

**LAND WEST OF COPTHORNE,
COPTHORNE WAY, WEST SUSSEX**

**REPORT ON ARCHAEOLOGICAL
EXCAVATION – STRIP, MAP AND
SAMPLE**

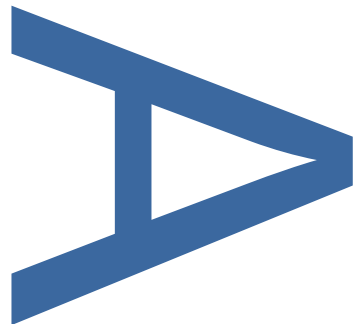
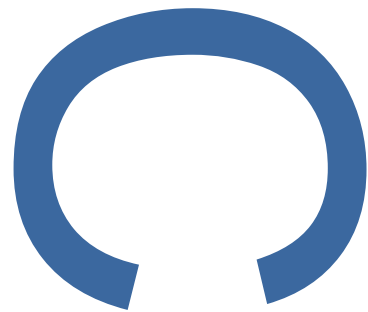
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MID SUSSEX DISTRICT COUNCIL**

**PLANNING APPLICATION NUMBERS:
13/04127/OUTES**

PCA REPORT NO: 14003

SITE CODE: CWWS19

JANUARY 2020



PRE-CONSTRUCT ARCHAEOLOGY

LAND WEST OF COPTHORNE, COPTHORNE WAY, WEST SUSSEX: REPORT ON ARCHAEOLOGICAL EXCAVATION – STRIP, MAP AND SAMPLE

Site Code: CWWS19

Central NGR: 530621 139373

Local Planning Authority: Mid Sussex District Council

Planning Reference: 13/04127/OUTES

Commissioning Client: Natta on behalf of St Modwen Homes

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NON-TECHNICAL SUMMARY

- 1.1 Pre-Construct Archaeology Ltd (PCA) was appointed by Natta on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Cophorne, West Sussex. The archaeological investigation was intended to mitigate the impact of the development, on archaeological remains identified during two phases of archaeological evaluation work previously undertaken on the site. This earlier work was carried out by Archaeology South East (ASE) (ASE 2017 & 2018). The investigations were undertaken across two areas: Area 1 measuring 1,670sqm and Area 2 measuring 100sqm, with all on-site work carried out between the 12th of August 2019 and the 18th of September 2019.
- 1.2 The investigation revealed archaeological resources dating to the prehistoric, later prehistoric to Roman and medieval periods. It is considered that the resources are evidence of land management or land division features of later prehistoric to Roman and medieval date as well as the possible reuse of natural features, possibly in the Mesolithic period.
- 1.3 In Area 2, a buried land surface identified during the evaluation with Geoarchaeological Test Pit 2 (GTP2) was observed in four further test pits but was found significantly lesser extent than observed in the 2018 evaluation (ASE 2018). Environmental sampling showed some evidence for foraging of hazelnuts as well as the cultivation of cereal crops. A small quantity of struck flint was also recovered which is further evidence for prehistoric activity on the site.

2 INTRODUCTION

2.1 Project background

- 2.1.1 Pre-Construct Archaeology Ltd (PCA) was appointed by Natta, on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Cophorne, West Sussex, hereafter ‘the site’, centred at NGR 530621 139373 (Figure 1). The site is to be developed for housing and the archaeological investigation was intended to mitigate the impact of the development on archaeological remains previously identified during two phases of archaeological evaluation work (ASE 2017 & 2018).
- 2.1.2 Outline planning permission for the development was granted by the Local Planning Authority (LPA), Mid Sussex District Council, in May 2016 (Planning ref: 13/04127/OUTES); with development subject to Condition 12, which set out an archaeological requirement. The requirement was based on the advice of Mark Taylor, West Sussex County Archaeological Officer, as advisor to the LPA, a role which is now performed by Alex Eggington Archaeological Officer (AO), Heritage Conservation Team Surrey County Council.
- 2.1.3 The works were carried out on-site between the 12th of August and the 18th of September 2019
- 2.1.4 A Written Scheme of Investigation (McCulloch 2019) detailing the excavation and post-excavation methodology to be taken during the archaeological investigation and subsequently during post-excavation reporting, was prepared prior to the fieldwork, with revisions undertaken as required during the course of the project. Both phases of work have been undertaken in accordance with that methodology.
- 2.1.5 This document has also been prepared in accordance with:
- (1) The Chartered Institute for Archaeologists standard and guidance for archaeological field evaluation (CIfA 2014);
 - (2) Recommended Standard Conditions for Archaeological Fieldwork, Recording, and Post-Excavation Work (Development Control) in East Sussex (ESCC 2008);
 - (3) Sussex Archaeological Standards 2019 (ESCC December 2019);
 - (4) Sussex Archaeological Standards: Written Scheme of Investigation Requirements (2018);
 - (5) Management of Research Projects in the Historic Environment (Historic England, 2015).

3 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1 The site (55ha) is currently given over to fields enclosed by areas of scrub and woodland (Figure 2). It is bounded by farmland to the north, the A264 to the south, residential development to the east and the M23 to the west. A large portion of the centre of the site is wooded. To the north is the site of a former sewage works, traces of which are still extant. The most southerly of the fields was formerly occupied by a large pond which has subsequently been landfilled.
- 3.2 According to the latest data available from the British Geological Survey (BGS 2018) the underlying bedrock geology is Upper Tunbridge Wells Sand (interbedded sandstone and siltstone). There are also alluvial soils running north – south through the site relating to the Burstow Stream and Cophorne Brook, a band of Upper Tunbridge Wells Sand (mudstone) running along the western boundary of the site and a swathe of superficial deposits of clay, silt, sand and gravel formed from material accumulated by down slope movements in the southern part of the site.
- 3.3 The site is spread across a large area, predominantly comprised of fields, with one small area located within an area of felled trees and scrubland. The site is divided by two, The Burstow Stream and Cophorne Brook, tributaries of the River Mole. The site is bounded by industrial units and housing to the north and east of site, and by the Cophorne Way to the south and the M23 to the west.

4 GEOARCHAEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND

4.1 The following background information has been paraphrased from the desk-based assessment (Terence O'Rourke 2013) supplemented with the results of recent work undertaken by Archaeology South East (ASE) to the immediate west of the site at Balcombe Road (ASE 2017) and the results of a recent Geo-environmental Interpretative Report (Atkins 2017).

4.2 Palaeolithic

4.2.1 Evidence for human activity during the Palaeolithic period within or in the vicinity of the site is minimal, with no archaeological sites or finds spots recorded nearby.

4.3 Mesolithic

4.3.1 The site has evidence for Mesolithic activity in the form of flint implements and debris found within the Heathy Ground Wood. The WSCC HER details that the finds derive from excavations carried out in 1938-9 by amateur archaeologist, Mr McKerrow. These excavations recorded a 'flint knapping floor' and 'Mesolithic occupation area'. The HER states that a selection of the finds from the excavations were sent to the British Museum and classified as being of Mesolithic date. In close proximity to the Mesolithic finds, the HER includes a finds spot for an Early Bronze Age flint scraper that was also found during Mr McKerrow's excavations. There are now no signs of his excavations in the wood.

4.4 Neolithic

4.4.1 Evidence for human activity during the Neolithic is absent from the vicinity of the site.

4.5 Bronze Age

4.5.1 Evidence for Bronze Age activity within the site is limited to the finds spot of an Early Bronze Age flint scraper associated with Mr McKerrow's excavations. Recent work to the west of the site has revealed evidence for a Bronze Age field system.

4.6 Iron Age to Roman

4.6.1 The evaluation of the Balcombe road site also revealed evidence for land division spanning the later Iron Age and early Roman period.

4.7 Medieval

4.7.1 There is no evidence for Anglo-Saxon activity in the vicinity of the site.

4.7.2 Deserted medieval villages as seen just to the west of the site at Tinsley Green represent evidence of the predominant, dispersed form of medieval rural settlement in the area. The scheduled monument entry describes the continuity between medieval and post-medieval settlement in this area of Sussex and its relationship with the nearby iron

working centre at Forge Farm.

4.7.3 The High Weald is an area of ancient countryside characterised by early enclosure and extensive woodland. The field pattern around Heathy Ground Wood and Wellfield Copse demonstrates the characteristic dispersed settlement and the pattern of enclosure created as a result of piecemeal asserting and the formation of farms within the woodland.

4.7.4 LiDAR survey of the site has revealed a series of probable historical field boundaries within Heathy Ground Wood that may date to the medieval or early- post medieval period.

4.8 Post-Medieval

4.8.1 Evidence for the Wealden iron industry is apparent in the vicinity of the site with neighbouring woodland names including Forge Wood and Furnace Wood. Evidence for other post-medieval industries in the area includes the remains of two lime kilns recorded to the west.

4.8.2 The 1st Edition Ordnance Survey map of 1875 names the site as Heathy Ground, shown as a mix of rough pasture and fir trees, with a denser area of predominantly conifer woodland in the south east. The 1897 edition shows Heathyground Pond in the south-west of the site, created by a dam to the north with a sluice. Later editions show little change until the 1932 edition, when there is a new house in the south east, named as Kirklington and a sewage works within the field parcel to the south of Cophorne Brook. This remained in place until at least 1987.

4.8.3 Since 1945 there has been extensive development within the broader area, as a result of the development of Crawley (one of the new towns under the New Towns Act 1946) and the growth of Gatwick Airport. The field systems to the west of the site were severed by the line of the M23 in the 1970s and the former heathland was crossed by a new road from the roundabout to Cophorne. At this time it appears the pond was drained.

4.9 Geoarchaeological Background

4.9.1 The site is situated on the bedrock of the Upper Tunbridge Wells Sand consisting of interbedded deposits of mudstones, siltstones, and sandstones. The Upper Tunbridge Wells Sand is fine grained and can become quite soft when exposed, making it vulnerable to erosion. This limits the possibility for surviving Pleistocene deposits in the area. No Pleistocene deposits have previously been recorded as being present on site, and no Palaeolithic artefacts are recorded as having been recovered from the area.

4.9.2 Holocene alluvial and colluvial deposits consisting of weathered and reworked Upper Tunbridge Wells Sand are expected to be present in the area. Alluvial deposits are mapped along the two streams that cross the site, The Burstow Stream and Cophorne

Brook, both tributaries of the River Mole.

4.9.3 The Mesolithic is well represented in the wider area which has produced nationally important Mesolithic material including early records of microlithic industries (Honeywood 1877, Clark 1934, Woodcock 1981). Mesolithic material has previously been recovered both through field walking between Horsham and Crawley (Clark 1934) and excavations between Haywards Heath and Tunbridge Wells (e.g. Jacobi and Tebbutt 1981).

4.9.4 Any early Holocene deposits present on the Site have the potential for Mesolithic material. The WSCC HER details material recovered from the site during excavations by a Mr McKerrow, an amateur archaeologist, that took place from 1938-1939. These excavations recovered lithic artefacts from two areas of the site which were subsequently classed as Mesolithic by the British museum. The position of these areas was marked on the 1957 Ordnance Survey map. A previous phase of evaluation sought to ascertain the extent of the two locations where Mesolithic material had been recovered using hand dug test pits. However, it did not result in the recovery of any artefacts or encounter any clear buried land surfaces.

4.10 Preceding Archaeological Evaluation

4.10.1 Two Stages of evaluation were undertaken by Archaeology South East in 2017 and 2018 (ASE 2017 & 2018). The results of the 2018 trial trench evaluation, incorporating the observations of the 2017 geoarchaeological test pit investigation, is summarised as follows.

4.10.2 A total of 67 trenches were excavated in 2018, 28 of which revealed archaeological finds and features. These appeared to be spread across the site and comprised mainly of ditches as well as number of postholes and pits. Unfortunately, the majority of the features produced no finds and these therefore remain undated. Only four trenches produced dating material.

4.10.3 The earliest dating from the evaluation came from ditches found within Trenches 15, 21 and 43 which produced a small assemblage of struck flint dating to the Mesolithic or Neolithic period and provides further evidence to suggest the presence of Mesolithic or Neolithic activity found within Geoarchaeological Test Pit 2, in Trench 27. The geoarchaeological test pits provided little evidence for alluvial sediments extending far from Cophorne Brook itself, and to the north of the stream no deposits of any geoarchaeological potential were encountered. To the south of the stream, however, there was evidence of a buried land surface with Mesolithic or early Neolithic lithic artefacts possibly recovered from a primary context. This artefact bearing horizon may extend further across the site to the east and west; the previous hand-excavated test pits were too shallow to encounter it. The horizon may relate directly to the Mesolithic material recovered by McKerrow.

4.10.4 Trenches 40 and 43 produced a small amount of pottery which was dated to the Late Iron Age/Roman period. This would appear in keeping with the results from an evaluation of the Balcombe Road site revealing evidence for land division between the same period. Four sherds of 13th century medieval pottery were also recovered from a ditch in Trench 43 and a single fragment of glass recovered from an environmental sample from Trench 59 appears to be post-medieval.

5 RESULTS

5.1 Introduction

5.1.1 The following provides a summary of the investigation results based upon the site archive, which comprises a site diary, context sheets, drawings, digital photographs, electronic survey data and a finds assemblage. The Archive is held as PCA's Winchester office under the site code CWWS19 and will in due course be deposited with the appropriate museum.

5.2 Methodology – Area 1

5.2.1 The investigation comprised the mechanical stripping of an area measuring 1,670sqm and targeting features identified in evaluation Trenches 40 and 43 (**Figure 2**). The areas were set out using a GPS device to ensure the pre-determined location was achieved accurately.

5.2.2 The areas were mechanically excavated using a 360° tracked excavator fitted with a wide toothless blade bucket. All mechanical excavation was supervised by a suitably qualified archaeologist familiar with the ground conditions anticipated on the site. Up-cast was stored adjacent to the area.

5.3 Phased Archaeological Sequence – Area 1 (Figures 3 and 4)

5.3.1 The following describes the archaeological sequence based on the site archives and spot dating from finds material.

5.4 Natural deposits

5.4.1 The topsoil was found to be a mid greyish brown clayey silt with an average depth of 0.35m Below Ground Level (BGL). The natural geology was found to be a mottled mid orange brown and grey silty clay.

