	HM	1	1	1	P1		O			P		G			
539	1406	1063		75	HM	1	1	1	P1		O		R			G			
570	1406	1005		75	HM	1	1	1	P3		O		R			G			
43	1406	370		25	HM	1	1	1	PE		O		L			M			
402	1406	811		25	HM	1	1	1	PE		O		L			G			
667	1406			25	HM	1	1	1	PE		O		L			G			
401	1406	677		50	HM	1	1	1	PE		O		L			G			
400	1406	668		75	HM	1	1	1	PE		O		R			G			
1323	1406	657		05	HM	1	1		RA		O		L			G			
1367	1406	540		25	HM	1	1		SC		O		L			G			G
625	1406	1098		50	HM	1	1		TI		O		R			G			C
121	1406	205		75	HM	1	5	1	TI		O		L			G			
555	1406	1019		50	HM	1	1	1	UL		O		R			G			
416	1406	1094		05	HM	1	1		X		O		R			G			
407	1406	1043		75	HM	1	1	1	X		O		L			G			
1238	1406	922		05	HM	1	1			tooth	O		U			M			
208	1406	496		05	HM	1	1		MP1		OCC		U			G			C
237	1406	421		05	HM	1	1		MT1		OCC		U			G			C
1270	1406	891		25	HM	1	66		MT1		OCC		U			M			G
654	1406			05	HM	1	1		N		OCC		L			G			
1084	1406	738		05	HM	1	1		N		OCC		R			G			
1320	1406	462		05	HM	1	4		N		OCC		L			G			
298	1406	268		25	HM	1	2		RA		OCC		R			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
241	1406	519		50	HM	1	1		RA		OCC		U			E			C
263	1406	539		25	HM	1	3		SC		OCC		L			G			
1258	1406	896		100	HM	1	1			os centrotarsale	OCC		L			G			
350	1406	847		50	HM	1	1	1	HU		OVA		R			E			
344	1406	764		100	HM	1	1	1	MC1		OVA		R			M			
454	1406	1087		100	HM	1	1	1	MC1		OVA		L			M			
30	1406	275		75	HM	1	1	1	MT1		OVA		L			G	T		
343	1406	610		100	HM	1	1	1	MT1		OVA		R			E			
453	1406	1081		100	HM	1	1	1	MT1		OVA		R			G			
406	1406	1034		05	HM	1	2	1	N		OVA		R			G			
384	1406	555		50	HM	1	1	1	N		OVA		R			G			
403	1406	1068		75	HM	1	1	1	N		OVA		L			G			
404	1406	1097		75	HM	1	1	1	N		OVA		L			M			
461	1406	1081		100	HM	1	1	1	P1		OVA		R	A	M	G			
329	1406	905		50	HM	1	1	1	TI		OVA		L			G	T		
1136	1406	628		50	HM	1	1	1	TI		OVA		L			E			
46	1406	217		05	HM	1	1		X		OVA		R			G			
1247	1406	941		75	HM	1	1	1	MCV		S		R			G			C
382	1406	713		05	HM	1	1	1	N		S		L			G			
1223	1406	945		05	HM	1	1		N		S		L			G			
383	1406	731		25	HM	1	1	1	N		S		R			G			
434	1406	1397		25	HM	1	1	1	N		S		B			G			
435	1406	1391		25	HM	1	1	1	N		S		L			M			C
1119	1406	767		25	HM	1	1	1	N		S		R			G			
59	1406	513		50	HM	1	4	1	N		S		R			G			
300	1406	276		75	HM	1	1	1	patella		S		L			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
413	1406	1392		50	HM	1	1	1	RA		S		L			M			C
1226	1406	903		05	HM	1	4		SC		S		L			G			
175	1406	399		25	HM	1	1	1	SC		S		L			G			C
653	1406			25	HM	1	1	1	TI		S		R			G			
1365	1406	465		25	HM	1	1		UL		S		R			G			
157	1406	292		05	HM	1	1			LBS		AV	U			E			
519	1406	1087		05	HM	1	1			LBS		AV	U			G			
1271	1406	875		05	HM	1	1			LBS		AV	U			G			
1185	1406	825		25	HM	1	1			LBS		AV	U			E			
520	1406	1087		50	HM	1	1			LBS		AV	U			E			
314	1406	257		05	HM	1	1			IND		IND	U			B			
101	1406	241		05	HM	1	1			LBS		IND	U			B			
1172	1406	563		05	HM	1	1			LBS		IND	U			G			
1179	1406	818		75	HM	1	1			vec		l/m	U			G			
552	1406	1396		25	HM	1	2	1	AT			LM	U			M			C
167	1406	191		25	HM	1	4		AX			LM	U			G			
83	1406	302		100	HM	1	1		carp			LM	U			G			
51	1406	374		05	HM	7	7		CR			LM	U			G			
87	1406	306		05	HM	1	1		CR			LM	U			G			
110	1406	228		05	HM	1	1		CR			LM	U			G			
146	1406	241		05	HM	1	1		CR			LM	U			G			
161	1406	196		05	HM	2	2		CR			LM	U			G			
235	1406	402		05	HM	1	1		CR			LM	U			E			
249	1406	504		05	HM	2	2		CR			LM	U			G			
270	1406	526		05	HM	1	1		CR			LM	R			G			C

