Evidence for Romano-British agricultural and industrial activity at Cobthorn Way, Congresbury

Paul Rainbird with contributions by Eleanor Blakelock, A J Clapham, Charlotte Coles and Naomi Payne

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EVIDENCE FOR ROMANO-BRITISH AGRICULTURAL AND INDUSTRIAL ACTIVITY AT COBTHORN WAY, CONGRESBURY

PAUL RAINBIRD

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SUMMARY

An archaeological excavation undertaken by AC Archaeology on land at Cobthorn Way, Congresbury, exposed three corn drying ovens and two areas for iron smelting and smithing of Romano-British date set within a landscape divided by boundary ditches forming enclosures and fields. The pottery largely comprised coarse ware of the local Congresbury type. Other finds of note included two coins, a glass bead and a post-Roman bone and antler comb. Charred plant remains from the ovens provided rare evidence for malting. A palaeochannel showed that the site had been situated adjacent to a small watercourse.

INTRODUCTION

Archaeological investigations in advance of residential development at Cobthorn Way, Congresbury (centred on ST 4430 6399; Fig. 1) were carried out in July and August 2018 by AC Archaeology on behalf of Strongvox Homes. The site covered approximately 8ha of agricultural fields on the north-east outskirts of Congresbury, to the north of the River Yeo (Congresbury Yeo), and therefore on the opposite side of the river to the major Roman settlement of Congresbury. The area for development was confined to the north-western part of the wider site and was bounded by housing estates to the north and west and fields to the south and east. The land slopes southwards towards the river with the underlying geology comprising Triassic mudstone, siltstone and sandstone (BGS 2020).

A geophysical magnetometer survey (Archaeological Surveys Ltd 2015) indicated the presence of a number of rectilinear and discrete anomalies in the north-western part of the site while anomalies identified in a previous geophysical survey of part of the site were interpreted as possibly being some form of kilns (YCCCART 2014). This was followed by trial trenching which established the presence of Romano-British activity on the site with two areas of late Romano-British iron smelting identified, one of which may have been partially enclosed by ditches. A full report on the trial trenching has previously been prepared (Nicholls 2016) and selected results are presented here, where they contribute to the understanding of the excavation results.

The full background to the excavation, discussion of the small amount of medieval and later finds from the site and detailed specialist reports are available in Rainbird (2020) through the Archaeology Data Service (http://archaeologydataservice.ac.uk/archives/view/greylit/ browse.cfm) and a summary of the significant findings is provided here.

RESULTS

Introduction

Two areas were targeted for open area excavation based on the density of features encountered during trial trenching (Fig. 1). Area 1 was divided in two due to the presence of buried live services and the area available for Area 2 was restricted by the presence of overhead live services. Natural subsoil was generally encountered at a depth varying between 0.3-0.5m, sealed by subsoil and topsoil. In Area 1 the main archaeological remains exposed comprised three Romano-British corn drying ovens associated with ditched enclosures, a cluster of small ironworking features adjacent to a palaeochannel and one or possibly two Iron Age features, comprising a pit. Area 2 exposed features of Romano-British date contemporary with those in Area 1 and comprised ditches, pits and further evidence for ironworking. Features and deposits investigated are described below by excavation area.

Area 1 (Figs 2 and 3)

Middle Iron Age

A small assemblage of Middle Iron Age pottery (19 sherds, 93g) was recovered from Area 1. This was residual from Romano-British pit F1012 and the

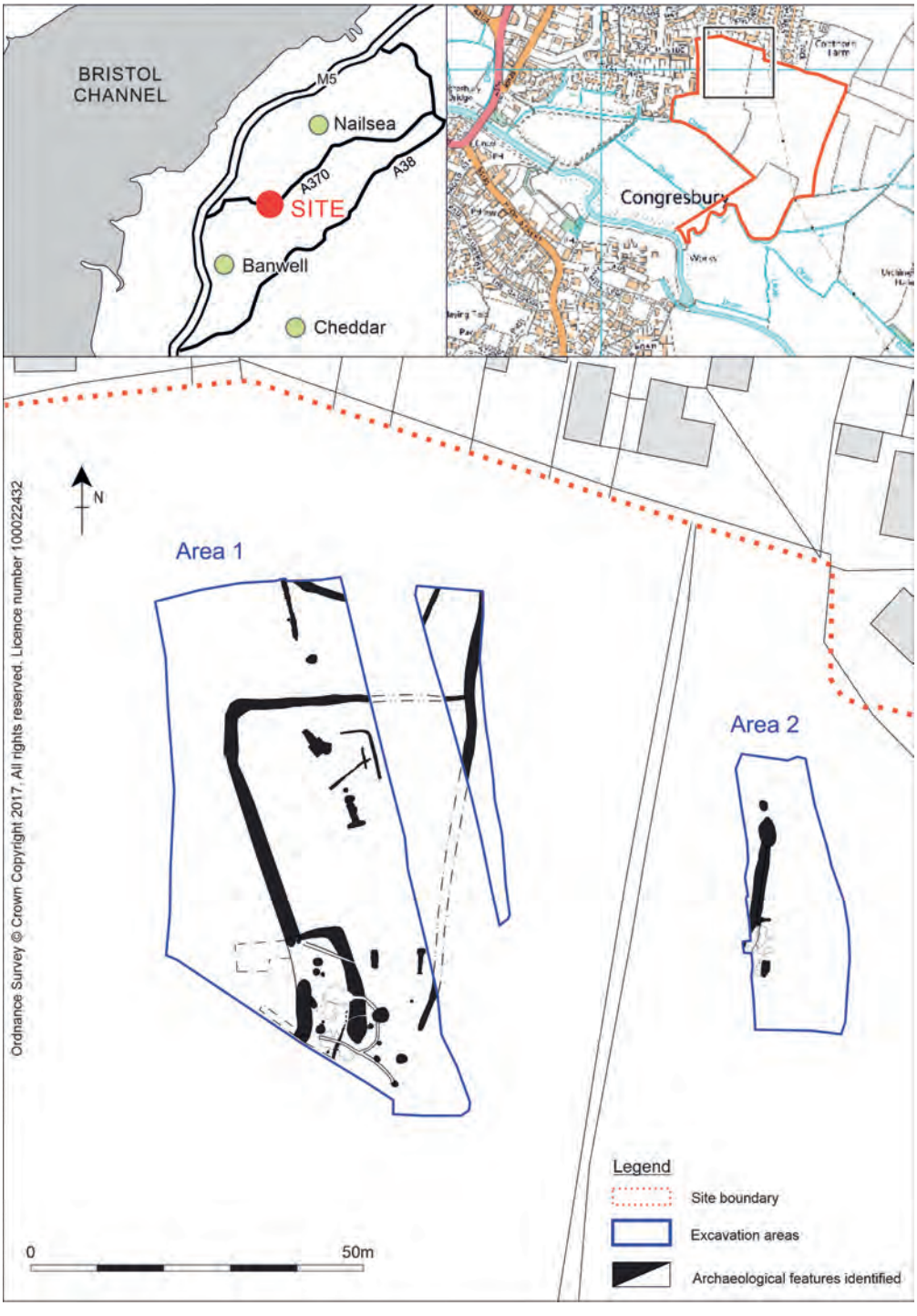

Fig. 1 Location of site and excavation areas

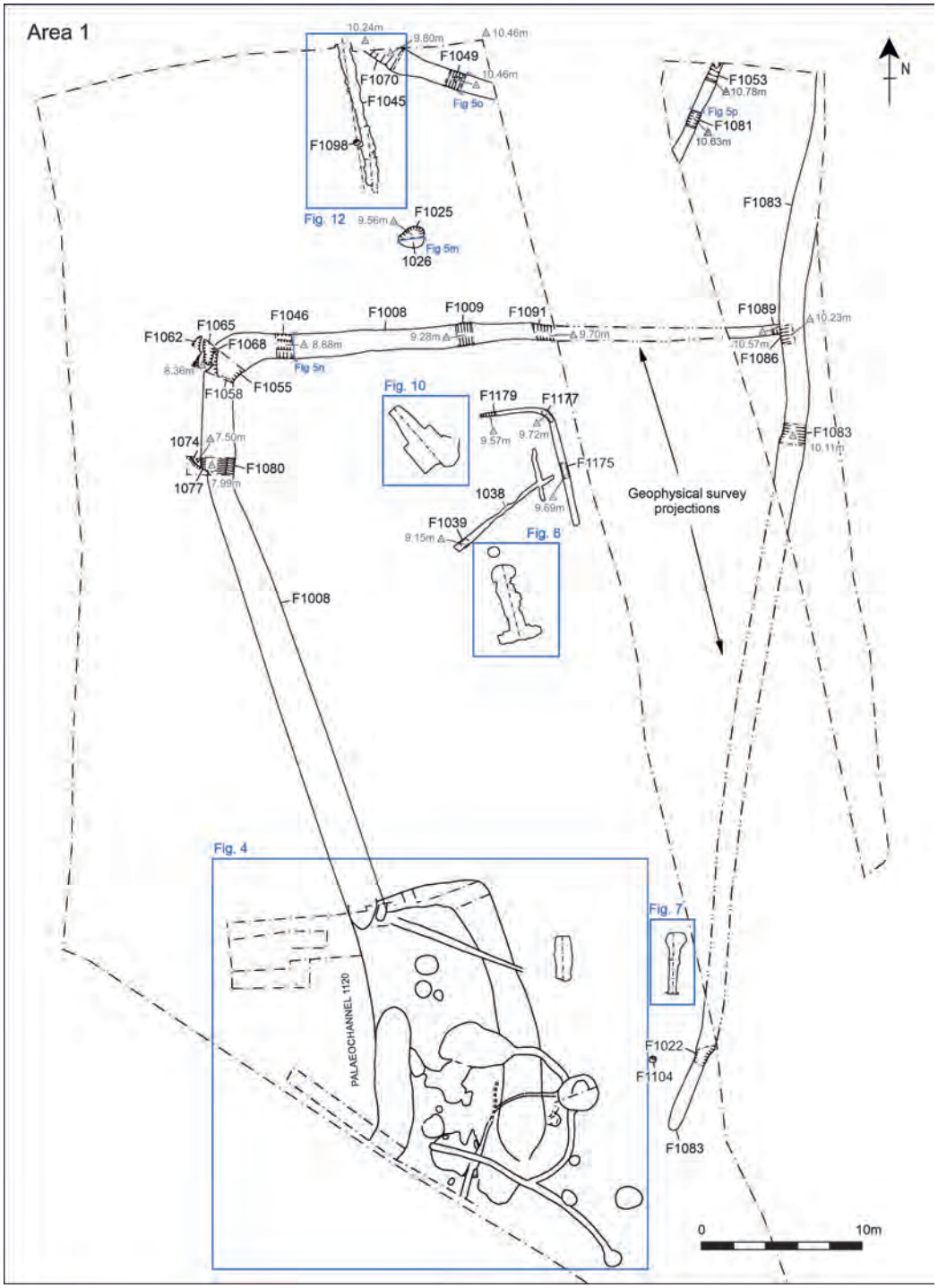

Fig. 2 Plan of Area 1

secondary fill of ditch F1204. Pit F1139 contained Iron Age pottery only and was located within the cluster of features in the south-west corner of Area 1 and was 1.08m in diameter by 0.48m deep (Figs 4 and 5f). It had undercutting sides and a flat base, which created a distinctive bell-shaped profile, typical of grain storage pits, although no preserved grain was present.

