Excavations in Butler’s Field, Avebury, Summer 2018
An interim report

Living with Monuments Project
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Introduction

The aim of the AHRC-funded Living with Monuments Project is to redress a critical imbalance in our knowledge of life and cultural landscapes during the Neolithic and Early Bronze Age (c.4,000-1500 BC). Accounts of these periods are dominated by interpretive frameworks devised to explain the creation of ceremonial and funerary monuments, which form the most visible and tangible part of its archaeological record in many regions. By contrast, knowledge of the character of contemporary settlement and other non-monument focussed activity lags behind. This project will redress this imbalance through a coherent and innovative programme of targeted fieldwork and reassessment of existing data within one landscape that is famed for its monumental architecture: that of the Avebury region in Wiltshire.

The specific questions to be addressed are:

1. Can we develop a detailed understanding of the extent, scale, density, character and tempo of human settlement in the core area of the Avebury landscape during the Neolithic and Early Bronze Age?
2. What was the relationship between landscape occupation and monument building, both in terms of how monument building impacted on the scale and composition of settlement (e.g. drawing people and resources into the region), and the way that settlement imparted a history to places that could lead to subsequent monumentalisation?
3. How was the process of living within this landscape enacted in relation to natural phenomena such as the distinctive local sarsen stone spreads, woodland, other vegetation regimes, springs, streams and rivers?
4. Can we provide, through the mapping of sedimentary deposits and the establishment of fine-grained palaeo-environmental sequences, robust estimates as to the likelihood of where well-preserved traces of prehistoric activity might be buried or masked?
5. In order to overcome the perception of Neolithic and Early Bronze Age settlement and other routine practices as ephemeral and essentially passive and static compared to the active and dynamic practices of monument building, can we generate diachronic accounts that foreground the social complexities of lived life (networks, politics, mobilities, identity formation, etc.)? Essentially, can we be more ambitious in the way we engage with such evidence?
6. Linked to the above, how can a regional study of this kind contribute to the development of widely-applicable methodologies and interpretive frameworks with which to interrogate the often intractable traces of settlement during these periods?

There exists a close tie with agenda items identified in the recent Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site (Leivers & Powell 2016), specifically agenda items C.2 and C.3 which relate to better understanding of the scale, tempo, duration and composition of Neolithic settlement within the WHS, and the relationship between settlement and monuments.

Through work at Rough Leaze, the West Kennet Avenue occupation site, and the Foot of Avebury Down scatter we have already acquired data that begins to address some of these questions. However, the nature of non-monumental activity within certain landscape locations remains poorly understood. That is certainly true of the floodplain of the Winterbourne to the west of Avebury, where alluvial sediments mask early soils and potentially significant Mesolithic to Bronze Age archaeology. The sediment sequences here also offer the opportunity to develop fine-grained palaeo-environmental histories which can be linked to changing patterns and practices of human landuse. This document provides an interim report on excavations undertaken in the Winterbourne zone during late July and August 2018, within Butler’s Field, Avebury (centred on SU 098697: Figure 1).
Background

Previous archaeological work in Butler’s Field has comprised observations during the cutting of electricity cable and sewer pipe trenches, and one programme of research-led investigation. The first occurred during 1971 when an extensive system of pipe trenches was dug between Avebury Trusloe and Avebury as part of the Marlborough-Ramsbury drainage scheme. During the course of this work the Vatchers observed a stone burning pit for one of the megaliths of the Beckhampton Avenue, sited on the very eastern edge of Butler’s Field against the property boundary for ‘Ashcroft’ (Gillings et al. 2008, 116). The sewer pipe was replaced during 1993, offering the opportunity for more systematic archaeological recording (Powell et al. 1996, 63-65). Saxon pottery, and pits, ditches and a possible wall foundation trench of Medieval date (13th-14th century) were revealed, and 14 other ditches that may be contemporary or part of a later Post-Medieval water meadow system.

Refurbishment of the 11kv power cable to Avebury between September 1997 to January 1998 was accompanied by a watching brief (Wessex Archaeology 1998). The cable trench followed closely the course of the sewer pipe, running NNW-SSE across the eastern part of the field. The method of trench excavation prevented direct observation of features, but their positions were inferred from the spoil generated. These comprised seven possible linear features, most if not all of which are likely to be part of the Post-Medieval water meadow system, and a pit containing a buried sarsen likely belonging to the Beckhampton Avenue (Gillings et al. 2008). Alluvial sediments were recorded as between 0.7-1.2m deep.

During the mid-1980s, two transects of auger-holes, test-pits and small excavation trenches were dug across the valley floor here by John Evans and Rosina Mount (Mount 1991, Evans et al. 1993) as part
of a wider programme of research on the late Pleistocene and Holocene environment and archaeology of the Upper Kennet Valley. The position of the northern transect coincided broadly (and probably intentionally) with the line of the Beckhampton Avenue, while the southern (Transect 1) was located close to the A4361. A full sequence of soils and sediments was exposed, recorded and analysed. In Transect 1 the sequence begins with marls of late glacial age, followed by the formation of a calcareous palaeosol (the ‘Avebury Soil’) during the early Holocene. A dense scatter of late Mesolithic worked flint and Neolithic flint and pottery was encountered in the soil in Trenches J and U at the northern end of the field. This soil was then buried by an apparently early phase of alluviation – the ‘West Overton Formation’ – considered by Evans to have initiated during the Beaker period and continued to form into the Iron Age. Another phase of stabilisation is then represented by an upper soil, in turn sealed by further alluvium termed the ‘Arion Clay’, which formed while the field was managed as a water meadow. Features belonging to the Medieval settlement were cut into the upper soil.

Based on this work and observations further down the Kennet at West Overton, Evans et al. constructed a general model that sees the valley here dry with woodland cover during the early Holocene. Woodland clearance and cultivation is then initiated during the Neolithic, and linked to minor hydrological changes, seen in soil paludification (Evans et al. 1993). The onset of alluviation represented by the West Overton Formation is dated by a human femur with a late Neolithic radiocarbon determination from the base of the alluvial sediments in Cutting I.

**Non-invasive investigation**
Butler’s Field was surveyed in July/August 2016 using frequency domain electromagnetic induction (FDEM) by Dr Philippe De Smedt of Ghent University for the LMP (De Smedt 2017). This revealed variation in deposit depth across the area (increasing with proximity to the Winterbourne), and highlighted ditches and channels of the Post-Medieval water meadow system filled with electrically-conductive sediments, and modern utilities. Visible earthworks of the water meadow system have been mapped by the survey division of the former English Heritage (McOmish et al. 2005). Under permanent pasture, the field is not responsive to cropmark formation, and so aerial photographic evidence is limited. As a matter of disciplinary historical record, it was covered in Crawford & Keiller’s pioneering programme of aerial reconnaissance during 1924 (Crawford & Keiller 1928, pl.XXXVII).

**The 2018 investigations: Aims and Objectives**
The primary aim of the 2018 work was to better map and characterise the extent and nature of activity in the zone between the Winterbourne and the henge during the late Mesolithic to Early Bronze Age, and to understand the relationship of that activity to changing environmental conditions.

**Objectives** included:
- Locating traces of Neolithic and Early Bronze Age settlement and other activity (including cultivation) within the floodplain zone.
- Gaining better understanding of the chronology of early sediment formation, testing Evans’ claim of an onset of alluviation during the 2nd millennium BC (his West Overton Formation).
- Mapping localised environmental change against patterns of human activity.
- Obtaining additional detail on the pre-alluvial (early Holocene) topography of this key landscape zone, including the presence of sarsen.
- Mapping changes in land use and human activity during the Neolithic. Does settlement in this zone decrease or the nature of activity change following construction of the henge and the Beckhampton Avenue (i.e. does the construction of these monuments impact on the ontological character of this area of landscape)?
• Developing a more nuanced sediment model and land-use history for Butlers Field, the Winterbourne valley, and adjacent downland slopes.

Although outside the initial remit of the Project, given its significance in relation to understanding the development of the Saxon and later village of Avebury, a supplementary objective was to map and characterise evidence of Roman, Anglo-Saxon and Medieval activity within the floodplain zone.

Methodology

The first phase of work, undertaken during Spring and early Summer 2018, involved the hand excavation of eight 2 x 1m test pits across the northern half of the field; alongside the generation of a series of auger transects across the full extent of the field, undertaken by Mike Allen and Charly French. Details of this work are given in the previous interim report (Pollard et al. 2018). The decision to concentrate excavation (and the prior phase of test pitting) on the northern part of the field was guided by the depth of deposits (i.e. avoiding particularly deep sequences) and the results of Evans’ earlier work. Four trenches were excavated, the largest (Trench 1) 25 x 15m, set on the projected line of the Beckhampton Avenue; with three 10 x 10m trenches (nos. 2-4) spaced at intervals to the south. In addition, a machine-dug sondage (Trench 5) was excavated in the area of deep sediments in the southern part of the field in order to better characterise the sediment sequence here and to obtain samples for Optically Stimulated Luminescence dating.

Due to the presence of Medieval features and deposits within the deep sequence of alluvial sediments, it was essential to approach the excavation in a phased manner:

1. The topsoil and upper, post-Medieval, alluvium was removed by machine under close archaeological supervision.
2. The ‘Medieval Soil’/cultivation soil was then sampled through hand excavation of 1 x 1m squares at 5m intervals (providing a 4% sample). The remaining soil was removed by machine and scanned using a metal detector operated by an experienced detectorist.
3. The surface of the lower alluvium was then cleaned to reveal features cut into this. They were base-planned, excavated by hand and sampled for plant macrofossils. In the case of field ditches/property-division boundaries a minimum 20% sample was excavated. In the case of settlement-related features (e.g. pits, post-holes and structural traces) 100% excavation was undertaken. In the case of Trench 1, where the Medieval features and deposits were not removed, a sampling strategy was adopted that enabled them to be minimally characterised and phased. Spoil was scanned by metal detector.
4. The lower alluvium was then machine stripped under close supervision in order to expose the lower soil. The latter was excavated by hand using a 1-metre grid (replicating methodology used by the Project on the West Kennet Avenue and foot of Avebury Down: Gillings et al. 2015, 2017). With the exception of the situation in Trench 1, where large Medieval features had destroyed most of the lower soil, and so restricted the area of this that could be examined, the soil was initially dug on a 25% sample, and then eventually increased to either 50% (trench 4) or 100% excavation in Trenches 2 and 3. Small bulk samples were taken on a systematic one metre grid for multi-element analysis (ICP-AES) and magnetic susceptibility.
Trench edges were stepped in the case of Trenches 2-4, decreasing the area of the lower soil that could be examined to c.8 x 8m.

A standard recording system, comprising full written, drawn and photographic record, was maintained. Recording followed a modified version of the Museum of London (MoLAS) single context system; though adherence to single context planning was not deemed necessary for this particular work. Excavated stratigraphic entities (e.g. a cut, layer or fill) were recorded as individual contexts, numbered sequentially (e.g. [001] onwards). Interrelated stratigraphic units (e.g. a pit and its fill) are to be assigned feature numbers (e.g. F.1 onwards). Drawn sections were made at 1:10, feature and deposit plans at 1:20. A full photographic record was maintained using a high resolution digital format. Finds were bagged according to context, with details of feature, context and finds number.
The position of each trench was recorded using survey-grade differential GPS, and was incorporated into the Project GIS. The trenches were mechanically backfilled and fully reinstated at the end of the fieldwork.