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
271	1406	536		05	HM	1	1		CR			LM	U			G			
276	1406	271		05	HM	1	1		CR			LM	U			G			
289	1406	273		05	HM	1	8		CR			LM	U			M			
296	1406	269		05	HM	1	1		CR			LM	U			G			
313	1406	289		05	HM	4	4		CR			LM	U			G			
316	1406	292		05	HM	1	12		CR			LM	U			M			
317	1406	270		05	HM	1	9		CR			LM	U			M			
670	1406			05	HM	4	4		CR			LM	U			G			
843	1406			05	HM	1	1		CR			LM	U			E			
1093	1406	777		05	HM	1	1		CR			LM	U			G			
1100	1406	758		05	HM	1	2		CR			LM	U			G			
1166	1406	544		05	HM	1	6		CR			LM	U			G			
1188	1406	832		05	HM	1	18		CR			LM	U			M			
1206	1406	936		05	HM	2	2		CR			LM	U			G			
1303	1406	653		05	HM	1	1		CR			LM	U			G			
156	1406	292		25	HM	1	40		CR			LM	U			G			
1368	1406	440		05	HM	1	15		FE			LM	U			M	P		
673	1406			05	HM	1	1		FE			LM	U			G			
525	1406	1349		25	HM	1	1		FE			LM	R			G			C
658	1406			25	HM	1	1		FE			LM	R			G			C
1197	1406	801		25	HM	1	1		FE			LM	R			G			
185	1406	379		05	HM	1	1		HU			LM	R			G			C
233	1406	413		05	HM	1	1		HU			LM	L			G			C
279	1406	284		05	HM	1	1		HU			LM	U			G			
485	1406	1033		05	HM	1	1		HU			LM	L			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
608	1406	1104		05	HM	1	1		HU			LM	U			G			
148	1406	192		25	HM	1	5		HU			LM	U			M			
482	1406	1086		25	HM	1	1		HU			LM				g			C
483	1406	1110		25	HM	1	1		HU			LM				g			
1305	1406	425		25	HM	1	1		MC1			LM	U			B			
635	1406	1074		05	HM	1	1		mn			LM	U			M			
1180	1406	822		25	HM	1	1		MT1			LM	U			B			
598	1406	1000		05	HM	1	1		N			LM	R			M	T		
127	1406	237		05	HM	1	1		N			LM	U			G			
572	1406	1008		05	HM	1	1		N			LM	U			B			
1042	1406	744		05	HM	1	4		N			LM	U			G			
1059	1406	736		05	HM	1	1		N			LM	U			E			
1074	1406	720		05	HM	1	1		N			LM	U			G			
1158	1406	543		05	HM	1	1		N			LM	U			E			
1204	1406	947		05	HM	1	1		N			LM	L			G			
1218	1406	931		05	HM	1	1		N			LM	L			G			
1264	1406	912		05	HM	1	1		N			LM	U			G			
153	1406	200		05	HM	1	1		P1			LM	U			M			C
1132	1406	629		05	HM	1	1		P1			LM	U			B			G
189	1406	458		05	HM	1	1		PE			LM	R			G	T		
88	1406	339		05	HM	1	1		PE			LM	R			M			
182	1406	386		05	HM	1	1	1	PE			LM	L			G			
193	1406	491		05	HM	1	1		PE			LM	R			G			
214	1406	461		05	HM	1	2		PE			LM	L			G			
266	1406	538		05	HM	1	1		PE			LM	R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
273	1406	256		05	HM	1	2	1	PE			LM	R			G			C
297	1406	278		05	HM	1	7		PE			LM	R			G			
1156	1406	578		05	HM	2	2		PE			LM	U			G			
1246	1406	942		05	HM	1	1		PE			LM	L			G			
76	1406	349		25	HM	1	3		PE			LM	U			M			
1297	1406	682		25	HM	1	8		PE			LM	U			M			
1321	1406	671		25	HM	1	1		PE			LM	R			G			
1322	1406	670		25	HM	1	3		PE			LM	L			G			
20	1406	377		05	HM	1	1		RA			LM	U			G			
85	1406	334		05	HM	1	1		RA			LM	L			B			
86	1406	306		05	HM	1	1		RA			LM	U			M			
210	1406	477		05	HM	1	1		RA			LM	U			E			
224	1406	411		05	HM	1	1		RA			LM	L			M			
359	1406	560		05	HM	1	1		RA			LM	L			G			
577	1406	964		05	HM	1	1		RA			LM	R			B			
629	1406	1082		05	HM	1	6		RA			LM	L			G			
1212	1406	909		05	HM	1	1		RA			LM	U			B			G
1259	1406	873		05	HM	1	1		RA			LM	U			B			
1194	1406	826		25	HM	1	1		RA			LM	L			B			R
1359	1406	1002		05	HM	1	2		SC			LM	R			G	t, p		
116	1406	220		05	HM	1	1		SC			LM	L			G	T		
1154	1406	570		05	HM	1	1		SC			LM	L			E	T		
118	1406	244		05	HM	1	1		SC			LM	U			G			
206	1406	463		05	HM	1	10		SC			LM	U			B			
209	1406	499		05	HM	1	1		SC			LM	U			E			
212	1406	487		05	HM	1	1		SC			LM	U			G			
251	1406	520		05	HM	1	1		SC			LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
470	1406	1070		05	HM	1	1	1	SC			LM	L			G			
578	1406	978		05	HM	1	1		SC			LM	U			B			
592	1406	952		05	HM	1	5		SC			LM	R			G			
669	1406			05	HM	13	13		SC			LM	U			mx			
1040	1406	703		05	HM	1	1		SC			LM	R			G			
1071	1406	718		05	HM	1	1		SC			LM	U			G			
1086	1406	797		05	HM	1	1		SC			LM	R			G			
1153	1406	559		05	HM	1	1		SC			LM	U			E			
1157	1406	595		05	HM	1	1		SC			LM	U			G			
1306	1406	425		05	HM	1	1		SC			LM	U			G			
1112	1406	798		25	HM	1	4		SC			LM	R			E			
530	1406	1358		05	HM	1	1		TI			LM	U			E			
660	1406			05	HM	1	1		TI			LM	R			G			
1256	1406	850		05	HM	1	1		TI			LM	L			B			
103	1406	216		25	HM	1	1		TI			LM	U			G			
529	1406	1358		25	HM	1	1		TI			LM	L			E			C
659	1406			25	HM	1	1		TI			LM	L			G			C
331	1406	699		50	HM	1	1		TI			LM	R			G			C
357	1406	603		50	HM	1	1		TI			LM	R			B			C
1161	1406	591		05	HM	1	1		UL			LM	L			E			
596	1406	970		05	HM	1	1			ce		LM	U			G			
14	1406	500		05	HM	1	1			cr		LM	U			G			
61	1406	393		05	HM	2	2			cr		LM	U			G			
1095	1406	784		05	HM	1	1			IND		LM	U			G	t,p		
1054	1406	729		05	HM	1	1			IND		LM	U			E	T		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1198	1406	801		05	HM	1	2			IND		LM	U			A	T		
89	1406	301		05	HM	1	1			IND		LM	U			M			
99	1406	241		05	HM	8	8			IND		LM	U			A			
111	1406	228		05	HM	1	2			IND		LM	U			G		CB	
117	1406	246		05	HM	1	1			IND		LM	U			G			
137	1406	246		05	HM	2	2			IND		LM	U			G			
154	1406	197		05	HM	1	3			IND		LM	U			G			
163	1406	196		05	HM	2	2			IND		LM	U			M			
164	1406	198		05	HM	1	1			IND		LM	U			M			
230	1406	421		05	HM	1	1			IND		LM	U			G			
272	1406	529		05	HM	1	4			IND		LM	U			G			
282	1406	294		05	HM	1	1			IND		LM	U			M			
301	1406	285		05	HM	1	8			IND		LM	U			G			
305	1406	262		05	HM	1	6			IND		LM	U			G			
366	1406	719		05	HM	3	3			IND		LM	U			B			
419	1406	953		05	HM	2	2			IND		LM	U			G			
422	1406	1109		05	HM	1	1			IND		LM	U			M			
507	1406	1351		05	HM	1	1			IND		LM	U			M			
546	1406	1340		05	HM	3	3			IND		LM	U			G			
553	1406	1396		05	HM	1	1			IND		LM	U			G			
558	1406	1014		05	HM	1	1			IND		LM	U			G			
566	1406	1050		05	HM	1	4			IND		LM	U			G			
567	1406	1003		05	HM	1	1			IND		LM	U			G			
571	1406	1036		05	HM	2	2			IND		LM	U			G		Cp	
609	1406	1104		05	HM	1	1			IND		LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
675	1406			05	HM	6	6			IND		LM	U			G			
1050	1406	723		05	HM	1	1			IND		LM	U			G			
1056	1406	737		05	HM	1	1			IND		LM	U			E			
1065	1406	742		05	HM	1	1			IND		LM	U			G			
1108	1406	756		05	HM	2	2			IND		LM	U			G			
1121	1406	767		05	HM	1	1			IND		LM	U			M			
1124	1406	598		05	HM	1	4			IND		LM	U			G			
1137	1406	616		05	HM	1	1			IND		LM	U			B			
1143	1406	627		05	HM	1	1			IND		LM	U			G			
1211	1406	944		05	HM	1	3			IND		LM	U			G			
1237	1406	917		05	HM	1	3			IND		LM	U			G			R
1291	1406	692		05	HM	1	1			IND		LM	U			A			
1304	1406	695		05	HM	1	1			IND		LM	U			E			
1356	1406	1066		05	HM	1	1			IND		LM	U			G			
228	1406	445		05	HM	1	1			LBS		LM	U			E	T		
888	1406			05	HM	1	1			LBS		LM	U			G	T		
92	1406	317		05	HM	1	1			LBS		LM	U			B			
130	1406	234		05	HM	1	2			LBS		LM	U			G			
141	1406	224		05	HM	1	1			LBS		LM	U			G			C
143	1406	218		05	HM	1	13			LBS		LM	U			G			
181	1406	383		05	HM	1	1			LBS		LM	U			B			C
183	1406	368		05	HM	1	1			LBS		LM	U			E			
190	1406	453		05	HM	1	1			LBS		LM	U			B			
191	1406	459		05	HM	1	1			LBS		LM	U			G			
202	1406	451		05	HM	1	17			LBS		LM	U			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
203	1406	451		05	HM	1	1			LBS		LM	U			G			
227	1406	432		05	HM	1	11			LBS		LM	U			B			
232	1406	435		05	HM	1	10			LBS		LM	U			B			
236	1406	430		05	HM	1	3			LBS		LM	U			M			
239	1406	535		05	HM	1	1			LBS		LM	U			E			
252	1406	511		05	HM	1	1			LBS		LM	U			E			
254	1406	515		05	HM	1	1			LBS		LM	U			E			
256	1406	549		05	HM	1	1			LBS		LM	U			G			
262	1406	501		05	HM	1	1			LBS		LM	U			G			
288	1406	299		05	HM	2	2			LBS		LM	U			G			
355	1406	426		05	HM	3	3			LBS		LM	U			G			C
360	1406	572		05	HM	1	1			LBS		LM	U			G			
424	1406	1173		05	HM	1	2			LBS		LM	U			M			
436	1406	1178		05	HM	1	32			LBS		LM	U			M			
508	1406	1351		05	HM	1	1			LBS		LM	U			M			
556	1406	1041		05	HM	1	1			LBS		LM	U			B			C
574	1406	1032		05	HM	1	1			LBS		LM	U			G		Bp	
627	1406	1075		05	HM	1	2			LBS		LM	U			G		Cw	
628	1406	1090		05	HM	1	1			LBS		LM	U			G			
631	1406	1057		05	HM	1	1			LBS		LM	U			M			
632	1406	1076		05	HM	1	1			LBS		LM	U			G			
663	1406			05	HM	1	1			LBS		LM	U			E			
666	1406			05	HM	1	1			LBS		LM	U			G			
671	1406			05	HM	3	3			LBS		LM	U			G			
1041	1406	732		05	HM	1	1			LBS		LM	U			E			
1134	1406	628		05	HM	1	1			LBS		LM	U			E			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1138	1406	641		05	HM	1	1			LBS		LM	U			G			
1228	1406	940		05	HM	1	2			LBS		LM	U			E			
1242	1406	946		05	HM	1	1			LBS		LM	U			G			
1273	1406	883		05	HM	1	1			LBS		LM	U			B			
1274	1406	883		05	HM	1	1			LBS		LM	U			G			
1278	1406	884		05	HM	1	1			LBS		LM	U			B			
1284	1406	693		05	HM	1	1			LBS		LM	U			B			
1301	1406	659		05	HM	1	1			LBS		LM	U			E			
1313	1406	697		05	HM	1	1			LBS		LM	U			B			
194	1406	478		25	HM	1	1			LBS		LM	U			G			
1118	1406	767		25	HM	1	1			LBS		LM	U			M			C
1189	1406	844		05	HM	1	1			MP		LM	U			G			
1221	1406	937		05	HM	1	1			RI		LM	L			G	t.p		
1220	1406	937		25	HM	1	2			RI		LM	R			G	T,p		
1070	1406	746		05	HM	1	1			RI		LM	U			G	t, p		
387	1406	815		05	HM	1	1			RI		LM	U			G	T		
562	1406	1010		05	HM	1	1			RI		LM	L			M	T		
590	1406	981		05	HM	1	1			RI		LM	U			G	T		
65	1406	350		25	HM	1	1			RI		LM	U			G	T		C
472	1406	1070		25	HM	1	1			RI		LM	R			G	T		
588	1406	983		25	HM	1	1			RI		LM	L			G	T		
1048	1406	717		25	HM	1	1			RI		LM	R			G	T		C
1089	1406	757		25	HM	1	1			RI		LM	U			G	T		
1133	1406	648		25	HM	1	1			RI		LM	L			G	T		R
1266	1406	856		25	HM	1	4			RI		LM	R			G	T		
1287	1406	654		25	HM	1	1			RI		LM	L			G	T		
1081	1406	771		05	HM	1	2			RI		LM	U			G	P, t		
1210	1406	904		05	HM	1	3			RI		LM	L			G	P		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
75	1406	325		05	HM	1	1			RI		LM	R			G			
104	1406	225		05	HM	1	7			RI		LM	U			G			
106	1406	222		05	HM	1	2			RI		LM	U			G			
107	1406	248		05	HM	1	1			RI		LM	R			G			
109	1406	238		05	HM	1	1			RI		LM	L			G			
113	1406	201		05	HM	1	1			RI		LM	U			G			
114	1406	236		05	HM	1	3			RI		LM	U			G			
115	1406	216		05	HM	1	2			RI		LM	U			G			C
120	1406	210		05	HM	1	2			RI		LM	U			G			
134	1406	230		05	HM	2	2			RI		LM	U			G			
138	1406	229		05	HM	1	13			RI		LM	U			E			
162	1406	196		05	HM	1	2			RI		LM	U			G			
170	1406	387		05	HM	1	3			RI		LM	U			M			
172	1406	381		05	HM	1	1			RI		LM	U			E			
219	1406	464		05	HM	1	1			RI		LM	U			G			
221	1406	470		05	HM	1	7			RI		LM	U			G			
223	1406	422		05	HM	1	1			RI		LM	U			G			
226	1406	439		05	HM	1	1			RI		LM	U			G			
240	1406	534		05	HM	1	3			RI		LM	U			M			
247	1406	505		05	HM	1	1			RI		LM	U			G			
250	1406	520		05	HM	1	1			RI		LM	L			G			
257	1406	523		05	HM	1	1			RI		LM	U			G			
275	1406	280		05	HM	1	1			RI		LM	U			G			
277	1406	300		05	HM	1	13			RI		LM	L			G			
281	1406	277		05	HM	1	11			RI		LM	U			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
290	1406	297		05	HM	1	2			RI		LM	U			M			
312	1406	289		05	HM	1	1			RI		LM	U			G			
326	1406	893		05	HM	1	1			RI		LM	U			G			
327	1406	605		05	HM	1	1			RI		LM	U			G			
346	1406	769		05	HM	1	1			RI		LM	R			G			
471	1406	1070		05	HM	6	7			RI		LM	b			G			
557	1406	1048		05	HM	1	4			RI		LM	U			G			
560	1406	1011		05	HM	1	4			RI		LM	U			G			
568	1406	1012		05	HM	1	4			RI		LM	U			G			
569	1406	1043		05	HM	1	1			RI		LM	R			G			
593	1406	972		05	HM	1	1			RI		LM	L			E			
613	1406	1122		05	HM	1	1			RI		LM	R			G			
615	1406	1095		05	HM	1	1			RI		LM	U			B			C
622	1406	1065		05	HM	1	1			RI		LM	L			G			
1069	1406	877		05	HM	1	3			RI		LM	U			E			
1102	1406	781		05	HM	1	1			RI		LM	U			G			
1174	1406	585		05	HM	1	1			RI		LM	U			G			
1178	1406	828		05	HM	1	1			RI		LM	U			M			
1186	1406	825		05	HM	1	2			RI		LM	U			G			
1195	1406	810		05	HM	1	1			RI		LM	U			M			
1216	1406	923		05	HM	1	1			RI		LM	U			M			
1217	1406	932		05	HM	1	1			RI		LM	U			E			
1222	1406	929		05	HM	1	4			RI		LM	U			E			
1239	1406	920		05	HM	1	3			RI		LM	U			G			
1240	1406	934		05	HM	1	2			RI		LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1253	1406	860		05	HM	1	1			RI		LM	L			G			
1272	1406	897		05	HM	1	1			RI		LM	U			G			G
1296	1406	691		05	HM	1	3			RI		LM	U			M			
1310	1406	698		05	HM	1	7			RI		LM	U			G			
74	1406	328		25	HM	1	7			RI		LM	L			G			
80	1406	336		25	HM	1	3			RI		LM	U			M			
139	1406	204		25	HM	1	4			RI		LM	R			M			
152	1406	200		25	HM	1	1			RI		LM	R			E			
389	1406	834		25	HM	1	1			RI		LM	L			G			
432	1406	1016		25	HM	1	1			RI		LM	R			G			
513	1406	1087		25	HM	1	1			RI		LM	L			M			
545	1406	1394		25	HM	1	2			RI		LM	U			G			C
582	1406	962		25	HM	1	1			RI		LM	R			G			
594	1406	994		25	HM	1	1			RI		LM	R			E			
630	1406	1064		25	HM	1	1			RI		LM	L			M			
639	1406			25	HM	26	26			RI		LM	B			E			
1148	1406	561		25	HM	1	1			RI		LM	L			G			
1152	1406	587		25	HM	1	2			RI		LM	U			M			
1155	1406	570		25	HM	1	4			RI		LM	U			G			
1167	1406	544		25	HM	1	1			RI		LM	U			G			
1122	1406	598		75	HM	1	1			RI		LM	L			E			
1149	1406	571		75	HM	1	3			RI		LM	L			E			
1117	1406	789		05	HM	1	1			sacrum		LM	U			E	t,p		
1370	1406	257		75	HM	1	1			sesamoid?		LM	U			B			
1282	1406	655		05	HM	1	1			tooth		LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
26	1406	391		05	HM	2	2			u		LM	U			M			
56	1406	290		05	HM	1	1			u		LM	U			M			
57	1406	212		05	HM	1	16			u		LM	U			p			
3	1406	335		05	HM	15	15			unid		LM				M			
510	1406	1058		50	HM	1	1			VE		LM	U			M	T		
623	1406	1099		05	HM	1	1			VE		LM	U			G	P		C
25	1406	391		25	HM	1	2			VE		LM	U			G	P		
123	1406	249		05	HM	1	1			VE		LM	U			G			
173	1406	384		05	HM	1	5			VE		LM	U			G			
177	1406	378		05	HM	1	2			VE		LM	U			M			
217	1406	476		05	HM	1	1			VE		LM	U			G			
220	1406	494		05	HM	1	1			VE		LM	U			G			
302	1406	255		05	HM	1	1			VE		LM	U			M			C
523	1406	1087		05	HM	1	1			VE		LM	U			G			
532	1406	1358		05	HM	1	1			VE		LM	U			E			C
620	1406	1053		05	HM	1	1			VE		LM	U			M			
624	1406	1052		05	HM	1	4			VE		LM	U			M			
645	1406			05	HM	4	4			VE		LM	U			G			
1142	1406	602		05	HM	1	1			VE		LM	U			E			
1285	1406	688		05	HM	1	1			VE		LM	U			G			
1288	1406	676		05	HM	1	2			VE		LM	U			G			
1290	1406	689		05	HM	1	1			VE		LM	U			G			
1308	1406	656		05	HM	1	4			VE		LM	U			G			
36	1406	420		100	HM	1	1			VE		LM	U			E			
66	1406	315		100	HM	1	1			VE		LM	U			G			
258	1406	530		25	HM	1	3			VE		LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
259	1406	528		25	HM	1	5			VE		LM	U			M			
638	1406	1080		25	HM	1	2			VE		LM	U			M			
1292	1406	690		25	HM	1	1			VE		LM	U			G			
1302	1406	427		25	HM	1	2			VE		LM	U			G			G
72	1406	320		50	HM	1	8			VE		LM	U			M			
165	1406	195		50	HM	1	10			VE		LM	U			M			
200	1406	466		50	HM	1	1			VE		LM	U			G			C
253	1406	503		50	HM	1	1			VE		LM	U			G			C
1164	1406	568		50	HM	1	1			VE		LM	U			E			
234	1406	403		75	HM	1	2			VE		LM	U			E			
512	1406	1087		75	HM	1	1			VE		LM	U			G			
544	1406	1394		75	HM	1	1			VE		LM	U			G			
554	1406	1019		75	HM	1	1			VE		LM	U			G			
643	1406			100	HM	1	1			VEC		LM	U			G			
1298	1406	673		25	HM	1	1			vec		LM	U			G			
1096	1406	765		75	HM	1	1			vec		LM	U			E			
1177	1406	564		75	HM	1	1			vec		LM	U			G			G
1358	1406	1017		25	HM	1	1			vel		LM	U			G	P		
1207	1406	948		50	HM	1	1			vel		LM	U			G	P		
1078	1406	800		75	HM	1	1			VEL		LM	U			E			
1098	1406	799		75	HM	1	2			vel		LM	U			E			C
665	1406			05	HM	1	1			vet		LM	U			G			
1051	1406	725		05	HM	1	1			vet		LM	U			G			
664	1406			100	HM	1	1			vet		LM	U			G			
642	1406			75	HM	3	3			VET		LM	U			G			
1049	1406	745		75	HM	1	1			vet		LM	U			G			
1076	1406	778		75	HM	1	1			vet		LM	U			E			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1123	1406	598		75	HM	1	4			vet		LM	U			E			
1127	1406	634		75	HM	1	1			vet		LM	U			E			
1286	1406	408		75	HM	1	1			vet		LM	U			E			
286	1406	254		05	HM	1	4		CR			M	U			G			
586	1406	987		05	HM	1	1		CR			M	U			G			
587	1406	999		05	HM	1	1		CR			M	U			G			
599	1406	1227		05	HM	1	1		CR			M	U			M			
662	1406			05	HM	1	1		CR			M	R			E			
1046	1406	734		05	HM	1	1		CR			M	U			G			
1073	1406	748		05	HM	1	1		CR			M	U			G			
1090	1406	757		05	HM	3	3		CR			M	U			G			
94	1406	329		05	HM	1	18		SC			M	U			M			
1196	1406	808		05	HM	1	1		SC			M	U			G			
579	1406	993		25	HM	1	1		TI			M	R			M			
60	1406	527		50	HM	1	1			cr		M	R			G			
1055	1406	709		05	HM	1	1			IND		M	U			E	T		
1233	1406	913		05	HM	1	1			IND		M	U			G	P		
180	1406	364			HM	1	1			IND		M	U			G			
63	1406	318		05	HM	2	2			IND		M	U			G			
70	1406	340		05	HM	1	3			IND		M	U			G			C
71	1406	322		05	HM	1	1			IND		M	U			M			
78	1406	331		05	HM	3	3			IND		M	U			G			
82	1406	344		05	HM	4	4			IND		M	U			G			
93	1406	317		05	HM	5	5			IND		M	U			M			
97	1406	348		05	HM	7	7			IND		M	U			M			
98	1406	347		05	HM	6	6			IND		M	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
131	1406	202		05	HM	4	4			IND		M	U			G			
132	1406	250		05	HM	1	1			IND		M	U			G			
142	1406	207		05	HM	1	10			IND		M	U			B			
144	1406	206		05	HM	1	12			IND		M	U			M			
178	1406	395		05	HM	7	7			IND		M	U			M			
196	1406	451		05	HM	4	4			IND		M	U			M			
215	1406	461		05	HM	2	2			IND		M	U			G			
225	1406	412		05	HM	1	1			IND		M	U			M			C
231	1406	428		05	HM	1	1			IND		M	U			G			
268	1406	541		05	HM	1	1			IND		M	U			A			
274	1406	256		05	HM	1	1			IND		M	U			G			C
278	1406	279		05	HM	1	1			IND		M	U			B			
280	1406	284		05	HM	1	1			IND		M	U			G			
293	1406	252		05	HM	2	2			IND		M	U			G			
303	1406	255		05	HM	2	2			IND		M	U			G			
306	1406	296		05	HM	1	30			IND		M	U			M			
311	1406	282		05	HM	2	2			IND		M	U			G			
334	1406	699		05	HM	2	2			IND		M	U			G			
405	1406	973		05	HM	1	1			IND		M	U			G			
460	1406	1059		05	HM	1	1			IND		M	U			G		Bp	
505	1406	1351		05	HM	9	9			IND		M	U			G			
522	1406	1087		05	HM	6	6			IND		M	U			G			
573	1406	1009		05	HM	1	1			IND		M	U			B			
576	1406	1032		05	HM	1	2			IND		M	U			G		Cw	
585	1406	951		05	HM	1	1			IND		M	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
597	1406	982		05	HM	4	4			IND		M	U			M		Cp	
607	1406	1105		05	HM	1	1			IND		M	U			B			
612	1406	1101		05	HM	1	1			IND		M	U			G			
678	1406			05	HM	28	28			IND		M	U	g		g			
1061	1406	722		05	HM	1	1			IND		M	U			M			
1066	1406	873		05	HM	1	1			IND		M	U			G			
1067	1406	704		05	HM	1	1			IND		M	U			G			
1068	1406	702		05	HM	3	3			IND		M	U			G			
1075	1406	720		05	HM	3	3			IND		M	U			G			
1103	1406	795		05	HM	1	1			IND		M	U			G			
1106	1406	794		05	HM	2	2			IND		M	U			E			
1150	1406	508		05	HM	1	1			IND		M	U			G			
1160	1406	581		05	HM	1	1			IND		M	U			E			
1171	1406	563		05	HM	3	3			IND		M	U			G			
1184	1406	882		05	HM	2	2			IND		M	U			A			
1190	1406	840		05	HM	1	1			IND		M	U			B			
1205	1406	925		05	HM	1	1			IND		M	U			G			
1208	1406	906		05	HM	1	1			IND		M	U			G			
1213	1406	909		05	HM	1	1			IND		M	U			B			
1225	1406	908		05	HM	1	7			IND		M	U			M			
1227	1406	900		05	HM	1	2			IND		M	U			M			G
1231	1406	919		05	HM	1	1			IND		M	U			G			
1244	1406	910		05	HM	1	1			IND		M	U			G			
1248	1406	868		05	HM	1	1			IND		M	U			G			
1249	1406	862		05	HM	1	1			IND		M	U			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1261	1406	876		05	HM	1	1			IND		M	U			G			
1262	1406	897		05	HM	1	1			IND		M	U			G			
1265	1406	912		05	HM	1	1			IND		M	U			M			
1267	1406	889		05	HM	1	1			IND		M	U			G			
1269	1406	886		05	HM	2	2			IND		M	U			G			
1275	1406	871		05	HM	1	1			IND		M	U			G			
1276	1406	885		05	HM	1	1			IND		M	U			G			
1279	1406	863		05	HM	1	1			IND		M	U			G			
1289	1406	678		05	HM	3	3			IND		M	U			G			
1309	1406	685		05	HM	1	3			IND		M	U			G			
1311	1406	694		05	HM	1	1			IND		M	U			G			
1315	1406	652		05	HM	1	1			IND		M	U			G			
1317	1406	654		05	HM	1	1			IND		M	U			G			
1361	1406	992		05	HM	1	1			IND		M	U			E			
1363	1406	968		05	HM	1	1			IND		M	U			E			
1378	1406	<197>		05	HM	1	1			IND		M	U			G			
1131	1406	613		25	HM	1	1			IND		M	U			M			
129	1406	222		05	HM	1	2			LBS		M	U			E			
136	1406	226		05	HM	1	1			LBS		M	U			G			
199	1406	456		05	HM	1	1			LBS		M	U			B			
564	1406	1007		05	HM	1	1			LBS		M	U			G		Bw"	
565	1406	1035		05	HM	2	4			LBS		M	U			G		Cw	
904	1406	181		05	HM	2	18			LBS		M	U			A			
1044	1406	741		05	HM	1	1			LBS		M	U			E			
1052	1406	701		05	HM	2	2			LBS		M	U			G			G