Romano-British

Features and deposits of this period formed the majority of remains present. They were largely within a roughly triangular area enclosed by ditches, with a smaller denser 'working zone', in the southern apex of the triangular enclosure. A small number of features fell outside of these areas to the north and east of the triangular enclosure. Where evidence of ironworking was present it was clear that this represented both smelting and smithing activities on the site.

Working zone (Fig. 4)

In the southern apex of the triangular enclosure was a cluster of features, many of them intercutting, which marked a zone of intense working activity. This area was first revealed as an amorphous dark spread above which sat a stone deposit (1095) which contained a Roman coin, possibly dating to AD 138-92, but also medieval pottery indicating that the stone deposit was medieval or more recent in date. Other than Middle Iron Age pit F1139, discussed above, the earliest feature in this area may be ditch F1204 (excavated in segments F1221/F1208/F1204) which was cut by every feature with which it had a direct relationship. It was formed by two sides and a corner. It began in the west by the north terminal (F1108) for the triangular enclosure and appeared to predate the terminals in this area although the relationship was not completely clear due to the presence of a small ditch terminal (F1118), which predates F1108, and complicated the crucial junction. At

Fig. 3 View across Area 1 with excavation in progress, looking north-west

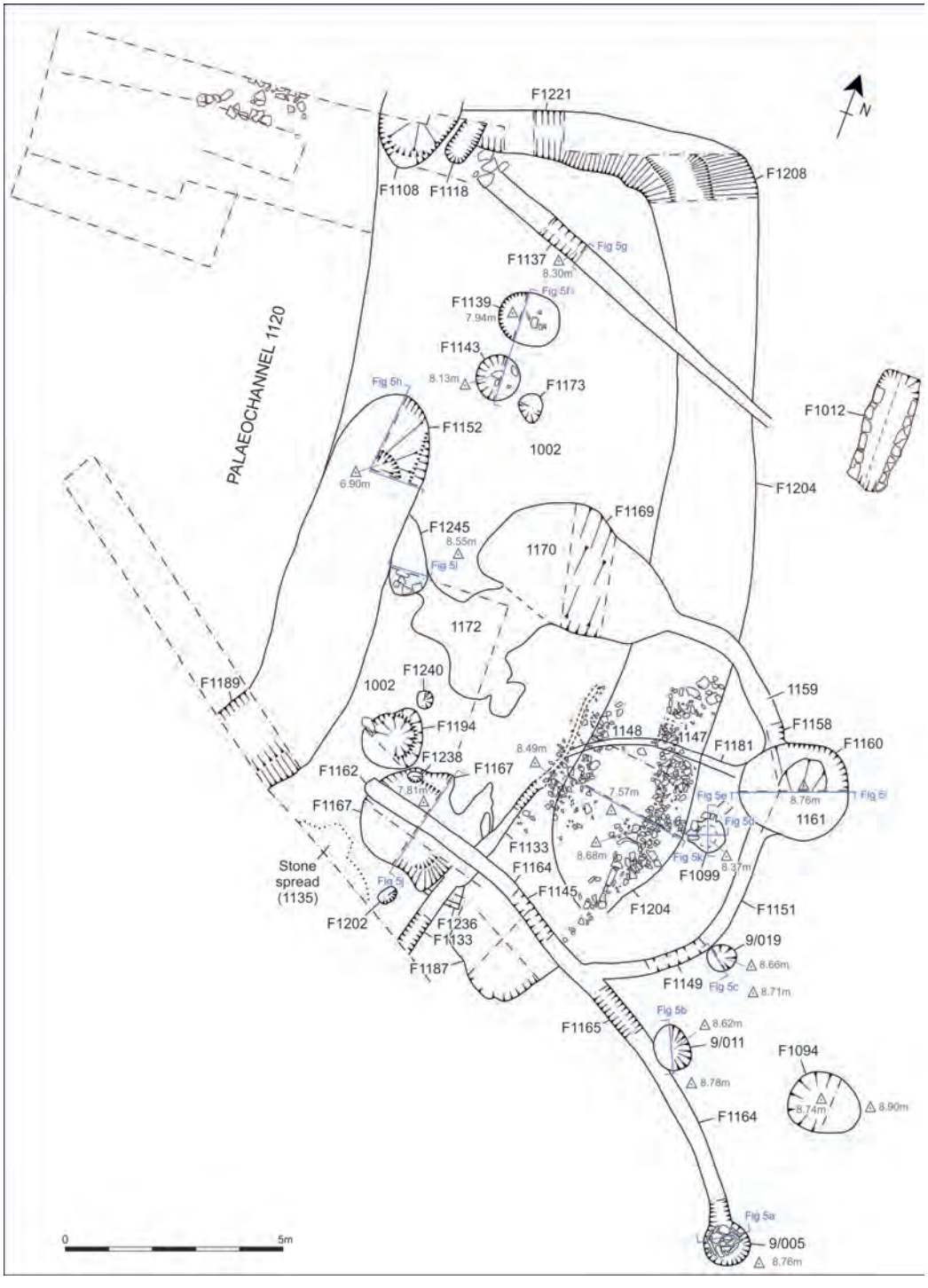

Fig. 4 Detailed plan of 'working zone' in Area 1

the south end it terminated in the area of densest activity and a segment excavated close to the terminal measured 3.7m wide by 1m deep with moderately sloping sides and a rounded base (Fig. 5k). The fills contained a mix of Iron Age and Romano-British pottery sherds, one copper-alloy scrap piece, two pieces of worked flint, one piece of fired clay and twelve pieces of animal bone.

Ditch F1204 appears to have had little influence on the remaining activity in this area except that at the south end stone spreads (1147) and (1148), possibly forming working floors, were placed above the upper fills, perhaps reflecting that the friable fills of the ditch did not provide a firm enough floor in this area (stone spread 1135 partially revealed at the south-west edge of the excavation may be another working floor). The stone spreads were surrounded by and cut by a collection of interlinked pits (9/005 and F1160), hollow (F1169) and gullies (F1133, F1151, F1164 and F1181) which are associated with ironworking. The stone spread working surfaces appeared to be associated with furnace F1099.

Furnace F1099 was circular and bowl-shaped with a diameter of 0.7m, constructed from rough stone and fired clay (Figs 5d-e and 6). A slag furnace bottom (1117) representing the last use of the furnace filled its base and was overlaid by a compact fill (1116) which contained a large quantity of oak charcoal, charred barley and wheat, slag, hammerscale, and a small quantity of burnt bone and teeth of which a single sheep/goat molar was identified (Nicholls 2016).

The working floors, (1147) and (1148), were cut by small gully (F1181). Large amorphous hollow F1167 cut gully F1133, but hollow F1187 abuts the gully and may be contemporaneous. These hollows and gullies were filled by the time curvilinear gully F1151 and attached linear gully F1164 with stone-lined pit 9/005 were dug, also associated amorphous hollow F1169 and probably linear gully F1137 which runs parallel with F1164. The gullies (F1137, F1151 and F1164) typically had concave sides and base and were shallow, measuring a maximum of 0.17m deep by 0.5m wide (Fig. 5g). There were only a few finds from the gullies with six pieces of animal bone from F1164, one sherd of Romano-British pottery and five pieces of iron slag from F1151 and no finds recovered from F1137. At its north-west end gully F1151 was attached to hollow F1169 which was very shallow, up to a maximum of 0.1m deep, and amorphous in plan with an irregular base and a very dark grey fill (1170), similar to that of gully F1151. Adjacent to the

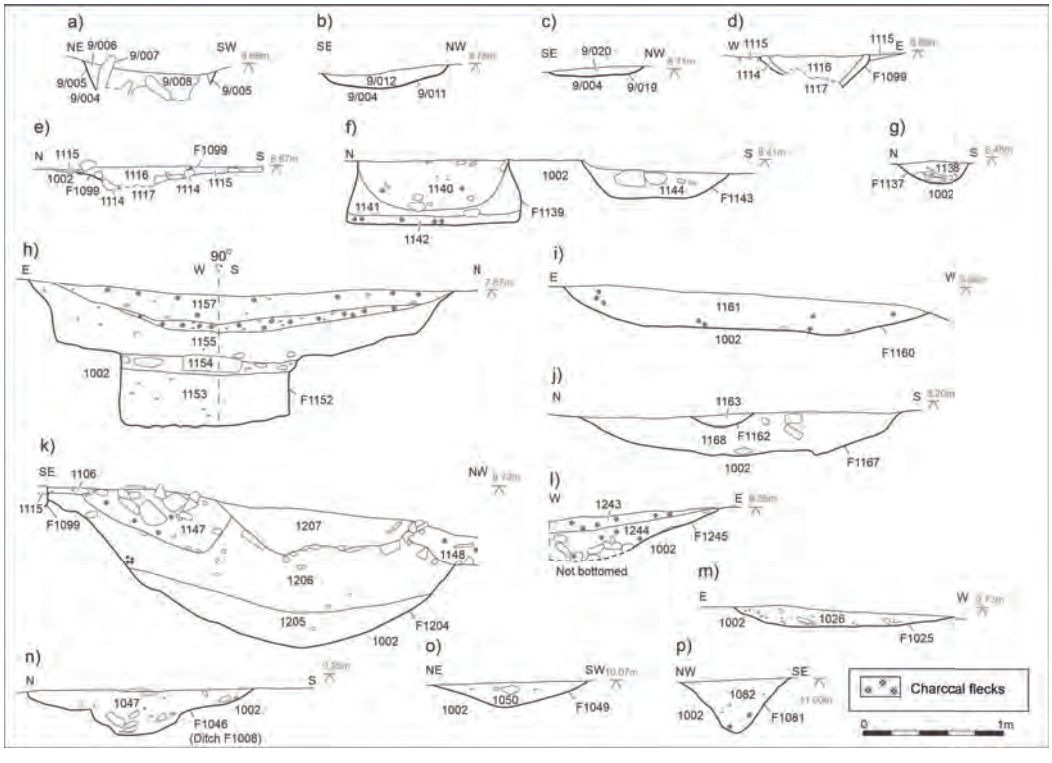

Fig. 5 Area 1, sections

south-west was another very dark grey deposit (1172) which contained two pieces of iron slag, one piece of animal bone and three residual pieces of worked flint. This deposit had been cut by pit F1245, which was sub-oval in plan and measured 1.85m long, 1m wide and a minimum of 0.25m deep (Fig. 5l), but was not bottomed due to a very stony lower fill (1244) which contained four pieces of slag and three pieces of animal bone. Circular pit 9/005 was attached to the east end of gully F1164. It measured 0.9m in diameter by 0.37m deep and was excavated during the evaluation phase when it was found to be filled with a well-constructed sub-square stone lining, a packing fill external to the lining and an internal fill (Fig. 5a). The packing fill contained no finds, but in contrast, the internal fill produced a small quantity of wood charcoal, a small amount of charred wheat and barley, a single hazelnut shell, animal bone (from which pig, rodent and sheep/goat were identified) along with some hammerscale indicating iron smithing on the site (Nicholls 2016).

Gully F1151 was cut by later large circular pit F1160 which measured 2.2m in diameter by 0.26m deep with moderately steep sloping sides and a generally flat base, which was heat affected (Fig. 5i). The fill (1161) contained four pieces of iron slag and 42 pieces of animal bone. Post-dating gully F1151 were pits 9/011 and 9/019 (excavated during the evaluation and containing the same fills, but no finds) (Figs 5b-c).

Hollows F1167 and F1187 measured approximately 2m in diameter, with gently sloping shallow sides to a depth of up to 0.3m (Fig. 5j). Each contained single charcoal-rich fills (1168) and (1188), respectively, with an iron object, a copper-alloy fragment and six pieces of animal bone in (1168) and two sherds of pottery from (1188). In the base of F1167 was possible posthole base F1238 which measured 0.47m across, but only 0.05m deep.