5.5 Phase 1: Prehistoric

5.5.1 A number of features of uncertain but likely prehistoric date were identified, these features were recorded as Phase 1. These included a cluster of, small and shallow features, many of which produced lithic material of Mesolithic to early Neolithic date. The features were located to the centre and south of Area 1. There is no obvious pattern to their distribution.

5.5.2 [1009] (Plate 1) was a sub-circular shaped pit measuring 1.30m long, 0.7m wide and 0.13m deep with concave sloping sides and an uneven base. Single fill (1010) was a light greyish white clayey sand material, a single struck flint was recovered from this context. A Mesolithic to early Bronze Age date is suggested for the material from this fill.

- 5.5.3 [1013] (Plate 2) was an irregularly shaped feature measuring 2.76m long, 1.15m wide and 0.09m deep with straight sloped sides and an uneven base. Single fill (1014) was a light grey orange clayey sand with small ironstone inclusions, struck flint was recovered from this context and a Mesolithic to early Neolithic date is suggested for this item.
- 5.5.4 [1017] (Plate 3) was a sub circular feature measuring 1.45m long, 1.30m wide and 0.28m deep with steep straight sides and a concave base. Single fill (1018) was a light brownish grey clayey sand with small ironstone inclusions. No finds were recovered.
- 5.5.5 [1037] (Plate 4) was a subcircular shaped feature measuring 0.74m long, 0.70m wide and 0.06m in depth with concave sides and a flat base. This feature had a single fill (1038) of light orange grey clayey sand. No finds were recovered.
- 5.5.6 [1037] was truncated by larger feature [1039], a subcircular to oval feature measuring 1.90m long, 0.94m wide and 0.35m deep with steep concave sides and a flat base. This feature contained two fills, lower fill (1040) was a light blue grey clayey sand 0.35m thick which produced a range of struck flint, including two pieces of Mesolithic to early Neolithic date. Upper fill (1041) was a mid-greyish brown clayey silt measuring 0.10m thick with small iron stone inclusions. No finds were recovered from this context.
- 5.5.7 Group [1068] includes [1012] and [1036], two irregularly shaped and very shallow features with shallow sloped sides and irregular bases. Struck flint was recovered from both of the mottled grey brown clay fills, including (1011) in cut [1012] and (1035) in cut [1036]. The lithic material from these features includes a range of material including items of Mesolithic to early Neolithic date, which were recovered from both features.
- 5.5.8 Fill (1035) also contained some small fragments of probable Roman pottery, however these are considered to be intrusive. Some small post holes/ stake holes were possibly associated with the two larger features, but no pattern was observed.

5.6 Phase 2: Iron Age/ Romano British

- 5.6.1 [1033]/[1057] was a short section of linear feature running north west – south east. Slot [1057] (Plate 5) demonstrated maximum dimensions of 1.10m wide and 0.21m deep with fairly steep concave sides and a flat base. Both slots contained the same fill of mid greyish brown clayey silt material with ironstone inclusions. Whilst fill (1034) of slot [1033] produced two pieces of prehistoric struck flint, linear feature [1033]/[1057] was observed to truncate feature [1064], which produced later dated later prehistoric dated pottery, indicating that the flint is residual.

5.6.2 [1064] (Plate 6) was a linear feature running north west – south east. Several slots were excavated in this feature demonstrating maximum dimensions of 1.2m wide and 0.47m deep with gradual concave sides and a flat base. This feature was filled with greyish brown mottled with orange grey silty sand material which contained struck flint, Fill (1055) of slot [1054] contained late Bronze Age/ Iron Age pottery. Slot [1019] demonstrated a very shallow terminus to this feature with a single fill of light yellow brown silty sand which contained redeposited struck flint.

5.6.3 Group [1066] (Plate 7) was a section of roughly north – south aligned linear feature. Three slots, including [1004], [1006] and [1049], were excavated in this feature with these demonstrating maximum dimensions of 1.15m wide and 0.32m deep and having sloping sides and a flat to concave base with a single fill of light brownish grey silty sand. Fill (1007) of slot [1006] and fill (1050) of slot [1049] contained struck flint. No additional dateable material was recovered from this feature during this phase of work, however this feature is equivalent to feature [40/004], which was recorded during the trial trench evaluation; later Iron Age to Roman dated material came from this ditch (ASE 2018, 17).

5.6.4 Group [1066] was truncated by Group [1067] which was a short section of a curvilinear feature. Slots [1002] and [1044], within this group (Plate 8) demonstrated a maximum width of 0.60m and maximum depth of 0.29m. Slot [1002] had a steep 'V' shaped profile with a pointed base; the only fill, (1003), was a light greyish brown silty sand with small ironstone inclusions. Slot [1044] demonstrated steep concave sides and a concave base, with the fill, (1045), being a mid-brownish grey clayey sand with small ironstone inclusions. No finds were recovered from either feature.

5.7 Phase 3: Medieval

5.7.1 Group [1065], which includes slots [1051], [1021], [1062] and [1030] (Plate 9) was a linear feature that ran north east – south west truncating linear [1064]. [1065] had maximum dimensions of 1.43m wide and 0.31m deep with steady sloping sides and a concave base. This feature had two fills, the lower fill was an orange brown clayey silt material and the upper fill was a mid-greyish brown clayey silt material. Upper fill (1023) of slot [1021] contained two small sherds of Roman pottery. This feature is most likely equivalent to trial trench evaluation feature [43/004], which yielded a medieval pottery dated c. 1225-1300 AD (ASE 2018, 20).

5.8 Summary – Area 1

5.8.1 Area 1 demonstrated a low level of archaeological activity related to the prehistoric, Roman and medieval periods. Groups [1064] and [1065] have been interpreted as land division/field boundary ditches of later prehistoric or Roman date. Group [1066], a short section of gully, cut Group [1065] and is likely to be of a broadly similar later prehistoric date. Group [1067] has been interpreted as small boundary or drainage ditch, with the

evidence of the preceding evaluation, (ASE 2018), suggesting this is of medieval date.

5.8.2 The cluster of pit-like features, located to the centre and south of Area 1 have been interpreted as small pits and/or tree throws owing to their irregular shapes and sizes. These items produced a fair quantity of prehistoric worked flint, including several blade fragments. The features could be examples of vegetation disturbances and/or tree throws reutilised during the Mesolithic period, or the struck flints may have been redeposited at a later date.

5.9 Methodology – Area 2

5.9.1 Area 2 was intended to be formed on a sequence of Holocene deposits previously identified by evaluation Trench 27 (and the location of Geoarchaeological Test Pit 2) and potentially characterised by alluvial stream deposits. Following the initial strip, a grid of 1m x 1m test pits were arranged within the stripped area. These were hand excavated for the initial purpose of characterising the deposit sequence and identifying if the deposits contained stratified worked flint and if so whether this material was in situ or disturbed. Where scatters of worked flint were identified, their extent was to be determined through the extension of the gridded test pit sampling strategy.

5.10 Results – Area 2 (Figure 5)

5.10.1 Four test-pits were dug, to the north (Test Pit 11), south (Test Pit 12), east (Test Pit 13) and west (Test Pit 14) of the Geoarchaeological Test Pit 2 (GTP2) (Plate 10). Site topsoil and subsoil had been mechanically removed from the area prior to the excavation of the test pits. These pits were hand excavated to a depth of 0.6m deep in 10 cm spits with each spit being 100% environmentally bulk sampled for the recovery of artefacts and ecofacts.

5.10.2 The four test pits all demonstrated the same stratigraphic sequence as demonstrated in the evaluation test pit GTP2. A blue grey and orange mottled silty sand Upper Tunbridge Wells Sand sat beneath a grey silty sand interpreted as a redeposited land surface. Above this land surface lay a layer of redeposited blue grey and mottled orange Upper Tunbridge Wells Sand (Plate 11).

5.10.3 Environmental sampling revealed strong evidence for substantial waterlogging of this part of the site, Test Pits 13 and 14 produced seeds of plants such as crowfoots and duckweeds as well as water flea eggs. Shells of several species of mollusc were identified in all four test pits many of which are suggestive of a wet or moist environment. Test Pit 12 also contained mollusc shells native to dry, calcareous environments.

5.10.4 Test Pit 13 was found to contain burnt flint and a single carbonised grain of naked wheat while Test Pits 11 and 14 both contained fragments of hazelnut shell. Environmental sampling also revealed that each test pit contained significant amounts of charcoal and varying amounts of struck flint. All test pits demonstrated significant rooting and intrusive

modern seeds suggesting each was significantly disturbed by bioturbation.

- 5.10.5 A monolith sample taken in this area (Appendix 7), which confirmed the alluvial nature of the deposit. However, the sample was found to be highly bioturbated with evidence of the diagenic effects of a fluctuating water table observed. These factors mean that any evidence for fluvial deposition such as fine horizontal silt and clay laminae has been destroyed and pollen is unlikely have survived.

6 STATEMENT OF POTENTIAL

6.1 Summary

- 6.1.1 Area 1 revealed archaeological resources dating to the prehistoric (Phase 1), later prehistoric to Roman (Phase 2) and medieval (Phase 3) periods. It seems likely that the resources within Phases 2 and 3 are demonstrative of land management and/or land division activities of later prehistoric to Roman and medieval date.
- 6.1.2 Additional features, within Area 1 have been tentatively placed within Phase 1; these may be examples of natural disturbance such as tree throws, perhaps reused in the Mesolithic period.
- 6.1.3 In Area 2, the buried land surface initially identified within the evaluation test pit GTP2 was observed in all four test pits but it was observed to be of a significantly lesser depth .
- 6.1.4 Environmental sampling from Area 2 showed some evidence for the foraging of hazelnuts as well as the cultivation of cereal crops, struck flint was also recovered which is further evidence for prehistoric activity.

6.2 Conclusion

- 6.2.1 The resources identified in Area 1 are of local significance. The assemblage of flint from the Phase 1 features are worthy of further examination alongside the material from the evaluation, as they may be indicative of activity here in the Mesolithic period. There is limited further potential for analytical work on the features dated to Phases 2 and 3
- 6.2.2 The buried land surface initially identified by the trial trench evaluation in test pit GTP2, was also observed during the mitigation phase. No other archaeological resources were identified in Area 2. It is believed that this surface does not extend very far beyond the locations of Test Pits 11, 12, 13 and 14. Although environmental sampling did yield evidence of anthropogenic activity, including cultivated plant remains, charcoal and struck flint the samples also contained significant evidence of disturbance by bioturbation.
- 6.2.3 It is suggested that at least one of the items of hazelnut shell or a suitable fragment of charcoal from Area 2 is radiocarbon dated in an attempt to provide more accurate dating of the land surface. This is dependant however on a appropriate sample being available.
- 6.2.4 The results of the excavation are worthy of inclusion within an academic journal as a short note.

7 ORIGINAL AIMS AND OBJECTIVES AND REVISED RESEARCH QUESTIONS

7.1 Original Aims of the Excavation

7.1.1 The excavation was carried out with specific aims. These were outlined within the mitigation phase Written Scheme of Investigation (McCulloch 2019). The extent to whether these aims were achieved is set out below:

7.1.2 The overall aims of the excavation was to:

- *“Determine the extent, character and date of archaeological resources within the defined areas, taking account of their potential to contain biological and palaeo-environmental remains and local, regional and national research aims.”*

And:

- *“Carry out a subsequent programme of post-excavation assessment, analysis, reporting, archiving and dissemination of the results obtained”.*

7.1.3 These tasks have been undertaken. The potential has been assessed and a suggested program of further works based on that assessment is outlined below.

7.1.4 Specific aims for Area 1 included:

- *“Area 1: Provide evidence that will further characterise the Iron Age/Romano-British remains identified in evaluation trenches 40 and 43 and consider to what extent this can indicate the date and nature of settlement or related activity that survives within the site.”*

7.1.5 The excavation of Area 1 provided little further evidence to characterise the Iron Age/Roman remains identified during the evaluation. It is not possible to indicate further the date and nature of the settlement or any related activity within the site.

7.1.6 Specific Aims for Area 2 included:

- *“Area 2: Determine a stratigraphic deposit sequence in order to establish a context for the known and suspected potential of the site, and specifically the environs of the Cophorne Brook stream bed, to contain Mesolithic and possibly early Neolithic worked flint assemblages.”*

7.1.7 The Test Pits in Area 2 demonstrated the same stratigraphic deposit sequence as identified during the evaluation. The potential of the site to contain Mesolithic and possibly early Neolithic worked flint assemblages is fairly low, the test pits having confirmed the buried ground layer did not extend very far beyond GTP2. It is possible that such resources may be found on the stream bed.

8 PROPOSAL FOR FURTHER WORK

8.1 The assessment has demonstrated the need for a limited programme of further analysis. The specific specialist recommendations made as a result of the assessment work are outlined below:

8.1.1 Analysis of the flint assemblage has led to the following recommendation (Appendix 4):

'This assemblage, by itself, is too small to warrant detailed technological, functional or metrical analyses. Nevertheless, it is worthy of further work and dissemination. It is therefore recommended that it is re-examined in conjunction with the assemblages recovered during the Evaluation and with full respect and regard to the material recovered from the site during the mid-20th century, and a report describing all of the material and its broader significance compiled for inclusion, alongside suitable illustrations, in any published accounts of the excavations.'

8.1.2 Analysis of the environmental samples has led to the following recommendation (Appendix 6):

'This assessment has shown that, with the exception of wood-charcoal, preservation of archaeobotanical remains in the Cophorne samples was relatively poor. Due to the low quantity of sizeable charcoal, and the minimal quantity of nutshell and grains reported, additional work is not suggested on this material, however, the wheat grain recovered from Test Pit 13, and the hazelnut shell from Test Pits 11 and 14, along with any suitably sized pieces of charcoal, could be used for radiocarbon dating, if remains are determined to be undisturbed. A summary of this assessment should be included in any future publications.'

8.1.3 No further specialist recommendations have been made.

8.1.4 It is proposed that the results of the excavation and additional analysis should be published in the form of a short note within the local academic journal Sussex Archaeological Collections, which is an appropriate outlet for the dissemination of this work. The note should not exceed 2000 words in total.

8.1.5 The work should focus on the prehistoric flint assemblage allowing additional analysis of the flint from the mitigation phase of work alongside the material from previous stages of work and setting the site in the context of other sites of a similar date within the region.

8.1.6 A sample of charcoal or plant matter may be selected for radiocarbon dating; this may allow a date for the deposit in Area 2 to be divined. However given the apparent evidence of disturbance in this area, this should only be undertaken if a viable sample can be found.