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1169	1406	782		05	HM	1	1			LBS		M	U			G			
1182	1406	817		05	HM	1	1			LBS		M	U			B			
1224	1406	903		05	HM	1	1			LBS		M	U			G			
1255	1406	899		05	HM	1	2			LBS		M	U			M			
1277	1406	870		05	HM	1	1			LBS		M	U			G			G
147	1406	215		25	HM	1	5			LBS		M	U			G			C
411	1406	1039		25	HM	1	1			LBS		M	U			M			C
1139	1406	633		25	HM	1	2			LBS		M	U			E			
606	1406	1105		25	HM	1	1			RI		M	R			G	T		
108	1406	245		05	HM	1	1			RI		M	U			G			
112	1406	203		05	HM	1	3			RI		M	U			G			
122	1406	239		05	HM	1	3			RI		M	U			G			
179	1406	390		05	HM	1	1			RI		M	U			G			
267	1406	507		05	HM	1	1			RI		M	U			G			
294	1406	287		05	HM	1	19			RI		M	U			M			
1146	1406	640		05	HM	1	1			RI		M	U			G			
1251	1406	898		05	HM	1	1			RI		M	U			G			
1283	1406	655		05	HM	1	1			RI		M	U			G			
17	1406	232		05	HM	1	1			u		M	U			G			
23	1406	372		05	HM	7	7			u		M	U			M			
34	1406	326		05	HM	1	1			u		M	U			G			
44	1406	370		05	HM	1	1			u		M	U			M			
47	1406	217		05	HM	5	5			u		M	U			G			
49	1406	479		05	HM	2	2			u		M	U			G			C
50	1406	286		05	HM	1	2			u		M	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
58	1406	303		05	HM	1	2			u		M	U			M			
169	1406	199		05	HM	1	3			VE		M	U			G			
1163	1406	594		05	HM	1	2			VE		M	U			B			
1114	1406	769		05	HM	1	9		CR			MM	U			E	T		
133	1406	221		05	HM	1	1		CR			MM	U			G			
309	1406	282		05	HM	1	1		CR			MM	U			G			
315	1406	260		05	HM	1	13		CR			MM	U			M			
1064	1406	901		05	HM	3	3		CR			MM	U			G			
1091	1406	750		05	HM	2	2		CR			MM	U			G			
1202	1406	826		05	HM	1	1		CR			MM	U			M			
216	1406	475		05	HM	1	2		FE			MM	U			G			
68	1406	307		25	HM	1	1		FE			MM	U			G			
352	1406	557		25	HM	1	1		FE			MM				G			
155	1406	194		50	HM	1	2		FE			MM	L			M			C
603	1406	1342		05	HM	1	1		HU			MM	R			M			
1107	1406	756		05	HM	1	1		HU			MM	U			G			
1144	1406	625		05	HM	1	1		HU			MM	L			E			G
1159	1406	581		05	HM	1	1		HU			MM	L			E			
1316	1406	660		05	HM	1	1		HU			MM	U			G			
1140	1406	608		25	HM	1	1		HU			MM	U			E			
1314	1406	667		05	HM	1	1		MP1			MM	U			M			
84	1406	302		05	HM	1	4		N			MM	U			G			
187	1406	366		05	HM	1	1		N			MM	U			G			
308	1406	282		05	HM	1	11		N			MM	R			G			
1162	1406	562		05	HM	1	1		N			MM	L			M			C

