

## Chapter 2: Green Park 3 – early Prehistoric and Bronze Age activity

### ARCHAEOLOGICAL SEQUENCE

#### Introduction

The Green Park 3 excavations revealed multi-period activity including middle to late Bronze Age occupation, later Iron Age ditches, a Romano-British field system and post-medieval trackways. This chapter deals with the pre-Iron Age archaeology. Most of the features occurred at the eastern and western ends of the site, with a 'blank' area in the centre (Fig. 2.1). It is possible that this central area was genuinely avoided in the past, although as it contained many modern service trenches archaeological features may have been lost to truncation.

#### Early prehistoric activity

Low-level early prehistoric activity is evinced by small quantities of residual Mesolithic and Neolithic flintwork found scattered across the site (see Cramp below). A single sherd of Beaker pottery (late Neolithic/early Bronze Age) was also recovered from middle Bronze Age waterhole 2690 (see Morris below).

#### Middle to late Bronze Age

A fragmentary Bronze Age field system extended across much of the excavated area, incorporating five large waterholes or pit-wells (Fig. 2.2). The chronology of these features requires comment, as they produced both middle Bronze Age pottery in the Deverel-Rimbury (DR) tradition of *c* 1700–1150 cal BC, and non-Deverel-Rimbury pottery that would traditionally be ascribed to the late Bronze Age (*c* 1150–750 cal BC). The two pottery types occurred together in a number of contexts in both the waterholes and field boundary ditches, making it difficult to dismiss the DR material as residual or the non-DR material as intrusive. A programme of radiocarbon dating of waterhole deposits was thus carried out in order to clarify ceramic chronology at the site. The radiocarbon dates clearly show that the waterholes belong to the middle Bronze Age, implying an earlier origin for the non-DR elements of the pottery assemblage than previously accepted. This important finding is discussed at length by Morris (see below and Chapter 5), who argues that the non-DR material from the waterholes represents a class of 'transitional' pottery belonging to the second half of the second millennium BC, overlapping with the DR tradition and predating the classic late Bronze Age

'plain ware' assemblages of the 10th–9th centuries BC. No material suitable for radiocarbon dating was available from the field system ditches. While it seems likely that the field system was directly contemporary with the waterholes, the possibility that it continued in use later, into the late Bronze Age 'proper', cannot be discounted.

#### Field system

The field system was divided into two discrete blocks, in the eastern and western parts of the site, and generally followed a NNE-SSW/ESE-WNW or N-S/E-W alignment (Fig. 2.2). The status of linear features in the extreme north-west corner of the watching brief area is uncertain, and it is possible that some of these undated features, although on slightly different alignments, were related to the western block of field boundaries. The ditches positively identified as components of the field system were up to 0.62m deep, with a U-shaped profile. They typically had a fill of silty clay, sometimes overlying a basal gravel-rich erosion deposit. None of the ditches had been recut, and there were no stratigraphic indications of any alterations to the field system over time. The sparse finds from the ditches included small amounts of

Table 2.1 Summary of Bronze Age ditches

Feature	Finds and dating evidence
2436	Burnt flint. Dated by alignment
2495	15 sherds DR and non-DR pottery
2505	Dated by alignment
2511	25 sherds DR (from 1 vessel?) 10 sherds of DR and non-DR pottery
2538	Saddle quern
2539	Dated by alignment
2540	Dated by alignment
2571	1 sherd later Bronze Age pottery
2638	23 sherds DR and 3 sherds non-DR pottery
2736	Flint
2797	Cut by Iron Age ditch 2798
2806	Aligned with 2797
3033	4 sherds ?non-DR pottery
3051	2 sherds later Bronze Age pottery
3082	Aligned with 3033
3149	8 sherds non-DR pottery
3260	Flint and burnt stone
3383	1 sherd non-DR pottery

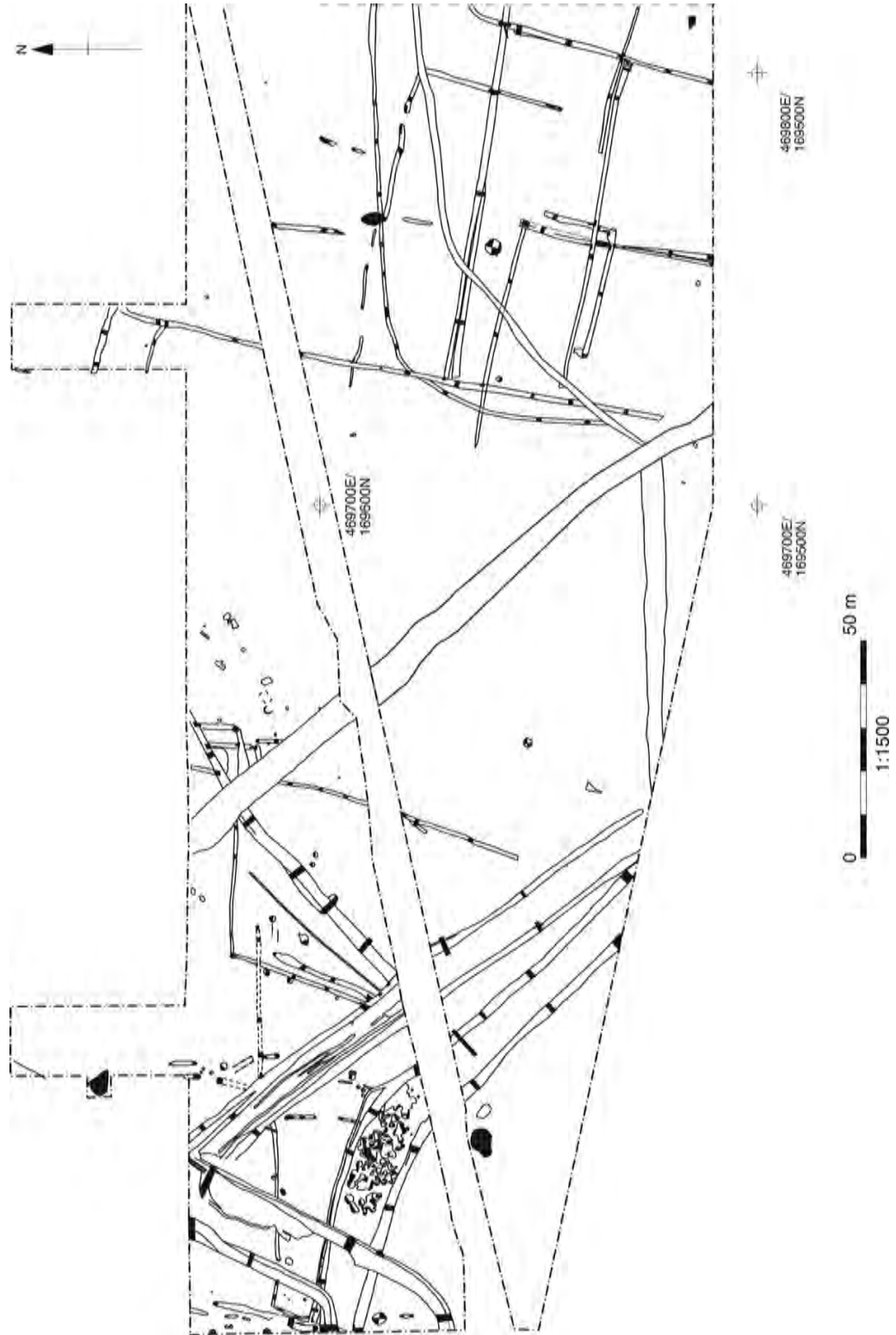


Fig. 2.1 Plan of all features, showing excavated interventions

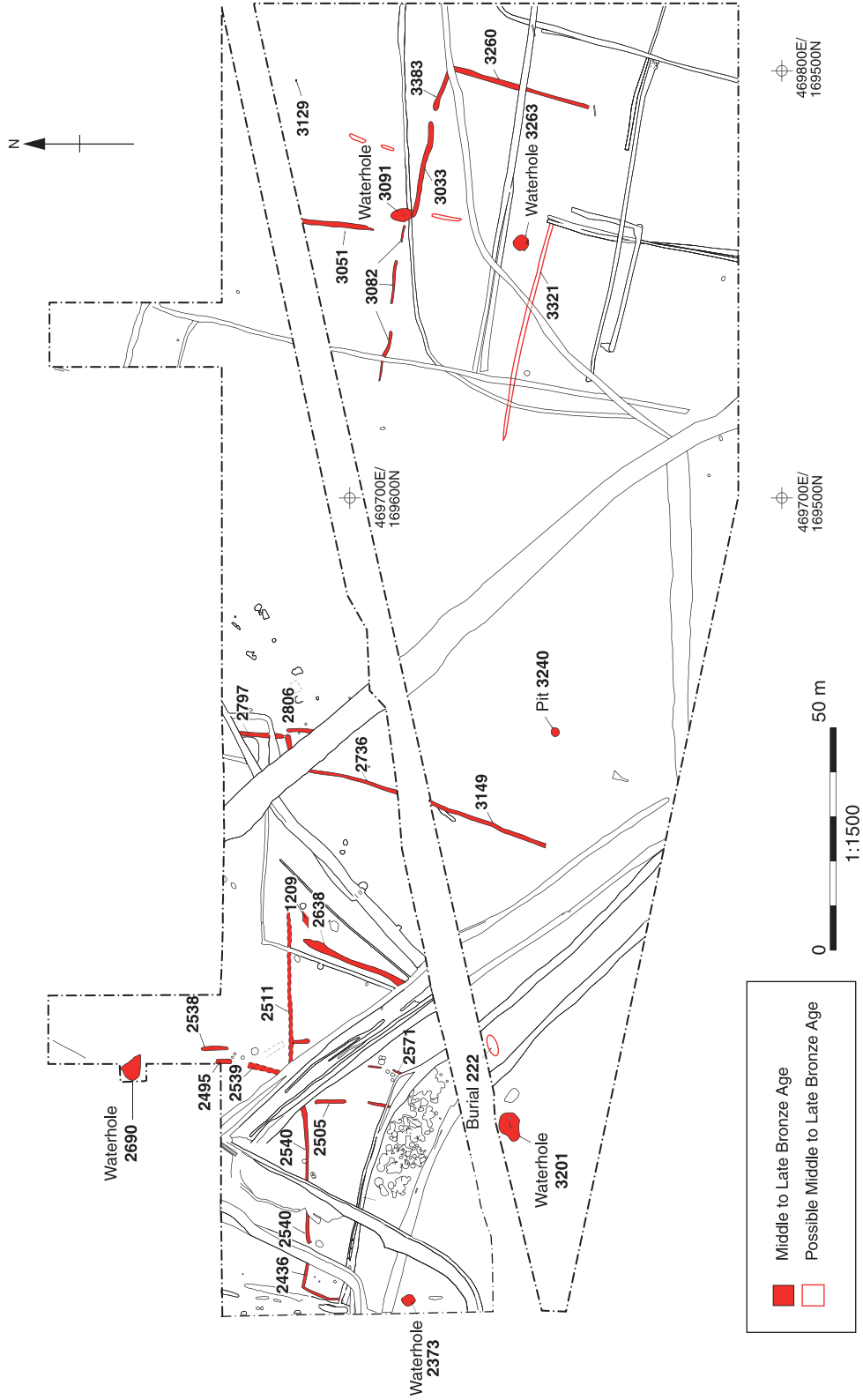


Fig. 2.2 Middle to late Bronze Age features

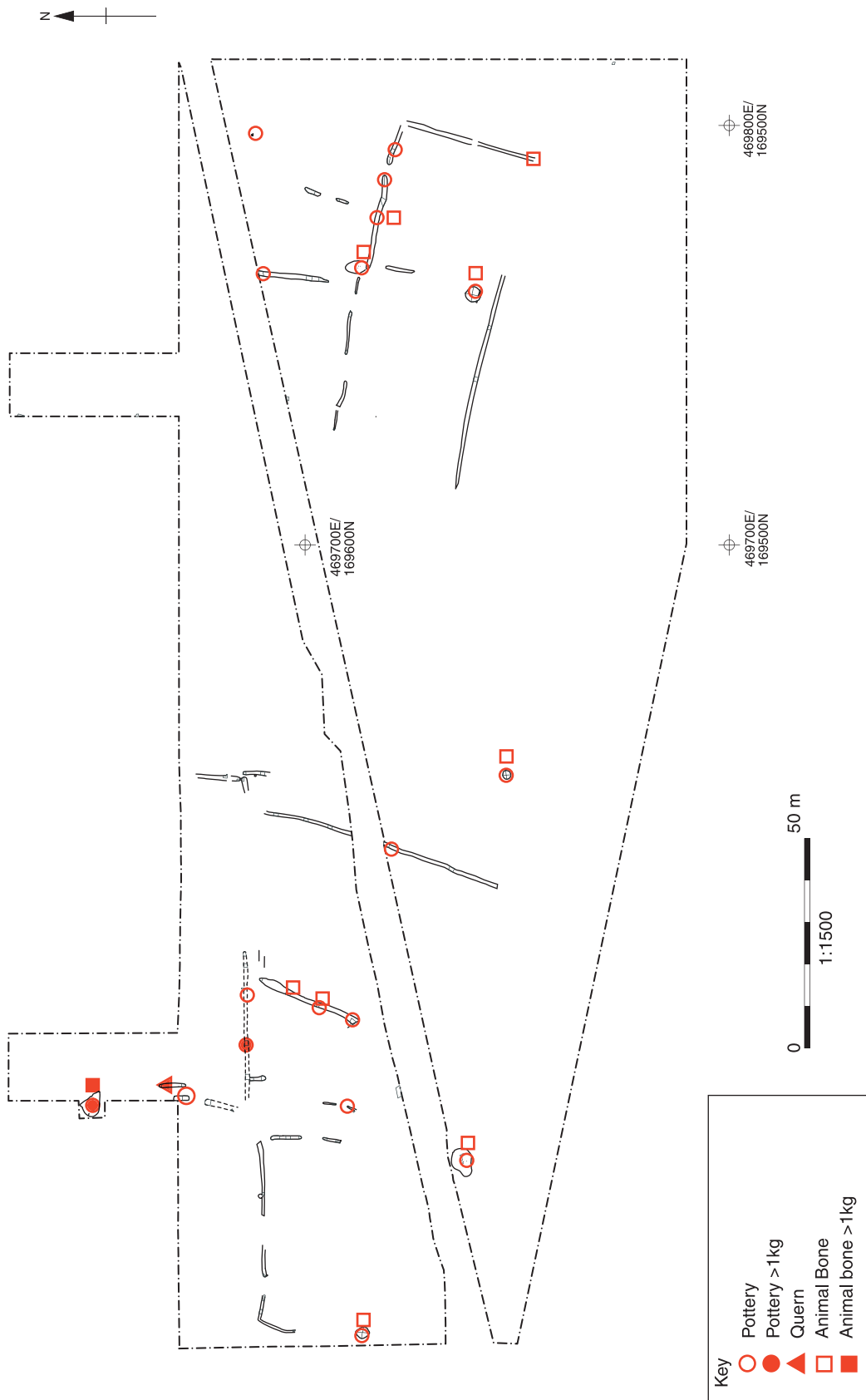


Fig. 2.3 Distribution of finds from middle to late Bronze Age features

pottery, worked flint and animal bone (Table 2.1). One much larger group of pottery weighing 2.4 kg and including a perforated vessel base was recovered from one intervention in ditch 2511 (Fig. 2.3); this may represent a deliberate deposit. A complete saddle quern found nearby at the base of the northern terminus of ditch 2538 was probably also deliberately placed. As noted above, the pottery from the ditches includes both DR and non-DR material, with the two clearly occurring together within ditch 2511 (see Morris below). Ditch 3321 produced no finds and could equally well be associated with the later Romano-British field system, which followed a similar alignment (see Chapter 3).

### Waterholes

Three waterholes or pit-wells were associated with the western block of the field system (2373, 2690 and 3201) and two with the eastern block (3091 and 3263) (Fig. 2.2). These were up to 5.5m in diameter and 0.85–1.08m deep, and appear to have largely filled through natural processes of silting and erosion. The lower fills of the waterholes were waterlogged, and aquatic plant and insect species in environmental samples from these deposits confirms the presence of standing water during their period of use (see below).

Work elsewhere in the Thames Valley has suggested that later Bronze Age waterholes can generally be divided into two broad categories: steep-sided features, and large, teardrop-shaped features accessed by a gently-sloping ramp (Framework Archaeology 2006; Yates 2007, 16; Lambrick 2009, 267). Both types were represented at this site, with the large waterholes 2690, 3091 and 3201 falling into the ramped category and the smaller waterholes 3263 and especially 2373 being steep-sided. The two categories of waterhole had a number of distinct characteristics. The ramped features all contained remains of wooden structures, which probably represent revetted platforms used to draw water when the level within the waterhole was low. Each of them also produced some unusual finds from their fills (Table 2.2). Artefacts deposited while the waterholes were still in use included wooden vessels and, in the case of waterhole 2690, human bone. After the waterholes had gone out of use, material

deposited in their upper fills included a large group of pottery sherds (waterhole 2690) and a shale bracelet fragment (waterhole 3091). Small amounts of cremated human bone were also recovered from the upper fills of two of the ramped waterholes. The steep-sided waterholes, in contrast, showed no traces of any wooden structures. They contained no finds other than a few small fragments of pottery and animal bone from the middle and upper fills, which may have been incidental inclusions. The role of these waterholes and the nature of the deposits within them is discussed in more depth in Chapter 6.

### Ramped waterholes

Waterhole 2690 was 3.00–4.40m in diameter and 1.08m deep (Fig. 2.4). It was teardrop-shaped, with a gently sloping ramp to the south-east. It appeared to cut a shallow, undated ditch (2810) that continued beyond the limit of excavation to the west.