8.1.7 The additional work will be completed and a draft copy of the short note will be ready for submission to the journal, within 12 months of the agreed start of the analysis.

9 ARCHIVE PREPARATION AND DEPOSITION

9.1 The Site Archive

9.1.1 The Site archive, to include all project records and cultural material produced by the project, will be prepared in accordance with ‘guidelines for the preparation of Excavation Archives for long-term Storage’ (UKIC 1990) and the institute for Archaeologists ‘Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives’ (CifA 2014). On completion of the project PCA will arrange for the archive to be deposited with Crawley Museum.

9.2 Copyright

9.2.1 The full copyright of the written/illustrative archive relating to the site will be retained by Pre-Construct Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. Mid Sussex District Council, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms to the Copyright and Related Rights regulations 2003. Further distribution and uses of the report either in its entirety or part thereof in paper or electronic form is prohibited without the prior consent of Pre-Construct Archaeology Ltd.

9.2.2 The licence extends to the use of all documents arising from this project in all matters relating directly to the project, as well as for bona fide research purposes (which includes the West Sussex HER).

9.2.3 Pre-Construct Archaeology Ltd has made every effort to ensure the accuracy of the content of this report. However, Pre-Construct Archaeology Ltd cannot accept any liability in respect of, or resulting from, errors, inaccuracies or omissions this report contains.

10 ACKNOWLEDGEMENTS

- 10.1 Pre-Construct Archaeology is grateful to Natta, on behalf of St. Modwen Homes, for commissioning the investigation and Alex Eggington, Archaeological Officer at Surrey County Council for monitoring the investigation.
- 10.2 The project was supervised by Bartlomiej Grden assisted by Dominic McAtominey, Tom Warburton, James Bannister, Oliver famer and Bruce Ferguson. This report was prepared by Dominic McAtominey with illustrations prepared by Ray Murphy. The project was managed for PCA by Paul McCulloch and the specialist work programme was managed by Alex Beeby. This report was edited by Paul McCulloch and Alex Beeby.

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APPENDIX 1: CONTEXT INDEX

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1000	Area 1	Loose, mid-greyish brown, clayey silt	Layer	Modern	5	Topsoil
1001	Area 1	Friable, mottled orange, brown and grey, silty sand	Layer	Natural	0	Natural
1002	Area 1	Cut of curvilinear ditch with steep slope and v-shaped base. Feature curves from southern edge of site into north-eastern side. No dateable evidence recovered from its fill. Width: 0.60m, Length: >1m, Depth: 0.29m	Cut	Undated	1	v-shaped ditch, potentially used for drainage purposes.
1003	Area 1	Fill of ditch [1002]. Compact, light brownish grey, silty sand with small ironstone inclusions. No dating evidence recovered.	Fill	Undated	1	Single fill of v-shaped ditch [1002].
1004	Area 1	Cut of curvilinear ditch with shallow, steady slope and concave base. Feature curves from eastern to southern side of trench. No dateable evidence recovered from its fill. Truncated by V-shaped ditch [1002]. Width: 1.10m, Length: >1m, Depth: 0.25m	Cut	Late Iron Age/ Romano-British	3	One late Iron Age/Romano-British pottery sherd recovered from continuation of this feature during evaluation. Potentially used as site boundary.
1005	Area 1	Fill of ditch [1004]. Compact, light grey, clay sand with small iron stone inclusions. No dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	3	Single fill of probable late Iron Age/Romano-British ditch [1004]. No dateable evidence recovered from this context.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1006	Area 1	Cut of curvilinear ditch with moderately shallow, slowly sloping sides and concave base. No dating evidence recovered from fill of this slot. Continuation of ditch slot [1004]. Width: 1m, Length: >1m, Depth: 0.32m	Cut	Late Iron Age/Romano-British	3	No dateable evidence recovered from fill of this slot but one late Iron Age/Romano-British pottery sherd recovered from continuation of this feature during evaluation. Potentially used as site boundary.
1007	Area 1	Primary fill of ditch slot [1006]. Compact, light greyish white, sandy clay with small iron stone and flint inclusions. Finds recovered include two fragments of struck flint of probable Mesolithic origin that are very likely to be residual. No other dateable evidence recovered.	Fill	Late Iron Age/Romano-British	3	Primary fill of probable late Iron Age/Romano-British ditch [1006]. The only finds recovered from this context are two fragments of struck flint of probable Mesolithic origin, most likely residual. No other dateable evidence recovered.
1008	Area 1	Secondary fill of ditch slot [1006]. Compact, mid-greyish brown, silty sand. No finds or dateable evidence recovered from this context.	Fill	Late Iron Age/Romano-British	3	Secondary fill of probable late Iron Age/Romano-British ditch [1006]. Possibly topsoil compacted into the ditch.
1009	Area 1	Cut of potential sub-circular pit with shallow, sloping sides and uneven base. No dateable evidence recovered from its fill except fragments of struck flint. Width: 0.7m, Length: 1.3m, Depth: 0.13m	Cut	Undated	1	Possible pit, but irregular shape and uneven sides might suggest a tree throw. Fragments of struck flint found within its fill.
1010	Area 1	Single fill of potential pit/tree throw [1009]. Compact, mottled light greyish white and dark brown, clay sand with small iron stone inclusions. No dateable evidence recovered except few struck flint fragments that are most likely residual.	Fill	Undated	1	Single fill of potential pit/tree throw [1009].

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1011	Area 1	Single fill of sub-square feature [1012]. Moderately compact, mottled grey and brownish yellow, clay with occasional waste flint flakes. No dateable evidence recovered from this context except some flint debitage.	Fill	Pre-historic	2	Single fill of feature [1012]. Pre-historic waste flint flakes recovered could suggest that the area was disturbed or that the feature was deliberately backfilled. Potentially a mixture of disturbed/re-deposited soil and the weathering of the feature's edges and surrounding environment.
1012	Area 1	Cut of sub-square feature with shallow to moderately shallow sides and irregular base. Single fill (1011) with no dateable evidence recovered from it. Truncated to the eastern corner by feature [1036]. Edges of the feature are not well defined which could be the result of erosion and weathering. Width: 1.4m, Length: 1.75m, Depth: 0.03-0.09m	Cut	Pre-historic	2	Cut of sub-square feature of potential pre-historic origin. The roughly square shape in plan and shallowness along with two postholes [1025] and [1027] immediately to the south-west and north-east might suggest that it could have been a structure such as temporary shelter. Flint waste flakes recovered from the fill could indicate pre-historic date, though it can not be ruled out that these are residual and the feature is of later date.
1013	Area 1	Cut of sub-circular pit/tree throw with uneven sides and slightly flat/uneven base. No dateable evidence recovered from its fill except few struck flint fragments of potential Mesolithic origin. Width: 1.15m, Length: 2.76m, Depth: 0.09m	Cut	Pre-historic	2	Cut of uneven pit/tree throw with occasional roots and no dating evidence except pre-historic struck flint fragments.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1014	Area 1	Single fill of pit/tree throw. Compact, mottled light grey and mid-orange, clay sand with small iron stone inclusions. No finds/dateable evidence recovered except few struck flint fragments of probable Mesolithic origin.	Fill	Pre-historic	2	Single fill of pit/tree throw [1013]. Some Mesolithic struck flint fragments recovered from this context but it cannot be ruled out that they are residual.
1015	Area 1	Cut of circular posthole with steep sides and concave base. Single fill with no dateable evidence present within. Posthole positioned south of pit [1017]. Length: 0.27m, Width: 0.26m, Depth: 0.1m	Cut	Undated	1	Cut of circular posthole.
1016	Area 1	Single fill of posthole [1015]. Compact, mid-brownish grey, clay sand. No finds/dateable evidence recovered from this context.	Fill	Undated	1	Single fill of posthole [1015]
1017	Area 1	Cut of sub-circular pit/tree throw with uneven sides and base. Single fill with no finds/dateable evidence present within. Length: 1.45m, Width: 1.30m, Depth: 0.28m	Cut	Pre-historic	2	Potential pit but irregular sides and base might point towards a tree throw. Due to few struck flint fragments found within its fill, it is possible that it is of pre-historic origin.
1018	Area 1	Fill of potential pit/tree throw [1017]. Compact, light brownish grey, clay sand with small iron stone inclusions. No dateable evidence recovered except few struck flint fragments.	Fill	Pre-historic	2	Single fill of potential pit/tree throw [1017]. No dateable evidence recovered except few fragments of struck flint of possible Mesolithic origin.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1019	Area 1	Cut of linear feature/ditch terminus with shallow, concave sides and flat base. Running east - west. Truncated by ditch [1033]. Single fill (1020). Continuation of linear [1046], [1054] and [1028]. Length: >1m, Width: 0.56m, Depth: 0.14m	Cut	Late Iron Age/ Romano-British	3	Ditch terminus of potential pre-historic origin. No dateable evidence recovered from this ditch slot other than fragments of struck flint, likely Mesolithic. However pottery sherd found in potential continuation of the feature in evaluation trench suggest the ditch to be Roman. Some Romano-British pottery sherds recovered from fill of ditch slot [1054] which is continuation of the same feature.
1020	Area 1	Fill of ditch terminus [1019]. Firm on top, more friable below, light yellowish brown, clay silt. No finds/dateable evidence recovered except few struck flint fragments. Likely natural silting/infill.	Fill	Late Iron Age/ Romano-British	3	Single fill of ditch terminus [1019]. The only finds recovered from this context are fragments of struck flint of potential Mesolithic origin, though they are very likely to be residual and the feature itself is probably of later date.
1021	Area 1	Cut of linear feature running north-west - south-east with steady sloping sides and concave base. Two fills. Length: >1m, Width: 1.43m, Depth: 0.31m	Cut	Medieval	4	Potentially Medieval ditch with two fills. One pottery sherd of likely Medieval origin recovered from its fill. Likely used as field boundary.
1022	Area 1	Primary fill of ditch slot [1021]. Compact, light orangish brown, clay silt. No finds/dateable evidence recovered from this context.	Fill	Medieval	4	Primary fill of potentially Medieval ditch. No dateable evidence recovered from this context but one pottery sherd of probable Medieval origin found in the top fill of feature.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1023	Area 1	Secondary fill of ditch slot [1021]. Compact, mid-orangish brown, clay silt with small iron stone inclusions. Finds recovered include pottery sherd of potential Medieval origin, struck flint fragments and a non-local stone.	Fill	Medieval	4	Secondary fill of probable Medieval ditch. Dating evidence consists of only one pottery sherd of probable Medieval origin.
1024	Area 1	Single fill of small posthole [1025]. Firm, brown clay with no inclusions. No finds/dateable evidence recovered.	Fill	Undated	1	Single fill of small posthole. Infill.
1025	Area 1	Cut of oval posthole. Moderate straight sides, sharp top break of slope, sharp base break of slope with a flat, narrow base. Located approximately 0.2m north-east of context [1012] and 2.4m north-east of identical posthole [1027]. Single fill. Length: 0.14m, Width: 0.10m, Depth: 0.06m	Cut	Undated	1	Small posthole. Its location in relationship to contexts [1012] and [1027] could suggest they form a small, low structure such as a temporary shelter.
1026	Area 1	Single fill of small posthole [1027]. Firm, brown clay with no inclusions. No finds/dateable evidence recovered.	Fill	Undated	1	Single fill of small posthole. Infill.
1027	Area 1	Cut of oval posthole. Sharp top break of slope leading to straight, moderate sides with sharp base break of slope and narrow, flat base. Identical to posthole [1025] and potentially also related to feature [1012]. Length: 0.15m, Width: 0.10m, Depth: 0.05m	Cut	Undated	1	Small posthole. Its location in relationship to contexts [1012] and [1025] could suggest they form a small, low structure such as a temporary shelter.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1028	Area 1	Cut of linear feature running east-west with steady sloping sides and slightly flat base. Truncated by later ditch [1030]. Probably a continuation of linear [1046], [1054] and [1019]. Single fill. Length: >1.75m, Width: 0.75m, Depth: 0.40m	Cut	Late Iron Age/ Romano-British	3	Cut of potentially pre-historic/Romano-British ditch. No dateable evidence recovered from fill of this ditch slot but some pottery sherds were found in continuation of the feature.
1029	Area 1	Fill of linear feature [1028]. Compact, mottled light blue grey and mid-orangish brown, clay sand and clay silt with small sandstone inclusions.	Fill	Late Iron Age/ Romano-British	3	Single fill of potentially pre-historic/Romano-British ditch. No dateable evidence recovered from this context but some pottery sherds were found in continuation of the feature.
1030	Area 1	Cut of linear feature running north-south with steady sloping sides and concave base. Truncates and earlier ditch running east-west [1028]. Two fills. Length: >1.55m, Width: >0.75m, Depth: 0.28m	Cut	Medieval	4	Cut of potentially Medieval ditch. No dateable evidence recovered from fill of this ditch slot but some pottery sherds were found in continuation of the feature. Continuation of ditch [1021].
1031	Area 1	Primary fill of ditch slot [1030]. Compact, mid-orangish brown, clay silt with charcoal inclusions (one large charcoal fragment recovered) but no dateable evidence.	Fill	Medieval	4	Primary fill of potentially Medieval ditch. No dateable evidence recovered from this context but some pottery sherds found in continuation of the feature.
1032	Area 1	Secondary fill of ditch slot [1030]. Compact, mid-greyish brown, clay silt with frequent small iron stone inclusions.	Fill	Medieval	4	Secondary fill of potentially Medieval ditch. No dateable evidence recovered from this context but some pottery sherds found in continuation of the feature. Potentially deliberate backfill.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1033	Area 1	Cut of linear feature running east-west with steep, concave sides and flat base. Truncates ditch [1019]. Single fill. Ephemeral and not very well traceable in plan. Length: >1m, Width: 1.05m, Depth: 0.19m	Cut	Undated	1	Running east - west and truncating ditch [1019]. Potentially boundary ditch.
1034	Area 1	Single fill of ditch [1033]. Baked hard on top and friable below, light greyish brown, clay silt with sparse iron stone inclusions. No dateable evidence recovered except 2 fragments of worked flint which is most likely residual.	Fill	Undated	1	Single fill of ditch [1033]. No dateable evidence recovered from this context except two Mesolithic worked flint fragments of probable residual origin. Infill/natural silting.
1035	Area 1	Single fill of sub-rectangular feature [1036]. Firm, mottled brown, pale grey and brownish orange, clay with occasional waste flint flakes and small fragments of pottery (most likely residual). Removal of the deposit determined the feature to be a shallow depression containing a series of small post and stakeholes.	Fill	Undated	1	Infill/disturbed ground, deposit formed from the weathering, erosion and deliberate disturbance of localised activity such as that caused by penned animals (livestock).