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1200	1406	839		05	HM	1	1		N			MM	L			M			
1219	1406	931		05	HM	1	1		N			MM	L			G			
1234	1406	928		05	HM	1	1		N			MM	R			G			
1300	1406	687		05	HM	1	2		N			MM	L			G			
77	1406	331		25	HM	1	1		P1			MM	U			G			
1369	1406	512		05	HM	1	1		PE			MM	U			G	t,p		G
260	1406	531		05	HM	1	1		PE			MM	L			G			
1280	1406	895		05	HM	1	3		PE			MM	R			G			C
195	1406	480		25	HM	1	1		RA			MM	U			G	T		C
207	1406	497		05	HM	1	1		RA			MM	U			M			C
575	1406	1032		05	HM	1	1		RA			MM	U			G			
1141	1406	602		05	HM	1	1		RA			MM	U			E			
1170	1406	556		25	HM	1	1		RA			MM	R			G			
1252	1406	860		05	HM	1	1		SC			MM	R			E	t, p		
595	1406	994		25	HM	1	1		SC			MM	L			M	T, p		
145	1406	241		05	HM	1	1		SC			MM	U			G			
580	1406	998		05	HM	1	1		SC			MM	L			M			
633	1406	1076		05	HM	1	5		SC			MM	U			G			
634	1406	1061		05	HM	1	1		SC			MM	U			M			
1229	1406	950		05	HM	1	2		SC			MM	U			G			
69	1406	307		05	HM	1	1		TI			MM	U			M			
79	1406	308		05	HM	1	2		TI			MM	R			G			C
201	1406	496		05	HM	1	1		TI			MM	U			G			
1199	1406	836		05	HM	1	1		TI			MM	U			M			
42	1406	474		25	HM	1	1	1	TI			MM	R			E			R

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
583	1406	976		25	HM	1	1		TI			MM	U			G			C
1201	1406	826		25	HM	1	1		TI			MM	R			M			
1243	1406	933		25	HM	1	1		TI			MM	R			G			G
41	1406	335		50	HM	1	1	1	TI			MM	R			E			R
197	1406	493		50	HM	1	1		TI			MM	R			G			C
1105	1406	759		50	HM	1	1		TI			MM	U			G			
1147	1406	579		75	HM	1	1		TI			MM	L			E			
90	1406	309		05	HM	2	2			IND		MM	U			M			
1099	1406	799		05	HM	1	1			IND		MM	U			E			
1116	1406	776		05	HM	1	1			IND		MM	U			E			
1120	1406	767		05	HM	1	1			IND		MM	U			G			
1126	1406	614		05	HM	1	1			IND		MM	U			E			
1209	1406	907		05	HM	1	1			IND		MM	U			G			
1236	1406	935		05	HM	1	1			IND		MM	U			G			
171	1406	367		05	HM	1	1			LBS		MM	U			G	P		
64	1406	332		05	HM	1	1			LBS		MM	U			G			
95	1406	342		05	HM	1	1			LBS		MM	U			G			
126	1406	231		05	HM	1	1			LBS		MM	U			E			
128	1406	237		05	HM	2	2			LBS		MM	U			G			
140	1406	242		05	HM	1	1			LBS		MM	U			E			
151	1406	193		05	HM	2	2			LBS		MM	U			G			
158	1406	292		05	HM	1	1			LBS		MM	U			G			C
166	1406	195		05	HM	1	1			LBS		MM	U			G			C
176	1406	388		05	HM	1	1			LBS		MM	U			G			
186	1406	366		05	HM	1	1			LBS		MM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
192	1406	468		05	HM	1	1			LBS		MM	U			G			
198	1406	489		05	HM	1	1			LBS		MM	U			G			
205	1406	473		05	HM	1	1			LBS		MM	U			E			
243	1406	517		05	HM	1	1			LBS		MM	U			E			
265	1406	542		05	HM	1	1			LBS		MM	U			G			C
285	1406	272		05	HM	2	2			LBS		MM	U			G			
287	1406	261		05	HM	1	17			LBS		MM	U			G			
292	1406	295		05	HM	1	1			LBS		MM	U			G			
310	1406	282		05	HM	2	2			LBS		MM	U			G			
375	1406	661		05	HM	1	1			LBS		MM	U			G			
506	1406	1351		05	HM	1	3			LBS		MM	U			E			
563	1406	1028		05	HM	1	1			LBS		MM	U			G			
581	1406	979		05	HM	1	1			LBS		MM	U			M			
584	1406	985		05	HM	1	1			LBS		MM	U			M			
626	1406	1098		05	HM	4	4			LBS		MM	U			G			
674	1406			05	HM	4	4			LBS		MM	U			G			
842	1406			05	HM	1	1			LBS		MM	U			E			
859	1406			05	HM	2	2			LBS		MM	U			G			
897	1406			05	HM	1	1			LBS		MM	U			E			
1047	1406	734		05	HM	1	4			LBS		MM	U			G			
1088	1406	793		05	HM	1	1			LBS		MM	U			E			
1101	1406	796		05	HM	1	2			LBS		MM	U			E			
1104	1406	753		05	HM	1	2			LBS		MM	U			M			
1110	1406	791		05	HM	1	1			LBS		MM	U			E			C
1128	1406	635		05	HM	1	1			LBS		MM	U			E			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1129	1406	637		05	HM	1	2			LBS		MM	U			E			
1135	1406	628		05	HM	1	1			LBS		MM	U			E			
1241	1406	915		05	HM	1	1			LBS		MM	U			G			
1250	1406	874		05	HM	1	1			LBS		MM	U			G			
1299	1406	675		05	HM	1	7			LBS		MM	U			M			
1312	1406	423		05	HM	1	1			LBS		MM	U			E			
1318	1406	658		05	HM	1	1			LBS		MM	U			G			
1319	1406	672		05	HM	1	1			LBS		MM	U			G			G
81	1406	344		25	HM	1	1			LBS		MM	U			G			
502	1406	1351		25	HM	1	1			LBS		MM	U			M			C
561	1406	1001		25	HM	1	2			LBS		MM	U			M			
1085	1406	763		25	HM	1	1			LBS		MM	U			G			C
1087	1406	780		25	HM	1	1			RI		MM	R			E	t, p		C
1062	1406	721		25	HM	1	1			RI		MM	R			E	T		
1173	1406	567		50	HM	1	1			RI		MM	L			E	T		
125	1406	231		05	HM	1	1			RI		MM	U			E			
211	1406	477		05	HM	1	1			RI		MM	U			G			
213	1406	467		05	HM	1	1			RI		MM	U			G			
218	1406	492		05	HM	1	1			RI		MM	U			G			
246	1406	547		05	HM	1	5			RI		MM	U			M			
248	1406	548		05	HM	1	1			RI		MM	U			G			
269	1406	510		05	HM	1	2			RI		MM	U			M			
284	1406	272		05	HM	1	1			RI		MM	R			G			
291	1406	298		05	HM	1	4			RI		MM	U			M			
417	1406	1094		05	HM	1	1			RI		MM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
559	1406	1040		05	HM	1	1			RI		MM	U			G			
589	1406	981		05	HM	1	1			RI		MM	R			G			
860	1406			05	HM	1	1			RI		MM	U			G			
1058	1406	749		05	HM	1	1			RI		MM	U			E			
1115	1406	769		05	HM	1	1			RI		MM	U			E			
1130	1406	626		05	HM	1	1			RI		MM	L			E			
1230	1406	949		05	HM	1	1			RI		MM	U			G			
1245	1406	938		05	HM	1	5			RI		MM	U			G			
1263	1406	866		05	HM	1	1			RI		MM	U			G			
1353	1406	686		05	HM	1	4			RI		MM	U			G			
621	1406	1054		25	HM	1	1			RI		MM	L			G			
1057	1406	728		25	HM	1	4			RI		MM	U			E			C
1215	1406	930		25	HM	2	4			RI		MM	U			E			
1371	1406	485		25	HM	1	1			RI		MM	U			E			
52	1406	374		05	HM	1	1			VE		MM	U			G			247
1257	1406	896		05	HM	1	5			VE		MM	U			M			
668	1406			75	HM	1	1			vec		MM	U			G			
1145	1406	640		75	HM	1	1			vel		MM	U			E	P		
896	1406			75	HM	1	1			vet		MM	U			G			
1362	1406	1024		05	HM	1	1			LBS		mm/av	U			E			
1351	1406	679		25	HM	1	1		AT			SM	U			G			
333	1406	699		05	HM	1	1		PE			SM	U			G	T		C
73	1406	320		05	HM	1	1		PE			SM	L			G			
605	1406	1103		05	HM	1	1		SC			SM	U			G			
604	1406	1102		05	HM	1	1			RI		SM	L			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1060	1406	722		05	HM	1	1			RI		SM	U			E			
1352	1406	679		50	HM	1	1			VE		SM	U			G			
1350	1406?			75	HM	1	1	1	HC		B		R			G			
1335	1406?			50	HM	1	1		MC1		B		R			G			C
1334	1406?			25	HM	1	1	1	MT1		B		R			G			
1328	1406?			05	HM	1	1		N		B		L			G			
1325	1406?			100	HM	1	1	1	N		B		R			G			G
1326	1406?			75	HM	1	1	1	N		B		L			G			
1327	1406?			75	HM	1	1	1	N		B		L			G			
1331	1406?			100	HM	1	1	1	TI		B		R			G			
1330	1406?			25	HM	1	1		TI		B		L			E			
1333	1406?			05	HM	1	1		N		CB		R			G	T		
1329	1406?			05	HM	1	1		SC		CB		L			G	P		
1332	1406?			25	HM	1	1	1	TI		CEE		L			G			R
1349	1406?			75	HM	1	2	1	tarsometatarsus		?GG		L			G			
1339	1406?			50	HM	1	1		MT1		O		R			G			
1348	1406?			75	HM	1	1	1	FE		O/S		R			G			
1340	1406?			05	HM	1	1			LBS		AV	U			G			
1337	1406?			05	HM	1	1		SC			LM	U			G			
1343	1406?			50	HM	1	1			RI		LM	L			G	P		
1345	1406?			05	HM	1	1			RI		LM	U			E			
1344	1406?			50	HM	1	1			RI		LM	L			E			G
1342	1406?			75	HM	2	2			RI		LM	R			G			
1346	1406?			75	HM	1	1			vec		LM	U			E			
1347	1406?			50	HM	1	2			vel		LM	U			G			
1341	1406?			05	HM	2	2			IND		M	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1336	1406?			50	HM	1	1		HU			MM	L			G			G
1338	1406?			50	HM	1	1		RA			MM	L			G			C
806	1813	1143		50	HM	1	5	1	MC1		B		R			G			C
807	1813	1143		05	HM	1	9		SC			LM	U			M			
808	1813	1143		05	HM	1	1			LBS		LM	U			G			
809	1813	1143		05	HM	30	30			IND		M	U			M			
473	1406	961		25	HMed	1	1	1	TI		EQ		R			G			
768	1145	1185		25	IA	1	2		MC1		O		U			G			G
769	1145	1185		05	IA	1	1			RI		LM	U			G			
770	1145	1185		25	IA	1	1			LBS		MM	U			M			C
961	1429	1108		05	IA/RB	1	1		N		B		L			B			
763	1429	1191		75	IA/RB	1	1	1	HU		CV		R			G			
762	1429	1191		100	IA/RB	1	1	1	mC3		CV		L			E			
960	1429	1106		05	IA/RB	1	2		CR		lm		U			G			
761	1429	1191		25	IA/RB	1	1	1	N		OVA		R			E			
957	1429	1113		50	IA/RB	1	1		RA			LM	L			B			
765	1429	1191		100	IA/RB	1	1			carp/tars		LM	U			G			
764	1429	1191		05	IA/RB	4	4			IND		LM	U			G			
889	1429	1137		05	IA/RB	2	2			IND		LM	U			B			
906	1429	1107		05	IA/RB	1	1			IND		LM	U			G			
955	1429	1112		05	IA/RB	1	1			LBS		LM	U			E			
956	1429	1111		25	IA/RB	1	1			RI		LM	L			G	T		
850	1429	1136		05	IA/RB	1	1			RI		LM	U			M			
959	1429	1115		05	IA/RB	1	3			RI		LM	U			G			
958	1429	1115		05	IA/RB	1	1			vet		LM	U			G	T		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
851	1429	1136		05	IA/RB	1	1			LBS		MM	U			G			
755	1741			25	IA/RB	1	1		AT		B		U			G			
731	1741			50	IA/RB	1	1	1	CR		B		L			M			C
728	1741			50	IA/RB	1	1		MC1		B		R			M			
732	1741			75	IA/RB	1	2	1	P1		B			A		G			
726	1741			25	IA/RB	1	1	1	SC		B		L			G			
736	1741			05	IA/RB	3	3		CR			LM	U			G			
737	1741			05	IA/RB	1	1		HU			LM	U			G			
727	1741			25	IA/RB	1	1		HU			LM	R			M			G
734	1741			05	IA/RB	3	3		N			LM	U			M			
733	1741			25	IA/RB	1	13		SC			LM	U			M			
729	1741			25	IA/RB	1	1		TI			LM	U			G			
738	1741			05	IA/RB	6	6			IND		LM	U			G			
730	1741			25	IA/RB	1	1			LBS		LM	U			G			C
735	1741			05	IA/RB	3	3			RI		LM	U			G			
551	2125	1350		05	LRB/EMA	1	1		HU			LM	R			G			
848	1692			25	MBA/IA	1	1			tooth	O		U			M			
847	1692			05	MBA/IA	1	1			LBS		LM	U			M			
690	1792	1157		25	MBA/IA	1	1	1	TI		B		L			E			
709	1792	1156		05	MBA/IA	1	1		TI			LM	L			G			
710	1792	1156		25	MBA/IA	1	1			RI		LM	U			G			
970	1410	814		25	ME	1	5	1	N		B		R			M			
973	1410	814		100	ME	1	1	1	P1		B		U	A		G			
972	1410	814		25	ME	1	1	1	RA		B		R			B			
971	1410	858		25	ME	1	1			tooth	O		U			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
976	1410	812		05	ME	1	1		CR			LM	U			M			
974	1410	813		25	ME	2	2			RI		LM	L			E	T		
975	1410	812		05	ME	1	1			RI		LM	U			E			
852	1410	857		05	ME	1	1			IND		M	U			G			
817	1411	1187		05	ME	1	1		SC			LM	U			E			
815	1411	1187		05	ME	1	1			LBS		LM	U			B			
816	1411	1187		05	ME	1	1			LBS		LM	U			E			
818	1411	1187		05	ME	1	1			vet		LM	U			G			
723	1424	179		100	Me	1	1	1	P2		B			A		G			
724	1424	179		05	Me	1	1		N		CB		R			G			
725	1424	179		05	Me	1	1			RI		LM	U			G			
767	1445	1185		25	ME	1	3		X		S		L			G			
900	1447	1186		25	ME	1	1		MP1			LM	U			G			
899	1447	1186		05	ME	1	1		TI			LM	R			G			
697	1463			75	Me	1	1	1	CA		B		L			G			C
692	1463			100	Me	1	1	1	MC1		B		R			G			
696	1463			100	Me	1	1	1	P1		B			A		E			
693	1463			100	Me	1	1	1	MC1		EQ		R			B			
600	1463	1197		25	Me	1	3		MT1		O		L			M			
602	1463	1197		05	Me	1	1			IND		M	U			M			
601	1463	1197		25	Me	1	12			LBS		M	U			B			
858	1467	1188		05	Me	1	1		MT1		O		U			E			
857	1467	1188		05	Me	1	3			LBS		LM	U			G			
856	1467	1188		05	Me	1	4			RI		LM	U			G			
414	1470	1190		75	Me	1	21	1	N		B		R			E			
415	1470	1190		05	Me	5	5			IND		LM	U			G			
879	1654			50	ME	1	1		CA		B		R			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
813	1656			50	ME	1	31		MT1		B		U			B			
812	1656			05	ME	1	3		N		B		R			G			
834	1711			05	ME	1	2		CR			LM	U			G			
832	1711			05	ME	1	4		TI			LM	R			G			
833	1711			05	ME	1	1			vet		LM	U			G			
838	1729			05	ME	3	3			IND		M	U			G			
791	1734	1140		05	ME	1	1		MC1		B		R			G			C
793	1734	1140		05	ME	1	1		MP1		B		U			M	T		C
792	1734	1140		05	ME	1	2		N		B		R			G			
794	1734	1140		05	ME	1	1		N		B		L			G			
796	1734	1140		25	ME	1	1		MT1		OCC		L			G			C
800	1734	1140		05	ME	1	1		CR			LM	U			G			
804	1734	1140		05	ME	1	2		N			LM	U			G			
802	1734	1140		05	ME	1	1			carp/tars		LM	U			G			
801	1734	1140		05	ME	5	5			LBS		LM	U			G			
798	1734	1140		05	ME	4	4			RI		LM	U			E			
797	1734	1140		50	ME	1	2			RI		LM	L			G			
799	1734	1140		05	ME	1	1			vec		LM	U			G			
803	1734	1140		05	ME	33	33			IND		M	U			M			
795	1734	1140		25	ME	1	1		TI			MM	L			G			C
886	1737			05	ME	1	3		CR		EQ		U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
882	1737			05	ME	1	2		MC1			artiodacty;	U			E			
883	1737			05	ME	1	2		SC			LM	U			G			
880	1737			05	ME	1	1			LBS		LM	U			E	T		
887	1737			05	ME	11	11			IND		M	U			G			
885	1737			05	ME	2	2			LBS		MM	U			G	T		
884	1737			25	ME	1	1			LBS		MM	U			G	T		C
881	1737			05	ME	2	2			LBS		MM	U			E			
160	1739	169		25	ME	1	16		HC		B		U			G	T		
912	1754			05	ME	1	26			LBS		MM	U			B			
610	1804	1148		05	ME	1	1		HU			LM	R			G	P		
698	1806	1200		25	ME	1	1	1	HU		B		L			G			
694	1806	1200		100	ME	1	1	1	MT1		B		L			E			
695	1806	1200		50	ME	1	1		MT1			CB	U			G			
700	1806	1200		05	ME	1	1			LBS		LM	U			G			
699	1806	1200		50	ME	1	1		MP1			MM	U			G			
829	1815	1155		25	ME	1	14	1	HC		B		R			G	T		

