

Excavations along The Old Sarum water Pipeline, North of Salisbury

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Excavation along the line of a Wessex Water pipeline to the north of Old Sarum, Salisbury, revealed features of Neolithic to post-medieval date. Thirteen Middle Neolithic pits, in groups of two or three, were found at two locations, containing structured deposits of Peterborough Ware pottery, flints, animal bone, antler and other materials. Radiocarbon dates from four of the pits were statistically identical, although molluscan evidence indicated considerable variation in the landscape, with elements of woodland, scrub and open downland. There was some evidence for Beaker and Early Bronze Age activity, followed by a Middle Bronze Age settlement north-west of Old Sarum, with possibly associated human and cow burials, and a Late Bronze Age settlement to the east. A series of Iron Age features indicating specialised activities was found to the east of the entrance to the Old Sarum hillfort, and there were three Late Iron Age/Early Romano-British burials in a ditch south of The Portway, one of the Roman roads that converged at Sorviodunum. To the west, Romano-British features were recorded associated with the settlement at Camp Hill.

In 2001/02 Wessex Archaeology undertook an archaeological excavation in advance of the replacement of a water pipeline to the north of Salisbury. The work was commissioned and funded by Wessex Water. The pipeline runs for 4.5km from the Camp Hill Reservoir (OS Grid Ref. SU11153367), passing north of the scheduled monument of Old Sarum (SM26717) to the Castle Hill Reservoir (SU14753237), with a branch continuing east towards Ford village (Figure 1). The pipeline crosses a rich archaeological landscape with evidence for Neolithic pits and a long barrow, Bronze Age barrow cemeteries and field systems, as well as Iron Age, Romano-British and medieval settlements. The hillfort at Old Sarum was built during the Early Iron Age and was the possible site of the Roman town of *Sorviodunum*, when up to four Roman roads converged outside its east gate. The site continued to be occupied in the Saxon period, but was substantially remodelled after the Norman conquest with the construction of a motte-and-bailey castle, the strengthening of the defences and the building of a cathedral, later rebuilt in 1130. The abandonment of Old Sarum began in the early 13th century when the bishopric was moved, in 1219, to the new city of Salisbury to the south.

The pipeline was laid in a 1.5m wide trench within a 10m wide easement that was machine stripped under archaeological direction. Exposed features were hand-excavated where appropriate. Two construction compounds – one east of the A360, the other north of Old Sarum – were also investigated, but no ground works were undertaken within the River Avon floodplain where the existing pipeline was retained. For recording purposes, the easement was divided into six blocks based on land-ownership (Areas 1–6, west to east). Because some of the archaeological sites span the boundaries between these blocks, more specific site names (as outlined below) have been assigned for use in this report.

West of the Avon Valley, the pipeline ran from the Camp Hill Reservoir (137m aOD), close to the watershed between the Rivers Wylde and Avon, to the A360 Devizes Road (Area 1) (the *Camp Hill* site), then down the side of Avon valley crossing the head of a steep coombe (*Western Coombe*) before dropping to the edge of the floodplain (50m aOD) (Area 2). East of valley it ran across and up the south side of a broad dry valley onto a shallow, undulating north-facing slope north of Old Sarum, cutting first across a low north-west running chalk spur (c. 70m aOD) (*Old Sarum Spur*), and continuing to Phillips Lane (Area 3) and the A345 (Area 4). West of the A345 (Area 5) the pipeline crossed the line of The Portway and Ford Road (*The Portway*) beyond which one fork ran south, up Castle Hill to the reservoir (110m aOD) (*Castle Hill*) and a second continued along the base of the hill, rising gradually onto the plateau representing the watershed between the Rivers Avon and Bourne (Area 6) (*South of Ford Road*). The underlying geology is Chalk, which on the upper slopes of Camp Hill is capped with clay-with-flints. Towards the base of the Avon valley and in some of the undulations to the east there were some colluvial subsoils but elsewhere the Chalk lay directly below the topsoil

This route represents a transect across a distinctive chalkland landscape, spanning the full width of the Avon valley and comprising chalk plateaux, dry valleys and river valley sides. The Avon, like the River Bourne to the east, passes through the chalk downland of Salisbury Plain, the two rivers meeting, along with the River Wylde flowing from the north-west, less than 5 kilometre to the south. The strategic importance of this landscape is attested to by the long-term exploitation, at its centre, of the prominent hilltop of Old Sarum at least from the Iron Age through into the medieval period. It is the relationships between people and this landscape – domestic, economic, symbolic and strategic – for which the excavations provided evidence. They revealed both continuity and change from the Neolithic through to the Romano-British period, and it is this time span that is described here.

Features of medieval and post-medieval date were also recorded. In particular, topsoil stripping on the south side of Ford Road revealed the remains of a medieval building and graveyard enclosed by a series of ditches, provisionally identified as the hospital of St. John the Baptist and St.

Anthony. Because of the significance of this find, archaeological investigation was limited to manual cleaning sufficient for a detailed plan to be prepared. Protective measures were then installed, and the easement reinstated so as to preserve the remains *in situ*, and the pipeline diverted around them. This site, and the site of a possible post-medieval beacon on Camp Hill, will be described in a separate article.

This report presents a synthesised account of the excavations. Copies of the full specialist reports are available online at TO BE ADDED.

MIDDLE NEOLITHIC TO EARLY BRONZE AGE

The earliest evidence of human activity consisted of groups of Middle Neolithic pits recorded at two sites east of the Avon, the Old Sarum Spur and The Portway. No more than three pits were recorded in any group, although it is probable that at some groups other pits were located outside the easement. No group, as recorded, was more than 8m across. The pits contained a range of finds including Peterborough Ware pottery (Mortlake and Ebbsfleet styles), animal bones, worked flints, gathered stones and charred hazelnuts.

Old Sarum Spur

There were seven pits near the northern edge of the plateau of the chalk spur that overlooks the Avon valley to the south-west and the dry valley to the north-west (Figure 2). The pits are summarised in Table 1.

Group 1

The most westerly group consisted of three pits (3119, 3197 and 3198) within 1.6m of each other. Each was approximately circular, between 0.6m and 1m in diameter, with steep sides and flat or concave bases, although pit 3197 had been severely truncated by a later ditch and only the bottom 0.07m survived. Each contained single fills of loose brown soil representing single backfilling episodes, the finds, including Peterborough Ware pottery (some in the Ebbsfleet style) (pit 3197 – Figure 3.1/2), worked flints and animal bone, being incorporated within the backfilled soil.

The largest of the three pits (3119) produced 95 flints, including a 111mm long chisel tool with a thick triangular cross-section and a microdentate on a naturally backed flake. The bone was mostly pig (parts of a left forelimb from scapula to ulna), but with sheep/goat and cattle also represented. An object made from a long bone tapered towards one end was also found, possibly part of a needle or associated with the weaving process, e.g. a pin beater (Figure 4).

Group 2

Some 63m to the east there was pair of pits 1.8m apart (3005 and 3020), each with two fills but differing in their form and, to a degree also, in the sequence of deposition. Pit 3020 was circular in plan with moderate to steep sides and a flattish base, while pit 3005 was oval in plan and bell-shaped in profile, the sides being vertical towards the base but angled inwards at *c.* 45° towards the top.

At pit 3020 there was an initial deposit placed on the base comprising very abraded Peterborough ware sherds (from a single vessel), predominantly left-sided pig bone (the left hind limb bones from pelvis to tibia, elements from two left forelimbs, scapula to radius/metacarpal, and some vertebrae), and one cattle bone. One of the pig bones provided a radiocarbon date of 4398±40 BP, 3290–2910 cal BC (NZA-18416). There were also 19 flints and six spherical fossil nodules (ranging from 129g to 2210g), some used as hammer-stones. The pit was then backfilled to half its depth with a dark brown soil, and then left to fill up naturally, the upper fill producing further flints. At pit 3005, in contrast, there was no placed deposit on the base, but a loose dark loamy soil filling it to above where its sides started to lean inwards that yielded Peterborough Ware sherds (including two from a Mortlake bowl), pig bone and flints, as well as some 50 charred hazelnut shell fragments. Although most of the finds were mixed throughout the fill, the largest pieces of pottery appeared to have been placed against the side of the pit where it angled inwards. This pit, too, was left to fill up naturally.

Group 3

A third pair of pits (3000 and 3007), 7.5m apart, was recorded a further 38m to the east near the southern edge of the easement. They were similar in diameter (*c.* 0.9m), but pit 3007 was almost twice as deep as pit 3000.

Across the base of pit 3007 was a thin deposit of ashy silt (3331) containing 13 flints and over 100 hazelnut shell fragments. A sample of the hazelnut shells provided a radiocarbon date of 4473±40 BP, 3340–2930 cal BC (NZA-18338). This was covered by a backfilled layer of stony soil, deepest on the east side, containing further flints and hazelnut shells as well as a number of abraded Peterborough Ware sherds, then a layer of chalk rubble, possibly dumped or collapsed natural, lying against the west side. The bowl-shaped hollow remaining above these layers contained a dark organic soil containing cattle shin and ankle bones, further abraded Peterborough ware sherds and two flint blades. Chalk lenses within the layer suggest that this soil may have accumulated over time, rather than being backfilled.

Pit 3000 also had a deposit of material placed on its base, consisting of a cattle femur, part of a red deer antler and over 60 hazelnut shell fragments. Here, too, the deposit was overlain by a

stony layer extending up the sides of the pit, leaving a bowl-shaped hollow in the centre filled with dark soil. This was covered with a layer of light brown silt with a high chalk rubble content which extended up the pit sides. Mixed within the lower fill were seven flints and a small abraded rim sherd from a Ebbsfleet bowl (Figure 3.1). The upper fill contained hazelnut fragments, animal bone fragments and further flints.

The Portway

This site, some 900m east-south-east of the Old Sarum Spur, was located at the base of the chalk ridge formed by Castle Hill and the Old Sarum promontory. Six pits in two groups were excavated over a distance of 24m (Figure 5). They were deeper on average than those on the Old Sarum Spur, possibly protected from ploughing by the accumulation of ploughsoil at the base of the slope. They are summarised in Table 2.

Group 4

At the west, there were two subcircular pits (6061 and 6065) adjacent to each other, and a third (6056), oval in plan, less than a metre to the north-west.

A number of objects had been placed on the base of pit 6056, including a large sarsen stone (16kg) at the south end and a second smaller sarsen (1.6kg) and a large jagged flint nodule (7kg) lying parallel to each other aligned on the pit's axis. Beside the large stone was a large sherd (552g) of a Mortlake bowl (Figure 3.12). Filling the pit to the top of the smaller sarsen and the potsherd was a layer of chalky silt containing further Peterborough Ware sherds, fragments of animal bone, over 100 hazelnut shell fragments, and eight flints including an end scraper used as a piercer at the distal end. This fill appears to have accumulated naturally, the pit possibly being left open for a period of time. A second deposit included most of a pig scapula placed on the large Mortlake sherd and a layer of loose, very dark brown soil containing sherds from two different Mortlake bowls and one Ebbsfleet bowl (Figure 3.4), flints, part of a red deer antler tine, fragments of sheep/goat bone, and more hazelnut fragments as well as charred seeds of elder (*Sambucus nigra*). This deposit filled the pit to near the top of the large sarsen, behind which was a spherical flint fossil hammer-stone. Above the fossil, also lying against the south side of the pit, was the butt of a well-made, broken ground stone axe, probably of Cornish origin (Figure 4). This was covered by a backfilled layer of dark brown soil that filled most of the rest of the pit, then a layer of naturally accumulated soil. Hazelnut shells from the lowest layer (6058) and a fragment of pig skull from the layer above (6057) were submitted for radiocarbon dating to establish whether the deposited bone might have been curated, as was shown to be the case in the Stonehenge ditch (Allen and Bayliss 1995). They

provided dates, respectively, of 4477±40 BP (3340–2930 cal BC) and 4428±45 BP (3330–2910 cal BC) (Table 3, below), indicating that the bone had not been curated.

A thin layer of chalky silt on the base of pit 6061 suggests that it too may have remained open for some time, although before any material was placed on it. This was overlain by a layer of over 10,000 hazelnut shell and kernel fragments a sample of which provided a radiocarbon date of 4473±40 BP, 3340–2930 cal BC (NZA-18340). Among them was a number of flints including a round fossil hammer-stone, and laid on their surface was a young male domestic cattle horn core. The pit had then been filled to over half its depth with a loose dark brown soil within which was a spread of material containing Peterborough ware sherds (Figure 3.7) (including three different Mortlake bowls (Figure 3.5/6) and one Ebbsfleet bowl), as well as left-side pig bones, a pig jaw and tooth. The layer also contained flints, burnt flint, further hazelnut fragments (3000+), and an apple pip (*Malus cf. sylvestris*). A further soil layer containing few finds filled the rest of the pit. Although adjacent to pit 6061, pit 6065 was only half its depth. A deposit, comprising an antler pick, a cattle jaw and pig bones, as well as five flints, a small piece of sarsen stone and hazelnut fragments, had been placed on the base and covered with a layer of chalky silt up to 0.13m thick, suggesting that this pit may also have remained open for a period time. On top of this was a broken piece of sandstone and a number of flints, in turn covered with a brown soil containing further flints and fragments of animal bone.

Group 5

Some 16m to the south-east were two adjacent and similar pits (6093 and 6100) and, as in Group 4, a third to the north-west (6076).

Pit 6093 contained three backfilled layers, the lower two apparently levelled, containing between them Peterborough Ware sherds (Figure 3.10) – both Ebbsfleet (Figure 3.13) and Mortlake styles (Figure 3.11), flints (including a nodule hammer-stone) and hazelnut shells. Each layer produced pieces of antler (red deer and roe deer), some of those from the lower and upper layers fitting together, but there were no other animal bones. There were two small dumps of probably collapsed chalk against the south-west side.

In contrast, pit 6100 had a deposit of pottery and stones placed on its base. On the western side were 48 Peterborough Ware sherds from at least two different Ebbsfleet bowls and one Mortlake bowl, two which fitted with sherds in pit 6093 (Figures 3.11 and 3.13), while against the eastern side were piled four pieces of sarsen weighing between 2.6kg and 12kg (one of them burnt on one side), two flint nodules (up to 300g) and three fossils, one of them used as a hammer-stone. However, as in the adjacent pit, this was overlain by three backfilled layers, the lower two, producing between them flints and cattle and pig bone, again apparently levelled.