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1036	Area 1	Sub-rectangular depression with a sharp top break of slope leading to straight, shallow sides. Irregular base and not perceptible basal break of slope. Truncated on the south-eastern side by modern field drain. Likely to have been formed by natural processes and grubbing/movement of animals. Length: 3m, Width: 1.84m, Depth: 0.08m	Cut	Undated	1	Depression. The 'feature' is unlikely to be the result of deliberate excavation but is rather the result of movement and grubbing of 'penned' animals and weathering/erosion of the enclosed area (defined by a series of post/stakeholes). Pottery recovered from 'disturbed ground' if not residual could date the 'animal pen' to Iron Age.
1037	Area 1	Cut of sub-circular pit with uneven sides and base. Truncated by pit [1039]. Single fill. No dateable evidence recovered from its fill. Length: 0.74m, Width: 0.70m, Depth: 0.06m	Cut	Undated	1	Small, uneven, sub-circular pit. Potentially a tree throw.
1038	Area 1	Single fill of pit/tree throw [1037]. Compact, light orangish grey, clay sand. No find/dateable evidence recovered.	Fill	Undated	1	Single fill of pit/tree throw.
1039	Area 1	Cut of sub-circular/oval pit with almost vertical sides and v-shaped base. Two fills. Length: 1.9m, Width: 0.94m, Depth: 0.35m	Cut	Undated	1	Cut of elongated, oval, pit.
1040	Area 1	Primary fill of oval pit [1039]. Compact, light blueish grey, clay sand with occasional struck flint inclusions. No finds/dateable evidence recovered except some prehistoric struck flint fragments.	Fill	Undated	1	Primary/base fill of pit. No dateable evidence recovered from this context except some potentially residual prehistoric struck flint fragments.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1041	Area 1	Secondary fill of oval pit [1039]. Compact, mid-greyish brown, clay silt with small iron stone inclusions. No finds/dateable evidence recovered. Most likely natural silting.	Fill	Undated	1	Secondary/top fill of elongated, pit. No finds/dateable evidence recovered from this context. Most likely natural silting/infill.
1042	Area 1	Loose, brown clay excavated from a group of small, sub-circular shallow features/stakeholes (19 altogether) with the exception of four of the stakeholes which would have been sealed by topsoil (1000), the remainder was not exposed until the removal of context (1035). No dateable evidence recovered.	Fill	Undated	1	Fill of a group of small stakeholes in and around context [1036]. Deposit likely to have formed when stakes were pulled out, filling the void left by removed stakes with the surrounding soil.
1043	Area 1	Group of sub-circular stakeholes with shallow to moderately shallow, straight sides, sharp top break of slope and concave base. Diameter ranging from 0.06m to 0.08m and depth ranging from 0.03m to 0.06m. Stratigraphically the features would have been present before the forming of [1036] which has been interpreted as the result of livestock activity.	Cut	Undated	1	Group of stakeholes potentially forming a small structure. Taking their location in relationship to [1036] they formed a livestock 'pen'.
1044	Area 1	Cut of curvi-linear feature with near vertical sides and concave base. Truncates ditch [1004]. Continuation of [1002]. Single fill. Length: >1m, Width: 0.45m, Depth: 0.24m	Cut	Undated	1	Curvilinear ditch. Continuation of ditch [1002]. No dateable evidence recovered from its fill.
1045	Area 1	Single fill of ditch slot [1044]. Compact, mid-brownish grey, clay sand with small iron stone inclusions. No finds/dateable evidence recovered.	Fill	Undated	1	Single fill of curvilinear ditch [1044] with no finds/dateable evidence.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1046	Area 1	Cut of linear feature running north-west - south-east with moderately steep, gradual sides and concave base. Cut into natural sand/silty sand (1001) with single fill. No dateable evidence recovered from fill of this slot but some Iron Age/Romano-British pottery found in slot [1054] which is continuation of the same ditch.	Cut	Late Iron Age/ Romano-British	3	Cut of moderately sized ditch of probable late Iron Age/Romano-British origin. No dateable evidence recovered from this slot but some pottery found in a slot in continuation of the feature. Most likely used as field boundary. Continuation of ditch slots [1019], [1028] and [1054]
1047	Area 1	Single fill of ditch slot [1046]. Friable, mid-greyish brown, silty sand. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	3	Single fill of ditch slot [1046]. No finds/dateable evidence recovered. Same as/similar to (1055).
1048	Area 1	Friable, light brownish grey with frequent small iron stone inclusions.	Layer			Sub-soil within Area 1
1049	Area 1	Cut of curvi-linear feature running north-west - south-east. Gently sloped sides and mostly flat base sloping slightly towards south-west. Single fill. Continuation of ditch [1004] and [1006]. Length: >1m, Width: 1.15m, Depth: 0.17m	Cut	Late Iron Age/ Romano-British	3	Cut of probable late Iron Age/Romano-British drainage/boundary ditch. No dateable evidence recovered from its fill but one pottery sherd was found in continuation of the feature during evaluation.
1050	Area 1	Loose, mottled light brownish grey, dark grey, dark brown, orange and yellow, silty clay fill of ditch slot [1049] with occasional iron stone and sparse charcoal inclusions. No finds/dateable evidence recovered except struck flint fragment.	Fill	Late Iron Age/ Romano-British	3	Single fill of probable late Iron Age/Romano-British ditch [1049]. No dateable evidence present except struck flint. Backfill.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1051	Area 1	Cut of linear feature running north-east - south-west with gently sloped sides and flat base. Two fills. Continuation of linear [1021] and [1030]. Length: >1m, Width: 1.10m, Depth: 0.28m	Cut	Medieval	4	Cut of probable Medieval drainage/boundary ditch. No finds/dateable evidence were present in its fill but some pottery sherds of probable Medieval origin were found in slots in continuation of this feature.
1052	Area 1	Secondary fill of ditch slot [1051]. Friable, mid-greyish brown, sandy clay with occasional iron stone inclusions. No dateable evidence recovered.	Fill	Medieval	4	Top/secondary fill of probable Medieval drainage/boundary ditch [1051]. No finds/dateable evidence present. Backfill/capping layer.
1053	Area 1	Primary fill of ditch slot [1051]. Friable, mottled light brownish grey with dark grey and yellowish orange, sandy clay with sparse ironstone inclusions. No dateable evidence recovered.	Fill	Medieval	4	Bottom/primary fill of probable Medieval drainage/boundary ditch [1051]. No finds/dateable evidence present in fill but some pottery sherds found in continuation of feature.
1054	Area 1	Cut of linear feature running east - west with steep to moderately steep, gradual sides and flat base. Cut into natural sand/silty sand. Two fills. Continuation of [1019], [1028] and [1046]. Length: >1m, Width: 1m, Depth: 0.47m	Cut	Late Iron Age/ Romano-British	3	Probable late Iron Age/Romano-British ditch most likely used as field boundary.
1055	Area 1	Primary fill of ditch slot [1054]. Friable, mid-brownish grey, silty sand with common charcoal, occasional pottery and small flint inclusions. Finds recovered consist of few pottery sherds of probable late Iron Age/Romano-British origin. No other finds recovered. Charcoal lens present in the upper part of the context.	Fill	Late Iron Age/ Romano-British	3	Primary/base fill of probable late Iron Age/Romano-British boundary ditch. Backfill.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1056	Area 1	Secondary fill of ditch slot [1054]. Friable, mid-orangish brown, silty sand with occasional small flint inclusions. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/Romano-British	3	Secondary/top fill of probable late Iron Age/Romano-British boundary ditch. Infill/natural silting rather than backfill.
1057	Area 1	Cut of linear feature running east - west with shallow sides and almost flat base. Single fill. Continuation of ditch [1033]. Truncates ditch [1059]. Length: >1m, Width: 1.10m, Depth: 0.21m	Cut	Undated	1	Cut of shallow, ditch running east - west and truncating ditch [1059]. No dateable evidence found within its fill.
1058	Area 1	Single fill of ditch slot [1057]. Very compact, mid-greyish brown, clay silt with frequent limestone and ironstone inclusions. No finds/dateable evidence present within this context.	Fill	Undated	1	Single fill of shallow, ditch. Very silty backfill with a lot of ironstone present which can indicate severe weathering and erosion.
1059	Area 1	Cut of linear feature running east - west with almost vertical sides, almost flat base and sharp break of slope. Truncated by ditch [1057]. Two fills. Continuation of ditch slots [1019], [1028], [1046] and [1054]. Length: >1m, Width: 0.70m, Depth: 0.45m	Cut	Late Iron Age/Romano-British	3	Cut of very steep linear feature of probable late Iron Age/Romano-British origin. No finds/dateable evidence recovered from fill of this ditch slot but some pottery sherds found in evaluation and other slots in continuation of the feature. Most likely a boundary ditch.
1060	Area 1	Primary/base fill of ditch slot [1059]. Compact, light orangish grey, sandy silt. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/Romano-British	3	Primary/base fill of ditch slot [1059]. No dateable evidence present within this context. Most likely silting/infill rather than deliberate backfill.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1061	Area 1	Secondary/top fill of ditch slot [1059]. Compact, mid-greyish brown. Clay silt with occasional struck flint and ironstone inclusions. No dateable evidence present within the context.	Fill	Late Iron Age/ Romano-British	3	Secondary/top fill of ditch slot [1059]. No finds/dateable evidence recovered.
1062	Area 1	Cut of linear feature running north-east - south-west with moderately sloped sides, sharp break of slope and concave base. Single fill. Continuation of ditch slots [1021], [1030] and [1051].	Cut	Medieval	4	Cut of probable Medieval drainage/boundary ditch. No finds/dateable evidence were recovered from this ditch slot but some pottery sherds were found in continuation of the feature and during evaluation.
1063	Area 1	Single fill of ditch slot [1062]. Friable, mottled light brownish grey with dark brown and orange, sandy clay with frequent small ironstone and occasional medium sized ironstone inclusions. No finds/dateable evidence recovered except small amount of flint debitage.	Fill	Medieval	4	Single fill of probable Medieval drainage/boundary ditch. Finds recovered include small amount of flint debitage, most likely residual. Same as
1064	Area 1	Group number for north west - south east linear. Cut no's [1019], [1028], [1046], [1054], [1059]	Group	Late Iron Age/ Romano-British	3	Boundary Ditch
1065	Area 1	Group number for north/north east - south/south west linear. Cut no's [1021], [1030], [1051], [1062]	Group	Medieval	4	Boundary Ditch
1066	Area 1	Group number for larger curvilinear feature. Cut no's [1004], [1006], [1049]	Group	Late Iron Age/ Romano-British	3	Boundary/enclosure ditch
1067	Area 1	Group number for smaller curvilinear feature. Cut no's [1022], [1044]	Group	Undated	1	Possible boundary/enclosure ditch

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
1068	Area 1	Group number for 1012, 1036	Group	Pre-historic	1	shallow pits/ depressions
2000	Area 2	Compact, mottled mid-orangish brown, silty clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer within Test Pit 11. Spit 1 (10cm)
2001	Area 2	Compact/friable, mottled grey and mid-orangish brown, clay/silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay/silty clay within Test Pit 12. Spit 1 (10cm). No finds/lithics recovered.
2002	Area 2	Compact, mottled mid-orangish brown clay with tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 11. Spit 2 (10 cm). No noticeable change between layer (2000), spit 1 and (2002), spit 2.
2003	Area 2	Friable, mottled grey and orangish brown, silty clay with occasional ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 12. Spit 2 (10cm). The only difference between spit 1 (2001) and spit 2 (2003) is presence of ironstone.
2004	Area 2	Compact, mottled mid-orangish brown, silty clay with tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 11. Spit 3 (10cm). No noticeable change between layer (2002), spit 2 and (2004) spit 3.
2005	Area 2	Friable, mottled grey and orangish brown, silty clay with occasional ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 12. Spit 3 (10cm). No noticeable change between spit 2 (2003) and spit 3 (2005).
2006	Area 2	Friable, mottled grey and orangish brown, clayey silt with occasional ironstone fragments and roots. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clayey silt within Test Pit 12. Spit 4 (10cm). Deposit slightly more silty than spit 3 (2005).

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
2007	Area 2	Compact, mottled mid-orangish brown clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 11. Spit 4 (10cm). No noticeable change between layer (2004), spit 3 and (2007) spit 4
2008	Area 2	Hard/compact, mottled grey and mid-orangish brown, sandy silt with frequent ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of sandy silt within Test Pit 12. Spit 5 (10cm). Deposit much more compact/hard with a lot more ironstone and no clay than spit 4 (2006).
2009	Area 2	Compact, mottled mid-orangish brown clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 11. Spit 5 (10cm). No noticeable change between layer (2007) spit 4 and (2009) spit 5.
2010	Area 2	Hard/compact, mottled grey and mid-orangish brown, sandy silt with frequent ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of sandy silt within Test Pit 12. Spit 6 (10cm). No noticeable change between layer (2008) spit 5 and (2010) spit 6.
2011	Area 2	Compact, mottled mid-orangish brown with light grey, clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 11. Spit 6 (10cm). Deposit slightly more grey than layer (2009) spit 5.
2012	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 13. Spit 1 (10cm). No discernible differences between spits in this test pit.
2013	Area 2	Friable, mid-orangish brown clay with occasional small to medium flint fragments. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 14. Spit 1 (10cm). Few fragments of lithics recovered.

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
2014	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay within Test Pit 13. Spit 2 (10cm). No discernible differences between spits in this test pit.
2015	Area 2	Friable, mottled mid-orangish brown and grey, clay/silty clay with occasional charcoal inclusions. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of clay/silty clay within Test Pit 14. Spit 2 (10cm). Slightly more silty than (2013) spit 1.
2016	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 13. Spit 3 (10cm). No discernible differences between spits in this test pit.
2017	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 14. Spit 3 (10cm). No discernible differences between spit 2 (2015) and spit 3 (2017).
2018	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 13. Spit 4 (10cm). No discernible differences between spits in this test pit.
2019	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 14. Spit 4 (10cm). No discernible differences between spit 3 (2017) and spit 4 (2019).
2020	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 13. Spit 5 (10cm). No discernible differences between spits in this test pit.
2021	Area 2	Firm, mottled mid-orangish brown and grey, silty clay with occasional charcoal inclusions. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 14. Spit 5 (10cm). No discernible differences between spit 4 (2019) and spit 5 (2021).