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
822	1815	1155		05	ME	1	1		SC			LM	U			G			
820	1815	1155		05	ME	1	1			LBS		LM	U			B			
827	1815	1155		05	ME	1	1			LBS		LM	U			G			
828	1815	1155		05	ME	1	1			LBS		LM	U			M			
821	1815	1155		05	ME	1	1			RI		LM	U			G	T		
824	1815	1155		05	ME	2	2			RI		LM	U			G			
826	1815	1155		25	ME	1	1			VE		LM	U			G			
825	1815	1155		05	ME	1	1			vec		LM	U			G	T		
830	1815	1155		05	ME	19	19			IND		M	U			M			
819	1815	1155		25	ME	1	1		TI			MM	R			E			
823	1815	1155		25	ME	1	5			LBS		MM	U			G			
901	1833	1160		05	Me	3	3			LBS		MM	U			G		Cw	
947	1834	969		75	ME	1	1		MT1		B		R			G			C
953	1834	990		05	ME	1	1	1	N		CEE		L			G			C
952	1834	989		05	ME	1	1	1	X		CV		L			E			
943	1834	956		100	ME	1	1	1	MT1		EQ		R			M			
944	1834	956		50	ME	1	1	1	N		O		L			M			
954	1834	1040		100	ME	1	1			carp/tars		LM	U			E			
950	1834	991		05	ME	1	1			IND		LM	U			M			
949	1834	959		25	ME	1	1			vel		LM	U			G			
951	1834	957		05	ME	1	1			IND		M	U			G			
948	1834	969		05	ME	1	1			RI		MM	R			G			
777	1845	1138		50	Me	1	3	1	N		B		R			G			
778	1845	1138		05	Me	1	1		CR			LM	U			G			
779	1845	1138		05	Me	1	1			IND		LM	U			A			
475	1435	1193		100	PM	1	1	1	RA		B		L			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
476	1435	1193		05	PM	1	1		N			LM	L			G			
477	1435	1193		50	PM	1	1			VE		LM	U			G			
861	1990	1276		05	PM	1	1			IND		M	U			M			
481	1992	1347		50	PM	1	5		HU		B		R			M			
902	1992			05	PM	1	1			LBS		LM	U			G			
707	2073			75	PM	1	1	1	SC		B		R			M			C
892	2079			05	PM	1	1			IND		LM	U			M			
891	2079			05	PM	1	2			LBS		LM	U			M			
893	2079			05	PM	1	3			IND		M	U			M			
870	2097			05	PM	1	2			LBS		MM	U			M			
689	2103	1285		75	PM	1	1	1	TI		EQ		L			M			C
805	2109			05	PM	1	7		RA			LM	U			M			
849	2130			05	PM	1	1		RA			LM	U			M	T		
1355	2162			75	PM	1	1	1	TI		LE		R			G			
853	2176			05	PM	1	6			IND		M	U			B			
890	2188			05	PM	1	11			LBS		M	U			B			
718	2190			50	PM	1	1		MC1		B		R			B			G
719	2190			25	PM	1	1		MC1		O		U			M			
720	2190			05	PM	1	1		N			LM	L			B			
717	2190			50	PM	1	1		TI			LM	L			M			
721	2190			05	PM	21	21			LBS		LM	U			B			
785	2206			05	PM	1	38		CR		B		R			B			
787	2206			05	PM	1	1		FE		S		U			M	T		
786	2206			50	PM	1	1		UL			LM	R			B			
814	2226			05	PM	1	9	1	CR		B		R			G			
480	2238	1345		50	PM	1	2		HU		B		R			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
969	2238			100	PM	1	1	1	P2		B		U	A		M			
968	2238			50	PM	1	1		MC1		O		R			M			G
854	2245			05	PM	1	3			LBS		LM	U			B			
855	2245			05	PM	2	2			LBS		LM	U			M			
894	2266			05	PM	7	7		CR		eq?		L			M			
895	2266			05	PM	5	5			IND		M	U			M			
865	2282			05	PM	1	1			IND		LM	U			M			
811	2290			05	PM	4	4			IND		LM	U			B			C
810	2290			50	PM	1	8			LBS		LM	U			M			
868	2322			50	PM	1	1		CA			LM	R			B			C
869	2322			05	PM	1	1			LBS		LM	U			B			
866	2330			100	PM	1	1			lower molar	O		U			B			
867	2330			05	PM	1	4			IND		M	U			B			
905	2332	1290		05	PM	1	1		MP1		O		U			M			
711	2367			25	PM	1	1	1	RA		B		R			M			
712	2367			05	PM	1	1			IND		MM	U			M			
1017	2456			25	PM	1	1	1	MT1		B		L			G			
1023	2456			100	PM	1	1	1	PE		CV		R			G			
1018	2456			05	PM	1	1		MP1			artiodctyl	U			G			
1021	2456			05	PM	1	1		CR			LM	U			G			
1020	2456			05	PM	1	1			LBS		LM	U			G			
1019	2456			25	PM	1	1			RI		LM	L			G			
1022	2456			75	PM	1	1			vet		LM	U			G			
1024	2456			05	PM	1	1			RI		M	U			G			
1025	2456			05	PM	1	1		PE			MM	U			G			
772	2296			25	PREHISTORIC	1	1	1	HC		B		U			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
771	2296			25	PREHISTORIC	1	1		X		B		R			M			
773	2296			05	PREHISTORIC	1	33		CR			LM	U			A			
766	2040			25	PRE-PM	1	1	1	N		CAF		R			G			
836	1660	1146		50	RB	1	64	1	MT1		B		L			B	T		
835	1660	1146		05	RB	1	1		N		CB		L			M			
846	2324			05	RB	1	1			tooth		IND	U			G			
963	1442	87		75	RB/EM?	1	1	1	N		B		R			G			
964	1442	835		05	RB/EM?	1	1		SC			MM	U			B			
965	1442	836		05	RB/EM?	1	2		SC			MM	U			B			
966	1442	841		05	RB/EM?	1	1			RI		MM	U			E			
967	1442	838		05	RB/EM?	1	1			RI		MM	U			E			
992	1652			25	RB/Me	1	29	1	RA		B		L			M			
1382	1459			05	RB/Me	1	1			tooth	B		U			M			
1381	1459			05	RB/Me	2	20			IND		M	U			M			
780	1647	352		100	RB/Me	1	1	1	P2		B			A		G			
783	1647	352		05	RB/Me	12	12			IND		LM	U			M			
782	1647	352		05	RB/Me	1	1			LBS		LM	U			M			
781	1647	352		05	RB/Me	3	3			RI		LM	U			G			
872	1649	139		05	RB/Me	1	3	1	TI		B		L			G			
877	1649	139		100	RB/Me	1	1			4th carpal	B		L			G			
874	1649	139		25	RB/Me	1	2		P1		CB		U			M			
875	1649	139		50	RB/Me	1	1	1	FE		GAG		L			G			
873	1649	139		25	RB/Me	1	1		MT1		O		U			M			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
876	1649	139		05	RB/Me	2	2		N			LM	U			M			
878	1649	139		05	RB/Me	6	6			IND		LM	U			G			
990	1652			100	RB/Me	1	1	1	AS		B		R			E	T		
977	1652			25	RB/Me	1	1	1	HU		B		L			G	?T		
1005	1652	1174		05	RB/Me	1	17		MP1		B		U			G			
984	1652			05	RB/Me	1	1	1	MT1		B		R			G			
983	1652			25	RB/Me	1	1	1	MT1		B		R			G			
788	1652	1652		05	RB/Me	1	27	1	N		B		L			G			
987	1652			100	RB/Me	1	1	1	P1		B		U	A		M			
991	1652			05	RB/Me	1	2	1	SC		B		R			E	T		
981	1652			05	RB/Me	16	16			tooth	B		U			B			
1003	1652	1174		25	RB/Me	1	2			tooth	B		U			B			
986	1652			75	RB/Me	1	1	1	AS		CB		R			M			
995	1652			100	RB/Me	1	1	1	CA		CV		R			G			
996	1652			05	RB/Me	1	2		X		CV		R			G			
993	1652			50	RB/Me	1	1	1	TI		O		R			M			
1006	1652	1174		05	RB/Me	1	1		AX			LM	U			M			
985	1652			05	RB/Me	1	1		N			LM	U			G			
1002	1652	1174		05	RB/Me	1	3		N			LM	U			M			
789	1652	1652		05	RB/Me	1	1		RA			LM	U			M			
790	1652	1652		05	RB/Me	14	14			IND		LM	U			M			
999	1652			05	RB/Me	1	1			IND		LM	U			G			
978	1652			05	RB/Me	8	8			LBS		LM	U			G			
997	1652			05	RB/Me	2	2			LBS		LM	U			G			
998	1652			05	RB/Me	1	1			LBS		LM	U			A			
1004	1652	1174		05	RB/Me	1	1			LBS		LM	U			G			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
980	1652			05	RB/Me	1	1			RI		LM	U			G			
1001	1652	1174		05	RB/Me	1	1			RI		LM	U			M			
1007	1652	1174		05	RB/Me	1	1			vet		LM	U			G			
979	1652			05	RB/Me	30	35			IND		M	U			B			
989	1652			05	RB/Me	6	6			IND		M	U			M			
1008	1652	1174		05	RB/Me	13	13			IND		M	U			M			
988	1652			05	RB/Me	3	3			LBS		M	U			M			
1000	1652	1174		05	RB/Me	1	1		RA			MM	R			G			
994	1652			50	RB/Me	1	1		RA			MM	L			G			C
982	1652			05	RB/Me	11	11			LBS		MM	U			E			
844	1669	1150		05	RB/Me	1	1			IND		LM	U			G			
845	1669	1150		05	RB/Me	1	29			IND		M	U			M			
715	1672	1144		05	RB/Me	1	1		TI			LM	U			G			
614	1676	1142		25	RB/Me	1	10		FE			SM	R			G			
903	1678	355		05	RB/Me	1	10		N		B		U			G			
174	1680/1688	356		05	RB/Me	2	2			IND		M	U			G			
1379	1713	<177>		05	RB/Me	1	1			LBS		MM	U			G			
708	1843			100	RB/Me	1	1	1	PE		EQ		L			B			
713	1672	1144		100	RB?	1	1	1	CA		B		L			G			
714	1672	1144		50	RB?	1	1			vet		LM	U			G			
716	1672	1144		05	RB?	2	2			IND		M	U			G			
703	1748	1182		100	RB-PM	1	1	1	AS		B		R			M			
705	1748	1182		50	RB-PM	1	1		MT1		B		R			M			G
704	1748	1182		50	RB-PM	1	1	1	MC1		O		R			M			
706	1748	1182		25	RB-PM	1	1			LBS		LM	U			B			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
754	1135	1/2		25	U	1	1	1	AT		B		U			G			
757	1135	1/2		75	U	1	1	1	RA		B		R			E			C
758	1135	1/2		100	U	1	1	1	MC1		EQ		R			E	T		G
760	1135	1/2		100	U	1	1	1	FE		GAG		R			G			
748	1135	1/2		75	U	1	1			VET		L M	U			E			
752	1135	1/2		05	U	3	3			IND		LM	U			G			
759	1135	1/2		05	U	6	6			IND		LM	U			G			
753	1135	1/2		05	U	1	1			LBS		LM	U			E			
751	1135	1/2		25	U	1	3			vec		LM	U			G			
750	1135	1/2		50	U	4	4			VET		LM	U			G			
756	1135	1/2		25	U	1	1		HU			MM	L			G			
784	1363			05	U	15	15		CR		B		U			M			
862	1391	175		05	U	1	10			IND		M	U			B			
909	1415	1206		05	U	3	3			RI		LM	U			E			
910	1415	1206		05	U	1	1			IND		M	U			G			
548	1416	1189		05	U	1	1		PE			LM	U			G			
549	1416	1189		05	U	3	3		CR			M	U			G			
863	1449	1209		25	U	1	1		MT1		O		U			G			C
864	1449	1209		05	U	1	1			RI		MM	U			G			
691	1461			25	U	1	1	1	MT1		B		R			G			G
611	1496	1101		05	U	1	1			LBS		SM	U			G		Cw	
1380	1551	<195>		05	U	4	4			IND		MM	U			G			
687	1698	358		05	U	2	2		N		B		R			M			
908	1698	359		05	U	1	2	1	AX		CB		U			G	P		
686	1698	358		100	U	1	1	1	RA		EQ		R			G			G