The waterhole had a primary, waterlogged, gravel-rich clay fill (2689), overlain by three further layers of clay (2686–8). The primary fill contained the *in situ* remains of a structure made up of wooden planks and stakes, forming a right-angled arrangement along the southern and eastern sides of the waterhole, just above the base of the feature (Figs 2.4–6). This structure probably served both to revet the waterhole and provide a platform for the extraction of water. The main element of the southern side of the structure was a large horizontal oak plank (2766) with a mortice hole at its western end. This was held in position by a vertical stake (2768), set into the base of the waterhole and running through the broken mortice hole. Two further vertical stakes (2789 and 2790) supported the northern edge of the plank. Similar horizontal planks pegged into position using mortice holes have been found in later Bronze Age waterholes at Stanwell, Middlesex (O'Connell 1990) and Swalecliffe, Kent (Masefield 2003), and have been interpreted as 'steps' used as a standing place while drawing water. The eastern side of the structure was quite different, incorporating a revetment formed by a plank set on edge lengthways (2787) and held in position on its western side by a vertical post set into the base of the waterhole (2772). Five further planks on the eastern side of the structure might also have originally formed part of this revetment, although they had

Table 2.2 The dynamics of deposition in the Bronze Age waterholes

Water-hole type	Feature	Use					Decommissioning/disuse			
		Pottery	Wooden vessel	Animal bone	Buzzard bone	Human tibia	Pottery	Shale bracelet	Cremated human bone	Animal bone
1	2690	●	●	●	-	●	●	-	-	●
1	3091	●	●	●	-	-	●	●	●	●
1	3201	-	●	●	●	-	-	-	●	●
2	2373	-	-	-	-	-	●	-	-	●
2	3263	-	-	-	-	-	●	-	-	●

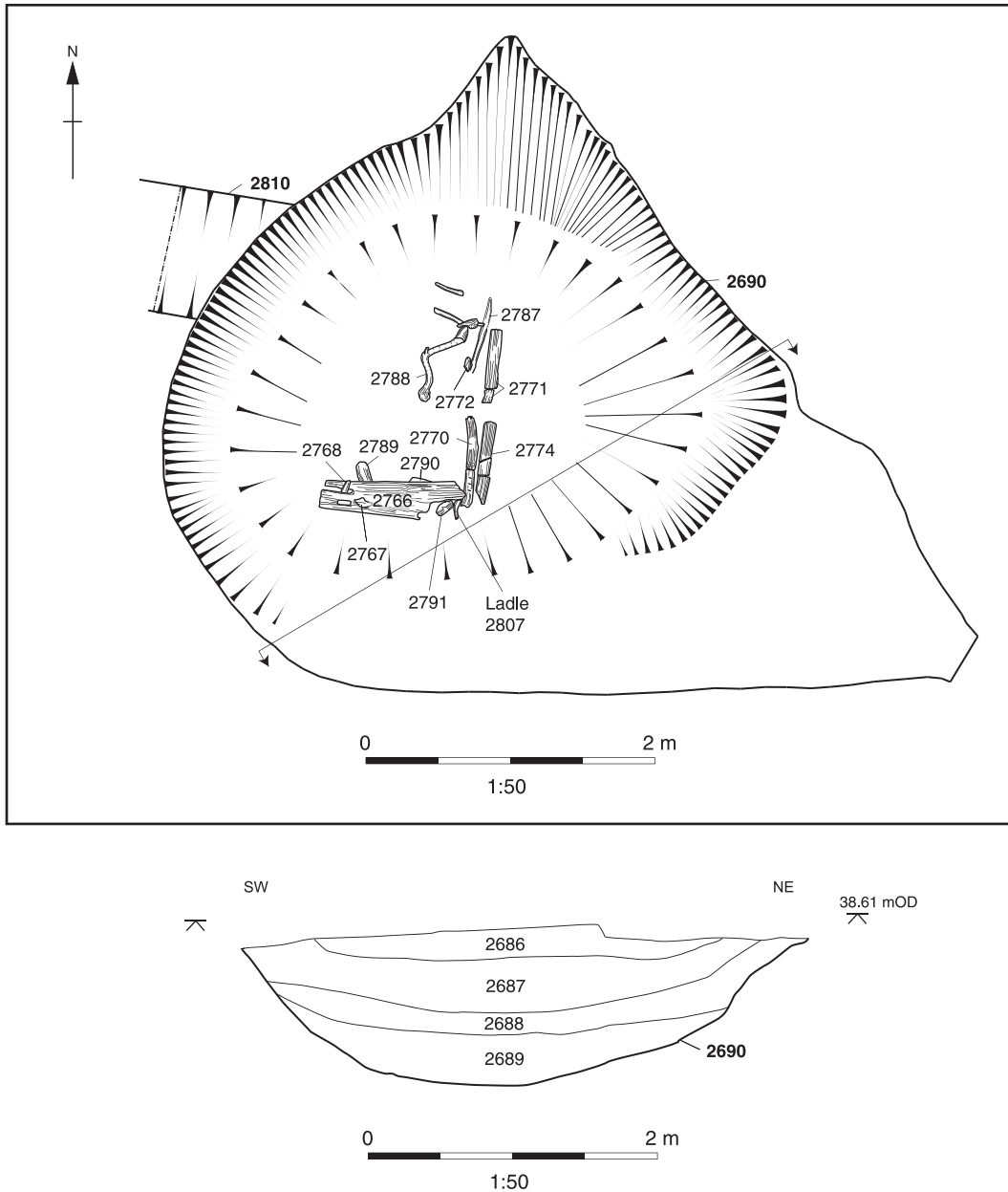


Fig. 2.4 Waterhole 2690

since slumped to a near-horizontal position. Four of the planks lay one above the other (from top to bottom: 2769, 2714, 2770 and 2774; only 2770 and 2774 are shown on Fig. 2.4).

Other wooden objects from the primary fill included a wooden ladle or dipper (2807) found adjacent to plank 2766 (Fig. 2.5), a fragmentary wooden vessel (2767) resting on top of the same plank, and a piece of roundwood possibly deriving from a hedge (2788; see Taylor below). Sherds of DR and non-DR pottery, 500g of animal bone and a human tibia fragment were also recovered. Two radiocarbon dates of 1412–1218 cal BC (KIA19182: 3068 ± 34 BP) and 1518–1318 cal BC (KIA19183: 3152 ± 39 BP) were obtained from waterlogged seeds from this deposit.

The remaining three fills of the waterhole

contained no waterlogged material. In each case, animal bone, burnt flint and pottery in both the DR and non-DR traditions was recovered. The bulk of the pottery (1.6 kg) and burnt flint (322g) occurred in penultimate fill 2687. It is possible that the pottery deposited within the waterhole was carefully selected, with a preponderance of decorated body sherds from DR vessels and rim sherds from non-DR vessels (see Morris below).

Waterhole 3091 was up to 4.60m in diameter and 0.90m deep (Fig. 2.7). It cut an earlier irregular pit or tree throw hole (3249) with a burnt fill, and was in turn later cut along its southern edge by ditch 3015 (a component of ditch 3033 on Fig. 2.2). The primary fill of the waterhole (3250) was a gravel-rich erosion deposit producing no finds. This was overlain by





Fig. 2.5 Detail of timber structure within waterhole 2690, facing north, showing timbers 2770, 2774, 2790 and 2791 and ladle 2807. Scale: 0.2m



Fig. 2.6 Timber structure within waterhole 2690 after further excavation, facing north. Scale: 1m

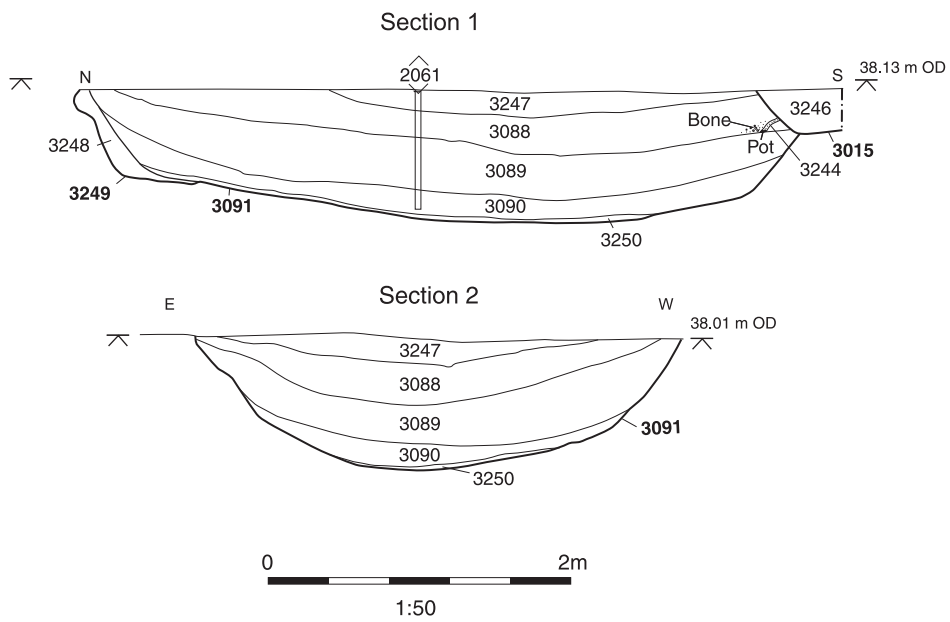
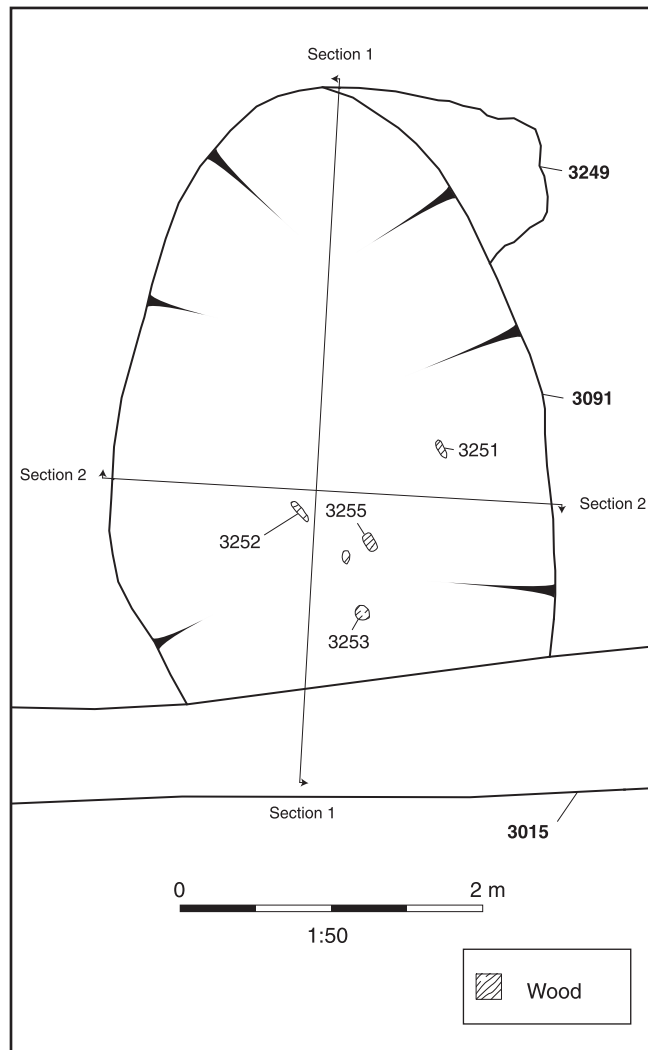


Fig. 2.7 Waterhole 3091





Fig. 2.8 Wooden vessel 3255 within waterhole 3091, facing north. Scale: 0.2m

four layers of clay (3088–90 and 3247), each of which produced pottery and animal bone. The first of these (3090) was a peaty, waterlogged deposit, which contained DR pottery, animal bone, fragments of a wooden vessel (3255; Fig. 2.8), and pieces of worked timber possibly deriving from a revetment structure (3252–3). Two radiocarbon dates of 1388–1130 cal BC (KIA19180:  $3018 \pm 35$  BP) and 1395–1047 cal BC (KIA19181:  $2997 \pm 59$  BP) respectively were obtained from seeds from this fill. The penultimate fill (3088) of the waterhole contained a shale bracelet fragment and, at the southern edge of the feature, a discrete scatter of cremated human bone, charcoal and DR pottery sherds (3244), possibly representing an urned cremation burial truncated by the digging of ditch 3015. The only certain non-DR pottery from the feature came from the uppermost fill (3247).

Waterhole 3201 was 5.50m in diameter and 1.00m deep (Fig. 2.9). It was teardrop-shaped, with a gently sloping access ramp to the south-west. The northern half of the waterhole had previously been partially investigated during the Wessex Archaeology evaluation, when a wooden bowl (Fig. 2.9) and two worked wooden stakes (oak and willow) were recovered from what was described as the primary fill (TWA 1986, 7). Excavation of the remainder of the feature revealed a sequence of four silty clay fills (3209–12). The initial fill (3212) was an organic-rich, waterlogged deposit which contained

two oak stakes driven into the base of the feature (3233 and 3235), along with several other wooden stake and plank fragments not *in situ* (3231–2, 3234 and 3237–8). These are likely to represent the remains of a revetment structure similar to that seen in waterhole 2690. Other finds were limited to fragments of animal bone, including a buzzard bone. Two radiocarbon dates of 1411–1214 cal BC (KIA19178:  $3060 \pm 36$  BP) and 1393–1114 cal BC (KIA19179:  $3006 \pm 43$  BP) were obtained from waterlogged seeds from this fill. Finds from the middle and upper fills of the waterhole were limited. Fragments of animal bone and some tiny sherds of later Bronze Age pottery were recovered from fill 3210, and a small amount of cremated human bone was retrieved from an environmental sample from the uppermost fill (3209).

#### *Steep-sided waterholes*

Waterhole 2373 was 3.10m in diameter and 0.85m deep (Fig. 2.10). It was unique among the waterholes for showing evidence for at least two recuts. The original cut and first recut (2822) contained a series of silty clay fills. Two radiocarbon determinations of 1501–1307 cal BC (KIA19184:  $3130 \pm 35$  BP) and 1383–1051 cal BC (KIA19185:  $2991 \pm 46$  BP) were obtained from waterlogged seeds from the basal fill (2394) of the recut. No finds were recovered other than a few sherds of non-DR pottery from fill 2364. The second recut (2823) contained an initial layer of

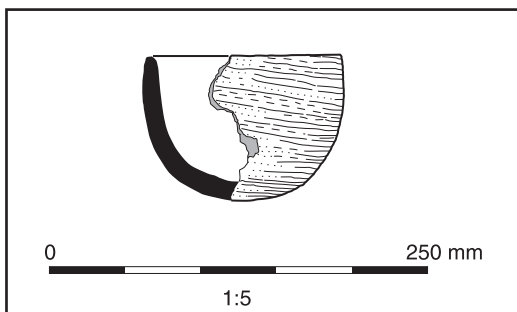
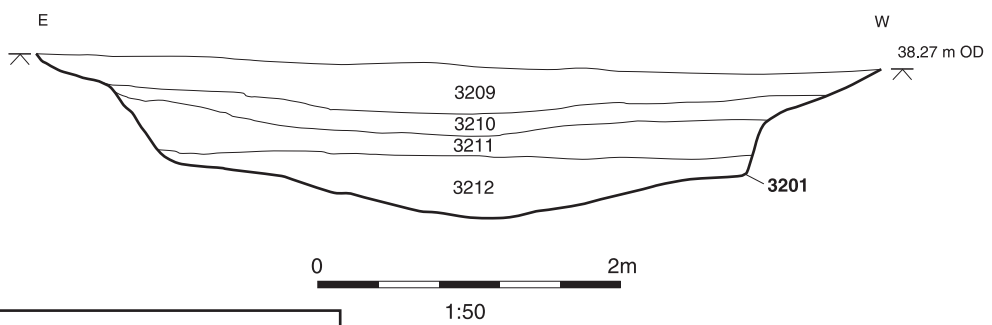
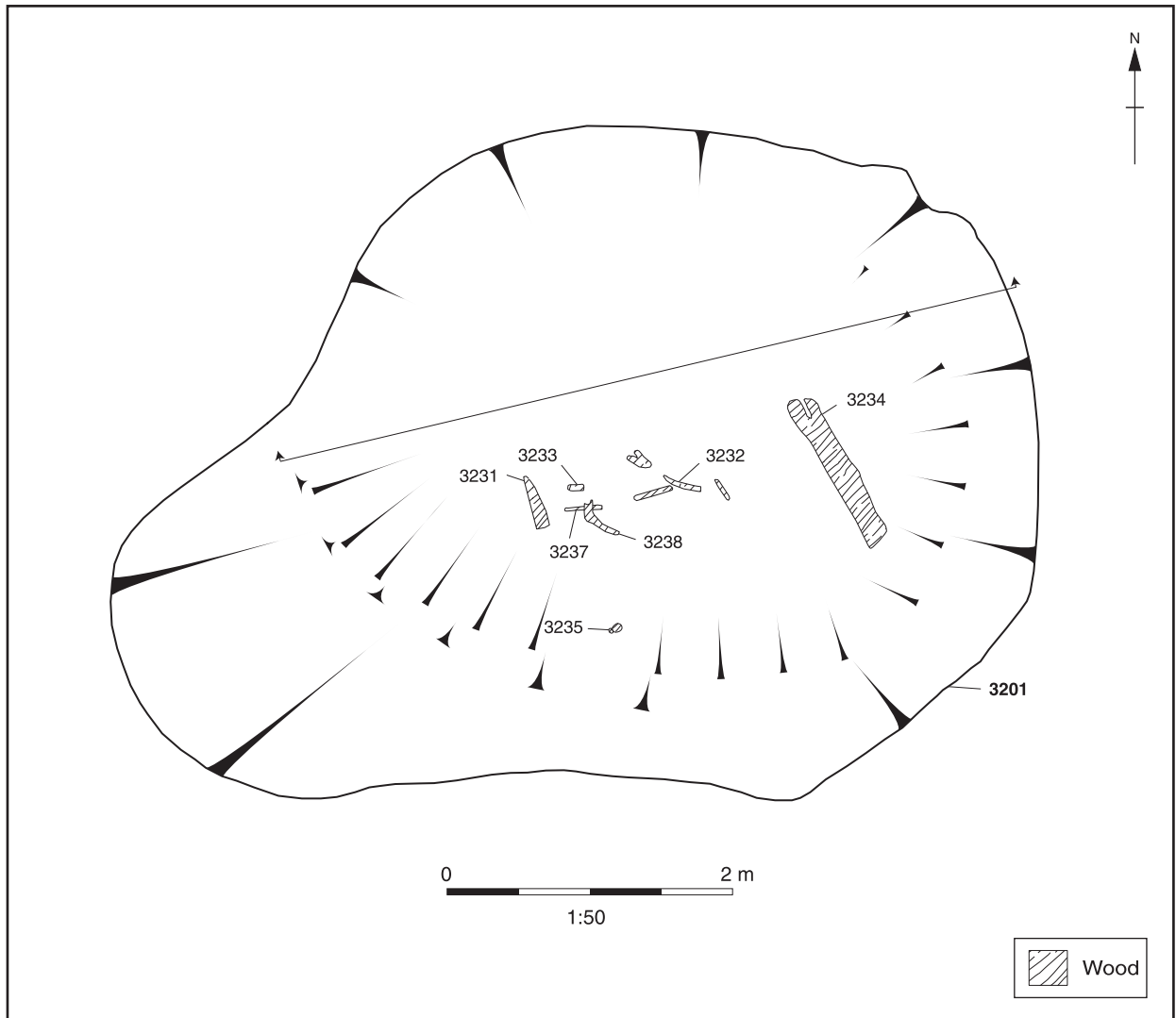


