THE BARTON NORTH TAWTON DEVON

Results of Archaeological Excavations





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SWARCH Ordnance Survey Map copying Licence No. 100044808

1.0 Introduction

Location:	The Barton	
Parish:	North Tawton	
District:	West Devon	
County:	Devon	
NGR:	SS 66120083	
SMN:	10384	
Planning App	olication No.:	9296/2006/OKE
OASIS No.	southwes1-598	94

1.1 Background

South West Archaeology (SWARCH) were asked by Mr N. Dunn, at the request of English Heritage South West Region, to conduct an archaeological excavation on land at The Barton, North Tawton, Devon in advance of development of the site and the construction of a warehouse extension, associated services, access road and stormwater retention pond.

The archaeological work was carried out to fulfil the archaeological planning condition on the development and as a condition of Scheduled Monument Consent. An initial Impact Assessment was undertaken by SWARCH (Appendix 2) prior to the grant of Scheduled Monument Consent (Appendix 3). The work was subsequently undertaken in accordance with a Written Scheme of Investigation (WSI, Appendix 4) produced in consultation with English Heritage and Devon County Historic Environment Service (DCHES).

The site sits on gently sloping ground (between 125-130m AOD) overlooking the narrow floodplain of the River Taw. The western extremity of the site drops fairly steeply 2-3m toward the base of the river valley. According to the British Geological Survey (1969) the underlying geology consists of Permian Bow Conglomerates overlain by river terrace deposits. The Devon Historic Landscape Characterisation Project characterises the area of the site as 'Modern enclosures adapting post-medieval fields'.

The warehouse extension site is located to the north of the existing commercial buildings, currently warehousing for Vital Dog Supplies, with the proposed access road to the north and east and the stormwater detention pond to the north west. The excavated area covered the footprint of the required groundworks (Fig. 2). The area examined comprises approximately 8500m² of arable land lying within the Scheduled Monument area (see Fig. 1).

1.2 Archaeological Background

The area around the site contains both ring-ditches of a probable prehistoric date as well as a complex of Roman military installations (see Appendix 1 and Fig. 3) which are mostly protected by the area of Scheduled Monument 10384 which surrounds, but does not include, the buildings of The Barton itself. It has been suggested (Griffith 1984, 24) that the Roman features here are related to *Nemetostatio*, a site mentioned in the Ravenna Cosmography, although Bury Barton in Lapford parish has also been considered.

1.2.1 Prehistoric Ring-Ditches

Scheduled Monument 10384 includes several ring-ditches, and two surviving bowl barrows lie close by (SAM 32228). These features would generally be interpreted as Bronze Age in date, although it is possible the ring-ditches could be associated with the Roman military complex to the south (Griffith 1984, 20-25). Three of the ring-ditches and the two bowl barrows are located close to the current development area but not within it

(referenced by their Devon Historic Environment Record (HER) number and Ordnance Survey co-ordinates):

HER SS60SE/33 (SS66120072): A double ring-ditch approximately 20m in diameter cut by the northern perimeter of the marching camp and lying within the scheduled area. HER SS60SE/34 (SS66350076): A double ring-ditch almost 38m in diameter, cut by a field boundary (now removed). It lies to the north east of the development and is included in the scheduled monument as a discrete area -10384/2.

HER SS60SE/51 (SS66120081): A large single ring-ditch or small enclosure immediately to the north of the Roman camps and the development; it is included in the scheduled monument as a discrete area -10384/1.

HER SS60SE/41 (SS65850058): The upstanding remains of two oval bowl barrows, each approximately 30m×40m in diameter, located immediately to the west of the River Taw.

1.2.2 Roman Military Features

Cropmarks and earthworks in the vicinity of the development area have been interpreted as a series of Roman military installations including a marching camp (possibly two), a pair of forts, a Roman road and other related features (Griffith 1984; Welfare and Swan 1995, 54-56). These are included within Scheduled Monument 10834 and recorded on the HER (SS60SE/26 and 64 and SX69NE/3 and 22). The development area itself includes cropmarks thought to be related to the marching camp/s.

1.2.3 Medieval History

North Tawton is situated approximately 1000m north north east of the development area (Fig. 1). The settlement is included in the Domesday Survey and can be presumed to be of Saxon origin (Thorn & Thorn 1985, 1.3). During the medieval period North Tawton was a market town, in 1199 named *Cieping* or Market Tawton, and at some point also obtained borough status (Hoskins 1972, 490). A few medieval features are found in and around North Tawton including the parish church of St Peter, a probable motte or moated site (Cherry and Pevsner 1989, 604) and an enclosed strip-field system.

The Barton itself, standing about 150m to the south of the development was formerly known as Cottle's Barton and is a Grade II* Listed Building. It is a small Elizabethan manor house, dated to 1567 and extensively restored in 1866 (Cherry and Pevsner 1989, 291-2). Some sources associate it with the Domesday estate of *Tawetone* (Reichel 1901, 607) suggesting a Saxon origin.

1.2.4 Previous Archaeological Investigations

In 2002-3 the area immediately to the south of the current development was the subject of a geophysical resistance survey (Fig. 4a), evaluation trenching and open-area excavation (Fig. 5a) in advance of an earlier expansion of the warehousing and associated development (GSB Prospection 2002, Reed 2002, Whiteway 2003, Passmore 2004). The archaeology revealed by these investigations had suffered considerable truncation as a result of ploughing (Passmore 2004, 3-6), but the excavations uncovered various features including several pits which were subsequently radiocarbon dated to the mid-late Neolithic, the early Bronze Age, and c.100BC-AD130; the latter probably relating to early Roman military activity (Passmore 2004, 6). A number of ditches were excavated, one of which appeared to be the western boundary of the cropmark feature previously interpreted to be a Roman marching camp (see Fig. 3) and a further two which were interpreted as medieval or later boundaries, since removed and truncated by ploughing (Passmore 2004, 6). In the area immediately to the south west of the current development, evaluation revealed a probable post-medieval ditch and several stone-lined and ceramic land drains (Whiteway 2003). The work revealed very little in the way of finds, although struck flints (presumably prehistoric) were found within some features as well as in the ploughsoil (Passmore 2004, Whiteway 2003).

In 2002 archaeological recording and excavation was undertaken following the realignment of a gas pipeline at Newland Mill, *c*.300m south of the current development area. A subrectangular cropmark enclosure was shown to be Romano-British in date. A possible late Roman trackway running north-south was also identified (Passmore 2005, 35-37).

In advance of the current development a geophysical survey (magnetic gradiometer) was carried out by GSB Prospection (Fig. 4a & 4b). The results revealed a number of linear features (marked A, B & D, Fig. 4b) which could be related to previously identified cropmarks (see Fig. 3, 4a & 4b). The results also seemed to show part of the western boundary of the marching camp (marked C Fig. 4b), part of which had been identified in previous excavations within the area to the south of the current site (Passmore 2004) (Fig.5a [700]). The results also indicated a line of discrete features (marked E Fig. 4b) which could be interpreted as pits related to occupation (GSB Prospection 2006, 2). Other less clear anomalies were also recorded (marked G, H, I & J, Fig. 4b); these were possibly the result of modern disturbance and/or arable ploughing (GSB Prospection 2006, 2). The feature marked L on Fig. 4b corresponds to the cropmark of a double ring-ditch (see Fig. 3), but this was not identified in the report prepared by GSB Prospection.

1.3 Summary

Although archaeological remains on the site were found to have been truncated by ploughing, a number of features were uncovered with sufficient dating and environmental evidence to add to the corpus of known information about this site. Worked flint found within features and the ploughsoil has been dated to the late Neolithic/early Bronze Age and the radiocarbon dates from a pit support the interpretation of long term prehistoric activity on the site. The evidence uncovered for Roman military occupation included a number of features, one of which supports the possibility of a further Roman military feature to the north west of the excavation, suggesting that multiple camps may have been built on the site. Charcoal samples retrieved from Roman features contained a high percentage of wood that appeared to come from coppiced or managed woodland which has implications for the relationship between the Roman military, the landscape and its inhabitants during the early Roman period.

1.4 Methodology

The archaeological excavations were undertaken by SWARCH personnel directed by Martin Gillard in accordance with IFA guidelines. The programme of work was carried out in June & July 2007, in accordance with a Written Scheme of Investigation and with Scheduled Monument Consent (Appendices 3 & 4).

The area of the proposed development was stripped of ploughsoil under archaeological supervision using a tracked mechanical excavator with toothless grading bucket. As demonstrated by previous works in the area (section 1.2.4 above) the surviving archaeology took the form of features, truncated by ploughing, cut into the natural subsoil. Following stockpiling, the ploughsoil was examined for the recovery of artefacts.

All features were planned and excavated and in most cases the fills were removed entirely. In the case of linear features a smaller proportion of the fills were removed, sufficient to understand their date, form and function; those linear features considered to be Roman were entirely excavated and the fills examined for finds. A photographic record was compiled along with a drawn record at appropriate scales (1:10 to 1:200) and a written record of standard single context sheets. Sampling for the recovery of environmental data (mainly charcoal with the possibility of carbonised plant macrofossils) was carried out according to a scheme agreed with Vanessa Straker of English Heritage (South West Region scientific advisor).

2.0 Results of the Excavations

The underlying subsoil on the site was mostly a red clay silt with some grit and stone. To the eastern extremity of the site this became grittier, whilst to the far west where it sloped down to the river Taw, the subsoil was sandier, gritty and with a purple tinge. East of this material lay a yellow-brown silt-clay with frequent gravel and cobbles varying from sub-angular to round in shape. This extended eastwards to approximately halfway across the site and appeared to be a terrace of river gravels. The ploughsoil across the entire site was a dark red clay silt, 0.3-0.5m thick, regarded by the Soil Survey (1983) as a brown earth of the Crediton association. The removal of this ploughsoil revealed numerous features cut into the subsoil.

It should be noted that as with previous excavations to the north of The Barton (Passmore 2004 and Reed 2002) it was evident that considerable truncation of archaeological features had occurred on the site as a result of ploughing. Consequently, almost all features were found to be only 0.4m deep or less, with those at the western extremity of the site showing signs of severe truncation to near complete removal.

2.1 Ditches

2.1.1 Ditch [150] (Fig. 5a, 6a, 7a, 8 & Plate 1)

This ditch was aligned east-north east to west-south west (the east end curved slightly south) and was exposed for a length of 85m. Ploughing had truncated the ditch and the west end was entirely removed where it ran down the side of the escarpment above the Taw. It was generally 1.1m wide and, where excavated, up to 0.25m deep. The north side of the ditch was steeper than the south and it had a flat base 0.4m wide. The fill of this ditch (151) was a fairly soft mid-brown clay-silt in which stone was common. A single sherd of post-medieval pottery was recovered from this feature.

2.1.2 Ditch [200] (Fig. 5a, 6a & 8)

This ditch was generally a faint, largely truncated feature, running for 27m north south at the west end of the site. At its most substantial it was 0.75m wide and 0.13m deep; it had a flat base 0.4m wide and the east side was steeper than the west. The fill (201) was a fairly soft clay-silt with common grit and stone.

2.1.3 Ditch [132] (Fig. 5a, 6a, 8 & Plate 2)

Ditch [132] ran east to west at the north west end of the site. It extended for 11.45m from the eastern limit of excavation, the west end narrowing due to truncation by ploughing. The maximum width seen (at the east end) was 1.5m with a depth of 0.55m. Excavation demonstrated that this cut was roughly V-shaped (although this was less obvious to the west). The primary fill (202) was a red-brown, moist silt-clay with dark mineral mottling (probably manganese); it contained the complete pedestal base of a Romano-British black-burnished ware vessel of 1st or 2nd century date (see Appendix 7). This layer was overlain by a friable and fairly soft grey-brown silt-clay (189) with a few stones, particularly at the base of the deposit (see Fig. 8). This was cut by [187], a ditch of up to 0.75m wide and 0.45m deep that ran within the north side of [132], following the line of the earlier feature and truncated by ploughing to the west. This was filled with a fairly compact mid-brown to red silt clay (188) with stones common (up to half the fill in some areas) and dark, mottled mineralisation. This was overlain by (133), a grey silt clay that covered both [187] and filled the top of [132]. These features were cut by two stone-filled field drains running north to south.

2.1.4 Ditch [162] and Related Features (Fig. 5a, 7a, 7b, 9 & Plate 3)This ditch crossed the centre of the site north-north west by south-south east. It was24.6m long and between 0.6-1m wide, although generally the width was 0.7-0.8m. Three

sections were dug across the ditch giving depths of 0.3m to the north, 0.22m in the centre and 0.15m to the south. It was a broad 'U' in profile, steeper to the west than to the east and filled with (163), a fairly soft grey-brown clay-silt. Three post holes ([194], [196] and [198]) were found along the western edge of the ditch. These were between 0.2-0.3m across and 0.09-0.17m deep and [194] actually cut the western edge of [162] whilst the others lay within 0.3m of it.

2.1.5 Ditch [164] (Fig. 5a, 7a, 10 & Plate 4)

This ditch ran 24m north to south also across the entire width of the centre of the site, between 8-15m to the west of [162]. It was V-shaped in profile, 0.8-1.5m wide (generally 1.0m) and 0.3-0.5m deep (generally 0.4m with no particular trend along its length). It was filled with (167), a soft brown-grey slightly clay-silt with some grit and some small stones, and in patches there were some pieces of charcoal, generally <10mm across. This fill contained 13 flint flakes, 4 pieces of natural, unstruck flint and three tiny sherds of abraded and undiagnostic Prehistoric or Romano-British pottery.

2.2 Rectangular Pits

(Fig. 11)

2.2.1 Pit [152] (Fig. 5a, 6a & 11)

This feature lay in the north west part of the site. It measured 2.1m north to south by 0.8m east to west and was rectilinear with slightly rounded corners. The sides were near vertical (sloping in 0.05-0.1m) and dropped 0.45m to a flat base. The pit was filled with (153), a loose grey-brown clay-silt with very common grit and gravel and common stone. In patches this fill was pink and orange with some lenses of near black mineralisation.