Pit 6076 had on its base a thin deposit of dark brown silt containing 54 Peterborough ware sherds (from two different Mortlake bowls (Figure 3.9) and one Ebbsfleet bowl (Figure 3.8)), a roe deer antler, and burnt bone as well as worked and burnt flint and hazelnut fragments. This was overlain by two backfilled layers (and a small dump of collapsed natural) that produced a large quantity of hazelnut fragments, further fragments of Peterborough ware, burnt bone and burnt flint.

Beaker and Early Bronze Age

There was only limited and localised evidence, from both side of the Avon valley, for activity in the Beaker/Early Bronze Age period.

The only identifiable feature on the Old Sarum Spur was an subcircular pit (3031), 0.64–0.74m in diameter and 0.3m deep, producing two small Beaker sherds, flints, cattle bone, burnt flint and hazelnut fragments (Figure 2). A tree throw (3095) immediately to the north produced two small abraded Early Bronze Age sherds, a flint scraper and a large quantity (2311g) of burnt flint. Early Bronze Age sherds were also recovered (intrusive) from Neolithic pit 3197 and (residual) in a Middle Bronze Age posthole (3225).

On the east side of the A360 at Camp Hill there was a close triangular grouping of three small pits (1034, 1036 and 1038), each 0.55–0.6m in diameter. The deepest pit (1034, 0.25m) produced a small abraded Early Bronze Age sherd and 46 flints typical of Late Neolithic–Early Bronze Age technology, mostly core trimming waste, but including an end scraper of a form with Beaker associations, and a broken barbed and tanged arrowhead. There was also a large quantity of charcoal (oak, hazel, and hawthorn) at the base, some of the oak charcoal having vitrified in temperatures exceeding 800°. The other pits also contained flints and charcoal.

Approximately 450m to the south-east, at the head of the Western Coombe, a single post pit (1083) produced 17 sherds of Beaker pottery (Figure 3.14/15) and worked flints. It was 0.65–0.75m in diameter and 0.3m deep, with a 0.25m diameter post-pipe on its east side overlying a solution pipe penetrating the underlying chalk. Most of the finds came from among large flint packing stones lying against the edge of the post-pipe.

Near the east end of the pipeline (South of Ford Road) 12 Beaker sherds from two different vessels (Figure 3.16–18) were found in a later feature (6153 – see *Middle Bronze Age*, below), possibly indicating the presence of a disturbed flat grave or Beaker pit in the area. The red colouring of the sherds, produced by a fast firing, suggests that they are from early Beakers. There are parallels from other local sites, for example Berwick St John (Clarke 1970, 297; 133 – W/MR 1075) and Winterslow Hut (*ibid.*, 297; 134 – W/MR 1204).

The Neolithic and Early Bronze Age landscape

The landscape, comprising river valley wetland and floodplain (Avon and Bourne), valley sides and downland plateau, would have provided the varied resources suitable for a range of subsistence strategies. This is reflected in the recovery of cattle, sheep/goat and pig bone, red and roe deer antler and hazelnut shells as well as charcoal of oak, hazel and the hawthorn/*Sorbus* group. Animal husbandry was clearly an important component of Neolithic subsistence strategies, the range of domesticated animals able to exploit a diverse environment including woodland and grassland.

As the animal bones do not appear to have been the result of large-scale feasting, the assemblage may be more representative of domestic consumption patterns. The pig bones all originate from animals aged approximately one year or under, while the cattle bones are from mainly mature individuals – one under two and a half years at death and another over four years. A similar pattern was found at Windmill Hill (Grigson 1999, 220–1), the West Kennet palisade enclosures (Edwards and Horne 1997, 119) and Durrington Walls (Albarella and Serjeantson 2002, 35). The cattle bones from Coneybury were mostly from mature breeding cows, although calves were also in evidence (Maltby 1990, 248). It is unfortunate that it was not possible to determine the sex of the Neolithic cattle found at Old Sarum.

There was also evidence of arable cultivation, with barley (*Hordeum vulgare sensu lato*) and wheat (*Triticum* sp.) represented. While no grains were well enough preserved to identify naked and hulled varieties with confidence it appears that both varieties were present. Several grains characteristic of emmer or spelt were present and in a few cases were diagnostic of emmer wheat (*Triticum dicoccum*), the main hulled wheat recorded from Neolithic Britain. A few grains were characteristic of free-threshing wheat (*Triticum aestivum sensu lato*) and a single possible rachis fragment was also recovered. It is interesting that while identified cereal grains never numbered more than ten, many samples still produced evidence for two to three different species of cereal. There was, however, no evidence for chaff and only a few weed seeds. Robinson (2000) has suggested that chaff may have been removed after harvest and burnt elsewhere. Although pre-processing would make cereals less suitable for long-term storage, it would have had benefits for groups that were partly transient – processed cereals are less bulky and do not require the use of heavy mortars. As the harvesting and post-harvest processing of cereals is a labour intensive activity it may imply communal activity in late summer after which communities split into smaller groups to exploit hazelnuts and other wild foods within early autumn.

How these components of the Neolithic economy combined would have depended on the changing nature of the Neolithic landscape, and one of the nationally and regionally important (Allen 1998) themes in the Neolithic period is the presence and nature of woodland development (Smith 1981) and that of Neolithic regeneration which has been taken to indicate social movement

from the chalklands (Bradley 1978). Evidence about the character of the woodland landscape is provided by the charcoal recovered from the pits, and by the snails. Although similar pits have been found at Winterbourne Dauntsey (Stone 1934) and the Beehive (Heaton 2003) comparable environmental data have only been obtained from Easton Lane (pit 1017), Hampshire (Allen 1989).

Pits are not ideal contexts for land snail analysis as the origin of the deposits, and thus the included snail faunas, is not always known (Thomas 1977; Shackley 1976). While pits that fill naturally, as at Easton Lane, can provide useful long sequences reflecting landscape change, the deposits in the Old Sarum pits represent short episodes of deliberate backfilling; and where sequences of samples were taken (from pits 3007, 6056 and 6061) no real successive changes could be seen; no columns of contiguous samples were taken through any of the pits, the snails being extracted from stratified sequences of bulk samples. While this poses questions about the origins of the molluscan assemblages, if we can assume that both the deposits and the soils containing the shells were local and surface derived, then we are examining assemblages that were both contemporary with the feature and representative of the local environment.

The molluscs are considered here within five distinct assemblage groups defined, regardless of location or period, on the basis of their ecology and assemblage composition (Figures 6 and 7; Evans 1984; Entwistle and Bowden 1991). However, they do display a strong chronological trend, assemblage groups 1-3a relating to Middle Neolithic pits, groups 3b and 4 to Middle Neolithic and Bronze Age pits, and group 5 to Middle Bronze Age or later pits. Although assemblage group 5 relates exclusively to Middle and Late Bronze Age features, is it described here in order to highlight its relationship to the longer sequence of environmental change evident through the Neolithic.

Species diversity calculations have been employed to aid in interpretation of the sequences of molluscan assemblages. The analysis of Δ (delta) species diversity indices (Hurbert 1971) allows us to attempt to examine how 'uniform' the wider landscape is (cf. Entwistle, in Allen *et al.* 1990; Entwistle and Bowden 1991), and the application of species diversity indices clearly allow us to examine generally the nature of the environment (cf. Allen in French *et al.* 2003, 226-8, 233-4; Bell

Assemblage group 1

These assemblages come from Neolithic pit groups at two sites – pits 3000, 3007, 3198 (Old Sarum Spur) and 6093, 6056, 6100 (The Portway). Three have radiocarbon determinations falling into the Middle Neolithic *c.* 3340–2910 cal BC. They are dominated by shade-loving elements, and in particular *Zonitoides* and *Discus rotundatus* with *Carychium tridentatus*, indicating a shady environment with leaf litter. The main open country species is *Vallonia costata* which is known to occur in open woodland (Evans 1984). The range of taxa (generally 18–21) is modest for ancient

woodland, and although *Vertigo cf. pusilla* is present as single specimens, the assemblage lacks many taxa typical of ancient and largely undisturbed woodland such as *Ena montana* and other species. The species diversity is moderate (Shannon index generally between 2.64 and 2.18) suggesting that this is neither an ancient nor very mature woodland. The relatively low Δ (delta) indices suggest a wide habitat variation rather than a mature ecology.

This assemblage groups suggests the presence of open broad-leaved deciduous woodland at both sites, with a local mosaic of habitats, this diversity possibly encouraged by clearing or thinning the trees locally. It is clear, however, that there was no long-established mature wildwood.

Assemblage group 2

This includes three assemblages from a single Neolithic pit – 6061 (The Portway), with a radiocarbon date of 3340–2930 cal BC. They show a slight decrease in the shade-loving species present in assemblage group 1. The Zonitids and *Discus rotundatus* are less important while *Carychium tridentatum* is the dominant shade-loving species. The presence of *Helicella itala* at 15–26% and the presence of *Pupilla muscorum* indicate the presence of dry open grassland. Lower taxonomic range (13 taxa) and species diversity indices (Shannon *c.* 2.09) suggest decreasing ecological maturity, while higher Δ_4 indices (to 7.39) might suggest habitat diversity.

This assemblage group suggests open grassland and woods, probably with shrubs. There is unlikely to be a closed woodland canopy, and the lack of predatory Zonitids might lead us to suggest that *Carychium tridentatum* is exploiting long grassland habitats (Cameron and Morgan-Huws 1975) rather than leaf litter. Although this is a subtly different local habitat to that defined by assemblage group 1, it is not difficult to see these two habitats being coeval and in close proximity.

Assemblage group 3

These assemblages, all from the Old Sarum Spur, fall into two subgroups – 3a from Neolithic pits 3005 and 3119, and 3b from Neolithic pit 3020 (and Middle and Late Bronze Age pits 3013 and 3102). They are dominated by open country species, predominantly *Helicella itala* and *Vallonia excentrica* with *Pupilla muscorum*, and are typical of short dry grassland habitats. The presence of shade-loving species is much reduced, especially in assemblage group 3b. *Pomatias elegans* which enjoys loose and broken soil, and is sometimes taken as an indicator of arable, is well represented in Middle Bronze Age pit 3013. The main differences between the sub groups are the dramatic reduction of *Vallonia costata* in group 3b, and the presence of shade-loving taxa. The reduced Shannon indices (1.42–1.78) and much lower Δ_4 indices (2.3–3.6) indicate fewer habitat types in the vicinity.

Both subgroups indicate open grassy downland with few trees, though shrubs are likely to be present, with subgroup 3b, suggesting an even drier grassland. The radiocarbon date of 3290–2910 cal BC from Neolithic pit 3020 suggests that this environment is contemporary with those represented by assemblage groups 1 and 2 (although it also existed in the Bronze Age pits). However, the indications of lower habitat variation locally seem to belie the presence of woodier habitats, as represented by assemblage groups 1 and 2. Although this may be a factor of species competition (Thomas 1985), it may also indicate chronological variation over the decadal to centennial scale not detectable due to the radiocarbon plateau during this period.

Assemblage group 4

These assemblages from Neolithic pit 6065 (The Portway) and possibly Middle Bronze Age pit 3106 (Old Sarum Spur) are characterised by the dominance of open country taxa and Limicidae and have low levels of *D. rotundatus* and Zonitids with *Carychium tridentatum*. Although the xerophile *Helicella itala* is present, it occurs in lower proportions (8–13%, rather than 20–30%) than in assemblage group 3, but with slightly raised taxonomic ranges. The presence of Introduced Helicellids (medieval or later date) in pit 6065 reflects the shallow and poorly sealed nature of this context. It also questions the coeval nature of the entire assemblage.

Although this assemblage group represents a predominantly open countryside environment, the slightly higher mesic components may suggest longer grasses with less grazing pressure. This environment is non-period specific, existing today as rough downland, and being common in the Middle Neolithic and later periods in cleared and maintained open downland. In Bronze Age pit 3106 the high presence of *Pomatias elegans* might suggest loose tilled soil.

Assemblage group 5

These assemblages, from Middle Bronze Age pit 6153 (South of Ford Road) and Late Bronze Age pit 3328 (Old Sarum Spur), are dominated by open country species, mainly *Helicella itala*, *Pupilla muscorum* and *V. excentica*. The almost total absence of shade-loving taxa confirms the presence of long-established open downland conditions. These probably represent dry short grassed, grazed downland, or possibly even limited arable. The presence of *Pomatias elegans* in pit 6153 tends to suggest the presence of broken ground and arable.

Assuming that all the Neolithic pits from both sites were contemporaneous, and that the chronological range is not great enough to enable large landscape changes and establishment of their respective molluscan fauna, then this data provide clear evidence of huge local habitat diversity. The lack of evidence for mature ‘wildwood’, as evidenced some 8km to the north at Coneybury Henge (Bell and Jones 1990) allows two possibilities – either that the fully developed

Postglacial woodland had been thinned and modified by human action and browsing animals creating a more open woodland canopy, or that the wildwood had never, in fact, blanketed the entire downland. Such interpretations have already been presented for the Dorchester area (Allen 1997, 278) and Cranborne Chase (Allen 2002; French *et al.* 2003). Although the evidence for open woodland is more dominant in the pits at The Portway than on the Old Sarum Spur, we cannot be sure, in view of the diversity of seemingly contemporaneous assemblages, whether this is a spatial or temporal pattern.

There were no assemblages typical of broken ground that might indicate clearance. Either these may not be represented in the fills, or clearance may not have occurred as a major short-lived event, but rather as a gradual expansion of grassland by the demise of trees and retreat of the woodland fringes. Such development could be relatively rapid over the centennial scale and be encouraged by both human action and animal browsing, and thus not lead to broken soils and clear felled forest. Open dry grass downland, more prevalent in the Bronze Age, certainly had its origins in at least the Middle Neolithic in this landscape. The non-quantitative analysis by Kennard (in Stone 1934, 447–8) from the Neolithic pits at Winterbourne Dauntsey, seems to show an open country assemblage probably most akin to assemblage group 3.