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
688	1698	358		05	U	3	3			LBS		LM	U			M			
776	2283			50	U	1	1	1	TI		FEC		R			E			
774	2283			05	U	1	11		N		OVA		R			G			
775	2283			05	U	1	1			LBS		LM	U			M			
839	2284			50	U	1	1		MC1		O		R			B			
840	2284			05	U	1	14		CR			LM	U			B			
841	2284			05	U	14	14			IND		M	U			B			
907	1409	1114		05	undated RB?	1	2			IND		M	U			B			
898	1409	669		05	undated RB?	1	1		HU			MM	U			G	T		
1036	2464			75	UNK	1	1		TI			LM	L			G			C
1037	2464			100	UNK	2	2			vet		LM	U			G			
1026	2466			50	UNK	1	1	1	RA		B		R			G			
1028	2466			100	UNK	1	1	1		sacrum	B		U			G			
1027	2466			100	UNK	1	2	1	N		OVA		R			G			
1029	2466			05	UNK	2	2			IND		LM	U			G			
1038	2469			05	UNK	1	1			RI		LM	U			M			
1324	2471			50	UNK	1	1		MT1		O		R			G			C
1009	2488			05	UNK	1	1		N		B		L			G			
1010	2488			100	UNK	1	1	1	P3		CEE		U			G			
1011	2488			05	UNK	1	1			LBS		MM	U			E			

ID	CONTEXT	FIND NO	ABG NO	SPEC COMPLETENESS	PHASE	SPECIMENS	FRAGS PRIOR REFITTING	COUNTABLE	ELEM	UNC ELEMS	SPECIES	TAXA	L/R	A/P	M/L	PRES	BUTCH	BURN	GNAW
1012	2488			05	UNK	1	1			LBS		MM	U			M			C
1013	2492			25	UNK	1	1	1	RA		B		L			G			
1014	2492			25	UNK	1	1	1	N		O		R			G			
1015	2492			05	UNK	1	1			LBS		LM	U			G			C
1016	2492			25	UNK	1	1			LBS		MM	U			G			
1031	2495			50	UNK	1	1			LBS		MM	U			G			

Romano-British Pottery Catalogue

Context	Ware	No	G	Part	Form	Description	Rim diam	Eves	Dec	Comments	Dating
1222	GRB2	1	7.6		bodysherd	jar					L1st-E3rd
1223	GRB2	4	21.4		bodysherds	jar			double horizontal grooves		L1st-E3rd
1223	GRB2	6	18.4		bodysherds	jar					L1st-E3rd
1223	BB1	1	38.1	rim and bodysherd	BB1 cooking pot with fairly upright rim with beaded tip	Gillam 1976 no. 2	16	0.15	burnished wavy line outside neck		mid-2nd cetury
1406	SAMCG	1	3.2		dish	footring base, probably Lezoux					120-200
1406	GRB6	1	51.3		base	jar base					2nd-3rd C
1406	LNV CC	1	13.7		base	small beaker base					mid-3rd-mid-4th
1407	SAMCG	1	0.6		dish rim	incomplete bead rim					120-200
1709	GRB6	1	7		bodysherd	jar					Roman
2125	HUN CG	1	21.9	bodysherd	jar	jar				Probably from the jar RF1348	
2125	HUN CG	23	284.4	rim and bodysherds	JH3	Huntcliff type jar	18	0.17			360-E5thC
2324	GRB6	1	6.5		base	jar base					2nd-3rd C

Table 131. Romano-British Pottery Catalogue.

Medieval and Post-medieval Pottery Catalogue

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1002	Bone China	1	3	1	Footring base	Plate	U/Dec	MC19th – EC20th	
1082	Green Glazed Sandy ware	1	7	1	BS	Hollow ware	Green glaze int & ext	C17th	A fine grey sandy fabric
1082	Slipware	1	6	1	Ring foot base	Bowl	Red on white curvilinear slip design int	C18th	Fine red fabric
1222	Late Blackware	1	5	1	Rim	Bowl	Black glaze int & ext	C18th	Fine red fabric
1406	Buff Gritty ware	2	13	2	BS	Hollow ware	U/Dec	M/LC12th – M/LC13th	Common quartz & sparse red grit up to 1mm
1406	Buff Gritty ware	1	18	1	BS	Hollow ware	U/Dec	M/LC12th – M/LC13th	Buff to pale grey fabric w/ common quartz up to 1mm; sooted ext
1406	Iron-rich Coarse Sandy ware	1	18	1	Base	Hollow ware	Smoothed int & ext	MC13th – EC14th	Reduced core w/ dark orange int & ext margins; abundant round quartz up to 0.5mm
1406	Iron-rich Gritty ware	1	4	1	Rim	Jar	U/Dec	MC13th – EC14th	A wide everted rim w/ an angular lip & slightly dished int
1406	Iron-rich Gritty ware	2	7	2	BS	Hollow ware	U/Dec	MC13th – EC14th	Sooted & burnt ext
1406	Iron-rich Gritty ware	1	2	1	BS	Hollow ware	U/Dec	MC13th – EC14th	Black deposit int & ext
1406	Iron-rich Gritty ware	1	22	1	Rim	Jar	U/Dec	MC13th – EC14th	Curved everted rim; grey core w/ orange margins; sooted on rim & ext
1406	Iron-rich Gritty ware	2	12	2	BS	Hollow ware	U/Dec	MC13th – EC14th	Sooted ext; reduced throughout
1406	Iron-rich Gritty ware	3	21	2	BS	Hollow ware	U/Dec	MC13th – EC14th	Sooted ext; reduced throughout
1406	Iron-rich Gritty ware	1	8	1	Base	Hollow ware	U/Dec	MC13th – EC14th	Heavily sooted int; reduced throughout

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1406	Iron-rich Gritty ware	1	10	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	Thicker than some sherds; occ large red grit in addition to quartz
1406	Iron-rich Gritty ware	1	7	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	Abundant quartz up to 0.5mm, often up to 1mm; sooted ext
1406	Iron-rich Gritty ware	1	14	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	Sooted int & ext; dark orange to grey fabric w/ quartz & red grit up to 0.5mm
1406	Iron-rich Sandy ware	2	5	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	As IR Gritty ware but finer
1406	Iron-rich Sandy ware	1	13	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	Common quartz & sparse red grit <0.5mm in a dark orange body
1406	Iron-rich Sandy ware	1	7	1	Base	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	Dark orange fabric w/ common quartz & red grit up to 0.5mm occ larger
1406	Iron-rich Sandy ware	1	14	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	A dark orange fabric w/ common quartz & sparse red grit <0.2mm; thick soot ext
1406	Iron-rich Sandy ware type	1	18	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	See text
1406	Iron-rich Sandy ware type	1	58	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	See text
1406	Iron-rich Sandy ware type	1	64	1	BS	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	See text
1406	Iron-rich Sandy ware type	1	55	1	Base	Hollow ware	U/Dec	$MC13^{th}$ – $EC14^{th}$	See text
1429	Iron-rich Gritty ware	1	29	1	BS	Hollow ware	Smoothed int & ext	$MC13^{th}$ – $EC14^{th}$	Very hard, dense dark orange to grey body w/ abundant quartz up to 1mm & flat red grit up to 2mm