Excavation Results

Across all the trenches the same basic sequence of deposits was encountered, earlier established by Evans’ work and the programme of test pitting undertaken during Spring-early Summer 2018 prior to full excavation. Sitting directly on the chalk/coombe rock natural was a worm-sorted gravel (388, etc.: contexts are given in Table 1). At first erroneously thought to be fluvially deposited, this comprised a highly compacted and interlocked flint gravel made up of small to medium angular and sub-angular flint in a grey-brown clay with occasional chalk and charcoal, up to 0.1m thick. The bulk of the charcoal is known to be introduced via worm action from the higher Medieval settlement deposits. It was from the gravel that Mesolithic and Neolithic worked flint was recovered. Over this was the lower soil (323, etc.), a stiff and mottled yellow-brown silty clay with rare flint gravel and charcoal flecks, between 0.05-0.1m thick. This was in turn sealed by a thick (0.4-0.6m deep) deposit of soft and stone-free pale yellowish grey-brown silty clay alluvium (386, etc.). Late Saxon and Medieval features were cut into this alluvium. An episode of ploughing truncated most of the Medieval ground surface. The resultant ploughsoil (310, etc.) was present across all areas with the exception of the northern third of Trench 1. It comprised a poorly sorted very dark grey-brown silty clay loam, with occasional small chalk pieces, flint gravel and charcoal flecks. Pottery and animal bone was distributed through this. The latest component of the sequence was a 0.2-0.5m thick, tenacious grey-brown silty clay alluvium (332, etc.), with rare chalk flecks and small flint. This had formed while the field was part of a managed water meadow system, beginning in the late 17th century. The topsoil was a friable, very dark grey-brown silty clay loam (333 in Tr.1).

<table>
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<th>Evans nomenclature</th>
<th>Medieval soil</th>
<th>Lower alluvium</th>
<th>Lower soil</th>
<th>Sorted horizon</th>
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<td>386, 348</td>
<td>323, 387, 410</td>
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<td>Trench 4</td>
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Table 1. Contexts assigned to Medieval and earlier deposits

1. Prehistoric

The principal focus of the fieldwork was to gain further insight into prehistoric activity within the floodplain zone. This was achieved, but the results were hard won due to the difficulties and time constraints imposed by having to dig deep sequences containing abundant Late Saxon and Medieval archaeology. In situ scatters of worked flint where, nonetheless, encountered in the lower soil within
each of the trenches. Around a 1000 pieces of worked flint were recovered from a sample of the soil, much of Mesolithic and early Neolithic character.

**Trench 1**
Unlike the generally uniform situation in Trenches 2-4, the topography of the chalk/coombe rock natural in Trench 1 was gently undulating, dipping by c.0.05m within the centre of the trench, and then rising by 0.1m to the NE where the trench just caught the end of a shallow E-W spur jutting out into the valley floor. The lower soil was variably distributed, and, indeed, variable in character. It survived best in the central-southern and eastern parts of the trench (here 387), having been truncated by later down-cutting in the west, and elsewhere by the digging of substantial features during the Medieval period. In addition to the broad spread of 387, pockets of early soil survived under a later causeway that occupied the northern third of the trench: in the east 323, similar in character to 387, but more reddish-brown; in the centre 410, a dark grey-brown silty clay with chalk flecks, rare flint and sarsen blocks at its base.

Both time constraints and disturbance wrought by Medieval features limited the area of lower soil that could be excavated, and, by extension, the scale of investigation into the prehistoric archaeology in this trench. This was reduced to a 6 x 6m (36 sq. m.) block in the SE corner and an L-shaped area of 18 sq. m. in the south-central part of the trench. A small quantity of early Neolithic pottery came from the SE 6 x 6m block.

![Figure 3. Trench 1 lower soil excavation squares](image)

Worked flint (excluding microdebitage) was present in all but three of the excavated squares (average 6 pieces per square). The assemblage includes over 350 pieces. In the central part of the trench densities ranged between 0-10 flints per square metre. A greater concentration was encountered in the soil squares excavated in the SE, with densities up to 34 pieces per square metre, and eight of the 36 squares producing more than 10 pieces of worked flint. In general, densities can be seen to drop towards the western end of the trench. The assemblage is likely of mixed Mesolithic and early Neolithic date. Blades, bladelets and blade-like pieces are well represented (making up over 28% of the total). Two rod microliths are present and a number of retouched and utilised pieces (20 in total). All four cores had narrow flake rather than blade removals, and are likely Neolithic. A handful of later (later Neolithic or Early Bronze Age) pieces are present, distinguished by being unpatinated.
One certain and two possible prehistoric features were recognised within Trench 1. Situated in the central part of the trench close to its southern edge, F.36 (cut [413]) was a small pit or tree-throw sealed by the worm-sorted gravels (388). Oval, 0.95 x 0.8m and up to 0.15m deep, with gently sloping sides, slightly stepped on the south, merging with a dished base, it was filled with a clean, compacted reddish-chocolate brown silty clay with rare flint, 412. 14 pieces of worked flint and large pieces of red deer bone were recovered from this. Close to the east edge of the trench, and visible only after removal of (388), were two small pits, F.37 and F.38. Set within 0.2m of each other, it is not clear whether they are anthropogenic or natural in origin. Both possessed regular oval cuts: F.37 (cut [415]) being 0.33 x 0.25m in extent and 0.1m deep, with moderate sloping sides merging with a dished base, slightly stepped on the SW; while F.38 (cut [417]) was 0.75 x 0.35m, 0.05m deep, with shallow sloping sides merging with a flat base. The fills of both, (414) and (416) respectively, were grey-brown silty clays with occasional chalk and flint. Neither produced any finds.

![Figure 4. Butler’s Field: Mesolithic and Neolithic worked stone](image)

**Trenches 2, 3 and 4**

In Trench 3, 100% of the lower soil and underlying sorted gravels was excavated across an 8 x 8m block (64 sq. m. in total). In Trench 2, 50% of the soil was excavated over an 8 x 8m area (32 sq. m.); while in Trench 4, time pressure meant that only a 25% sample could be dug (12 sq. m.). Average densities ranged from 3.7 pieces per square metre (Trench 4) to a site-wide high of 7.5 in Trench 3.
In Trench 2, densities of worked flint within excavated metre squares ranged between 0 and 23 pieces (excluding microdebitage). There was a localised concentration towards the centre of the area, and a visible drop-off in density towards the SE and NE. The bulk of the worked flint is likely to be Mesolithic. Blades, bladelets and blade-like removals account for over 36% of the Trench 2 assemblage (appreciably higher than in Trench 1). Two rod microliths were recovered, and a Mesolithic blade core. A very few later pieces are present, including an intact and unpatinated oblique arrowhead. Several refits between blades/flakes and blade segments were identified during preliminary processing of the assemblage.

In Trench 3 ranged between 0 and 28 pieces per square (again excluding microdebitage). The distribution of material declines towards the SE corner of the trench, suggesting an edge to the scatter at this point. Blades, bladelets and blade-like removals account for 24% of the assemblage (lower than Trenches 1 and 2). Both flake and blade cores are present; and it is likely the scatter here comprises again a mix of Mesolithic and Neolithic material. Amongst diagnostically Mesolithic tool forms are a rod microlith and a possible obliquely blunted point. A very few later pieces are present, including an intact and unpatinated oblique arrowhead. Several refits between blades/flakes and blade segments were identified during preliminary processing of the assemblage.

The worked flint from the soil in Trench 4 is largely unpatinated. The material. Much could be earlier Neolithic in date, as evidenced by the range of retouched types, which include a notched flake, a naturally-backed knife, an awl and retouched blades. Comprising over 31% of the assemblage, retouched and utilised pieces are much better represented here than elsewhere. Densities ranged from 0 to 8 pieces per metre square.

Residual worked flint and the heavily weathered blade of a stone axe was also recovered from the fills of later (Saxon and Medieval) features. In its later context, the axe head (from ditch F.205) may well have been a collected and curated (and possibly repurposed) artefact.

Set low in the basal alluvium (812) on the eastern side of Trench 4 was a modified human cranium, probably adult, representing the posterior portion of a calotte, deposited upturned.

2. Roman, Saxon, Medieval and Post-Medieval

Trench 1

Roman activity was attested by a low density scatter of pottery, tile and metal artefacts present across the trench; often, though not exclusively, in the fills of Medieval and post-Medieval features. The neck of a colour-coat jug came from the very top of the lower alluvium adjacent to Medieval ditch F.23. None of the excavated features could be assigned to the Roman period.

Phase 1 (Late Saxon)
The most complex sequence of post-Roman features and deposits was present in Trench 1. Within the western four to five metres of the trench the early soil and sorted gravels (387, 388) were absent, likely due to down-cutting caused by the pre-canalised course of the Winterbourne close to this zone. A layer of homogenous gravel, 385, was present, but is considered to be an artificial surface rather than the remnant sorted horizon. It comprised a compact layer of angular and sub-angular flint gravel, c.0.05m thick, with a very flat and even surface. Animal bone and fragments of Niedermendig lava were present within this. The absence of worked flint from 385, despite systematic scanning and sample excavation, along with the observation that the deposit lapped into the top of a Saxon ditch, F.22, marks out its difference to the natural gravel layer (388). Here it is interpreted as a dumped deposit laid down to stabilise the stream-side zone. In places, a soil, 393, was present under the gravel,
but not extending beyond. Up to 0.1m thick, this was a grey-brown silty clay with abundant chalk peagrit and small chalk and flint.

A series of ditches abutting the gravel spread can, on stratigraphic and artefactual grounds, be allocated to this phase. F.21, F.22 and F.39 ran NNE-SSW, at a different alignment to that of later features. Their purpose was perhaps to demarcate the edge of the riverside zone. The first of these, F.22 (cut [357]) was shallow, up to 0.22m deep, and 0.75m wide, up to 0.22m deep, with moderate to steep sides merging with a dished base. Its fill, 356, was a dark olive grey-brown clayey silt, into the top of which ran the gravel spread 385. F.21 (cut [355]) was set out parallel to and to the immediate east of F.22: it effectively reinstates its line. This ditch was slightly more substantial, at 1.2m wide and up to 0.5m deep, with moderate sloping sides and a dished base; ending half way across the trench with a rounded terminal. Here there were signs of a narrow recut on its western side. The lower fill, 383, was a grey-brown silty clay with moderate well sorted chalk and flint. The upper fill, 354/367, was a stiff dark grey-brown silty clay with poorly sorted chalk and occasional flint and charcoal.