The last major features in this area were probably the ditch terminals for the entrance gap in the triangular enclosure and adjacent to the palaeochannel (1120) located against the western edge of the Roman site. That the northern terminal (F1108) appears to coincide with the west end of ditch F1204 indicates that although filled by this time the position of F1204 was still known and probably indicates that all of the features in this working zone were created over a short period of intense activity. Several other discrete features cannot be associated with this phasing, but all of the finds indicated that this intense activity dates to the later Romano-British period.

Other discrete features in this area comprised pits F1094, F1143, F1173, F1194, F1202 and F1240. Pit F1194 was sub-circular in plan measuring 1.8m long, 1.75m wide and 0.45m deep. It had steep undercutting east side and a stepped west side. It had two fills with the upper fill (1196) being charcoal-rich. The basal fill comprised redeposited natural which contained eight pieces of animal bone and one piece of iron slag. Pits F1143 and F1173 were located adjacent to the south of Middle Iron Age pit F1139 and measured 1.05m and 0.5m in diameter and 0.18m and 0.06m deep, respectively. F1143 contained five pieces of animal bone and F1173 contained four sherds of Romano-British pottery, two pieces of worked flint, one piece of fired clay and seven pieces of animal bone. The remaining pits (F1094, F1202 and F1240) contained no finds.

Triangular enclosure (Fig. 2)

The east side of this enclosure was defined by large ditch F1083. This was approximately north-south aligned and continued to the north for at least some 18m, beyond the junction with ditch F1008. F1008 formed the north and west sides of the enclosure. The north side (excavated in segments F1089, F1091, F1009 and F1046) was 36m long and turned at the west end to a north-west-south-east alignment (segments F1055, F1077, F1108, F1152 and F1189) which appeared to follow the side of a palaeochannel (1120). Towards the south-east end a causeway was formed by terminals F1108 and F1152 and this side of the enclosure continued to the south beyond the edge of excavation for an unknown distance. A further opening appears to have existed close to the working zone at the southern apex. Ditch F1083 was excavated in three segments (F1022, F1083 and F1086), and was steep sided with a rounded base and measured up to 1.42m wide by 0.78m deep with up to two fills which contained 53 sherds of Romano-British pottery, a copper-alloy pin or toilet implement and animal bones. It appeared to cut ditch F1008 at its junction, which is odd as F1083 appears to be the principal feature (along with the palaeochannel 1120) in the arrangement of other features and perhaps was subject to re-cutting after the triangular enclosure was established, although there was no archaeological evidence for this. Ditch F1008 was irregular in profile, and was generally shallower than F1083 except at the terminals, F1108 and F1152, which were larger, measuring 2.35m wide by 1.3m deep and 2m wide by 1m deep, respectively (Fig. 5h). The basal fill of F1152 contained one sherd of Romano-British pottery and twelve pieces of animal bone. The higher fills of both terminals contained a large amount of animal bone, along with a small amount of iron slag and fired clay.

At its north-west corner the excavated segment revealed a complicated sequence of ditches (F1058, F1062, F1065 and F1068) whose sequence was not fully resolved but they all appeared to post-date F1008 and were aligned north-south, with one (F1065), terminating within the excavated segment. The sequence appears to

Fig. 6 Area 1, furnace F1099 with 'furnace bottom' (1117) in situ, looking north

intercut chronologically from east to west with ditch F1008 being the earliest in the sequence. Ditches F1062 and F1065 contained Romano-British pottery and animal bone, with in addition two iron objects recovered from F1062. These ditches were only seen in this segment and were not present on the interpreted results of the geophysical survey.

Ovens within the triangular enclosure

Oven S1004 (Fig. 7) - This had a sub-circular chamber measuring 1.2m long, 0.9m wide by 0.28m deep and a flue 2.8m long by 0.7m wide, opening to the south. The remnants of a stone lining were present at the northern end of the north-south aligned flue, which also had a heat affected base (1007). It largely had a single charcoal-rich fill (1005) which contained 37 sherds of Romano-British pottery, 27 pieces of iron slag, one piece of ceramic tile and 50 pieces of animal bone. A palaeoenvironmental sample contained a large number of cereal grains.

Oven S1016 and pit F1020 (Figs 8 and 9) - Oven S1016 was of the T-shaped variety and aligned north-south with the flue opening facing north. It was well preserved within the cut (F1015) with a quarried limestone wall which survived up to three courses high. It measured 5m long and up to 0.4m deep with the flue chamber 0.5m wide and the oven chamber 2.5m long by 0.25m wide. A basal fill (1017) covered the floor of the flue and the chamber and contained a large number of wheat grains and smaller numbers of other cereals. Pit F1020 was located only 0.2m north of the flue opening. It was sub-circular in plan and measured 0.75m long by 0.65m wide and 0.28m deep with steep sides and rounded base. It had a single fill (1021), which contained frequent poorly preserved charcoal pieces. This pit was undoubtedly associated with the kiln, although its function was not clear.

Oven S1028 was well preserved, except where a corner of the chamber had been removed during the evaluation phase (Figs 10 and 11), and within cut F1027 was constructed of quarried limestone walls which survived in the cut up to five courses high. It was aligned north-west to south-east, with a square chamber

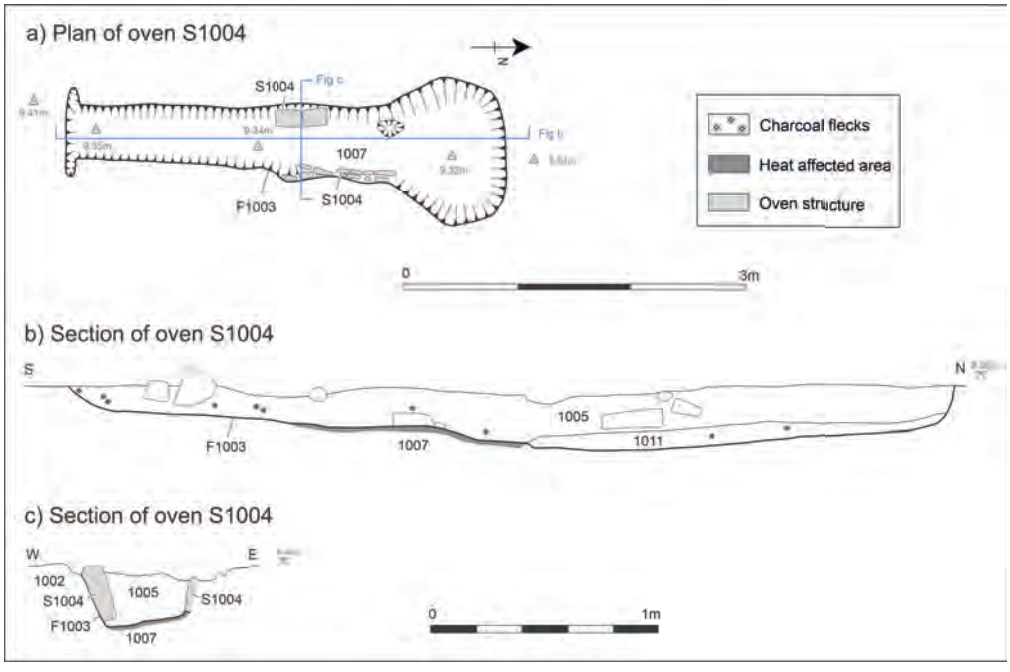

Fig. 7 Oven S1004, plan and sections

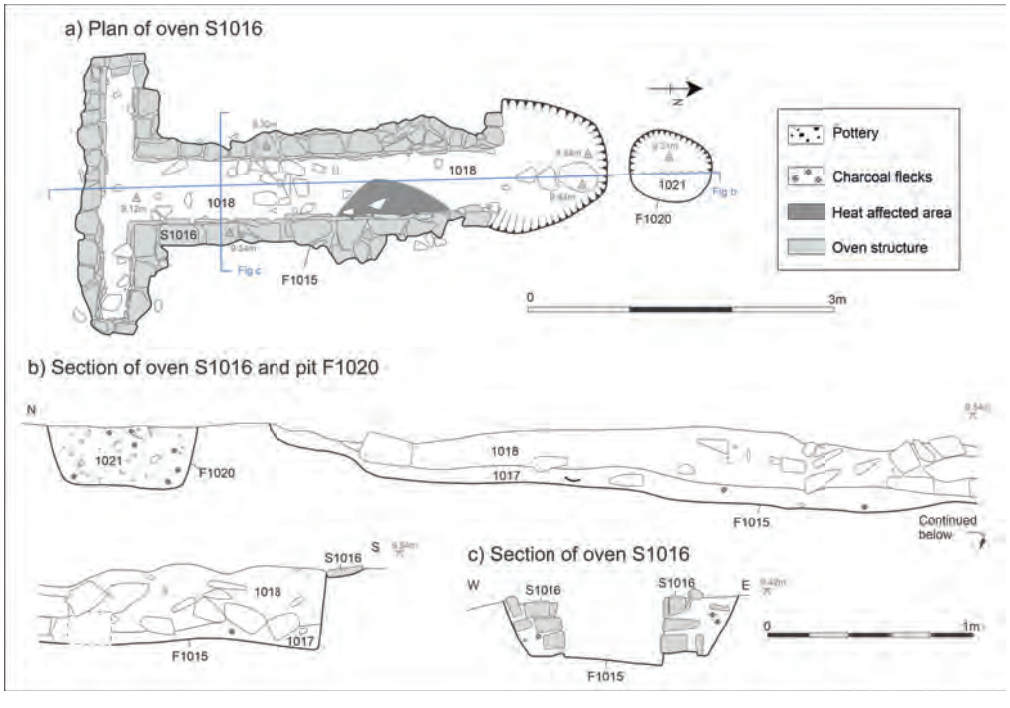

Fig. 8 Oven S1016, plan and sections

Fig. 9 Area 1, oven S1016, looking north-east

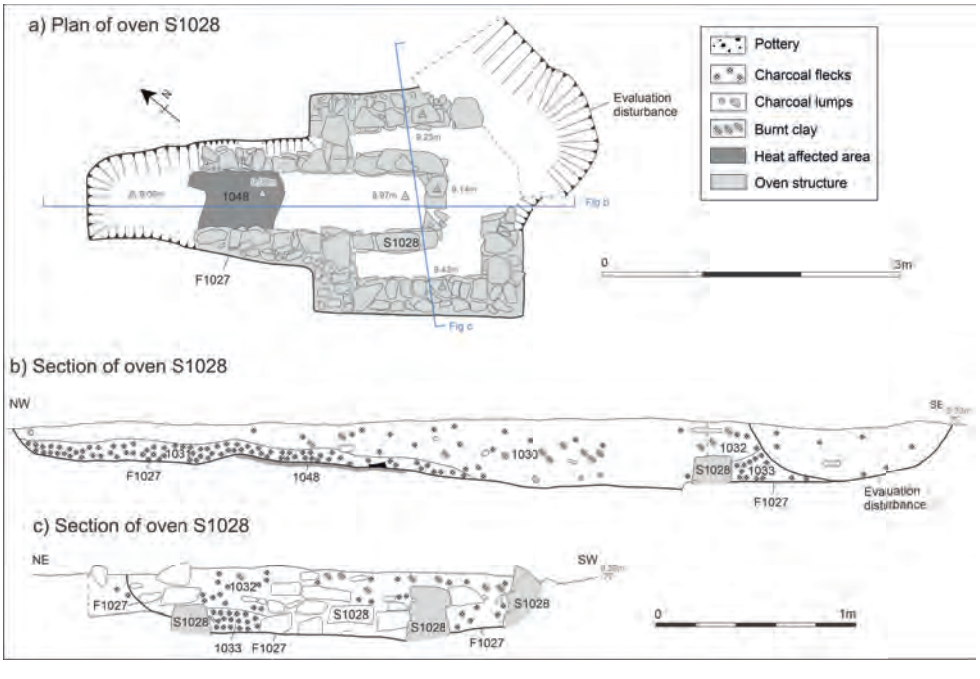

Fig. 10 Oven S1028, plan and sections

and narrow flue facing in the northerly direction. It measured 4.3m long by a maximum of 2.2m across and 0.31m deep. A burnt area (1048) at the entrance to the flue was covered by a charcoal-rich deposit (1031) which contained a very large number of spelt wheat grains showing evidence for malting. A deposit (1033) with similar charred plant remains was found between the inner and outer walls of the chamber. Two Roman iron objects, a bucket handle and a hoe, were recovered from an upper fill (1030).