Context Number	Area/Trench	Description	Type	Date	Phase	Interpretation
2022	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional iron staining. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 13. Spit 6 (10cm). No discernible differences between spits in this test pit.
2023	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Layer			Layer of silty clay within Test Pit 14. Spit 6 (10cm). Slightly more silty and friable than (2021) spit 5.

APPENDIX 2: PLATES



Plate 1. [1009] view facing north, scale 1m



Plate 2. [1013] view facing north, scale 2m



Plate 3. [1017] view facing south west, scale 1m



Plate 4. [1037] view facing south west, scale 2m



Plate 5. [1057]/[1059] view facing east, scale 1m



Plate 6. [1046] of GRP 1064 view facing north west, scale 1m



Plate 7. [1006] of GRP 1066 view facing south, scale 1m



Plate 8. [1004] of GRP1066 and [1044] of GRP 1067 view facing south east, scale 2m



Plate 9. [1062] of GRP 1065 view facing north east, scale 0.5m



Plate 10. Test pits in area 2, view east

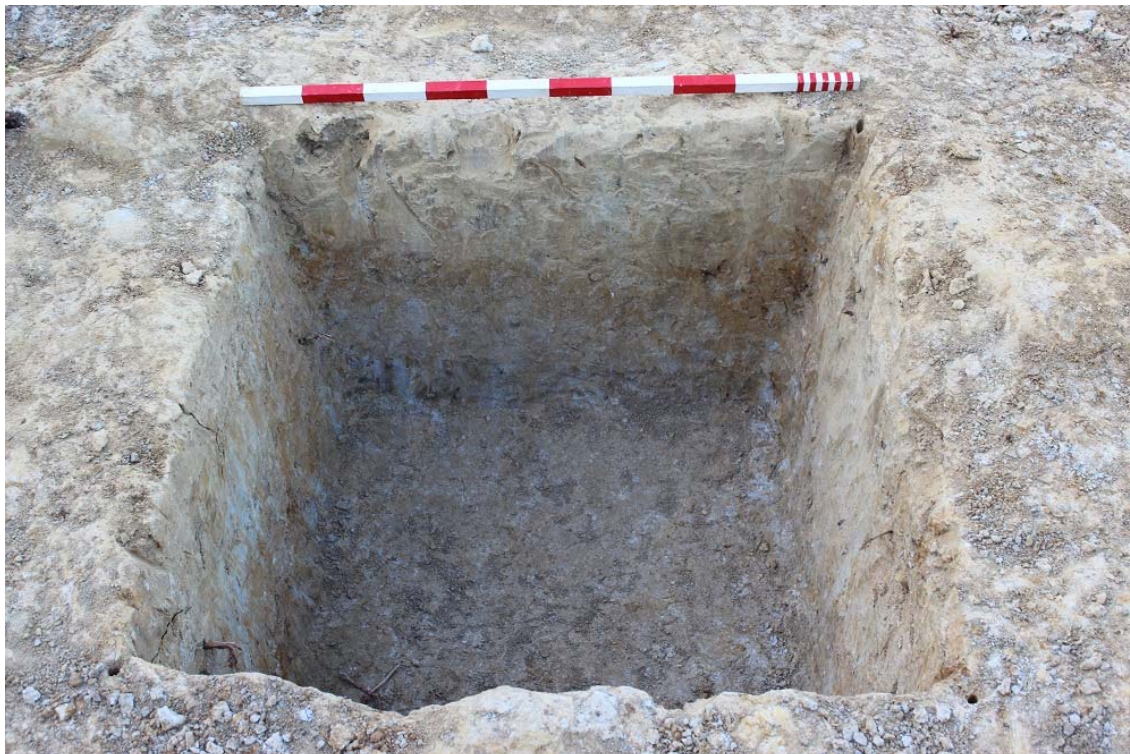


Plate 11. Test pit 13 view east, scale 1m

APPENDIX 3: OASIS FORM

12 OASIS ID: preconst1-382252

Project details

Project name	Land West of Copthorne, Copthorne Way, West Sussex: Report on Archaeological Excavation
Short description of the project	Pre-Construct Archaeology Ltd (PCA) was appointed by Natta on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Copthorne, West Sussex. The archaeological investigation was intended to mitigate the impact of the development on archaeological remains identified in an archaeological evaluation (ASE 2017 and 2018) and comprised of two areas: Area 1 measuring 1,670sqm and Area 2 measuring 100sqm. The works were carried out between 12th of August - 18th of September 2019. The investigation at Land West of Copthorne revealed archaeological resources dating to the prehistoric, later prehistoric, Roman and medieval periods. It is considered that the resources demonstrate a low level of land management or land division of later prehistoric to Roman date as well as possible reuse of natural features such as tree throws. In Area 2, the buried land surface identified during evaluation was observed in four further test pits but to a significantly lesser extent than observed in evaluation GTP2. Environmental sampling showed some evidence for foraging of hazelnuts as well as the cultivation of cereal crops, struck flint was also recovered which is further evidence for prehistoric activity on the site.
Project dates	Start: 12-08-2019 End: 18-09-2019
Previous/future work	Yes / No
Any associated project reference codes	CWWS19 - Sitecode
Type of project	Recording project
Site status	None
Monument type	DITCH Uncertain
Monument type	PIT Uncertain
Investigation type	"Open-area excavation"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	WEST SUSSEX CRAWLEY CRAWLEY Land west of Copthorne, Copthorne Way, West Sussex
Postcode	RH10 3GG
Study area	55 Hectares
Site coordinates	TQ 530621 139373 50.904013140494 0.177145651954 50 54 14 N 000 10 37 E Point

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	NATTA
Project design originator	Pre-Construct Archaeology Limited
Project director/manager	Paul McCulloch
Project supervisor	Bartolomiej Grden

Project archives

Physical Archive recipient	Crawley Museum
Physical Contents	"Ceramics","Environmental","Worked stone/lithics"
Digital Archive recipient	Crawley Mueseum
Digital Media available	"Database","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	Crawley Museum
Paper Media available	"Context sheet","Drawing","Plan","Report","Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land West of Copthorne, Copthorne Way, West Sussex: Report on Archaeological Excavation - Strip, Map and Sample
Author(s)/Editor(s)	Pre-Construct Archaeology
Date	2020
Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	Winchester
Description	A4 Grey Literature Client Report
Entered by	Dominic McAtominey (dmcatominey@pre-construct.com)
Entered on	24 January 2020

APPENDIX 4: SPECIALIST REPORT – FLINT

By Barry Bishop

Introduction

The archaeological investigations resulted in the recovery of a moderately sized assemblage of struck flint and a small quantity of burnt flint. The assemblage has been comprehensively catalogued and this includes further descriptive details of each piece (Catalogue L01). This report summarises the data in the catalogue; it quantifies and describes the material and presents a preliminary assessment and outline of its significance. The assemblage was recorded following standard technological and typological classifications and largely follows the methodology of Inizan et al (1999) with modifications and additions as indicated in the text by the author. Retouched tools were classified following standard British works such as Healy (1988) and Bamford (1985). Measurements were taken following the methodology of Saville (1980).

Quantification and Distribution

Area	Test-pit	Decorification flake	Crested blade	Core rejuvenation flake	Flake	Chip <15mm	Blade-like flake	Blade: prismatic	Blade: non-prismatic	Flake fragment >15mm	Flake fragment <15mm	Core: blade	Conchoidal shatter	Retouched	Burnt stone (no.)	Burnt stone (wt:g)
1		5	1	2	9	1	2	8	4	5		2	1	7	2	7
2	11				1	4				1						
2	13				1	1		3		2					1	1
2	14	1		1	1	14		1		1	10		1	3		
2	+											2				

Table L01: Quantification of Lithic Material from Cophorne Way

A total of 95 pieces of struck flint and three small fragments of unworked burnt stone were recovered during the investigations at the site (Table L01; Appendix L01). Just under half of the struck flint came from Area 1 where it was recovered in mostly small quantities from a variety of features. These mostly comprise ditches that have been dated to the between the Iron Age and Medieval periods, and their contained flintwork can be considered as residually deposited. Small quantities were also found in a small number of otherwise undated hollows and tree-throws; it is possible that these are at least broadly contemporary with the flintwork but no evidence for in-situ working or deliberate deposition could be identified and it is entirely possible that this material was also residually deposited.

The material from Area 2 was mostly recovered from an alluvial sequence identified during the Evaluation. Four further Test-pits were excavated through the sequence, focussing around the

original Evaluation Trench (see Fig. 5). The material from the Test-pits was in a good, sharp condition and although refitting was not attempted, it is evident that it had been probably generated from only three different cores. Additionally, one of the retouched implements had broken in antiquity with both pieces found close together, demonstrating the minimally disturbed nature of the assemblage from this area. All but the northern Test-pit (TP12) produced struck flint, the majority, comprising 30 pieces, coming from TP 14, suggesting that the Test-pits probably lie on the eastern edge of the main scatter.

Burnt stone

The unworked burnt stone all comprise heated flints that have changed colour, become 'fire-crazed' and have fragmented. They most likely heated during the use of ground-set hearths but burnt flint is difficult to date and could represent activity from the prehistoric period onwards. Given the lack of natural flint clasts at the site, it is likely that the burnt pieces are fragments of worked flint which are too fragmented to be identifiable as such.

Description

The struck assemblage has been made from good knapping-quality flint and cherty flint that ranges considerable in colour, translucency and inclusions. Cortex, where present, is rough and often thick but has experienced varying degrees of abrasion with thermal (frost) fracture surfaces and internal flaws common. No natural flint resources are available in the vicinity and the flint must have been brought to the site, the condition of the cortex indicating it was probably gathered from mass weathered deposits as found on and around its parent chalk. The nearest potential sources are the North Downs located c. 15km to the north which would have been accessible by following the adjacent Cophorne Brook which is a tributary of the River Mole, or the South Downs, c. 25 km to the south.

Technology, Typology and Dating

The assemblage is technologically homogeneous and represents a very well executed blade-based reduction strategy that can be dated to the Mesolithic or Early Neolithic. A microlith from Area 2 can be dated to the Later Mesolithic, and the evident skill and systematic approach taken to reduction would also support a Mesolithic rather than Early Neolithic date. A few rather thicker and less skilfully detached flakes could represent later flintworking at the site, but this is not certain and all of the pieces could be accommodated within a Mesolithic industry. The assemblage includes pieces representing the entire reduction sequence, including relatively high proportions of decortication and core modification / maintenance flakes and blades, suggesting that primary core working was being undertaken at the site. The intended products include blades, blade-like flakes and a number of thin and often narrow flakes. Retouched implements contribute a high 10.5% of the overall assemblage and include a wide range of types, suggestive of broad-based 'domestic' type activities. The microlith from Area 2 is heavily burnt but represents a narrow blade rod type (Jacobi 1978 type 6). Other retouched pieces from Area 2 include a small fragment with abrupt retouch which could be the

remains of a further microlith, and a piercer made by accentuating the sharply convergent distal end of a blade. Retouched pieces from Area 1 include two similar piercers as well as a fragment from a heavier-duty piercer or boring tool that displays heavy use-wear. Other pieces include a blunted-backed knife, an atypical heavy-duty cutting implement, a 'wedge' type implement and a sharpening flake or fragment from a scraper. Several other flakes and blades also show edge damage consistent with having been lightly retouched or utilized, but this is uncertain due to the possibility of post-depositional attrition. Four cores were recovered, two from each area. All are extensively reduced and had produced blades, the two from Area 1 being 'front' type opposed platformed cores and those from Area 2 both being multiplatformed cores.

Significance and Recommendations

The struck assemblage indicates relatively extensive if not particularly intense flint-using activity along both banks of the Cophorne Brook during the Later Mesolithic. It demonstrates that primary flint working was being undertaken alongside a range of other tool using activities, and suggests fairly broad based occupation, most likely by relatively small groups moving through the landscape. The recovery of relatively undisturbed Mesolithic flintwork within the alluvial sequence in Area 2 confirms the findings made during the Evaluation and, although no stabilized soil horizons were identified, indicates a brief period of occupation on the margins of the seasonally flooding stream. The material from Area 1 indicates similar but more dispersed activity continuing along the northern side of the stream.

Mesolithic activity in the immediate area is generally not well represented or understood (e.g. Wessex Archaeology and Jacobi 2014), although the evidence recorded here accords well with the finding during the mid-20th century of Mesolithic flint knapping floors and occupation areas within Heathy Ground Wood as recorded in the HER. Together, the evidence suggests this was a favourable and repeatedly visited location with numerous small campsites established along the margins of the stream.

The assemblage from Cophorne Way therefore has the potential to contribute to better understandings of Mesolithic landscape use, settlement mobility, lithic technology and raw material acquisition, both locally and within the wider region, as well as addressing specific questions concerning the nature of the occupation at the site.

This assemblage, by itself, is too small to warrant detailed technological, functional or metrical analyses. Nevertheless, it is worthy of further work and dissemination. It is therefore recommended that it is re-examined in conjunction with the assemblages recovered during the Evaluation and with full respect and regard to the material recovered from the site during the mid-20th century, and a report describing all of the material and its broader significance compiled for inclusion, alongside suitable illustrations, in any published accounts of the excavations.

APPENDIX 5: SPECIALIST REPORT – POTTERY

By Barbara McNee

Introduction

A total of twelve fragments of pottery were submitted for assessment, all of which are body sherds. The material is in a highly fragmentary state and given this fact, prior to this assessment, the material was also examined by Chris Jarrett, post-Roman pottery specialist at Pre-Construct Archaeology, to discount a post Roman date for any of the material.

The Pottery

Two small sherds from context (1023) and seven sherds from context (1035) are quartz tempered and probably Roman, but otherwise totally undiagnostic. Three sherds from (context 1055) have been made with a fabric which has resulted in large voids, caused by the leaching out of possible organic matter or shell. The pottery is prehistoric, possibly late Bronze Age or Iron Age, but beyond this nothing else can be said.