It has been assumed that the soil in the backfilled layers was derived from the immediate vicinity of the pits. Furthermore, it is suggested that the clustering of pits into tight groups indicates single episodes of activity at each location – a supposition supported, for instance, by the recovery of conjoining sherds in adjacent pits 6093 and 6100. However, the snail assemblages from a number of adjacent pits (and to a lesser extent from adjacent groups) indicate considerable environmental diversity. The group 4 pits, in particular, produced snail assemblages indicating open broad-leaved deciduous woodland (pit 6056), open grassland and woods (pit 6061) and maintained open downland (pit 6065), raising the possibility either that the pits in any group need not have been contemporary, with the same location presumably marked in some way being re-visited despite a manifest change in the environment, or that the material making up some of the soil layers may not have been locally derived. It may be significant that although the group 4 pits were the mostly closely spaced of the pit groups, they were also the most morphologically diverse group, varying significantly in shape and depth, and with differences in the sequences of deposits (Figure 7 and Table 2).

Discussion

The number of Neolithic pit groups within the narrow easement on the two sites suggests a relatively high density of similar features within the adjacent landscape. Neolithic pits had been recorded in the original pipeline trench – two immediately north of Old Sarum (Algar and Hadley

1973a), and a group of three immediately east (Musty 1959). A further group of three was excavated north-east of the Beehive junction (Heaton 2003) (Figure 1). All these pits were comparable in form and contents to those described above, and between them contained Peterborough Ware (Cleal and Corney 2003, 58; Musty *ibid*, 186, fig. 3), pig and cattle bones, flints including scrapers, and a fine-grained stone polisher.

All the pits lie between the Castle Hill/Old Sarum ridge (of which the Old Sarum Spur is a continuation) and the dry valley that runs west into the Avon valley. Soil marks visible in air photographs indicate a probable plough-levelled long barrow with curved ditches and a possible rectangular mortuary structure (Wiltshire SMR no. SU13SW106) 500m north of the pipeline on a slight rise on the edge of the dry valley. There are suggestions also, as yet unproven, of a Neolithic enclosure at Old Sarum (Renn 1994, 22). Whether the concentration of pits relates to the location of earlier monuments, or to the particular topography of the area is unclear. Alternatively, it may have been the ecological diversity of the changing vegetation within the local landscape, as indicated by the snail assemblages, that made this location of particular value and significance, stimulating a specific type of activity for a limited period of time.

The proximity of the pits within each group, the frequent similarities in the depositional sequence within the groups and, at group 5, the fitting together of potsherds from adjacent pits, suggest that each group represents a single episode of activity of relatively short duration, rather than the revisiting of particular locations on a number of occasions. Moreover, the radiocarbon dates from four of the pits suggests a relatively short time-span for this activity. Pits 3007, 6056 and 6061 produced statistically identical dates: 4477 ± 40 BP, 4477 ± 40 BP and 4473 ± 40 BP, all from charred hazelnuts, and although the two results on animal bone were slightly younger, all the determinations fall within 80 radiocarbon years. Despite the fact that these dates fall onto a radiocarbon plateau that gives consistent same-age ranges of about 3350-3050 cal BC, three of the dated pits (and possibly all four), spanning both sites, can be considered to be 'contemporary', i.e. within 75 years (Table 3). This is of particular significance in view of the differing environments as portrayed by the land snail analysis.

This was a period of transition in the wider area, during which causewayed enclosures, such as Robin Hood's Ball, were beginning to go out of use, although some deposits were still being made in its upper ditch fills, but before the large scale construction of henge monuments. The pits pre-date by two or three centuries the Stonehenge Phase 1 ditch, c. 10km to the north, but their dates correspond closely to those from the curated ox jaws found in it (Allen and Bayliss 1995), raising the possibility that while some cattle bones were being deposited in the Old Sarum pits, others were being set aside, to be subsequently kept over many succeeding generations. Although there is evidence in the Stonehenge area of episodes of settlement activity, including the use of

Peterborough Ware, on Stonehenge Down, King Barrow Ridge and Wilsford Down, the relationship between the Old Sarum pit groups and the overall pattern of Neolithic settlement and subsistence remains unclear.

The nature of the activity represented by the pits is unclear, and ploughing may have destroyed associated features that could provide a fuller understanding, such as the circle of stakeholes around one pit in a group of three Peterborough Ware pits at Winterbourne Dauntsey 4km to the north-east (Stone 1934).

The material in the pits has the appearance of domestic 'rubbish', such as food waste – from domesticated plants (barley and wheat) and animals (pig, sheep/goat and cattle), as well as charred hazelnut shells – but significantly not bone from wild deer. There was also flint waste (but few tools), flint nodules and hammer-stones, burnt flint, pieces of antler, pieces of broken pottery, fossils and the butt of a broken stone axe re-used as a hammerstone, as well as charcoal (oak, hazel and hawthorn). The purpose of the pieces of sarsen is unclear, although when considered with the frequent flint nodules and hammer-stones it is possible some were used as anvils for cracking hazelnut shells and other activities in a domestic and subsistence context. There appears, therefore, to be little out of the ordinary in the finds, although the prevalence of left-side pig bones in a number of the pits suggests some formality in the selection of materials. However, to characterise this material as simply 'rubbish' overlooks its potential, despite the absence of any overtly symbolic objects, to have had symbolic significance deriving from its varied sources, the contexts of its use, and the manner of its deposition.

Few pits, however, contained the full range of materials, and difference in the materials selected can be seen in individual deposits within pits, between pits in groups and between groups (Tables 1 and 2). There are even differences between the two sites, with pits on the Old Sarum Spur containing a far higher proportion of bone elements than antler fragments (a ratio of 90:3), while at The Portway the bone:antler ratio was 22:34, with only very small amounts of bone being found, and two pits (6076 and 6093) containing antler but very little bone.

While these finds might suggest settlement activity, there is no evidence in the vicinity that can be characterised as indisputably domestic, although some form of activity is represented by a dense scatter of flakes and scrapers collected at Bishopdown Farm to the east of the pipeline (AC Archaeology 1991). The nature of Neolithic settlement remains unclear, with evidence of permanent domestic structures or other settlement features being very rare. Whatever the meaning of the activity represented by these pits, it may have involved some references to that range of domestic and subsistence activities from which the material appears to have derived. Likewise, domestic activity (at present archaeologically invisible) would have been meaningfully structured,

part of its meaning and structure deriving possibly from the deliberate deposition of used material in these pits, either close to or within settlement locations.

MIDDLE AND LATE BRONZE AGE

Middle and Late Bronze Age activity was found almost wholly to the east of the Avon valley, with a Middle Bronze Age settlement on the Old Sarum Spur and a Late Bronze Age settlement South of Ford Road, possibly indicating an eastwards shift in the focus of activity.

Old Sarum Spur

Middle Bronze Age activity is concentrated on the Old Sarum Spur. Radiocarbon dates placed three human and two cattle burials at the start of this period. In addition, nine features, mostly postholes and pits of varying size and shape produced Middle Bronze Age pottery, eight of them within a 58m length of the easement indicating an area of settlement activity. It is likely that many of the undated features in the area also belong to this period (Figure 8). There was also limited evidence for continued activity into the Late Bronze Age.

Burials

Close to the southern edge of the easement there was a group of three inhumation burials (3038, 3116 and 3126). Grave 3038 contained the skeleton of an adult female aged over 35 years, laid on her back with her head at the north-east turned to the right and the legs flexed to the left (Figure 8). There were no finds, but the right femur provided a radiocarbon date of 3179 ± 40 BP, 1520–1320 cal BC (NZA-18419).

The other two graves, immediately to the north-east, had been severely plough damaged, and the bones were very disturbed. Grave 3116 contained the crouched skeleton of an adult female aged *c.* 20–40 years, possibly laid on her left side with the head towards the south-east, although the skull and most of the leg bones were missing. Grave 3126 was aligned north-north-west to south-south-east. Again, little of the skeleton, of an adult female aged *c.* 20–30 years, survived, but most of the bones were right side limb bones, their position suggesting that the skeleton had been laid crouched on her right side.

Some 65m to the west were two very shallow oval features (3344 and 3346) containing articulated cattle skeletons, both features being aligned north-east–south-west. Feature 3344 (Figure 9), to the north-east, contained most of the right side of a cattle skeleton aged over three and a half years lying on its right side, with its head approximately south; the left-sided elements had been removed by ploughing. The width of the metatarsals suggest it was a cow. In addition to the cattle

bones, ten long bones and seven ribs of a foetal sheep/goat were recovered from between the cow's ribcage and hind limb. A sample of cow phalanx produced a radiocarbon date of 3211±40 BP, 1600–1400 cal BC (NZA-18418). The second cattle burial (feature 3346), 2m to the south-west, had been placed on its left side also with the head to the south. It was of a similar age, with a withers height of just over 1.1m. Most of the right side elements had been ploughed away, together with some of the left-sided elements.

The radiocarbon results, statistically indistinguishable at the 95% confidence limit (Table 4), show that the human and cattle burials are of early Middle Bronze Age date. The purpose of the cow burials is not known, although the unusual association of a neonatal sheep/goat with an adult cow suggests a formalised or perhaps ritualised method of depositing these animals. Middle Bronze Age animal burials at Horton, Berkshire, include eight cattle buried in pits just large enough to contain them and presumably dug for the purpose of receiving the carcass (Paul McCulloch pers. comm.). Similar cattle burials have been recorded beside the Early Bronze Age pond barrow in Firtree Field, Down Farm, Dorset (Barrett *et al.* 1991, 134, figs 4.8 and 4.12), and in the barrow ditch at Walworth Road, Andover, Hampshire (Hamilton Dyer 1990).

Middle Bronze Age settlement

Located centrally within the spread of features on the Old Sarum Spur, was a roundhouse (3240) with a south-east facing entrance (Figure 8), lying partly outside the easement and comprising a 7.5m diameter semicircle of five postholes, *c.* 2m apart, around a central post. Those flanking the entrance were 2.8m apart, the entrance structure also comprising two pairs of slots, one pair between the entrance postholes, the other pair (one cut by a later ditch) some 0.5m outside them. These slots appear to have held posts at their inner ends, narrowing the entrance gap to under 1m. Immediately behind the entrance postholes were two shallow features, that to the west containing sherds from the base (apparently *in situ*) and shoulder of a barrel urn with internally expanded rim and finger-impressed shoulder; a spread of rim and shoulder sherds from the same vessel (Figure 10.20) was found on the surface of the chalk 0.8m to the west (3053). Sherds from another coarseware urn, with impressed rims, shoulders or cordons, came from entrance posthole 3091 (Figure 10.21).

A charred barley grain (*Hordeum*) from one of the entrances posthole (3091) provided a radiocarbon date of 3020±40 BP, 1390–1120 cal BC (NZA-18341), suggesting a date for the structure in the latter half of the Middle Bronze Age, and only just overlapping with the human and cow burials. Finds from the roundhouse included Middle Bronze Age pottery, worked flints, burnt flint, animal bone (including sheep/goat) and a saddle quern fragment. The roundhouse is closely paralleled by other structures of this period, its central post and the lateral porch similar to CS 2782

at Easton Lane, Hampshire (Fasham *et al.* 1989, fig. 44), and Houses A and B at Bishops Cannings Down, Wiltshire (Gingell 1992, fig. 4).

Most of the nearby pits and postholes were undated, and none of the postholes, most of which was significantly shallower than those in the roundhouse, formed recognisable structures, although some were in close pairs. One oval pit (3147), with possibly associated postholes, had a layer of dark brown soil with frequent chalk inclusions in the base that produced a small sherd of Middle Bronze Age pottery and a flint. Above this, in the centre of the cut, was an even darker, charcoal rich layer, containing further pottery, including a rim sherd of a barrel-shaped urn (Figure 10.22) and a sherd from a well finished globular-shaped urn with tooled decoration (Figure 10.23), the only example of this vessel form in the assemblage. There was also flint, burnt flint and a fragment of animal bone. Pit 3268 contained a pig bone or antler 'toggle', while pit 3010 contained animal bone and nine flints, including a denticulate (scraper) on a large secondary flake.

Late Bronze Age features

In addition to residual Late Bronze Age pottery found in later features, such as Romano-British ditch 3264 (Figure 10.27), a number of anomalous features point to some level of continued activity on this site during the Late Bronze Age, and it is possible that some of the undated features also belong to this period. A shallow pit (3328), on the north-west facing slope of the spur, had a lower fill of mid-brown soil containing sherds of Late Bronze Age pottery, pig bone, hazelnut fragments, flint chips and waste, burnt flint and shell, while a bowl-shaped depression in the centre of this layer, filled with a dark brown humic soil, contained a further 60 flint flakes/blades and knapping chips, pig bone and an antler tip. The flints, which were undiagnostic, were similar in appearance and may be from the same nodule, three small groups of flakes from the pit refitting.

On the top of the spur an arc of three similar postholes (3097, 3098 and 3099) appear to be centred on an oval pit (3102) suggesting some relationship (Figure 8). The pit was 1.2m long and 0.84m wide, and 0.49m deep with concave sides and a steep v-shaped hole in the base. Its single fill, which contained abundant charcoal but no evidence of *in situ* burning, produced two Late Bronze Age sherds, four flints and 1280g of burnt flint. Unlike most of the Middle and Late Bronze Age features, which contained small amounts of oak, hazel and hawthorn/*sorbus* group charcoal, most of the charcoal in this pit was ash, a species recorded elsewhere only from a Middle Bronze Age cremation burial at the Western Coombe (below), and apparently not used in the domestic hearths. There was also some maple charcoal, found nowhere else on the pipeline, and a small amount of oak and charred grain. Although an origin from domestic fuel can not be ruled out, the charcoal seems likely to have originated from some other activity for which these species were carefully

selected. Ash, maple and oak provide high energy firewood, although they also have strength, resilience and durability suitable for use in for carpentry or other artefactual applications.

Rectangular structure

Some 30-40m west of the roundhouse were three parallel rows of postholes (3251) aligned north-west-south-east across the easement, and possibly extending beyond it. They had the appearance of a long rectangular building 5m wide and at least 12.6m long, with the central row of larger posts supporting the ridge of the roof, and the outer rows marking the lines of the walls. Two further, adjacent postholes (3340 and 3342) were recorded on the edge of Romano-British ditch 3264, and although their stratigraphical relationship to the ditch was unclear it is likely that at least one belonged to the structure. There is no obvious spatial matching between the posts in the outer rows, indicating that if the tops of the outer posts were tied together, this was only done along the length of the structure, and not across it.

A single small sherd of Middle Bronze Age pottery from one posthole provided the only dating evidence. Although few prehistoric long-houses are known from southern Britain, there are a number of Middle/Late Bronze Age parallels for this structure, such as Structure F at the Down Farm enclosure, on Cranborne Chase (Barrett *et al.* 1991, fig. 5.37), the longhouse at Barleycroft Farm, Cambridgeshire (Evans and Knight 1996), a structure Manston Road, Ramsgate (Hutcheson and Andrews 1997) and a possible structure (MS4010) at Easton Lane (Fasham *et al.* 1989, fig. 50). Long timber buildings are also known from the Iron Age, such as at the hillfort at Crickley Hill, Gloucestershire (Dixon 1976).