The line of F.21/F.22 was picked up with a further stretch of ditch, F.39, observed against the northern edge of the trench. This ditch (cut [418]) was 1.25m wide and 0.35m deep with moderate sloping sides and flat base. Its fill, 403, was identical to that of 383 in F.22. Set on the same line where two other features, F.31 and F.32, that were only partly exposed, and whose status as either ditch terminals or small pits remains uncertain. If part of ditch lengths, they maybe blocking an original entrance gap between ditches F.21 and F.39. F.32 (cut [398]) was a shallow oval pit or ditch terminal, 0.7+ m by 0.8m and 0.17m deep, with moderate to steep sides and a defined junction with an undulating base; possibly recut on the western side. Fill 395 was much darker and ‘dirtier’ grey-brown silty clay with chalk flecking and flint.
Two other features are tentatively assigned to this phase: a small pit, F.35, and large hollow, F.29. Both were located several metres east of the ditches described above. F.35 (cut [408]) was only observed once the lower alluvium was being removed, through in section it could clearly be seen to cut through this. Sub-oval with steep sides and a slightly dished base, 0.75m across in maximum dimension and 0.25m deep, a 0.02m thick lens of charcoal overlay the base, covering which was a friable, mottled grey-brown silty clay, 407. Hollow F.29 (cut [379]), was immediately to the west. It was sub-oval in plan, 4.0 x 2.2m, and only 0.2m deep, the sides very shallow and the base largely flat and level. Its fill, 378, was an homogenous grey-brown silty clay with rare chalk and flint that had the feel of a soil, lighter and less dirty than later Medieval feature fills. Siting on the base at its north end was a cluster of chalk blocks and a small sarsen, 0.4 x 0.3m across. While lacking obvious structural components (e.g. post- or stake-holes) it had the character of a sunken floor. On its north-western side the feature was partially eroded by the formation of a weathering hollow around a large Medieval pit, F.18 (see below). An animal burrow (F.33: cut [400]; fill 399) ran through F.29.

Phase 2 (12th-14th centuries)
Phase 2, provisionally dated on ceramic evidence to the 12th-14th centuries, sees changes in the dominant axis and alignment of features, and, with time, an increase in their scale. Features were now
laid out on a NNW-SSE and ENE-SSW axis, which respects the projected line of Avebury High Street. The features can be sub-divided on stratigraphic grounds into two sub-phases: 2a and 2b. Many of the feature fills form this phase have a ‘midden like’ or occupation soil character, being dark and ‘dirty’, containing quantities of often quite fragmented animal bone, pottery and ironwork.

Phase 2a

Belonging to phase 2a are two sets of two shallow ditches or gullies. In the north-eastern part of the trench the make-up of a later causeway (F.10) sealed two intersecting ditches (F.13 and F.14) running at right-angles. F.14 was seen to cut F.13; the former being cut in turn by later ditch F.11. Running ENE-SSW, F.13 (cut [316]) was slightly sinuous, 0.45-0.55m wide, 0.2-0.37m deep, with steep sides and a slightly dished base. Its fill (315) was a dark grey-brown silty clay with occasional charcoal flecks. F.14 (cut [318]) was slightly more substantial, being 0.6+m wide and up to 0.37m deep, with near vertical sides and a dished base. It was filled with a similar dark grey-brown silty clay (317), but quite stiff, with common small chalk pieces, poorly sorted.

Two parallel gullies (F.25 and F.26) in the western part of the trench may be structural features. Set 0.3m apart, their southern ends terminated at the same point; while in form and fill they appeared near-identical. The western, F.26 (cut [381]), could be traced over a distance of 1.9+m; the eastern, F.25 (cut [374]), over 1.7+m. F.26 ran into a baulk but did not emerge on the other side, suggesting its overall length was under 2.5m. Both had rounded terminals; were 0.3m wide, and 0.08-0.09m deep; with moderate to steep sides and flat bases; and were filled with a dark grey-brown silty clay with sparse chalk (376 and 380, respectively). The top of F.25 included a lens of fine charcoal in a dark brown silty clay (375).

Covering the top of F.25, F.26 and parts of the phase 1 ditches was an extensive deposit of dark grey-brown silty clay, 365, containing chalk flecking, charcoal, small bone and abraded pottery. Its distribution was confined to the western third of the trench to the south of causeway F.10. It likely represents the base of a soil, potentially long-lived, that had formed in the area where the lower alluvium was wholly or partly truncated, and which lay below the level of later Medieval plough truncation. In the deeper western section this could be seen to overlie an earlier soil (338: Late Saxon?), comprising a 0.15m thick mottled, dark grey-brown silty clay with chalk and rare flint. Here, above 365 was a further soil deposit, 337, up to 0.3m thick, consisting of a dark grey-brown silty clay with rare chalk.

Phase 2b

The major features of phase 2b comprise: a long-lived ENE-SSW boundary that was modified to create a causeway (F.10 and ditch F.11); a major NNW-SSE boundary (ditches F.17 and F.23) that abuts the ENE-SSW boundary/causeway; a large pit or quarry F.18, cutting an earlier pit, F.24; and a substantial rectangular tank or cellar (F12). The size of each represents a considerable up-scaling in labour requirements, and may relate to a major reorganisation of settlement and riverside space at this time. The ENE-SSW boundary projects the line of the High Street, with its eventual manifestation as a causeway implying a literal extension of that road line. Ditches F.17 and F.23 perhaps divide an eastern settlement zone from riverside space used in a more ad hoc, ‘backspace’ fashion. While it cannot as yet be demonstrated, it is tempting to see the canalisation of the Winterbourne occurring at this time.

The causeway, F.10, dominated the trench, running across its full length, its width extending into the north section. It remains visible on the surface as a positive earthwork running from close to the present end of the High Street to within c.10m of the Winterbourne, where it forms an angled return to the NE. Upon excavation it was found to comprise two elements: a ditch, F.11; and an up-cast bank subsequently augmented as a causeway, F.10. F.11 was excavated in two sections in the east and west
of the trench; F.10 with the same sections and through an additional 5 x 2m sondage just west of centre.

In the eastern section F.11 (cut [320]) was 1.5m wide and 0.85m deep, with moderate sloping sides in the upper profile, steep in the lower, and a flat base. In the western (cut [371]), it was 2.0m wide and 1.15m deep, with a moderate slope to the upper profile, becoming steeper with depth, and a stepped base created through re-cutting. A lower fill in the east, 351, comprised a deposit of sticky grey-brown silty clay with abundant chalk and occasional flint, along with some larger blocks of Lower Chalk. Otherwise, the fill was a stiff grey-brown clay with sparse chalk (more frequent in the upper profile of the west section) containing bone and pottery, 319/326.

The up-cast bank (352/409/339) varied in composition along its length, no doubt due to the different materials (soils and natural substrate) through which the ditch was dug. The best preserved section was in the eastern cutting, where it formed a dump of grey-brown silty clay with common, poorly sorted chalk (352), 1.4m wide and up to 0.25m high. It was revetted on the front (south face) by a single course of regularly set split and unmodified sarsen blocks, each 0.2-0.45m (314). Blocks of bank material, albeit truncated by later features, were present in the central (409) and western (339) sections. 409 was a dump of sub-angular Lower Chalk pieces within a yellowish-beige silty clay, within which were sarsen blocks up to 0.25m across; 339 comprised a poorly sorted ‘nougat-like’ dark grey-brown silty clay, up to 0.6m thick, with common chalk, flint and charcoal.

Built up against the back of bank F.11 were thick (up to 0.6m deep) deposits of soil, 324/392, here interpreted as a cultivation soil forming a headland. These comprised dark brown silty clays, with varying quantities of poorly sorted chalk, pottery and bone. Once accumulated the bank/headland was transformed into a causeway through the dumping of compacted spreads of angular chalk and coombe rock in a grey-brown silty clay, 328/342/389. Up to 0.1m thick, these also contained larger chalk pieces and occasional concentrations of small to medium sized (0.1-0.5m) sarsen stones, the latter presumably serving to consolidate areas of erosion within the surface.

To the south, ditch F.17 ran perpendicular to F.10 and F.11. It was traced over a distance of 10m from the point where it entered the trench to its termination against the partially in-filled ditch F.11. It was substantial, straight and regularly cut, ending in a squared terminal. The cut, [360], was 2.1m wide and 1.25m deep, with moderate sloping sides in its upper profile, becoming steep, then merging with a slightly undulating base. The primary fill (359) was a mixed dark grey-brown silty clay with some chalk, within which were lenses of pale yellow-grey chalky ‘gravel’ weathered from sides. Above this was a dark olive grey-brown silty clay with sparse chalk (343). Its line was redefined by a shallower ditch, F.23, dug alongside to the west; implying any former bank to F.17 was located to the east. F.23 (cut [373]) was 1.0m wide and 0.44m deep, with moderate to steep sides merging with a dished base. It was filled with a dark olive grey-brown silty clay (344) with a thin lens of chalk pieces and flint in the very top. F.17 is equivalent to ditch F.5 encountered in Test Pit 9.

Located in the centre of the trench in the space between ditch F.17 and the phase 1 ditches, F.18 (cut [363]) was a substantial pit, sub-oval in plan, and 6.5 x 5.2m and up to 0.95m deep. It was investigated by means of two sections, amounting to approximately half the feature. In profile, its lower sides on the east and south were near vertical and in places undercut, and slightly weathered back in the upper profile; while the base was gently undulating and ramped up to the west. The fill sequence begins with 366, a light grey-brown silty clay with yellowish patches, containing charcoal, chalk towards base and some flint. In the east this was cut into by a shallow scoop, [394], filled with 382, a mixed deposit of pale orange-grey-brown silty clay and sticky dark grey-brown silty clay with occasional chalk: effectively re-deposited alluvium and soils washing in from sides, in places looking almost like natural. Above this and extending across the width of the feature was a layer of compact dark grey-brown silty
clay with common chalk, including larger pieces, and charcoal and flint, 353. Within this was 362, comprising concentrated lenses of destructured charcoal, coming in from the west and east sides, and containing fresh sherds of pottery. The upper fill, 345/346, was a thick layer of firm dark grey-brown silty clay with a little chalk and rare flint; most likely a slow-forming soil.

On its west side, F.18 cut a smaller pit, F.24 (cut [419]), that was only partially investigated. Sub-oval, 3.8 x 2.5m, and 0.5m deep, it was filled with a very dark grey-brown, almost black, clay silt with poorly sorted chalk flecks and larger yellowish chalk pieces, giving a ‘cake mix’ appearance. The most parsimonious interpretation of pits F.18 and F.24 is that they represent quarries, dug to extract chalk for marling or use in daub or cob, with the quarry working proceeding from west to east.

The functional status of one of the most substantial features remains to be determined. This is a large rectangular pit, F.12 (cut [322]), set in the corner space defined by F.11 and F.17 (however, its sequential relationship to these features could not be established). Rectangular with rounded corners, 3.60 x 2.55m in extent, it was cut to a depth of 2.3m through coombe rock and soft, blocky, Lower Chalk (below 0.5m). In plan, its sides were straight, bowing out just slightly on the north. In profile, its sides ranged from vertical to slightly undercut, with defined junctions to a relatively flat base. Given time constraints, it proved possible to only excavate a metre-wide section across the middle; the eastern side of the fill being stepped in to facilitate this.