Recommendations

The sherds are abraded and fairly undiagnostic; no further work is recommended. The items should be retained for the site archive.

APPENDIX 6: SPECIALIST REPORT – ENVIRONMENTAL SAMPLING

By Kate Turner

Introduction

This report summarises the findings of the assessment of twenty-six environmental bulk samples taken during an archaeological excavation on land west of Cophorne (CCWS19). These samples were taken from the fill of a ditch terminus, [1019] and a ditch, [1033], in Area 1, and from four test pits (11, 12, 13 & 14) cut through a sequence of alluvium in Area 2; the latter deposit was 100% sampled in spits, in order to determine the location and distribution of a suspected lithic scatter.

The aim of this assessment is to:

1. Give an overview of the contents of the assessed samples;
2. Determine the environmental potential of these samples;
3. Establish whether any further analysis is necessary.

Methodology

Twenty-six environmental bulk samples, of between forty and one-hundred-and-forty-six litres in volume, were processed using the flotation method; material was collected using a 300 µm mesh for the light fraction and a 1 mm mesh for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4 mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items).

The flot (>300 µm), once dried, was scanned under a low-power binocular microscope at 10x magnification, to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material. Macro-botanical identifications were carried out using standard reference catalogues (Jones, Taylor and Ash, 2004; Jacomet, 2006; Cappers, Bekker and Jans, 2012; Neef, Cappers and Bekker, 2012). Nomenclature for economic plants follows Van Zeist (1984) and for other plant taxa follows Stace (1991). Molluscs were identified with reference to Kerney (1999).

Material collected from the heavy residues was catalogued and passed on to the relevant specialists for further assessment. A full account of the sample contents is provided in table 1.

Results

Preservation

Archaeobotanical material was preserved in these samples by carbonisation, with fragmented wood charcoal recovered in moderate to high concentrations throughout the sample-set, and small amounts of grain and charred nutshell also reported in several of the sampled spits from Test Pits 11, 13 and

14. Molluscs were additionally preserved in several samples, as were seeds and eggs of water-flea, however it was difficult, due to the potential for rooting within these deposits, to determine whether any of these remains were in situ.

AREA 1

Sample <1>, context (1020) – cut of Ditch terminus [1019]

Sample <1>, comprising twenty litres of sediment, was taken from the cut of late Iron Age/Romano British ditch terminus, [1019], located in Area 1. Preservation of environmental remains was generally poor in this context; whilst over one-hundred pieces of wood charcoal were reported in the flot, the bulk of this assemblage was significantly fragmented, with specimens concentrated in the smallest sieved fraction, <2mm, and less than ten larger examples (>4mm) being recognised. Unburnt seeds of birch (*Betula* spp.), the condition of which would suggest are intrusive, and roots were common, which suggests the possibility for bioturbation in the sampled deposit. A small amount of stuck flint was recovered from the retent; no other finds were observed.

Sample <2>, context (1034) – cut of Ditch [1033]

Sample <2>, consisting of fourteen litres of sediment, was collected from the cut of an east-west aligned ditch, [1033], encountered in Area 1. A fragmentary assemblage of charcoal was extracted from this context, comprised largely of smaller specimens, <2mm, with only a minimal concentration of sizeable pieces, of a sufficient magnitude for species to be identified, reported. Carbonised seeds and cereals were absent, and no artefacts were recovered. Roots and intrusive seeds were relatively common, indicating the likelihood of post-depositional disturbance in this context.

AREA 2

Test Pit 11: Samples <3, 5, 7, 10, 12 & 14>, Spits 1-6

Six bulk environmental samples, ranging from one-hundred-and-ten to one-hundred-and-thirty-eight litres in volume, were collected in spits from Test Pit 11. Wood charcoal was frequently recognised in these samples, being present in all of the sampled spits; average fragment size was small, <2mm, with only Spits 1, 2 and 3 producing any specimens of identifiable size, the largest concentrating being extracted from Spit 1, which contained between thirty and one-hundred sizeable examples. Spit <1> also contained a low frequency of carbonised hazelnut shell (*Corylus avellana*), and Spit 4, terrestrial snail shell, of the non-native subterranean species *Cecilioides acicula*. Struck flint was recovered from Spit 1 and Spit 2, with all of the sampled spits yielding moderate to high quantities of roots and/or non-contemporary seeds.

Test Pit 12: Samples <4, 6, 8, 9, 11 & 13>, Spits 1-6

A total of six bulk environmental samples, ranging in volume from ninety-six to one-hundred-and-thirty litres, were collected in spits from Test Pit 12. Charcoal was, again, relatively common in these samples, found in all of the assessed deposits in moderate to large concentrations; the bulk of these fragments were too small to be identified to species, with only Spit 1 and Spit 2 producing any viable

specimens, between two and thirty such fragments each. Shells of terrestrial molluscs were observed in the samples from Spit 4 and Spit 6, with the former yielding specimens of *Cecilioides acicula*, *Pupilla muscorum* and *Vallonia* spp., and the latter, a small concentration of *Pupilla muscorum*, a snail native to dry, calcareous environments. Finds were limited to less than ten fragments of struck flint, all extracted from Spit 6, with these samples containing substantial evidence for bioturbation, in the form of roots and modern plant material.

Test Pit 13: Samples <15, 17, 19, 21, 23 & 25>, Spits 1-6

Six bulk soil samples, of seventy-nine to one-hundred-and-forty-six litres in volume, were collected from spits in Test Pit 13. Large quantities of charcoal was present in all of the sampled spits, with Spits 2, 3 and 4 each producing a small number of specimens of identifiable size, less than ten in total from each sample. Spit 3 contained a single carbonised grain of naked wheat (*Triticum aestivum/durum*), Spits 1 and 2 burnt flint, and Spits 1-4 struck flint; snails were absent in these samples. Spit 1 also yielded a large quantity of seeds, of crowfoots (*Ranunculus* subsp. *batrachium*) and duckweeds (*Lemna* spp.), along with eggs of water flea (*Daphnia*), both of which are indicative of a wet, or significantly waterlogged environment, likely to be reflective of environment in the immediate area of the pit. Roots and intrusive seeds were, again, seen throughout, which suggests the potential for post-depositional disturbance of smaller remains.

Test Pit 14: Samples <16, 18, 20, 22, 24 & 26>, Spits 1-6

Six environmental samples, of one-hundred-and-ten to one-hundred-and-forty litres in volume, were collected from spits in Test Pit 14. Wood charcoal was identified throughout; over one-hundred specimens were extracted from each of the assessed samples, with sizeable fragments being reported in all apart from <24>, taken from Spit 5. Spit 3 yielded the highest concentration of identifiable pieces, between thirty and one-hundred, with the other charcoal-producing spits producing less than thirty examples each. A low frequency of fragmented hazelnut shell was noted in Spit 4, which also contained a moderate quantity of mollusc shell; shells of *Carychium minimum/tridentatum* were the most commonly recognised, with the overall species profile being suggestive of a wet, or moist environment. Snails were additionally recovered from Spit 2 and Spit 6, with no more than thirty being present in each. Eggs of *Daphnia*, and seeds of rushes (*Juncus* spp.), water crowfoot and duckweed, were found in Spit <2>, suggesting substantial waterlogging of this part of the deposit. Seeds of crowfoot were also present in Spit 5. Small to moderate concentrations of struck flint were identified in Spit 1 and Spit 4; intrusive seeds and roots were observed throughout.

Interpretation

Charcoal was relatively common in both of the sampled ditch cuts, and throughout the alluvial layer. These remains may constitute scattered deposits of fire refuse, from either accidental combustion, or intentional burning related to anthropogenic activity. This assemblage was seen to be substantially fragmented, dominated by smaller pieces, <4mm in length/width; when wood is burnt, rates of

fragmentation are known to be effected by changes in temperature and intensity (Chrzazvez et al., 2014), with greater temperatures producing a more fragmentary assemblage, suggesting that this material may have been burnt in a high-temperature environment. The degree of fragmentation in this assemblage could also indicate the possibility that this material may be the waste from larger fires that has been deposited over a wide area by wind-scatter.

The single grain of bread wheat, recovered from Spit 3, TP 13, could be an indication that cereal crops were being grown or consumed in the wider area to some degree; naked wheats are known to have been cultivated in Britain since the Neolithic period (Hillman 1981, 124), with the charred hazelnut shell from Test Pits 11 and 14 perhaps also be evidence that foraging for, and consumption of nuts was being practiced at this site. The overall density of remains is, however, in both instances, too low to suggest that such activities were being undertaken to a significant degree.

The mollusc assemblage was generally suggestive of a moist environment; however, it is unclear the extent to which these remains are in-situ, and thus the interpretive value of the assemblage may be limited.

Taphonomic Considerations

Roots and apparently intrusive seeds were observed throughout the Copthorne samples, indicating the possibility for post depositional disturbance in these deposits, and reworking of smaller ecofacts through root channels and other soil features. The likelihood of bioturbation should be taken into consideration when using environmental remains to date deposits where cultural material is scarce.

Recommendations for Further Work

This assessment has shown that, with the exception of wood-charcoal, preservation of archaeobotanical remains in the Copthorne samples was relatively poor. Due to the low quantity of sizeable charcoal, and the minimal quantity of nutshell and grains reported, additional work is not suggested on this material, however, the wheat grain recovered from Test Pit 13, and the hazelnut shell from Test Pits 11 and 14, along with any suitably sized pieces of charcoal, could be used for radiocarbon dating, if remains are determined to be undisturbed. A summary of this assessment should be included in any future publications.

Table 1: Assessment of environmental samples, Land West of Copthorne, Copthorne Way (CWWS19)

Sample Number	1	2	3	4	5	6	7	8	9	10	11	12	13
Context Number	1020	1034	2000	2001	2002	2003	2004	2005	2006	2007	2008	2109	2010
Cut Number	1019	1033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Ditch	Ditch	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Area	1	1	2	2	2	2	2	2	2	2	2	2	2
Test Pit			11	12	11	12	11	12	12	11	12	11	12
Spit	N/A	N/A	1	1	2	2	3	3	4	4	5	5	6
Phase	3	1											
Volume of bulk (litres)	20	14	110	110	138	130	130	130	120	120	108	131	96
Volume of flot (millilitres)	38	48	170	120	105	160	52	60	63	65	67	330	114
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F
Charcoal													
Charcoal >4 mm	1	1	3	2	2	1	1						
Charcoal 2 - 4 mm	2	2	4	2	1	1	1		1	1			
Charcoal <2 mm	4	4	4	2	4	4	3	4	4	4	4	4	2
Burnt Seeds and Cereals													
<i>Corylus avellana</i> - nutshell	Hazel		1										
<i>Triticum aestivum/durum</i> - grain	Bread wheat												
Intrusive Seeds													
	Common name												
<i>Atriplex</i> spp.	Oraches					1							
<i>Betula</i> spp.	Birch		1	1	1			1		1	1		
<i>Chenopodium</i> spp.	Goosefoots												1
<i>Ficus carica</i>	Fig			2									
<i>Juncus</i> spp.	Rushes												
<i>Lemna</i> spp.	Duckweed												
<i>Ranunculus</i> subsp. <i>batrachium</i>	Crowfoots												
<i>Rubus</i> spp.	Brambles			1	2								
<i>Sambucus</i> spp.	Elder												
<i>Stellaria</i> spp.	Stitchworts												
<i>Urtica</i> spp.	Nettles				2	2			1				
Indet. seed case													
Other Plant Macrofossils													
Roots/tubers	2	3	4	4	3	4	3	3	3	3	4	2	2
Molluscs													
Habitat													

Sample Number	1	2	3	4	5	6	7	8	9	10	11	12	13
Context Number	1020	1034	2000	2001	2002	2003	2004	2005	2006	2007	2008	2109	2010
Cut Number	1019	1033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Ditch	Ditch	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
<i>Aegopinella/Oxychilus</i> spp.	Moist places												
<i>Carychium minimum/tridentatum</i>	Wet/moist places												
<i>Cecilioides acicula</i>	Subterranean												
<i>Cochlicopa lubrica/lubricella</i>	Catholic												
<i>Discus rotundatus</i>	Moist, sheltered places												
<i>Pupilla muscorum</i>	Dry, exposed, calcareous												
<i>Vallonia</i> spp.	Various												
<i>Vertigo</i> spp.	Various												
Snail eggs													
Juveniles - terrestrial									2	1			1
Biological Remains													
<i>Daphne ephippia</i>													
Insect remains/puparia		1		1									
Insect eggs/worm cases													
Flint													
Burnt flint													
Struck flint	1		1		1								1

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abunda

Sample Number	14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Area	2	2	2	2	2	2	2	2	2	2	2	2	2
Test Pit	11	13	14	13	14	13	14	13	14	13	14	13	14
Spit	6	1	1	2	2	3	3	4	4	5	5	6	6
Phase													
Volume of bulk (litres)	129	123	130	119	134	146	140	79	129	102	117	92	110
Volume of flot (millilitres)	200	69	75	74	106	75	115	58	74	66	125	105	42
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F
Charcoal													
Charcoal >4 mm			2	1	2	1	3	1	1				1
Charcoal 2 - 4 mm	1	1	1	1	2	2	3	1	2				1

Sample Number	14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Charcoal <2 mm	4	4	3	4	4	4	4	4	4	4	4	4	4
Burnt Seeds and Cereals													
<i>Corylus avellana</i> - nutshell									1				
<i>Triticum aestivum/durum</i> - grain						1							
Intrusive Seeds													
	Common name												
<i>Atriplex</i> spp.	Oraches												
<i>Betula</i> spp.	Birch												
<i>Chenopodium</i> spp.	Goosefoots												
<i>Ficus carica</i>	Fig												
<i>Juncus</i> spp.	Rushes												
<i>Lemna</i> spp.	Duckweed												
<i>Ranunculus subsp. batrachium</i>	Crowfoots												
<i>Rubus</i> spp.	Brambles												
<i>Sambucus</i> spp.	Elder												
<i>Stellaria</i> spp.	Stitchworts												
<i>Urtica</i> spp.	Nettles												
Indet. seed case													
Other Plant Macrofossils													
Roots/tubers	3	3	2	3	2	2	3	2	2	3	2	2	2
Molluscs													
	Habitat												
<i>Aegopinella/Oxychilus</i> spp.	Moist places												
<i>Carychium minimum/tridentatum</i>	Wet/moist places												
<i>Cecilioides acicula</i>	Subterranean												
<i>Cochlicopa lubrica/lubricella</i>	Catholic												
<i>Discus rotundatus</i>	Moist, sheltered places												
<i>Pupilla muscorum</i>	Dry, exposed, calcareous												
<i>Vallonia</i> spp.	Various												
<i>Vertigo</i> spp.	Various												
Snail eggs													
Juveniles - terrestrial													
Biological Remains													
<i>Daphne ephippia</i>	4												
Insect remains/puparia	1												

Sample Number	14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Insect eggs/worm cases													
Flint													
Burnt flint		1		1									
Struck flint		1	3	1		1		1	1				

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

APPENDIX 7: THE MONOLITH SAMPLE FROM AREA 2

By Nick Watson (ARCA)

Introduction

This report discusses the results of a geoarchaeological investigation of one monolith sample taken from excavations on Land west of Copthorne, West Sussex (henceforth 'the site'). The work was carried out by ARCA at the University of Winchester in October 2019 on behalf of Pre-Construct Archaeology Ltd.