Other features within the triangular enclosure

Gully F1175/F1177/F1179 was a small gully formed of two sides at right angles to one another and joined by a curving corner. It measured approximately 0.4m wide by 0.14m deep except where it petered out at the terminals. It had a single fill which contained five sherds of Romano-British pottery and two pieces of animal bone.

Drain F1039 was partially enclosed by the two sides of gully F1175/F1177/F1179 and was located between ovens S1016 and S1028. It was cross shaped in plan and measured 0.75m wide by 0.2m deep. It had an upper stony fill (1038) and had the character of an agricultural field drain.

Pit F1012 was sub-rectangular in plan measuring 2.64m long by 0.99m and 0.17m deep with steep sides and a flat base. It was stone-lined with limestone blocks. It had a single fill (1014) which contained four pieces of worked flint, one sherd of Iron Age pottery, four sherds of Romano-British pottery, two pieces of fired clay and four pieces of animal bone. A palaeoenvironmental sample from this pit was analysed for charred plant material which found a small amount of wheat/barley type grains.

Posthole F1104 was circular in plan and measured 0.42m in diameter by 0.21m deep with steep sides and rounded base. It had a single fill (1103) which contained no finds, but some possible packing stones.

Features outside of the triangular enclosure (Fig. 2)

Outside to the north of the triangular enclosure were a small number of features comprising an open culvert (F1045), a posthole (F1098), a pit (F1025) and two

Fig. 11 Area 1, oven S1028, looking south-east

ditches (F1049/F1070 and F1053/F1081). None of these features had been identified by the results of the geophysical survey.

Open culvert F1045 was aligned north-south and entered the excavation area for a distance of approximately 8m. It was formed with a stone lining on the base and sides within cut F1045 which measured between 0.6m and 0.9m wide and 0.18m deep (Figs 12 and 13). A barbarous radiate coin dating from c. AD 275-85, 134 sherds of Romano-British pottery and some animal bones and a piece of slag were recovered from the fill of the culvert.

To the east of culvert F1045 and aligned as though it would intercept with it a short distance to the north of the excavation area was north-west-south-east aligned ditch F1049/F1070. It measured up to 1.5m wide by 0.2m deep with shallow sloping sides and a rounded base (Fig. 5o). It had a single fill which contained two sherds of Romano-British pottery and 13 pieces of animal bone. It was exposed for distance of only approximately 8m and at the south-east end may have intercepted north-east-south-west aligned ditch F1053/F1081, although this junction was not within the exposed excavation area and neither ditch was apparent on the interpreted results of the geophysical survey. F1053/F1081 was exposed for a length of approximately 7m, extending in both directions beyond the limit of excavation and terminating either at or before reaching the triangular enclosure in the south-west. It measured up to 0.8m wide by 0.37m deep with steep sides and narrow rounded base (Fig. 5p). It had a single fill which contained ten sherds of Romano-British pottery and also some animal bone and a piece each of iron slag and fired clay.

Pit F1025 was located to the south of culvert F1045 and was sub-oval in plan measuring 1.6m long by 1.4m wide and 0.15m deep with shallow sloping sides and flat base (Fig. 5m). It had a single fill which contained 71 sherds of Romano-British pottery, two iron objects and 55 pieces of animal bone.

Area 2 (Fig. 14)

This was opened to explore an area where the trial trenching had exposed a furnace base and other features related to the Romano-British period use of the site (Nicholls 2016).

Furnace F2016 was formed by an elongated shallow pit with heat affected clay and a heat affected base around the east end of the feature. It was aligned east-west, measuring 1.28m by 0.6m wide and 0.18m deep (Fig. 15b), and opened to the west where it had been cut by ditch F2008.

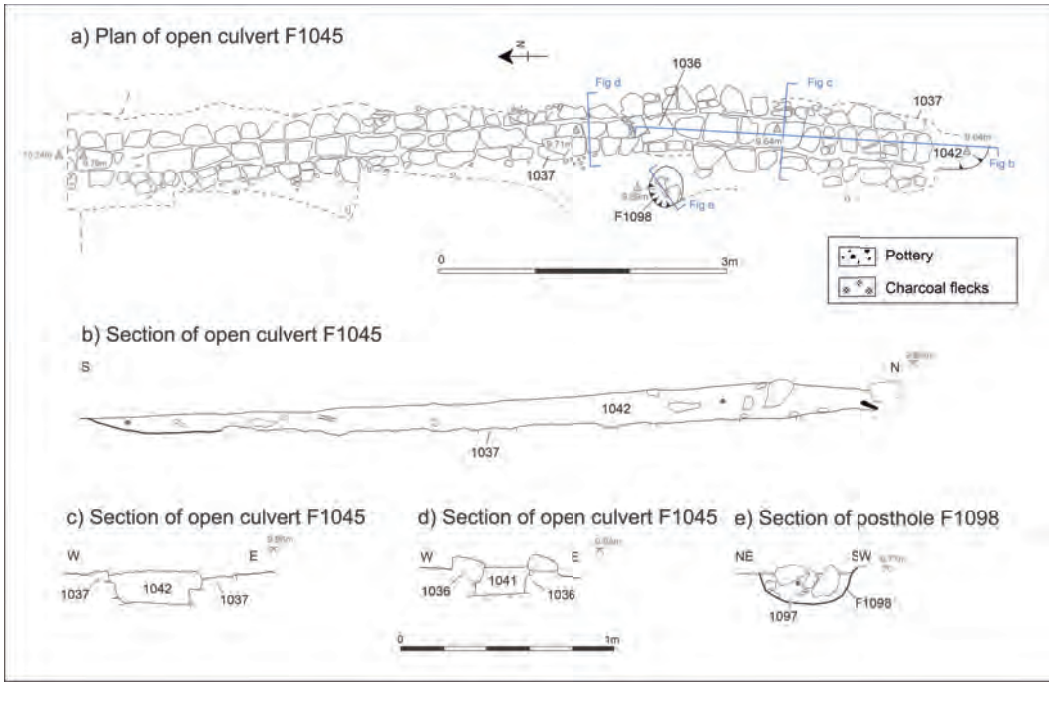

Fig. 12 Open culvert F1045, plan and sections

Fig. 13 Area 1, culvert F1045, looking north

The furnace was lined in parts with a thick deposit of tap slag (2018) over which sat a deposit (2017) containing industrial waste material including slag, hammerscale, fired clay, and a small quantity of unidentified wood charcoal, again focussed in the east end of the feature. In addition were six pieces of animal bone. Adjacent to the south of the furnace was a patchy pebbled surface (S2007) that may have been a working area associated with the furnace, and the surface contained a small amount (13 pieces) of iron slag. This surface, as with the furnace, was cut by the adjacent ditch F2008, and also sat over large sub-rectangular pit F2030 which was 2.3m long by 1.2m wide and 0.61 m deep with moderately sloping concave sides and an irregular rounded base (Fig. 15d); it contained three fills with no finds.

Ditches F2008 and F2026 were north-east to south-west aligned and represent a ditch and re-cut, although the relationship was observed to be different in separate segments, so their relative chronology is unclear (Fig. 15c). Both became shallower to the north where they were cut by pit F2034 and in the south they continue to the south-west beyond the limits of the excavation area. F2026 measured up to 1.3m wide by 0.35m deep with steep concave sides and a flat base in segment F2023 and gradually sloping sides with a more rounded base in segment F2014. It had a single fill which contained small amounts of iron slag and animal bone. At the base of segment F2023 was a small sub-oval pit F2025.