The fill sequence begins with a mixed deposit of very dark grey-brown and pale grey-brown clay silt, with chalk flecking and larger sub-angular chalk pieces and occasional flint and charcoal flecks, being more chalky towards the base of the profile (401). The paler material formed horizontal bands 0.05-0.1m thick. The presence of alternate bands of darker and lighter material suggests formation in a wet environment; though it remains unclear whether this occurred after the feature went out of use or during its active life. Very few finds came from this, and so not being used to receive dumps of refuse at this stage. Above this, and confined to the south side, was a thick band of poorly sorted very dark grey clay silt with chalk pieces and flecking, occasional charcoal and flint (402). This in turned was overlain by a mixed pale orange-grey and dark grey-brown silty clay ‘cake mix’ with sparse chalk and flint (384); 364, a very dark grey-brown silty clay with occasional flint, charcoal, large animal bone and lenses of chalk rubble, with flecks of yellowed chalk closer to the feature edge; 361, a grey silty clay with abundant small chalk; 358, a grey-brown silty clay, lighter in colour than 347, with a graded interface, containing charcoal and small sarsen; and finally a dark grey-brown silty clay with occasional chalk and flint (347).

Two possible interpretations of this feature present themselves: that it was cellar; or a pit with an industrial purpose (e.g. tanning). The consistent vertical sides to the feature indicate the former presence of a timber lining, otherwise the upper profile would have weathered back and a primary rubble fill formed. The protection of the sides could also suggest there was covering structure. Whatever its primary function, the horizontal banding present in the lower fills is likely the result of sediments forming in conditions of occasional standing water.

**Phases 1, 2a or 2b**

Ditch F.15 (cut [334]), which ran across the SE corner of the trench over an exposed length of 4.7m, is not possible to assign to any one of the above phases, though it certainly pre-dates the post-Medieval water-meadow system. 0.7m wide and 0.3m deep, with very steep sides and a defined junction to a flat base, it was filled with a dark grey-brown silty clay with sparse chalk and charcoal (335). Several small to medium-sized sarsens were present low in the fill.
Phase 3 (14th-17th centuries)
A late Medieval phase of cultivation then follows. It is evidenced by a layer of poorly sorted, very dark grey-brown silty clay loam with occasional small chalk, flint gravel and charcoal flecks, within which are occasional sherds of pottery, animal bone and some metal (310). This deposit thinned out to the north and did not extend over the causeway. It was sampled by means of four 1 x 1m test pits, set out along the length of the trench at 5m intervals.

Phase 4 (Post-Medieval water meadow)
In the late 17th century Butler’s Field was converted into water meadow. The earthwork carriers and drains are extensive, and remain highly visible across the field. Two ENE-SSW ditches F.20 and F.28), the terminal of a third ditch (F.34), and a shallow pit or further ditch terminal (F.16), belong to this phase.

F.28 was the most substantial of these features. It ran across the entire length of the trench along the southern edge of the causeway. The cut, [350], was between 2.5 – 3.0m in width, up to 0.9m in depth, with moderate to steep sides and a base that varied from flat (in the east and centre of the trench) to rounded (in the west). Clear evidence of a phase of recutting was present in its central section; one phase butting against the western side of earlier pit F.12. The bulk of the fill (321/372/325) was a stiff dark olive-grey-brown silty clay with very rare chalk and gravel, darker in its lower profile. In the central section a basal fill, 405, with slightly less clay content and some chalk flecking was present. Ditch F.20 ran parallel and to the immediate north of F.28. It was only present in the western 4m of the trench. Its cut, [349], was 1.2 – 1.6m wide and 0.7m deep, the very top of the sides being splayed on the south, then generally steep-sided, merging with a flat base. The fill, 327, was a uniform firm olive-brown clay silt, darker with depth, with occasional charcoal flecks.

Set adjacent to F.20 was F.34, a presumed terminal of a substantial NNW-SSE ditch. While evidently a late feature (i.e. Post-Medieval: it cut through the phase 2b causeway deposits), its fill was different to the ditches of the meadow system. As exposed, the feature was 0.6+m across, 1.4+m deep, steep-sided, splaying slightly at the top (cut [406]). Due to depth it was not bottomed. The fill, 404, was a dark grey-brown silty clay with common chalk, larger pieces being present in the upper profile, becoming more flecky in the lower. F.16 (cut [330]), located in the NE of the trench, occupied a similar stratigraphic position in relation to the causeway as F.34. As excavated, it was 5+m long, 1+m wide, up to 0.20m deep, with shallow sides and a rounded base. Its orientation was difficult to establish. It was filled with 331, a clean grey-brown clay.

Capping the causeway in west end of trench was a thin soil, 340, comprising a humic, almost black, clay silt, up to 0.05m thick, within which were fragments of CBM and coke.

Trench 2
Several features were cut into the lower alluvium (623, 638). The most prominent were a series of later Saxon and Medieval ditches set on a common NNW-SSE and ENE-WSW axis (F.200, F.202/204, F.203 and F.205). Two pits (F.206 and F.207) were located at the intersection of these, and a small post-hole was present in the SE corner of the area. Stratigraphically, the earliest of the ditches are F.202/204, which form the right-angled corner of an enclosure, and F.200, which continues the ENE-WSW axis of the enclosure’s northern line. Cutting through these, though still respecting the established alignments, are the broadly NNW-SSE ditches F.203 and F.205.
Excavated under the assumption that it was formed of two separate features, F.202/204 comprises a single length of right-angled ditch, likely the corner of an enclosure. The ditch (cut [613, 617]) was between 0.8-0.9m wide and 0.4m deep, with steeply sloping, near vertical sides, which stepped midway down the profile, possibly as a result of re-cutting. Slightly disconformities in the other flat base of the ditch in its eastern length hint at it being dug as a number of conjoined sections, or, again, localised re-cutting. The ditch contained a single fill, (614, 618), consisting of a dark grey-brown fine silty clay with chalk inclusions and charcoal. A medium-sized sarsen stone measuring 0.36 x 0.26m was placed in the angle of the ditch. Occupation debris, in the form of animal bone, late Saxon pottery (including large and fresh sherds), iron artefacts, and a fragment of perforated horn, along with a residual flint flake, were also recovered from the fill.

Figure 7. Trench 2, Later Saxon and Medieval features

F.200 extended the ENE-WSW line of F.202/204. It was visible for a length of 9m, terminating just within the eastern edge of the trench. The cut, [627, 622, 628], was well defined with moderately sloping sides merging with a flat base; its width ranging from 1.1-1.5m and depth from 0.29-0.35m. The primary fill, (632, 625, 630), comprised a mid-brown clay silt mottled with patches of paler yellow alluvium which had weathered in from the sides. Finds included fragmented animal bone, pottery and ironworking slag. The upper fill of the ditch, (624, 610, 629), was a dark grey-brown silty clay with a trace of fine sand including charcoal and rare chalk. A series of four sarsen stones (each c. 0.16m in diameter) had been placed equidistantly apart in the top of the fill. Fragmented animal bone, pottery, burnt sarsen and a broken portion of finely decorated comb of 8th-9th-century date (David Hinton pers. comm.) were recovered from the fill.
F.205 (cut [620, 637]) represents a reinstatement of the western line of the enclosure, but extends c.5m further to the north. It is a relatively modest feature by comparison with the other ditches, being only 0.5m wide and 0.07m deep, with shallow sloping sides and a flat base. Its northern end was defined by a rounded terminal. The single fill (619, 631) was a mottled dark, brown-grey and yellow silty clay with a trace of fine sand and charcoal flecks. A fragment of a heavily weathered polished Neolithic axe-head was recovered from the fill. F.203 (cut [611]) comes late in the sequence and marks a subtle change in alignment of the ditch/enclosure system. It ran across the whole length of the trench. Between 0.45-0.8m wide, and up to 0.33m deep, with steeply sloping sides merging and a rounded base, it contained two fills: (621: primary) and (612: upper). The primary fill was a grey-brown clay mottled with patches of paler yellow alluvium and frequent chalky inclusions; the upper a very dark grey-brown clay, again with frequent chalk. Bone, pottery and worked flint were recovered from these.

The remaining features comprise pits and a single post-hole located in the southern half of the trench. The largest of these, F.206 (cut [634]), looked to be an oval pit, 2.0 x 1.5m across, and 0.42m deep where excavated. With moderately sloping sides merging with a rounded base, it contained a grey-brown clayey silt fill, (633), with rare charcoal and fine chalk, bone, burnt daub and iron pyrites. Its relationship with ditch F.202/204 was not established. Adjacent, pit F.207 cuts ditch F.202/204. An oval pit (cut [636]), 0.52 x 0.40m in extent and 0.41m deep, with near vertical sides and a flat base, it was filled with a dark yellow-brown clayey silt with frequent charcoal flecking, chalk fragments and rare flint, (635). Bones belonging to a juvenile sheep were recovered from the fill. Set within the interior of the enclosure was a truncated post hole, F.201 (cut [615]). 0.15m in diameter and 0.05m deep, with shallow sloping sides and a dished base, it contained a single fill, (616), consisting of a dark brown grey silty loam with sparse chalk fragments.

**Trench 3**

Once the Medieval soil was removed a series of features were observed cut into the lower alluvium (728). These comprised four ditches/gullies (F.302, F.303, F.306 and F.307) and two pits (F.300 and F.305). Other, irregular, features visible following cleaning (F.301, F.304, F.308 and F.309) proved upon investigation to be natural undulations filled by the overlying medieval soil (312).

Three of the ditches/gullies were located in the western third of the trench and followed a N-S axis. The largest was F.302, which was traceable for a length of 5.4m. The cut [718] was up to 1.2m wide and 0.7m deep, with well defined, moderate to steeply sloping sides merging with a flat base. A constriction towards its northern end may hint at a terminal just beyond the excavated area. It contained a single fill (712) consisting of a firm dark grey-brown clayey silt with charcoal and rare chalk fragments. Bone, pottery and a fragment of polished shale or jet were recovered from the fill.

Running more or less parallel to and within 1m to the east of F.302 were two lengths of narrow ditch or gully, F.303 and F.306. These were separated by a gap of c.1.6m, likely representing an original causeway. F.303 proved to be very shallow, and while it was visible following machining, it did not survive cleaning. It had a visible width of c.0.5m. F.306 was slightly more substantial. Its excavated northern terminal (cut [719]) was 0.28m wide and 0.1m deep. In plan, the terminal was slightly tapered but rounded; in profile, steep sided, merging with a flat base. The fill (715) was a firm grey-brown clayey silt with charcoal and chalk flecks, containing some bone.

Ditch F.307 was traced over a length of 3.3m in the eastern half of the trench. With an ENE-WSW axis, it aligned broadly on the causeway between F.303 and F.306. Its western terminal looked to incurve slightly to the south. Where excavated, the cut [321] was 0.85m wide and 0.14m deep, with
moderately sloping sides merging with a dished base. It was filled with a grey-yellow clayey silt with occasional flecks of chalk and charcoal (322). An elongated pit, F.305, was located to the north of F.307, seemingly aligned on the terminal of the latter. When first exposed, F.305 looked to continue to the north, and to form a length of ditch, but the northern section could not be convincingly traced upon excavation. Its N-S axis follows that of ditches F.302, F.303 and F.306. As excavated, F.305 was sub-oval, 2.7m long, 0.8m wide and 0.3m deep, with steeply sloping sides merging with a flat base (cut [717]). The fill (713) consisted of a dark grey brown silty clay with chalk and charcoal flecking. Bone, charcoal ‘lumps’ and oyster shell were recovered from the fill.