The site is centred on National Grid Reference (NGR) 530621 139373 and occupies c. 55ha of fields, scrub and woodland at an elevation of c. 70 to 75m OD on the floodplain of Burstow Stream and the confluence of Copthorne Brook (McCulloch 2019; Ordnance Survey 2015).

The British Geological Survey (BGS 1972, 1:50,000, sheet 302) map the site as lying on the Upper Tunbridge Wells Sand (UTWS) that dates to the Early Cretaceous Epoch (c. 140Ma). This unit is composed of silty mudstones, siltstones, silty sandstones and fine-grained sandstones that are generally finely bedded and locally ferruginous (BGS 2019). Laterally thin Holocene alluvium is mapped on the banks of the Burstow Stream.

Early excavations in 2017 by ASE have been re-examined. Two areas were opened (Areas 1 and 2) to re-investigate Romano British strata (Area 1) and determine the stratigraphy of the deposits in the Copthorne Brook and the potential for prehistoric flint assemblages (Area 2). In Area 2 a buried land surface was recorded in Geoarchaeological Test Pit 2, in Trench 27 in the 2017 work.

BGS borehole data on the A264 trunk road, which bounds the south of the site, record 400mm of topsoil lying over weathered UTWS at TQ33NW36 and a similar record is found at TQ33NW41 beside Copthorne Brook in the southeast corner of the site. These two boreholes are c. 700m south and south east of the trenches. Approximately 350m west of the trenches on the route of the M23 motorway boreholes reveal a similar stratigraphy with even less topsoil (c. 250mm).

Methodology

The sample was delivered to the University of Winchester in a 500x100x100mm Kubiena monolith tin. It is labelled Monolith <27> and was recovered from Area 2 – Geology Test pit 2, South Wall. The site code is CWWS19.

The sample was cleaned with a scalpel, photographed and described according to standard geological criteria (Jones et al 1999, Munsell 2000 and Tucker 2011). The results are presented in **Error! Reference source not found.** below.


<27>	Depth m	Unit	Description
	0-0.12	1	Loose material.
	0.12-0.50	2	2.5Y 6/2 light greyish brown with 50% 10YR 5/6 yellowish brown mottles of iron oxide, stiff, dryish (damper at the base) silt/clay. Frequent brownish black manganese stains. Blocky fracture. Rare fine pebble-sized roots.

Table 1, Sample <27> lithology

The material archive comprises one monolith sample which will remain in storage at the University of Winchester pending decisions on further work until 4th August 2020 whereupon they will be discarded with no further notification.

The digital archive consists of photographs in JPG format and this report in PDF format. These digital archives are stored both on the University of Winchester server and on an external hard drive stored outside the University of Winchester. Copies of these data can be supplied on request. OASIS records will be completed on approval of this report.

Results and Discussion

The sample is essentially a homogenous unit of silt/clay that displays evidence of bioturbation by roots and the diagenetic effects of a fluctuating water table. These two factors will have destroyed any evidence for fluvial deposition such as fine horizontal silt and clay laminae. The mottling is derived from iron and manganese oxides as the result of redox reactions taking place within the unit after it was laid down. The fine grained sediment is derived from the local geology: the Upper Tunbridge Wells Sand.

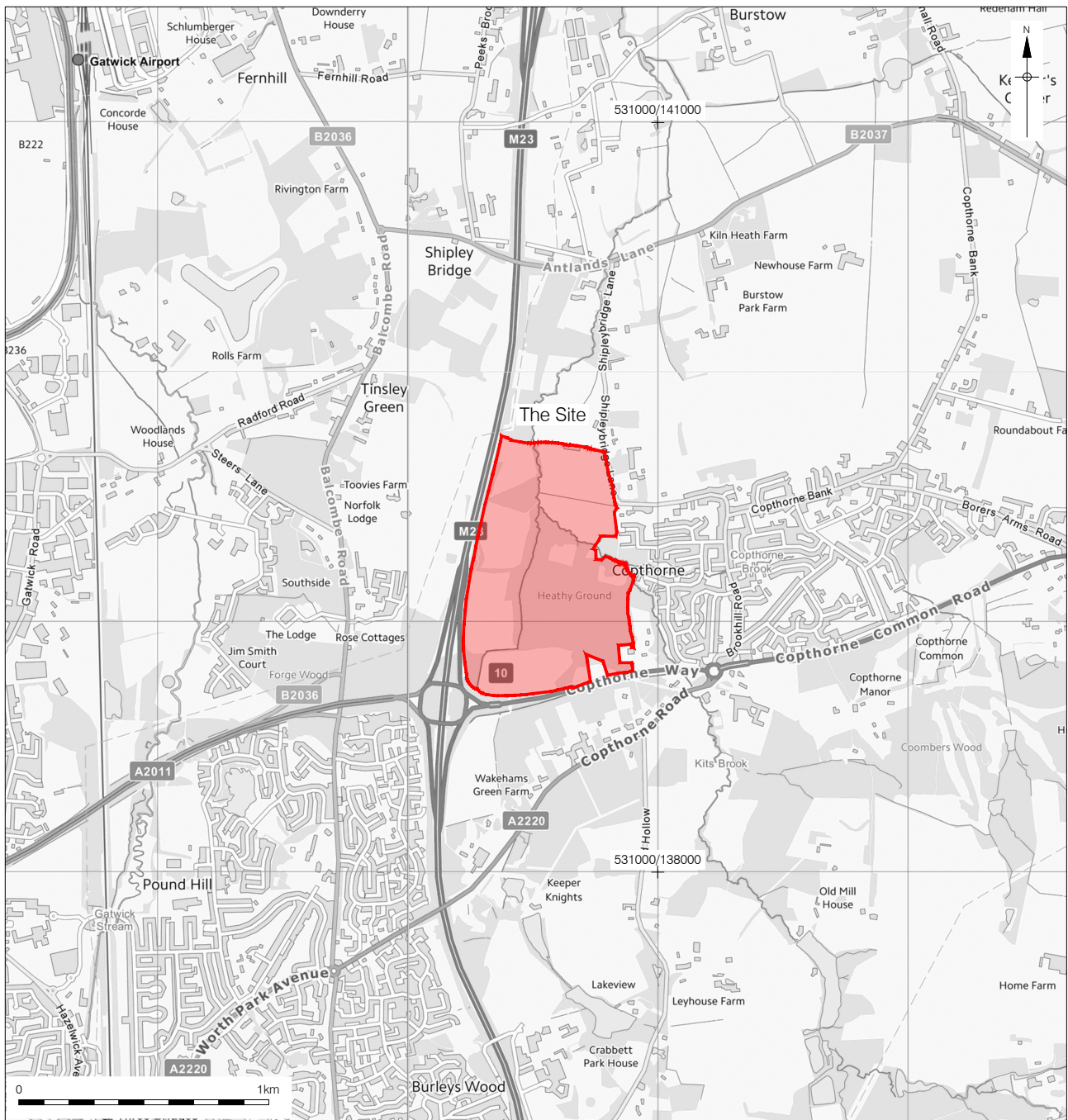
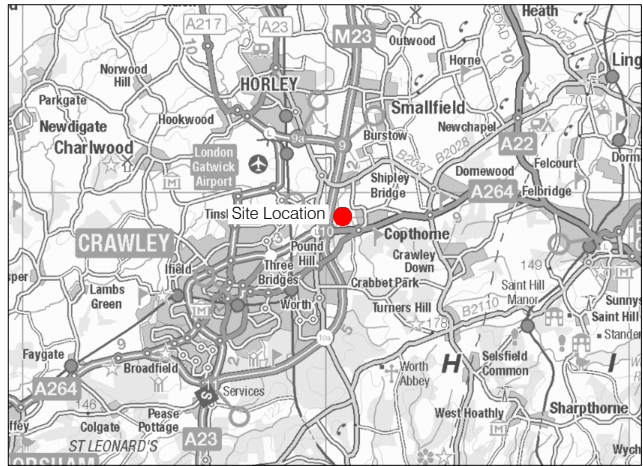
The location of the site on the floodplain presupposes that the sample is the result of alluviation: Quaternary fluvial reworking of the bedrock and local (unmapped) solifluction and colluvial deposits. The distinction between *in situ* geology and alluvium derived from that geology can be problematic where no bedding, clasts or sorting are evident. However a section of the Geoarchaeological Test Pit 2, in Trench 27 describes 1m of silt/clay overlying recognisable and bedded alluvial deposits associated with the Cophorne Brook (McCulloch 2019, 7):

‘The extant parts of the silt-clay were cleaned, revealing an homogeneous deposit that macroscopically appears poorly bedded /massive but is mottled with iron staining and with a notable but irregular darker band of iron staining, c. 0.10m to 0.30m thick, present towards the base of the sequence. Cleaning also resulted in the recovery of a thermally (frost fractured) disintegrated blade core fragment.’

The monolith <27> would therefore appear to come from this unit, and as such the sample represents bioturbated and diagenetically altered overbank alluvium. Where bedded alluvial deposits are not recognised the depth of potential alluvium may be estimated. The lithology and texture of the weathered bedrock will be similar if not identical to alluvial deposits on the site and their distinction may be made on hardness although the boundary from soft to hard is likely to be gradual. BGS borehole data are logged as topsoil (up to 400mm thick) overlying UTWS. No alluvium is logged even in TQ33NW41 which is located on the bank of Cophorne Brook. This borehole records ‘very stiff/hard grey shaley clayey silt (UTWS)’ sub-cropping at 2.3m below ground level and may be taken to represent the top of the bedrock. The overlying deposits vary only in hardness (they are softer) and diagenesis (they are mottled); and are also recoded as UTWS. The implication here is that fluvial reworking in the Quaternary may have taken place above this elevation and perhaps only in the uppermost metre.

Conclusions and Recommendations

Monolith <27> has samples the overbank alluvium of the Cophorne Brook. It is bioturbated and diagenetically altered (oxidised) as a result of a fluctuating water table. Palaeoenvironmental evidence (pollen) is unlikely to have survived oxidation. No further work is recommended on this sample.