2.2.2 Pit [120] (Fig. 5a, 6a, 7a, 11, Plates 5, 6, 7 & 8)

This feature lay in the mid-western area of the excavation. It was rectilinear in plan, with slightly irregular sides and rounded ends; it measured 1.9m north to south, 0.8m east to west and was 0.12m deep with a flat base. Its lower fill (193) was a dark grey-brown to black, soft clay-silt with some stones and was 0.5m thick. The natural clay-silt of the sides and base showed signs of heating – a pink to orange colouration from oxidation. The pit contained abundant charcoal including pieces <0.3m by 0.2m; these were very fragile and lay north-south along the length of the feature (Plate 7). (193) was overlain by (121), a fairly compact, grey-brown clay-silt that contained abundant stone across which showed signs of heating (e.g. reddening, angular fracturing and brittleness); there was also some charcoal. This layer contained a tightly packed group of several sherds of pottery from the same vessel (Plate 6); it was identified as a Romano-British mortarium of pre-Flavian (AD 69) or early Flavian date (see Appendix 7).

2.2.3 Pit [220] (Fig. 5a, 6a, 7a, 11, Plates 9 & 10)

This feature also lay in the mid-west of the excavation (14m north of [120] and on the same north to south alignment). It was rectilinear in plan with rounded corners; it measured 1.15m north to south, 0.55m east to west and was up to 0.2m deep. The sides were near vertical and the base flat, if a little irregular. The sides to the east, north and south showed signs of heating – the natural clay-silt having been changed to a pink or orange colour by varying degrees of oxidation. The lower fill (222) was a dark grey to black soft clay-silt, it contained abundant charcoal, including pieces up to 0.2m across (these proved too fragile to excavate intact). In the centre of the feature this layer was 0.1m thick but thinned to around 0.01m at the north and south ends. It was overlain by (221), a fairly soft grey-brown clay-silt in which stones were very common; some of this stone showed signs of heating. It also contained a single flint flake.

2.3 Group of Pits in the North East of the Site (Fig. 7b, 12, 13 & Plate 11)

Within the north eastern part of the site lay a line of pits running for 31m west-south west to east-north east. The pits varied in size and shape and from west to east were as follows:

Cut	Shape in plan	Profile	N-S	E- W	Max
No.			dimensions	dimension	sDepth
[180]	Oval	Steep-sided concave	0.33m	0.42m	0.12m
[185]	Circular, slightly irregular	Gentle concave	0.75m	0.8m	0.16m
[190]	Rectilinear, a little	Steep sides, base concave,	1.6m	0.85m	0.28m
	irregular, rounded corners	deeper to N			
[102]	Circular, slightly irregular	Gentle concave, steeper to E	0.85m	0.88m	0.16m
[104]	Irregular	Gentle concave	0.45m	0.4m	0.075m
[108]	Circular, rather irregular	Gentle concave	0.95m	0.95m	0.1m
[112]	Irregular oval	Gentle concave	0.85m	1.17m	0.17m

Some of these features, in particular [104] and [108], showed clear signs of having been damaged by modern agricultural subsoiling. All of the pits were filled with a mid to dark grey-brown soft clay-silt with occasional stones and common charcoal, excepting [190] where the base and south end of the cut contained a dark grey-brown charcoal-rich fill (191) with an orange-grey clay-silt (192) above it.

Three metres south east of the easternmost pit [112] in the group, lay a pair of intercutting pits. The earliest pit, feature [177] was an oval 1.3m north to south by 0.95m east to west, with a shallow concave profile <0.1m deep. It was cut by [117], which was also oval in shape, 0.75m north to south by 1.0m east to west and <0.21m deep. The fills of these pits, (178) and (118) respectively, were both soft grey-brown clay-silt with some charcoal, although this was more common in (118).

2.4 Square Features

(Fig. 6a, 14 & Plate 12)

The western part of the site also contained six features - pits [115], [122], [124], [138], [148] and [182] - very similar in form: square with rounded corners, around 0.6m across, steep sided, flat based and 0.065-0.13m deep. [122] [124] and [182] were slightly less regular, probably because of the large stones in the subsoil in which they are cut. All six of these features together can be interpreted as forming a pair of north-south parallel lines 4m apart. Their fills were generally a fairly soft grey-brown clay-silts with common stone inclusions; the fills of [115], [138] and [148] contained a little charcoal. The fill of [124] contained a broken flint blade.

2.5 Shallow Ditches to the East of the Site (Fig. 5a, 6b & 15)

In the eastern part of the site three shallow ditches [207], [212] and [217] were excavated. [207] and [212] were 2.85m wide (although somewhat irregular in plan) and [217] was 1.15m wide. All extended east-north east to west-south west for around 10m from the eastern limit of excavation before being truncated by ploughing as the ground level dropped down toward the existing road surface to the west. [207], [212] and [217] were 0.12m, 0.16m and 0.22m deep respectively with fairly gently sloping sides and flat bases; [217] was somewhat disturbed by burrowing. [207] and [212] had thin, stony primary fills, (209) and (214) respectively. These primary fills were overlain by mid-brown to red brown silt-clays with a little stone, (208) and (213) respectively. The fill of [217] was also a mid-brown to red-brown silt-clay with a little stone (218).

2.6 Oval Features

(Fig. 6a, 7a & 16)

At a number of points throughout the west and mid-west areas of the site, oval-shaped features were recorded. These can be summarised as follows:

Cut	Fill	Profile	N-S	E- W	Max
No.	No.		dimensions	dimensions	Depth
[158]	(159)	Sides steep, gentler to N, irregular base	0.75m	0.60 m	0.15m
[160]	(161)	Concave	0.9m	0.6m	0.12m
[205]	(206)	Gentle concave	0.65m	0.94m	0.1m
[225]	(226)	W side near vertical, E side 45°, fairly flat	t base 0.83m	0.57m	0.26m
	(227)				
[230]	(231)	Concave	0.50m	0.9m	0.1m

The fills of these features were clay-silts with stone inclusions; with [158] and [225] each containing a small amount of worked flint. All fills except that of pit [160] contained some charcoal and in the case of [230] charcoal was common and some of the stone inclusions showed signs of heating.

2.7 Circular Features

(Fig. 6a, 7a, 15 & 17)

In the mid-west area of the site a number of circular features were examined (Fig. 6a & 17):

Cut	Fill	Profile	Diameter	Maximum
Number	number			Depth
[100]	(101)	Concave	0.6m	0.15m
[110]	(111)	Concave	0.3m	0.12m
[114]	(119)	Concave	0.55m	0.1m

The fills of [100], [110] and [114] were grey-brown clay-silts with stone inclusions; in the case of [110] fairly large stones (around 0.075m across) lay around the outer edge of the fill. These three features all contained charcoal and the fills of [100] and [110] also contained flint flakes (numbering 4 and 20 respectively) with [100] also containing a flint core.

In a tight group adjacent to the shallow ditch [207] (see 2.5 above) were three circular features (Fig. 6b & 15). Two of these, [240] and [242], were 0.5m in diameter, 0.08-0.1m in depth and had a shallow concave profile. [244] was much smaller, being 0.13m in diameter and 0.15m deep, with sides tapering into a blunt point. The fills of all three were red-brown silt-clays, with those of [240] and [242] ((241) and (243)) containing charcoal as well a flint core fragment and damaged flint arrowhead respectively. The arrowhead is likely to be late Neolithic/early Bronze Age in date (see Appendix 6).

[125], [130] and [250] were circular features found in the mid-west area of the site (Fig. 7a & 17). [125] had a diameter of 0.25m, the north west corner of the feature had near vertical sides to a depth of 0.2m, the south side was less steep and the east side was stepped. Charcoal was common in the fill (126). [130] had a diameter of 0.45m and was 0.1m deep except where the central part of the base dropped steeply by another 0.1m. The fill (131) contained some charcoal and 5 flakes of worked flint. [250] had a diameter of 1.15m and a maximum depth of 0.22m, with a concave profile with steeper sides to

the east. The fill (251) was a soft, pink-brown, gritty silt-clay which contained no finds of any sort.

2.8 Lenses

(Fig. 6a & 7a)

In the mid-west area of the excavation several lenses of material were recorded: (106), (211) and (261). These were 0.025-0.05m thick lying between the ploughsoil and the natural subsoil and although distinct, they did not sit within cut features of any sort. The deposits consisted of grey-brown clay-silt with some grit, stone and charcoal inclusions. They were between 0.2 and 0.8m in diameter.

2.9 Other Features

(Fig. 6a, 7a & 17)

In the mid-west part of the site, close to lens (211) and the shallow oval cut [205], lay a pair of features, [143] and [172]. [143] measured 0.5m north east to south west by 0.3m north west to south east, it had near vertical sides and the base was up to 0.35m deep to the south west and 0.25m deep to the north east. [172] lay 0.1m away to the south east and was a sub-circular cut 0.25m south east to north west by 0.20m south west to north east. This feature was 0.09m deep, the sides tapering slightly to a concave base. Both cuts had grey-brown silt-clay fills containing some stone and charcoal. In the case of [143] many of the stone inclusions were aligned vertically and pressed against the edge of the cut of the feature.

2.10 Recent Features

In the western area of the excavation the remains of three stone-filled field drains ran north to south (Fig. 6a), the two northernmost of which cut ditches [132] and [187].

A modern linear [235] ran east to west for 175m through the mid-part of the site. It turned south at each end (Fig. 6b, 7a and 7b) and the western return went under the southern edge of the site with the eastern return running south for 85m before turning west into the site's edge. This feature was 0.6m wide and when excavated toward its west end it was found to be only 0.1m deep and containing a fill of mixed topsoil and redeposited subsoil. An excavation in the eastern part of the site showed it to be 0.8m deep at this point with a modern plastic water pipe running along the base.

3.0 The Finds

The finds are listed below and briefly discussed in general terms; more detailed, specialist analysis is to be found in the relevant appendices of this report.

3.1 Lithics

(see Appendix 6)

Over 100 pieces of struck flint were recovered from the ploughsoil and more than 50 pieces from within features on the site; this assemblage was examined by M. Tingle (see Appendix 6). It should be noted that differences between the flint from within features and from the ploughsoil are unlikely to be significant, as the latter is probably derived from the truncation of features by ploughing.

Context	Number	Notes
(101)	5	1 core
(111)	20	
(113)	1	
(118)	1	
(127)	1	1 broken blade
(131)	5	
(133)	1	
(137)	1	
(159)	2	
(167)	17	4 natural flint
(191)	2	
(192)	1	
(221)	1	
(226)	2	1 core
(241)	1	1 core fragment
(243)	2	arrowhead
Ploughsoil	105	1 core, 1 fabricator, 4 core fragments, 3 scrapers

Although the conclusions are inevitably limited from this relatively small assemblage, a late Neolithic/early Bronze Age date is postulated, which would match some of the radiocarbon dating from the earlier excavations immediately to the south (Passmore 2004, 5-6) and the radiocarbon date of 2860-2505 BC (OxA-20374; calibrated, 95.4% certainty) obtained from the fill of pit [240] (see Appendix 9).

The source of the flint is difficult to establish, for within Devon there are a number of inland locations which could be considered, as well as the much better known source at Beer in east Devon (see Newberry 2002).

3.2 Ceramics

(see Appendix 7)

Relatively few ceramic finds were retrieved from excavated contexts and there were few of significance from the ploughsoil. There were, however, a small number of sherds dating to the Roman period - most significantly those belonging to the mortarium recovered from pit [120] - discussion of which can be found in Appendix 7.

Context No.of sherds Notes

(121)	13 +	All from same vessel, 3 large rim sherds; 1 st century AD mortarium
(151)	1	Internal green glaze; N. Devon gravel tempered body sherd 1500-1750
(167)	3	Grey fabric, possibly Romano-British or Prehistoric
(202)	1	Pedestal base of a south-western BB1 bead-rim jar, of 1 st or 2 nd century
		date
(236)	1	Blue transfer-printed ware (after c.1780)
Ploughsoil	93	Mostly modern, nothing earlier than post-medieval
	2	Roman tile

3.3 Miscellaneous Finds

Context	No. of items	Notes
(121)	22	Examples of heated stone
(167)	1	Possible marble
(221)	26	Examples of heated stone
(231)	7	Examples of heated stone
Ploughsoil	1	Lead shot
	6	Metal objects including 5 nails
	7	Clay pipe including 1 bowl
	18	Pieces of glass
	2	Plaster or lime mortar
	5	Slag, coal etc

3.4 Environmental Sampling

(see Appendices 8 & 9)

Over 40 environmental samples from a variety of deposits were extracted during excavation. The only material retrieved from the samples during processing was charcoal and 20 samples were subsequently chosen as being suitable for analysis by Rowena Gale (Appendix 8). A number of the charcoal samples were then selected as suitable for radiocarbon-dating (Appendix 9) or for further environmental analysis. The results of the analyses have interesting implications for woodland management on the site as well as providing dating evidence (see below).

4.0 Interpretation

4.1 Ditches

4.1.1 Ditch [150] (Fig. 5a, 6a, 7a, 8 & Plate 1)

This ditch corresponds with a strong anomaly detected by geophysical survey (GSB Prospection 2006) as well as the evidence of aerial photography (Welfare and Swann 1995, Fig. 46). The ditch runs perpendicular to a north-north west to south-south east field boundary identified in the current excavation (see [162] below) and during previous work (Passmore 2004, feature 702) which survived into the twentieth century but was subsequently removed. As the geophysical anomaly equating to [150] stops at the field boundary it is logical to assume that this ditch formed part of the historic field system, removed prior to the nineteenth-century mapping of the area.

4.1.2 Ditch [200] (Fig. 5a, 6a, & 8)

Although faint and truncated in excavation, this feature proved similar in form to ditch [150], with the steeper east side corresponding to the north side of the latter. Furthermore, it appears to correspond with a boundary represented on the Tithe Map of 1840 (Passmore 2004, Fig. 6). Therefore this ditch is best interpreted as a componant of the historic field system.

4.1.3 Ditch [132] (Fig. 5a, 6a, 8 & Plate 2)

Ditch [132] appears to correspond to a previously identified cropmark (see Fig. 3) which, it has been suggested, may form the northern edge of another marching camp on this site (Griffith 1984, 20). However, this interpretation has been questioned (Welfare and Swan 1995, 54-56) due to the difficulty of identifying a western side, as well as the unsuitability of its position on the slope descending into the flood plain of the River Taw. The V-shaped profile of ditch [132] and the presence of a 1st or 2nd century black-burnished ware base suggests a Roman military origin for this feature, but no indication of a return to the south was identified which would make up the western edge of a camp. It is possible that ditch [200] produced the cropmark, but this is problematic because [200] appears to be of a different character to [132].