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1463	Late Blackware (?)	1	6	1	BS	Hollow ware	Multiple lines of impressed chevrons under dark slip	C18th	Very heavily abraded; see text
1463	Iron-rich Sandy ware	1	5	1	BS	Hollow ware	U/Dec	MC13th – EC14th	Dark orange fabric w/ common quartz & red grit up to 0.5mm
1749	Iron-rich Sandy ware	1	16	1	Base & BS	Jug/jar	Pinched feet ext	MC13th – EC14th	Common quartz & red grit up to 0.5mm
1813	Iron-rich Coarse Sandy ware	1	28	1	Base	Hollow ware	Smoothed int & ext	MC13th – EC14th	Hard, dense buff to grey fabric w/ common quartz up to 0.5mm
1833	Iron-rich Gritty ware	1	3	1	BS	Hollow ware	U/Dec	MC13th – EC14th	Discoloured burnt & sooted ext surface; see text
1833	Iron-rich Gritty ware	1	3	1	BS	Hollow ware	U/Dec	MC13th – EC14th	Heavily burnt ext
1894	Blue Bodied ware	2	1	1	BS/Flake	U/ID	Blue body	C19th	
1894	Brown Salt Glazed Stoneware	1	16	1	Base	Bottle	Pale brown salt glaze ext	C19th	
2053	Brown Salt Glazed Stoneware	1	29	1	Footed base	Bowl?	U/Dec	C19th	Thick body and unusual base
2053	Brown Salt Glazed Stoneware	1	4	1	BS	Hollow ware	Rouletted band ext	C19th	
2125	TP Whiteware	1	1	1	Footring base	Flatware	U/ID TP design int	M – LC19th	
2130	Whiteware	1	1	1	BS	Flatware	U/Dec	MC19th – EC20th	
2208	Iron-rich Gritty ware	1	4	1	BS	Hollow ware	U/Dec	MC13th – EC14th	Burnt ext surface; see text for description
2232	Bone China	1	1	1	BS	Flatware	U/Dec	MC19th – EC20th	

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
2238	Green Glazed Sandy ware	1	93	1	Base	Dish/bowl	Dull green glaze int & patchy ext	C16th – C17th	Pale grey to pale orange fine sandy fabric
2239	Green Glazed Sandy ware	1	25	1	BS	Dish/bowl	Green glaze int only	C16th – C17th	Fine sandy fabric w/ red grit
2239	Green Glazed Sandy ware	1	107	1	Base	Dish/bowl	Green glaze int & partially ext	C16th – C17th	Fine buff sandy fabric
2239	Green Glazed Sandy ware	1	24	1	Rim	Bowl	Green glaze int; ridge et	C16th – C17th	Fine buff sandy fabric
2239	Green Glazed Sandy ware	1	51	1	Base	Dish/bowl	Bright green glaze int; thin glaze fuming ext	C16th – C17th	Buff sandy fabric w/ sparse red & white grit
2269	Brown Salt Glazed Stoneware	1	5	1	BS	Bottle	Mottled brown salt glaze ext	C19th	
2269	Yellow Glazed Coarseware	1	10	1	Base	Bowl/pancheon	White slip int under clear glaze int	C19th	
2307	Iron-rich Sandy ware	1	5	1	Base	Hollow ware	U/Dec	MC13th – EC14th	A fine, dark orange fabric w/ very fine quartz
1429(?)	Iron-rich Gritty ware	1	2	1	BS	Hollow ware	U/Dec	MC13th – EC14th	See text for description
U/S	Green Glazed Sandy ware	2	49	1	Rim	Jar	Dull green glaze int & ext; ridge ext	C16th – C17th	Fine pale grey sandy fabric w/ fine back grit & occ rock frags
U/S	Green Glazed Sandy ware	1	9	1	BS	Dish/bowl	Dark green glaze int only	C16th – C17th	Fine dull orange sandy fabric

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
U/S	Green Glazed Sandy ware	1	7	1	BS	Dish/bowl	Dark green glaze int only	C16th – C17th	Fine dull orange sandy fabric
	Total	**60**	**945**	**56**					

Table 132. Medieval and post-medieval pottery catalogue.

Burnt Clay, Mortar, Stone and CBM Fabric Descriptions

Burnt Clay

D11

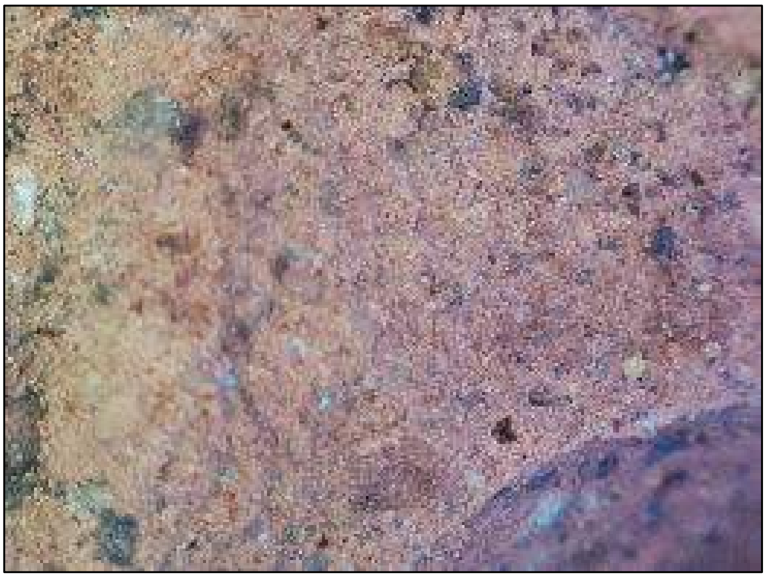

Figure 236. 6mm wide cross-section of fresh break on fabric D11.

This is a dark red fabric which is soft with a very sandy feel. It has inclusion of abundant fine quartz and moderate black iron stone.

D13

Figure 237. 6mm wide cross-section of fresh break on fabric D13.

This is a pale reddish yellow fabric. It has inclusions of rare fine quartz and black iron stone.

Mortar

Mo11

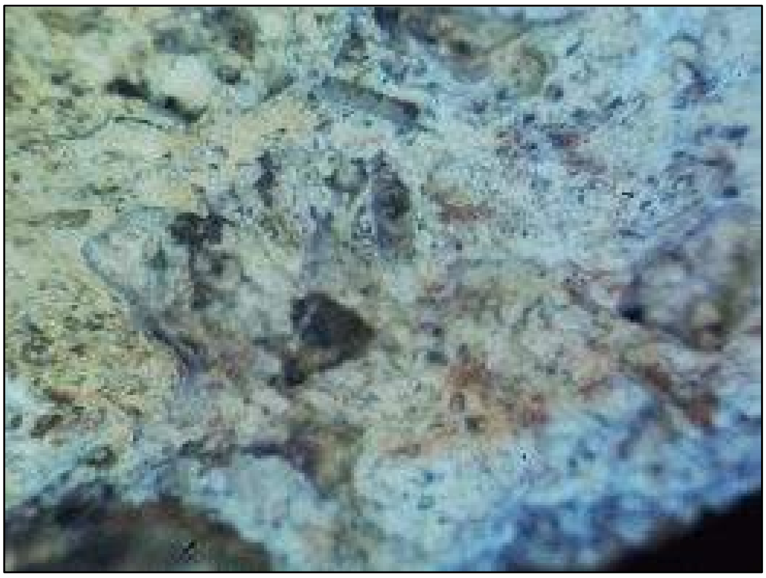

Figure 238. 6mm wide cross-section of fresh break on fabric Mo11.

This is a white medium grained mortar with yellow lenses and moderate coarse black inclusions.

Mo12

Figure 239. 6mm wide cross-section of fresh break on fabric Mo12.

This is a pale yellow fabric with abundant medium grain quartz.

Roman CBM

T11.31

Figure 240. 6mm wide cross-section of fresh break on fabric T11.31.

This is a hard light red (2.5YR 6/6) fabric with a fine fracture and sandy feel. It has inclusions of abundant fine (c. 0.1mm) sub rounded quartz, moderate silver mica and rare black iron stone up to *c*. 0.5 mm This probably equates to Bell and Evans (2002) Fabric T2, which may relate to Isserin (2002) fabric TF3

T11.32

Figure 241. 6mm wide cross-section of fresh break on fabric T11.32.

This fabric has light red (2.5YR7/8) surfaces and margins and a reddish yellow (5YR6/6) core. It is soft with an irregular fracture and harsh feel. It has inclusions of moderate sub angular translucent quartz at *c.* 0.7mm and occasional angular polycrystal quartz at 0.2-0.3mm, with some black and red ironstone at c. 0.3mm. This probably equates to Bell and Evans (2002) fabric T1; Isserlin (2002) fabric TF1a.

Post Medieval CBM

TZ21.31

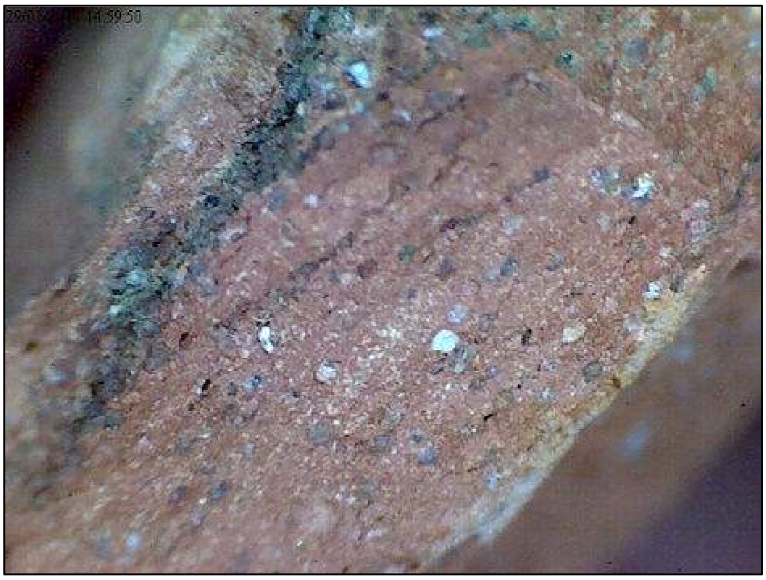

Figure 242. 6mm wide cross-section of fresh break on fabric TZ21.31.

This is a red (2.5YR 5/6) fabric. It is hard with an irregular fracture and sandy feel. It has inclusions of moderate sub angular quartz at 0.3mm and moderate to common lime at 0.2mm.

Core Stone Catalogue

SF No.	Context	Material	Colour	Provenance	Type: General	Period	L (mm)	W (mm)	T (mm)	Wt (g)	Comments
1364	Unstrat	Quartzite pebble	Dark grey	River rounded cobble	?Hammerstone		88	49	36		Substantial crushing at one end of this otherwise highly river rounded stone possibly used as a hammerstone
65	1223 top-mid	Quartzitic fine-grained sandstone	Medium grey	River rounded cobble	?Hammerstone	Mesolithic	82	62	54	428.1	Rounded and smooth probable hammerstone
148B	1223	Quartzitic coarse-grained sandstone	Medium grey	River rounded cobble?	?Hammerstone	Mesolithic	62	52	40	208.9	Rounded probable hammerstone with some possible wear at bulbous end
157b	1223	Quartzitic fine-grained sandstone	Medium grey	River rounded cobble	Cobble with pecked hole on flat face and sooting on upper surface – possibly part of fire-starting kit	Mesolithic	147	144	96		Substantial rounded cobble with one flat face with a pecked indentation on its flat face – possibly to hold a bow drill with what appears to be sooting on upper surface
586	1406 upper WB3	Fine grain sandstone	Brown		Elongated coarse stone rubbing tool		102	37	15		Elongated rubbing tool of trapezoidal shape in plan, highly smoothed with wear at both wide and narrow ends
1203	1438	Quartzitic fine-grained sandstone	Red-brown	River rounded cobble?	Hammerstone	Beaker	89	54	52	419.9	Wear/crushing evident on bulbous end of tool
1206	1438	Quartzitic medium-grained sandstone	Brown	River rounded cobble?	Coarse stone rubbing tool	Beaker	134	77	41	1206	Elongated rubbing tool with flat rubbing face and evidence for wear at its wider bulbar end and smoothed area in the centre of its rubbing surface

SF No.	Context	Material	Colour	Provenance	Type: General	Period	L (mm)	W (mm)	T (mm)	Wt (g)	Comments
1202	1479	Quartzitic fine-grained sandstone	Brown	River rounded cobble?	Coarse stone rubbing tool		126	53	40	1202	Oblong shaped rubbing tool with flat rubbing face and recent chip removed from one end, probably removed during excavation by mattocking
1170	1741	Fine grain sandstone	Light grey	River rounded cobble?	Coarse stone rubbing tool		95	42	30	153	An irregular oblong shaped probable coarse stone tool with flat rubbing surface on one side
185	1406	Medium grained sandstone	Brown	Rounded river cobble	Double perforated stone object		76	49	41		Double perforated pebble that could potentially have functioned as a weight for a net or as some kind of fixing device involving thick cords

Table 133. Catalogue of core stone implements.