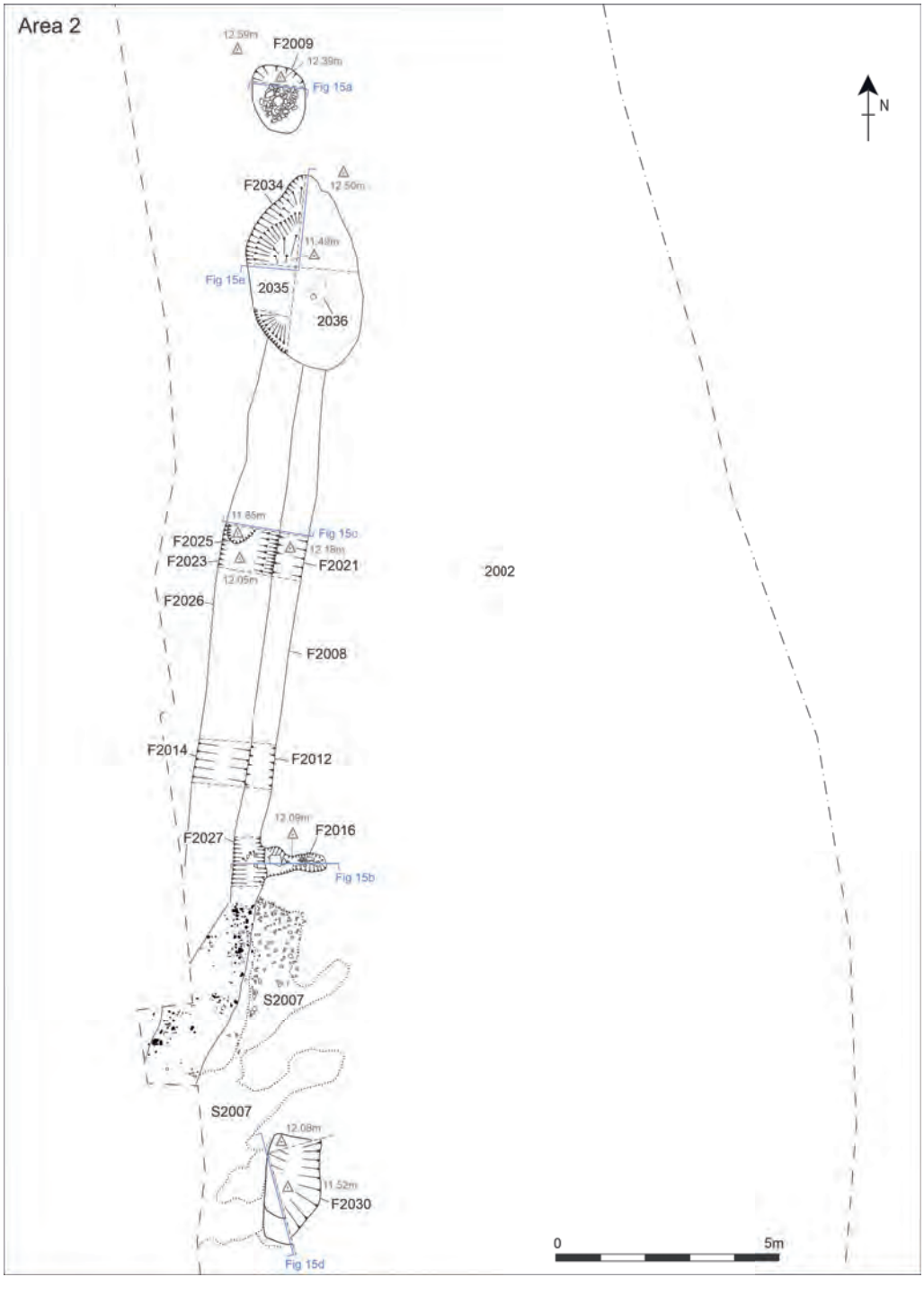

Fig. 14 Plan of Area 2

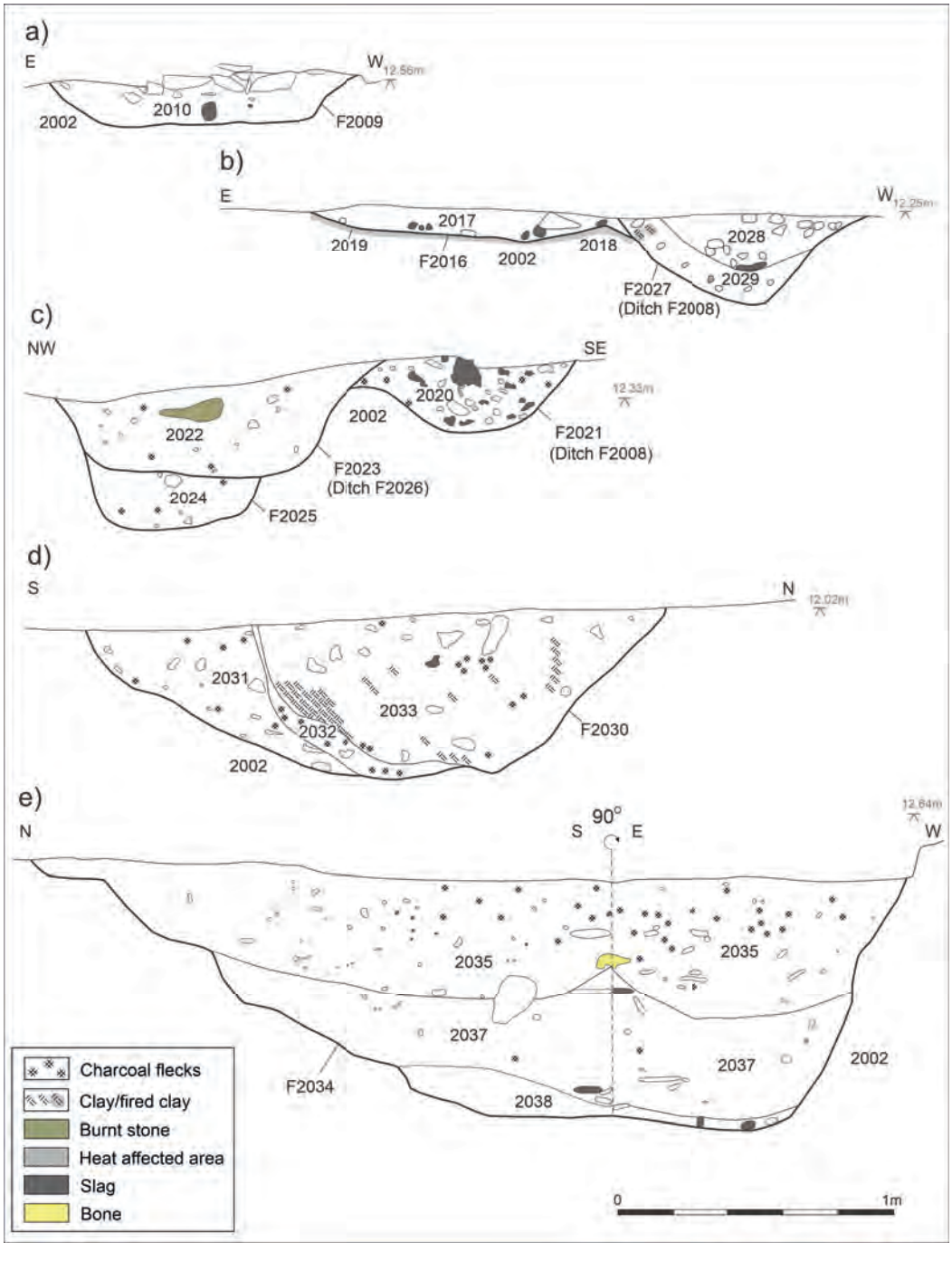

Fig. 15 Area 2, sections

F2008 was explored in three segments and measured 0.8m wide by up to 0.26m deep with moderately steep concave sides and a rounded base. It had a single fill except in segment F2027 where it had two fills adjacent to furnace F2016, which contained a large amount of iron slag (1,857 pieces weighing 19,591g), along with hammerscale, furnace lining (267 pieces) and one piece of animal bone.

The terminal pit F2034 at the north end of ditches F2008 and F2026 was sub-oval in plan measuring 4.36m long by 2.5m wide and 0.95m deep. It had three fills and at the base of the upper fill (2035) was the fragmentary but articulated remains of a dog (2036) with a covering of stones which appeared to have been deliberately placed over it. A large amount of other animal bone (307 pieces) was also recovered from the pit along with iron slag (85 pieces weighing 7,866g), one piece of Roman tile, and, significantly, in the primary fill (2038), one sherd of Romano-British pottery, the only piece of pottery from a sealed context in excavation area 2.

The final feature in this area was sub-circular pit F2009 which was located approximately 1m to the north of pit F2034. It measured 1.36m long by 1.1m wide and 0.2m deep with moderately sloping sides and flat base (Fig. 15a). It had a single fill which contained six pieces of slag and 13 pieces of animal bone.

ROMAN POTTERY

Naomi Payne

Introduction and methodology

The Roman pottery was sorted and quantified (sherd count and weight) by fabric on the basis of macroscopic examination and then by form where possible. Percentages of rim diameters present were recorded, from which an estimation of vessel equivalents (EVE) could be made. This information was recorded on a spreadsheet which will form part of the project archive. Table 1 summarises the data by fabric.

Composition of the assemblage

The excavation produced 1,257 sherds of Roman pottery weighing 13,197g, from a total of 69 contexts. The pottery is in a good, mainly unabraded condition.

TABLE 1 SUMMARY OF ROMAN POTTERY BY FABRIC

Fabric	*NRFRC code*	*Sherd count*	*Sherd weight (g)*	*EVE*	*% of total weight*
Black-burnished 1 type		77	669	0.77	5.07
Central Gaulish Black-slippped	CNG BS	2	4		0.03
SE Dorset Black-burnished 1	DOR BB1	171	1895	2.27	14.36
East Gaulish samian		2	34	0.18	0.26
Grey ware		781	7301	8.35	55.32
Grey ware (black surface)		117	1612	12.83	12.21
Grey ware (calcareous inclusions)		5	74	0.25	0.56
Grey ware (fine)		20	135	0.15	1.02
Grey ware (gritty)		40	448	0.89	3.39
Cologne Colour-coat	KOL CC	1	1		0.01
Lezoux samian	LEZ SA 2	15	158	0.26	1.20
Mancetter-Hartshill mortaria	MAH WH	1	45		0.34
Miscellaneous oxidised		12	81	0.05	0.61
Moselkeramik/Trier Black-slipped ware	MOS BS	2	3		0.02
Severn Valley ware	SVW OX	4	29		0.22
South Western grey ware storage jar		7	708	0.05	5.36
Totals		*1257*	*13197*	*26.05*	*100.00*
NRFRC = National Roman Fabric Reference Collection; Tomber and Dore 1998					

The average sherd weight is 10.5g and the Estimated Vessel Equivalent (EVE) is 26.05 vessels. The assemblage contains no amphora sherds and just one sherd from a mortarium. Fine wares account for 1.5% of the total assemblage by weight. There is nothing in the assemblage which need be earlier than c. AD 100, or later than c. AD 300, although occupation may have continued into the 4th century (and beyond), as fabrics and forms strongly diagnostic of the period after c. AD 260/270 are not especially common on rural sites in South West England. However, in northern Somerset one might expect to see examples of Oxfordshire red/brown-slipped wares, or New Forest colour coated wares, were the site still flourishing into the 4th century.

Fig. 16 Coarse ware pottery - 1. Grey ware, small jar with everted rim (1092); 2. Grey ware, necked jar or flagon (1214); 3. Grey ware, bowl with bead rim (1047); 4. Grey ware, bowl with elongated bead rim (1148); 5. Grey ware with black surface, bowl with flat rim (1211); 6. Grey ware, bowl with flat rim (1041); 7. Grey ware, bowl with flat grooved rim/slight flange (1107); 8. Grey ware, bowl with flat grooved rim (1047); 9. Grey ware, small bowl with curving walls and flanged rim (1107); 10. BB1 type, carinated vessel (1088); 11. Grey ware, tankard with lattice decoration (1047); 12. Grey ware with black surface, tankard handle (1047); 13. BB1 type, lid (1026); 14. Grey ware, lid (1101) (drawing by Mark Corney)

Mortaria

A single mortarium sherd (45g) was recovered from context 1047, fill of ditch F1046. This is a body sherd of Mancetter-Hartshill white ware (MAH WH) dating from c. AD 140-400.

Fine wares

A small quantity of 2nd- to 3rd-century imported fine ware was recovered. Fabrics include Lezoux samian (LEZ SA 2, 15 sherds, 158g), East Gaulish samian (one or two sherds, 34g), Central Gaulish black-slipped ware (CNG BS, two sherds, 4g), Moselkeramik/Trier black-slipped ware (MOS BS, two sherds, 3g) and Cologne colour-coated ware (KOL CC, one sherd, 1g). Samian forms include a Dr. 36 dish with overhanging rim decorated with moulded trailing leaves in an East Gaulish fabric, and in Lezoux fabric, a Dr. 18/31 bowl, three Dr. 31 bowls and a Form 79 dish. The other fine ware sherds are from beakers.

Coarse wares (Fig. 16)

Coarse ware fabrics present include South East Dorset Black Burnished 1 (DOR BB1), other Black-burnished 1 type fabrics, grey wares, oxidised coarse wares, Severn Valley wares (SVW OX) and South West grey ware storage jars.

Almost 73% of the assemblage by weight comprises grey wares. This material was sorted into the following fabric categories: miscellaneous grey wares, grey ware with black surfaces, grey ware with calcareous inclusions, fine grey ware and gritty grey ware. The existence of a Roman grey ware industry in Congresbury has long been known (e.g. Page 1906, 307) and following an excavation of a kiln by Wessex Archaeology in 2017, a detailed typology is currently in production. The fabric of Congresbury grey ware is quite variable (Amy Thorp, Wessex Archaeology, pers. comm.) and in the absence of published references it has not been possible to assign the grey wares to the local kilns with certainty. However it is likely that most of the grey ware from Cobthorn Way was locally-made. Grey ware forms/quantities are outlined in Table 2.

Black-burnished 1 fabrics make up just under 20% of the total assemblage by weight, with South-East Dorset BB1 forming about three-quarters of the total. DOR BB1 vessel forms include: conical flanged bowl (six examples, date range c. 250-400), bowl with flat grooved rim (two examples, date range c. 150-400), plain-rimmed dish (eight examples, date range c. 150-400), everted rim jar (including three Greyhound Yard Type 3 jars, date range c. 250-400) and lid (one example, not closely datable). Forms in other BB1 fabrics include: bowl with flat grooved rim (two examples), plain-rimmed dish (two examples), everted rim jar (two examples), lid (two examples) and carinated jar (one example).