Therefore, the evidence may support several interpretations of this ditch:

- 1. An outwork of the marching camp to the south east;
- 2. The northern boundary of an additional marching camp, the western boundary of which has been lost, most probably due to modern ploughing (at the western end of [132]);
- 3. The northern boundary of an additional marching camp, the western boundary of which was made up by the flood plain of the river Taw, but as noted by Welfare and Swan (1995, 54-56) this would be a highly unusual configuration;
- 4. [132] may not be a Roman feature at all the pottery in its base could be residual and the profile, although suggestive, is hardly conclusive.

[187] forms a re-cut along the same line as [132]; its stony fill perhaps indicating that it was dug for drainage purposes, although evidently it was superseded by the field drains running north to south across it.

4.1.4 Ditch [162] and Related Features (Fig. 5a, 7a, 7b, 9 & Plate 3)

This feature corresponds with a field boundary present until the 20th century and a ditch previously investigated immediately to the south of the present development (Passmore 2004, feature 702). The presence of three post holes ([194], [196] and [198]) along the western edge also matches discoveries made in the earlier excavation. Thus [162] is interpreted here as the ditch of a field boundary, associated with the historic field system, which was superseded by a line of fence posts.

4.1.5 Ditch [164] (Fig. 5a, 7a, 10 & Plate 4)

The V-shaped profile of this feature suggests a Roman military origin for this ditch which corresponds with previously identified cropmarks (Griffith 1984, 20-25; Welfare and Swan 1995, 54-56) as well as a ditch excavated immediately to the south (Passmore 2004, feature 699). Charcoal from the fill of this ditch was radiocarbon dated to 18-127 AD (OxA-20371; calibrated; see Appendix 9). It is therefore interpreted as the western boundary of a Roman marching camp, probably dating to the 1st century AD. The struck flint flakes from within the feature are undoubtedly residual.

4.2 Rectangular Pits

(Fig. 11)

4.2.1 Pit [152] (Fig. 5a, 6a & 11)

The complete absence of finds from this feature makes interpretation difficult. However, the neat, straight sides and loose fill which resembled redeposited natural subsoil suggests a recent feature that was backfilled shortly after it had been dug.

4.2.2 Pit [120] (Fig. 5a, 6a, 7a, 11 & Plates 5, 6, 7, 8)

The ceramic evidence present in this feature indicates an early Romano-British date for its origin – probably pre-69 AD (see Appendix 7). The presence of abundant charcoal in the lower fill (193) plus the evidence of heating, both around the edge of the cut and in the stone within the upper fill (121), strongly suggests that the feature contained a fire. However, the heating was not intense enough to cause the reduction or baking of the clay-silt natural, therefore ruling out use as a furnace for craft or industrial purposes. The presence of a thin layer (193) containing large pieces of very fragile charcoal may also indicate that the process was not carried out repeatedly. This feature is therefore interpreted as a shallow pit associated with cooking, an impression reinforced by the presence of a large proportion of a mortarium within the upper fill (121). The heating of the stones in this layer is variable. This may be the product of backfilling with the material originally dug out (the inclusions resemble those within the natural subsoil) whilst the fire, that had been set within the pit, was still hot. This would be indicative of a short-lived process on the site.

This interpretation of the deposits, combined with the date of the mortarium, suggests an origin related to an early military campaign, possibly immediately following the invasion of AD 43. Prior investigations (immediately to the south of the current site) have suggested a similar period on the basis of radiocarbon dating (Passmore 2004, features 652, 655, 658, 662 and 668). (See also Pit [220] below.)

4.2.3 Pit [220] (Fig. 5a, 6a, 7a, 11 & Plates 9 & 10)

Apart from the absence of any pottery this feature was very similar in character to [120] (see above) and is thus interpreted in a similar way. Furthermore, radiocarbon dating of the lower fill of this feature indicated a date of 26-138 AD (OxA-20375; calibrated with a 94.4% probability; see Appendix 9). The two small flint flakes within pit [220] are likely to be residual, as flint has been found throughout the ploughsoil covering the site and within several excavated features.

Both [120] and [220] are therefore probably best interpreted as cooking pits related to the marching camp. The presence of limited heating of the subsoil, the substantial pieces of intact charcoal and an apparent hasty refilling of the pits whilst they were still hot is all in keeping with a temporary military occupation of the site. This is in contrast with the more permanent structures at minor forts (labelled 'ovens' by the excavator) found at Martinhoe and Old Burrow on the North Devon coast, which evidently had a longer occupation (Fox and Ravenhill 1966), and at Okehampton (Griffith 1984, 11-14).

The interpretation of the charcoal from these pits is of particular interest (see Appendix 8). It is suggested that much of this material was derived from woodland managed as coppice; [220] in particular 'provides convincing evidence of the use of coppiced hazel wood and probably the majority of the oak and willow/poplar stems were from a similar source' (R. Gale, Appendix 8). The charcoal from [120] is also regarded as being of 'probable' managed-woodland origin; an interpretation which is strengthened by the similarity in form and date of these pits. Some mature oakwood was also present in these samples indicating that narrow roundwood was not the only source of fuel.

The charcoal from [120] and [220] and that from pit [185] (see below), was sufficient to allow conclusions to be drawn regarding the landscape of the surrounding area (see Appendix 8). Apart from the managed hazel (and probable oak and willow/poplar) there was also mature oak and hazel woodland, perhaps with some ash and birch. The presence of scrub or marginal woodland was indicated by hawthorn, whitebeam/rowan, blackthorn gorse/broom, also alder, willow, poplar and elm are all taken to be indicative of damp soils; not surprising given the proximity of the adjacent river valley.

4.3 Group of Pits in the North East of the Site (Fig. 7b, 12, 13 & Plate 11)

The irregular and often damaged form of these features, as well as the absence of finds, makes interpretation difficult. However, charcoal from the fill of pit [185] was radiocarbon dated to 26-133 AD (OxA-20373; calibrated with a 95.4% probability; Appendix 9) and the alignment and form of this line of pits is very similar to a set of features revealed during previous excavations to the south (Passmore 2004, features 652, 655, 658, 662 and 668). On the basis of radiocarbon dating this group was interpreted as having an early Roman military origin. Thus, based upon the similarities in form and dating evidence, both groups are probably best interpreted as likely to have been dug during occupation of the marching camp.

As with the charcoal from pits [120] and [220] above, charcoal from pit [185] was interpreted as a mix of mature oak and narrow roundwood probably derived from managed coppice (Appendix 8).

4.4 Square Features

(Fig. 6a, 14 & Plate 12)

The shallow form and absence of artefacts in the fills of these features does not make their interpretation simple. It may be that they are the truncated bases of post holes for square posts, and if so, their alignment in two rows 4m apart could be indicative of some kind of double boundary; the suggested lines are over 20m long, therefore making it unlikely, though not impossible, that these features represent a building of some sort. But all of these features are very shallow (up to 0.1m in depth) and it is possible that further similar features have been entirely erased by agricultural practices thereby obscuring any structure that may have been present. Also it should be noted that several of these features have been tentatively placed within this category only because of their somewhat irregular shape.

A sample of charcoal from the fill of [115] was radiocarbon dated to 174-38 BC (OxA-20372; calibrated with a 94.7% probability; Appendix 9) which raises the possibility of middle to late Iron Age activity on the site, although the fill in question contained only a small quantity of charcoal, which may be residual.

4.5 Shallow Ditches to the East of the Site (Fig. 5a, 6b & 15)

No artefactual or environmental evidence was forthcoming from these features but their broad and shallow nature may indicate that they are agricultural in origin, derived perhaps from ploughing. However, this is necessarily a tentative interpretation.

4.6 Oval Pits

(Fig. 6a, 7a & 16)

These scattered pits were all fairly shallow and produced little or nothing in the way of environmental or artefactual evidence. However, charcoal was common within the fill of [230] and some of the stone inclusions in this deposit showed signs of heating, which may indicate *in situ* burning.

4.7 Circular Features (Fig. 6a, 7a 7 17)

The presence of worked flint within [100] and [110] may indicate a prehistoric origin, possibly Neolithic/early Bronze Age (see Appendix 6); particularly in the case of [110] where over 20 flakes were present. Furthermore, [110] had several substantial stones around the outer edge of the fill, perhaps indicating packing around a posthole. [130] could also be tentatively identified as a posthole which had been re-cut, as suggested by the deeper parts of the feature, the tapering profile of [244] is also typical of a post hole for a pointed post or stake. However, none of the above could be clearly seen in plan as part of a recognisable structure. And it is also possible, given the nature of the site that some of these features may have a Roman military origin. Other circular features on the site were generally of a size to suggest small pits, but the near absence of artefactual evidence or any clear pattern in plan makes interpretation difficult. However, charcoal from the fill of [240], a shallow, concave pit containing a flint core, gave a radiocarbon date of 2860-2505 BC (OxA-20374; calibrated with a 95.4% probability; Appendix 9) and a similar feature nearby ([242]) contained a flint arrowhead dated to the late Neolithic/ early Bronze Age (Appendix 6).

4.8 Lenses

(Fig. 6a & 7a)

The lenses of material found beneath the ploughsoil might possibly represent the bases of features almost entirely truncated by ploughing. Alternatively, they may be patches of relatively recent material lying on the top of the subsoil. In either case they are almost impossible to interpret as any artefactual or environmental finds from them cannot be regarded as reliable because of the risk of disturbance by ploughing.

4.9 Other Features (Figure 6, 7gree 6, 1)

(Fig. 6a, 7a & 17)

Feature [143] is possibly a post hole that has been re-cut, whilst the nearby [172] has the tapering sides that may be indicative of a hole for a pointed stake or post. Such is their proximity; it is possible that one of these features replaced the other. However, there was no clear sign in plan of any relationship to a former structure associated with these features.

4.10 Recent Features

The stone-filled field drains in the western part of the site are relatively recent because they cut ditches [132] and [187] and therefore clearly post-date them. The presence of blue plastic piping in the base of [235] indicates a modern origin for this feature.

5.0 Conclusions

The worked flint found within some features, as well as that found across the site in the ploughsoil, is a clear indicator of prehistoric activity. Based upon an assessment of the flint assemblage, and the radiocarbon date of charcoal from feature [240], this activity appears to date from the late Neolithic/early Bronze Age. The presence of this material is not altogether surprising as there are several ring-ditches and surviving barrows located within and just outside the main scheduled area (see 1.2 and Fig. 3). Previous excavations immediately to the south of the site have produced material and radiocarbon dates of comparable antiquity (Passmore 2004, 6), and this would indicate occupation or use was neither short-term nor transitory. Whether that occupation or use was specifically funerary or 'ritual' in nature is impossible to say, based on the current evidence.

The Iron Age radiocarbon date for the fill of one of the roughly square features located in the western part of the excavated area raises the possibility of pre-Roman structures on the site. However, it is also possible that the dated charcoal was residual.

The excavation confirms the continuation of the western boundary (ditch [164]) of the Roman marching camp to the north of that established by previous investigations (Passmore 2004), and radiocarbon evidence suggests a date compatible with early Roman military occupation. The excavation also supports the possibility of a further Roman military feature to the north west (ditch [132]) running west to east from the flood plain of the Taw, as had been suggested from aerial photographic evidence (Griffith 1984). But no southern return of this ditch was observed and the exact form of the feature enclosed by [132] is unclear. This may, however, indicate another phase of Roman military occupation on the site suggesting that multiple camps may have been built during the early Roman period. Lying 65m to the west of [164] are features [120] and [220]; a pair of cooking pits, used temporarily and probably related to the marching camp. The ceramic evidence from [120] suggests an early (pre-AD 69) origin, possibly associated with the campaign following the invasion of AD 43. The radiocarbon dating of charcoal from [220] is in accord with this conclusion. It would seem unusual to encounter such features outside the defended perimeter of a camp, and this might suggest they actually lay within an annexe or camp represented by ditch [132]. That said, area excavations involving marching camps and their immediate environs are relatively rare, so it is difficult to be conclusive.

The line of pits in the north east of the site lies within the known marching camp and radiocarbon dating suggests a compatible date, which is comparable to a similar line of pits excavated during the previous investigations immediately to the south of the site. Unfortunately, plough damage and a lack of artefactual evidence render the drawing of conclusions regarding original usage of these features difficult. The presence of two sherds of Roman tile within the ploughsoil is a tantalising hint that there may have been a more substantial structure on the site, unfortunately, there is no other such evidence forthcoming from this excavation or from earlier investigations.

The nature of the charcoal recovered from pits [120], [220] and [185] is of considerable significance. Radiocarbon and ceramic evidence suggests that these are related to activity in the 1st century AD; the most likely context for this being early Roman occupation of the marching camp suggested by cropmark, geophysical and excavated evidence. The majority of the charcoal from these features is likely to originate from managed woodland, a conclusion with implications for the relationship of the Roman military with the surrounding landscape and its inhabitants. It is highly improbable that the occupiers of a temporary camp had the time to establish a coppicing regime; therefore the Roman army must either have purchased fuel from the indigenous population or seized it for their own use. The presence of mature oakwood within the features in question is suggestive

of an undiscerning approach to the gathering of fuel – mixing managed roundwood with substantial timbers. This seems more indicative of the plundering of local resources by a hostile occupying army than their collection by trade or consent. At a most basic level, this shows the impact of the Roman invasion upon the resources within the landscape and those who had managed them – the efforts of years of woodland coppicing being consumed during the short-lived visitation of an alien military force.

The less well defined features excavated, including both small pits and possible postholes, are difficult to interpret with the lack of dating evidence or clear structure visible in plan. These may be prehistoric or Romano-British in date. Other features such as ditches [150], [162] and [200], judging by their form, alignment and the evidence of geophysical and aerial photographic survey, were part of a historic field system and probably drainage ditches alongside hedgebanks which have been removed during more recent times.

In general terms, the features identified during this investigation were consistent with the results of previous archaeological work (excavation, geophysical and aerial photographic survey) associated with this scheduled site. Namely the Roman military presence, probably occupation of an early and temporary nature and possibly in more than one phase. In addition, Neolithic to Bronze Age activity, perhaps related to the ring-ditches and barrows present in the surrounding area.

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Devon Historic Environment Records:

Sheets SS60SE and SX69NE



Fig. 1: The location of The Barton, North Tawton; the area of the scheduled monument is shaded.



Fig. 2: Location of the site and excavated area.



Fig. 3: Plan of cropmarks (black) and nineteenth century field boundaries (grey); note that some of the boundaries are no longer extant (based on Passmore 2004, figure 6). The outline of the scheduled area is shown in red.