Chipped Lithic Catalogue

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
20	1002		chert	dark grey	glacial	edge trimmed blade		ter	mes	40	26	7	
1	1005		flint			edge trimmed flake		ter	mes	20	9	5.5	Patinated tiny edge trimmed flake
2	1005		chert	light grey	glacial	flake		sec		10	13.5	5	
3	1005		chert		glacial	blade		sec	mes				Broken and patinated triangular sectioned blade segment
7	1005		chert		glacial	flake	core flake	sec		29	29	14	Patinated core flake
1366	1005	Ridge	Tuff	green grey	Igneous rock	axehead	ground and polished	ter	neo		65	39	Broken butt end of a classic Neolithic ground and polished stone axehead made from what appears to be Langdale Tuff, possibly deliberatly broken prior to deposition
9	1223	WB2	chert	light grey	glacial	flake		sec		11	8	3	

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
10	1223	WB2	chert	med grey	glacial	blade		sec	mes	39	18	8	Lightly patinated chert blade with some possible edge trimming
11	1223	WB2	flint			flake		sec		15	19	3.5	
12	1223	WB2	flint	light grey		flake		sec		15	22	2	
14	1223	WB2	chert	med grey	glacial	scraper		ter	mes	17	17	5	
28	1223	WB2	chert	med grey	glacial	blade		sec	mes				Broken blade segment
34	1223	WB2	chert	med grey	glacial	flake		sec					Broken flake
36	1223	WB2	flint	med grey		scraper		ter	mes	18	22	14.5	Abruptly retouched thumbnail scraper, previously used as a core
43	1223	WB2	chert	blue grey	glacial	flake		sec		12.5	8	6	
44	1223	WB2	chert	med grey	glacial	bladelet		sec					Broken small bladelet
46	1223	WB2	chert	dark grey		chip		sec		13	5	5.5	
47	1223	WB2	chert	med grey	glacial	core		sec	mes	24	16		Small blade core
48	1223	WB2	chert	blue grey	glacial	flake		sec		22	13	10	
54	1223	WB2	flint	med grey		chip		sec		15	7	3.5	Lightly patinated chip

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
55	1223	WB2	flint	red brown		retouched blade		ter	mes				Broken retouched triangular sectioned blade segment, possible point or microlith
60	1223	WB2	chert		glacial	bladelet		sec	mes				Broken triangular sectioned blade segment, patinated
68	1223	WB2	chert	med grey	glacial	core		sec	mes	11	11		Small microcore
69	1223	WB2	chert	med grey		flake		sec		15	11	7	
72	1223	WB2	chert	light grey	glacial	flake		sec		11	8	3	
73	1223	WB2	flint	light grey		flake		sec		15.5	15	7	
76	1223	WB2	chert	light grey	glacial	scraper		ter	mes	31	18.5	11	Abruptly retouched end scraper with possible attempt at piercer at opposite end
77	1223	WB2	chert	med grey	glacial	bashed lump		prim					Broken, some patination
80	1223	WB2	chert			core	platform	sec	mes	32.5	28		Patinated platform blade core with parallel-side narrow blade removal scars

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
87	1223	WB2	flint	light grey		tanged point		ter	upper pal/early mes	60	22	7	Tanged point made on long triangular sectioned blade with short tang made with abrupt unifacial retouch but with point end not finished - possibly abandoned during knapping. Most likely affinities are considered to be Ahrensburgian? ?????
92	1223	WB2	flint			axehead	flaked and ground	ter	early mes	138	51	22	Heavily patinated flaked flint axehead with ground and polished blade and slight notch mid-way along length of piece for hafting, bifacially worked and broadly symmetrical
94	1223	WB2	chert	dark grey	glacial	blade		prim		55	24.5	13	
100	1223	WB2	flint			chip		sec					Broken and patinated

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
102	1223	WB2	chert	light grey	glacial	flake		sec		19	9	9	
107	1223	WB2	chert	dark grey	glacial	core	multi platform	sec	mes?	78	50		Chert multi platform core with blade removals
109	1223	WB2	flint	med grey		flake	rejuvenation	sec	mes	27	20	12.5	Lighty patinated core rejuvenation flake made with bi-polar flaking
135	1223	WB2	chert	med grey	glacial	egde trimmed blade	oblique edge trimmed bladet	ter	mes	14	12	4	
136	1223	WB2	chert	med grey	glacial	blade		sec					Broken, thin broad blade segment
137	1223	WB2	chert	med grey	glacial	blade		sec					Broken triangular sectioned coarse blade
140	1223	WB2	chert	med grey	glacial	scraper		ter	mes	15	17	8	
172	1223	WB2	chert	med grey	glacial	scraper?		ter	mes?	36	22	10	Probable opportunisticly produced scraper
187	1223	WB2	flint	med grey		edge trimmed flake	awl?	ter		23	52	5	
1371	1223	WB2	flint	brown		microlith	broad blade	ter	early mes				Round-based broad blade microlith point with retouch on both long edges and at base

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
158b	1223	WB2	mudstone	med grey	glacial	flake		prim		120	61	14	large crude primary flake of mudstone
160b	1223	WB2	chert	med grey	glacial	edge trimmed flake		ter		48	26	31	Irregular chert flake with edge trimming along thin edge
163b	1223	WB2	flint			blade		sec	mes				Broken triangular sectioned blade segment, burnt
170b	1223	WB2	chert	light grey		flake		sec					Broken
19	1275	WB2	flint	med grey	nodular	flake		prim					Broken
1370	1275	WB2	flint			flake				21	20	6	Heavily patinated flake
23a	1277	WB2	flint	med grey	nodular	scraper	end	ter	neo	49	30	8	Slight retouch on distal end of broadcortical blade
23b	1277	WB2	flint	med grey	nodular	blade		sec	neo	40	15.5	5	Narrow parallel sided fresh cortical blade
23c	1277	WB2	flint	med grey	nodular	edge trimmed flake		ter					Broken edge trimmed cortical flake
26	1299	WB2	flint	light grey		flake		sec		19	18	2	
1369	1325	WB2	flint	light grey		retouched blade		ter	mes				Broken triangular-sectioned retouched blade

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
174	1381		flint	light grey		edge trimmed blade		ter					Tiny broken edge trimmed bladelet
263	1406	WB3	chert	light grey	glacial	flake		sec					Broken
305	1406	WB3	chert	med grey	glacial	blade		sec					Broken blade segment with triangular section
310	1406	WB3	chert	med grey	glacial	bladelet		sec	mes	14	8	4	Triangular section
330	1406	WB3	chert	light grey	glacial	chip		sec					Broken
345	1406	WB3	flint			flake	core flake	sec	mes	14	25	6	Patinated cortical core flake with microlithic bladelet removals on dorsal
375	1406	WB3	chert	dark grey	glacial	bladelet		sec	mes	20	10	6	Triangular section
385	1406	WB3	flint	light grey		core	multi platform	sec	mes				Broken
391	1406	WB3	chert	med grey	glacial	flake		prim		38.5	37	22	
407	1406	WB3	chert	med grey	glacial	scraper	tiny	ter	mes	16.5	13.5	3	Tiny thin scraper with abrupt retouch all round
541	1406	WB3	chert	dark grey	glacial	flake		sec		28	20	3.5	

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
620	1406	WB3	flint	brown grey		backed blade		ter	upper pal/early mes				Broken abruptly retouched blade segment with retouch continuous along both long sides, forming part of a susbstantial blade tool
621	1406	WB3	flint	brown		arrowhead	leaf-shaped	ter	neo	35.5	21.5	2	Teardrop-shaped arrowhead
879	1406	WB3	chert	light grey		edge trimmed flake		ter		17.5	13	6	
881	1406	WB3	chert	dark grey	glacial	flake		sec		60	36	6	
921	1406	WB3	chert	med grey		flake		sec		32	15	7	
954	1406	WB3	flint	brown		blade		sec	mes				Broken, thin parallel-sided blade
1130	1406	WB3	flint	brown grey		arrowhead	transverse	ter	neo	45	23	4	Bifacially worked transverse arrowhead with obliquely truncated base retouched along its length
1147	1406	WB3	chert	dark grey	glacial	flake		sec		23	15	4.5	
1192a	1438	Beaker Pit	flint	light grey		flake		sec	eba	26.5	20	1.5	

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
1192 b	1438	Beaker Pit	flint	red brown		flake		sec	eba				Broken broad flake
1192 c	1438	Beaker Pit	flint	light grey		blade		sec	eba				Broken
1192 d	1438	Beaker Pit	flint	med grey		flake		prim	eba	33	36	8	Cortical flake
1192 e	1438	Beaker Pit	flint	light grey		chip		sec	eba	12	7	2	
1192 f	1438	Beaker Pit	flint	light grey		flake		sec	eba	17	12	1	
1192 g	1438	Beaker Pit	flint	light grey		flake		sec	eba				Broken
1192 h	1438	Beaker Pit	flint	light grey		flake		sec	eba				Broken
1192 i	1438	Beaker Pit	flint	light grey		flake		prim	eba	40	38	8	Cortical broad flake
1192 j	1438	Beaker Pit	flint	light grey		chip		sec	eba				Broken
1207 a	1438	Beaker Pit	flint	light grey		scraper		ter	neo/eba	40	32.5	4	Thin, squat scraper made on broad flake with abrupt retouch at distal end
1207 b	1438	Beaker Pit	flint	med grey	nodular	flake		prim	eba	25	44	9	Cortical squat flake
1201	1479		chert	dark grey	glacial	core		sec		96	45		
1167	1639		chert	dark grey	glacial	flake		prim		55	39	10	
353	1647		chert		glacial	scraper	tiny	ter	mes	17	14	6	Patinated tiny scraper with abrupt retouch

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
1153	1692		chert	light grey	glacial	edge trimmed blade		ter	mes	22	19	8.5	Patinated, squat edge trimmed triangular sectioned blade
1368	1800		flint	dark grey	nodular	edge trimmed blade		ter	neo				Broken thin, broad blade segment made on good quality nodular flint
1213	1875	WB2	chert	light grey	glacial	edge trimmed flake		ter		16	11	8	Lightly patinated
1215	1875	WB2	chert	light grey	glacial	scraper	end	ter	mes	18	14	9.5	Tiny end scraper with abrupt retouch
1216	1875	WB2	chert	med grey	glacial	flake		sec		15	11	7	
1217	1875	WB2	chert	light grey	glacial	edge trimmed flake	piercer?	ter	mes	39	27	18	Light patination
1259	1875	WB2	chert		glacial	edge trimmed flake		ter	mes	29.5	18	10.5	Patinated and edge trimmed flake with tranchet blow then oblique snap, then retouch to make a piercer or opportunistic burin type piece from a previously larger chipped tool
1218	1892	WB2	flint			core		sec	mes	18	22		Core flake, heavily patinated

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
1214	1893	WB2	chert	med grey	glacial	chip		sec		11	8	6.5	
1226	1893	WB2	chert	dark grey	glacial	flake		prim		19	17.5	8	
1242	1893	WB2	chert	dark grey	glacial	flake		prim		42	35	18	
1243	1893	WB2	chert	med grey	glacial	flake		sec		17	13	4	
1244	1893	WB2	chert	light grey	glacial	burin		ter	lup/mes	18.5	15	7.5	
1247	1893	WB2	chert	dark grey	glacial	chip		sec		12	6	4.5	
1248	1893	WB2	chert	light grey	glacial	flake		prim		23	21	6	
1253	1893	WB2	chert	light grey	glacial	flake		prim					Broken
1255	1893	WB2	chert	med grey	glacial	flake		sec					Broken
1256	1893	WB2	chert	med grey	glacial	edge trimmed flake		ter					Broken
1275	1908	WB2	chert	light grey		edge trimmed flake		ter					Broken edge trimmed flake
1367	1915	WB1	flint	light grey		bladelet		sec	later mes				Broken bladelet segment from what appears to be a narrow blade flaking tradition, possibly a segment from a microlith
1134	1941		chert	med grey	glacial	core flake		sec	mes	19	11		

SF No.	Context	Area	Material	Colour	Provenance	Type: General	Type: Specific	Core RS	Period	L (mm)	W	T	Notes
1371	2250		chert	light grey	glacial	edge trimmed flake		ter		25	17	7	
1295	unstrat	WB4	flint	brown grey		edge trimmed blade		ter	neo				Broken patinated broad, shallow blade segment
1296	unstrat	WB4	flint	med grey		blade		sec	neo?				Broken broad blade segment
1299	unstrat	WB4	chert	red brown	glacial	edge trimmed blade		ter	mes?				Broken broad blade segment

Table 134. Chipped lithic catalogue.