Fig. 2.9 Waterhole 3201; inset shows wooden bowl from Wessex Archaeology evaluation

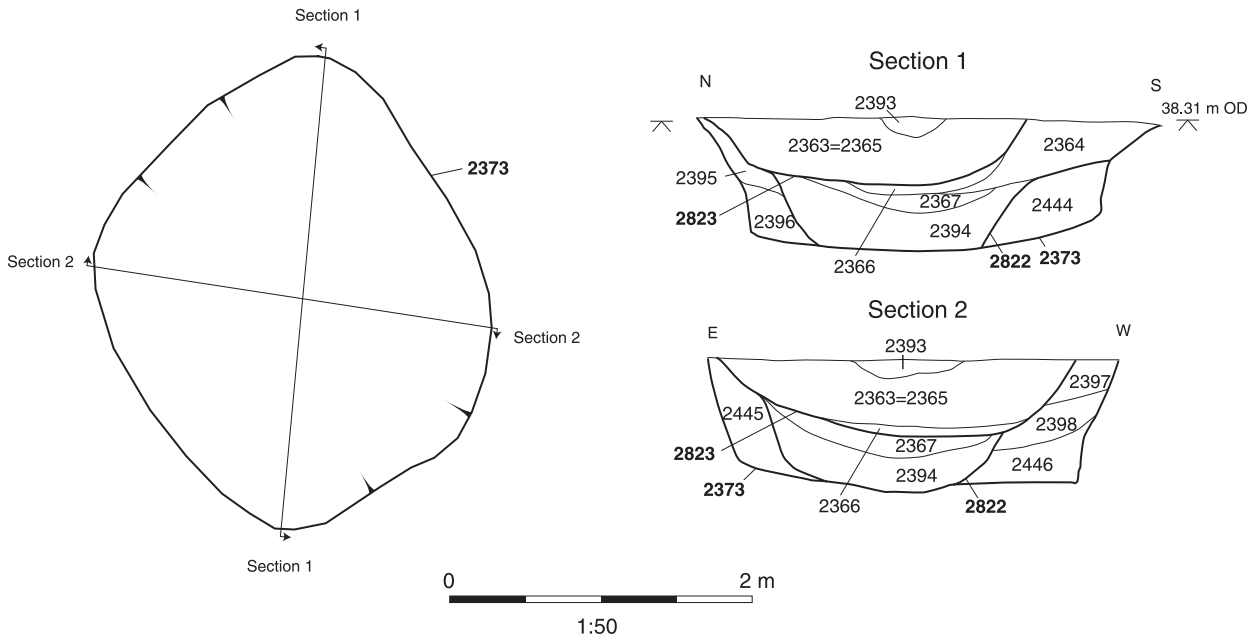


Fig. 2.10 Waterhole 2373

greenish silty clay (2366), possibly cess-like in character, overlain by a dumped deposit (2363/2365) containing large amounts of burnt flint (c 40%) and a few fragments of non-DR pottery and animal bone.

Waterhole 3263 was 3.60m in diameter and 0.85m deep (Fig. 2.11). It contained an initial erosion

deposit of gravel (3272), overlain by two layers of clay. The lower clay fill (3271) was an organic-rich, waterlogged deposit. Seeds from this layer produced two radiocarbon dates of 1434–1214 cal BC (KIA19186: 3081 ± 43 BP) and 1388–1129 cal BC (KIA19187: 3014 ± 38 BP). The uppermost fill (3264) contained sherds of probable DR pottery and fragments of animal bone.

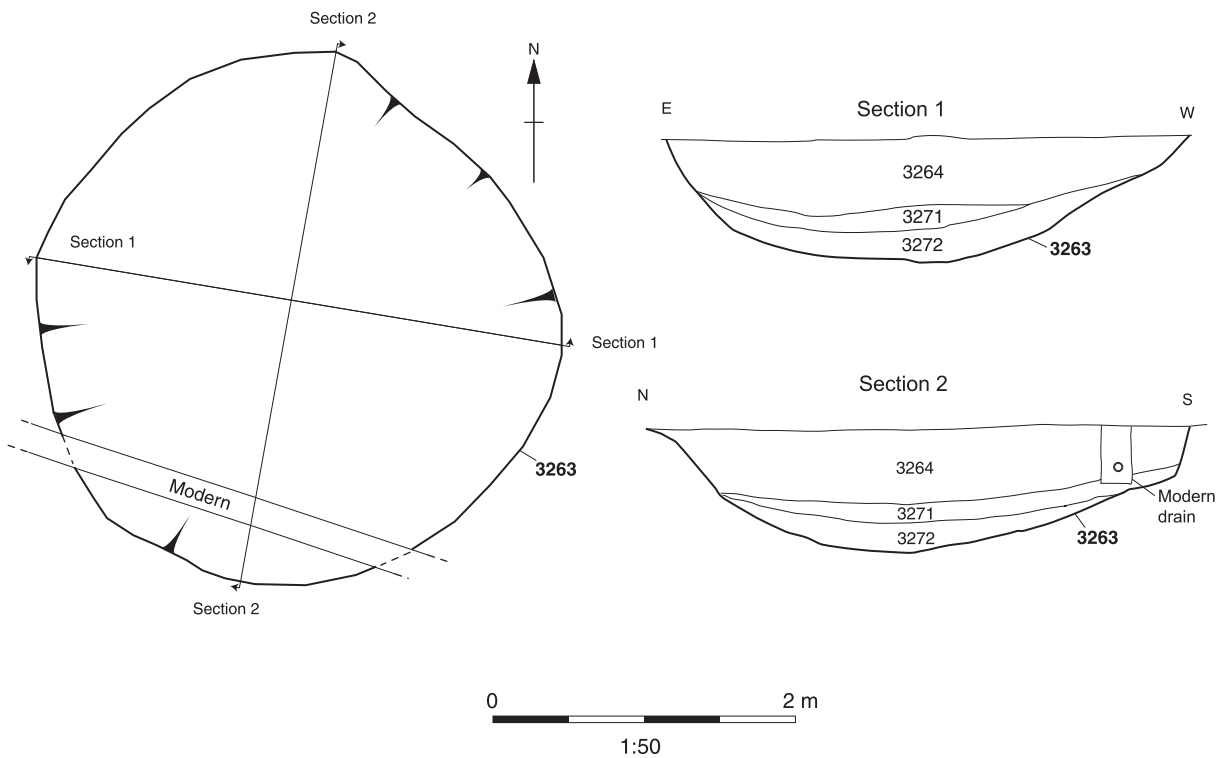


Fig. 2.11 Waterhole 3263

Table 2.3 Radiocarbon dates from Bronze Age waterholes

Feature	Context	Laboratory number	Material	$\delta^{13}\text{C}$ (‰)	Uncalibrated date (BP)	Calibrated date (1 $\sigma$ )	Calibrated date (2 $\sigma$ )
2373	2394	KIA19184	Woody seeds	-25.2	3130 ± 35	1435–1320 BC	1501–1307 BC
2373	2394	KIA19185	<i>Crataegus</i> (hawthorn) fruits	-30.3	2991 ± 46	1366–1129 BC	1383–1051 BC
2690	2689	KIA19182	Seeds	-24.1	3068 ± 34	1393–1265 BC	1412–1218 BC
2690	2689	KIA19183	Weed seeds	-27.1	3152 ± 39	1492–1324 BC	1518–1318 BC
3091	3090	KIA19180	Woody seeds	-26.8	3018 ± 35	1371–1134 BC	1388–1130 BC
3091	3090	KIA19181	Seeds	-26.3	2997 ± 59	1370–1129 BC	1395–1047 BC
3201	3212	KIA19178	Woody seeds	-26.6	3060 ± 36	1388–1264 BC	1411–1214 BC
3201	3212	KIA19179	Weed seeds	-28.7	3006 ± 43	1369–1132 BC	1393–1114 BC
3201*	204	HAR-8561	Wooden stake	-25.0	2830 ± 80	1120–900 BC	1260–820 BC
3263	3271	KIA19186	Woody and weed seeds	-26.9	3081 ± 43	1408–1265 BC	1434–1214 BC
3263	3271	KIA19187	<i>Ranunculus repens</i> type seeds	-23.9	3014 ± 38	1370–1133 BC	1388–1129 BC

\* = Determination from Wessex Archaeology evaluation 1986.

Dates calibrated using OxCal v3.5 (Bronk Ramsay 1995; 2001) and the data of Stuiver *et al.* (1998)

Table 2.4 Results of chi-squared test on radiocarbon dates from Bronze Age waterholes

Feature	Samples (laboratory number)	Results of chi-squared test (Ward and Wilson 1978)
2373	KIA19184/KIA19185	$\nu = 1$ $T' = 5.8$ (5% 3.8)
2690	KIA19182/KIA19183	$\nu = 1$ $T' = 2.6$ (5% 3.8)
3091	KIA19180/KIA19181	$\nu = 1$ $T' = 0.1$ (5% 3.8)
3201	KIA19178/KIA19179	$\nu = 1$ $T' = 0.9$ (5% 3.8)
3263	KIA19186/KIA19187	$\nu = 1$ $T' = 1.4$ (5% 3.8)

#### Radiocarbon dating of waterholes

The ten AMS radiocarbon dates obtained from the waterholes (two from each feature) all derive from waterlogged organic material found within the primary silting fills. They should therefore relate to the active use of these features. The date ranges all fell between 1492 cal BC and 1129 cal BC at the 68% confidence level (1  $\sigma$ ), and between 1518 cal BC and 1047 cal BC at the 95% confidence level (2  $\sigma$ ), indicating a middle Bronze Age attribution for the features (Table 2.3; Fig. 2.12). Four of the five sample pairs gave ages that showed no statistically significant difference, confirming the reliability of the results obtained, the exception being the pair from waterhole 2373 (Table 2.4). The samples from 2373 (unlike those from the other waterholes) derived from the fill of a recut, and as such it is possible that material of different ages had become incorporated into this fill.

Modelling of the dates (Fig. 2.13) provides support for the assumption that the waterholes represents a single phase of activity (A=88.4%). It provides an estimate for the start of waterhole activity on the site of 1500–1310 cal BC (95% probability), and an estimate for the end of activity of 1370–1130 cal BC (95% probability). Further mathematical analysis (Fig. 2.14) provides an estimate for the length of time over which the waterholes were

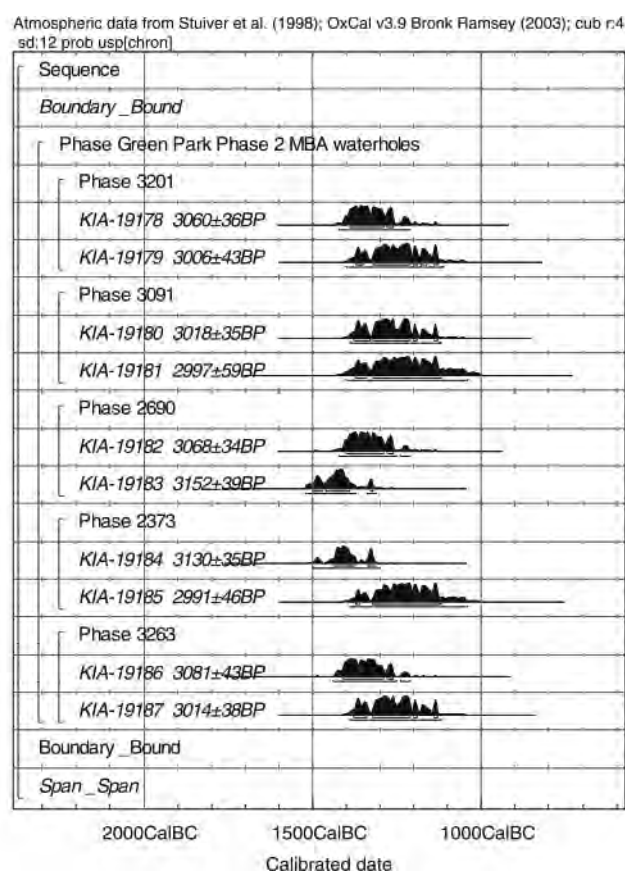


Fig. 2.12 Probability distributions of radiocarbon dates from Bronze Age waterholes

constructed of 20–200 years (68% probability) or 1–320 years (95% probability).

In addition to the ten dates discussed above, a further radiocarbon date had previously been obtained during the Wessex Archaeology evaluation, from a wooden stake recovered from waterhole 3201 (Table 2.3). This gave a date range of 1260–820 cal BC at 2 $\sigma$ (HAR8561: 2830 ± 80 BP),



Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

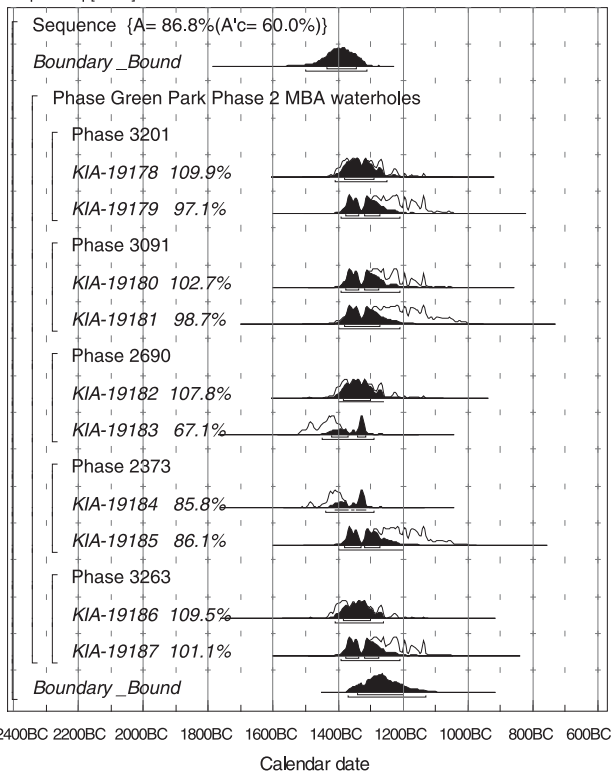


Fig. 2.13 Probability distributions of radiocarbon dates: model providing an estimate for the duration of waterhole activity

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

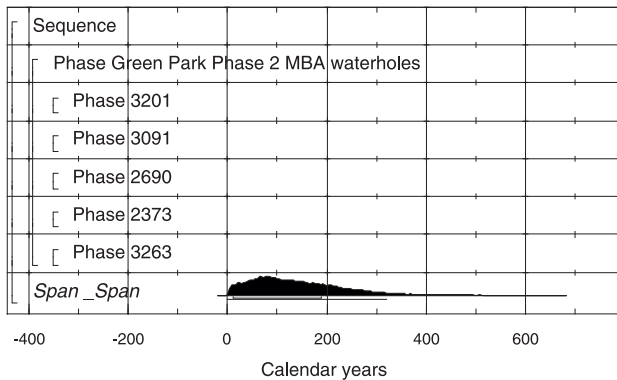


Fig. 2.14 Probability distribution providing an estimate for the length of time over which the waterholes were constructed

which is later in emphasis than the date ranges from the two samples from basal fill 3212 of the same waterhole. This difference is difficult to interpret given the uncertain stratigraphic relationship of the wooden stake to fill 3212.

**Pits**

Two pits of differing character were recorded (Fig. 2.2). Pit 3129 was 0.30m in diameter and 0.08m

deep, and contained the upstanding base of a DR vessel, placed flush within the cut. No bone was present within the vessel to suggest that it was a cremation urn. Pit 3240 was a bowl-shaped feature measuring 2.00m in diameter and 0.50m deep. It contained a gravel-rich lower fill overlain by two deposits of silty clay. The middle fill contained a single sherd of non-DR pottery and small fragments of animal bone.

**Inhumation burial**

A single crouched inhumation burial within an oval grave (222) was found in the south-western part of the site during the Wessex Archaeology evaluation (Figs 2.2 and 2.15). The body lay on its left side on an east-west alignment, with the head to the east. The individual was aged 35–45 years and was probably male. There were no associated finds, but a date no later than the middle to late Bronze Age is suggested by the fact that the grave was cut by a gully ascribed to that period (TWA 1986). Two similar crouched inhumation burials were found at Green Park 1, one of which contained late Bronze Age pottery (Moore and Jennings 1992, 11).