Fig. 4a: Raw data from the geophysical resistance survey carried out in 2002 and the magnetometer survey of 2006 (based on GSB Prospection 2006, Fig. 2 & 4).



Fig. 4b: Interpretation of 2006 magnetometer survey data (based on GSB Prospection 2006, Fig. 5).



Fig. 5a: General plan of the excavated area (shaded) with the major features labelled. The location of the 2003 excavations to the south are also shown. Note the clear correlation between the north to south linear features.



Fig. 5b: General plan of the excavated area showing the location of the areas illustrated in Fig. 6 and 7.



Fig. 6a: Features at the west end of the site.



Fig. 7a: Features at the mid-west of the site.



Fig. 7b: Features at the north east of the site.



Fig. 8: Ditches [132] and [187] (1 & 2), [200] (3) and [150] (4).



Fig. 9: Ditch [162] and related features; [162] (1), [198] (2), [162] (3), [196] (4), [194] (5) and [162] (60).



Fig. 10: Ditch [164].



Fig. 11: Rectangular pits [120] (1), [220] (2) and [152] (3).



Fig. 12: Pits in the north east of the site [102] (1), [117] (2), [177] (3), [104] (4) and [108] (5).



Fig. 13: Pits in the north east of the site [180] (1), [185] (2), [112] (3) and [190] (4).



Fig. 14: Square features in the west of the site; [115] (1), [122] (2), [124] (3), [138] (4), [148] (5) and [182] (6).


Fig. 15: Shallow ditches in the east of the site and related features; ditch sections [207], [212] and [217] and features [240] (1), [242] (2) and [244] (3). (See Fig. 6b for location of ditch sections).



Fig. 16: Oval features; [158] (1), [160] (2), [205](3), [225] (4) and [230] (5).



Fig. 17: Circular and other features; [100] (1), [110] (2), [114] (3), [125] (4), [130] (5), [250] (6), [172] & [143] (7) and [143] (8).



Fig. 18: Mortaria from the fill of pit [120] at 1:4 scale.



Plate 1: Ditch [150] post excavation, viewed from the east (0.5m scale).



Plate 2: Ditch [132] post excavation, viewed from the west (0.5m scale). The stone-filled feature in the centre-left of the cut is ditch [187] a later re-cut.



Plate 3: Post hole [194] post-excavation, viewed from the north (0.5m scale). Note how it cuts ditch [162] that lies to the left. [195] appears to be part of a row of post holes that replaced ditch [162] as a boundary.



Plate 4: Ditch [164] post excavation, viewed from the south (1m scale). Note the V-shaped profile typical of Roman military features - it is probably the western boundary of a marching camp.



Plate 5: Pit [120] with the northern half partly excavated, viewed from the west (0.5m scale). Note the mortaria in the bottom right corner and the charcoal-rich lower fill (193) showing through in places .



Plate 6: Close up of the mortaria within pit [120], viewed from the west (0.5m scale).



Plate 7: Pit [120] part excavated, viewed from the west (1m scale). Large pieces of carbonised wood can be seen lying right to left in the base of the pit; these were part of the charcoal-rich lower fill.



Plate 8: Pit [120] post excavation, viewed from the west (1m scale). Note the reddening of the subsoil around the edge of the cut, probably as a result of heating.



Plate 9: Pit [220] pre-excavation, viewed from the west (1m scale). Note the angular fracturing of the stone, possibly as the result of heating.



Plate 10: Pit [220] post-excavation, viewed from the west (1m scale). Note that the natural subsoil is reddened in places, probably as the result of heating.



Plate 11: Pit [185] post-excavation, viewed from the south (0.5m scale). This is typical of the shallow pits seen in the north east of the site.



Plate 12: Feature [148] post-excavation, viewed from the north (0.5m scale). This is typical of the flat-bottomed, roughly square features seen in the west of the site.

EXTRACT FROM ENGLISH HERITAGE'S RECORD OF SCHEDULED MONUMENTS

MONUMENT: Roman forts, marching camps and associated monuments PARISH: NORTH TAWTON DISTRICT: WEST DEVON COUNTY: DEVON NATIONAL MONUMENT NO: 10384 NATIONAL GRID REFERENCE(S): SS66120083 SS66360081

SS66180059 SS66170025 SS66209980

DESCRIPTION OF THE MONUMENT

The monument includes a complex of large Roman military enclosures together with a series of smaller enclosures and ring-ditches in fields around The Barton on the east bank of the R. Taw. The military enclosures have been identified as two forts and two marching camps. One fort, immediately south of the Okehampton-Crediton railway line, survives as low earthworks, the second is in cultivated fields north of the line and is visible as cropmarks.

The marching camps, which lie further north apparently enclosing The Barton, are also visible as cropmarks. The southernmost fort is limited by a low bank 0.4m high and 10m wide enclosing an area of about 2 ha. To the south and east traces of a bank are visible. To the west is an extension or annexe of about 1 ha. Immediately north of the fort, aerial photography has revealed a Roman roadway running east-west. The extent of the northernmost fort has been determined by aerial photography and survey. It appears to comprise at least two constructional phases and may reach 8-10 ha in area, confirming its identity as a vexillation fortress. Three of the ring ditches lie to the north of The Barton, the fourth lies further south, at the north-western angle of the northernmost fort. Unusually, three of the four have double concentric ditches, the fourth has a single ditch. They are identified as prehistoric funerary features, although, in view of their proximity to the military complex and their unusual double layout, they may be Roman military works. Additional cropmarks between the northernmost fort and The Barton are identified as prehistoric enclosures and land boundaries.

ASSESSMENT OF IMPORTANCE

Roman military fortresses, forts and marching camps are of great value in understanding the complex pattern of troop movements which accompanied the Roman conquest of Britain, an event for which we have only the broadest historical outline. With two marching camps a fort and probable fortress on the same site, the North Tawton monument represents a particularly unusual association of military enclosures. This suggests a complex history of troop dispositions unequalled by any other in the southwest peninsula, and by only a small number of sites nationally. The significance of the monument is considerably enhanced by the identification of the largest enclosure as a probable vexillation fortress. Vexillation fortresses - campaigning bases holding a mixed detatchment of between 2500 and 4000 legionary and auxiliary troops - are rare nationally with less then 20 identified examples, most of which are situated in the Midlands. The above average state of preservation of the fort south of the modern railway line further adds to the importance of the site. Roman forts are rare nationally particularly when they survive as earthworks.

SCHEDULING HISTORY

The monument was included in the Schedule on 18th July 1958. COUNTY/NUMBER: Devon 362 NAME: Roman camp 1/4 mile W of North Tawton Station The reference of this monument is now: NATIONAL MONUMENT NUMBER: 10384 NAME: Roman forts, marching camps and associated monuments SCHEDULING REVISED ON 15th December 1989

Impact assessment at site of warehouse extension for Vital Dog Supplies The Barton, North Tawton, Devon

M. J. Gillard Southwest Archaeology September 2006

Introduction

This document assesses the potential impact upon the archaeological remains at The Barton, North Tawton, Devon (SS 6606 0062) of the proposed extension to the warehousing on the site used by Vital Dog Supplies. It has been commissioned by K. W. and J. Dunn and Sons, at the request of English Heritage. The site is a Scheduled Monument (Devon 10384) but has been subject of similar development (with the relevant consents) in the past. A geophysical survey covering the proposed development and beyond was carried out in August 2006 (GSB Prospection).

Proposed Development (Figure 1)

The proposed development can be divided into three parts:

- An extension on the north side of the existing buildings, to the same width east to west (125m) and 18.75m north to south; in addition, a roadway 7m wide would be run along the north side of the new building and through an area up to 20m to the east.
- 2) Vehicle parking and a rainwater discharge holding pond would be established beyond the western end of the proposed extension; this would cover an area of 90m east to west by 45m north to south.
- 3) A new roadway along the eastern side of the existing buildings and the proposed extension; this will extend for 130m north to south and will be 7m wide from existing road. The northern end of this will link with the eastern end of part 1) above.

Likely Impact

The proposed development is within the area of Scheduled Monument 10384 that comprises both a series of ring-ditches, probably prehistoric, and a Roman military complex thought to include two marching camps, two forts and a stretch of roadway. On the north side of A 3072 (where the proposed development is sited) these features have mainly been identified as crop marks and the area in question is currently in use as arable farmland.

Archaeological excavation in advance of the construction of the warehousing immediately to the south of the proposed development (Passmore 2004) revealed topsoil of a depth of up to 0.5m beneath which archaeological features were cut into the subsoil. This concurs with earlier evaluation trenches within the nearby area (Reed (2002) and Whiteaway (2003)). Those features that could be dated ranged from probable Neolithic, through later prehistory to Roman, medieval and post-medieval. All were truncated by ploughing but survived to a depth of 0.2-0.5m.

Recent geophysical work upon the area of proposed development (GSB Prospection 2006) shows a number of anomalies that may be interpreted as possible archaeological features. Notably, a linear feature that matches the north western corner of a cropmark identified as one of the marching camps of the scheduling and shown to be a V-shaped ditch in excavation (Passmore 2004 – Ditch 700).

Based upon this previous work it is fair to assume all three areas of development lie over archaeological features that may be Roman and prehistoric in origin. All three areas of development identified above will be stripped of topsoil in advance of development; in addition the following groundworks will be necessary:

- 1) A levelling of the gentle westward slope of the site involving the truncation of the eastern half of the area by up to 1.3m. The digging of trenches for both foundations and services into the subsoil. The compacting of hardcore material on top of the subsoil for roadways.
- 2) The compacting of hardcore on top of the subsoil for parking surfaces; the construction of blockwork retaining walls and embankments, and excavation to a depth of up to 2m for the retaining pond.
- 3) The truncation of the existing ground surface by up to 1.6m to match with the current roadway and that to be built in area 1) and the compacting of hardcore on top of the subsoil.

In short, all the areas involve groundworks that are likely to damage or entirely truncate the relatively shallow archaeological remains identified in the vicinity and likely to exist in the area of the proposed development.

Proposed Scheme of Works

As a scheduled monument, this site is judged to be of national importance; therefore the works proposed are intended to 'preserve' any and all archaeological features by making a full record. In order to fully incorporate the development the works proposed below will be carried out over the following areas (matching the 3 areas previously discussed):

- 1) 145m east to west by 30m north to south
- 2) 90m east to west by 45m north to south
- 3) 10m east to west by 130m north to south

In order to ameliorate the impact of the development noted above the following scheme of works is proposed:

- The stripping of topsoil from all the areas noted above using a toothless grading bucket under ` archaeological supervision
- The recording in plan of all features revealed on the surface of the topsoil
- The excavation by hand of a sufficient sample of each feature to determine its function, form and date
- Full archaeological records to be made (drawn, written and photographic) to standard IFA guidelines
- Environmental sampling to be carried out as appropriate advice to be taken from V. Straker (English Heritage) as required
- All work to be carried out by sufficiently qualified and experienced staff
- The compilation of a site archive
- The writing of an excavation report to appropriate standard, copies to be deposited with English Heritage and the Devon County Historic Environment Services
- The publication of the excavation in an appropriate journal, should they be of sufficient interest to warrant it; this seems likely given the scheduled status of the site and the evidence of Roman and earlier features for previous work

This scheme of works is intended to preserve by record the archaeological features within Scheduled Monument 10384 that will be truncated or severely damaged by the development proposed upon the site.

Bibliography

GSB Prospection Ltd, 2006: Roman Marching Camp, North Tawton, Devon, Geophysical Survey Report 2006/61
 Passmore, A. J. 2004: Archaeological recording at site of new warehouse for Vital Dog Supplies, The Barton North Tawton, Exeter Archaeology 04.11
 Reed, S. J. 2002: Archaeological evaluation of proposed site of new warehouse for Vital Dog Supplies, The Barton, North Tawton, Exeter Archaeology 02.35
 Whiteaway, T. E. 2003: Archaeological evaluation of proposed site lorry park and storm water storage pond at The Barton, North Tawton, Exeter Archaeology 03.60

Appendix 3 Scheduled Monument Consent

Architecture and Tel 0207211 2355 Fax 0207211 2389 Historic Environment stewart.kemsley@ culture.gsi.gov.uk Dr M Gillard Your Ref South West Archaeology HSD 9/2/8759 Our Ref The Thornes Kentisbury 5 December 2006 Barnstaple Devon EX31 4NQ

Dear Sir

ANCIENT MONUMENTS AND ARCHAEOLOGICAL AREAS ACT 1979 (AS AMENDED) - SECTION 2 PROPOSED WORKS AT ROMAN FORTS, MARCHING CAMPS AND ASSOCIATED MONUMENTS, NORTH TAWTON, DEVON NATIONAL MONUMENT NO. 10384 APPLICATION BY DR M J GILLARD ON BEHALF OF MR AND MRS DUNN

1. I am directed by the Secretary of State for Culture, Media and Sport to refer to your client's application for scheduled monument consent dated 30 October 2006 and to Figure 1: Proposed developments at SAM 10384, North Tawton and the Impact Assessment dated September 2006, submitted therewith in respect of proposed works at the above scheduled ancient monument concerning the construction of a warehouse extension, associated road access, services, parking area and pond.

2. In accordance with paragraph 3(2) of Schedule 1 to the 1979 Act, the Secretary of State is obliged to afford to the applicant, and to any other person to whom it appears to the Secretary of State expedient to afford it, an opportunity of appearing before and being heard by a person appointed for that purpose. This opportunity has been declined in your telephone conversation with Anne Middleton of the Department on 5 December 2006.

The Secretary of State is also required by the Act to consult with the 3. Historic Buildings and Monuments Commission for England (English Heritage) before deciding whether or not to grant scheduled monument consent. Having received the advice of English Heritage, the Secretary of State considers that the proposed works will result in the loss of buried archaeological evidence for which preservation in situ is not regarded as feasible. Appropriate arrangements for essential archaeological supervision and recording before and during the works are specified in the application. The effects of the works on the setting of the monument have also been assessed and are not considered to be an overriding factor in this instance. She is agreeable for the works to proceed providing the conditions recommended by English Heritage, and set out below, are adhered to and accordingly hereby grants scheduled monument consent under section 2 of the 1979 Act for the proposed works as referred to in paragraph 1 above, subject to the following conditions:

(i) The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by English Heritage (the Historic Buildings and Monuments Commission for England).