Western Coombe

The only evidence for Middle or Late Bronze Age activity from west of the Avon valley was an unurned cremation burial (2129) 120m east of the Beaker postpit at the Western Coombe site. The burial, of an adult male, was in an inverted barrel urn with finger-impressed rim and shoulder sherds (Figure 10.19) placed on the base of the grave. The 0.6m diameter grave was filled with a dark soil containing frequent charcoal fragments, burnt clay and almost 2kg of burnt flint, these components probably representative of redeposited pyre debris, and suggesting the close proximity of the pyre site to the grave. Almost all the charcoal was from ash, a species providing high energy firewood. A similar use of ash was recorded from fuel debris from a Middle-Late Bronze Age cremation burial at Dunch Hill, north-west of Old Sarum near Tidworth (Gale, unpub).

South of Ford Road

Middle Bronze Age features

A small number of Middle Bronze features indicate activity pre-dating the Late Bronze Age settlement (Figure 11). A small pit or large posthole (8047) 0.48 wide and 0.27m deep, produced eight Middle Bronze Age sherds (Figure 10.24) as well as animal bone and flints. It was the central of three similar but undated features arranged in an east-west line, with a further two, slightly elongated pits, 4m to the north.

Some 160m west of this site, an isolated pit (6153) contained 11 Beaker sherds (from at least two vessels), 24 Middle and 3 Late Bronze Age sherds as well as 5 Middle/Late Iron Age sherds (most of the Late Bronze Age and Iron Age sherds being small and abraded). The pit was oval in plan, 0.72m by 0.90m wide and 0.34m deep with very steep sides and a slightly concave base. All the finds, which included also cattle, pig and sheep/goat bones (some of them burnt), 40 worked (including a side scraper and a small end scraper) and burnt flint (320g), were mixed within the single dark brown/black fill along with a number of large flint nodules. The most plausible explanation involves the disturbance during the Middle Bronze Age of a Beaker feature, and the deposition of some of its contents, accompanied by additional materials – certainly pottery, but perhaps also the flints and animal bone – in a new pit, the abraded later pottery being be intrusive. The question remains whether the feature was prompted by the disturbance of a Beaker feature, so indicating some recognition of the symbolic potential of the earlier material, or whether the Beaker sherds were incorporated accidentally within Middle Bronze Age domestic waste.

Late Bronze Age settlement

Late Bronze Age features were distributed over some 80m, including postholes and beam slots forming at least three structure, as well as pits and a single inhumation grave. Although only three postholes could be dated to the Late Bronze Age, the weight of the evidence suggests that the settlement they form part of is of this date.

An east-facing roundhouse (8023) was represented by a circle of eight postholes, some very truncated, and an entrance structure consisting of two internal postholes and four external linear slots (Figure 11). A further posthole would have been outside the easement, and two adjacent to the entrance postholes appear not to have survived. The gap between the entrance postholes was less than 1m wide, and there was a second pair of postholes some 0.8m into the building, while 1.2–2.2m outside it was an arrangement of four parallel beam slots, two on either side of the entrance. These features would have created a 4m wide façade flanking a narrow entrance passage almost 4m long. There was a posthole at the end of that passage, on the left hand side, and two further postholes towards the rear of the building. The structure produced ten sherds of Late Bronze Age

pottery (as well as two residual Middle Bronze Age sherds and two intrusive Romano-British sherds), a fired clay spindle whorl, three flints and burnt flint. A large pit (8080) some 2m north of the entrance produced Late Bronze Age pottery (Figure 10.25), flints (including an end scraper), worked pieces of sandstone (possibly quern fragments), pig and cattle bone (some of it burnt), fired clay and a large quantity of burnt flint (as well as an intrusive Middle/Late Iron Age sherd).

Immediately west of roundhouse 8023, there was a group of 21 postholes (8100) with an arrangement of linear slots similar to that in roundhouse (8123). The only finds from this group were a single sherd of Late Bronze Age pottery and a fired clay spindlewhorl (Figure 10.30). The postholes can be combined to form a number of possible structures, of which two options are suggested. Option 1 comprises a 6m diameter circular structure of eight surviving postholes. However, this structure would not have incorporated the four slots. Option 2 is closer to roundhouse 8023, comprising seven surviving postholes, with gaps for another three or four, in a circle *c.* 7.2m in diameter. There were, however, no large entrance postholes (although a tree throw could have obscured one of them). A deep posthole backfilled with compact chalk rubble close to the centre of this structure may have been used to hold a central post during construction. The entrance structure, represented by the slots, would have been at least 3.2m long and 2.8m wide, with a 1m wide entrance. Whichever form this structure took, possibly with one replacing the other, other postholes in the group are not accounted for and may represent internal features or divisions.

Some 9m west of roundhouse 8100 there was a group of six postholes, five short linear features (possible beam slots) and a pit (Figure 11). The majority formed a small circular structure (8200), the postholes being arranged in a 4.2m diameter circle (with one posthole missing on the south side). The entrance, facing north-west, comprised a 2.2m wide gap between two external beam slots, widening to 3m gap between the adjacent postholes. The pit (8158) (possibly two adjacent cuts), located almost centrally in the entrance, contained large flint nodules and some burnt stone, Late Bronze Age pottery (including sherds from a fineware vessel with an everted rim; Figure 10.26), animal bone (including sheep/goat), flints and fired clay. This structure is clearly different from the two roundhouses, and it may have had some specialised activity function. Two of the other possible slots north of the structure could be associated with it, the third, 3.3m to the west, being more isolated.

A loose cluster of eight postholes 15–22m east of roundhouse 8023 formed no obvious structure. It is possible to draw arcs through up to five of them to suggest circles 6.3–6.9m in diameter, but the fact they include two close pairs of postholes, and there are no slots indicating a roundhouse entrance structure, raises the possibility that these postholes had some other functions. None contained any finds.

Approximately 17m west of structure 8200 there was a shallow circular grave (8164), 0.7m in diameter containing an undated and truncated crouched inhumation burial of a male aged 13–16 years, laid on his right side. The grave produced a single flint, but its proximity to the Late Bronze Age settlement suggests a possible association.

The fabrics and forms of the Late Bronze Age pottery are typical of the plainware ceramic traditions of the region from the 11th to 8th centuries BC. There were seven fabric types, either flint-tempered, calcareous or organic, but little diagnostic material and no decorated sherds.

The Middle and Late Bronze Age landscape

The continuation of activity on the Old Sarum Spur, although of a different nature to the preceding activity – permanent domestic settlement replacing varied forms of formal deposition and burial – may reflect the position of the spur within the wider landscape. The settlement location enabled the easy exploitation of a range of landscape zones and the resources they provided. The Late Bronze Age settlement South of Ford Road is sited also on flat ground, within a kilometre of the River Bourne, although in a less prominent and topographically less diverse position. It displayed evidence for a range of domestic and specialised activities, and although there was no evidence that it was enclosed, it lay close to a series of parallel ditches (SMR No. SU13SE654), probably field systems, visible in aerial photographs. These run north-east towards a double- and triple-ditch linear feature that extends over some 1.5km (SMR No. SU13SE665), possibly representing a major land division of the type extensively recorded on Salisbury Plain (Bradley *et al.* 1994). This may reflect changes to nature and the exploitation of the landscape.

The Middle Bronze Age contexts produced little evidence for the exploitation of wild foods, and only Late Bronze Age pit 3328 on the Old Sarum Spur produced any quantity of hazelnuts. However, all the sampled contexts contained cereal remains, with barley grains (including the hulled variety) and emmer grains and glume bases represented, but no remains of free-threshing wheat. Seeds of common arable weeds were also present, although none have specific ecological requirements. While the number of cereal and chaff remains was low, they were still significant when compared to the Neolithic pits. This may be due to cereals having been stored in an unprocessed state and taken from storage throughout the year, with the processing waste and extracted weed seeds being burnt within the settlements (Stevens 2003). Apart from the two cattle burials, the Middle and Late Bronze Age settlements produced little identified animal bone, although cattle, horse, pig and sheep/goat were represented, with mainly the robust elements, especially teeth and phalanges, surviving, suggesting poor preservation or redeposition. Most of the charcoal recovered was of oak, hazel and the hawthorn/*Sorbus* group, and appears to be fuel debris as part of domestic waste.

As described above, the land snails from Bronze Age features indicate the increasingly open downland environment through this period. Middle Bronze Age pit 3013 on the Old Sarum Spur produced snails of assemblage group 3b indicating open grassy downland with few trees, while pit 3106 contained snails of assemblage group 4 representing a predominantly open countryside environment. The high presence in both of *Pomatias elegans*, which enjoys loose and broken soil, might be taken as an indicator of arable cultivation. Pit 6153 (South of Ford Road) produced snails of assemblage group 5 in which the almost total absence of shade-loving taxa confirms the presence of long-established open downland conditions. There is clear continuity into the Late Bronze Age with pit 3102 also producing a group 3b assemblage, and pit 3328 producing snails of assemblage group 5.

Discussion

Middle Bronze Age settlements, where found, are generally small, comprising typically a major domestic structure and one or more ancillary structures (Ellison 1987), and the concentration of features on the Old Sarum spur appears to conform to that pattern. Such settlements may represent the domestic units of a single generation, with subsequent phases having different layouts in different locations (Brück 1999), leading possibly to appearance of more extensive settlements as at Easton Lane, Winchester, where clusters of structures extended over 15 hectares (Fasham *et al.* 1989). The evidence from Easton Lane, Bishops Cannings Down on the Marlborough Downs (Gingell 1992) and Dunch Hill, Tidworth (Wessex Archaeology 1995), suggests that such settlements were unenclosed, in contrast to settlements to the south such as South Lodge and Down Farm on Cranborne Chase (Barrett *et al.* 1991, 144–211), where open settlements were subsequently circumscribed by ditched or banked enclosures.

The development of the open Middle Bronze Age settlement at Old Sarum, therefore, contrasts also with the sequence at Thorny Down, just 7km to the east (Ellison 1987), where an open early Middle Bronze Age settlement was replaced by an enclosed Deverel-Rimbury settlement. The pottery from Old Sarum comprised sherds in four, either flint-tempered or calcareous, fabrics, much of it deriving from bucket-shaped and barrel urns with finger-impressed shoulders, rims and cordons, such as from the roundhouse entrance. It has its closest parallels, therefore, with sites to the north, with parallels within the Middle Bronze Age assemblages from Salisbury Plain (e.g. Annable and Simpson 1964, 125–8) and the Marlborough Downs, in particular that from Bishop Cannings Down (Tomalin 1992, figs. 62–6), rather than with the Deverel-Rimbury forms found in the second phase at Thorny Down and on the Cranborne Chase settlements.

The use of open settlement continued into the Late Bronze Age, although the proximity of the two adjacent roundhouses, one with additional postholes, may indicate the repeated rebuilding

of domestic structures at the same location. The Late Bronze Age settlement lies within a landscape containing evidence of regular field systems, as well as extensive linear ditches dividing up the downland into blocks. The double linear ditch, less than a kilometre to the north, that crosses the watershed between the River Bourne valley and the dry valley that run down to the River Avon, defines a block of downland between the confluence of the two rivers that includes the Old Sarum/ Castle Hill ridge, representing possible a process of territorial division that continued during the Iron Age.

MIDDLE/LATE IRON AGE AND ROMANO-BRITISH

It was anticipated that the pipeline would cross two main foci of Iron Age and Romano-British activity. The first was the Late Iron Age/Romano-British enclosure on Camp Hill where ditches, an oven and pits (one containing painted wall plaster) had been recorded previously (Algar and Hadley 1973b; AC Archaeology n.d.). The other was east of the Iron Age hillfort at Old Sarum, a possible location for the Roman town of *Sorviodunum*, where four Roman roads, three of them crossed by the pipeline, converged. In fact, evidence for Iron Age activity was distributed thinly along the pipeline, most of it coming from a number of features indicating specialised activities on the north-facing slope of Castle Hill.

Castle Hill

An hour-glass shaped feature (6163) was excavated, possibly an oven. It was 2.7m long and 0.3m deep with steep sides and a flat base, with a 1.6m wide chamber at the uphill end, a 1m wide flue at the other and a low ridge between them. Filling the flue and extending into the chamber was a layer of charcoal, burnt flint and stone, which produced a number of large Middle/Late Iron Age sherds. At the rear there was a layer of chalk rubble, probably eroded natural, while in the centre of the chamber there was further burnt flint and stone, the chamber then being filled with a dark brown soil. The charcoal consisted of oak and blackthorn/*Sorbus* group, both species providing high energy fuels.

Some 25m north of the oven were four adjacent pits, three of them in a row across the easement, containing large quantities of animal bone. Pit 6157 was subrectangular, aligned north-south, 1.37m long by 0.75m wide and 0.25m deep (Figure 12). There was a large sherd (512g) of Middle/Late Iron Age pottery at the north end (Figure 10.29) and a substantial quantity of semi-articulated animal bone (2546g) from at least six sheep/goats (one sheep skull lying on the large pot sherd), the left side long bones of at least two cattle and a pig pelvis and skull. There was also a piece of Greensand stone (808g) and a small sherd of Romano-British pottery. Pit 6175, 1.4m to the east, was oval in plan aligned east-west, measuring 1.16m long by 0.6m wide, and 0.12m deep. It

contained 926g of animal bone, from at least five sheep/goats with a preponderance of foot bones, a lower cattle hind limb and a dog skull. Approximately 1.2m further east, a small subcircular pit (6155), 0.53–0.62m in diameter and 0.1m deep, contained a further 251g of sheep/goat and cattle bone, as well as two flints.

Pit 6207, 2.5m down-slope, had been almost completely cut by ditch 6165, but what remained was at least 2m wide, with a curved, gently sloping southern side and a flat base. It produced 1100g of disarticulated animal bone, mostly sheep/goat and cattle but with pig also represented. There were also two human skull fragments from a individual possibly aged 12–18. Further human bone was recovered from the upper fill of the ditch.