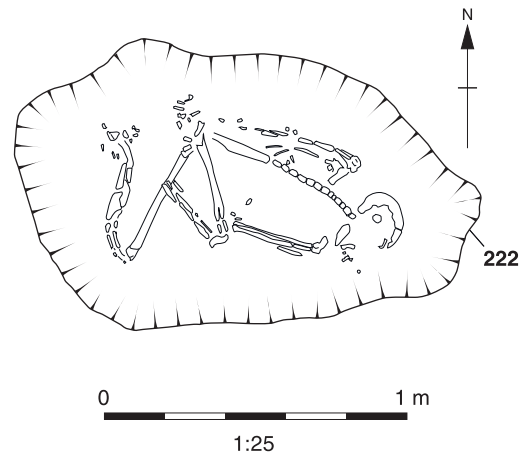


Fig. 2.15 Burial 222

**ARTEFACTS**

**Flint by Kate Cramp**

**Introduction**

A total of 70 struck flints and 523 pieces (6.01kg) of burnt unworked flint were recovered from the evaluation and the excavation (Table 2.5). Technologically, the majority of the material probably dates broadly to the Neolithic and Bronze Age. A very small amount of possible Mesolithic flintwork was also identified. The absence of large *in situ* assemblages and the paucity of diagnostic implement types have precluded more precise dating.



Table 2.5 Worked flint

Category	No. of pieces
Flake	14
Blade	1
Blade-like	3
Irregular waste	3
Chip	36
Multi-platform flake core	1
Tested nodule	3
Retouched flake	4
End scraper	2
End and side scraper	1
Scraper/piercer	1
Piercer	1
Total	70

### Context and condition

The struck flint came from 27 contexts; with the exclusion of the chips recovered from sieving, the largest assemblage comprised four pieces. The burnt unworked flint was also thinly distributed across the site. A sizeable assemblage was retrieved from Bronze Age waterhole 2690 (612g), and a large proportion of the upper fill of waterhole 2373 (40%) was recorded as comprising burnt flint, although this was not collected.

The condition of the flint is varied. A small number of flints are in a fresh condition and, as such, are unlikely to have been subjected to a significant degree of post-depositional movement. Many pieces, however, exhibit some post-depositional damage or surface abrasion. Numerous pieces are in a poor, rolled condition with extensive edge-damage consistent with repeated redeposition.

### Raw material

As at Green Park 2 (Bradley 2004) and Moores Farm (Cramp and Lamdin-Whymark, Chapter 6), gravel flint appears to have been the main source of raw material for the production of the debitage and tools in the assemblage. These nodules are characterised by an abraded cortex and the occasional presence of thermal fractures and were probably available locally, perhaps from the river gravels. An incomplete flake recovered from Iron Age context 2172 (pit 2173, pit group 2117) may be of bullhead flint or a related flint type.

### Technology and dating

The general technological and morphological appearance of the assemblage suggests a later Neolithic or Bronze Age date. A small number of possible earlier Neolithic or Mesolithic pieces were also identified, although few diagnostic retouched forms were recovered from any period.

Flakes and blades are the most numerous class (Table 2.5). The majority of flakes are undiagnostic (eg Fig. 2.16.1), and can tentatively be ascribed to the Neolithic or Bronze Age. One flake, recovered from context 2656 (ditch 2638), may be earlier. Blades and blade-like flakes are less numerous, which probably reflects the under-representation of Mesolithic and earlier Neolithic material (Pitts and Jacobi 1979; Ford 1987, 79). A total of three blade-like flakes and one blade were recovered, combining to provide around 10% of the assemblage. The blade (pit 2078, pit group 117) is probably a Mesolithic or early Neolithic product, and exhibits extensive platform edge abrasion.

A single multi-platform core, probably dating to the later Bronze Age, was recovered from context 2612 (ditch 2640). It has been worked using a hard-hammer percussor, and no evidence for platform edge abrasion was identified. Three burnt tested nodules were also recovered, two from context 1207 (ditch 1209) and a third from the subsoil. None of the cores or tested nodules exceeded 55g in weight.

Context 2172 (pit 2173, group 2117) contained 36 chips, several of which are in a reasonably fresh, uncorticated condition. The recovery of chips from this context may be indicative of a limited amount of knapping activity in the vicinity, although the full range of knapping debitage is not represented. It is possible that the absence of chips from other features constitutes a product of the sieving strategy rather than a true reflection of the spatial distribution of knapping microdebitage. However, it seems likely that the assemblage does not contain a significant *in situ* knapping element.

The retouched component consists of nine pieces and includes edge-retouched flakes/blades, scrapers (Fig. 2.16.2–3) and piercers (Fig. 2.16.4). The majority of these pieces probably range in date from the Neolithic to the Bronze Age. The broad retouched blade (Fig. 2.16.5), recovered from context 2365 (waterhole 2373), may date to the Mesolithic or Neolithic. The end scraper (Fig. 2.16.6) from context 2687 (waterhole 2690) is unusually robust, consisting of a broad, square-shaped secondary flake of heavily corticated gravel flint in reasonable condition. Areas of discontinuous retouch have been applied to the distal flake margin to provide an abrupt scraping edge.

A number of flints, including several flakes and retouched tools, exhibit macroscopically detectable use-wear. Both hard and soft material use-wear appears to be represented. A total of nine flints have been burnt (26%) and 15 broken (43%). The presence of utilised, retouched, burnt and broken flints within the assemblage suggests a certain amount of domestic activity.

### Discussion

The majority of the flint assemblage is probably of Neolithic or Bronze Age date. A date in the latter

half of this range would be consistent with the low numbers of blades in the collection (Pitts and Jacobi 1979; Ford 1987, 79). In fact, given the under-representation of chalk flint artefacts it is possible that a significant component of the assemblage dates to the later Bronze Age. This would be consistent with the apparent decline in the use of good quality raw material over time seen in the lithic assemblages from Green Park 1 and 2 (Bradley and Brown 1992; Bradley 2004) and Moores Farm (Cramp and Anderson-Whymark, Chapter 6). Given the paucity of datable artefacts from Green Park, however, this cannot easily be borne out by a quantification of flints by raw material type and date.

Although the recovery of Neolithic and Bronze Age flintwork implies a human presence in these periods, it does not appear to represent intensive or prolonged levels of occupation. With the exception

of a few minor concentrations of burnt flint and chips, the distribution of the flintwork does not reveal distinct foci of activity, but instead constitutes a relatively uniform and diffuse spread of material.

*Catalogue of illustrated flint* (Fig. 2.16)

- 1 Flake. Iron Age(?) pit group 2117, pit 2173, context 2172
- 2 End and side scraper. Post-medieval trackway 3123, context 3093
- 3 End scraper. Middle Bronze Age waterhole 2690, context 2687
- 4 Scraper/piercer. Iron Age(?) pit group 2117, pit 2295, context 2294
- 5 Retouched blade. Middle Bronze Age waterhole 2373, context 2365
- 6 End scraper. Middle to late Bronze Age ditch 3383, context 3371

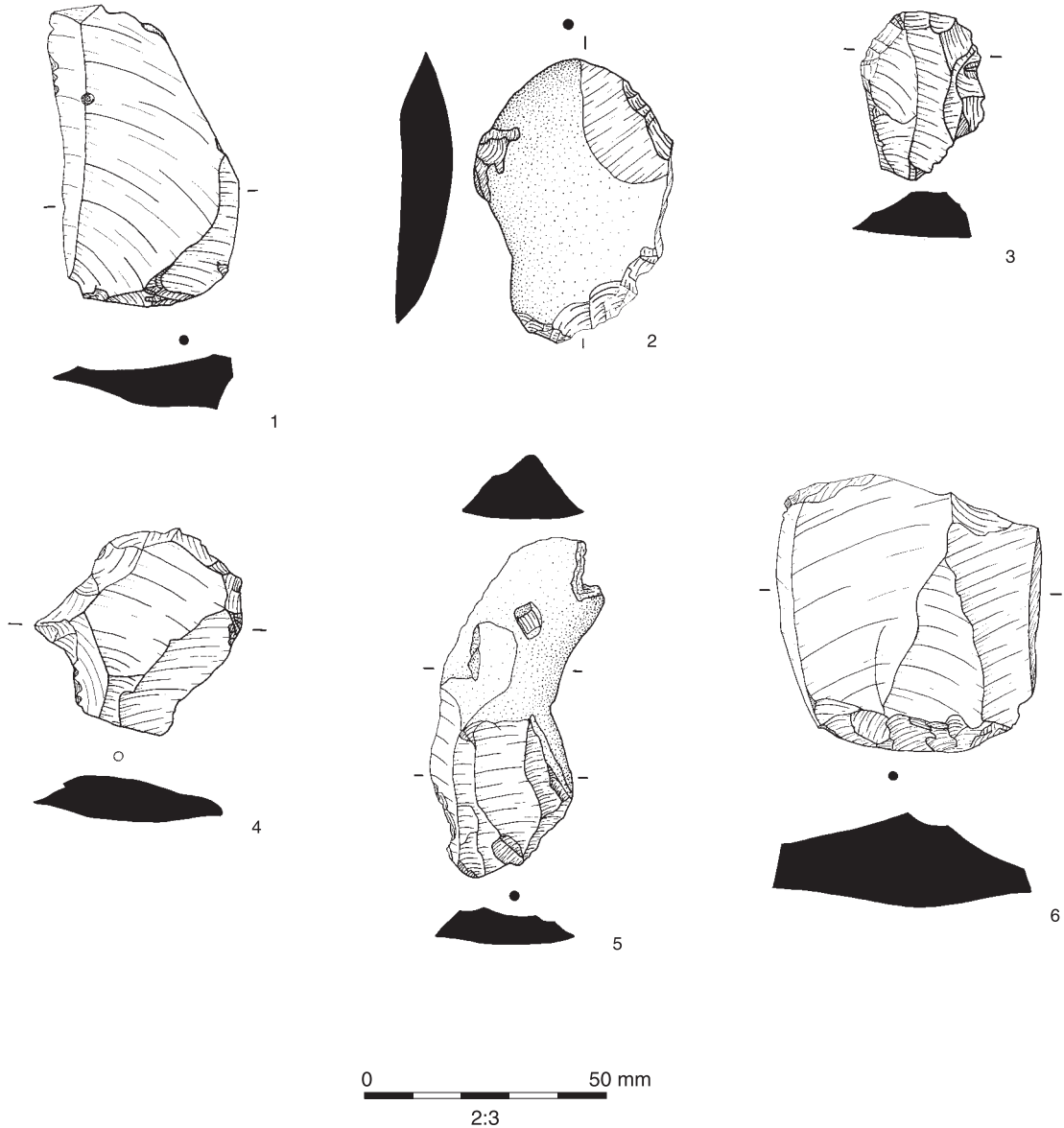


Fig. 2.16 Worked flint

**Bronze Age pottery** by Elaine L Morris**Introduction**

A total of 585 sherds (6.8 kg) of Bronze Age pottery was recovered (Table 2.6). The assemblage is significant because it represents the transition from the middle Bronze Age Deverel-Rimbury to late Bronze Age post-Deverel-Rimbury ceramic traditions, a phenomenon which has only recently been recognised amongst a limited number of prehistoric pottery assemblages from sites within the wider Upper-Middle Thames Valley region. The pottery has been analysed and recorded using the methodology recommended by the Prehistoric Ceramics Research Group for study of later prehistoric pottery (PCRG 1997). Where possible the Green Park 3 pottery fabric and vessel form types have been assigned the same code numbers as those used for the Green Park 2 assemblage (Morris 2004).

**Late Neolithic/Early Bronze Age**

A single sherd of Beaker pottery was identified (context 2687, waterhole 2690). This is an undecorated body sherd 7–9mm thick, which derived from a vessel that had been softly fired in an oxidising atmosphere for a short period of time. This produced an orange-coloured exterior surface, an unoxidised core within the vessel wall and an irregularly-coloured interior surface. No sherds of

Beaker type were specifically identified at Green Park 1, but a grog-tempered fabric with 20–30% temper was recorded, which was presumably associated with plain body sherds only (Hall 1992; Fabric Group 9, fabric AA). A single sherd of grog-tempered pottery was found in the Green Park 2 assemblage, but the vessel had been hard-fired and was consequently interpreted as of late Bronze Age date (Morris 2004).

**Grog-tempered group**

G2: a fine to intermediate-grade, softly-fired fabric consisting of a common amount (20–25% concentration) of grog measuring  $\leq 2\text{mm}$  across in an only very slightly sandy clay matrix bearing rare to sparse amounts (2–3%) of subrounded to subangular quartz/quartzite grains measuring  $\leq 0.2\text{mm}$  across and possibly finer mica flecks

**Middle to late Bronze Age****Fabrics**

The middle-late Bronze Age pottery assemblage is dominated by fabrics tempered with crushed, calcined flint fragments (Tables 2.6–8). Amongst the fabrics used to make middle Bronze Age vessels only, several (F15–17) were identified previously in the Green Park 2 assemblage. There were four new middle Bronze Age fabrics defined from amongst the Green Park 3 assemblage (F18–22). The new fabrics

Table 2.6 Quantification of Bronze Age pottery by fabric

Date	Fabric group	Fabric type	Number of records	Number of sherds	Weight of sherds (g)	Mean sherd weight (g)
Late Neolithic/early Bronze Age	Grog-tempered	G2	1	1	3	3.0
Middle-late Bronze Age	Flint-tempered/gritted	F1	13	27	92	3.4
		F3	21	89	999	11.2
		F5	34	184	1396	7.6
		F6	3	4	29	7.3
		F8	5	8	31	3.9
		F9	2	9	7	0.8
		F10	6	15	99	6.6
		F11	1	3	11	3.7
		F15	1	3	15	5.0
		F16	8	30	2027	67.6
		F17	12	154	1881	12.2
		F18	3	13	28	2.2
		F19	1	1	12	12.0
		F20	4	4	36	9.0
		F21	2	5	23	4.6
	F22	3	13	76	5.8	
	F99	1	11	1	0.1	
Middle-late Bronze Age	Flint and grog-tempered	FG1	1	5	7	1.4
Middle-late Bronze Age	Iron oxide and flint-tempered	IF2	2	3	12	4.0
		IF3	1	1	4	4.0
Middle-late Bronze Age	Sandy	Q1	2	2	6	3.0
		Total	127	585	6795	11.6

included a coarse ware (F18) which was used to make a barrel urn found in pit 1209. This had a high density of moderately-sorted inclusions and was not dissimilar to the bucket urn fabric F15 from Green Park 2. An unusual intermediate ware (F19) had very well-sorted temper with a narrow measurement range from 1–3mm across, and was classified as middle Bronze Age due to this distinctive characteristic of the temper. The temper was similar to that used to make globular urns. F21 was a fine to intermediate fabric with well-sorted temper, and was used to make a globular urn. The fourth new middle Bronze Age fabric (F22) was extraordinarily densely tempered (40–50% concentration) with a narrow size range of well-sorted, selected inclusions.

In the Green Park 2 assemblage one fabric, F5, was recognised as having been used to make both middle and late Bronze Age vessels. At Green Park 3 both F5 and an additional fabric, F3, were used to make pottery of both ceramic traditions. Fabric F3 was regarded as a late Bronze Age fabric in the Green Park 2 assemblage, but was used during both ceramic periods at Green Park 3. It may actually represent the use of both groups of vessels at the same time. These two fabrics are coarsewares within the fabric range of later Bronze Age production techniques. In addition, one new, very fine flint-tempered fabric, F20, was used to make both middle Bronze Age globular urns and late Bronze Age bowls. Only four sherds were assigned to fabric type F20, but these derive from four different thin-walled vessels.

The likelihood of coterminous occupation in the areas excavated at Green Park 1–3 is supported by the use of three middle Bronze Age (F15–17), two

middle-late Bronze Age (F3 and F5) and nine late Bronze Age (F1, F6, F8, F10, F11, FG1, IF2, IF3 and Q1) pottery fabrics defined amongst the Green Park 1 and 2 assemblages (Hall 1992; Morris 2004) which were also found within the Green Park 3 assemblage.

#### *Flint-tempered/gritted group*

F1: identical to fabric type F1 at Green Park 2 (late Bronze Age)

F3: identical to fabric type F3 at Green Park 2 (middle and late Bronze Age)

F5: identical to fabric type F5 at Green Park 2 (middle and late Bronze Age)

F6: identical to fabric type F6 at Green Park 2 (late Bronze Age)

F8: identical to fabric type F8 at Green Park 2 (late Bronze Age)

F10: identical to fabric type F10 at Green Park 2 (late Bronze Age)

F11: identical to fabric type F11 at Green Park 2 (late Bronze Age)

F15: identical to fabric type F15 at Green Park 2 (middle Bronze Age)

F16: identical to fabric type F16 at Green Park 2 (middle Bronze Age)

F17: identical to fabric type F17 at Green Park 2 (middle Bronze Age)

F18: a coarse fabric characterised by a micaceous clay matrix containing a common to very common (25–30% concentration) amount of moderately-

Table 2.7 Correlation of fabric and form types for middle and late Bronze Age pottery by frequency of occurrences/vessels.