At least 1 week's notice, (or such period as may be mutually agreed) in writing of the commencement of work shall be given to Ian Morrison, Inspector of Ancient Monuments, English Heritage, 29 Queen Square, Bristol, BS1 4ND in order that an English Heritage representative can have the opportunity to inspect and advise on the works and their effect in compliance with this consent.

(ii) Before works are carried out, the applicant will ensure that Dr M J Gillard, South West Archaeology, The Thornes, Kentisbury, Barnstaple, Devon, EX31 4NQ or nominated representative has made arrangements to enter the site at any reasonable time before, and during, the execution of the specified works for the purposes of inspecting the site and in accordance with the written scheme of investigation submitted with the application, recording and removing for study of any matters of archaeological importance observed in the course of the inspection.

(iii) All those involved in the works must be informed of the scheduled status of the monument, its extent, and the legal obligations which apply.

(iv) A summary excavation report shall be sent to Ian Morrison, of English Heritage, within 3 months (or such other period as may be mutually agreed) of completion of the excavation. Within 5 years of completion of the excavation a full site archive (and assessment) shall be prepared and deposited in the County Sites and Monuments Record and a final report of the excavation (and analysis) shall be prepared and made available to the County Sites and Monuments Record for publication. The National Monuments Record shall also be invited to receive copies of both archive and report.

4. By virtue of section 4 of the 1979 Act, if no works to which this consent relates are executed or started within five years from the date of this letter, the consent shall cease to have effect at the end of that period (unless it is revoked before then).

5. This letter does not convey any approval or consent required under any enactment, bye law, order or regulation other than section 2 of the Ancient Monuments and Archaeological Areas Act 1979.

6. Attention is drawn to the provisions of section 55 of the 1979 Act under which any person (hereinafter referred to as the "applicant") who is aggrieved by the decision given in this letter may challenge its validity by an application made to the High Court within six weeks from the date when the decision is given. The grounds upon which an application may be made to the Court are (1) that the decision is not within the powers of the Act (that is, the Secretary of State has exceeded her powers) or (2) that any of the relevant requirements have not been complied with and the applicant's interests have been substantially prejudiced by the failure to comply. The "relevant requirements" are defined in section 55 of the 1979 Act: they are the requirements of that Act and the Tribunals and Inquiries Act 1971 and the requirements of any regulations or rules made under those Acts.

7. A copy of this letter is being sent to English Heritage and to: Frances Griffith, County Archaeologist, Devon County Council, Matford Lane Offices, County Hall, Topsham Road, Exeter, EX2 4QD and to: Andrew Crabb, Dartmoor National Park Authority, Parke, Bovey Tracey, Newton Abbot, Devon. TQ13 9J

Yours faithfully,

A R Middleton (Miss) Authorised by the Secretary of State to sign in that behalf

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION AND ARCHAEOLOGICAL RECORDING AT THE SITE OF WAREHOUSE EXTENSION FOR VITAL DOG SUPPLIES, THE BARTON, NORTH TAWTON, DEVON

NGR: SS 6606 0062

1.0 Introduction

1.1 This document has been produced by South West Archaeology at the request of English Heritage (EH) South West Region, on behalf of K. W. and J. Dunn and Sons (the Client) and sets out the methodology for archaeological excavation and recording to be undertaken prior to the start of the development of the site.

The area subject to this work is the site of a proposed extension on the north side of the extant warehousing with associated roadways and other services.

It is proposed to strip the entire site of topsoil and excavate/record all features thereby revealed.

- 1.2 The proposed development can be divided into three parts (shown on the accompanying figure see Fig. 1):
 - 1) An extension on the north side of the existing buildings, to the same width east to west (125m) and 18.75m north to south; in addition, a roadway 7m wide would be run along the north side of the new building and through an area up to 20m to the east.
 - 2) Vehicle parking and a rainwater discharge holding pond would be established beyond the western end of the proposed extension; this would cover an area of 90m east to west by 45m north to south.
 - 3) A new roadway along the eastern side of the existing buildings and the proposed extension; this will extend for 130m north to south and will be 7m wide from existing road. The northern end of this will link with the eastern end of part 1) above.
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The development area is currently arable farmland or grassed margins on the edge of modern concrete roadways.

1.3 As detailed in the impact assessment (Gillard 2006) the proposed development is likely to entirely truncate or severely damage all archaeological features in the areas listed above.

2.0 ARCHAEOLOGICAL BACKGROUND

- 2.1 The site is of considerable archaeological sensitivity being within the scheduled monument **Roman forts, marching camps and associated monuments, North Tawton – National Monument Number 10384.** All relevant arrangements concerning consent and permissions to excavate and develop upon a scheduled site will be followed.
- 2.2 This monument comprises both a series of ring-ditches, probably prehistoric, and a Roman military complex thought to include two marching camps, two forts and a stretch of roadway. On the north side of the A 3072 (where the proposed development is sited) these features have mainly been identified as crop marks and the area in question is currently in use as arable farmland.
- 2.3 Work undertaken by Exeter Archaeology to the immediate south of the proposed development (Passmore 2004) revealed topsoil of a depth of up to 0.5m beneath which archaeological features were cut into the subsoil. This concurs with earlier evaluation trenches within the nearby area (Reed 2002) and Whiteaway (2003). Those features that could be dated ranged from probable Neolithic, through later prehistory to Roman, medieval and post-medieval. All were truncated by ploughing but survived to a depth of 0.2-0.5m.

Recent geophysical work upon the area of proposed development (GSB Prospection 2006) shows a number of anomalies that may be interpreted as possible archaeological features. Notably, a linear feature that matches the north-western corner of a cropmark identified as one of the marching camps of the scheduling and shown to be a V-shaped ditch in excavation (Passmore 2004 – Ditch 700).

3. AIMS

- 3.1 Owing to the extent of the archaeological work carried out in the vicinity of the proposed development (see above, 2.3) a further evaluation of the site is not regarded as necessary.
- 3.2 The aim of the proposed works is to 'preserve by record' all archaeological features within the proposed development area. This will be achieved by detailed excavation and recording the methodology of which is laid out below.

4.0 METHOD

- 4.1 The excavation will be carried out by a team of relevant competence and experience. Details of the site director and supervisors are included below (Appendix 1).
- 4.2 The archaeological work will be carried out in accordance with the Institute of Field Archaeologists Standard and Guidance for an archaeological Excavation (revised 1995).
- 4.3 All topsoil, plough soil and modern overburden will be removed from the areas of the proposed development (see 1.2 above and accompanying figure) down to the first significant archaeological horizon or undisturbed subsoil. This removal will be carried out using a mechanical excavator with a wide, toothless, ditching bucket or similar under close archaeological supervision. The spoil will be examined for the recovery of artefacts.
- 4.4 A plan will be made at an appropriate scale of all features revealed at this stage. Cleaning with hand-tools will be carried out as necessary to clarify this planning stage.
- 4.5 All linear features will be excavated with hand-tools; a sufficient sample of each feature will be excavated to determine its function, form and date. This will be achieved through a series of 1m wide trenches through the fills of the features; at least one section of each trench will be drawn. If thought necessary to allow interpretation, dating, and collection of environmental data, trenches wider than 1m will be excavated through the fills of the linear features.
- 4.6 More discrete features such as pits and post holes will be excavated with hand-tools; a sufficient sample of each feature will be excavated to determine its function, form and date. This will take the form of a half-section or opposing quadrants as appropriate, allowing section drawings to be made. For larger features a series of trenches may be dug as transects across them.
- 4.7 All excavation will be carried out by staff with appropriate training and experience under adequate supervision. Archaeological contexts will be removed individually wherever possible, in reverse stratigraphic sequence. Use of pick or mattock, or further machine excavation, will only be carried out on homogeneous layers where it can reasonably be argued that more detailed excavation would provide no more information of value.
- 4.8 Any finds of human remains (not expected in the light of previous work) will, if possible, be left *in situ* following discussion with the client, English Heritage and Devon County Historic Environment Service (DCHES) to ensure they will be undisturbed by the development. If this is not possible the remains will be removed in compliance with appropriate legal and regulatory standards.
- 4.9 Any finds of silver or gold will be reported to the local Coroner according to the procedure laid down in the 1996 Treasure Act. They will be removed to a secure place on the day of discovery or, if left on site, adequate security measures shall be arranged.
- 4.10 Any alterations to this written scheme of investigation or queries concerning its execution shall be negotiated with EH and DCHES.

5.0 ARCHAEOLOGICAL RECORDING

- This will be based on IFA guidelines and will include:
- 5.1 A unique-number site code.
- 5.2 Standardised pro forma recording sheets for each archaeological feature and context.
- 5.3 A site location plan on an Ordnance Survey base map; pre- and post-excavation plans at an appropriate scale (1:100 or 1:200) showing all features and excavations in the development area. These maps will show the relationship of the site to the OS grid and include all benchmarks used.
- 5.4 All excavated discrete features will be planned at an appropriate scale (1:10 or 1:20), as will all trenches dug through linear features.

- 5.5 As noted above, sections will be drawn at an appropriate scale (1:10 or 1:20) of at least one side of all trenches dug through linear features and discrete features.
- 5.6 Heights relative to Ordnance Datum will be shown on all plans and sections.
- 5.7 A 'Harris Matrix' diagram will be compiled and checked on site to record all stratigraphic relationships.
- 5.8 A photographic record of the excavations will be made using black-and-white print, colour transparency and digital photography. This will show both in detail and general all principal features and contexts revealed and 'working shots' of the site and excavation process.

6.0 TREATMENT OF FINDS AND SAMPLES

- 6.1 All finds will be collected and bagged according to their individual contexts and treated in accordance with professional standards. An accession number will be obtained in advance from the recipient museum Plymouth City Museum. All deposition of archives and artefacts will adhere to the recipient museum's guidance on this matter. An accession number will be obtained in advance of the start of fieldwork.
- 6.2 Modern and/or unstratified finds (e.g.: from plough soil) may be discarded on site after a representative sample has been retained but only following consultation with EH and DCHES.
- 6.3 A sampling strategy, particularly to collect dating and environmental evidence, and technological debris, will be developed in consultation with English Heritage's Regional Archaeology Science Advisor (Vanessa Straker). They will also be consulted concerning treatment and processing of samples and finds.
- 6.4 Finds and samples will be subjected to the appropriate specialist analysis in particular to examine dating and environmental evidence; a list of specialists to be used is included below (Appendix 2). However, the programme of post-excavation analysis will be developed in consultation with EH and DCHES. All works will follow the EH Guidance documents on Environmental Archaeology, Geoarchaeology and Archaeometallurgy.
- 6.5 If features produce organic material (most likely charcoal) in appropriate form and quantities for radiocarbon dating then a programme of sampling and dating will be agreed with EH.

7.0 ARCHIVE AND REPORT

- 7.1 An ordered and integrated site archive will be prepared in accordance with The Management of Archaeological Projects (English Heritage, 1991 2nd edition) upon completion of the entire project. This will include relevant correspondence together with context sheets, field drawings, and environmental, artefactual and photographic records. The archive and finds will be deposited at Plymouth City Museum in accordance to the guidelines laid down by the museum.
- 7.2 An illustrated report will be produced as soon as possible following completion of fieldwork, specialist reports allowing, and submitted to EH, DCHES and the Client. Should the production of specialist reports entail a significant delay then an interim report will be submitted to EH, DCHES and the Client outlining the results of the fieldwork.
- 7.3 A report will be produced. This will include the following elements:
 - 7.3.1 A location plan and overall site plan showing distribution of archaeological features;
 - 7.3.2 Plans and sections of significant features or deposits at a relevant scale;
 - 7.3.3 A description of any remains and deposits identified including an interpretation of their character and significance;
 - 7.3.4 An assessment of significant artefacts, environmental and scientific dating samples together with recommendations for further analysis;
 - 7.3.5 Any specialist reports commissioned;
 - 7.3.6 Discussion of the archaeological deposits encountered and their context.
- 7.4 Should they merit it; the results of these excavations will be published in an appropriate academic journal. Such an article will discuss the results of the excavation in the context of other related archaeological evidence from the site (including air photograph images). If required, after the production of the initial report, a programme and timetable for this will be submitted to EH, DCHES and the Client for approval.

7.5 An entrance to OASIS will be produced.

8.0 MONITORING AND SAFETY

- 8.1 Health and Safety requirements will be observed at all times by any archaeological staff working on site, particularly when working with machinery. High-visibility jackets, safety helmets and protective footwear will be worn. The site archaeologist will undertake any site safety induction course provided by the Client. If the depth of trenching exceeds 1.2 meters the trench sides will be shored or stepped to enable the archaeologist to examine and if appropriate record the section of the trench.
- 8.2 EH and DCHES will be informed of the timetable and progress of the archaeological investigations. Reasonable access to the site will be granted to representatives of these organisations for the purpose of site inspections, EH having a statutory right to access during works upon a scheduled site.

REFERENCES:

 Gillard, M. J. 2006: Impact assessment at site of warehouse extension for Vital Dog Supplies, The Barton, North Tawton, Southwest Archaeology – September 2006
 Passmore, A. J. 2004: Archaeological recording at site of new warehouse for Vital Dog Supplies, The Barton North Tawton, Exeter Archaeology 04.11
 Reed, S. J. 2002: Archaeological evaluation of proposed site of new warehouse for Vital Dog Supplies, The Barton, North Tawton, Exeter Archaeology 02.35
 Whiteaway, T. E. 2003: Archaeological evaluation of proposed site lorry park and storm water storage pond at The Barton, North Tawton, Exeter Archaeology 03.60

Martin Gillard South West Archaeology The Thornes, Kentisbury, Barnstaple, Devon EX31 4NQ Telephone: 01271 883000

APPENDIX ONE: SUPERVISORY STAFF:

Project Director: Martin Gillard BA History – Royal Holloway and Bedford New College 1993 MA Landscape Studies – University of Leicester 1998 PhD Landscape of Medieval Exmoor – University of Exeter 2002

13 years of archaeological fieldwork experience in southern England, Czech Republic and Jordan 7 years of supervisory experience on research and developer-led projects, including site direction and publication

Supervisors: Jon Freeman BA Archaeology and Medieval Studies – University of Exeter 1995 MA Archaeology – University of Exeter 1997 12 years of archaeological experience in southwest England

6 years of supervisory experience on developer-led projects, including site direction and publication

Chris Preece BA Archaeology – Institute of Archaeology UCL 1977 MA Maritime Archaeology – Southampton University 1999 Extensive archaeological fieldwork experience since 1973 in Britain, Ireland and Libya Including supervision, site direction and publication

APPENDIX TWO: SPECIALISTS

As noted above, Vanessa Straker (English Heritage) will be consulted throughout concerning sampling and specialist scientific matters.