Analysis of wear stages and fusion data indicates that eight of the sheep/goat mandibles were 17–24 months old, pointing to a deliberate cull of animals at a young age, probably for meat. The bones had been butchered to disarticulate the carcass and extract marrow. The remains of 14 vertebrae from one sheep/goat spine, with some transverse processes removed during butchery, indicates that some segments of butchered carcass were deposited together, and that these deposits might represent the remains of everyday consumption or butchery. At least one sheep/goat was lame as is in evidence from extra bone growth on three foot bones.

Camp Hill

The only evidence found for Iron Age activity west of the River Avon consisted of a number of Middle/Late Iron Age sherds from the upper fills of a Romano-British ditch at the Western Coombe site. Romano-British features, however, were recorded on Camp Hill (Figure 13).

Ditch 42, running north-east–south-west, was 1.2–1.5m wide and up to 0.45m deep with a irregular V-shaped profile. It produced Romano-British pottery, animal bone (cattle, sheep/goat and dog), ceramic building material (CBM), an iron nail and part of a Greensand quern. A second ditch (11), running north-south 16m to the south-east, was 1.7–2.5m wide and 0.4m deep with shallow/moderate sides and a wide, generally flat base. It produced Romano-British pottery, and a small amount of sheep/goat bone. In both ditches the finds in the lower fills came from localised dumps of material, with those in the upper fills were more widely and evenly distributed. The rounded terminal of a third ditch (52), 1m wide and 0.25m deep, 3m to the south-east of ditch 42 and running approximately east, may be associated.

Some 25m south-east of ditch 11, part of a rectangular enclosure (2), 3.5m wide internally, extended north-east beyond the easement. It was defined by a shallow gully, 0.65–0.8m wide and up to 0.13m deep, which produced Romano-British pottery, CBM and 15 iron nails, as well as small amounts of charcoal. There was another length of gully, containing further sherds, a piece of slag and a flint, outside the south-east corner.

Further down the slope on the east side of the A360 Devizes Road there was a substantial ditch (1031), running north-east–south-west (Figure 13). It was up to 4.6m wide and 0.95m deep with a V-shaped profile, moderately steep on the south-east side and shallower on the north-west. Up to eight fills were recorded, producing Romano-British pottery, CBM, animal bone (cattle, sheep/goat and horse), a copper alloy brooch, a copper alloy coin, and iron hobnails, most of the finds coming from the middle fills.

The pottery dated from the later 1st–4th century AD. Coarse greywares dominate the assemblage, and are likely to derive from several different sources, including the New Forest and Alice Holt, although the glauconitic greywares are more likely to derive from Greensand areas such as North Wiltshire. One known type is present – Black Burnished Ware (BB1) from the Poole Harbour area of Dorset. There is also a small quantity of grog-tempered wares, and one sherd of whiteware (late 1st/early 2nd century AD flagon from ditch 42). Finewares are limited to two sherds of imported samian, and a small quantity of colour coated wares and mortaria from the New Forest, Oxfordshire and *Verulamium* region kilns. The single example of a *Verulamium* region mortarium (from ditch 42) has a stamp of Albinus (AD 60–90). These wares, together with the identifiable coarseware vessel forms (everted rim jars, flanged and dropped flange bowls), indicate a date range spanning the Romano-British period.

Western Coombe

Spanning the break of slope at the head of the coombe were three ditches, two running approximately east–west down the slope, one of them cut by the third ditch running north–south across it. The longest, meandering east-west ditch (1092/3), at one point curving outside the easement, had an average width of 1.45m with angled convex sides, steeper towards the narrow flat base, and an average depth of 0.44m. A primary fill of eroded natural containing frequent large flint nodules and producing sherds from two Romano-British jars, was overlain by a more homogeneous soil producing sherds from an imitation Gallo-Belgic platter and two Middle/Late Iron Age jars/bowls (Figure 10.28), presumably residual. Both fills of the ditch were cut by ditch 1081 running along the break of slope, indicating some time between the construction of the two ditches. Ditch 1081 averaged 2m wide and 0.66m deep, with a similar profile to the earlier ditch. Its lower stony fill produced a single sherd of Romano-British pottery and a piece of CBM, the upper soil layer containing a further sherd (as well as a possibly medieval buckle). The third ditch (1082) ran downhill for 35m from where ditch 1092/1093 curved to the north-east, with a gap of just 2.5m between them. It was 0.8–1.25m wide and up to 0.37m deep, with similar profile and fills. It produced two Romano-British sherds, and its form and position in relation to ditch 1092/3 suggest these two ditches were contemporaneous.

The Portway and Ford Road

The Roman roads

The other known focus of Romano-British activity lay east of Old Sarum where four Roman roads converge – The Portway to Silchester (*Calleva Atrebatum*), Ford Road to Winchester (*Venta Belgarum*), the A345 to Mildenhall (*Cunetio*) near Marlborough and the road to Woodyates (*Vindogladia*) and Exeter (*Isca Dumnoniorum*) (Margary 1955). The precise location of *Sorviodunum*, twice mentioned in the Antonine *Itineraries* is uncertain, the Iron Age hillfort or Stratford-sub-Castle to the south-west having been suggested. The most concentrated evidence of Romano-British activity, however, comes from the Castle Hill ridge, where a dense spread of material on the steep southern slope included perforated baked clay, stone roof tiles, bronze and iron objects and domestic refuse (Stone and Algar 1956).

None of the ditches flanking the A345 appeared to be Roman, producing material only of medieval or later date. However, two parallel ditches 24m apart were recorded close to the projected line of The Portway (Figure 14). Ditch 6004 on the north-west side was 1.8m wide and up to 0.75m deep, with angled, convex sides steeper towards the narrow, flat base, while ditch (6026) on the south-east side was 1.17m wide and 0.46m deep, with a similar profile. Although undated, their profiles are comparable to other Romano-British ditches. There were no traces of any surviving road surface. A length of ditch (6262) on the south side of Ford Road may also have been associated with that Roman road. It was up to 1.5m wide and 0.55m deep with a profile comparable to those flanking The Portway.

Inhumation burials

Another ditch (6111) running south-north towards The Portway contained three undated crouched inhumation burials (Figure 14). Towards the south, the ditch had a gently sloping concave profile, 2.2m wide and up to 0.47m deep, although at the north, it got steeper towards the base. The lower stony fill contained four Romano-British sherds (later 1st/2nd century AD), burnt flint, shell and animal bone, while the upper silty fill produced a further 49 Romano-British and six Middle/Late Iron Age sherds, as well as flint, burnt flint, animal bone, slag, part of a burnt saddle quern and part of a human humerus.

The most southerly burial, in grave 6144, contained the tightly crouched skeleton (6145) of a possible female, aged over 35 years, laid on her right side with the head to the south-east, the body packed around with flint nodules. The grave had been truncated and its contents disturbed, presumably by either the excavation or later re-cutting of the ditch, the skeleton lacking bones from either feet. A deposit of articulated foot bones (6141) recorded some 0.6m to the north, however,

appear to have been from a smaller and less robust individual. A second grave (6118) towards the eastern side of the ditch contained the flexed skeleton of a male, aged 16–18 years, laid on his left side with the head to the north-east. The most northern grave (6108) contained the tightly crouched skeleton of a possible female, aged 20–25 years, laid on her right side with the head to the south-west (6109). A point of interest is that the individuals in graves 6144 and 6108 both had some pelvic traits (i.e. narrow hips) which would normally be associated with males; they also had very similar cranial indices and the same platymeric index. Taken together these observations suggest at least a broad genetic link between the two.

Grave 6144 was recorded as sealed by the lower ditch fill while graves 6118 and 6108 were recorded as being cut through the fill. If the excavation records are correct, this suggests that this group of graves spans the time when the ditch was first constructed and used, the Middle/Late Iron Age and Romano-British pottery found in the ditch suggesting dates around the start of the Romano-British period. The association between the graves and the ditch would be easier to explain if all the graves post-dated the construction of the ditch – the soft fill in the ditch and its possible function as a land boundary explaining the burials' location. The presence of one or more pre-existing graves, however, implies that the ditch was laid out to incorporate them, their location possibly reflecting an earlier (but non-ditch) boundary, although one effect of digging the ditch was to disturb these graves. There is no easy resolution to these apparent inconsistencies. Previously, an extended inhumation burial facing north-east was recorded, during the excavation of a pipe trench, in a v-shaped ditch some 130m east of the entrance to the Old Sarum. The base of the ditch had been enlarged to accommodate the burial. A sherd of Romano-British pottery was found by the skull (SMR No. SU13SW307).

Other areas

A series of other ditches recorded along the pipeline may belong to this period. One, which ran east–west across the Old Sarum Spur (3264) (Figure 8), produced three small sherds of Romano-British pottery (3rd/4th century AD), with a further three sherds (from different vessels) coming from a curved gully running for 4m along its southern edge towards the east. The ditch it is recorded as a crop mark in aerial photographs extending for over 400m (Wessex Archaeology 2001, fig. 4). It appears for part of its length to the west as a double linear (SMR no. SU13SW654), running towards small subcircular enclosure or ring ditch that it abuts, before turning to the north-west into the Avon valley (Figure 1).

An undated ditch (6165), ran east-west across the north facing slope of Castle Hill, cutting the most northerly of the Iron Age pits containing animal bone. It was 1.95m wide and 0.95m deep with a profile similar to the other Romano-British ditches. There was a shallow gully parallel to in

on its north side. A human tibia from its upper fill may belong to the same individual part of whose skull was found in the pit.

Discussion

No Iron Age features of a demonstrably settlement character, such as houses, were recorded during the excavation, although a possible 'house site' was identified earlier in the field north-east of Bishopdown track from material exposed by ploughing, including 'pot-boilers' and a saddle quern (Thomas 1956, 241), and a number of Iron Age pits and a corn-drying oven have been recorded in the same general area (Musty 1959). It is possible, however, that, in contrast to the Middle and Late Bronze Age settlements, these had become by Iron Age largely enclosed. In addition to the Old Sarum hillfort, a number of nearby enclosures of probable Iron Age date are recorded from aerial photographs to the north and north-east, including two adjoining enclosures, with settlement features inside and paddocks and a droveway to the west, on North Hill Down (SU13SW601, SU13SW623), a subcircular enclosure with internal and external pits north-east of Longhedge Farm, east of the A345 (SMR No. SU13SW628), and a kidney-shaped enclosure spanning the line of the Portway at Ende Burgh (SMR No. SU13SE632). Each was closely associated with linear ditches and field systems, some of which run radially from them.

The imposition across the late prehistoric landscape of the features of Roman rule, as exemplified by the network of roads linking Old Sarum to other Roman towns, is bound to have affected the distribution and configuration of rural settlements, and the organisation of agricultural production. While some of the Iron Age settlements within the area may have seen continued occupation into the Romano-British period, the Ende Burgh enclosure to the north-east was cut through by The Portway, and new foci of settlement appear to have developed within the landscape – such as the extensive settlement at Camp Hill west of the Avon valley, and on the south side of Castle Hill, the latter establishing a settlement outside the hillfort that may have continued into the Saxon and medieval periods.

CONCLUSION

The excavations have highlighted the changing uses of the prehistoric and Romano-British landscape around Old Sarum and the consequent changes to the landscape itself. The nearby long barrow indicates that by the Middle Neolithic this was already a social landscape, used for and increasingly modified by a range of subsistence, settlement and symbolic activities. The choice of this location may have been influenced by the ecological diversity it offered, enhanced potentially by the absence of mature wildwood. In addition to the resources of the Avon and Bourne valleys, the landscape would have offered a rich mosaic of open woodland, scrub and increasingly open

areas of downland grazing, enabling permanent or semi-permanent settlement. Although no direct evidence for settlement was found, much of the material placed in the pits may have derived from a domestic context. The relative density of pits in the landscape indicates some intensity of activity, although possibly of short duration.

The Old Sarum Spur continued to be used for a range of activities involving various forms of deposition, some or all of them formalised in character, from the Beaker period into the start of the Middle Bronze Age. These may relate to the continuing use of the area to the north as a burial ground, with the round barrow cemetery focused on the long barrow. However, from the later Middle Bronze Age, activity more widely along the pipeline appears to be predominantly domestic in character. The Middle Bronze Age and Late Bronze Age settlements provide, for the first time, direct evidence for the pattern of settlement in the landscape, and, when combined with the evidence for field systems and linear ditches identified in aerial photographs, some evidence for the patterns of mixed arable and pastoral farming, and land enclosure and division, that developed through the late prehistoric period. The increasing importance of formal land boundaries through the Iron Age, when the construction of, first enclosed, then defended sites such as the Old Sarum hillfort point to wider socio-political tensions, may provide a context for the inhumation burials at the base of the Late Iron Age/Early Romano-British ditch. However, in contrast to the Romano-British settlement at Camp Hill, there was relatively little evidence of either Iron Age and Romano-British activity around Old Sarum, despite the proximity of the pipeline to the hillfort and, later, to the converging Roman roads and the Roman town of *Sorviodunum*.

