

Palaeoenvironmental assessment of samples from Steart Point, Bridgwater, Somerset (77221)

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13 August 2012

Introduction

41 bulk samples were taken from a range of features dating from four main phases of occupation and activity on the site. These are summarised below:

Phase	Area	Feature Type	No. of samples
Middle/Late Iron Age to early Romano-British	500	Spread	8
		Posthole/pit	1
	Trench 168	Spread	1
		Pit	1
?Late Romano-British	500	Ditch	1
		Ditch	5
	501	Spread	3
		Gully	1
		Ditch	3
Medieval	503	Ditch	5
		Gully	1
		Latrine	1
		Posthole	1
		Pit	2
	Trench 165	Ditch	1
Medieval/Post Medieval	500	Ditch	1
	501	Ditch	2
	502	Pit	1
	503	Ditch	1 (not found)

The samples were processed by Wessex Archaeology and the dried floats sent to the author for scanning to assess the preservation of charred plant macrofossils, charcoal, snails plus any other palaeoenvironmental indicators and their potential for full analysis. The floats were scanned under low powered magnification (x10) with the full results shown in Table 1. This also gives an indication of sample composition (% of mineral to charred material), float volume and recommendations for full analysis. The range of material recovered is listed below.

Results

Charred plant remains

Middle/Late Iron Age to Early Romano-British

Preservation of charred remains from this early phase comes largely from spreads of charcoal, fired clay and pottery fragments including possible *in situ* burning in Area 500 associated with possible seasonal activity adjacent to a palaeochannel. Eight of the twelve samples produced a low abundance of hulled wheat (*Triticum*) grains and occasional glume bases, with much of the grain in poor condition with fragmentation and pitting from the charring process. As a result some of the grain is probably only identifiable as c.f. *Triticum* or Cereal indet. Most samples produced less than 10 grains or chaff items. Other charred remains were also sparse, with numbers again less than 20, but included occasional hazel (*Corylus avellana*) nut fragments and typical arable weeds such as brome (*Bromus*), vetch (*Lathyrus/Vicia*), dock (*Rumex*) and ribwort plantain (*Plantago lanceolata*).

Late Romano-British

9 of the 13 samples from this phase were from ditch fills and spreads from late Romano-British activity between two areas of alluvial channel in Area 501. There was

a greater abundance of grain and chaff here with up to 65 hulled wheat grains and 100+ glume bases and occasional spikelet forks. Preservation however was again poor due to fragmentation, especially of the chaff elements, although careful examination of the better preserved fragments may enable some to be confirmed as spelt wheat (*Triticum spelta*). There were also occasional oat grains, awns and 2 florets noted in sample 116 (context 20259), plus silicified wheat/barley awns in 3 samples, most notably sample 116 where 100's were noted. There are also good assemblages of arable weeds, with, for example, over 200 in sample 116, including many grasses (Poaceae), with silicified grass culms, as well as charred brome, ribwort plantain, dock and clover/medick (*Trifolium/Medicago*). There is a similar pattern in the 3 ditch fills from Area E Evaluation to the south of Area 501 with good assemblages of charred weeds and cereal chaff, although grain numbers are generally low. Only one sample, (Context 20036/sample 20) from a ditch fill produced no charred remains from a predominantly mineral float.

Medieval

10 of the 11 samples from the Medieval phase are from Area 503 covering a large moated site close to a palaeochannel with samples taken from irregular ditches and short gully sections, with some pit and posthole fills and one latrine fill. Charred assemblages in many of these features include up to 850 grains of free-threshing wheat, but typically no chaff, apart from some silicified awns. Preservation is very variable with some grains well-preserved, others in fair condition, but many very fragmented and while likely to be wheat may have to be identified as c.f. *Triticum*/cereal indet. There is also some oat grain but all samples are predominantly wheat. One 55ml float from posthole 21318 (sample 321) was estimated to be 95% wheat grains and also included many vetches (75+ whole and 250+ half cotyledons). Arable weed assemblages vary with numbers ranging from 2-200 seeds and include many of the same taxa as recovered from the earlier phases, with the addition of stinking chamomile (*Anthemis cotula*).

Medieval/Post Medieval

The 5 samples from this latest phase come from Areas 500, 501, 502 and 503 from ditch and pit fills as shown in Table 1 (sample 318 was not found). No grain occurred in 3 samples, although from one of the ditch fills (Context 20465/sample 138) silicified wheat/barley awns were noted. The only sample of interest is from pit 20512 in Area 502 (Context 20505/sample 200), which included over 100 free-threshing grains, 50+ oat grains, plus both carbonised and silicified wheat/barley awns, Celtic bean (*Vicia faba*), plus a small assemblage of arable weeds.