Conservation

Richard and Helena Jaeschke

Human Bones

Louise Loe, Lecturer in Biological Anthropology, School of Conservation Sciences, Bournemouth University

Lithics

Ann and Martin Plummer

Metallurgy

Sarah Paynter, Centre for Archaeology, Fort Cumberland, Fort Cumberland Road, Portsmouth

Palaeoenvironmental/Organic

Rowena Gale (wood identification) Julie Jones (plant macro-fossils) Heather Tinsley (pollen analysis) Ralph Fyffe (pollen analysis) University of Plymouth

Pottery

John Allan, Exeter Archaeology Henrietta Quinnell,

Timber Conservation

Liz Goodman Specialist Services Conservation Museum of London



Fig. 1: Proposed developments at SAM 10384, North Tawton

North Tawton Barton Context List

Context	Description	Site grid
Number		co-ordinates
[100]	Roughly circular cut 0.6m diameter, 0.15m deep, bowl-shaped	91,150
101	Fill of [100] fairly soft grey-brown clay-silt, stone common, some charcoal	91,150
[102]	Roughly circular cut 0.85m diameter, 0.16m deep, shallow bowl-shaped	238,166
103	Fill of [102] fine dark grey-brown to black clay-silt, very little stone, charcoal common	238,166
[104]	Irregular cut up to 0.4m across, <0.070m deep, damaged by agricultural subsoiling	242,167
106	Lens of mid brown clay-silt with some grit and charcoal, 0.2m across and <0.04m thick	93,153
107	Fill of [104] soft mid to dark grey-brown clay-silt, a little stone, charcoal very common	242,167
[108]	Roughly circular cut 0.95m diameter, <0.1m deep, shallow bowl-shape	245,167
109	Fill of [108] mid grey-brown clay-silt, a little stone, charcoal common	245,167
[110]	Circular cut 0.3m diameter <0.15m deep, bowl-shaped	95,154
111	Fill of [110] mid red-brown clay-silt, stone quite common, some charcoal	95,154
[112]	Irregular cut 1.17m E-W by 0.85m N-S <0.15m deep, shallow bowl-shaped, damaged by agricultural subsoiling	247,167
113	Fill of [112] grey-brown clay-silt, occasional stone, charcoal common	247, 167
[114]	Circular cut 0.5m diameter, <0.1m deep, shallow bowl-shape	77, 170
[115]	Cut, square with rounded corners, 0.6m across, 0.1m deep, steep sides and flat base	172, 190
116	Fill of [115] soft grey-brown clay-silt, stone fairly common	172, 190
[117]	Sub circular cut 0.75m N-S by 1.0m E-W <0.23m deep	250, 165
118	Fill of [117] soft grey-brown clay-silt, some grit and stone, charcoal fairly common	250, 165
119	Fill of [114] soft mid grey-brown clay-silt, stone common, charcoal common	77, 170
[120]	Rectilinear cut with rounded corners, 1.75m N-S by 0.8m E-W <0.1m deep, steep sides and flat base, indications of heating around sides of feature	103, 154
121	Upper fill of [120] grey-brown clay-silt, stone abundant, some charcoal, around 50mm thick but irregular, stone shows signs of heating	103, 154
[122]	Roughly circular cut 0.6m across <75mm deep, steep sides and flat base	73,180
123	Fill of [122] fairly soft mid-brown clay-silt, some stone	73, 180
[124]	Cut, square with very rounded corners, 0.6m across <0.1m deep, bowled profile	66, 210
[125]	Circular cut 0.25m diameter <0.22m deep, sides steep, deeper to NW	156, 104
126	Fill of [125] fairly soft and crumbly grey-brown clay-silt, some stone, charcoal common	156, 104
127	Fill of [124] fairly soft grey-brown clay-silt, stone common	66, 210
[130]	Circular cut 0.45m diameter, 0.1m deep, 0.2m deep in centre	101, 163
131	Upper fill of [130] mid grey-brown clay-silt, some stone and charcoal	101, 163
[132]	Ditch 14m E-W, 1.4-1.7m wide, <0.6m deep, V-shaped in profile	55, 220
133	Upper fill of [132] mid-brown to grey silt-clay, few inclusions <0.25m thick	55, 250
136	Lens of mid-brown clay-silt, some charcoal, 0.2m across <20mm thick	168, 195
[138]	Cut, square with rounded corners, 0.6m across, 0.1m deep, steep sides and flat base	167, 198
139	Fill of [138] soft mid-brown clay-silt, stone common	167, 198
[143]	Sub round cut 0.5m NE-SW by 0.3m NW-SE, sides near vertical, 0.35m deep to SW, 0.25m deep to NE	80, 170
144	Fill of [143] fairly soft grey-brown clay-silt, stone and charcoal common	80, 170
147	Lower fill of [130] soft grey-brown clay-silt, some stones and a little charcoal	101, 163
[148]	Roughly circular cut 0.6m across <0.1m deep, sides steep and base irregular	166, 206
149	Fill of [148] soft mid-brown clay-silt with some stone	166, 206

[150]	Ditch 85m ENE-WSW, 1.1m wide, <0.25m deep, N side steeper than S	150, 170
151	Fill of [150] fairly soft mid-brown clay-silt, stone common	150,170
[152]	Rectangular cut with rounded corners, 2.1m N-S by 0.85m E-W, 0.5m deep, vertical sides and flat base	67, 200
153	Fill of [152] loose grey-brown clay-silt, grit and gravel very common, stone common, parches of pink and orange material	67, 200
[158]	Oval cut 0.6m E-W by 0.74m N-S <0.15m deep, base irregular	71, 194
159	Fill of [158] soft mid-brown clay-silt, a little stone	71, 194
[160]	Oval cut 0.9m NW-SE by 0.6m NE-SW, bowl-shaped, depth 0.12m	161, 178
161	Fill of [160] red-brown clay-silt, stone very common	161, 178
[162]	Ditch 25m NNW-SSE, 0.6-1m wide, <0.3m deep, broad U-shape in profile	181, 158
163	Fill of [163] fairly soft grey-brown clay-silt, some stone	181, 158
[164]	Ditch 24m N-S, 0.9-1.5m wide, <0.5m deep, V-shaped in profile	168, 158
167	Fill of [164] soft brown-grey clay-silt, a little stone, a little charcoal in patches	168, 158
[172]	Oval cut 0.35m SE-NW by 0.25m SW-NE, <0.15m deep, sides taper to bowled base	80, 170
173	Fill of [172] grey-brown silt-clay, occasional stone, charcoal common	80, 170
[177]	Oval cut 1.4m N-S by 1.1m E-W, <0.1m deep, shallow bowl shape	249, 185
178	Fill of [177] soft grey-brown clay-silt, a little sand, grit and charcoal	249, 185
[180]	Sub circular cut 0.4m E-W by 0.3m N-S, <0.12m deep, steep-sided bowl in profile	219, 165
181	Fill of [180] fairly soft grey-brown clay-silt, charcoal common, stone rare	219, 165
[182]	Roughly circular cut 0.7m diameter, <75mm deep, flat base, sides 45°	67, 189
183	Fill of [182] fairly soft grey-brown clay-silt, stone common	67, 189
[185]	Roughly circular cut 0.8m diameter, <0.15m deep, shallow bowl in profile	223, 165
186	Fill of [185] fairly soft grey-brown silt-clay, charcoal common, occasional stone	223, 165
[187]	Ditch 15m E-W, <0.75m wide, <0.45m deep, tapers off to W, cut within line of [132]	55, 220
188	Fill of [187] mid-brown to red silt clay, stone common	55, 220
189	Upper fill of [132] cut by [187] friable grey-brown silt-clay, a little stone	55, 220
[190]	Rectilinear cut, a little irregular, 1.6m N-S by 0.9m E-W, <0.3m deep, sides steep, base deeper to N	227, 165
191	Lower fill of [190] soft dark grey-brown clay-silt, fills full depth of S end of cut, tapers off to N end	227, 165
192	Upper fill of [190] fairly soft orange-grey clay-silt, frequent small stones and quartz, occasional charcoal	227, 165
193	Lower fill of [120] soft dark grey-brown to black clay-silt, a little stone, abundant	103, 154
[194]	Oval post hole on edge of [162] around 0.25m across, <0.13m deep	180, 154
195	Fill of [194] fairly compact mid-brown to orange silt-clay	180, 154
[196]	Roughly rectangular post hole on edge of [162] around 0.2m across, <0.17m deep	179, 155
197	Fill of [196] compact mid-brown silt-clay, a little stone	179, 155
[198]	Circular post hole on edge of [162] 0.28m diameter, <0.09m deep	178, 167
199	Fill of [198] friable red-brown silt-clay, a little stone	178, 167
[200]	Feint truncated ditch, 27m N-S <0.7m wide <0.13m deep, base flat, E edge steeper than W edge	56, 195
201	Fill of [200] fairly soft mid-brown clay-silt, gravel very common	56, 195
202	Lowest fill of [132] moist red-brown silt-clay, around 0.10m thick	56, 195
[205]	Oval cut 0.9m E-W by 0.5m N-S <0.075m deep, gently bowled in profile	88, 170
206	Fill of [205] soft dark grey-brown clay-silt, some stone, charcoal very common	88, 170
[207]	Shallow linear 16m NE-SW, 3m wide, 0.12m deep, truncated to SW, flat base	285, 130
208	Upper fill of [207] mid-brown silt-clay, small stones very rare	285, 130
209	Lower fill of [207] red silt clay, stones abundant, <0.05m thick	285, 130

211	Irregular spread 0.8m E-W by 0.4m N-S grey-brown clay-silt, stones and charcoal common, <0.05m thick	81, 170
[212]	Shallow linear 13m ENE-WSW, 2.8m wide, 0.16m deep, truncated to WSW, flat base	285, 112
213	Upper fill of [212] soft red-brown clay-silt, stone rare	285, 112
214	Lower fill of [212] friable red-brown clay-silt, stone abundant	285, 112
[217]	Shallow linear 7.5m ENE-WSW, 2.8m wide, <0.2m deep, truncated to WSW, flat base, disturbed by burrowing	285, 100
218	Fill of [217] fairly friable mid-brown silt-clay, some stones	285, 100
[220]	Rectilinear cut with rounded corners, 1.2m N-S by 0.55m E-W <0.2m deep, steep sides and flat base, indications of heating around sides of feature	105, 170
221	Upper fill of [220] fairly loose and soft grey-brown clay-silt <0.2m thick, stone very common, charcoal common, stone shows signs of heating	105, 170
222	Lower fill of [220] soft dark-grey to black clay-silt <0.1m thick, charcoal abundant, stone rare	105, 170
[225]	Oval cut 0.8m NNW-SSE by 0.5m WSW-ENE <0.28m deep, flat base, W side near vertical, E side 45°	106, 163
226	Upper fill of [225] fairly soft grey-brown clay-silt <0.1m thick, stone rare	106, 163
227	Lower fill of [225] mottled grey-brown/orange-brown clay-silt <0.2m thick, stone common	106, 163
[230]	Oval cut 0.95m WNW-ESE by 0.65m SSW-NNE <0.12m deep, bowl shaped	118, 156
231	Fill of [230] loose and soft mid grey-brown clay-silt, charcoal and stone common	118, 156
[235]	Modern service cut 200m E-W by 100m N-S, contains plastic pipe to E	110, 148 to 275, 149
236	Fill of [235] – mixed topsoil and subsoil	110, 148 to 275, 149
[240]	Circular cut 0.5m diameter <0.1m deep, bowl-shaped in profile	289, 133
241	Fill of [240] fairly compact orange-brown clay-silt, rare stone, common charcoal	289, 133
[242]	Circular cut 0.5m diameter <0.080m deep, bowl-shaped in profile	289, 133
243	Fill of [242] red-brown silt-clay, a little stone and charcoal	289, 133
[244]	Circular cut 0.13m diameter 0.15m deep, tapers to point at base	288, 132
245	Fill of [244] fairly compact red-brown silt-clay, a little stone	288, 132
[250]	Circular cut 1.0m in diameter <0.22m deep, bowl-shape in profile, steeper to E	131, 160
251	Fill of [250], fairly soft pink-brown silt-clay, a little stone	131, 160
261	Lens 0.4m across <0.015m thick, soft grey-brown clay-silt, some stone, charcoal common	164, 164

The Flint Assemblage by M. Tingle

Introduction

The assemblage is composed of both stratified and unstratified material, the former being 59 pieces weighing 422g while the latter being 105 pieces weighing 596g. Most of the pieces are in a very fresh condition and as well as flint, there are a small number of worked chert pieces.

Raw Materials

Although much of the flint is without surviving dorsal cortex, the remaining pieces suggest that it derived from both chalk and secondary deposits. Much of the flint is a mottled pale grey and similar to that recovered from sites adjacent to chalk deposits. Other flint types represented are a white cherty flint that resembles descriptions of material from the Haldon, and pale brown and reddy brown examples similar to those described from Orleigh Court (Newberry 2002, 19-23). There is also a small element of worked chert made up of 2 uncorticated, reddy brown flakes (stratified) and a single unstratified secondary flake of a light brown chert. The precise source of the chalk derived flint and other flints remain a matter of speculation however the assemblage in general seems to share many of the lithic sources of the much larger group of finds from East Week c.9kms to the south of the site (Grieg & Rankine 1953; Newberry 2002, 23-26).

Composition and Technology

The stratified flake assemblage is dominated by Tertiary and Uncorticated flakes and it is notable that the Primary, Secondary and Tertiary flakes have similar mean weights. This, together with the low numbers of cores and core fragments would suggest that whatever flint reduction was taking place on site was utilising nodules which had been partially reduced elsewhere.

The arrowhead is probably an oblique type although it may be a petit-tranchet derivative (slight damaged on one edge makes it impossible to be certain), however both arrowhead types occur within a similar date range.