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Table 1. Old Sarum Spur: summary table of Neolithic pits

Group	Pit	Width/ diam (m)	Depth (m)	Fill	Description	Peterborough Ware	Flint	Bone	Antler	Hazelnuts	Other
1	3119	0.88-1.02	0.37	3120	Material in backfill	6/13 (E) abraded	95 (1 chisel, 1 serrated)	Pig (L/R), sheep/goat, cattle (includes pin)	-	-	-
	3197	0.60	0.34	3200	Material in backfill	5/42 (E)	1	X	-	-	-
	3198	0.70	0.54	3201	Material in backfill	7/21 (E)	4	-	-	-	Burnt flint
2	3005	0.78-1.22	0.43	3019	Natural infill	-	-	X	-	-	-
				3006	Material in backfill	30/105 (M)	7	X	-	H	-
	3020	0.85-0.96	0.42	3021	Natural infill	-	16 (1 hammer-stone)	X	-	-	Burnt flint
				3022	Placed deposit then backfill	19/51	21 (4 hammer-stones)	Pig (L), cattle	-	-	-
3	3000	0.92	0.32	3001	?Natural infill	-	5	X	-	H	-
				3002	Placed deposit then ?backfill	2/4 (E)	9	Cattle	Red deer	H	-
	3007	0.91	0.62	3008	?Natural infill	5/32 abraded	3	Cattle	-	-	-
				3009	Collapsed natural	-	1	X	-	-	-
				3012	Material in backfill	3/6 abraded	3	-	-	H	-
				3331	Placed deposit	-	13	-	-	H	-

Key: (E) – includes Ebbsfleet style; (M) – includes Mortlake style; X – unidentified bone; H – hazelnut shells

Table 2. The Portway: summary table of Neolithic pits

Group	Pit	Width/ diam (m)	Depth (m)	Fill	Description	Peterborough Ware	Flint	Bone	Antler	Hazelnuts	Other
4	6056	0.80-1.35	0.77	6059	Natural infill	-	-	-	-	-	-
				6060	?Placed deposit then backfilled	2/2 abraded	1 nodule	Pig, cattle	-	H	Broken stone axe
				6057	Placed deposit then material in fill	8/40 (E)	13 (1 nodule)	Pig, sheep/goat	X	H	-
				6058	Placed deposit then natural silting	25/594 (M)	8 (1 end scraper)	X	-	H	Sarsens
	6061	0.85	0.62	6062	?Backfill	-	8	X	-	-	-
				6063	Material in backfill	36/582 (M)	17	Pig (L/R), cattle horncore	-	3000+	Burnt flint
				6064	Burnt deposit	-	14 (1 nodule hammer-stone)	X	-	10000+	-
				6142	Natural silting	-	-	X	-	-	-
	6065	0.84-1.14	0.32	6066	?Placed deposit then backfilled	-	23	X	-	-	Sandstone
				6067	Placed deposit then natural silting	-	5	Pig, cattle	Pick	-	Sarsen
5	6076	0.90	0.74	6086	? Backfill or natural infill	-	3	X	-	-	-
				6085	Collapsed natural	-	-	-	-	-	-
				6084	Backfilled	6/37	-	X	-	H	Burnt flint
				6083	Placed deposit then fill	53/370 (E+M)	-	X	Roe deer	H	Burnt flint
	6093	1.12	0.77	6099	Material in backfill	3/245 (M)	4 (1 nodule hammer-stone)	-	X	-	-
				6098	Collapsed natural	-	-	-	-	-	-

			6097	Material in backfill	1/11 (E)	1	-	X	H	-
			6095	Collapsed natural	-	-	-	-	-	-
			6094	Material in backfill	16/205 (?M)	4	-	Roe deer, red deer	H	-
6100	1.10	0.90	6103	Backfill	-	-	-	-	-	-
			6102	Backfill	-	1 nodule	X	-	-	-
			6101	Placed deposit then fill	47/585 (E+M)	6 (1 nodule hammer-stone, 2 nodules)	Pig, cattle	-	-	Sarsens

Key: (E) – includes Ebbsfleet style; (M) – includes Mortlake style; X – unidentified bone; H – hazelnut shells

Table 3. Radiocarbon dates from the Middle/Late Neolithic pits

Group	Pit	Context	Material	Result no	$\delta C^{13} \text{‰}$	Result BP	Cal date BC 2 sigma
2	3020	3022	Artic. pig ulna	NZA-18416	-20.47	4398±40	3290-2910
3	3007	3331	Hazelnuts	NZA-18338	-23.98	4473±40	3340-2930
4	6056	6057	Pig skull frag.	NZA-18417	-20.40	4428±45	3330-2910
		6058	Hazelnuts	NZA-18339	-25.25	4477±40	3340-2930
	6061	6064	Hazelnuts	NZA-18340	-24.71	4473±40	3340-2930

Table 4. Radiocarbon dates from the Middle Bronze Age features at the Old Sarum Spur

Feature	Context	Material	Result no	$\delta C^{13} \text{‰}$	Result BP	Cal date BC 2 sigma
Cow burial 3344	3345	<i>Bos</i> phalanx	NZA-18418	-22.31	3211±40	1600-1400
Grave 3038	3039	Human r. femur	NZA-18419	-21.24	3179±40	1520-1320
Roundhouse posthole 3091	3114	Grain <i>Hordeum</i>	NZA-18341	-24.06	3020±40	1390-1120

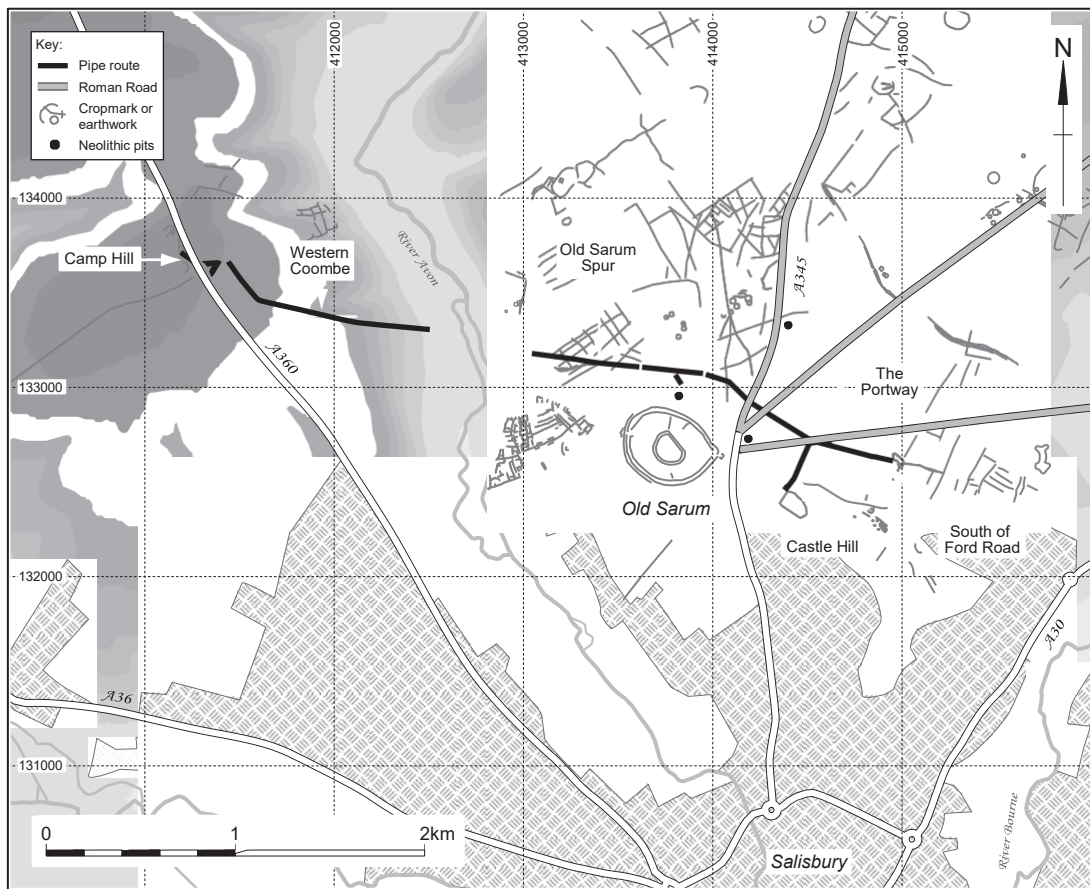


Figure 1

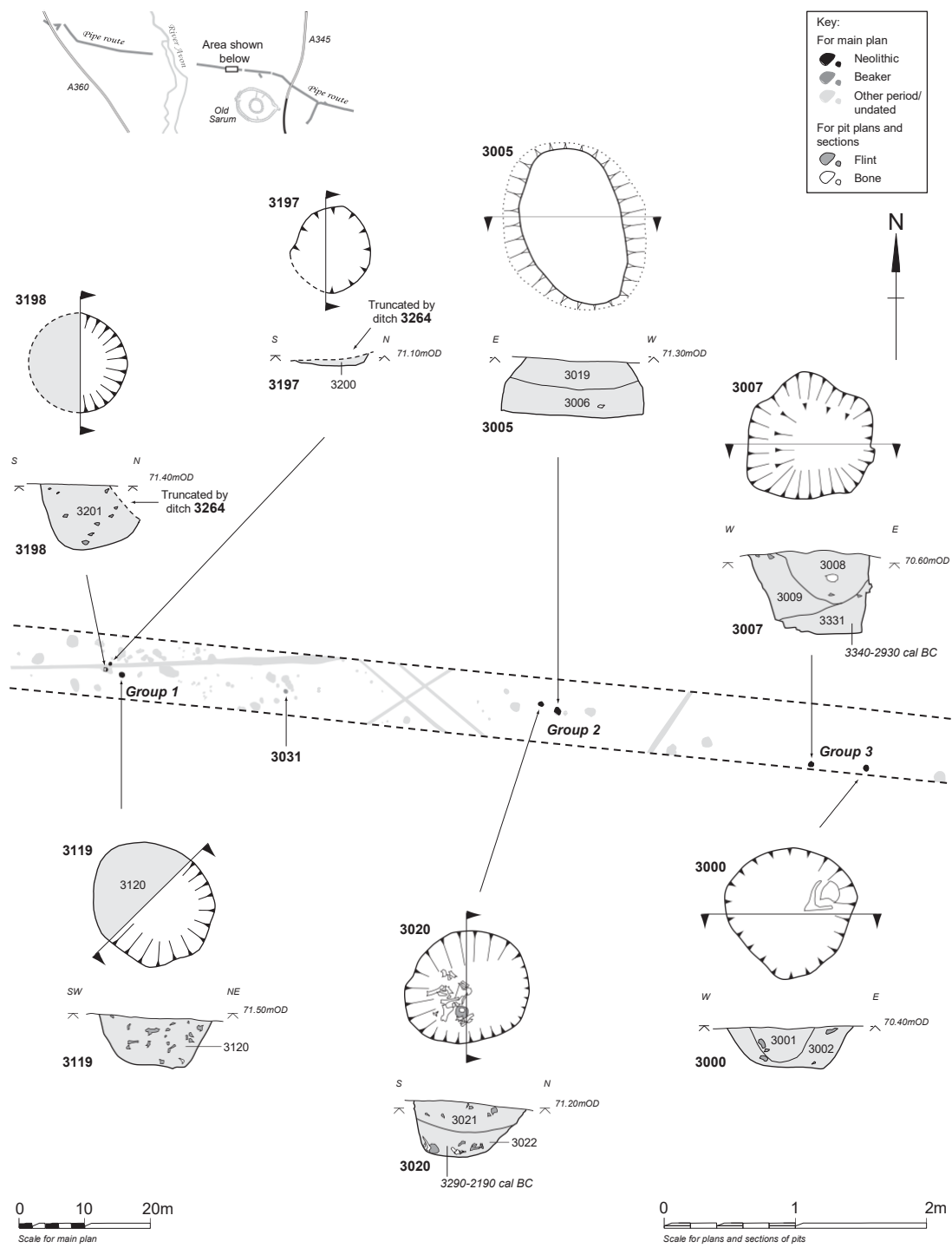
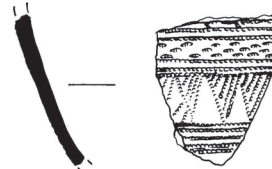
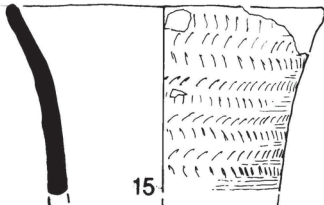
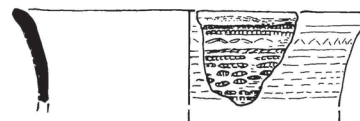
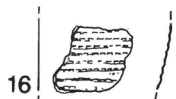
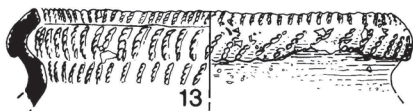
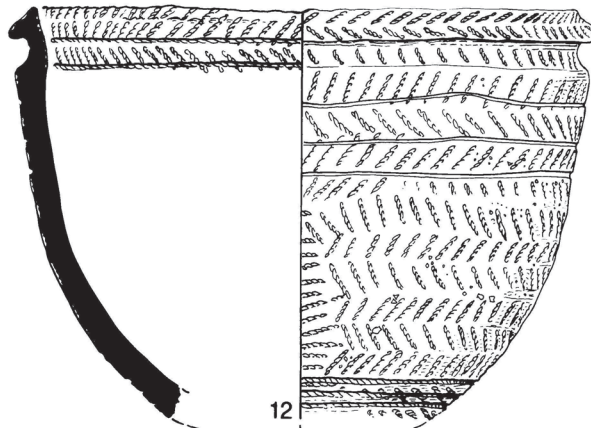
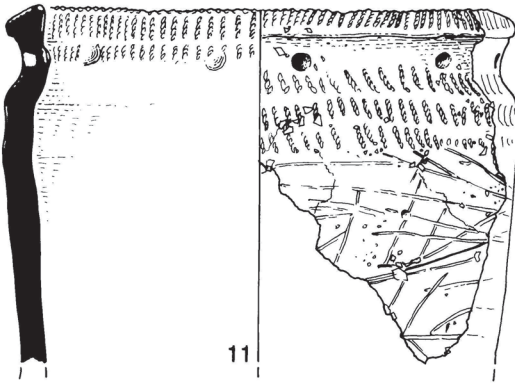
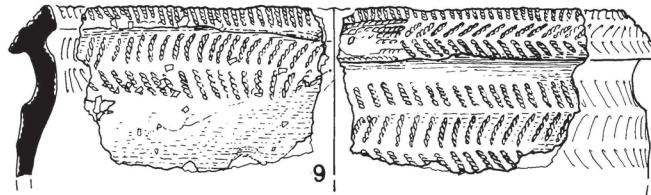
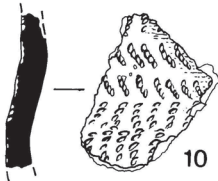
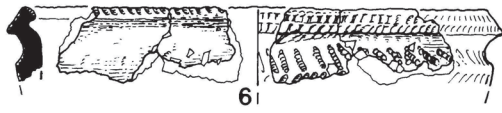
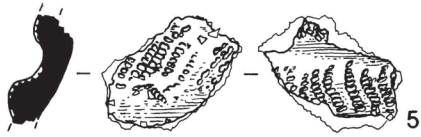
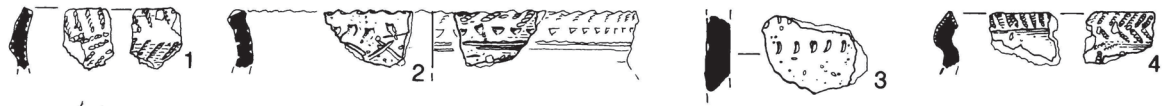
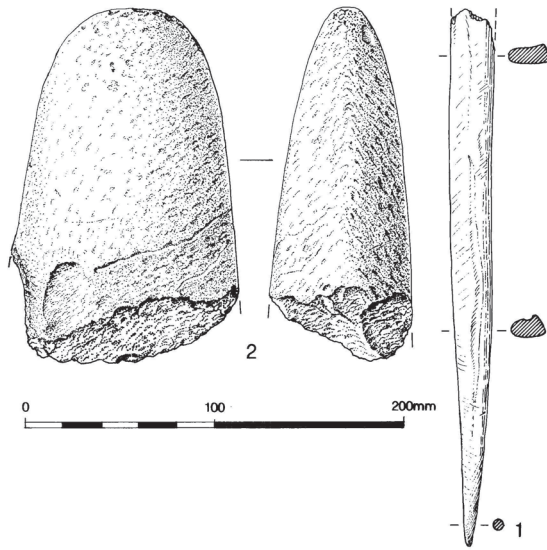