Form	Fabric									TOTAL
	F1	F3	F5	F10	F16	F17	F18	F20	F21	
R3	-	-	-	-	-	-	-	1	-	1
R11	1	-	1	1	-	-	-	-	-	3
R14	-	-	1	-	-	-	-	-	-	1
R16	-	-	1	-	-	-	-	-	-	1
R18	-	-	1	-	-	-	-	-	-	1
R19	-	-	1	1	-	-	-	-	-	2
R31	-	-	-	-	-	-	1	-	-	1
R32	-	-	-	-	-	-	-	-	1	1
R33	-	-	-	-	-	-	-	1	-	1
L4	-	-	-	-	-	-	-	-	1	1
L99	-	-	1	-	1	-	-	-	-	2
B1	-	-	1	-	-	1	-	-	-	2
B2	-	-	1	-	1*	-	-	-	-	2
B99	-	1	-	-	-	2	-	-	-	3
D1	-	3	2	1	-	-	1	-	-	7
Total	1	4	10	3	2	3	2	2	2	29

\* = perforated



sorted, angular, crushed, burnt flint fragments with the majority measuring from 2–4mm across with finer fragments also present; this fabric is similar to F15 at Green Park 2 but is coarser grained in texture (middle Bronze Age)

F19: an intermediate fabric distinctively characterised by a common to very common amount (20–30%) of very well-sorted, angular, crushed burnt flint fragments measuring between 1–3mm across (there are no larger or smaller fragments visible using a binocular microscope at x10 power in the single sherd identified in this assemblage) (middle Bronze Age)

F20: a very fine fabric containing a common amount (20%) of very well-sorted, angular, crushed burnt flint fragments measuring  $\leq 1$ mm across (middle and late Bronze Age)

F21: a fine to intermediate fabric containing a common amount (25%) of well-sorted, angular, crushed, burnt flint fragments measuring  $\leq 2$ mm across, with only very rare fragments measuring up to 3mm across (middle Bronze Age)

F22: an intermediate fabric which contains an abundant amount (40–50%) of very well-sorted, angular, crushed burnt flint fragments measuring  $\leq 2$ mm across with the majority of fragments measuring between 1–2mm across which emphasises the very well-sorted texture of this very harsh feeling fabric (?middle Bronze Age)

F99: fragments of pottery, each bearing more than one angular burnt flint inclusion, which are too small to provide representative detailed fabric type descriptions

#### *Flint and grog-tempered group*

FG1: identical to fabric type FG1 at Green Park 2 (late Bronze Age)

#### *Iron oxide and flint-gritted group*

IF2: identical to fabric type IF2 at Green Park 2 (late Bronze Age)

IF3: identical to fabric type IF3 at Green Park 2 (late Bronze Age)

#### *Sandy group*

Q1: identical to fabric type Q1 at Green Park 2 (late Bronze Age)

#### *Vessels*

Traditionally, sherds from later Bronze Age assemblages can be classified either as middle Bronze Age Deverel-Rimbury bucket, barrel and globular urns or as late Bronze Age post-Deverel-Rimbury plain ware comprising shouldered and ovoid jars and shouldered, slack-profiled, and hemispherical bowls with occasional cups (Barrett 1980). However, the assemblages from excavations at Green Park 2 (Morris 2004), Pingewood (Johnston 1985) and Eynsham Abbey, Oxfordshire (Barclay 2001) now

demonstrate that in the Upper Thames and Kennet Valley regions it is possible to see a transitional form. This is characterised by a straight-sided, neutral vessel shape reminiscent of the bucket urn tradition but which is thinner-walled and often has an incurving effect near the rim, suggestive of the convex ovoid jar tradition of the late Bronze Age. For the Green Park 2 assemblage, this vessel type was coded R16 (Morris 2004) and the fabrics associated with that form (F1, IF2 and IF5) were interpreted as belonging to the late Bronze Age tradition. In the Green Park 1 assemblage, the form is known as types 14 and 15 and decorated examples are both slashed and fingertipped on the rim (Hall 1992, figs 44.14, 44.19, 44.46 and 45.53). At Green Park 3 this vessel shape has been encountered again, but with a fabric type (F5) which was both middle and late Bronze Age in date, and with decoration on the rim which is commonly seen on middle Bronze Age urns. The Green Park 3 ceramics therefore show a greater mixture of middle and late Bronze Age characteristics than was observed in the Green Park 2 examples. This combination of form and fingertip decoration has also been found in the Lower Kennet Valley at Aldermaston Wharf (Bradley 1980, fig. 18.160B) and Pingewood, where numerous examples were recovered (Johnston 1985, figs 7–8). Examination of the Green Park 3 assemblage has revealed a more complex pattern within what is being interpreted as an exciting period of ceramic transition, which can now hopefully be identified elsewhere in future. This phenomenon is discussed in detail below, after the more common types for each major period are described. The vessels are illustrated by key groups from specific features (Figs 2.17–19).

A small number of diagnostic middle Bronze Age vessels were identified in the Green Park 3 assemblage from rim, lug/handle sherds and decorated sherds specifically. These include one barrel urn (Fig. 2.17.1) and two globular urns (Fig. 2.18.9 and 2.19.23). These vessels are typical of middle Bronze Age examples often found in the Middle Thames and Kennet Valley region as at sites in Middlesex (Barrett 1973) and at Field Farm, Burghfield and Shortheath Lane, Sulhamstead in Berkshire (Butterworth and Lobb 1992). One sherd has a vertically applied and horizontally perforated small lug with incised horizontal decoration at the lug, which is a typical combination of characteristics for these large vessels. It was recovered from the upper fill of field boundary ditch 1207.

There are several other vessels in the Green Park 3 assemblage which probably represent middle Bronze Age urns. The applied cordon with fingertip impressions on a decorated sherd (Fig. 2.19.19) could have derived from a bucket or barrel urn, but what is most significant is that the vessel was made



from fabric F3, originally interpreted as a late Bronze Age fabric in the Green Park 2 assemblage (Morris 2004). The base from an urn made from a middle Bronze Age fabric reflects the size diameter, 240mm, expected of a middle Bronze Age bucket or barrel urn (Fig. 2.17.5). It may represent a truncated cremation burial (3129), although no cremated bone survived. This large urn base contrasts with a much smaller one, also made from a middle Bronze Age fabric, measuring only 140mm in diameter (Fig. 2.17.2) which had been roughly perforated in the base centre after firing; the hole measures c 14–16mm across. One vessel, found in association with the perforated base urn, is from a very large thick-walled vessel bearing the stub of a handle joining the vessel wall (Fig. 2.17.3). The girth diameter of this pot is c 240mm, and it is likely to represent another urn based on size, wall thickness and fabric type (F16). These vessels were recovered from ditch 2511. The central flat part of another probable large urn (not illustrated) made from a middle Bronze Age fabric (F17) was found in ditch 2638. This sherd was 22–3mm thick.

A very specific range of late Bronze Age vessel types, one bowl and four jar forms, was found in the Green Park 3 assemblage, but none of these are the usually very common shouldered jars and bowls. The bowl form is the wide open, slack-profile type R3, and only one example was found (Fig. 2.18.11). It had been made from a very fine fabric, F20, which was also used to make a globular urn (Fig. 2.19.23). This R3 form is very similar to examples from Green Park 1 (Hall 1992, fig. 45.50) and Aldermaston Wharf (Bradley 1980, fig. 14.48G).

Jar type R11 is an ovoid or convex-profile shape, and three examples were identified at Green Park 3 (Figs 2.17.4, 2.17.6 and 2.19.24). Jar type R14 is a necked form, with a single example identified (Fig. 2.18.8); this form was also found at Eynsham Abbey (Barclay 2001). A sherd was recovered from what was probably a large shouldered form, R18 (Fig. 2.18.12), and the fourth jar type is very reminiscent of barrel urns, with its flat-top rim and bulging or expanded profile (Fig. 2.19.15–16). This type was first identified at Green Park 1 (Hall 1992, fig. 47.114 and 47.118), but none were found in the Green Park 2 assemblage. The R14, R18, one of the R19 and one of the R11 jars from Green Park 3 were made from the middle to late Bronze Age transition fabric type F5, while the second R19 jar and two of the R11 jars were made from late Bronze Age fabrics (F1 and F10).

The most significant vessel form which displays characteristics of both the middle Bronze Age and the late Bronze Age ceramic traditions is the straight-sided, nearly convex-profile vessel type R16. The example from Green Park 3 (Fig. 2.18.7), found in waterhole 2690, is amongst the larger vessels in the assemblage. The rim diameter is 200mm and is therefore of smaller bucket urn dimensions, but at 8–10mm the vessel walls are thinner than those of the typical bucket urn, which normally measure more than 12mm thick. The vessel is decorated with

fingertip impressions on the top of the rim, which is typical of middle Bronze Age bucket urns, while the fabric, F5, is part of the middle-late Bronze Age tradition at the Green Park complex. At Green Park 2, however, the five examples of R16 vessels were all made from late Bronze Age fabrics (F1, IF2 and IF5). An identical example to the Green Park 3 vessel was found at Pingewood in association with a middle Bronze Age urn with a boss (Bradley 1985, fig. 7.4–5). An extremely similar example was found at Green Park 1 in the same context as a decorated body sherd from a middle Bronze Age urn (Hall 1992, fig. 45.53–54). A similar vessel with slashed decoration on the rim was found in association with a bucket urn at Knights Farm subsite 3, Berkshire (Lobb *et al.* 1980, fig. 32.39–42). Several examples of slashed or fingernail decorated vessels of this type were found at Eynsham Abbey (Barclay 2001, fig. 16, 34, 36, 38–9).

Another fabric F5 special correlation (Table 2.7) is a decorated sherd with one vertical and one horizontal row of oval-shaped, toothed comb impressions (Fig. 2.19.21). This technique of decoration is not found on middle Bronze Age urns in the Middle Thames valley region (cf. Barrett 1973). The vessel is very thick-walled, which suggests that the sherd comes from an urn. The presence of combed decoration is also just faintly visible on another decorated, thick-walled urn sherd with an applied horizontal cordon decorated with fingertip impressions (Fig. 2.19.22). These combed impressions, however, were made with a square-toothed implement and the vessel had been made from the other middle-late Bronze Age coarse fabric, F3. There could well be some merit to a very detailed, magnified examination of the different types of fingertip decoration, cordon application, and toothed-comb impressions correlated to fabric variations in assemblages of this period, with the aim of identifying different potters' hand/fingerprints or signatures (cf. Tomalin 1995) on vessels recovered from the same site.

There are two decorated body sherds which may belong to the transition from middle to late Bronze Age traditions. One, decorated with an incised geometric grid pattern (Fig. 2.18.10), was from a large, thin-walled vessel with a possible 240mm girth diameter. This is an unusual combination of fineware-style decoration but extremely coarseware fabric (F3). In addition, the vessel was abraded on the interior surface, which suggests that something acidic had been stored in this vessel or that whatever had been stored in it was scraped out. The second sherd (Fig. 2.19.20) was made from the other middle-late Bronze Age fabric, F5, and appears to have a cordon onto which short, slashed marks have been incised, and might represent a shouldered vessel. It may be that this sherd is from the junction between two manufacturing coils, one representing the upper half of the vessel (missing) and the other the lower half. A very similar sherd was found at Field Farm, Burghfield (Mephram

1992a, fig. 19.19). A third sherd from Green Park 3 (Fig. 2.17.6) bears a single horizontal, incised line from the lower part of a vessel with medium girth size, but it was made from a fine-intermediate late Bronze Age fabric (F10). All of these decorated sherds were recovered from waterhole 2690.

There are three examples of perforated vessels in the Green Park 3 assemblage, two of which were perforated before the vessels had been fired (one illustrated; Fig. 2.19.17) and one of which was perforated after firing (Fig. 2.17.2), probably as a secondary use for the vessel. Some of the latter vessel's body sherds were found in the same context. In addition, there is a single sherd with an attempted perforation which was made prior to firing (Fig. 2.19.18). All of the pre-firing perforated sherds were found in waterhole 2690 and were from vessels made from middle to late Bronze Age fabrics F3 and F5. A similar range of perforations or attempted perforations was recorded in the Eynsham Abbey late Bronze Age assemblage (Barclay 2001, figs 14.9, 15.18 and 15.27). One was also recovered from Green Park 1 (Hall 1992, fig. 44.10), and one from Aldermaston Wharf (Bradley 1980, fig. 12.4D). There are no examples of sooted

sherds or sherds with carbonised residues in this assemblage, but two vessels display evidence which could be interpreted as interior vessel wall scraping from use (Fig. 2.18.10 and 2.19.14; see above).

In summary, this modest assemblage of later Bronze Age pottery is dominated by classic examples of middle Bronze Age Deverel-Rimbury pottery with a small component of fragments from late Bronze Age vessels including jars and a bowl. The most exciting contribution, however, is the identification of the transitional middle to late Bronze Age pottery style, deposited within one principal feature on the site. If the Eynsham Abbey site was occupied between *c* 1270–1040 cal BC (Barclay *et al.* 2001), the end of Bronze Age occupation at the Green Park site is likely to have been contemporary with the beginning of that at Eynsham Abbey, due to the similarity of straight-sided vessels and the presence of at least a few truly late Bronze Age vessel forms. It is also likely to have been contemporary with the occupation at Pingewood, due to the presence of so many straight-sided vessels or 'tubs' at that site, several directly associated with decorated sherds from middle Bronze Age urns (Bradley 1985).

Table 2.8 Occurrences of middle and late Bronze Age vessels by fabric within contemporary contexts (example in parentheses also represented in previous context)

Feature	Context	Fabric Type										
		F1	F3	F5	F6	F8	F9	F10	F11	F15	F16	
Ditch 1209	1207	-	-	-	-	-	-	-	-	-	-	-
Ditch 2495	2494	-	-	1	-	-	-	-	-	-	-	-
Ditch 2511	2486	-	1	-	-	-	-	-	-	-	-	1
Ditch 2511	2487	1	-	-	-	-	-	-	-	-	-	2
Ditch 2511	2604	-	-	-	-	-	-	-	-	-	-	-
Ditch 2571	2570	-	-	1	-	-	-	-	-	-	-	-
Ditch 2638	2656	-	-	-	-	-	-	-	-	-	-	-
Ditch 2638	2698	1	-	-	-	-	-	-	-	-	-	-
Ditch 3033	3029	-	1	-	-	-	-	-	-	-	-	-
Ditch 3033	3377	-	-	-	-	-	-	-	-	-	-	-
Ditch 3051	3061	1	-	1	-	-	-	-	-	-	-	-
Ditch 3149	3053	-	-	2	-	-	-	-	-	-	-	-
Ditch 3383	3371	-	-	1	-	-	-	-	-	-	-	-
Pit 3129	3130	-	-	-	-	-	-	-	-	-	-	-
Pit 3240	3242	-	1	-	-	-	-	-	-	-	-	-
Waterhole 2373	2363	1	-	-	-	-	-	-	-	-	-	-
"	2364	1	-	-	-	-	-	-	-	-	-	-
"	2365	1	1	-	1	-	-	-	-	-	-	-
Waterhole 2690	2686	-	1	3	-	-	-	1	-	-	-	-
"	2687	-	6	11	1	3	1	1 (1)	-	-	-	-
"	2688	-	2	1	-	-	-	-	1	-	-	-
"	2689	-	-	1	1	-	-	-	-	-	-	-
Waterhole 3091	3088	-	1	-	-	-	-	-	-	-	-	-
"	3089	-	1	1	-	-	-	-	-	-	-	-
"	3090	-	-	-	-	-	-	-	-	-	-	-
"	3247	-	-	-	-	-	-	-	-	-	-	-
Waterhole 3201	3210	-	-	-	-	-	-	-	-	-	-	-
Waterhole 3263	3264	-	-	-	-	-	-	-	-	-	-	-

*Middle Bronze Age urn forms*

R31: flat-topped, square-shaped rim on inward sloping neck; from barrel urn with mid-wall decoration of fingertip impressions along horizontal raised cordon (Fig. 2.17.1)

R32: rounded rim from neckless vessel; ?globular urn; this rim profile is similar to the late Bronze Age biconical bowl type 4 from Green Park 1 (Hall 1992, 64, fig. 41.4) which ranges from 110–150mm in diameter (Fig. 2.18.9)

R33: incurved, upright, thin-walled rim from globular urn (Fig. 2.19.23)

L4: horizontally perforated, vertically applied small, lug with narrow cross-section; middle Bronze Age ceramic tradition (Fig. 2.18.9)

L99: junction zone of uncertain handle type with vessel body wall (Fig. 2.17.3 and 2.19.13)

*Late Bronze Age bowl forms*

R3: identical to bowl rim type R3 at Green Park 2 (Fig. 2.18.11)

*Late Bronze Age jar forms*

R11: identical to jar rim type R11 at Green Park 2 (Fig. 2.17.4, 2.17.6 and 2.19.24)

R14: identical to jar rim type R14 at Green Park 2 (Fig. 2.18.8)

R16: identical to jar rim type R16 at Green Park 2 (Fig. 2.18.7)

R18: very similar if not identical to jar types 10 and 11 from Green Park 1 (Hall 1992, 64–8, figs. 42.10 and 43.11) based on rim shape and upper body profile as well as apparently large vessel size (Fig. 2.18.12)

R19: similar to vessel type 16 at Green Park 1 (Hall 1992, 68, figs 43.16, 47.114 and 47.118) (Fig. 2.19.15–16)

*Middle-late Bronze Age base forms*

B1: identical to base type B1 at Green Park 2 (Fig. 2.17.5)

B2: identical to base type B2 at Green Park 2 (Figs 2.17.2 and 2.19.14)

B99: central flat zone of base (not illustrated)

*Discussion*

The analysis of this modest assemblage of middle and late Bronze Age pottery was a challenge, due to the infrequency of featured sherds and the similarities with variations amongst the fabrics. This

												<i>Fabric Type</i>	
<i>F17</i>	<i>F18</i>	<i>F19</i>	<i>F20</i>	<i>F21</i>	<i>F22</i>	<i>F99</i>	<i>FG1</i>	<i>IF2</i>	<i>IF3</i>	<i>Q1</i>	<i>Date</i>		
-	1	-	-	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	?M/LBA		
-	-	-	-	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	MBA & LBA		
-	-	1	-	-	-	-	-	-	-	-	?LBA		
-	-	-	-	-	-	-	-	-	-	-	M/LBA		
2	-	-	1	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	LBA		
-	-	-	-	-	-	-	-	-	-	-	?LBA		
1	-	-	-	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	?M/LBA		
-	-	-	-	-	-	-	-	-	-	2	LBA		
-	-	-	-	-	-	-	-	-	-	-	LBA		
1	-	-	-	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	LBA		
-	-	-	-	-	-	-	-	-	-	-	?LBA		
-	-	-	-	-	-	-	-	-	-	-	LBA		
-	-	-	-	-	-	-	-	-	-	-	LBA		
1	-	-	-	-	-	-	-	-	-	-	MBA & LBA		
-	-	-	1	1	1	-	-	-	-	-	MBA & LBA		
-	-	-	1	-	1	-	-	-	-	-	MBA & LBA		
-	-	-	1	-	-	-	-	-	-	-	MBA & LBA		
3	-	-	-	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	-	-	-	-	MBA (?LBA)		
-	-	-	1	-	-	-	-	-	-	-	MBA		
-	-	-	-	-	-	-	1	-	-	-	LBA		
-	-	-	-	-	-	1	-	-	-	-	Uncertain		
-	-	-	-	-	1	-	-	-	-	-	?MBA		

'struggle with the fabrics' suggests that the Green Park 3 assemblage in particular may reflect a similar effort for the Bronze Age potters who could have been responding to changes in their society at that time; they were wrestling with finding a way to express the life which they were experiencing. Eventually we can clearly see the ceramic change from globular, barrel and bucket urns to biconical bowls and shouldered or ovoid jars, but undoubtedly this did not take place overnight. Why these shape changes were being experimented with is at present unknown.