The remaining fabrics include a few sherds of Severn Valley ware (no forms discernible), South Western storage jars and oxidised coarse wares which are likely to be oxidised examples of local grey ware

TABLE 2 GREY WARE FORMS AND QUANTITIES

Form	*Misc grey ware*	*Black surface*	*Calcareous*	*Fine*	*Gritty*
Bead rim bowl	1				
Conical flanged bowl		1			
Flanged bowl	2				
Bowl with flat grooved rim	3	3			
Flat-rimmed bowl	2	6			
Plain-rimmed dish	4	2			
Flagon	1	1			
Bead rim jar	2				
Everted rim jar	41	6		1	4
Necked jar or flagon	4		1		
Lid	3	2			
Storage jar	1				
Tankard	6	1			

products. Two sherds from the latter category are from a vessel with a flat grooved rim, curving walls and part of a pre-firing perforation 25mm below rim, suggesting it formed part of a colander.

DISCUSSION

This is a moderately sized assemblage from a rural site consisting of a very small quantity of mortaria (0.3% of the total by weight) and fine wares (1.5% of the total by weight), and a large group of coarse wares. Forms and fabrics present suggest occupation on the site during the 2nd and 3rd centuries AD. Just under half of the Roman pottery is derived from ditches or gullies (49.5% by weight), with 20.1% from corn driers and 12.2% from pits. A further 6% came from palaeochannels, with smaller quantities from topsoil, subsoil, layers, a drain, a stone deposit and a posthole.

NON-FERROUS METALWORK
Naomi Payne

Roman coins

A barbarous radiate (coin) dating from c. AD 275-85 was recovered from context 1042, fill of open culvert F1045. The portrait is reasonably stylised but is possibly unbearded and therefore copying Tetricus II. The reverse is probably a copy of SPES PVBLICAE (Spes walking left with a flower, holding the hem of her skirt). The second coin was recovered from stone deposit 1095. The weight (25g) indicates that this is a sestertius, although the bust is not clear enough to identify the emperor with certainty. The flan is rather square, which is typical of Antonine coins (AD 138-92). On the reverse of the coin there is an unclear standing figure.

Toilet article or pin

An incomplete copper-alloy rod with a loop at the unbroken end, was recovered from context 1085, fill of Roman ditch F1083. The rod is 41mm in length and is flattened and curled round at one end to form a loop. The other end is broken. The rod has a square profile, very slightly expanded at the centre point and tapering very gradually to where it has broken. No precise parallel has been located but broadly similar objects have been identified as pins or toilet implements (for example Portable Antiquities Scheme database records ASHM-369793, from Childrey, Oxon, and CPAT-DD8627, from Montgomery, Powys. The latter has a spatulate end).

IRONWORK
Naomi Payne

A bucket handle mount and a hoe were recovered from context 1030, a fill of corn drier S1028. The bucket handle mount comprises an elongated tapering plate, 122mm in length, with a loop formed from a narrowed section. This is bent back on itself at the wide end and may have been welded to the strap. The tip of the other end appears to be missing and there is some damage to one of the long edges of the strap. The x-ray shows an *in situ* rivet about two-thirds of the way along from the wide to the narrow end. The other object from this context is an incomplete socketed tool in eleven pieces which is likely to be a 'spud', a short-bladed tool used for weeding or cleaning the share and mould board of the plough (Manning 1985, 49) or a hoe. The blade is spatulate and slightly flaring, although damaged on one side. The blade narrows in one plane and thickens in the other into a socket of circular profile. The extrapolated original width of the blade was c. 40mm. It was at least c. 110mm long.

IRONWORKING WASTE PRODUCTS
Eleanor Blakelock

The assemblage weighs 145.7kg overall, with over 5,600 pieces recovered. The majority of the slag recovered was found in Area 2. Examination of the assemblage was carried out by visual inspection.

Most of the tap slag pieces were large, with multiple flows, and had a red hue on the surface which indicates it had cooled in the air having been tapped from the furnace. The morphology of the largest piece of tap slag from furnace F1099 showed that the slag had potentially been tapped from slightly above ground surface, and from a single tapping arch. Smelting slag was the next largest group, with dense and fluid looking slag, with impressions from charcoal and ore from within the furnace. The largest piece of smelting slag was a furnace bottom (1117) found *in situ* within furnace F1099, this was oval (380 x 410mm) with a rough upper surface of charcoal inclusions and impressions (Fig. 17). The slag block which presumably filled the furnace suggested a furnace interior dimension of 300mm. The shape and size of tuyere (80mm diameter) into the furnace was visible on the most vitrified side. Although the furnace bottom weighed 33.4kg it is not very deep at only 230mm. The smooth clay lined bottom confirmed that it had formed at the base of the furnace, just below the tapping arch. In addition to the tap and smelting slag, iron rich 'rusty' slag was identified, which probably formed near the iron bloom.

There was limited evidence for smithing. Spherical hammerscale was identified within the slag recovered

Fig. 17 Plan and side views of furnace bottom 1117

from contexts 2028 and 2029, fills of ditch F2008, adjacent to furnace F2016. This, in addition to the hammerscale recovered during the evaluation (Nicholls 2016), is strong evidence to suggest that primary smithing was taking place on the site. A potential smithing hearth bottom was identified in deposit 2003, overlying ditches F2008 and F2036. It weighed 629g and was 120mm in diameter with a concave base and magnetic iron rich top; it is possible, however, that this was a very small furnace bottom, with the iron rich layer being where the bloom lay.

A small quantity of hearth lining was recovered (5kg in over 500 pieces), with a good proportion being heavily vitrified or with slag attached resulting from the high temperatures required for smelting or smithing. The majority was found within ditches, with the largest quantity found in F2008, adjacent to furnace F2016.

The archaeology and metalworking waste from the site confirm the presence of iron smelting. It is not possible from this assemblage to estimate the amount of iron produced. The furnaces were slag tapping, which is typical of Roman sites, although the design of the furnace in at least one case meant that a furnace bottom developed beneath the tapping arch. The presence of a potential smithing hearth bottom, hammerscale and iron rich slag suggests that the initial primary smithing was taking place on the site to consolidate the iron bloom. A small quantity of limonite ore was recovered, and it is likely this was the ore source used.

WORKED BONE
Naomi Payne

An incomplete bone and antler comb was retrieved from context 1107, fill of palaeochannel 1120 during machining (Fig. 18). Although 26 sherds of Roman pottery were also recovered from this context, the method of excavation means that it cannot be considered stratigraphically sound.

The double-sided composite comb is very fragmentary, comprising 109 pieces, which together weigh a total of 32g. This includes numerous broken teeth and three iron rivets. There are two sections of fragmentary bone connecting plate, one of which survives to a length of approximately 118mm. One section of this plate is still riveted to an antler toothplate section, and this joins with part of the other section of connecting plate, showing that the two sections correspond. The comb's teeth are graduated and undifferentiated. The narrowed, squared end of one of the plano-convex connecting plates appears to be intact, and the position of the final rivet, about 10mm from the edge, indicates that the tooth end plate (the width of which is nearly complete) projected about 15mm beyond the connecting plate; there is a faint shadow on the toothplate which seems to confirm this. The end of the connecting plate is decorated similarly on both sides with a zone of diagonal cross-hatching. At both ends of this zone there is a section with additional transverse lines. The remainder of the connecting plate is undecorated, although there are tooth cutting marks along both longitudinal edges. The comb is closest to Ashby's (2007, 4-5) Type 11 or 12 (depending on its original length), forms which date from c. AD 500-700 (Type 12 may have continued into the 9th century).

GLASS BEAD
Naomi Payne

A Roman glass bead was recovered from context 1080, fill of segment 1077 of palaeochannel 1120. The slightly distorted deep blue opaque glass cylinder bead is 19mm long and 4mm in diameter.

ANIMAL BONE
Charlotte Coles

A total of 1,700 animal bones (9,663g) was recovered and these were almost exclusively from Roman features. The overall bone preservation is poor with only a small

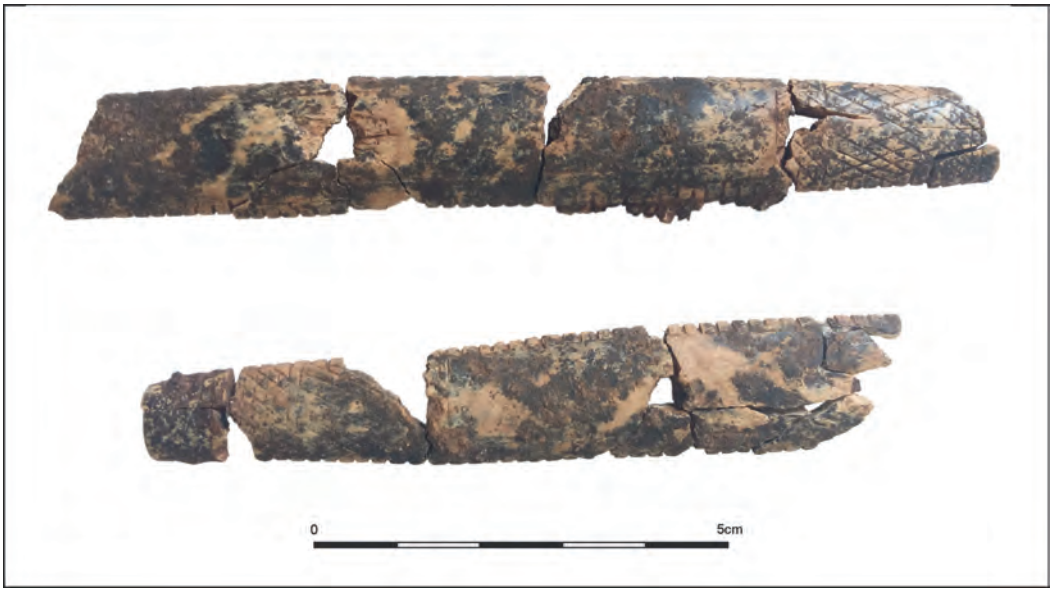

Fig. 18 Incomplete bone and antler comb from deposit 1107 in palaeochannel 1120

proportion identifiable to species (Table 3). Of the main domestic animals it appears (based on NISP) that cattle was only marginally dominant compared to sheep/goat and that pigs were a relatively small component of the livestock exploited; these are the dominant animals in Roman Britain and are represented in typical proportions for the region (Allen 2017). The dog skeleton was buried in a feature with other rubbish, implying that it was discarded as waste, a common occurrence on Roman sites (e.g. Coles 2016).

CHARRED PLANT REMAINS AND CHARCOAL
A.J. Clapham

TABLE 3 IDENTIFIABLE ANIMAL BONES PER SPECIES FROM ROMAN CONTEXTS

Cattle	79
Sheep/goat	75
Pig	24
Dog	(49 of these are from an articulated skeleton) 52
Horse	11
Chicken	7
Goat	1
Deer	1
Total	*250*

Eight samples were selected for analysis of charred plant remains and charcoal. Four were from the fills of three corn driers, and the other samples were from ditches and a stone-lined pit. A summary of the results is presented below with the full results and tables available through the Archaeology Data Service.