Figure 2





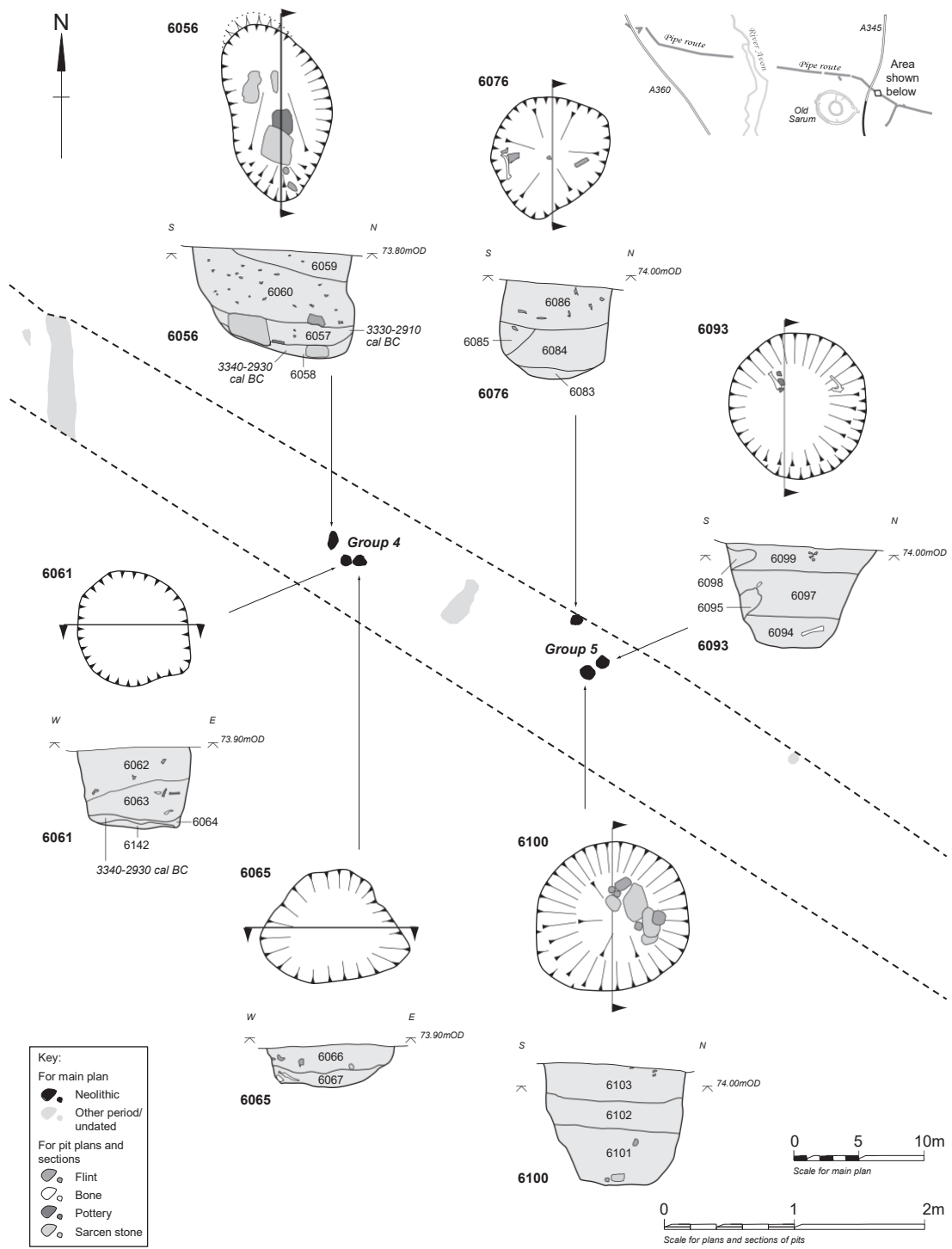


Figure 5

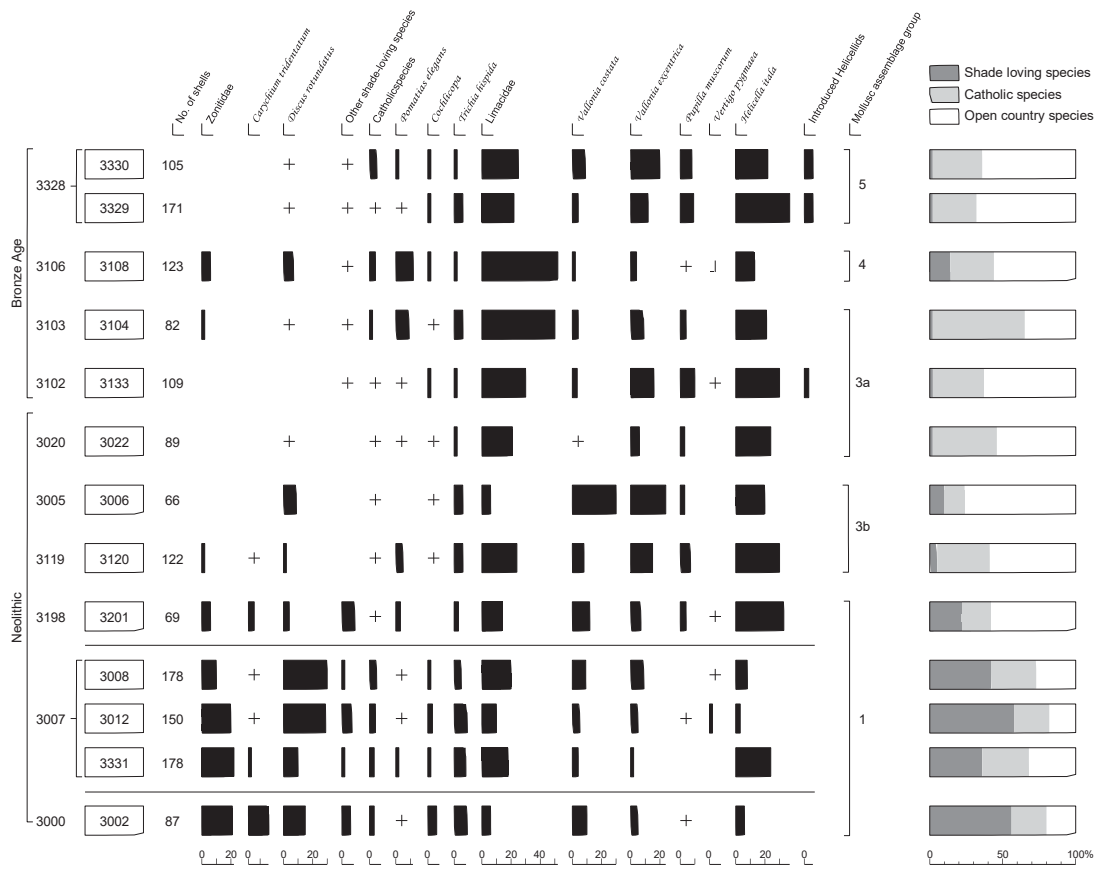


Figure 6

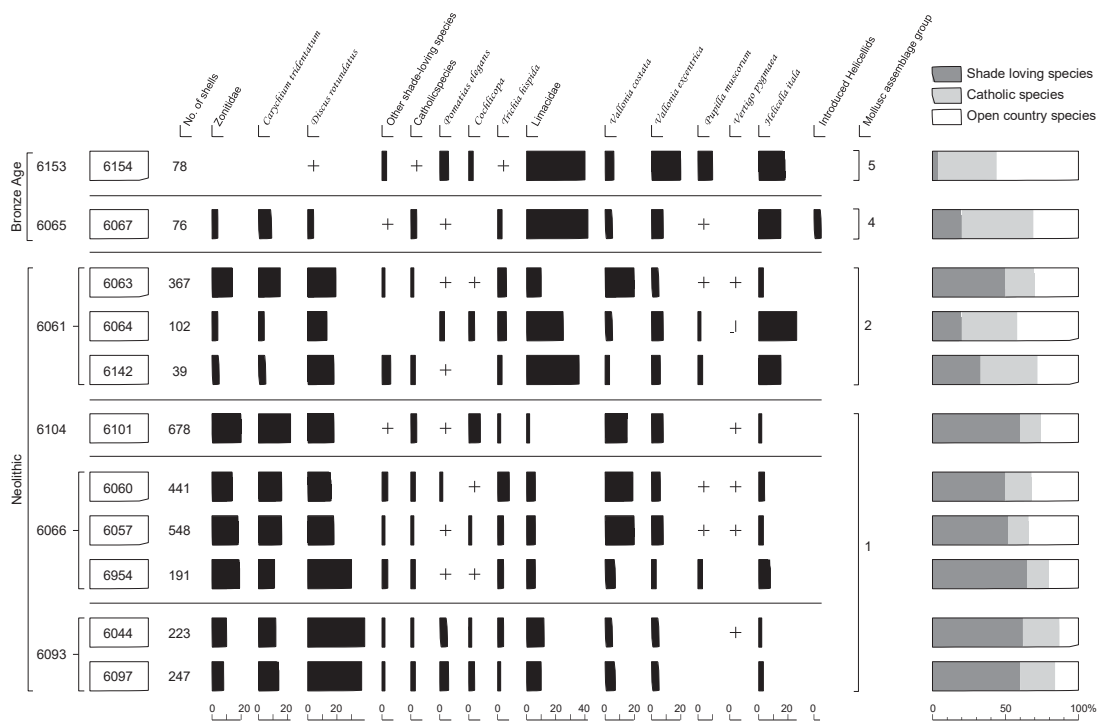


Figure 7

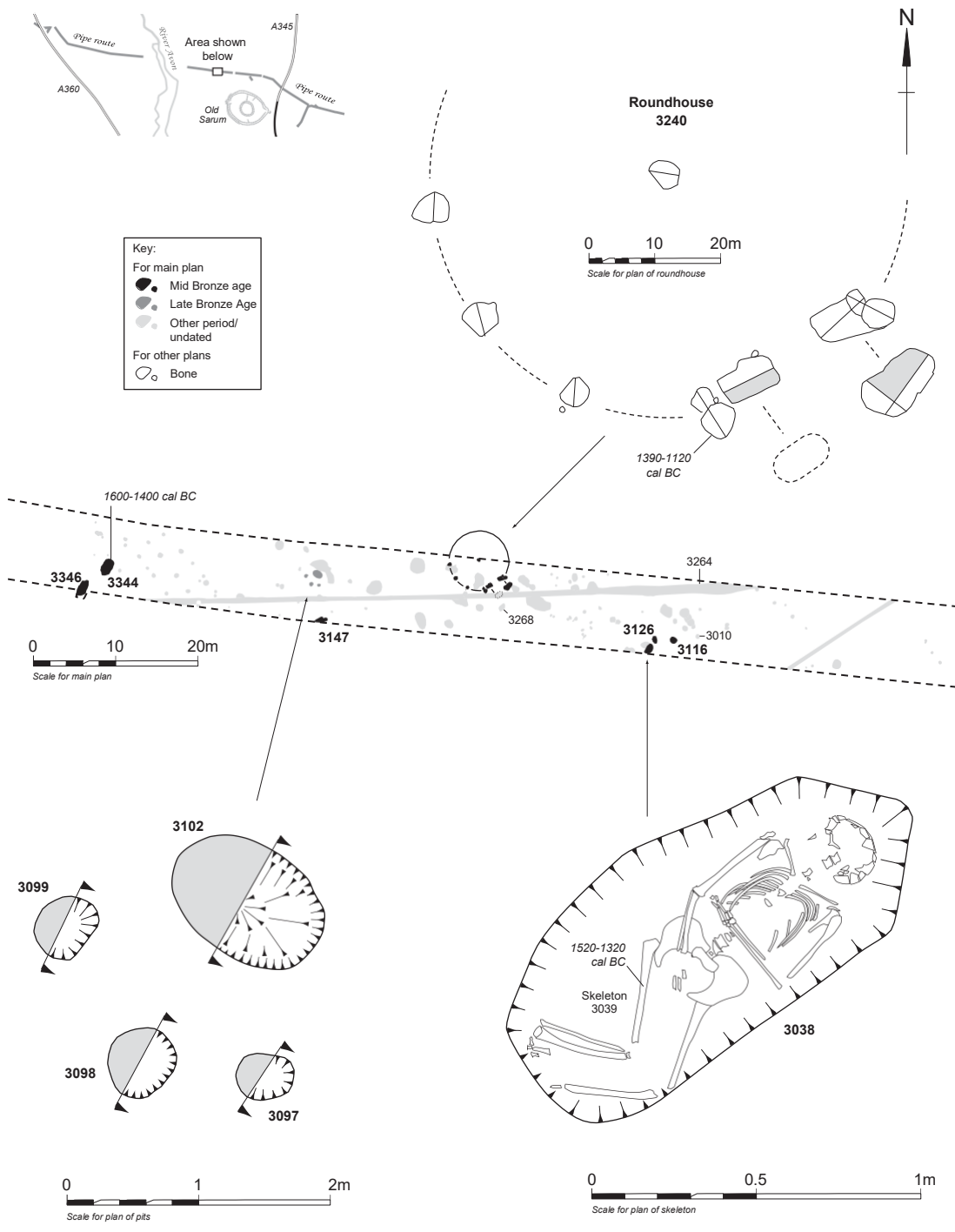
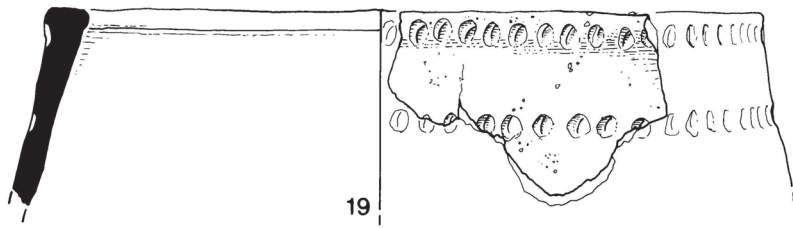