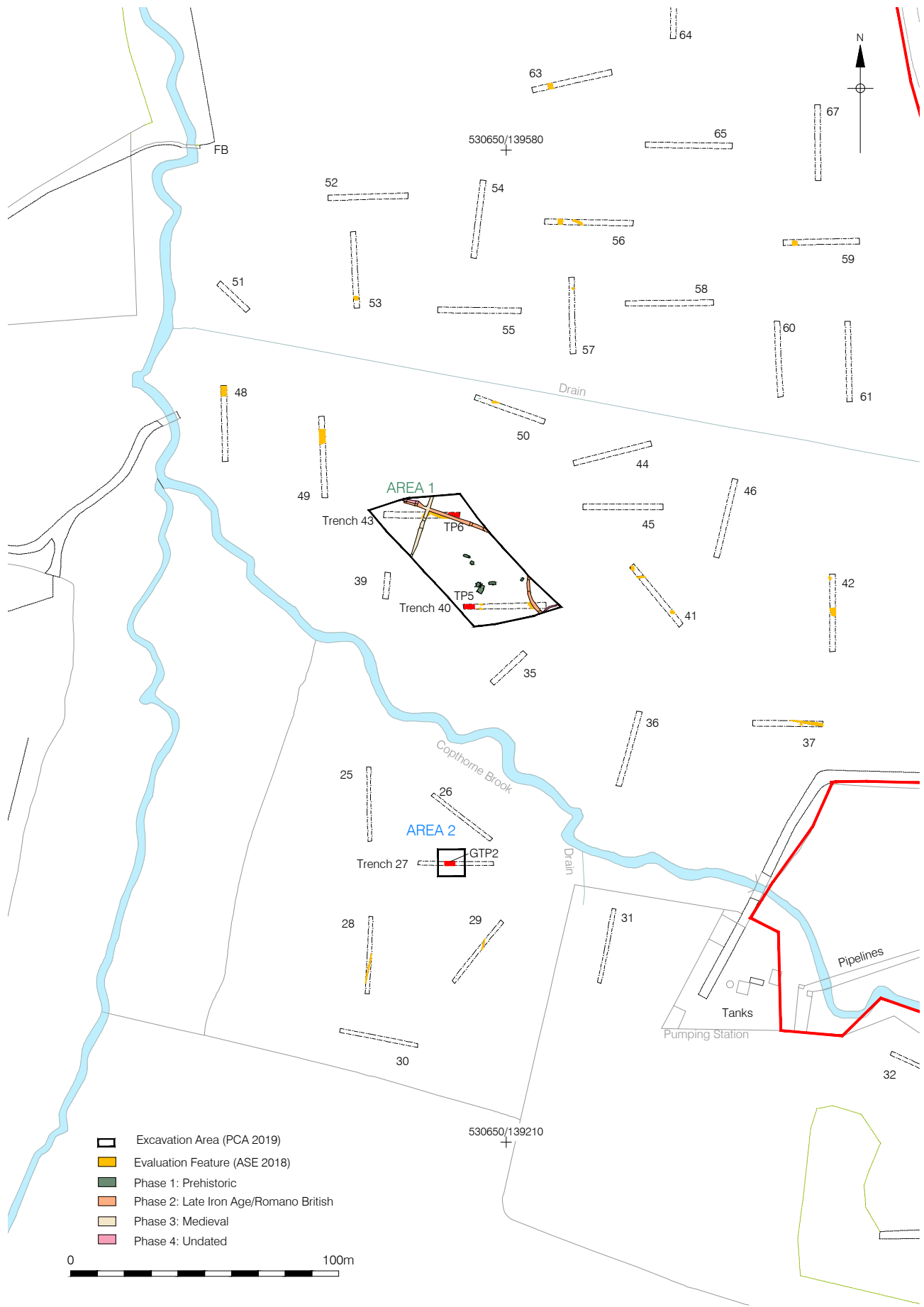
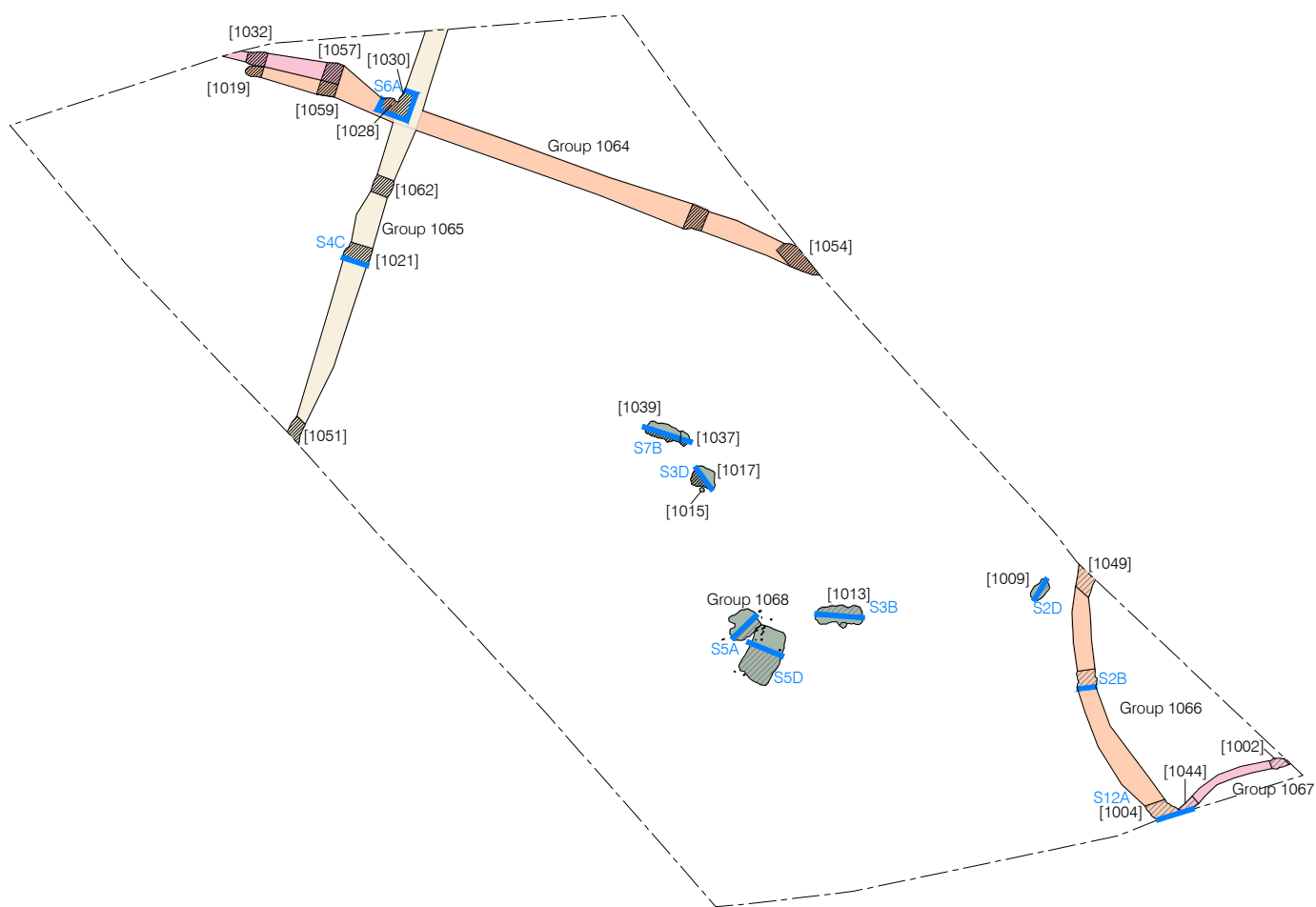


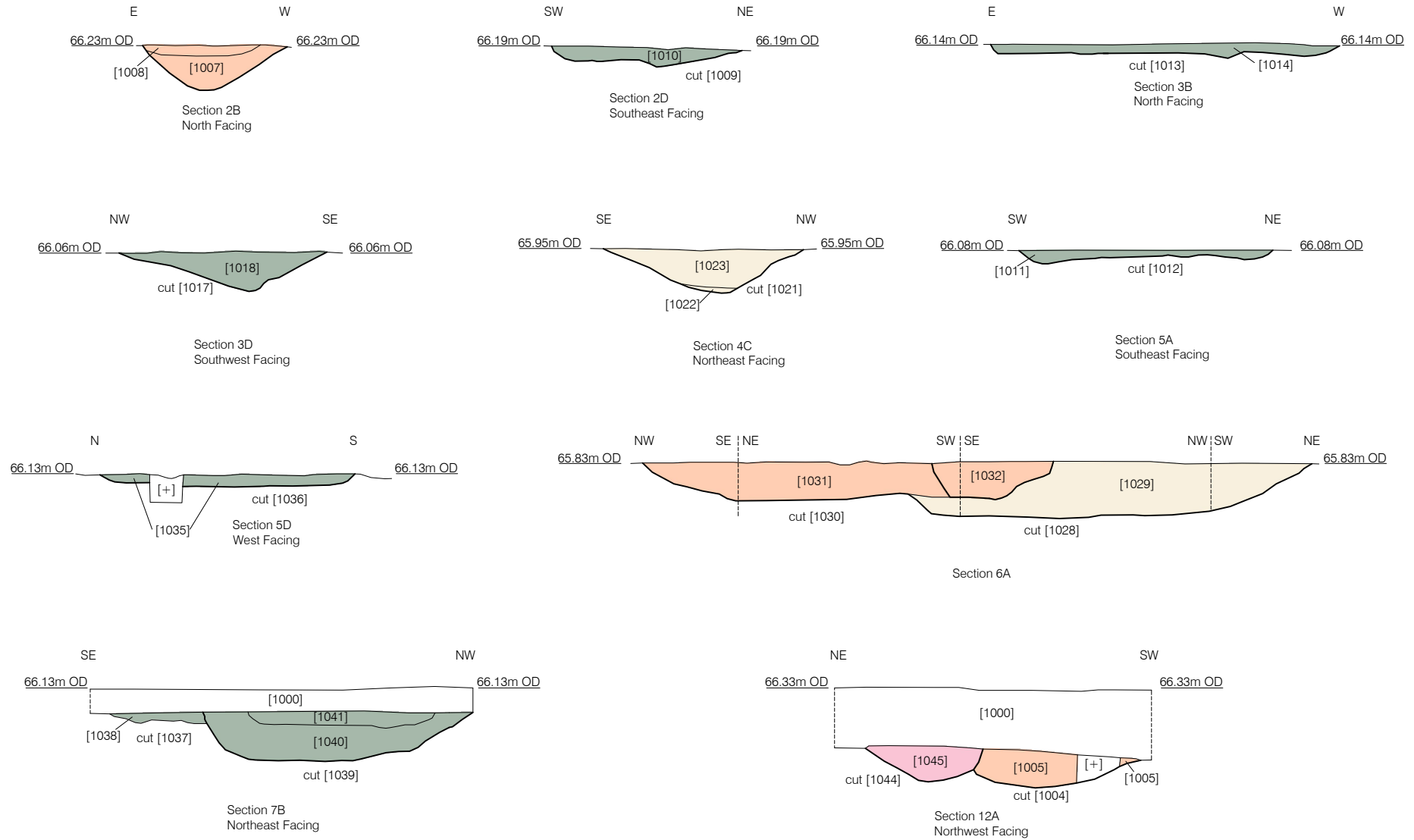
Figure 2
Detailed Site Location
1:2,000 at A4



- Phase 1: Prehistoric
- Phase 2: Late Iron Age/Romano British
- Phase 3: Medieval
- Phase 4: Undated



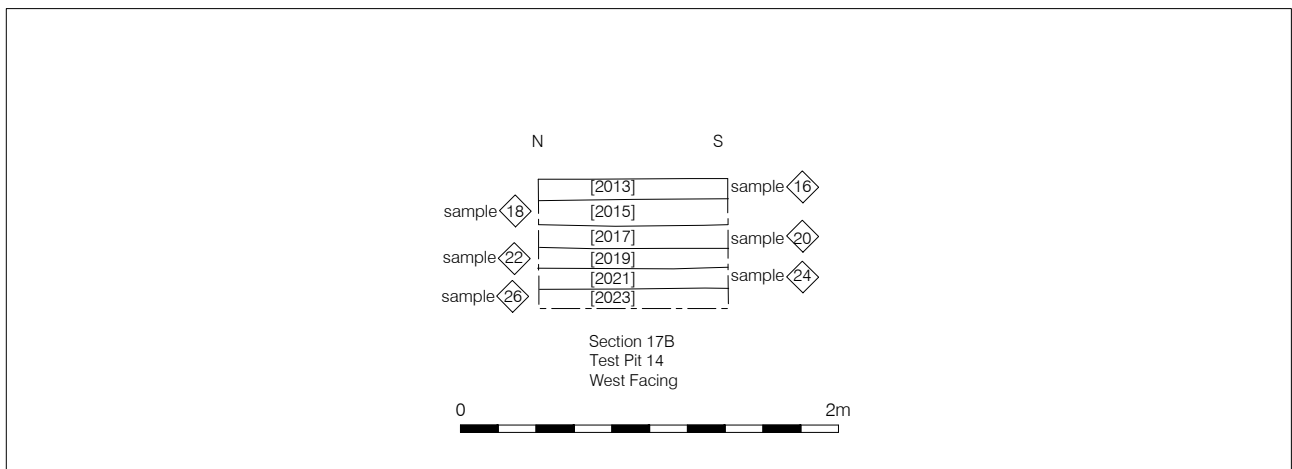
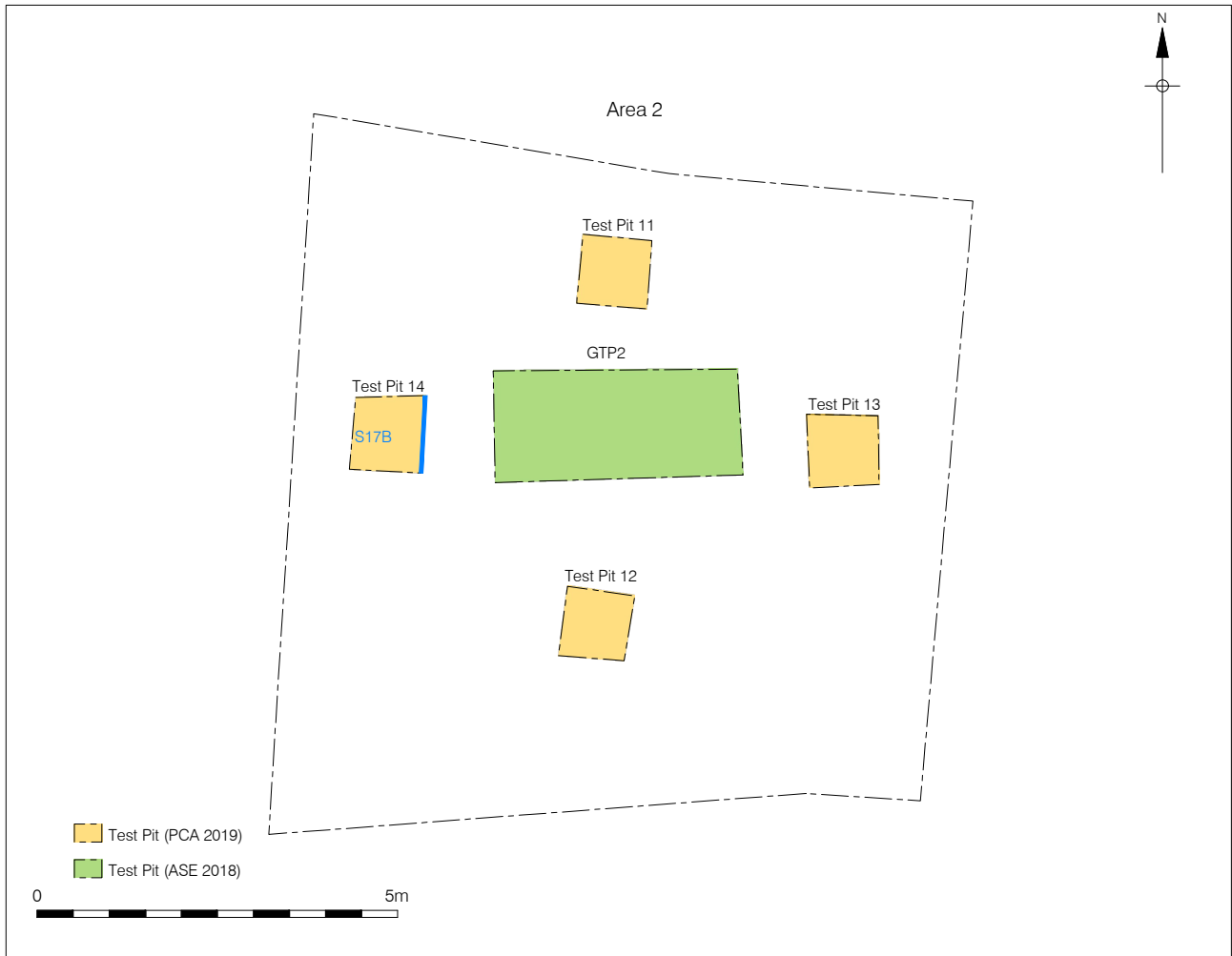
Figure 3
Plan of Area 1
1:400 at A4



- Phase 1: Prehistoric
- Phase 2: Late Iron Age/Romano British
- Phase 3: Medieval
- Phase 4: Undated



Figure 4
Area 1 Sections
1:40 at A4



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