Charred plant remains

The samples were, in general, very rich in charred plant remains. Cereals were very common, especially in the corn driers. The main cereal was spelt wheat (*Triticum aestivum* ssp. *spelta*). A noticeable feature of the spelt wheat remains was that many of the grains were sprouted. This suggests either that the grain was burnt due to it being spoilt, or that the grains were deliberately sprouted to produce malt. Malting spelt is known from a few Roman sites in the UK, including one at Catsgore, Somerset. The weed seeds present were of a similar size to that of the grains suggesting that the crop was semi-cleaned before storage. With regards to the cereals it was interesting to note the paucity of barley (*Hordeum vulgare*) remains, with oats (*Avena* sp.), it is possible that it was cultivated but its presence as a weed of the wheat crop cannot be ruled out. Other crops identified from the site included peas (*Pisum sativum*) and horse bean (*Vicia faba*).

It is likely that the crops were grown locally, with spelt wheat being cultivated on a large scale. The paucity of weed seeds in the samples makes it difficult to demonstrate the types of soils that were cultivated

but the presence of wild radish does suggest that lighter sandy soils were exploited.

Charcoal was identified from one of the corn driers (S1028) and from a charcoal rich fill of ditch F1108. The charcoal from the two samples from the corn drier consisted of ash (*Fraxinus excelsior*), oak (*Quercus* sp.) and hazel (*Corylus avellana*). The presence of ash may suggest either secondary regeneration of woodland or a managed woodland resource with oak standards. The charcoal rich ditch fill was more varied and included oak, hazel, willow (*Salix* sp.) and Maloideae (apple/pear/whitebeam/hawthorn). This material may have derived from a managed woodland or from a scrub environment. The presence of willow suggests that parts of the area were wet.

Methods

The plant remains were examined using a low-power stereomicroscope (x8-x56) and identified using the author's modern plant reference collection and a seed atlas (Cappers *et al*. 2006). Charcoal was identified using a stereomicroscope with magnification of x8-x112. The pieces of charcoal were studied in all three planes to ensure an accurate identification. Where necessary, Hather (2000) was used to confirm the identifications. Nomenclature of the cereals follows that used in Zohary *et al.* (2012), and for the other plants follows Stace (2010).

Results

Seven samples selected for full analysis were chosen for their charred plant remain component, and three samples (from corn drier S1028 and ditch F1108) for their charcoal content. Only the sample from ditch F1108 was selected solely for charcoal analysis. The results are given in Table 4.

The preservation of the charred plant remains was mostly excellent, allowing identification to species level where possible. The charcoal, however, was not as well preserved with some of the pieces being friable making an accurate identification and ring counting difficult.

Corn drier S1004 - This fill (1005) consisted of well-preserved and a small component of not so well-preserved plant remains, suggesting a mixed context representing several episodes of use. Cereals were represented by the grains and chaff (glume bases, spikelet forks and rachis fragments) of spelt wheat (*Triticum aestivum* ssp. *spelta*). Some chaff remains were poorly preserved which only allowed identification to genus level but given that the other wheat remains were those of spelt, it is most likely that these are of that taxon too. Sprouts of cereal grains were identified and although none of the spelt wheat grains appeared to show signs of having been sprouted, it is most likely they are of spelt wheat. Barley (*Hordeum vulgare*) grains were poorly represented but oat (*Avena* sp.) grains were more abundant. It was not possible to say whether the oat grains were of a cultivated or wild variety, but it is probably the latter.

Other crop remains from this corn drier included horse bean (*Vicia faba*), represented by the presence of a hilum, and peas (*Pisum sativum*) indicated by rounded, large cotyledons and cotyledon fragments.

Weed seeds identified included; vetches and tares (*Vicia/Lathyrus* sp.), wild radish (*Raphanus raphanistrum*), docks (*Rumex* sp.), chickweed (*Stellaria media*), fat hen (*Chenopodium album*), ribwort plantain (*Plantago*

TABLE 4 CHARCOAL IDENTIFIED FROM THE CORN DRIER S1028 AND DITCH F1108

	Feature	Corn drier S1028	Corn drier S1028	Ditch F1108
	Context	1031	1033	1112
	Sample	10	11	14
Taxa	Common name			
Fraxinus sp.	ash	8 bw 4-6rings	2 bw 1-3rings	-
Quercus sp.	oak	1 bw/hw 2+rings	8 bw/hw 3+rings	4 bw/hw 5-10rings
Corylus avellana	hazel	1 tw 2rings	-	3 bw 4-6rings
Salix sp.	willow	-	-	3 bw 4+rings
Maloideae	apple/pear/whitebeam/hawthorn	-	-	10 bw 6+rings
bw = branchwood; hw = heartwood; tw = twig				

lancolata), black bog-rush (*Schoenus nigricans*), darnel (*Lolium temulentum*) and small-fruited grasses.

Corn drier S1016 - This sample, from the basal fill (1017; from the north-east and mid-east areas) of the corn drier, contained charred remains with mixed preservation, especially that of the cereal remains. Cereals were the commonest crop with wheat being dominant, while the chaff remains indicate that the wheat was spelt wheat. Other crops include oats, although a wild species cannot be ruled out and peas, represented by cotyledon fragments. Weed seeds identified from this sample include, vetches and tares, docks, chickweed, common spike-rush (*Eleocharis palustris*) and darnel (*Lolium temulentum*).

Corn drier S1028 (contexts 1031 and 1033) - The sample from the lower fill (1031) of the inner 'inside wall' and flue area of the corn drier was extremely rich and dominated by the remains of spelt wheat which included sprouted grains, unsprouted grains, and chaff. The sprouted grains were identified by a shallow furrow along the dorsal side of the grain and in some cases the grain was shrivelled. In other cases, the remains of the sprouts were still present on the dorsal side of the grain. The sprout furrows were not of an even length which suggests uneven germination or different batches of grain or it may be a function of preservation. The presence of many of sprouted tail grain suggests that the wheat was stored semi-cleaned. Other crops were present but not in such large quantities as that of spelt wheat. These include barley grains, oats, horse bean and peas.

Weed seeds included, vetches/tares, clover (*Trifolium* sp.), wild radish, knotgrass, black bindweed, docks, sheep's sorrel (*Rumex acetosella*), chickweed, scarlet pimpernel (*Anagallis arvensis*), cleavers (*Galium aparine*), corn gromwell *(Lithospermum arvense*), red bartsia (*Odontites vernus*), scentless mayweed (*Tripleurospermum inodorum*), darnel and brome grass (*Bromus* sp.).

The sample of the lower fill (1033) between the 'inner wall' and 'outer wall' of the corn drier has a similar assemblage, but in this case there are fewer sprouted spelt wheat grains but more fragments of cereal grains. There are more sprout fragments too. Spelt chaff fragments are also present. Barley remains are fewer, but oat grains are more frequent.

Non-cereal crops include horse bean and peas. Weed seeds include vetches and tares, medick (*Medicago* sp.), wild radish, docks, sheep's sorrel, chickweed, fat hen, corn gromwell, red bartsia, scentless mayweed, narrow-fruited cornsalad (*Valerianella dentata*), wild parsnip (*Pastinaca sativa*) and darnel.

Stone-lined pit F1012 - A sample from the stone-lined pit, of all the contexts analysed, proved to have a small plant remain assemblage. The remains consisted of a single wheat glume base, a fragment of an oat grain and six indeterminate cereal grain fragments along with one dock nutlet.

Ditch F1108 - Spelt wheat remains were very common in the sample from the upper fill (1212) of the ditch, and were represented by grains and grain fragments as well as chaff remains. In the finer fractions (0.25mm), thousands of silicified wheat awn fragments were noted along with many small remnants of wheat glume bases and spikelet forks. Other cereals were present but only in small numbers and included barley and oat grains. Other crops included the remains of peas. Weed seeds included vetches and tares, wild radish, docks, fat hen, cleavers and darnel.

Ditch F1204 - In the sample from the secondary fill (1206) of this ditch, again, spelt wheat remains were the commonest cereal, including sprouted grain, non-sprouted grain and chaff. In the fine chaff fraction many small remains of wheat glumes and spikelet forks were recorded. Barley and oats were also present but in small quantities. No other crop remains were identified. Weed remains included vetches and tares, wild radish, docks and darnel.

The charcoal

Three samples were selected for charcoal analysis. Two from the lower fill of corn drier F1027 (contexts 1031 and 1033) and one from the ditch fill of F1108, context 1112. The range of taxa identified is very limited.

Corn drier S1028 - The charcoal consisted of ash (*Fraxinus excelsior*), oak (*Quercus* sp.) and hazel (*Corylus avellana*). The ash and oak from both contexts consisted of branch wood and heart wood material. The ash appeared to demonstrate some curvature to it and up to six annual rings were visible. This suggests that the ash used as fuel in the corn drier may well have come from managed woodland. The oak was more fragile and kept falling apart when trying to get a clean break for identification but from what was visible it could be said that the annual rings were large and produced two to three per piece. This suggests that the oak was either large branch wood or heart wood and may have been present as standards within the managed woodland.

The hazel charcoal from (1031) was of a twig with two annual rings. It is likely to have come from managed woodland, although with the small quantity it is difficult to be sure.

Ditch F1108 - This context (1112) was charcoal-rich and contained additional taxa including willow (*Salix* sp.) and Maloideae (apple/pear/whitebeam/hawthorn). No ash was identified. Oak consisted of large branch wood or heart wood showing up to ten annual growth rings whilst that of the willow, hazel and Maloideae was of branch wood with four or more annual rings. This assemblage is more representative of scrubland, which may have been growing at the managed woodland edge.

Discussion

The corn driers

Corn driers or kilns can have several functions. They can be used for drying whole sheaves of cereals prior to processing especially after a wet summer, for drying whole ears, for parching the spikelets to aid the release of the grain when pounding, for drying off the spikelets before storage in order to reduce the water content to prevent spoiling during storage and to kill off insect pests which may be present with the grain (Hillman 1982). Another use is that for roasting malted/sprouted grain (Hillman 1982; van der Veen 1989).

The sprouted spelt wheat found here is very similar to that found at Nonington, Kent (Helm and Carruthers 2011). At Nonington, as here, the signs of sprouting spelt wheat consisted of the presence of sprouts running along the dorsal edge of the grain, a groove along the dorsal surface made by the sprout, along with collapsed grains which have lost the starchy endosperm during sprouting leaving a hollow shell and grains with 'damaged' embryo ends, whereby up to half of the grain has been completely 'used up' by the sprouting embryo. But unlike Nonington, the assemblages from the corn driers also contained large numbers of detached sprouts.

The relative paucity of weed seeds compared to the wheat remains suggests that the spelt wheat crop was semi-cleaned before malting was initiated. Although the possibility that the spelt grain was being dried to try and prevent spoilage of the accidentally sprouted grain which may have occurred when left to dry as sheaves in the fields cannot be ruled out; probably the lack of straw culm nodes rules this out. The large numbers of detached sprouts as well as the other signs of malting, suggest that this was a deliberate action. It is likely that the semi-cleaned spikelets would have been moistened and then left to sprout for several days. Then, once the sprouts had reached the end of the grain, sprouting would have been halted by drying in the corn drier (Helm and Carruthers 2011). Drying not only stops the malting process, but it also dries the husks (the glumes which enclose the grains), which can then be removed by pounding before the free grains were milled to produce grist, and then steeped in hot water to produce the wort for brewing. In modern malting free grains are preferred (Hillman 1982), but the large numbers of spelt chaff found in the assemblages from the corn driers suggests that the spelt was malted as spikelets. An alternative is that the chaff was used as a fuel to dry the malt, as fuel comprising chaff mixed with wood was a preferred fuel (Hillman 1982).

The presence of small amounts of other cereals such as barley and the large seeded oats (probably wild oat) indicate that they may well have been growing with the main spelt wheat crop. Other crop species such as the horse bean and peas may well have been left over from drying prior to storage and, therefore, are not linked to the malting of spelt.