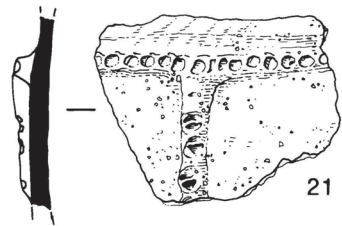
Figure 8



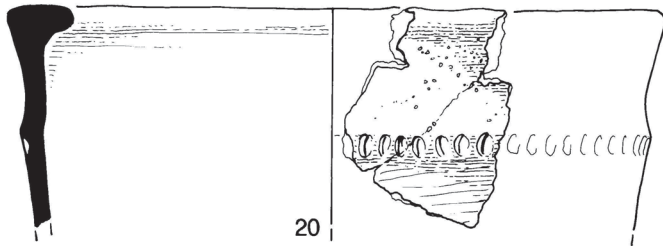
Figure 9



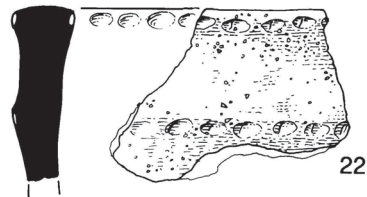
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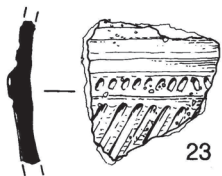
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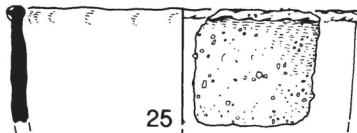
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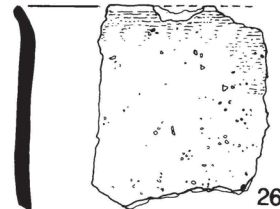
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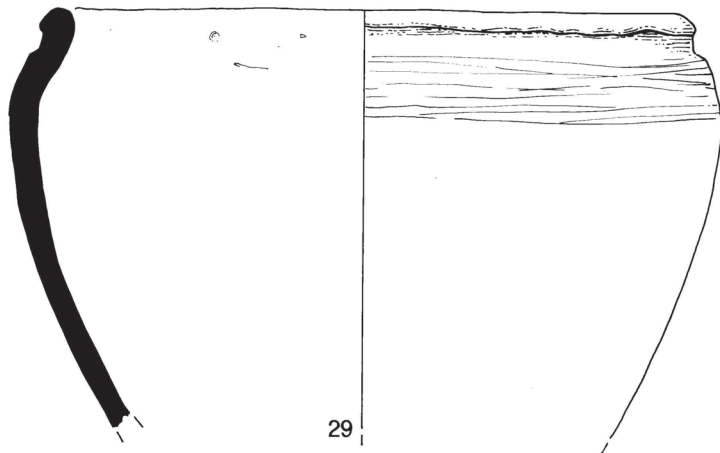
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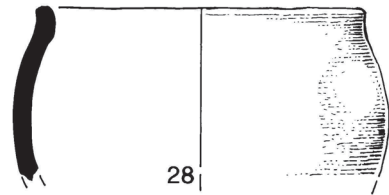
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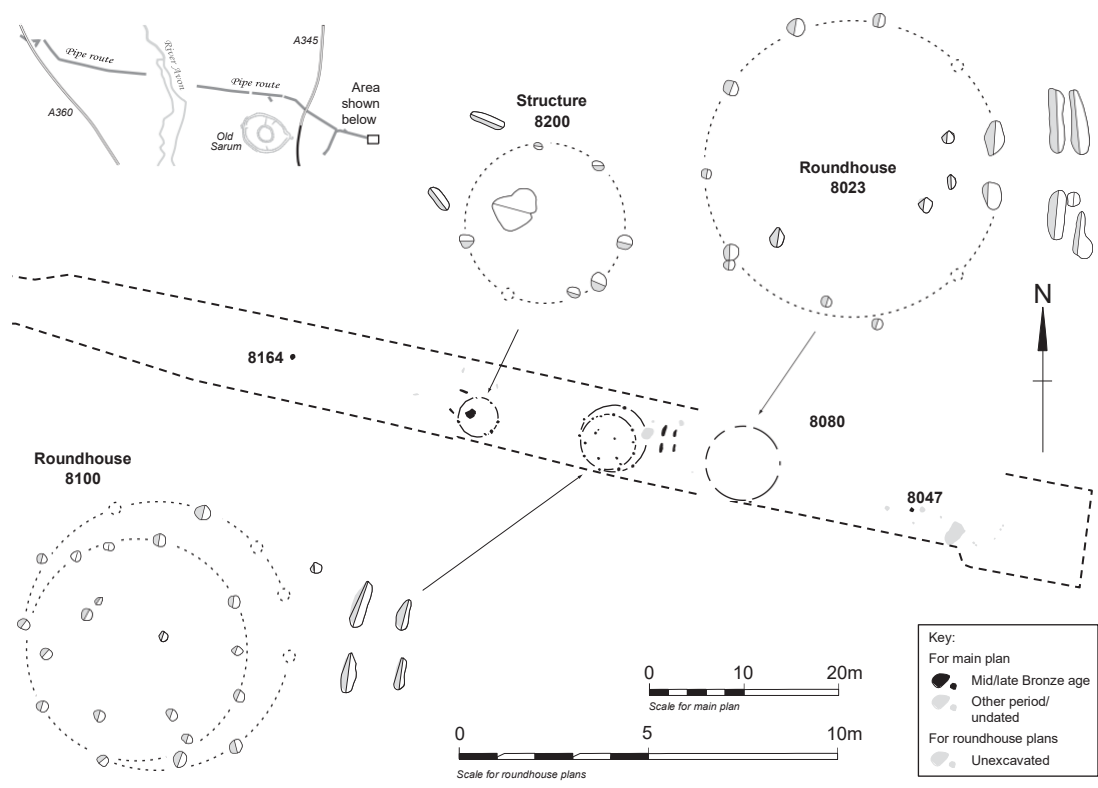


Figure 11

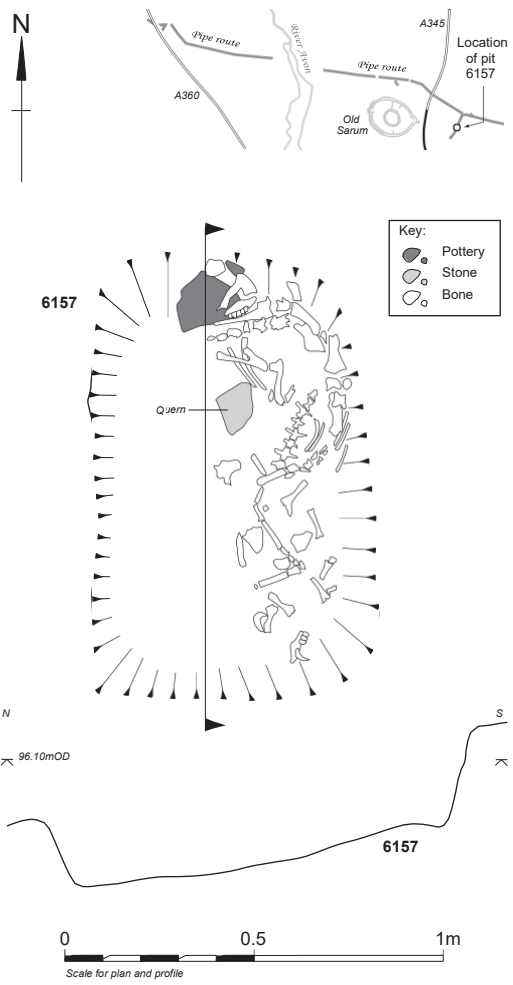


Figure 12

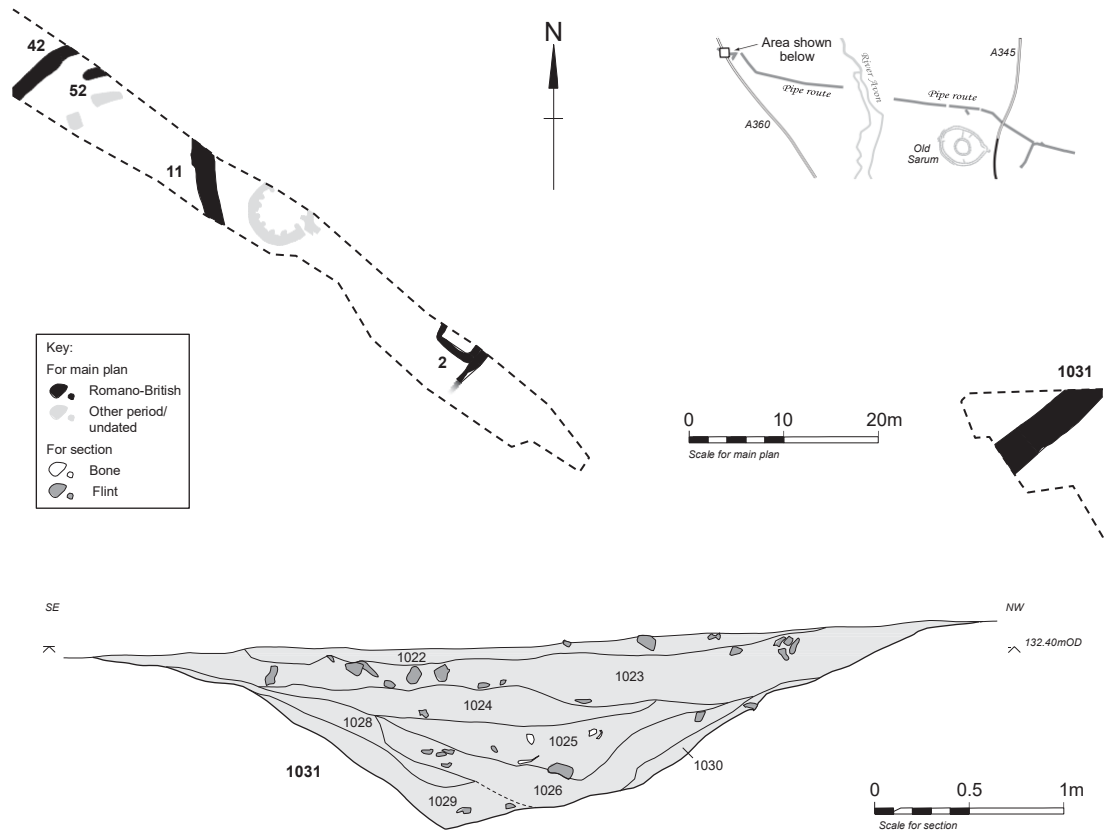


Figure 13

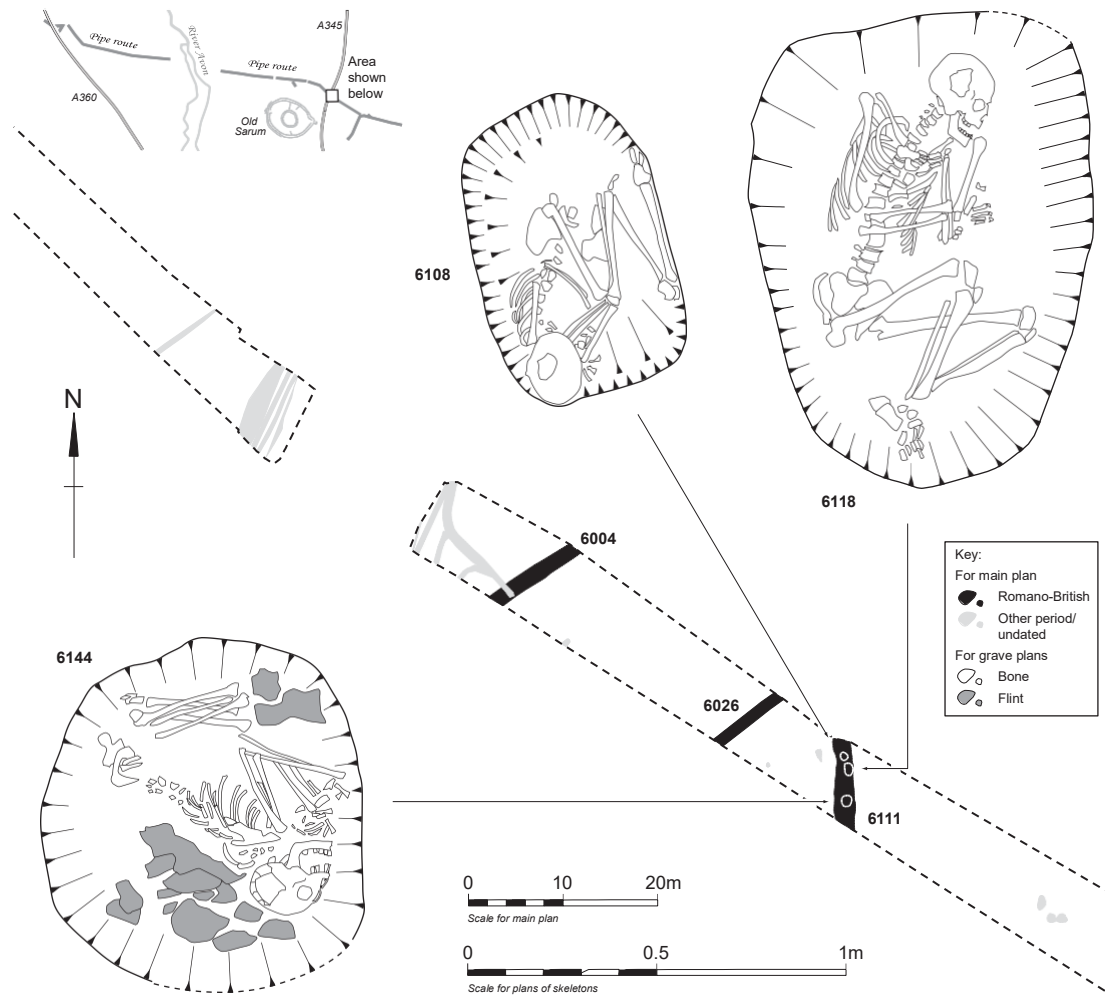


Figure 14