Charcoal

An estimate was made of the number of charcoal fragments >2mm overall dimensions from each sample, which will allow species identification if required. The results are shown in Table 1. Charcoal identification from suitable samples would provide information on management and use of local woodland resources around the settlement.

Land snails and fresh/brackish water molluscs

Further estimates were also made of quantities of molluscs present. These have been recorded in Table 1 as either terrestrial (t) or fresh/brackish water (w). There is some degree of fragmentation, with many small apex fragments in some of the 500 micron fraction, but generally preservation was good with numbers in some samples up to 250+ which should allow interpretation of local environmental conditions.

Bone/egg shell

Table 1 also shows those samples where animal and fish bone was preserved. Much of the bone was highly fragmented and therefore thought to be mostly unidentifiable, with abundances low. However there were occasional small mammal bone and teeth. The fish bone mostly small vertebrae, with occasional scales were more frequent and may be identifiable and could provide additional dietary evidence from this coastal site. Some of the small bone fragments were burnt. There was also occasional egg shell, including some burnt examples (2 ?late RB and 3 Medieval).

Ostracods

Although only in low numbers ostracods were noted in 4 of the ditch fills (1 ?late RB and 3 Medieval), plus latrine deposit 21088/sample300. However it highlights their preservation potential, although separate samples processed to 125 microns would need to be processed to obtain the full range of species. Ostracods are useful indicators of salinity levels and may be useful to complement the molluscan analysis as well as diatom and foraminifera work should these be investigated from any of the channel or moat ditch fills.

Potential

Charred plant remains

Middle/Late Iron Age to early Romano-British

Although there were assemblages of charred cereal grain, chaff and weed seeds from this earliest phase of activity on the site, the low abundance preserved would not allow meaningful interpretation of these deposits. Therefore of the 12 samples examined, none are thought worthy of further analysis. However, the assessment results should be included as part of the discussion in the final report to show continuity at the site from this earliest phase of activity.

?Late Romano-British

10 of the 13 samples from this phase produced assemblages worth further investigation. Although preservation was variable, much of the grain present should be identifiable to hulled wheat and some of the better preserved wheat glume bases and spikelet forks are likely to be determined as spelt. There was also evidence for silicification in three of the ditch fills, which may suggest these remains originated from ovens or hearths. A small but regularly occurring range of arable weeds, included some of the taxa found in the earlier phase with the addition of cleavers, clover/medick and black bindweed.

Several of the ditch fills also contain the non-charred remains of the aquatic species duckweed (*Lemna*) and water crowfoot (*Ranunculus* subg. *Batrachium*), which may represent the *in situ* flora of these features and may provide information on water conditions in these features, to complement evidence provided by snails.

Medieval

Quantities of charred cereal grain were generally higher in the features associated with the Medieval phase of activity and 9 of the 11 samples assessed are worth full analysis. Grains of wheat are again dominant although they are now from a free-threshing variety, with the only chaff preserved silicified wheat/barley awns in two samples. There are also up to 200 weeds in some samples, again with many of the same taxa as the earlier phases, with the addition of stinking chamomile. Non charred remains from some ditch fills again included aquatic taxa.

Post Medieval

Only one pit fill (Context 20505/sample200) from the post Medieval phase included wheat grain with some weed taxa worth further examination.

All samples recommended for full analysis will provide evidence for the range of cultivated crops and information on the local site economy from the Late Romano-British through to the Post-Medieval periods. Although most samples are from secondary deposits such as pit and ditch fills it is hoped that they will provide evidence on local agricultural practises and may help to determine whether occupation was seasonal.

Proposal

Charred plant remains

Based on the results of the assessment it is recommended that 20 of the 41 samples examined have the potential for full analysis as follows.

Phase	Number of samples for analysis
Middle/Late Iron Age to early Romano-British	0
?Late Romano-British	10
Medieval	9
Medieval/Post Medieval	1

The selected samples are indicated with a ✓ in the Analysis column in Table 1. It is proposed that all identifiable remains will be extracted from the sample floats, with identifications made with use of reference material and following the nomenclature of Stace (1997).

Snails

16 of the 41 samples produced assemblages worthy of full analysis as follows. The selected samples are indicated with a ✓ in the Analysis column in Table 1.

Phase	Number of samples for analysis
Middle/Late Iron Age to early Romano-British	2
?Late Romano-British	?6
Medieval	?7
Medieval/Post Medieval	1

Reference

Stace, C 1997 *New Flora of the British Isles* Cambridge University Press

Costs

Sorting 20 samples and identification of charred plant remains	9 days
Tables and report	3 days
Total:	12 days
At £170 per day	£2040

(This sum includes extraction of snail shells and bone if required)