![Figure 8. Trench 3, Later Saxon and Medieval features](image)

Pit F.300 was located against the southern edge of the trench. It comprised a shallow scoop (cut [720]), sub-oval in plan, and 1.6 x 0.84m in extent and up to 0.2m deep. Its sides sloped gently, merging with a flat base. The fill (710) was a dark grey-brown clayey silt with rare chalk, flint and charcoal. Bone and a few pieces of worked flint were recovered from the fill.

**Trench 4**

Because of the greater depth of deposits at this point within the field, Trench 4 was stepped in once the top of the lower alluvium was reached, reducing the excavated area to an approximate 8 x 8m block. Saxon/Medieval features were only recognised after the removal of the top of the alluvium, which here was quite dirty. As a consequence, the upper profiles of certain features were lost in the stripping process. Three sets of linear features were revealed: a ditch and post-hole line (F.420, F.403-411) running ENE-WSW across the full width of the trench; an irregular ditch (F.419) that ran NE-SW across the northern part of the trench; and the edge of a further linear, aligned NW-SE, against the eastern trench edge. Part of a rectangular pit or ditch terminal (F.412) was present in the SE corner of
the trench, a smaller oval pit to the north (F.421), and adjacent to this an animal burrow (F.417). An isolated adult human cranium was recovered from close to the base of the lower alluvium, (812), near the eastern edge of the trench.

The presence of ditch F.420 (cut [835]) was largely observed during machining. Around 1.0m wide and only c.0.1m deep, it appeared flat based. Once removed, a series of postholes were observed (F.403-411) set on an identical alignment, but apparently not extending as far as the eastern edge of the trench. They likely pre-date the ditch. Oval or sub-oval, the constricted middles of some (e.g. F.407, 408 and 411) give the impression they might have held pairs of posts or were intercutting features resulting from post replacement. They ranged in size from 0.2-0.48m and 0.03-0.08m deep, as excavated (Table 2); each with sloping lower sides and flat bases. All were filled with a greyish brown silty clay with fine chalk, occasional charcoal and rare flint. A flint flake came from F.403, animal bone from F.406, 407 and 408, and an iron object from F.406.

<table>
<thead>
<tr>
<th>Cut</th>
<th>Fill</th>
<th>Dimensions (m.)</th>
<th>Depth (m.)</th>
<th>Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.403</td>
<td>817</td>
<td>818</td>
<td>0.48 x &gt;0.2</td>
<td>0.08</td>
</tr>
<tr>
<td>F.404</td>
<td>819</td>
<td>820</td>
<td>0.2 x 0.2</td>
<td>0.03</td>
</tr>
<tr>
<td>F.405</td>
<td>815</td>
<td>816</td>
<td>0.33 x 0.22</td>
<td>0.03</td>
</tr>
<tr>
<td>F.406</td>
<td>813</td>
<td>814</td>
<td>0.38 x 0.2</td>
<td>0.04</td>
</tr>
<tr>
<td>F.407</td>
<td>821</td>
<td>822</td>
<td>0.39 x 0.32</td>
<td>0.04</td>
</tr>
<tr>
<td>F.408</td>
<td>823</td>
<td>824</td>
<td>0.35 x 0.26</td>
<td>0.05</td>
</tr>
<tr>
<td>F.409</td>
<td>825</td>
<td>826</td>
<td>0.32 x 0.23</td>
<td>0.03</td>
</tr>
<tr>
<td>F.410</td>
<td>827</td>
<td>828</td>
<td>0.34 x 0.33</td>
<td>0.05</td>
</tr>
</tbody>
</table>
F.419, 422 and 412 may represent elements of a separate enclosure system laid out on a NE-SW/NW-SE axis. F.419 was exposed in the northern part of the trench. Its edges were sinuous, the feature being 0.78m at its widest point and up to 0.5m deep, with steeply sloping sides merging with an irregular base cut into the underlying sorted horizon at the base of the early soil. The single fill, (833/838), was a brown clayey silt with occasional chalk and rare flint. No finds were recovered from this. F.422 (cut [843]), though only observed in a short section in the NE corner of the trench, could represent a right-angled return to F.419. Over 0.15m wide and 0.12m deep, with gently sloping sides and a dished base, it was filled with a similar brown clayey silt, (844), with occasional chalk. F.412 was likewise only partly exposed in the SE corner of the trench. While potentially a rectilinear pit, a more plausible interpretation is that it represents a ditch terminal. The cut, [84], was steep sided in the upper profile, more gentle in the lower, >1.3 x >0.6m and up to 0.31m deep. The single fill, (832), was a brown silty clay with occasional chalk and frequent flint. Animal bone and fragments of greensand were recovered from the fill.

Figure 10. Trench 4, Later Saxon and Medieval features under excavation

Set within the angle described by F.419 and F.422, albeit perhaps not contemporary, was a shallow oval pit, F.421 (cut [841]). 0.61 x 0.49m in extent and 0.12m deep, with sloping sides merging with a dished base, it contained a single fill, (842), a brown silty clay with rare fine chalk and occasional charcoal. A burnt deposit of grey-orange silty clay dumped into the fill may represent a dumped hearth or oven base. Adjacent to the pit was an irregular animal burrow, F.417 (cut [837], fill (836)).
Trench 5

Trench 5 was machine-dug under close archaeological supervision to a depth of 2.6m in order to obtain a full section through the deeper sediment sequences, and to obtain samples for Optically Stimulated Luminescence dating in order to provide a firmer chronology for those sequences. At the base were layers of white calcareous silt (507 and 501), overlain by layers of grey-blue clay silt (502), mottled grey-brown (503), light brown (504 and 505) and brown (506) clayey silts.
Thin section micromorphology of the alluvial complex in Butler’s Field
Charles French

Introduction

Augering survey and machine and excavation trenching of Butler’s Field in the spring and summer of 2018 revealed a distinctive sedimentological sequence located in a buried valley landscape. From the augering and DEM surveys, the underlying basin appears to be a series of interlinked lobate but interconnected basins located between the footpath to Avebury Trusloe, the main A4361 road and Silbury Hill (Figs. 1 & 12). The greatest depth of these basins is about 2.35m, particularly in the southern part of Butler’s Field (i.e. Trench 5), but more usually it is about 1-1.2m. On the eastern side towards Avebury village and Avebury car park, the underlying chalk substrate quickly rises such that there are no alluvial deposits and only a humic topsoil directly on the gently undulating surface of the chalk. On the western side of the current river towards Avebury Trusloe, the chalk slope quickly rises and creates a definitive slope.

![Contemporary Surface Topography (m/s)](image)

In terms of the alluvial fill of the interlinked basins, the deepest exposure was observed in Trench 5. This was contiguously sampled for particle size analysis, with spot samples taken for micromorphological characterisation and five sealed tubes taken for OSL dating (by Dr C Carey, University of Brighton) to determine the main periods of alluviation (Fig. 13). Beneath the modern turf/topsoil, the profile is characterised by 1.2m of brown calcareous silty clay with a well developed columnar structure, overlying c. 75cm of mottled grey/orangey/yellowish brown calcareous silt.
containing many comminuted shell fragments, over about 40-45cm of pale grey calcareous silt with few flint gravel pebbles and flecking with manganese.

Figure 13. View of Trench 5 with sample monolith tins in place (C. French)

The other trenches and test pits exhibited a shorter alluvial sequence, developed on a buried soil, typified by Trench 3 (Fig. 14), Trench 1 and Test Pit 8. The basal c. 15-25cm of each profile exhibits a single horizon, greyish brown sandy/silty clay loam soil with common flint/chalk gravel pebbles and flecks of fine charcoal. Beneath the modern turf/topsoil, the profile is characterised by c. 20-50cm of brown calcareous silty clay with a well-developed columnar structure overlying c. 10-35cm a pale grey calcareous silt (which equates with Evan’s ‘Arion clay’ (Evans et al. 1993)).

Representative samples of the main alluvial fills of the floodplain sequence and the surviving buried soils present in Butler’s Field (in Trenches 1, 3 and 5 and Test Pits 3 and 8) and between Silbury Hill and Waden Hill (in Borehole 375) were taken for thin section analysis. The slides were produced following the methods of Murphy (1986) as adapted by French and Rajkovaca (2015), and described using the accepted terminology of Bullock et al. (2005) and Stoops (2013). Descriptions are given in Appendix 1.
In addition, a suite of basic physical parameters - pH, magnetic susceptibility and multi-element ICP-AES analyses (Table 4) were carried out a series of 17 small bulk samples taken in conjunction with the micromorphological block samples (Avery & Bascomb 1974; Clark 1996, 99-117; French 2015; Holliday & Gartner 2007; Wilson et al. 2008). pH measurements were determined using a 10g to 25ml ratio of <2mm air-dried soil to distilled water with an Hanna HI8314 pH meter. For magnetic susceptibility measurements, a Bartington MS2B meter was used, giving mass specific calculations of magnetic susceptibility for weighed, 10cm³ subsamples (English Heritage 2004, 27). Multi-element analyses using the 35-element aqua regis ICP-AES method were conducted at the ALS Global laboratory in Seville (www.alsglobal.com), and the elements exhibiting greater than trace amounts and/or are generally considered to be enhanced by human activities (cf. Wilson et al. 2008; Fleisher & Sulas 2015) are tabulated in Table 4.

*Figure 14. The profile in Trench 3 showing the two phases of alluvial deposition over a thin buried soil (C. French)*

**Profile descriptions**

The profile descriptions below are typical of the soil/sediment sequences observed in Butler’s Field, and are the main ones sampled.
Test Pit 3 (N 51 25.640/W 001 51.666; 152m)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
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<tr>
<td>0-5</td>
<td>turf</td>
</tr>
<tr>
<td>5-48</td>
<td>blocky, dark greyish brown silty clay loam; alluvium</td>
</tr>
<tr>
<td>48-74</td>
<td>rubbly dark greyish brown silty clay loam; alluvium</td>
</tr>
<tr>
<td>74-94</td>
<td>small blocky, greyish brown silt loam with few flint gravel, with few flecks of charcoal; old land surface and buried soil</td>
</tr>
<tr>
<td>94+cm</td>
<td>mottled grey/orange weathered chalk; B/C</td>
</tr>
</tbody>
</table>

Test Pit 8 (N 51 25.654/W 001 51.645; 152m)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>turf</td>
</tr>
<tr>
<td>5-55</td>
<td>dark brown silty clay loam with columnar structure; alluvium</td>
</tr>
<tr>
<td>55-95</td>
<td>dark brown silty clay loam with even mix of chalk/flint gravel; alluvium, possibly mixed with earlier ploughsoil</td>
</tr>
<tr>
<td>95-106</td>
<td>pale greyish brown to orangey brown silty clay loam with occasional fine gravel and animal bone fragments; old land surface and buried soil</td>
</tr>
<tr>
<td>106+cm</td>
<td>pale yellowish grey weathered chalk; B/C</td>
</tr>
</tbody>
</table>