The assemblage from Green Park 2 first suggested that this change could be recognised as a transition from straight-sided, thick-walled bucket and barrel urns to straight-sided, thinner-walled vessels of neutral form, which evolved into plain assemblage post-Deverel-Rimbury ovoid jars including hooked rim varieties and shouldered jars. Similar straight-sided, neutral-profile vessel forms have recently been published from the late Bronze Age site of Eynsham Abbey, and directly radiocarbon dated to *c* 1270–1040 cal BC by assay of burnt residue on the pottery (Barclay *et al.* 2001). This indicates that the late Bronze Age pottery style originated earlier than was previously supposed, first appearing towards the end of the second millennium BC in this region. Two other sites where both middle Bronze Age urns and these transitional forms have been found are nearby at Field Farm, Burghfield (Butterworth and Lobb 1992, fig. 19) and Knights Farm subsite 3, where the sherds were found in a deposit which has been radiocarbon dated to 1750–1200 cal BC (Lobb *et al.* 1980, 268, fig. 32.39–42). There were no globular urns at Green Park 2, so the assemblage there cannot contribute to the argument that this form developed into the late Bronze Age bowl form, but at Green Park 3 the same fabric, F20, was used to make both a globular urn and a late Bronze Age bowl. This suggests continuity within change; a transformation within acceptable parameters.

The Green Park 3 assemblage suggests a dramatic or complicated action, simply by the use of the same

fabrics for making pots for both 'diagnostic' ceramic traditions and for the deposition of similar sized sherds, ie specific fragments (J. Chapman, pers. comm.), from both middle Bronze Age urns and late Bronze Age vessels into the same large feature. Waterhole 2690 contained fragments of several middle Bronze Age vessels (Figs 2.18.9, 2.19.13, 2.19.19 and 2.19.21–3) and fragments of even more late Bronze Age vessels (Figs 2.17.6, 2.18.7–8, 2.18.11–12 and 2.19.14–16). Other features generally contained either middle or late Bronze Age sherds, but at least one ditch context contained sherds from both ceramic traditions (context 2487, ditch 2511) (Tables 2.8–9). This pattern did not occur at Green Park 2, where a small amount of middle Bronze Age pottery was found only in a few field boundary ditches and cremation burials but large quantities of late Bronze Age pottery occurred in dozens of settlement features, including several waterholes. At Green Park 2, middle Bronze Age pottery was the minority pottery in frequency and was not found in any waterholes.

What is most important to emphasise about the sherds recovered from waterhole 2690 is that they represent at least 18 vessels (Table 2.8), that each vessel is represented by only one or just a few sherds and that many of the vessels are decorated sherds from the bodies of the pots. In particular, it is the middle Bronze Age vessels which are primarily represented by decorated body sherds (with one exception), while the late Bronze Age vessels are represented by rims (with one exception) including the straight-sided transition form which is decorated. This range of forms, presence and absence of decoration by ceramic tradition, selection of vessel parts and fragmentation all found within a waterhole deposition context must be significant. The manufacture of these vessels and their destruction and deposition could represent creation/procreation and death or change/alteration respectively. The Green Park 3 assemblage may be one of the best archaeological examples we have of the use of pottery as a

Table 2.9 Occurrences of middle and late Bronze Age vessels by form within contemporary contexts (number in parentheses also represented in previous context)

Feature	Context	Form Types															Date	
		R3	R11	R14	R16	R18	R19	R31	R32	R33	L4	L99	B1	B2	B99	D1		
Ditch 1209	1207	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	MBA
Ditch 2511	2486	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	MBA
Ditch 2511	2487	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	MBA & LBA
Ditch 2495	2494	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	?M/LBA
Ditch 2638	2656	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	MBA
Pit 3129	3244	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	MBA
Waterhole 2690	2686	-	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	MBA & LBA
Waterhole 2690	2687	1	-	1	(1)	1	2	-	1	-	1	1	-	1	1	5	-	MBA & LBA
Waterhole 2690	2688	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	MBA & LBA
Waterhole 3091	3090	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	MBA

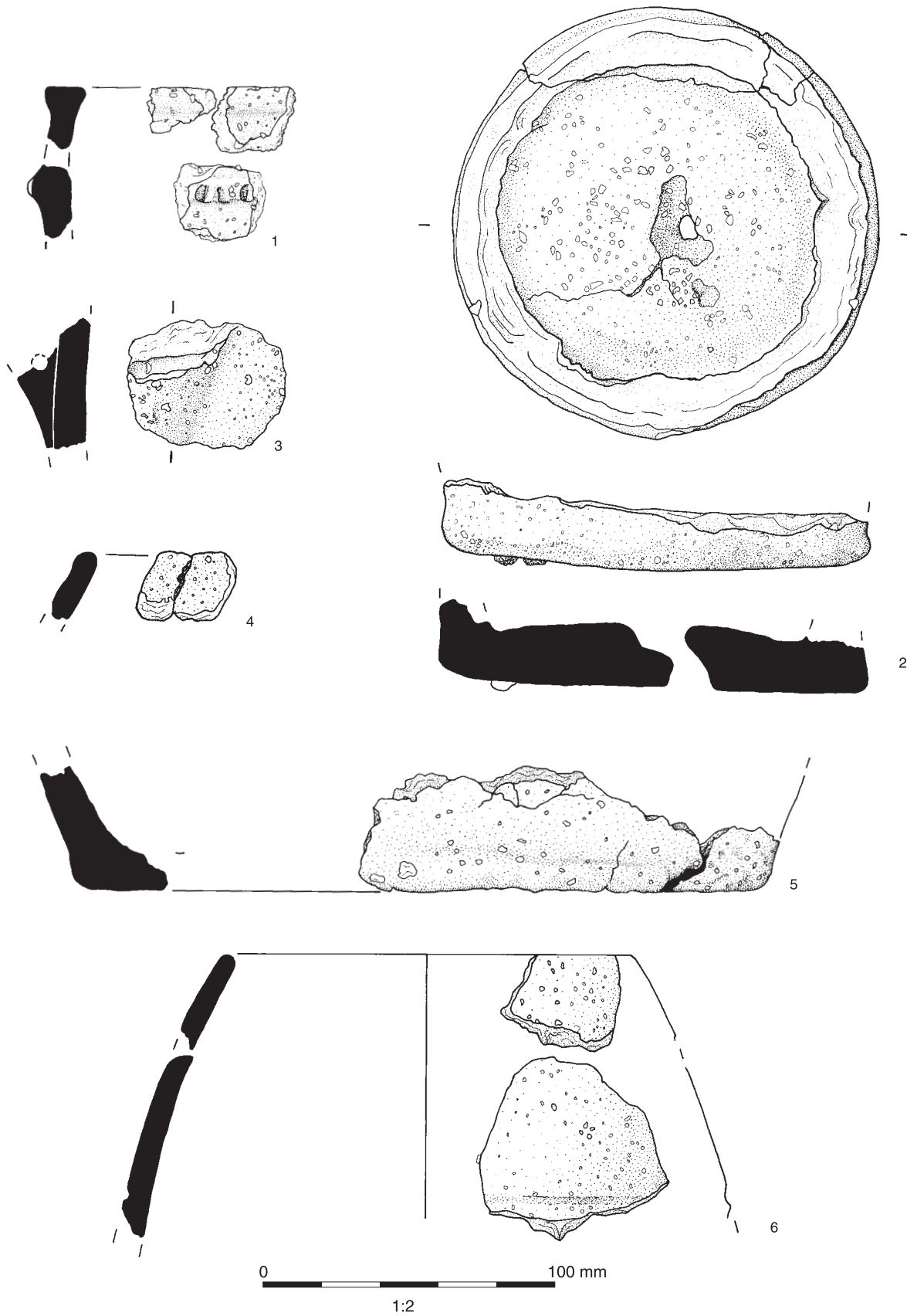


Fig. 2.17 Bronze Age pottery, nos 1-6



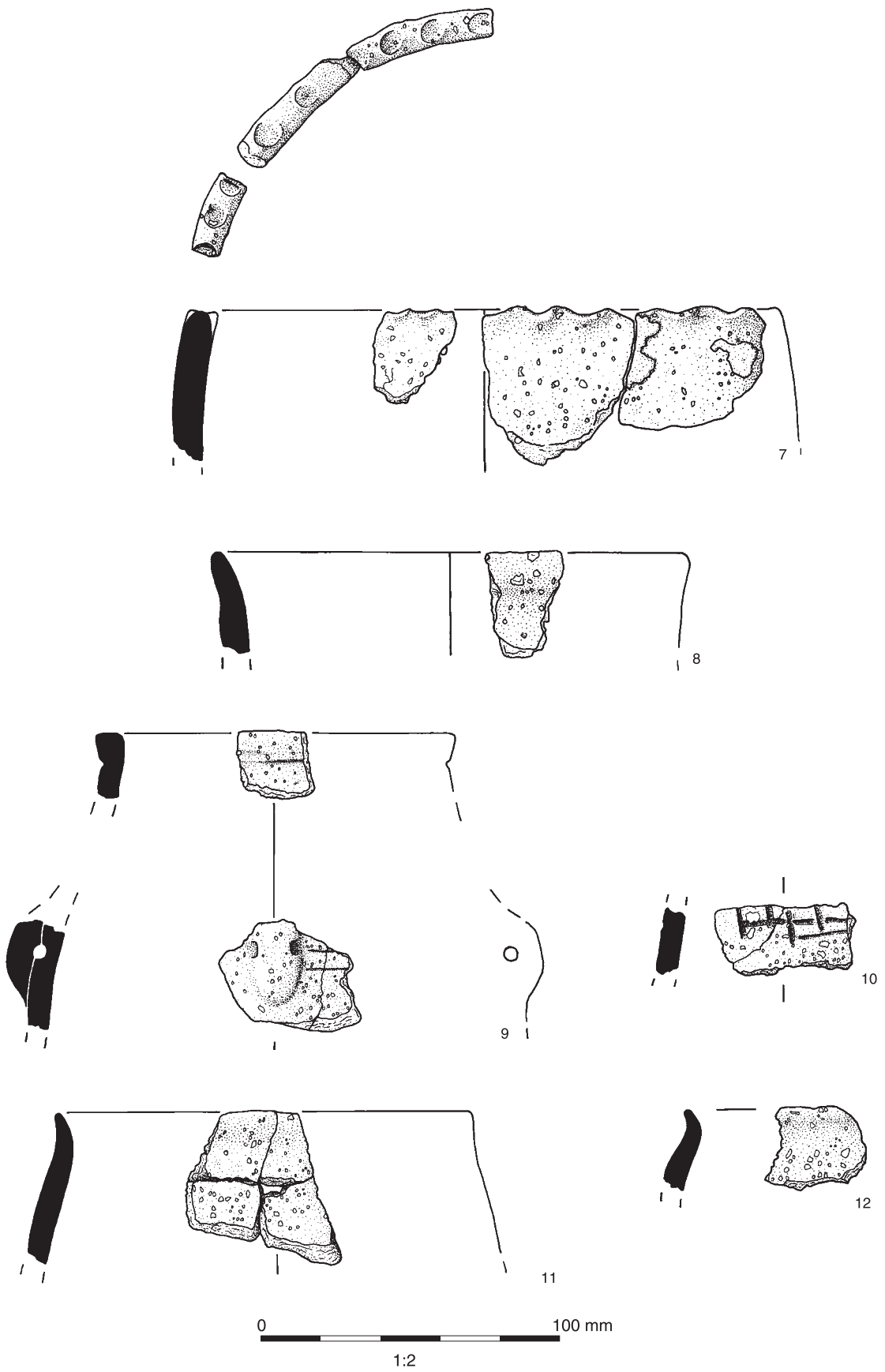


Fig. 2.18 Bronze Age pottery, nos 7-12

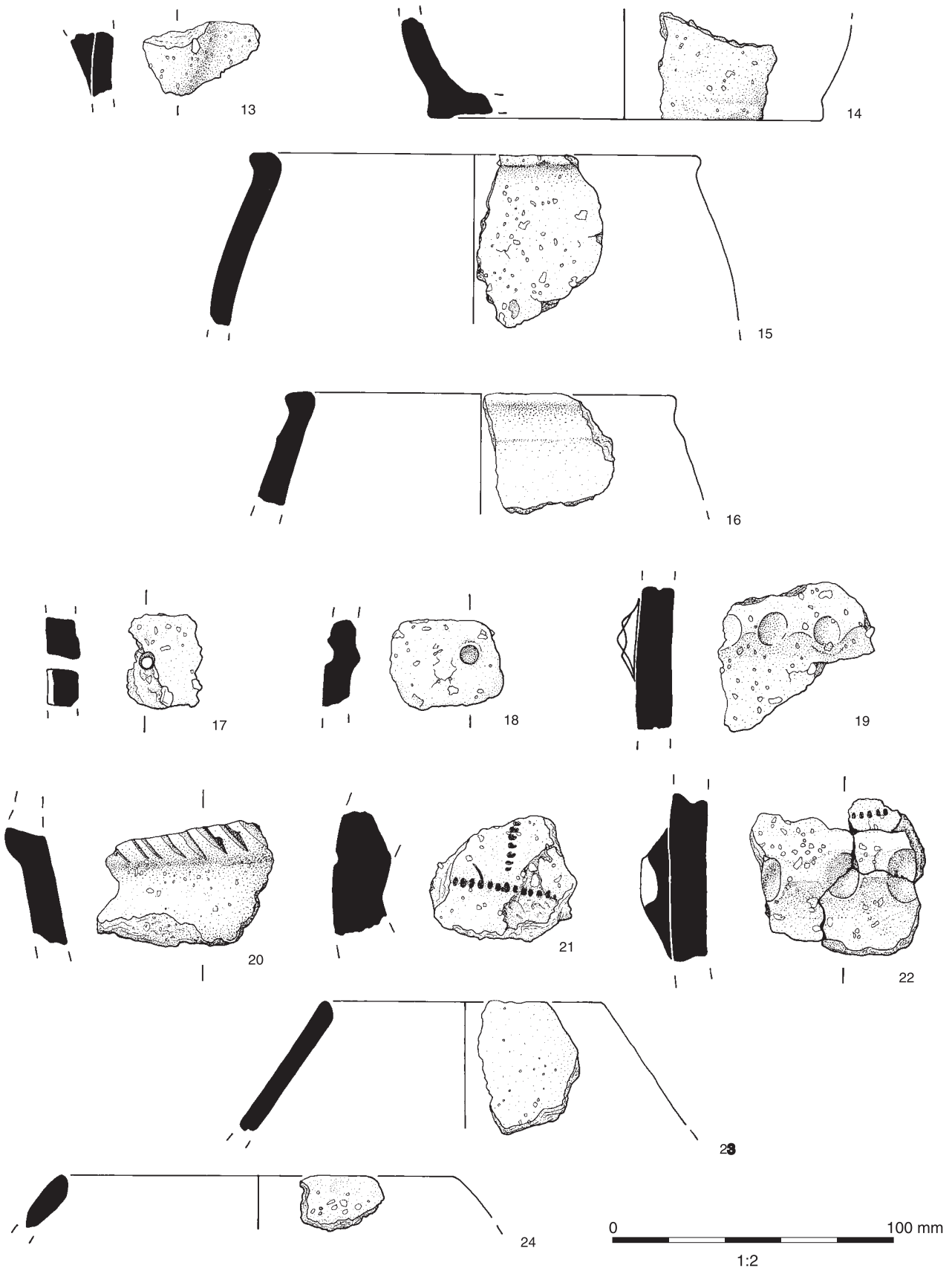


Fig. 2.19 Bronze Age pottery, nos 13–24

metaphor for life, people and ancestors (cf. Sterner 1989; Morris 1994; Brown 1995). Future research in this area might consider the transformation of earthly matter, such as flint, a vital element in this system of change since it is such an important element of both landscapes and ceramic production in the region. The study of fabric variation as a demonstration of social identity or ethnicity is in its infancy (cf. Raymond 1994).