Number	Weight (g)	Mean Weight (g)
1	10	10
3	20	6.6
10	94	9.4
22	85.5	3.8
16	38.5	2.4
2	153	76.5
1	10	10
2	4	2
1	5	5
	Number 1 3 10 22 16 2 1 2 1 2 1	NumberWeight (g)11032010942285.51638.521531102415

Table 1.The composition of the stratified assemblage

The unstratified flake assemblage, in contrast to the stratified material, shows a regular reduction of mean flake weight from Primary through to Uncorticated which suggests the on-site reduction of whole flint nodules. This may imply differing reduction strategies, perhaps for differing flint sources, however the total number of pieces considered in the analysis is too small for any definite conclusions to be drawn from the data.

The range of retouched tools is slightly greater in the unstratified assemblage. All of the 3 scrapers show evidence of wear and re-sharpening as might be expected in an area where flint is not immediately available.

Find	Number	Weight (g)	Mean Weight (g)
Primary Flake	2	38	19
Secondary Flake	5	62	12.4
Tertiary Flake	16	97	6
Uncorticated Flake	26	87	3.3
Broken Flake	40	26	1.5
Core trimming flake	1	14	14
Burnt worked flint	3	4	1.3
Core	1	7	7
Core Fragment	4	80	20
Scraper	3	56	18.6
Retouched Flake	2	18	9
Fabricator	1	7	7

Table 2: The composition of the unstratified assemblage

Distribution

The stratified worked flint derives from 17 contexts which form elements within 15 features, although over 50% of this assemblage was recovered from two features. The greatest concentration was 20 waste flakes from context (111), the fill of a small shallow circular feature [110] while 13 pieces were also recovered from (167), the fill of ditch [164].

Dating

The datable pieces within the assemblage comprise of a probable oblique arrowhead and a fabricator both of which are associated with the late Neolithic/early Bronze Age. This would be in keeping with the flake assemblage that in general is composed of squat flakes, with an absence of blades or long flakes.

Conclusion

The assemblage is composed of 164 pieces of which 59 were in stratified deposits, with 32 of these recovered from two separate contexts. Therefore there is little that can be said of the material other than that it is consistent with late Neolithic and/or early Bronze Age activity.

Terminology

Throughout this analysis the term cortex refers to the natural weathered exterior surface of a piece of flint while patination denotes the colouration of the flaked surfaces exposed by human or natural agency. Following Andrevsky (1998, 104) dorsal cortex is divided into four categories; the term primary flake refers to those with cortex covering 100% of the dorsal face while secondary flakes have cortex on between 50% to 99% of the dorsal face. Tertiary flakes have cortex on 1% to 49% of the dorsal face while flakes with no dorsal cortex are referred to as non cortical.

A blade is defined as an elongated flake whose length is at least twice as great as its breadth. These often have parallel dorsal flake scars, a feature that can assist in the identification of broken blades that, by definition, have an indeterminate length/breadth ratio.

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Stratified Flint Assemblage

Context 101	<i>Find</i> Core Tertiary Flake Uncorticated Flake	No 1 1 3	<i>Weight (g)</i> 59 23 10	<i>Comment</i> Unsystematic
111	Broken Flake Secondary Flake Tertiary Flake Uncorticated Flake	4 1 5 10	3 12 51 22	
113	Secondary Flake	1	1	
118	Primary Flake	1	10	
127	Blade (Broken)	1	2	
131	Broken Flake Tertiary Flake Uncorticated Flake	2 2 1	2 16 13	
133	Uncorticated Flake	1	0.5	
137	Broken Flake	1	0.5	
159	Broken Flake Uncorticated Flake	1 1	1 16	Pale Brown Flint
167	Broken Flake Retouched Flake Secondary Flake Tertiary Flake Uncorticated Flake Uncorticated Flake	5 1 1 2 3 1	21 1 7 4 9 2	Reddy Brown Chert
191	Broken Flake	2	9	
192	Uncorticated Flake	1	1	
221	Broken Flake	1	2	
226	Core Uncorticated Flake	1 1	94 12	Reddy Brown Chert
241	Core Fragment	1	10	
243	Arrowhead Retouched Flake	1 1	5 3	
Stratified Total		59	222	
167	Natural Flint	4	9	

Ploughsoil Flint Assemblage

Context	Find	No	Weight (g)	Comment
Ploughsoil	Broken Flake	2	2	

0
) 22
7 96
4
7
80
14
7
15
23
11
7
27
5
24
11
51
5
1
48
) 43
24
3 63
05 596
144

43g, 9g, 17g,11g

The Romano-British Ceramics by A. T. Croom (Tyne and Wear Museums Archaeology)

The Pottery

The site produced eight sherds of Roman pottery from two vessels. One sherd, from context 202, is the complete pedestal base of a south-western BB1 bead-rim jar (Holbrook and Bidwell 1991, types 7-9), of firstor second-century date. The other sherds, from context 121, come from a mortarium in a coarse grey-white fabric with a wide, dark grey core, with a rolled-under flange and a high, split bead (Fig. 18; Tomber and Dore 1998, fabric code SPA WH). A Spanish origin was initially suggested for this fabric, but a source in western France is now favoured (Hartley and Tomber 2006, 26). This is the second example of this type of mortarium that has been found at North Tawton [the first example being from the surviving Roman earthwork camp *c*.800m to the south] (Hartley 1991, 194). Distribution in this country is almost entirely restricted to the southwest, with the largest number, a total of 13, coming from Exeter. The type is probably mainly pre-Flavian in date, although importation might have continued into the early Flavian period (*ibid.*, 194).

The Tile

The tile consists of an end fragment and a body sherd from two separate tiles. They both have the coarse fabric with scattered large inclusions typical of Roman tiles, but the inner surface does not have the usual sanded finish of *imbrices*. This may be the result of their manner of manufacture, when the wire-trimmed top surface of the clay blank was folded over an upright former to become the inner face of the finished tile (Warry 2006, 36).

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Charcoal by Rowena Gale

Introduction

This report presents the assessment of 20 samples of charcoal from a Roman marching camp site. The charcoal was mostly collected from pits and is attributed to dumped domestic hearth debris.

The volume of the processed charcoal varied enormously from context to context, with weights ranging from <1g to 805g. The condition of the charcoal also varied and despite the abundance of material in many samples, a high proportion of the charcoal was much comminuted. The aim of the assessment is to evaluate the potential of the samples to produce significant data relating to the economic use of woodland resources and the local environment. The assessment is based on the overall observation of each sample (the quantity, condition and character of the charcoal) and the detailed analysis/identification of three fragments from each. This latter process (usually) provided fragments from short-lived species suitable for C14 dating.

Methods

The bulk soil samples were processed by South West Archaeology by flotation using 250 and 500 micron meshes. The selected charcoal fragments resulting were prepared for identification using standard methods (Gale and Cutler 2000). Anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (i.e., heartwood/ sapwood) and stem diameters were recorded. It should be noted that during the charring process wood may be reduced in volume by up to 40%.

Results

Table 1 shows the taxa identified, the potential of each sample for further work and also charcoal recommended for C14 dating. Classification follows that of *Flora Europaea* (Tutin, Heywood *et al* 1964-80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level, e.g. members of the Pomoideae (*Crataegus, Malus, Pyrus* and *Sorbus*) and Leguminosae (*Ulex* and *Cytisus*). When a genus is represented by a single species in the British flora, it is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features, and exotic species of trees and shrubs were introduced to Britain from an early period (Godwin 1956; Mitchell 1974). The anatomical structure of the charcoal examined was consistent with the following taxa or groups of taxa:

Betulaceae. Alnus glutinosa (L.) Gaertner, European alder; Betula sp., birch
Corylaceae. Corylus avellana L., hazel
Fagaceae. Quercus sp., oak
Oleaceae. Fraxinus excelsior L., ash
Leguminosae. Cytisus scoparius (L.) Link, broom or Ulex sp., gorse
Rosaceae. Subfamily:
Pomoideae, which includes Crataegus sp., hawthorn; Malus sp., apple;
Pyrus sp., pear; Sorbus spp., rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.

Ulmaceae. Ulmus sp., elm

Discussion

Samples 004, 007 and 028 included insufficient charcoal either for identification or for dating.

Samples 010 and 011 were both relatively charcoal-rich and selected fragments were named as oak heartwood. Since the remaining charcoal appears to be similar, it is unlikely that either of these samples will produce suitable material for dating. Interestingly, samples 010 and 011 differ in character to other samples examined (which included multiple species). This could suggest that oak was specifically selected for a particular purpose but there was no evidence to infer that this was other than domestic use.

The remaining samples (001, 002, 005, 006, 008, 009, 021, 024, 025, 027, 029, 034, 036 and 037), some of which were particularly large, indicated the use of firewood gathered from a variety of trees and shrubs including alder, birch, hazel, ash, the hawthorn group, oak, elm and gorse/ broom (Table 1). Dating material was isolated from each sample. Despite the frequent abundance of charcoal, much of this was too fragmented for identification, and larger fragments and/ or intact segments of roundwood were relatively sparse.

Narrow hazel and alder stems in samples 021 and 027 indicated fast growth patterns consistent with those of coppice stems (i.e., managed woodland) but this does not necessarily implicate the use of managed woodland, since 'unmanaged' trees and shrubs growing in optimal conditions could produce similar growth.

The examination of a larger number of stems from these samples may help to clarify the origin of this firewood. The designation of the site as a marching camp suggests that this was a temporary/ transient stopping place, where supplies of fuel and water could be provisioned locally. The abundance of fuel debris in some contexts suggests that the site may have been in regular use.

The evidence to date is indicative of an environment with mixed deciduous woodland with mature oak trees. Marginal woodland or more open areas probably supported shrubby species such as hawthorn and gorse/ broom. The presence of birch and gorse implies that underlying soils were sandy or acidic.

Table 1. North Tawton, Barton: charcoal assessment Key. h/w = heartwood; r/w = narrow roundwood; s/w = sapwood (oak only); g/r = growth rings **C14**. Charcoal recommended for dating is indicated in bold type.

Sample	Context	Weight	Taxa identified	Comments
001	167	16g	2 x alder (Alnus glutinosa);	Small fragments
			1 x birch (<i>Betula</i> sp.)	
002		57g	1 x hazel (Corylus avellana);	Charcoal comminuted
			2 x oak (<i>Quercus</i> sp.) h/w	
004	149	<1g	-	Insufficient charcoal
005	159	<1g	1 x gorse (<i>Ulex</i> sp.)/ broom	No further charcoal to examine
			(Cytisus scoparius)	
006	116	<1g	1 x gorse (<i>Ulex</i> sp.)/ broom	No further charcoal to examine
			(Cytisus scoparius);	
			1 x hazel (Corylus avellana)	
007	139	<1g	-	Insufficient charcoal
008	119	55g	1 x hazel (Corylus avellana), r/w,	-
			Ø 11mm, 5 g/r;	
			1 x gorse (<i>Ulex</i> sp.)/broom	
			(Cytisus scoparius);	
			1 x oak (<i>Quercus</i> sp.) h/w	
009	206	231	2 x oak (Quercus sp.) r/w;	Charcoal mostly very comminuted
			1 x hazel (Corylus avellana)	
010	144	312	3 x oak (<i>Quercus</i> sp.) h/w	Remainder probably mostly oak h/w
011	173	81	3 x oak (<i>Quercus</i> sp.) h/w	Remainder probably mostly oak h/w
021	186	234	1 x hazel (Corylus avellana) r/w Ø	Includes roundwood
			10mm, 5 g/r;	
			1 x hawthorn/ Sorbus group	
			(Pomoideae);	
0.0.1	101	1.50	1 x oak (<i>Quercus</i> sp.) h/w	
024	191	460	1 x elm (Ulmus sp.) r/w;	Very fragmented but probably mostly
025	110	5.4	2 x oak (<i>Quercus</i> sp.) h/w	oak h/w
025	118	54	2 x ash (Fraxinus excelsior) r/w;	-
007	102	007	1 x oak (<i>Quercus</i> sp.) h/w	
027	193	805	1 x alder (Alnus glutinosa) r/w Ø	Includes large chunks of r/w
			35mm, 7 growth rings;	
			1 x alder (Alnus glutinosa) r/w, Ø	
			$1 \times ook (Quaraus sp) h/w$	
028	180	<1α	1 X Oak (Quercus sp.) II/w	Insufficient charges
020	167	<1g 16α	- 2 x ash (Frarinus arcolsior) s/w:	
029	107	10g	1 x hozel (Corvlus avallana)	-
034	241	81	3 x hazel (Corvlus avellana)	
036	231	329	1 x hazel (Corvlus avellana).	Charcoal very comminuted
0.50	201	527	$1 \times 0.000 \text{ (Ouercus sn.) r/w}$	
			$1 \times \text{oak} (Quercus \text{sp.}) h/w$	
037	222	485	1 x hazel (Corvlus avellana) r/w	-
			Ø 10mm. 5 g.r:	
			$1 \times \text{oak} (Ouercus \text{ sn.}) \text{ s/w:}$	
			$1 \times \text{oak}$ (<i>Quercus</i> sp.) b/w	

Charcoal - further assessment

Introduction

Following the assessment of 20 samples of charcoal recovered from pits at a Roman marching camp site, samples 10, 21, 27 and 37 were selected for full analysis. The charcoal deposits were attributed to dumps of domestic fuel debris. The selected samples were particularly charcoal-rich and, with the exception of sample 10, included numerous fragments of roundwood, thereby presenting the opportunity to evaluate the character and possible source of the firewood. Environmental data was also sought.

Methods

Despite the large volume of charcoal within each sample (sample 10 - 312g; sample 21 - 234g, sample 27 - 805g; and sample 37 - 485g), a high proportion of this material was too comminuted for identification. Samples 10, 27 and 37 were 25% sub-sampled, whereas sample 21 was 50% subsampled. Fragments measuring >2mm in radial cross-section were considered for identification. The charcoal was generally well preserved and firm, although sample 10 tended to be degraded and infiltrated with sediments.

The samples were prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (i.e., heartwood/ sapwood) and stem diameters were recorded. It should be noted that during the charring process wood may be reduced in volume by up to 40%.

Results

Table 1 presents the taxa identified in each sample. Classification follows that of *Flora Europaea* (Tutin, Heywood *et al* 1964-80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level, e.g., members of the Pomoideae (*Crataegus, Malus, Pyrus* and *Sorbus*). When a genus is represented by a single species in the British flora, it is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features and exotic species of trees and shrubs were introduced to Britain from an early period (Godwin 1956; Mitchell 1974). The anatomical structure of the charcoal examined was consistent with the following taxa or groups of taxa:

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Fagaceae. Quercus sp., oak

Oleaceae. Fraxinus excelsior L., ash

Rosaceae. Subfamily:

Pomoideae, which includes *Crataegus* sp., hawthorn; *Malus* sp., apple; *Pyrus* sp., pear; *Sorbus* spp., rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.