Trench 1 (Profile 292; N 51 25.646/W 001 51.645, 155m)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>turf and topsoil, Ah and A1</td>
</tr>
<tr>
<td>15-33</td>
<td>blocky, dark greyish brown silty clay loam; alluvium</td>
</tr>
<tr>
<td>33-62</td>
<td>blocky, greyish brown silty clay loam; alluvium; ‘Arion’ clay of JG Evans</td>
</tr>
<tr>
<td>60-72</td>
<td>greyish brown silty clay with even mix of chalk and flint rubble; bank upcast</td>
</tr>
<tr>
<td>72-96</td>
<td>greyish brown silt loam, almost chalk free, with few flecks of charcoal; old land surface and buried soil</td>
</tr>
<tr>
<td>96+cm</td>
<td>flint/chalk gavel; B/C</td>
</tr>
</tbody>
</table>

Trench 3, NW section profile (Profile 294)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>turf &amp; topsoil; Ah/A1</td>
</tr>
<tr>
<td>20-70</td>
<td>dark brown silty clay loam with columnar to blocky ped structure, alluvium; ‘Arion’ clay of JG Evans</td>
</tr>
<tr>
<td>70-106</td>
<td>grey to pale grey, calcitic silty clay loam, with frequent earthworm holes; alluvium</td>
</tr>
<tr>
<td>106-120</td>
<td>reddish brown silty clay loam with increasingly common flint/chalk gravel towards base; base or lower B horizon of buried soil</td>
</tr>
</tbody>
</table>

Trench 5, western section profile (Profile 293; N 51 25.503/W 001 51.583, 152m)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>turf &amp; topsoil; Ah/A1</td>
</tr>
<tr>
<td>20-104</td>
<td>brown to greyish brown, calcitic, silty clay with columnar structure, columnar to blocky structure; context 506; upper alluvium, derived from topsoil erosion of soils in lower part of the catchment</td>
</tr>
<tr>
<td>104-120</td>
<td>grading into very pale greyish/yellowish white calcitic silty clay; context 505, base of upper alluvium, derived from hillwash of chalk slopes</td>
</tr>
<tr>
<td>120-170</td>
<td>very pale greyish brown silt with many comminuted snail shells; context 504; calcitic alluvium, derived from hillwash of chalk slopes</td>
</tr>
<tr>
<td>170-195</td>
<td>mottled greyish/orangey brown silt; context 503; partly gleyed alluvium, derived from hillwash of chalk slopes</td>
</tr>
<tr>
<td>195-237</td>
<td>grading into grey silt with a few fine flint gravel pebbles and common flecking with black manganese; context 502; gleyed lower alluvium, derived from hillwash of chalk slopes</td>
</tr>
<tr>
<td>237+cm</td>
<td>flint gravel and weathered chalk on chalk; context 501; C</td>
</tr>
<tr>
<td></td>
<td>(c. 245cm = base of trench cut)</td>
</tr>
</tbody>
</table>
The profile descriptions below are typical of the soil/sediment sequences observed in the field south of the A361 and north of Silbury Hill.

Borehole LwM 375 (N 51 24.960/W 001 51.222; 149m)

0-5  turf; Ah
5-30  dark brown silty clay loam; A1 + alluvium
30-38 greyish brown silty clay loam with chalk gravel zone at base; alluvium
38-76 greyish brown silty clay loam with even mix of chalk gravel; alluvium
76-84 dark brown silty clay loam with few micro-charcoal and one sherd of pottery (possibly Saxon); stabilisation/occupation zone in alluvium
84-96 pale greyish brown, calcitic, silty clay loam with few pea-grit chalk gravel; hillwash
96-110 mix of pale grey silt loam and pea-grit fine chalk gravel; hillwash on channel bed
100-115+cm chalk ‘sludge’; periglacial deposit; C

Physical and elemental analyses

pH values were alkaline throughout, and in many cases quite strongly alkaline (Table 3: pH ranges from 6.99-8.41). Magnetic susceptibility values were generally low, except where an old land surface was encountered (Table 4: BH251/4, OLS).

<table>
<thead>
<tr>
<th>Trench/Sample</th>
<th>pH</th>
<th>MS (SI e-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winterborne North:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP3: 33-042cm: OLS</td>
<td>6.99</td>
<td>109.5</td>
</tr>
<tr>
<td>TP4: 50-56cm: OLS</td>
<td>7.35</td>
<td>185.6</td>
</tr>
<tr>
<td>Butler’s Field:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1: 1: 60-72cm</td>
<td>8.31</td>
<td>57.0</td>
</tr>
<tr>
<td>T1: 2: 72-84cm</td>
<td>8.41</td>
<td>100.1</td>
</tr>
<tr>
<td>T1: 3: 84-94cm</td>
<td>8.32</td>
<td>90.4</td>
</tr>
<tr>
<td>T3: 1: 110-119cm</td>
<td>8.25</td>
<td>144.6</td>
</tr>
<tr>
<td>T3: 2: 80-90cm</td>
<td>8.27</td>
<td>209.1</td>
</tr>
<tr>
<td>T3: 3: 50-55cm</td>
<td>8.09</td>
<td>194.1</td>
</tr>
<tr>
<td>TP8: 1: 25-35cm: upper alluvium</td>
<td>8.17</td>
<td>181.4</td>
</tr>
<tr>
<td>TP8: 2: 70-80cm</td>
<td>8.32</td>
<td>497.4</td>
</tr>
<tr>
<td>TP8: 3: 80-97cm</td>
<td>8.3</td>
<td>410.0</td>
</tr>
<tr>
<td>TP8: 4: 87-95cm</td>
<td>8.34</td>
<td>447.6</td>
</tr>
<tr>
<td>TP8: 5: 95-105cm</td>
<td>8.35</td>
<td>310.6</td>
</tr>
<tr>
<td>BH251: 1: 5-10cm: topsoil</td>
<td>7.34</td>
<td>164.9</td>
</tr>
<tr>
<td>BH251: 2: 20-30cm: upper alluvium</td>
<td>7.44</td>
<td>100.4</td>
</tr>
<tr>
<td>BH251: 3: 50-60cm: lower alluvium</td>
<td>7.56</td>
<td>159.7</td>
</tr>
<tr>
<td>BH251: 4: 85-92cm: top of OLS</td>
<td>7.96</td>
<td>300.4</td>
</tr>
</tbody>
</table>
The multi-element results (Table 4) were mainly unremarkable except for high values of calcium as might be expected given the base-rich groundwater, and weakly to moderately enhanced phosphorus levels in the alluvial silts. The latter could reflect the historic period alluvial soil accumulation, and also the ‘ponding’ effect in the 16th century and later features in Butler’s Field.

### Table 3. pH and magnetic susceptibility results from the test trenches in Winterborne North and Butler’s Field, Avebury (2017-18)

<table>
<thead>
<tr>
<th>Sample</th>
<th>pH</th>
<th>Magnetic Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP3</td>
<td>7.89</td>
<td>0.51</td>
</tr>
<tr>
<td>TP4</td>
<td>7.89</td>
<td>0.65</td>
</tr>
<tr>
<td>T1: 1</td>
<td>7.89</td>
<td>0.38</td>
</tr>
<tr>
<td>T1: 2</td>
<td>7.89</td>
<td>0.37</td>
</tr>
<tr>
<td>T1: 3</td>
<td>7.89</td>
<td>0.38</td>
</tr>
<tr>
<td>T3: 1</td>
<td>7.89</td>
<td>0.5</td>
</tr>
<tr>
<td>T3: 2</td>
<td>7.89</td>
<td>0.33</td>
</tr>
<tr>
<td>T3: 3</td>
<td>7.89</td>
<td>0.37</td>
</tr>
<tr>
<td>TP8: 1</td>
<td>7.89</td>
<td>0.8</td>
</tr>
<tr>
<td>TP8: 2</td>
<td>7.89</td>
<td>0.39</td>
</tr>
<tr>
<td>TP8: 3</td>
<td>7.89</td>
<td>0.39</td>
</tr>
<tr>
<td>TP8: 4</td>
<td>7.89</td>
<td>0.34</td>
</tr>
<tr>
<td>TP8: 5</td>
<td>7.89</td>
<td>0.33</td>
</tr>
<tr>
<td>BH251: 1</td>
<td>7.89</td>
<td>0.58</td>
</tr>
<tr>
<td>BH251: 2</td>
<td>7.89</td>
<td>0.75</td>
</tr>
<tr>
<td>BH251: 3</td>
<td>7.89</td>
<td>0.62</td>
</tr>
<tr>
<td>BH251: 4</td>
<td>7.89</td>
<td>0.45</td>
</tr>
</tbody>
</table>

### Table 4. Selected ICP-AES multi-element results from the test trenches in Winterborne North and Butler’s Field, Avebury (2017-18)

### Thin section descriptions

**Trench 1**

Sample 1 (60-72cm) from the upcast bank material is a weakly blocky structured, pale brown, calcitic silty clay with common coarse gravel size chalk, flint and limestone, and a few included fine alluvial soil aggregates.
The two contiguous samples (2 and 3) taken through the c. 24-26cm thick buried soil below revealed a well structured, pale greyish brown to brown, calcitic very fine sandy/silty clay loam. Unoriented dusty clay with common micro-sparitic calcium carbonate dominated the groundmass, but there some illuvial dusty clay coatings evident in the groundmass and around the margins of the voids, common sesquioxide (or iron oxide) nodules and staining, common calcitic infills in the voids, and a fine dust of very fine fragments of organic matter and charcoal.

These features suggest that this former weathered Bw horizon of a buried soil had suffered considerable disturbance prior to burial and the addition of very fine, comminuted anthropogenic debris. This dirty, well mixed aspect to this soil was possibly associated with ploughing (Macphail 1992; Macphail et al. 1987; Lewis 2012). The common silt-sized calcium carbonate is a secondary feature (Durand et al. 2010), probably associated with the rise and fall of the groundwater table and seasonal overbank floodwaters.

Test Pit 3
Both block samples taken through the c. 22m thick buried soil are a pale brown, calcitic very fine sand/silt with weak to moderate small irregular blocky structure and a minor flint gravel component. The groundmass is dominated by silt-sized calcium carbonate and unoriented dusty clay, but there are a few golden brown dusty clay striae in the lower half of the groundmass profile which are indicative of some illuviation of fines as a result of soil disturbance prior to any alluviation and seasonal waterlogging taking place.

These features suggest that this buried soil horizon is the Bw horizon of a former dryland, brown earth soil which has been transformed by the addition of silty clay alluvium and considerable seasonal drying out leading to the abundant secondary formation of silt-sized calcium carbonate from the base-rich groundwater and overbank flood waters (Durand et al. 2010; Kuhn et al. 2010; Lindbo et al. 2010). The ‘missing A horizon’ has probably been subsumed through later alluvial silty clay aggradational and soil mixing processes.

Trench 3
Sample 2 from the base of the pale grey alluvium is a calcitic very fine sand/silt with a well-developed columnar blocky ped structure. Its groundmass is completely dominated by silt-sized calcium carbonate. This is believed to be J.G. Evans’ ‘Arion clay’ (Evans et al. 1993).

Sample 1 from the old land surface/buried soil below is a pale greish brown, calcitic very fine sandy silt with a quite well developed blocky ped structure defined by fine channels. It exhibits a minor dusty clay component, minor plant tissue remains and very fine dust of charcoal, which suggests that it had been a very poorly developed, very fine sandy loam Bw horizon of a brown earth soil. Subsequently this soil has been affected by the common secondary formation of silt-sized calcium carbonate from the influence of base-rich groundwater and the drying out of overbank, standing flood waters above (Durand et al. 2010).