***Catalogue of illustrated middle to late Bronze Age pottery*** (Figs 2.17–19)

- 1 Rims/decorated sherd, barrel urn; R31, less than 5% present; fabric F18; fingertip impressions on raised, horizontal cordon; unoxidised exterior and core, oxidised interior. Ditch 1209, context 1207.
- 2 Base, urn; B2, 100% of 140mm diameter present; fabric F16; irregularly-fired exterior, unoxidised interior and core; post-firing perforation c 145–165mm in diameter. Ditch 2511, context 2486.
- 3 Lug/handle stub, urn; L99; fabric F16; irregularly-fired exterior, unoxidised interior and core. Ditch 2511, context 2487.
- 4 Rim, ovoid jar; R11, 5% of 140mm diameter; fabric F1; unoxidised. Ditch 2511, context 2487.
- 5 Base, urn; B1, 35% of 240mm diameter; fabric F17; oxidised exterior, unoxidised interior and core. Pit 3129, context 3130.
- 6 Rim/decorated body, ovoid jar; R11/D11, 6% of 140mm diameter; fabric F10; incised line on lower vessel zone; oxidised. Waterhole 2690, context 2686 and 2687.
- 7 Rim, straight-sided jar; R16; 15% of 200mm diameter; fabric F5; decorated with fingertip impressions on rim top; oxidised. Waterhole 2690, context 2686 and 2687.
- 8 Rim, necked jar; R14, 5% of 160mm diameter; fabric F5; oxidised. Waterhole 2690, context 2687.
- 9 Rim/lug, globular urn; R32/L4, 6% of 120mm diameter; fabric F21; incised at rim/neck join and at lug girth. Waterhole 2690, context 2687.
- 10 Decorated sherd; D1; fabric F3; oxidised on exterior and interior, unoxidised core; possible use wear abrasion on interior. Waterhole 2690, context 2687.
- 11 Rim, bowl; R3; 6% of 140mm diameter; fabric F20; irregularly-fired exterior, unoxidised interior and core. Waterhole 2690, context 2687.
- 12 Rim, necked jar; R18, less than 5% present; fabric F5; irregularly-fired exterior, unoxidised core, oxidised interior. Waterhole 2690, context 2687.
- 13 Lug/handle stub; L99; fabric F5; oxidised on exterior and interior, unoxidised core. Waterhole 2690, context 2687.
- 14 Base, jar; B2, 7% of 140mm diameter; fabric F5; oxidised on exterior and interior, unoxidised core; possible use wear abrasion on interior. Waterhole 2690, context 2687.
- 15 Rim, barrel jar; R19, 5% of 160mm diameter; fabric

F5; oxidised. Waterhole 2690, context 2687.

- 16 Rim, barrel jar; R19, 6% of 140mm diameter; fabric F10; cordon effect at neck; unoxidised. Waterhole 2690, context 2687.
- 17 Sherd with pre-firing perforation; P1; fabric F3; oxidised. Waterhole 2690, context 2687.
- 18 Sherd with partial pre-firing perforation; P1; fabric F3; oxidised. Waterhole 2690, context 2687.
- 19 Decorated sherd, urn; D1; fabric F3; applied cordon with fingertip impressions; oxidised. Waterhole 2690, context 2687.
- 20 Decorated sherd, possible urn or shouldered jar; D1; fabric F5; slashed decoration; oxidised. Waterhole 2690, context 2687.  
Decorated sherd, possible biconical urn; D1; fabric F5; perpendicular impressions made from an oval-toothed comb; oxidised. Waterhole 2690, context 2687.
- 22 Decorated sherd, urn; D1; fabric F3; applied cordon with fingertip impressions and possible square-toothed comb impressions above; oxidised. Waterhole 2690, context 2688.
- 23 Rim, globular urn; R33, 7% of 100mm diameter; fabric F20; smoothed surfaces; irregularly-fired exterior, unoxidised exterior and core. Waterhole 3091, context 3090.
- 24 Rim, ovoid jar; R1, 5% of 140mm; fabric F5; oxidised exterior and interior, unoxidised core. Ditch 3258, context 3336 (residual in Romano-British context).

***Quern by Ruth Shaffrey***

A complete saddle quern of Sarsen was recovered from ditch 2538 (context 2537). The stone had been worked into a roughly rectangular shape (280 x 170 x 87mm), though the underneath of the quern had been left in its natural state, revealing that it was made from a small boulder or large cobble. The quern would have been fixed in position as its base is uneven. The concave grinding surface was pecked but extremely well worn, and showed signs of polish caused by extensive use. The item was possibly discarded because the grinding surface had become so smooth that it had ceased to be effective, and the very concave nature of the surface may have made the quern difficult to use and therefore not worth reworking. However, the disposal of the quern is suggestive of ritual deposition, as it had been placed in the base of a ditch terminal before the ditch was backfilled, and was not associated with other 'refuse'.

Sarsen occurs locally as blocks and boulders (Blake 1903, 68–9) and would have been easily obtainable. It was the most common material for querns from later Bronze Age contexts at Green Park 1 and 2 (Jennings 1992, 94; Roe 2004), and has been found elsewhere in the local area at Moores Farm (Shaffrey, Chapter 4) and Pingewood (Lobb and Mills 1993, 87). It was also used at sites where it was not immediately available, for example at Bray

in east Berkshire, where the nearest source was at least 5 km away (Montague 1995, 25).

#### Shale bracelet by Ruth Shaffrey

About one quarter of a well-preserved, undecorated shale bracelet (Fig. 2.20) was recovered from middle Bronze Age waterhole 3091 (context 3088). This has an off-round cross section (*c* 8 x 7mm) and an external diameter of approximately 92mm. A fragment of a similar shale bracelet was recovered from the late Bronze Age burnt mound at Green Park 2 (Boyle 2004a). Elsewhere in the Thames Valley, there are a few examples of shale bracelets from middle Bronze Age contexts, for example at Petters Sports Field, Egham, Surrey (Johnson 1975), but they are more commonly found during the late Bronze Age, as at Runnymede Bridge, Surrey (Longley 1980, 31) and Eynsham, Oxfordshire (Boyle 2001). The shale is likely to come from the outcrop at Kimmeridge, Dorset (Lawson 1976, 242).

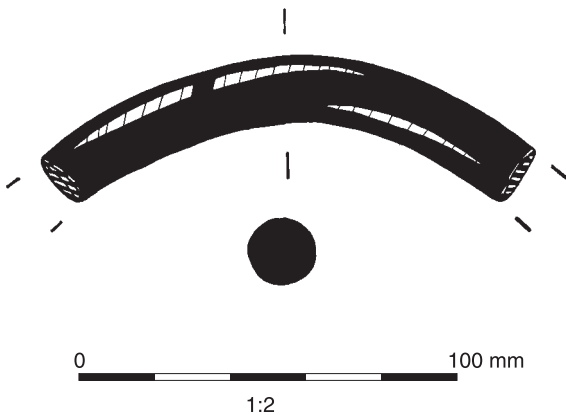


Fig. 2.20 Shale bracelet fragment

#### Wood by Maisie Taylor

An important assemblage of waterlogged wood was recovered from the lower fills of Bronze Age waterholes 2690, 3091 and 3201 (Table 2.10). The wood was examined visually and measured where possible. Field measurements have been used in those cases where pieces were too damaged or fragile to measure. Over 30 pieces of wood were received for analysis together with 11 bags of sampled material.

The assemblage includes a few pieces of worked roundwood, but most of it is unworked. One piece of unworked roundwood is almost certainly derived from a hedge. Most of the timber is radially split from fairly small trees, with a few pieces of tangentially split timber, possibly from larger trees. There are also a few pieces of woodworking debris, mostly woodchips, though there is one piece of timber debris. There are five artefacts, all of which were recovered from waterholes 2690 and 3091. These include two vessels and a ladle or dipper.

#### Condition

Using the scoring scale developed by the Humber Wetlands Project (Van de Noort *et al.* 1995, table 15.1) most of the material scores 1 or 2, indicating a poor condition. The artefacts were better preserved, possibly scoring 4 or 5. Waterhole 3201 had been partly excavated during the 1986 evaluation, and this may go some way to explaining the condition of the wood recovered from this feature, which was very brittle and crumbly. Disturbance of a waterlogged context in this way will often lead to oxygen activating bacterial activity. The distorted diameters of some of the roundwood can be taken as an indicator of desiccation (Taylor 1998, 142).

#### The wood

Sixty pieces of roundwood were examined. One, 2788 from waterhole 2690, clearly shows a right-angled bend, which is diagnostic of laid hedges (Taylor 1998, 147, fig. 156). Other pieces of roundwood seem to be derived from branch wood; some of these are trimmed, presumably to be used as stakes. A tree trunk (3253) recovered from waterhole 3091 had been felled and trimmed with two axes. An axe with a blade 45mm wide was used to fell the tree whilst another (34mm wide) was used for trimming off side branches. The dimensions of the axe blades fall within the range most frequently associated with middle and late Bronze Age axes (Taylor 2001, 197).

Thirteen planks were examined. Most had been radially split from small, fast-grown trees. There were occasional tool facets surviving. These facets show that surfaces had been worked but give little indication of the size and shape of axes.

The site did not produce a large enough assemblage of woodworking debris to make statistical analysis practical, but there are woodchips of all kinds: one tangentially aligned, two radially aligned and four which could not be categorised. There was one 'slab' which is a type of woodchip diagnostic of debarking a tree.

There was some evidence that the surviving planks and stakes were the remains of timber structures constructed in the base of the three waterholes. In features 3091 and 3201 fragments of broken planking, probably not *in situ*, and a few stakes driven into the natural at the base of the waterholes had survived. The structure in feature 2690 was better preserved, however. Here, two sides of a rectangular wooden structure (2765) survived, with planks held in position by stakes driven into the natural. Frames and revetments are relatively common in the bases of Bronze Age waterholes and seem to be related to the instability of the gravel into which the holes are dug. Sometimes they incorporate a step or platform for standing on. In many cases these timbers are reused.

The ladle or dipper (2807; Fig. 2.21.1; Fig. 2.22) is small and appears to have been carved from a piece of wood with a naturally bulbous shape, possibly

*Prehistoric Settlement in the Lower Kennet Valley*

*Table 2.10 Wood from Bronze Age waterholes*

<i>Feature</i>	<i>Cxt</i>	<i>Description</i>	<i>Dimensions and condition</i>
2690	2691	Horizontal oak planking/fragment, 1/8 split, trimmed squarish	
2690	2692	10+ small fragments of radially split oak plank.	? x 90 x 20 mm. Both ends missing.
2690	2714	Horizontal plank, radially split, both ends trimmed square. Tool marks recorded in field not now measurable	670 x 160 x 30 mm. Broken
2690	2766	Horizontal oak plank, half-split and hewn flat, with broken mortice at one end. Tool marks recorded in field no longer discernible.	975 x 325 x 40 mm. Broken and heavily decayed.
2690	2767	Base of sewn or two-piece vessel, probably unused, cut edge slightly curved and unworn.	Broken into 48 pieces with much missing, therefore not reconstructable
2690	2768	Roundwood stake, two ends trimmed/all directions, possibly retaining plank 2766.	382 x 52 x 50mm
2690	2769	Radially split oak fragment, trimmed one end/all directions.	436 x 84 x 25mm. One end missing.
2690	2770	Oak plank, radially split and trimmed square, trimmed one end/two directions.	734 x 85 x 40mm. Broken into four fragments, one end and other parts missing.
2690	2771	Oak plank, radially split and trimmed square.	
2690	2772	Oak post, radially split and trimmed square, trimmed one end/two directions.	Field measurements: 565 x 70 x 30 mm. One end missing.
2690	2773	Radial oak chip. Tool mark recorded in field no longer discernible.	187 x 46 x 16 mm. One end missing.
2690	2774	Timber, radially split and trimmed square.	600+ x 105 x 35 mm
2690	2787	Radially split, trimmed square and 1 end/blunt	620 x 100 x 25 mm
2690	2788	Roundwood with 90 degree bends, possibly from a laid hedge.	630 x 50 mm
2690	2791	Roundwood oak stake retaining plank 2776.	186 x 78/60mm diameter. Heavily charred
2690	2807	Ladle. Probable Pomoideae (apple/pear/hawthorn; identified by Jennifer Jones).	140 x 60mm. End of handle missing
2690	2808	Vertical oak fragment, roughly squared, tangentially split.	473 x 80 x 59 mm
2690	2809	Timber, radially split and trimmed square.	Much broken. Field measurements: 210 x 225 x 50–55mm x 20–28mm.
2690	2812	(1) Timber fragment, 1/8 split, trimmed to near circular dowel. (2) 11 fragments of thin, radially split oak.	(1) 120 x 65 x 50 mm. Broken and both ends missing. (2) all broken.
2690	2813	(1) 50 small pieces of roundwood, some oak, some alder, some unidentified. (2) oak woodchip, (3) woodchip, (4) slab (including bark with sapwood).	(1) 20–100 x 5–20 mm diameter, (2) 70 x 30 x 20 mm, very poor condition, (3) 30 x 20 x 10 mm, (4) 100 x 50 x 25 mm).
3091	3251	Tangential oak woodchip.	156 x 47 x 17 mm
3091	3252	Timber fragment, possibly vertical, tangentially split.	280 x 49 x 18 mm. Broken.
3091	3253	Felled tree, end trimmed off. Two axes used: tree felling (45:3) and trimming (34:4).	155 x 130 mm diameter.
3091	3255	Carved vessel, possibly oval, steep-sided, very finely made.	Broken into large number of small pieces and much missing. Impossible to reconstruct profile.
3091	3262	32 fragments from a very good quality object or objects now too shattered for further analysis. Evidence for hewing and splitting. Alder ( <i>Alnus glutinosa</i> ) or willow ( <i>Salix</i> sp.)	
3201	3231	Vertical roundwood fragment (stake?), trimmed one end/three directions.	
3201	3232	Horizontal roundwood fragment, trimmed one end/all directions.	307 x 28/41 mm diameter. Broken.
3201	3233	Vertical oak roundwood fragment (stake), trimmed one end/all directions.	360 x 40/45 mm diameter. Very soft.
3201	3234	Plank fragment, tangentially split with ends trimmed square.	1210 x 200 x 30 mm. Very soft.
3201	3235	Vertical oak roundwood fragment (stake?), trimmed one end/one direction.	420 x 60/70 mm diameter.
3201	3237	Vertical roundwood fragment (stake?), trimmed one end/three directions.	303 x 25/29 mm diameter.
3201	3238	Vertical roundwood fragment (stake?) with trimmed side branch, trimmed one end/all directions.	340 x 45/50 mm diameter. Broken.



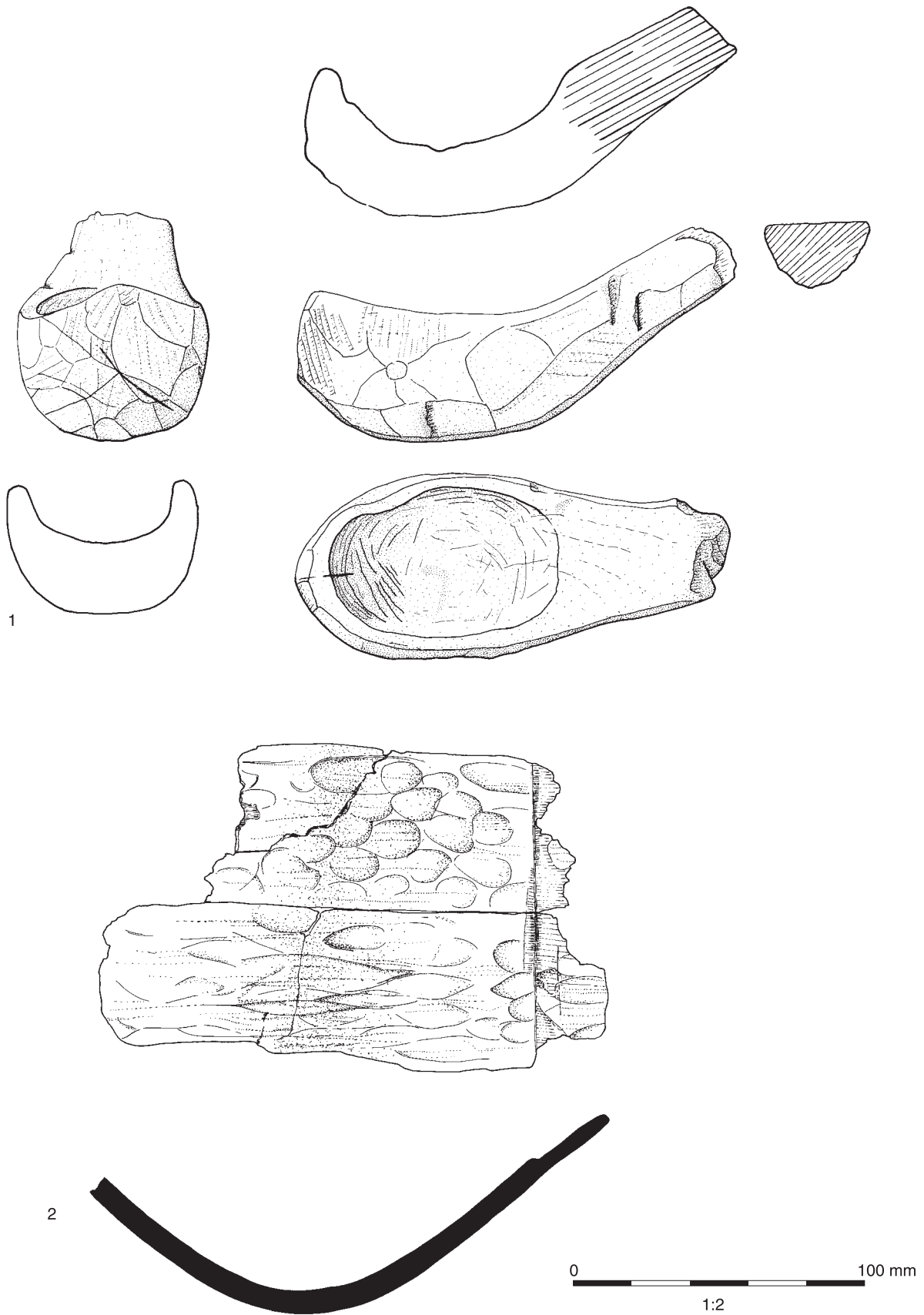


Fig. 2.21 Wooden objects



Fig. 2.22 Wooden ladle 2807

the join between a side branch and the trunk of a small tree. The wood is probably *Pomoideae* (apple/pear/hawthorn). An object interpreted as the bowl of a small ladle was found at Runnymede Bridge, Surrey (Heal 1991, 141, pl. 54, fig. 63), but other Bronze Age ladles tend to be larger (Taylor 2001, 226, fig. 7.65). Fragments of another artefact from the primary fill of the same feature are from a two-part vessel (2767). The fragments are from the vessel base, which shows evidence for having been sewn. Sewn two-piece vessels were found near the base of the Wilsford Shaft, Wiltshire (Earwood 1993, 54–6, fig. 30). The bases were made of single pieces of split wood, fastened to the body with fibres. A slightly different method of making sewn two-piece vessels has been seen in Ireland, but the fragmentary state of the present piece makes it impossible to be sure how it was fabricated. In addition to these items a short length of a dowel was retrieved from the same feature and layer. Both of its ends were missing, making it impossible to estimate the original length. It appears to have been made in the conventional way with a radially split piece of wood carved down to a virtually round section. The diameter of the dowel is 50mm, which is much larger than required for artefacts such as spear shafts or handles, and although closer in size to that required for a socketed axe foreshaft, it is still too large (Taylor 2001, fig. 7.62). Its use must, therefore, remain speculative.