Prunoideae. Prunus spinosa L., blackthorn.

Salicaceae. Salix sp., willow, and Populus sp., poplar. In most respects these taxa are anatomically similar.

Discussion

It is unknown whether the site was used as a regular stopping place or on a single occasion. If the latter, the abundance of charcoal across the site suggests that either the group was sizeable or that there was fairly prolonged stay. Local access to fuel and water must have been a strong factor in the choice of camp site. There was no evidence to implicate industrial activity or iron-working.

Excavation of the camp site exposed numerous pits, many of which contained large dumps of discarded fuel debris, most probably waste from domestic hearths. Although usually very fragmented, some of the larger samples (e.g., samples 21, 27 and 37) included short fragments of narrow roundwood, of which the longer and more intact pieces retained a rod-like morphology. These deposits included sufficient juvenile wood to enable conventional C¹⁴ dating. Sample 10, however, differed in character and produced minimal dating material, only sufficient for AMS.

Oak (*Quercus* sp.) was clearly an important component of the fuel and consisted of both narrow roundwood and more mature wood, the latter probably used as cordwood (branch wood). When examining fragments of oak heartwood it is sometimes difficult to assess the maturity of the wood, i.e., the likely age of the branch or trunk. The age at which heartwood develops varies enormously and although several decades of sapwood

may be present in older trees, heartwood sometimes forms in juvenile stems (e.g., when <10 years old) and may extend to the penultimate growth ring. The presence of heartwood was recorded in quite a high proportion of the young oak stems in samples 21, 27 and 37, although, as indicated above, oak from more mature trees was also present. The rates of growth in these stems also varied and while some of the narrow roundwood included moderate growth rates, the more mature wood was often slow-grown. In contrast, sample 10 consisted almost entirely of slow-grown mature oak heartwood from wide branch or trunkwood and, apart from two twiggy pieces of blackthorn (*Prunus spinosa*)/ hawthorn/ *Sorbus* group (Pomoideae), there was no evidence of the use of narrow roundwood.

In addition to oak, sample 21 included numerous narrow stems from ash (*Fraxinus excelsior*) and the hawthorn/ *Sorbus* group (Pomoideae), with those of ash indicating fast-growth (Table 1). Hazel (*Corylus avellana*) stems were typically fast-grown and mostly appeared to have been cut when less than 7 years old. Alder (*Alnus glutinosa*), blackthorn (*Prunus spinosa*) and willow (*Salix* sp.)/ poplar (*Populus* sp.) were less frequent.

Oak (*Quercus* sp.) proved to be the dominant taxon in sample 27 and consisted of a mix of narrow roundwood and more mature wood with heartwood from both fast- and slow-grown trees. Large fragments of alder (*Alnus glutinosa*) stem were also frequent. These were mostly cut when less than 10 years old and measured up to 40mm in diameter; the wood was fast-grown. Hazel (*Corylus avellana*) stems were infrequent and obtained from slow-growing trees. Birch (*Betula* sp.), the hawthorn/ *Sorbus* group (Pomoideae) and willow (*Salix* sp.) and poplar (*Populus* sp.) were also present but were too fragmented to assess the maturity of the wood used.

Sample 37, however, included a high proportion of very narrow roundwood, particularly hazel (*Corylus avellana*) stems, mostly measuring <15 mm in diameter and rarely >10 years in age. These included wide annual increments in the first few years of growth and were consistent with the growth pattern of coppiced rods in managed woodland (Morgan 1982). These stems were also morphologically similar to coppice rods. Oak was also frequent, especially narrow roundwood some of which indicated fast-growth. Narrow willow (*Salix* sp.)/poplar (*Populus* sp.) stems measuring <10mm were also present (Table 1).

Fuel resources

Sample 37 provides convincing evidence of the use of coppiced hazel wood and probably the majority of the oak and willow/ poplar stems were from a similar source. Samples 21 and 27 are composed predominantly of narrow roundwood but evidence of the use of managed woodland, although probable, is less conclusive and the collection of firewood growing as 'natural' scrub or woodland can not be ruled out. Sample 10 demonstrates the selection of firewood composed of mature oak from well-established trees, certainly at least several decades old. Although the latter may have been associated with managed woodland, it seems more likely that this fuel was obtained from mature trees growing randomly in the landscape. Alternatively, sample 10 may include discarded oak timbers or other artefactual material recycled as firewood. The use of large billets of oak in this context could suggest species selection for a specific (although unknown) function.

When using narrow roundwood, the high ratio of atmospheric oxygen to wood surface encourages a fastburning and intense heat source, although this may be short-lived unless regularly 'topped up'. Oak cordwood, particularly with dense heartwood, provides an efficient and much longer-lasting fire than narrow stems.

The disparity between the deposits examined may relate to functional or temporal differences.

Environmental evidence

While the samples examined clearly indicate a bias towards preferred species, the evidence also suggests a landscape supporting diverse woodland habitats. Oak (*Quercus* sp.) and hazel (*Corylus avellana*) probably formed the dominant or climax woodland in the area, perhaps associated with ash (*Fraxinus excelsior*) and birch (*Betula* sp.). Taxa such as hawthorn (*Crataegus* sp.), whitebeam/ rowan (*Sorbus* sp.) and blackthorn (*Prunus spinosa*) and birch (*Betula* sp.) may have grown as scrub or in marginal woodland, as indeed would gorse (*Ulex* sp.)/ broom (*Cytisus scoparius*) (the latter named from samples examined in the Assessment). The presence of damper soils or wetland are indicated by alder (*Alnus glutinosa*), willow (*Salix* sp.)/poplar (*Populus* sp.) and elm (*Ulmus* sp.) (the latter named in the Assessment).

Regular coppicing of immature trees and shrubs with well-established root-stocks (woodland management) initiates the regeneration of fast-growing stems (rods). Cropping is usually practised on a cyclical basis determined on the use of the wood/ timber (Anon 1956). Casual cropping on an irregular basis, as and when needed, could produce similar growth patterns in the wood structure.

It would appear that contemporary with the occupation of the camp, local woodland was managed to provide a regular supply of fuel and probably timber/ wood for other purposes. It seems likely that such woodland would

have maintained/ tenanted by local farming communities, with fuel supplies and other resources either exploited or purchased by the army.

References

Anon. 1956: The	utilisation of hazel coppice, Forestry Commission Bull. No. 27, London: H.M.S.O.			
Gale, R. and Cutler,	D. 2000: Plants in Archaeology. Otley/ London: Westbury Publishing and Royal			
Botanic	Gardens, Kew			
Vorgan, R. A. 1982: Tree-ring studies in the Somerset Levels; the examination of modern hazel grow in Bradfield Woods, Suffolk, and its implications for the prehistoric data, Ancient Monuments Laboratory Report 3839				

Radiocarbon Dates

Five samples were submitted to the University of Oxford Radiocarbon Accelerator Unit for Accelerator Mass Spectrometry (AMS) dating.

Laboratory sample number	Context	Context description	Uncalibrated radiocarbon date in years BP (Before Present – AD 1950)	Calibrated date (95.4% probability)
OxA-20371	(167)	Fill of [164] – N-S ditch with V- shaped profile; likely boundary of Roman marching camp	1936 ± 24	18-127 AD
OxA-20372	(116)	Fill of [115] – square cut with rounded corners; part of double line of similar features	2075 ± 25	174-38 BC (94.7%) 9-4 BC (0.7%)
OxA-20373	(186)	Fill of [185] – irregular pit in group of similar features	1915 ± 24	26-133 AD
OxA-20374	(241)	Fill of [240] – shallow circular pit; one of a pair	4098 ± 27	2860-2809 BC (21.5%) 2753-2721 BC (8.0%) 2703-2572 BC (65.1%) 2513-2505 BC (0.7%)
OxA-20375	(222)	Lower fill of [220] – rectilinear pit with signs of heating	1907 ± 24	26-138 AD (94.4%) 160-165 AD (0.4%) 198-206 AD (0.7%)

List of Jpegs contained on CD to the rear of this report

- 1 Ditch [162] pre-excavation, viewed from the N (2m and 1m scales).
- 2 Ditch [164] pre-excavation viewed from the N (2m and 1m scales).
- 3 Ditch [150] pre-excavation viewed from the ENE (2m scale).
- 4 Feature [110] pre-excavation viewed from the W (0.5m scale).
- 5 Feature [105] pre-excavation viewed from the W (0.5m scale).
- 6 Rectangular feature [220] pre-excavation viewed from the W (1m scale).
- 7 Circular feature [130] pre-excavation viewed from the S (0.5m scale).
- 8 Oval feature [225] pre-excavation viewed from the W (0.5m scale).
- 9 Oval feature [230] pre-excavation viewed from the S (0.5m scale).
- 10 Pit [102] pre-excavation viewed from the W (0.5m scale).
- 11 Pit [104] pre-excavation viewed from the W (0.5m scale).
- 12 Circular feature [114] pre-excavation viewed from the W (0.5m scale).
- 13 Square feature [122] pre-excavation viewed from the W (0.5m scale).
- 14 Square feature [148] pre-excavation viewed from the W (0.5m scale).
- 15 Pit [120] pre-excavation viewed from the S (0.5m and 1m scales).
- 16 1st century AD mortaria in (121) pre-excavation viewed from the W (0.5m scale).
- 17 [260] pre-excavation viewed from the S (0.5m scale).
- 18 Oval feature [160] pre-excavation viewed from the S (0.5m scale).
- 19 Square feature [115] pre-excavation viewed from the W (0.5m scale).
- 20 Fill [149] half-sectioned viewed from the N (0.5m scale).
- 21 Oval feature [158] half-sectioned viewed from the N (0.5m scale).
- 22 Square feature [115] half-sectioned viewed from the N (0.5m scale).
- 23 Square feature [138] pre-excavation viewed from the E (0.5m scale).
- 24 Square feature [122] half-sectioned viewed from the N (0.5m scale).
- 25 Square feature [138] half-sectioned viewed from the E (0.5m scale).
- 26 Circular feature [114] half-sectioned viewed from the N (0.5m scale).
- 27 Square feature [124] half-sectioned viewed from the S (0.5m scale).
- 28 Oval feature [205] half-sectioned viewed from the NE (0.5m scale).
- 29 Ditch [164], southern section, viewed from the S (0.5m scale).
- 30 Ditch [164], middle section, viewed from the S (0.5m scale).
- 31 Ditch [164] northern section viewed from the S (0.5m scale).
- 32 Oval feature [172] (left) and [143] (right) half-sectioned viewed from the NE (0.5m scale).
- 33 Circular feature [110] half-sectioned viewed from the N (0.5m scale).
- 34 Ditch [150] east section viewed from ENE (0.5m scale).
- 35 Circular feature [130] half-sectioned viewed from the N (0.5m scale).
- 36 Circular feature [250] half-sectioned viewed from the N (0.5m scale).
- 37 Oval feature [225] half-sectioned viewed from the N (0.5m scale).
- 38 Feature [125] half-sectioned viewed from the N (0.5m scale).
- 39 Feature [100] half-sectioned viewed from the N (0.5m scale).
- 40 Ditch [150] middle section viewed from ENE (0.5m scale).
- 41 Pit [102] half-sectioned viewed from the N (0.5m scale).
- 42 Pit [104] half-sectioned viewed from the N (0.5m scale).
- 43 Pit [108] half-sectioned viewed from the N (0.5m scale).
- 44 Sub-circular feature [180] half-sectioned viewed from the S (0.5m scale).
- 45 Circular feature [185] half-sectioned viewed from the S (0.5m scale).
- 46 Pit [112] half-sectioned viewed from the N (0.5m scale).
- 47 Sub-circular feature [117] (right) and [177] left post-excavation (0.5m scale).
- 48 Feature [235] post-excavation showing modern pipe viewed from the NE (0.5m scale).
- 49 Pit [190] post-excavation viewed from the N (0.5m scale).
- 50 Pit [220] partly excavated to layer (222) viewed from the E (0.5m scale).
- 51 Oval feature [230] half-sectioned viewed from NNW (0.5m scale).
- 52 Pit [220] half-sectioned showing pink, heated natural viewed from the W (0.5m scale).
- 53 Pit [220] half-sectioned viewed from the N (0.5m scale).
- 54 Rectangular feature [190] post-excavation viewed from the W (1m scale).
- 55 Pit [220] post-excavation viewed from the W (1m scale).
- 56 Pit [152] half-sectioned viewed from the N (1m scale).
- 57 Circular feature [182] pre-excavation viewed from the W (0.5m scale).
- 58 Circular feature [182] half-sectioned viewed from the E (0.5m scale).
- 59 1^{st} -century AD mortaria in (121) viewed from the W (0.5m scale).
- 60 Ditch [132] pre-excavation viewed from the E (1m scale).
- 61 Pit [120] partly excavated to layer (193) viewed from the W (0.5m scale).
- 62 Ditch [132] and [187] eastern section viewed from the W (0.5m scale).
- 63 Ditch [132] and [187] middle section viewed from the W (0.5m scale).
- 64 Pit [120] partly excavated to layer (193) viewed from the W (1m scale).
- 65 Pit [120] fully excavated viewed from the W (1m scale).
- 66 Ditch [150] post-excavation viewed from the E (1m scale).
- 67 Ditch [164] post-excavation viewed from the N (2m scale).
- 68 Posthole [194] pre-excavation viewed from the W (0.5m scale).
- 69 Posthole [198] half-sectioned viewed from the W (0.5m scale).
- 70 Posthole [194] half-sectioned viewed from the N (0.5m scale).
- 71 Posthole [196] half-sectioned viewed from the NW (0.5m scale).
- 72 Ditch [162] post-excavation viewed from the S (2m scale).
- 73 Ditch [207] post-excavation viewed from the W (2m scale).
- 74 Ditch [212] post-excavation viewed from the W (1m scale).
- 75 Circular features [240] (left), [242] (middle) and [244] (right) pre-excavation viewed from the NW (1m scale).
- 76 Circular feature [242] (background) and [244] (foreground) post-excavation from the S (0.5m scale).
- 77 Circular feature [240] half-sectioned viewed from the N (0.5m scale).
- 78 Ditch [212] post-excavation viewed from the SW (2m scale).