Trench 5
Sample 3
This is a pale brown calcitic very fine sandy silt with occasional dusty clay coatings lining the voids. It has a massive, homogeneous, apedal aspect.

Sample 4
This exhibits a similar fabric to Sample 3, but displays hints of fine horizontal laminations. It also contains a dust of micro-charcoal, and common irregular patches of black magnetite iron staining.
Test Pit 8
Both block samples taken through the c. 20cm thick buried soil are a calcitic fine sand with an increasing mix of fine flint gravel with depth. There is little sign of any ped structure, but there is some illuviation of fines with dusty clay striae and linking grains and fabric, and there are minor plant tissue remains, rare fine charcoal and a few sesquioxide nodules. This appears to a very immature brown earth soil which has been completely transformed by subsequent alluvial deposition and secondary calcium carbonate formation.

Borehole 375, 76-80cm
This is a pale greyish brown calcitic very fine sandy silt with common fine chalk gravel and some amorphous iron mottling. It is a similar fabric to that observed in the lowermost alluvial unit in Trench 5 in Butler’s Field, and appears to overly a pale grey silt/chalky pea-grit hillwash, which in turn is developed on the periglacial weathered chalk substrate.

Interpretative discussion
There are two phases of alluviation which occur consistently across the Winterbourne/Kennet valley occupied by Butler’s Field. The upper alluvium occurs over the widest lateral extent across the whole valley bottom area to about the 152m contour (Fig. 12). It is a very dark brown silty clay loam with a very well developed columnar blocky ped structure. This is very humic and probably topsoil derived from the catchment upstream and upslope, and is associated with seasonal overbank flooding of long-term pasture. It most probably developed hand-in-hand with the post-late 16th century AD construction of the embanked water catchment ponds system (Ros Cleal, pers. comm.), and is reflecting topsoil soil erosion associated with wide-scale arable agriculture in the immediate catchment.

The grey calcitic very fine sand/silt with a well developed columnar blocky ped structure below (or ‘Arion Clay’) is indicative of a different source and environment of deposition. First it requires the exposure and erosion of the chalk-rich base of dryland soil profiles from the catchment. Immediately this implies severe disturbance of the soil profiles of the chalk slopes of the hinterland, and must therefore be associated with intensive plough agriculture and extensive areas of bare soils exposed to autumn and winter rains. Relative dating provided by the OSL dates determined in the Trench 5 sequence suggest that this slow, gradual and probably only seasonal deposition was occurring from Medieval times (Toms 2018), although Evans et al. (1993, 190) considered this unit to be post-Medieval in date. This calcitic silt-sized material from bare exposed subsoils would be easily entrained in rain/soil water moving as a fine overland flow into the winterbourne and eventually into the Kennet valley itself. From the auger survey so far, this material is particularly prevalent in the c. 1.5km long reach of the valley between the Winterbourne/river fork just west of the National Trust offices to the sharp eastwards bend in the river valley just south of Silbury Hill. This probably suggests that the riverine flow energy was only sufficient to transport this fine material to this zone of the river valley and not much farther downstream past Silbury Hill itself. Indeed, Silbury Hill itself as a massive mound feature and the abrupt left (eastwards) turn in the river (determined by the chalk downland geology and topography) may have acted together to considerably interrupt and slow river flow and the associated eroded subsoil deposition beyond the Swallowhead Springs area.

In addition, this phase of sediment capture could be coincident with a major reorganisation of settlement and the riverside, possibly associated with canalisation of the Winterbourne around the 11th century AD.
The pale grey calcitic silt below is only really observed in the deepest basins in Butler’s Field, such as seen in the Trench 5 profile. This unit does not appear to have much lateral/spatial extent within the base of the valley, and it is probably also derived from the exposure and erosion of chalk subsoils upslope/upstream, but in much lesser quantities. At present, this sediment unit is regarded as Iron Age through OSL dating to 690-310 BC (GL18003) at a depth of 1.25m (Toms 2018), but requires further investigation. Nonetheless, it does throw up the possibility of a relative absence of soil erosion and alluvial aggradation in earlier prehistoric times, at least being captured in this reach of the river. It appears that there is only about 50cm of accumulation evident in Trench 5 from the early Neolithic at 4420-3460 BC (GL18002) at a depth of 1.74m to Iron Age at 690-310 BC (GL18003) at a depth of 1.25m through new OSL dating (ibid.). This goes against accepted wisdom from previous work in this same area by Evans et al. (1993), as well as the clear evidence of soil disturbance on the floodplain margins (as below). And of course, there could be hidden truncations and the removal of palaeo-channel fill material over that lengthy period of time that we are just not seeing.

The buried soils that survive on the margins of the floodplain are consistently disturbed brown earths. There are a few surviving hints of their initial development as weakly developed argillic brown earths in terms of clay striae in the groundmass in the base of the profile, but there are rarely any clear pure and well organised illuvial clays indicative of stable, well drained, long-term woodland cover (Bullock & Murphy 1979). Rather each soil profile is dominated by dusty clays in the groundmass and in the voids and channels, a feature indicative of disturbance (Fisher 1982; Kuhn et al. 2010; Macphail 1992). The groundmass of every sample is also very dirty, with common comminuted very fine sand and to silt-sized charred and organic matter, which is typical of soils that are disturbed and mixed consistently by ploughing (Lewis 2012; Macphail 1992; Macphail et al. 1987). These buried soils all survive as single weathered B (or Bw) horizons of a brown earth, with the organic A horizons no doubt incorporated into the alluvial material above through soil faunal mixing processes (Kooistra & Pulleman 2010).
Discussion

Prehistoric

Scatters of worked flint were found in the lower soil and worm-sorted gravels wherever it was excavated. Even from superficial examination (detailed analysis is, of course, to follow) the potential for refitting of material is very high, indicating the presence here of *in situ* flint scatters protected by later alluvial cover. A range of different flint types is present, and includes material of a local character and primary flakes in a brownish flint with thick cortex that are likely quarried and brought into the region. In Trenches 1, 2 and 3 the flintwork includes a strong Mesolithic component, both early and late judging by the presence of proper blades and bladelets. A number of microliths were recovered during the 2018 excavations and those undertaken by John Evans and colleagues in the 1980s, and include rod forms (Evans et al. 1993, fig. 10, 1-6) of latest Mesolithic date (note radiocarbon dates of 4340-3990 cal BC and 4240-3990 cal BC associated with rod forms from the Fir Tree Field shaft in the upper Allen Valley, Dorset: Green, in French et al. 2007, 282-3). Radiocarbon dates will be obtained on the red deer bone found in association with Mesolithic flintwork in pit F.36 in Trench 1.

Mesolithic flintwork is not unknown from the immediate region (Holgate 1988, Whittle 1990, George 2016), and has been found, for example, during recent Project excavations on the West Kennet Avenue occupation site and the Foot of Avebury Down (Gilling et al. 2015, 2017). Its distribution may be wide, though its density is generally low. The recognition through the Butler’s Field excavations that we may here have a relatively extensive and buried spread of Mesolithic material across the Winterbourne valley floor is highly significant, not least because it raises the possibility that significant concentrations (‘sites’, as such) could exist within the alluviated zone. This acknowledged, test pitting by Evans et al. in the southern part of the field, and to the south of the A4361 Beckhampton Road by the Project in 2017 did not produce any Mesolithic material. It is also very thinly represented in Trench 4. This may imply a more limited distribution focussed on the pinch-point (and stream crossing?) in this part of the valley.

Whittle has argued that Mesolithic “exploitation may have been transient, perhaps seasonal” within this part of the Upper Kennet Valley (1990, 106). There is nothing to contradict this. The artefactual signature here is relatively marked, but does not come close to the massive and localised densities of worked flint that characterise Mesolithic ‘base camps’ such as those at Cherhill on the base of scarp-slope 6km to the west (Evans & Smith 1983), or at Wawcott and Thatcham in the middle Kennet Valley near Hungerford and Newbury (Wymer 1962, Froom 1976, Heaton 1992). At Butler’s Field we have a palimpsest, with worked flint likely accumulating at a slow rate through repeated episodes of visitation that may have run over several millennia. It perhaps hints at short stays linked to a stream crossing on a braided corridor of movement leading into the Thames and the southern North Sea zone beyond to the east, and the Severn estuary to the west (George 2016).

It is not helpful to gloss the Mesolithic locale at Butler’s Field in well-trodden terms such as a ‘short-stay’ or ‘hunting camp’ since the character of activity here could well have varied and never been prescribed. And we do well to remember that there can be other reasons, unrelated to hunting, gathering and ‘resource exploitation’ per se, that led to hunter-gatherer groups visiting landscape locations, including social gatherings and attending to ceremonial and spiritual matters (cf. Jordan 2003, David et al. 2014).

Neolithic (and later?) flintwork, and small amounts of pottery, were recovered, but in low densities. It may be that much of this material, especially from Trench 1, is early (i.e. first half of the 4th millennium BC), and related to a limited phase of settlement. A similar restricted assemblage of plain bowl pottery and a leaf arrowhead came from Evans et al.’s Trench J only 5m to the SE of Trench 1. Diagnostically
later flintwork was also recovered during the 2018 excavations, notably from trenches 2, 3 and 4, including an oblique arrowhead and discoidal core. Without associated ceramics, it does not, however, look as though this material relates to a settlement presence, perhaps supporting an argument that the zone to the west of the henge became an area where settlement activity was no longer sanctioned. Certainly by the time the Beckhampton Avenue was constructed across this zone the status of this locale had changed. There is a possibility that some of the flintwork could have been generated by activities linked to the construction of the Avenue.

There was no evidence for the line of the Beckhampton Avenue within Trench 1, but features such as stone-holes, and even buried stones, could remain sealed under unexcavated sections of the causeway, or may have been removed by the digging of substantial Medieval features. We remain confident Trench 1 does sit within its line.

**Roman, Saxon and Medieval**

The field lies up-stream from the major Roman settlement established around Silbury Hill (Crosby et al. 2013), and is less than 1km to the east of the Roman villa at the foot of Windmill Hill (Pollard & Reynolds 2002, 156-7). Finds of Roman material occurred within the majority of trenches, consisting for the most part of small numbers of coins and metalwork (pottery was present in Trench 1). The date range of this material spans the 2nd to later 3rd centuries AD at least. Some of these objects were perhaps picked up as curios during the later Saxon and Medieval phases, and so may not relate to *in situ* Roman activity; though note should be made of the large fragment of a colour-coat flagon found within the alluvium in Trench 1, which must represent a contemporary loss/discard. Contemporary features were not encountered, and if, as seems likely, the lower alluvium was forming during the Roman period (Chris Cary pers. comm.), this zone was probably being managed as grazed water meadow.