The fragmentary remains of another vessel, possibly a box (3254–5), came from feature 3091 (Fig. 2.21.2; Fig. 2.8). This carved vessel is very unusual, and may have been oval with straight sides. The rebated top implies a lid and anticipates the lidded, carved or turned boxes of later periods. It is not possible to reconstruct the profile of the vessel because it is so badly damaged and large

pieces are missing. It was almost certainly of two-piece construction originally, although one-piece vessels do occur in the Bronze Age (Taylor 2001, fig. 7.66). An oval box would be a unique middle to late Bronze Age artefact. Waterhole 3091 also produced the damaged fragments of another good quality artefact.

Although the preservation of wood in Bronze Age waterholes is reasonably common in Britain, it is less common to find fine artefacts. A well-made trough was retrieved from a waterhole at Yarnton, Oxfordshire (Hey forthcoming) and a well made two piece vessel and an artefact have come from waterholes and ponds at Pode Hole, Cambridgeshire (Daniel 2009) but sites such as these are the exception.

## OSTEOLOGICAL AND ENVIRONMENTAL EVIDENCE

### *Human bone by Annsophie Witkin*

A right tibia fragment (84g) consisting of the mid shaft only was recovered from the primary fill (2689) of middle Bronze Age waterhole 2690. Using size as a guide, the bone appears to be from an adult. The only pathological lesion present is slight periostitis present on the distal medial side. The lesion appears not to have been active at the time of death of the individual.

Cremated human bone was recovered from two further middle Bronze Age waterholes. The penultimate fill of waterhole 3091 contained a discrete scatter of cremated bone, charcoal and middle Bronze Age pottery sherds (context 3244), possibly representing an urned cremation burial truncated by the digging of a later ditch. The deposit was subject to 100% recovery as a whole-earth sample

and subsequently wet-sieved; only 10g of bone was recovered. The uppermost fill of waterhole 3201 (context 3209) produced a very small amount (<10g) of cremated bone from an environmental sample. In both cases, the bone fragments were heavily abraded. None of the fragments could be identified, and no age or sex estimate could be obtained. An average adult cremation weighs between 1000–2400g (McKinley 1997, 68), and it is therefore clear that neither of these deposits represents anything like the entire remains of any one individual. This may be explained by truncation of the deposits, although it is possible that they only ever contained a sample of the cremated remains. A number of very small deposits of cremated bone occurred in later Bronze Age features at Green Park 1 and 2 (Boyle 1992; 2004b).

### Animal bone by Bethan Charles

A small and poorly preserved assemblage of animal bone comprising 71 refitted fragments (2171g) was recovered from middle to late Bronze Age contexts (Table 2.11). Only 26 fragments (37%) could be identified to species. The most abundant species was cattle, although this may not be representative of the animals eaten and kept at the site due to the poor condition of the assemblage. Smaller and more fragile fragments such as those from sheep and pigs will not have survived as well. Where possible, age data have been obtained using epiphyseal closure (Silver 1969) and tooth eruption and wear stages (Grant 1982; Halstead 1985).

A cattle mandible from a senile individual was recovered from waterhole 3091 (context 3088). Two further cattle mandibles from Bronze Age contexts were from an adult from waterhole 3201 (context 3210) and another aged 18–30 months from pit 3240 (context 3242). An unfused distal humerus from waterhole 2690 (context 2689) suggests that at least one animal died before reaching 1–1.5 years of age. A tibia from the same feature (context 2688) had been chopped, probably for marrow extraction. Carnivore gnawing on a cattle femur from waterhole 3091 (context 3090) suggests that the bone was exposed for a time before its final deposition.

Table 2.11 Animal bone from middle to late Bronze Age contexts

Species	No. fragments
Cattle	16
Sheep/goat	7
Horse	1
Red deer	1
Buzzard	1
Unidentified	45
Total	71

A sheep/goat mandible from waterhole 2690 (context 2688) was from an animal aged 3–5 years, and one from waterhole 2373 (context 2365) was aged 5–8 years. An unfused distal tibia from waterhole 3201 (context 3212) suggests that at least one sheep/goat died before reaching 1.5–2 years.

Horse is represented by a single femur fragment from waterhole 3091 (context 3089). Wild species comprise red deer, represented by a mandible from ditch 2638, and buzzard, represented by a single tibio-tarsus from waterhole 3201 (context 3212). This suggests that some hunting of wild animals occurred.

### Charred and waterlogged plant remains

by Ruth Pelling

Twelve samples were taken for the recovery of charred plant remains and eight samples for the recovery of waterlogged remains from middle Bronze Age waterholes. The samples were processed using a modified Siraf type flotation machine. The volume of material processed for charred remains ranged from 9–40 litres. Sub-samples of 1kg were processed for waterlogged plant remains. Flots were collected onto 250µm meshes and residues retained on 1mm mesh.

Charred plant remains were generally sparse, and roots and modern weed seeds were present in several samples (Table 2.12). Charcoal was present in low or moderate quantities in 11 of the 12 samples, with oak (*Quercus* sp.) and Pomoideae (apple/pear/hawthorn) noted. Single grains of barley (*Hordeum vulgare*) were present in three samples.

The waterlogged plant remains are summarised in Table 2.13. Aquatic species were limited, being represented by crowfoot (*Ranunculus* subgen

Table 2.12 Charred plant remains from Bronze Age waterholes.

Sample	Context	Feature	Sample volume (litres)	Barley ( <i>Hordeum vulgare</i> ) grain	Charcoal	Notes
2016	2365	2373	40	0	++	<i>Quercus</i> , other
2017	2366	2373	36	0	++	cf. Pomoideae, modern weeds
2028	2686	2690	32	+	0	
2029	2687	2690	32	+	+	Pomoideae
2030	2688	2690	32	0	+	<i>Quercus</i>
2056	3209	3201	40	0	+	
2057	3210	3201	35	0	+	
2058	3211	3201	32	0	+	
2060	3244	3091	4	0	+	
2067	3247	3091	29	0	+	Modern weeds
2068	3088	3091	35	+	+	
2069	3089	3091	32	0	+	cf. Pomoideae

+ = 0–10, ++ = 11–50

Table 2.13 Waterlogged plant remains from Bronze Age waterholes

	Sample		2012	2018	2019	2031	2055	2059	2070	2072
	Context		2396	2367	2394	2689	3212	3212	3090	3271
	Feature		2373	2373	2373	2690	3201	3201	3091	3263
<i>Ranunculus acris/repreus/bulbosus</i>	Buttercup	Gd	-	-	-	+	+	+	+	+
<i>Ranunculus subgen batrachium</i>	Crowfoot	Aq	-	-	-	+	-	-	+	-
<i>Stellaria media</i>	Chickweed	R	-	-	+	+	+	+	-	+
<i>Stellaria graminea</i>	Lesser Stitchwort	GW	-	-	-	++	-	-	-	-
<i>Chenopodium album</i>	Fat hen	R	+	-	+	+	+	-	-	-
<i>Atriplex</i> sp.	Orache	R	-	-	-	-	-	-	+	-
<i>Rubus</i> sp.	Blackberry/Raspberry	RSc	+	+	+	+	-	-	+	-
<i>Prunus spinosa</i>	Sloe	Sc	-	-	+	-	-	-	-	-
<i>Crataegus monogyna</i>	Hawthorn	Sc	+	-	++	+	+	+	+	+
<i>Oenanthe aquatica</i>	Fine-leaved Water Dropwort	Aq	-	-	-	+	+	+	+	+
<i>Aethusa cynapium</i>	Fools Parsley	C	+	-	-	+	-	-	-	-
<i>Polygonum persicaria/lapathifolium</i>	Red Shank/Pale Persicaria	R	-	-	-	-	+	+	-	+
<i>Polygonum aviculare</i>	Knotgrass	R	-	-	-	-	+	-	-	-
<i>Rumex</i> sp.	Docks	R	-	-	+	+++	+	+	+	+
<i>Rumex</i> sp.	Docks, charred seed		-	-	-	-	+	-	-	-
<i>Urtica dioica</i>	Common Nettle	R	+	-	+	++	+	-	+	-
<i>Alnus glutinosa</i>	Alder	W d	-	-	-	-	-	-	-	+
<i>Solanum</i> sp.	Nightshade	R	-	-	+	-	-	-	+	-
<i>Lycopus europeus</i>	Gipsywort	AqM	-	-	-	+	-	-	-	-
<i>Lamium</i> sp.	Dead Nettle	C	+	-	-	-	-	-	-	-
<i>Galeopsis</i> sp.	Hemp Nettle	CR	-	-	-	+	-	-	+	-
<i>Sambucus nigra</i>	Elder	RSc	+	+	++	+	+	+	+	+
<i>Carduus/Cirsium</i> sp.	Thistle	R	+	-	-	+	-	-	-	-
<i>Juncus</i> sp.	Rushes	GMd	-	-	-	-	-	+	-	+
<i>Eleocharis palustris</i>	Common Spikerush	GMd	-	-	-	-	+	-	-	-
Cerealia indet.	Charred cereal grain		-	+	-	-	-	-	-	-
<i>Carex</i> spp.	Sedges	GMd	+	-	+	+	-	-	+	-
Tree bud			+	-	+	-	-	-	-	-
Leaf fragments			-	-	-	-	+	-	-	-
Wood fragments			-	-	-	++	+++	+	+	+
Charcoal fragments			++	+	-	-	-	-	-	-

+ = 1-10, or present, ++ = moderate, +++ = frequent, ++++ = abundant

Habitat key: Aq - aquatic C - cultivated soils G - grassland M - marsh R - ruderal

*Batrachium*), fine-leaved water dropwort (*Oenanthe aquatica*) and gipsy wort (*Lycopus europeus*). These species are suggestive of a local environment of muddy and/or still water, as might be expected in features of this kind. Rushes (*Juncus* sp.), sedges (*Carex* sp.) and common spikerush (*Eleocharis palustris*) are likely to have been growing in wet conditions on the edges of the waterholes. Plants of cultivated or disturbed habitats include chickweed (*Stellaria media*), fat hen (*Chenopodium album*), fool's parsley (*Aethusa cynapium*), docks (*Rumex* sp.), nettle (*Urtica dioica*), dead nettle (*Lamium* sp.), hemp-nettle (*Galeopsis* sp.) and thistle (*Carduus/Cirsium* sp.). These plants may all have been growing in nitrogen-rich disturbed soils around the edge of the waterholes. Ruderal species such as red shank/pale persicaria (*Polygonum persicaria/lapathifolium*) and some dock species also occur on the banks of ponds or rivers. Scrubby vegetation, also associated with nitrogen-rich disturbed soils, is

suggested by seeds of bramble (*Rubus* sp.) and elder (*Sambucus nigra*), while alder (*Alnus glutinosa*), a species of damp ground, is represented by a single seed in waterhole 3263 (context 3271). Occasional fragments of charcoal, a charred cereal grain of indeterminate species and a charred dock seed were also recovered. These remains must derive from human activity within the vicinity but are not sufficient to suggest cereal processing on any scale.

#### Pollen by Elizabeth Huckerby

##### Introduction

Palynological analysis was undertaken on a monolith sample (sample 2061) taken through the fills of Bronze Age waterhole 3091 (Fig. 2.7). Ten subsamples were taken at depths of between 0.10m and 0.705m from the top of the monolith, and were







At this site the interpretation of the data is further complicated by the high values of indeterminate grains recorded. Several factors may cause these high percentages. As mentioned above pollen may have been imported onto the site, and oxygen levels in the water may be relatively high, thus causing more corrosion than would occur if conditions were more anaerobic. Also the pollen grains of several taxa recorded (eg grass, alder, plantain and dandelion-type) have stronger and more resistant exines (outer covering) or are very distinctive and more readily identified if preservation is poor. Both these factors, the easily identifiable grains and the resistant ones, give rise to a skewed data set.

However, the results from waterhole 3091 can be compared with those from late Bronze Age waterhole 1015 at Green Park 2 (Scaife 2004) and middle Bronze Age waterhole 824 at Moores Farm (Scaife, Chapter 7). There are broad similarities in the results from each site, although also some differences. Woodland had probably been cleared from the local area when the fills of these waterholes were accumulating. The low values of tree and

shrub pollen identified from all three sites provide evidence for this. However, the character of the remaining trees and shrubs at Green Park 3 differs from that at Moores Farm and Green Park 2. At this site more alder pollen with some hazel was recorded, whereas at the two other sites oak and hazel pollen were more important.

Both at this site and at Moores Farm the major components of the pollen sum are grasses (Poaceae), ribwort plantain (*Plantago lanceolata*), dandelion-type (Lactuceae) and bracken (*Pteridium*). At both sites arable weeds, including corn spurrey (Spergula-type) and cereal-type pollen are recorded but the values are low. This pollen assemblage suggests extensive grassland or ruderal plant communities with little arable cultivation. In contrast, higher percentages of cereal-type pollen and arable weeds were identified from waterhole 1015 at Green Park 2 (Scaife 2004). This suggests that cultivation was more important in that locality at this later date, although Scaife discusses the possibility that pollen from arable weeds and cereals may have been introduced into the deposits indirectly as a result of crop processing, when

Table 2.14 Insect remains from Bronze Age waterholes

Sample		2012	2019	2031	2059	2070	2072
Context		2396	2394	2689	3212	3090	3271
Feature		2373	2373	2690	3201	3091	3263
<hr/>							
Coleoptera							
<i>Agonum</i> sp.	A	-	-	+	-	-	-
<i>Haliphus</i> sp.	A	-	+	-	-	-	-
<i>Hydroporus</i> sp.	A	-	+	-	-	-	-
<i>Agabus bipustulatus</i>	A	-	+	-	-	-	-
<i>Helophorus</i> sp. ( <i>brevipalpis</i> size)	A	+	++	+	+	+	+
<i>Hydrobius fuscipes</i>	A	-	+	+	-	-	-
<i>Ochthebius</i> cf. <i>bicolor</i>	A	+	-	-	-	-	-
<i>O. minimus</i>	A	-	+	-	-	-	-
<i>O. cf. minimus</i>	A	-	++	+	-	-	-
<i>Hydraena testacea</i>	A	-	+	+	-	-	-
<i>Limnebius</i> sp.	A	-	+	-	-	-	-
<i>Stenus</i> sp.		-	+	-	-	-	-
<i>Tachyporus</i> sp.		-	-	-	-	+	-
<i>Geotrupes</i> sp.		-	-	+	-	-	-
<i>Colobopterus erraticus</i>		-	-	+	-	-	-
<i>Phyllopertha horticola</i>		-	+	+	-	-	-
<i>Cetonia aurata</i>		-	+	-	-	-	-
<i>Agriotes</i> sp.		+	+	-	-	-	-
<i>Chrysolina</i> sp.		-	-	-	-	+	-
<i>Longitarsus</i> sp.		-	+	-	-	-	-
<i>Alophus triguttatus</i>		+	-	-	-	-	-
<i>Tychius</i> sp.							
<hr/>							
Other insects							
<i>Forficula auricularia</i>		-	+	-	-	-	-
<i>Aphrodes bicinctus</i>		-	+	-	-	-	-
Diptera puparium		-	-	+	-	-	-

+ = present; ++ = several; A = aquatic

pollen trapped in the cereal inflorescences could have been released into the atmosphere as the result of threshing activities (Scaife, Chapter 7; Robinson and Hubbard 1977).

**Insects** by Mark Robinson

Insect remains were noted in the flots of six of the eight samples assessed for waterlogged plant remains from the middle Bronze Age waterholes (see above). These flots were then separately assessed for insects. The flots were scanned in water under a binocular microscope and those insects observed were identified. Their relative abundance is listed in Table 2.14. Nomenclature for Coleoptera follows Kloet and Hincks (1977).

The concentrations of insect remains are low and preservation is poor in all but context 2394 (waterhole 2373), which contains a much higher concentration of well-preserved fragments. Unsurprisingly, the majority of the insects in this, and indeed all, the samples are aquatic beetles characteristic of standing water. *Helophorus* sp. (*Brevipalpis* size) and *Ochthebius*

*minus* are particularly numerous, and probably reflect conditions in the open waterholes. The relatively few terrestrial insects are mostly beetles of open habitats, such as *Phyllopertha horticola* and *Agriotes* sp., which occur in grassland. Scarabaeoid dung beetles which tend to be associated with the dung of domestic animals, such as *Colobopterus erraticus*, are present but not as abundant as from some prehistoric waterholes.

The evidence that the waterholes held standing water is hardly unexpected. One useful result, however, is the evidence from context 2394, which indicates open conditions around waterhole 2373. This contrasts somewhat with the macroscopic plant remains from the same sample, which provides evidence for scrub, although the terrestrial insects are likely to have been derived from a larger catchment than the macroscopic plant remains. It therefore seems probable that there was some scrub immediately around the waterhole but that the general landscape was relatively open. The preponderance of aquatic insects in context 2394 meant that it was unsuitable for further analysis.