Four other sites have produced clear evidence for malting spelt wheat, these are: Catsgore, Somerset (Hillman 1982), Hibaldshaw, Lincolnshire (Straker 1978), Mucking, Essex (van der Veen 1988; cited in Helm and Carruthers 2011), and Nonington, Kent (Helm and Carruthers 2011). The plant remains from Catsgore consisted of large numbers of detached sprouts, chaff and weed seeds and was interpreted as malting waste being used as a fuel, whilst at Mucking, the deposit appeared to consist of entirely sprouted spikelets of spelt that had become charred at the stage when they were heated to stop germination. It is most likely that the latter is represented at Congresbury.

The large quantities of spelt wheat remains suggest that the crop was grown locally, perhaps on an industrial scale and it is likely that malting was one of the main functions of the corn driers rather than for drying crops before storing. The other crops (horse bean and peas) were most likely to have grown locally too.

The weed seeds found with the cereal remains are most likely to have grown with the cereals. The majority of the weeds such as wild radish, black bindweed, corn gromwell, and vetches and tares would either have seeds of a similar size to that of the cereal grains or were enclosed in pods or have appendages which would have given the remains a similar size which then perished in the fire leaving behind the smaller more resistant seeds. Vetch and tare seeds were the commonest find. Although these seeds are smaller than the wheat grains, they are heavy and therefore would not have been removed by winnowing, remaining with the crop until final sieving or hand picking before storage.

None of the weed seeds (apart from a few oat grains) showed any signs of sprouting, and presence of darnel in the samples is a little unusual as this is usually considered to be poisonous and is usually extracted before storing. This suggests that there is a second component to the

assemblage in which the weed seeds and the poorly preserved chaff may have been fuel for firing the corn drier either for the malting or as fuel on another occasion.

Ditch F1108 and stone-lined pit F1012

The upper fill of ditch F1108 and the secondary fill of ditch F1204 appear to have assemblages that resemble those from the corn driers. It is possible that these assemblages represent the clearing out of the corn driers after use. The assemblage from F1108 contained thousands of silicified wheat awn fragments and small wheat glume bases and spikelet forks. These could have been derived from the use of cereal chaff being used as fuel or from the drying of whole ears of spelt wheat. It is most likely to be the former case.

The stone-lined pit F1012, produced very little in the way of plant remains and therefore it is difficult to say what the function of this feature was.

The charcoal

The charcoal from corn drier S1028 consisted of branch wood of ash and oak. There was a difference in the proportions of the two taxa. In (1031) the main constituent was ash whilst in (1033) oak was the more common taxon. Whether there is any significance to this is difficult to say. It is possible that they represent different uses for the kiln drier. The presence of ash suggests either secondary woodland regeneration where land is no longer cultivated and is returning to woodland or as ash responds to management and is often pollarded it may represent the presence of managed woodland in the area. The oak may have been present as standards within the woodland. Hazel may also have been part of the managed woodland.

The assemblage from ditch F1108 consists of a wider range of taxa and includes, oak, hazel, willow and Maloideae. These taxa are more reminiscent of scrub rather than managed woodland. The find of willow may suggest wetland in the area. This is also indicated by the presence of black bog-rush (*Schoenus nigricans*) and common spike-rush (*Eleocharis palustris*) recorded from the charred plant remains. These were found in the corn drier samples from S1004 and S1016. Although they are recorded as single finds it might suggest that peat may have been used to fire the corn driers.

THE PALAEOCHANNEL 1120

The full width of the palaeochannel was not established by excavation but it seems to be a broad shallow channel against the western edge of the Roman site located above the water course. The deposits were subject to detailed geoarchaeological and palaeoenvironmental assessment, comprising pollen, diatoms, waterlogged wood and waterlogged plant remains (the detailed reports can be found in Rainbird 2020) and relevant results are considered in the discussion below. Two radiocarbon dates from the base and top of the fill sequence showed that the watercourse was filling beginning in the 3rd century AD (cal AD 210-390, 1210±29 BP; SUERC-83378) and was almost completely infilled by the end of the 9th century (cal AD 690-900, 1210±29 BP; SUERC-83377).

DISCUSSION

Introduction

The most significant findings of the investigations are related to the Romano-British occupation of the site, which illustrates activity related to the rural industries of agricultural production and ironworking. Along with this, the environmental evidence provided by a neighbouring palaeochannel, which was an open watercourse during the main occupation of the site, has provided information regarding the local landscape setting of the site from the Romano-British through to the early-medieval periods. These significant findings are discussed below.

Agricultural production

The results of the excavations and the geophysical survey indicate that the activity on the site was taking place within an area defined by ditched boundaries dividing the landscape into plots. Although prehistoric worked flint was present as residual finds in later features and one pit dating to the Middle Iron Age was identified, the balance of the evidence indicates that these boundaries are Romano-British in date. On their west side a watercourse defined the limits of the exposed activity, although, despite its width not being established, this must have generally been shallow and insubstantial as the west ditch (F1008) of the triangular enclosure was excavated along its bank, with a deliberate gap left close to its most southerly exposed end where a working zone associated with metalworking was present (see below).

The site produced much evidence to indicate the types of crops being grown with wheat, barley and oat/rye, although the pollen evidence from the palaeochannel showed a dominance of grass pollen and associated pasture indicators, including Poaceae (grasses), *Ranunculus* (buttercups), *Plantago lanceolata* (ribwort plantain) and Lactucoideae (dandelion types) and the sporadic occurrences of various other possible pasture taxa; *Trifolium* type (vetches), *Medicago* type (medicks), Scrophulariaceae, *Rumex* (docks), *Centaurea*

spp. (knapweed) and *Sanguisorba minor* (salad burnet). Woodland was also available in the broader landscape as indicated by not only the pollen, but preserved wood, which together show that oak, alder and hazel was available for structures and fuel.

The animal bone assemblage showed that cattle and sheep may have been grazing the pasture with some access to pigs, although the poor bone survival from the site means that detailed examination of animal husbandry techniques was not possible.

The ovens

The triangular enclosure contained three ovens of different types. All were semi-subterranean structures with the flues and chambers having been stone-lined, but preservation was variable. All three can be identified as corn driers which are typical of Roman rural sites and appear to have been used for processing cereals (Lodwick 2017, 55-58). The ones here indicate that the crop was being processed in the fields prior to its transport for further processing.

Each of the three corn driers is of a recognisable type found elsewhere in Roman Britain (Lodwick 2017, 55-58). S1016 is a T-shaped corn drier and this is the most commonly found type; another is known locally at Kenn Moor, 4.5km to the north-west (Rippon 2000). S1004 is the simplest form known as the long hearth or bowl type. Oven S1028 is of rectangular type and is the most complex of the three, but still of quite simple type. It had a larger chamber than the other two with an extra supporting wall below the position of the drying floor. No drying floors survived and no evidence was found to indicate the materials used in their construction.

The most common find from the corn driers was that of wheat grains, especially spelt wheat. The outstanding feature of the spelt wheat was that many grains showed signs of sprouting, especially those from corn drier S1028. The large quantities of spelt wheat remains suggest that the crop was grown locally, perhaps on an industrial scale, and it is likely that malting was one of the main functions of the corn driers rather than for drying crops before storage. They were fuelled by managed local woodland of ash and oak with hazel and scrub and crop processing waste (and possibly peat). Along with the cereal, horse beans and peas were cultivated.

Ironworking and other related activities

Evidence for metalworking was uncovered in both excavation areas, although, despite a furnace being present in both areas, some separation of activities related to this was apparent. In Area 2 the evidence was limited to the furnace and a spread of iron slag whereas, in contrast, the vicinity of the furnace in Area 1 had the characteristics of a more intensive 'working zone' with intercutting hollows and gullies and stone spreads for working floors. The deposits in this area were darkly stained by charcoal and the evidence of hammerscale and other more domestic items of pottery indicates a focus of industrial activity adjacent to a watercourse. The watercourse, probably a minor tributary of the Congresbury Yeo, was clearly being accessed through a gap in the triangular enclosure and where placed stones, deposits and wooden stakes indicate some consolidation of the stream bank.

There was little evidence for any substantial structures, with only a few isolated postholes identified, and any cover being provided to the workers on the site must have been flimsy. The gullies were presumably related to water management, but the detail of the metalworking process as represented by the features was not forthcoming. Elsewhere within Area 1 were further indications of water management in the form of culvert F1045 which must have been directing water to the south, but for which a purpose was not established, and similarly for the drains and gully adjacent to ovens S1016 and S1028, which may indicate that wet ground was a problem in this area.

Evidence for ironworking in Roman Britain is widespread and in rural contexts is derived from specialist industrial sites, farmsteads and villas. It is a specialist and time-consuming pursuit and it is thought unlikely that it would be undertaken purely at the household level with products for a wider estate or the market being produced; perhaps on a seasonal basis (Smith 2017, 185).

Chronology

Romano-British activity on the site appears to fall into one broad phase, dating from the early 2nd through to the 4th century AD. The pottery indicates that the main period of activity falls within the 2nd and 3rd centuries AD. Certainly, the finds dating the features coincide quite well with the infilling of the palaeochannel, which the radiocarbon dates place in a range from the early 3rd century through to the late 9th century, with a bone-and-antler comb dating from AD 500 to possibly the 9th century being the only clearly post-Roman/early-medieval piece from the site. After this latest date the whole palaeochannel valley became buried under colluvium.

The site in its wider locality

The site is located on the north side of the River Yeo, between the historic settlement of Congresbury, which

is on the south side of the river and Cadbury Hill, the site of Cadbury-Congresbury hillfort, which is approximately 800m to the north. Excavations at the hillfort showed that it had been the focus of occupation since the Neolithic, with the hillfort earthworks first constructed during the Middle Iron Age followed by some Romano-British period occupation and further later rampart construction and major use in the 5th to 6th centuries AD, the post-Roman period. The minor evidence for Middle Iron Age activity at Cobthorn Way is broadly contemporary with the use of the hillfort where hut circles, postholes, large quantities of Iron Age pottery and 830 sling stones were recorded from within the interior of the monument (National Heritage List for England ref. no. 1011258; https://historicengland.org.uk/listing/the-list/). It is probable that the community which constructed the hillfort also exploited the environs below the hill for agriculture and natural resources.

The historic settlement of Congresbury was also the focus of activity in the Romano-British period (Rippon 1997, 88-90). Although finds have been piecemeal there is evidence for extensive civilian settlement and pottery kilns for the production of the Congresbury coarse wares (North Somerset HER; http://map.n-somerset.gov.uk/HER.html). To the north of the river there is also evidence for a villa at Woodlands and burial sites. Despite there being no evidence to indicate that Congresbury was connected to the Roman road network Rippon (1997, 88-90) points out that it occupies a pivotal position where the River Yeo meets the fen edge of the North Somerset Levels and that the river was an important means of transport linking the interior with the Severn Sea.

It is probable that the small scale agricultural and industrial activity uncovered at Cobthorn Way was linked either to the settlement at Congresbury, which would perhaps indicate a bridge across the river was present, or was conducted within the confines of a villa estate, perhaps centred on that thought to be located at Woodlands. The main chronological focus of the activity on the site falls within a probable hiatus in the occupation of Cadbury-Congresbury hillfort, but in the immediate post-Roman period the hilltop was again the focus of activity and rampart building, with perhaps Cobthorn Way forming part of the agricultural landscape of the hillfort community. Certainly, the palaeoenvironmental evidence indicates that there is no major change to the landscape being used for pasture and crops from the Roman through to the early-medieval periods, so although the location of the nearby settlements may have changed, the area occupied by the site was still being used for rural purposes.

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