Late Saxon and Medieval (pre-14th century) features were present within all the trenches. They are indicative of very extensive settlement archaeology across what is now a floodplain zone, connecting visible Medieval earthworks in Avebury Trusloe with the village of Avebury. Ditches, small pits, quarry and other pits were encountered. To judge from the quantities of animal bone, pottery and metalwork present, all these were closely related to settlement rather than being elements of contemporary fieldsystems. There is evidence of structures: gullies F.25 and F.26 are good candidates for beam-slots; pit F.12 in Trench 1 was likely capped by a roofed structure, and may even have served as a cellar; while the line of post-holes in Trench 4 could mark one side of a large building later truncated by a ditch line.

Analysis of the ceramics, metalwork and other artefacts will aid with dating and phasing of features. Preliminary scans of the pottery suggest a good representation of middle-late Saxon material across all trenches. Later (11th-14th century) activity may be more focused on the north of the field. Clear phasing was evident in Trenches 1 and 2. In Trench 1, N-S Saxon ditches running along a stream-side zone where superseded by features laid out in accordance with the line of the Avebury High Street. This may relate to a major reorganisation of settlement and riverside space around the 11th century, and could be linked to the canalisation of the Winterbourne at this time. The main ENE-SSW boundary projects the line of the High Street, with its eventual manifestation as a causeway implying a literal extension of that road line. The large quarry pit F.18 suggests the western part of this zone had become ‘backspace’ (i.e. peripheral to the main settlement area), with the major ditch F.17 demarcating this zone.
There are hints of phases of expansion, contraction and/or settlement shift. The first expansion occurs in the later Saxon period. Reynolds suggests Avebury existed as a small town during this period: initially defined by a series of conjoined curvilinear enclosures, then as a rectangular burgh enclosure (Pollard & Reynolds 2002, 202-10). Features and finds from the summit of Silbury Hill likely show its fortification during the 10th-11th centuries, contemporary with the postulated burgh (Crosby et al. 2013). In outline, Reynolds’ interpretation may be correct, but details will need to be modified following the results of the 2018 excavations. These have shown the later Saxon occupation to extend much further downstream than previously envisaged. It is also apparent that the southern side of one of the claimed Middle Saxon enclosures – marked by the ditch, bank then causeway running the length of Trench 1 – is a much later earthwork.

The 11th-14th century may see activity more focussed in the northern and eastern parts of the field and the core of the modern village (see to Powell et al. 1996). After the 14th century the area of settlement had either shrunk or bifurcated into the hamlet of Trusloe and village of Avebury as we see today, with a shift onto higher ground away from the Winterbourne. Poll Tax returns show a settlement that was still prosperous (Pollard & Reynolds 2002, 246). Butler’s Field came under cultivation, with refuse from the village being deployed in manuring.

Despite the scale of archaeological investigation over recent decades – work that includes excavations in the Manor, Avebury School Site, visitor’s carpark, and numerous watching briefs – we still understand little in detail of the origins and development of Medieval Avebury. Much remains unanalysed and unpublished. It is hoped that the 2018 work in Butler’s Field can provide a degree of firm detail, and act as a catalyst for review and further research.
Acknowledgements

First and foremost, we would like to thank Ben and Robin Butler for allowing us to undertake work on their land, and for logistical support.

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Appendix 1: Detailed soil micromorphological descriptions

Trench 1 (BH292):

Sample 1, 60-72cm

Structure: weakly to moderately well developed small irregular blocky, <2cm; Porosity: 2% channels, <2cm long, <500um wide, irregular, smooth, partly accommodated; <5% vughs, irregular to sub-rounded, <500um, occasional partly infilled with groundmass material; Mineral components: c. 20% limestone, chalk and flint gravel, <3cm, sub-angular to sub-rounded; coarse/fine ratio: 15/85; coarse fraction: 10% coarse sand-size limestone, sub-rounded, 500-1500um; 2% medium sand-size limestone, 250-500um; 3% fine quartz sand, 100-250um, sub-rounded; fine fraction: 25% very fine quartz sand, 50-100um; 10-20% micro-sparite in groundmass, 25-50um; 30% dusty clay in groundmass, with micro-sparite, weak to moderate birefringence; golden brown (CPL), pale brown (PPL); Organic components: 5-10% fine organic dust, <50um; 1% fine charcoal, <1mm; Pedofeatures: Fabric: few (2%) silty clay aggregates, sub-rounded, <250um, strongly stained with amorphous sesquioxides; Textural: as above.

Sample 2, 72-84cm

Structure: well developed small irregular blocky, <2cm; Porosity: 10% channels, <2cm long, <2mm wide, all orientations, smooth to weakly serrated, partly accommodated; 5-10% vughs, sub-rounded, <1mm; Mineral components: c. 2% limestone, chalk and flint gravel, <5mm, sub-angular to sub-rounded; coarse/fine ratio: 15/85; coarse fraction: 2% coarse sand-size limestone, sub-rounded, 500-1500um; 8% medium and 5% fine quartz sand, 100-500um, sub-rounded; fine fraction: 20% very fine quartz sand, 50-100um; 10-20% micro-sparite in groundmass, 25-50um; 45% dusty clay in groundmass, with micro-sparite, non- to weak birefringence; brown (CPL), greyish brown (PPL); Organic components: <10% fine organic dust, <50um; 2% fine charcoal, <250um; Pedofeatures: Textural: as above; Amorphous: 5-10% amorphous sesquioxide nodules and irregular zones, <1mm.

Sample 3, 84-96cm

As for Sample 2 above, except for:
Textural: more of dusty clay in groundmass with weak to moderate birefringence; few dusty clay linings of voids; Amorphous: few near complete void infills with amorphous calcium carbonate.

Trench 3:

Sample 1, 106-119cm

Structure: weak to moderately well developed sub-angular blocky, <3-4cm; Porosity: 5% channels, <3cm long, <1-2mm wide, all orientations, smooth to weakly serrated, partly accommodated; 10% vughs, sub-rounded, <10mm; Mineral components: coarse/fine ratio: 5/95; coarse fraction: 5% fine quartz sand, 100-500um, sub-angular to sub-rounded; fine fraction: 40% very fine quartz sand, 50-100um; 10-20% micro-sparite in groundmass and occasionally in voids, 25-50um; 5% silt; 5% dusty clay in groundmass, weak birefringence; pale golden brown (CPL), pale greyish brown (PPL); Organic components: <5% fine organic dust, <50um; rare (1%) fine charcoal, <200um; Pedofeatures: Textural: as above; Amorphous: rare irregular zones of black magnetite, <500um; rare reddish brown amorphous sesquioxide lining of void or irregular zone in groundmass.

Sample 2: 80-93cm

As for Sample 1 above, except for:
**Structure**: moderately well developed large blocky, <5cm; **Porosity**: 5-10% channels, <6cm long, <1mm wide, partly accommodated, smooth to weakly serrated; with up to 50% of porosity partly to nearly infilled with calcitic silt.

**Trench 5:**

Sample 3, 150-158cm

**Structure**: apedal, dense, homogeneous; **Porosity**: <1% channels, <8mm long, <250um wide, all orientations, smooth to weakly serrated, partly accommodated; 10% vughs, sub-rounded, <2mm; **Mineral components**: coarse/fine ratio: 2/98; coarse fraction: 2% fine quartz sand, 100-500um, sub-angular to sub-rounded; fine fraction: 40% very fine quartz sand, 50-100um; 10-10% micro-sparite and 20% sparite in groundmass and occasionally in voids, 25-50um; 20% dusty clay in groundmass and occasionally as thin coatings of voids, weak birefringence; pale golden brown (CPL), pale brown (PPL); **Organic components**: <5% fine organic dust, <50um.

Sample 5, 75-80cm

As for Sample 3 above, except for:

**Structure**: hints of fine laminae of dusty clay; **Organic components**: common to abundant (10-50% of groundmass) irregular zones of black magnetite, <500um; rare (<1%) shell fragment, <2mm.

**Test Pit 3:**

Sample 2, 68-80cm

**Structure**: weakly to moderately well developed small irregular blocky, <2cm; **Porosity**: 5% channels, <2cm long, <1mm wide, irregular, smooth, partly accommodated; 10% vughs, irregular to sub-rounded, <500um, occasional partly infilled with groundmass material; **Mineral components**: 1% flint gravel, <2cm, sub-angular to sub-rounded; coarse/fine ratio: 15/85; coarse fraction: 5% coarse sand-size limestone, sub-rounded, 500-1000um; 5% medium sand-size limestone, 250-500um; <5% fine quartz sand, 100-250um, sub-rounded; fine fraction: 30% very fine quartz sand, 50-100um; 20-30% micro-sparite in groundmass, 25-50um; 20-25% dusty clay in groundmass, weak birefringence; pale brown (CPL/PPL); **Organic components**: 10% fine organic dust, <50um; 10% plant tissue fragments, <500um; 2% shell fragments; **Pedofeatures**: **Textural**: as above; **Amorphous**: 5% amorphous sesquioxide nodules, sub-rounded, <1mm.

Sample 3, 81-92cm

Same as for Sample 2 above, except for:

**Porosity**: 10% channels, <8cm long, <2mm wide, irregular, smooth to weakly serrated, partly accommodated; **Textural**: a few dusty clay striae in the groundmass, moderate birefringence, golden brown (CPL).

**Test Pit 8:**

Sample 1/1, 87-99cm

**Structure**: apedal to very weak irregular blocky <3cm; **Porosity**: <1% channels, <3cm long, <500um wide, irregular, smooth, partly accommodated; 10-20% vughs, irregular to sub-rounded, <500um, partly infilled with groundmass material; **Mineral components**: 15% flint gravel, <8mm, sub-angular to sub-rounded; coarse/fine ratio: 50/50; coarse fraction: 30-50% fine sand-size chalk, sub-rounded, 200-500um; fine fraction: 15% very fine quartz sand, 50-100um; 20-30% micro-sparite in groundmass, 25-50um; <5% dusty clay in groundmass, weak birefringence, of which 2% are striae; golden brown (CPL), greyish brown (PPL); **Organic components**: 10% fine
organic dust, <50um; 10% plant tissue fragments, <500um; 2% shell fragments; Pedofeatures: Textural: as above; Amorphous: 2% amorphous sesquioxide nodules, sub-rounded, 500um-2mm.

Sample 1/2, 99-103cm

Same as for Sample 1/1 above, except for:

Mineral components: chalk component has increased up to 80% of the groundmass; rare (<1%) void coating with dusty clay.

BH375 (N 51 24.960/W 001 51.222; 149m; 76-80cm):

Structure: apedral; Porosity: <2% channels, <2cm long, <500um wide, irregular, smooth, partly accommodated; 10% vughs, irregular to sub-rounded, <500um, occasional partly infilled with groundmass material; Mineral components: 20% flint and chalk gravel, <1cm, sub-angular to sub-rounded; coarse/fine ratio: 5/95; coarse fraction: 5% fine quartz sand, 100-500um, sub-angular to sub-rounded; fine fraction: 40% very fine quartz sand, 50-100um; 10-20% micro-sparite in groundmass and occasionally in voids, 25-50um; 30% silt; 5% dusty clay in groundmass, weak birefringence; pale golden brown (CPL), pale greyish brown (PPL); Organic components: 10% fine organic dust, <50um; 10% plant tissue fragments, <500um; 2% shell fragments; Pedofeatures: Textural: as above; Amorphous: 5% amorphous sesquioxide nodules and irregular zones, sub-rounded, <1mm.