

## EXTRA-CHURCHYARD BURIALS AT WINCHESTER STREET, ANDOVER: EXCAVATIONS IN 2002

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### ABSTRACT

*Excavation of a site in the southern suburb of Andover located a limekiln formed from two pits with a connecting underground flue. A coffined burial was found nearby. Radiocarbon dates in the 14th century were recorded for both features. A group of 20 graves, of which ten were dug into the limekiln pit fills, was excavated. Seventeen of the 25 skeletons were younger than adult. Four of the graves contained more than one burial and were, with the exception of an adult and child, of children or infants. A post-medieval radiocarbon date was obtained from one burial. The lack of a consistent east–west orientation or of heads uniformly lying to the west suggested that the majority of the burials were associated with a Quaker burial ground nearby which had been established in 1672 but is now disused. More recent use of the site was associated with the remains of buildings from the 19th-century on the street frontage.*

### INTRODUCTION

During a geotechnical investigation in summer 2002 human remains were found in a machine-excavated test pit. The location of the survey was a former oil depot on the angle of Winchester Street and Old Winton Road (NGR SU 367452) where redevelopment was proposed. This lay within an area of the town defined as of archaeological and historical interest and the findings therefore served to give an added impetus to the archaeological response to the redevelopment. Foundations Archaeology was commissioned to undertake an excavation with clarification of the test pit findings, inevitably, the principal focus.

Andover's historic core lies 300m to the north of the site located on either side of

High Street (Fig. 1). A major fire in 1435 may have resulted in the current layout with the market at the southern end of High Street. Routes leading south from there divide, with South Street to the west of Winchester Street. Both roads are thought to have seen medieval suburban development followed by contraction in the early post-medieval period (Youngs *et al.* 1985, 180). The name Winchester Street itself is first recorded in 1547. Industrial activity is reflected by an alternative name for it of Brick Kiln Street, and the name King's Head Street is also known (*ibid.*). Some development is suggested between 1400 and 1600 (Champion 1973) and earlier medieval evidence came from excavation to the north of the site reported on here (English Heritage 2000, 10). Documentary evidence attests little earlier post-medieval activity with few buildings recorded on a plot on the east side of Winchester Street in the 17th century (*ibid.*). A Society of Friends (Quaker) burial ground was established in 1672 on the opposite side of Winchester Street to the excavation site suggesting that that area was open land. When the tithe map was drawn in 1848 the southern limit of the town was marked by the junction of Old Winton Road and Winchester Street – the location of the excavation.

The excavation site was bounded to the north and east by 20th-century residential housing and further residential housing from the 19th and 20th centuries lies to the south along Winchester Street and Old Winton Road (Fig. 2). The west side of the site had formerly been occupied by a row of cottages, shown on the 1848 tithe map, and demolished in the recent past. The main part of the site in 1848 was occupied by a cottage – presumably a building shown fronting Old Winton

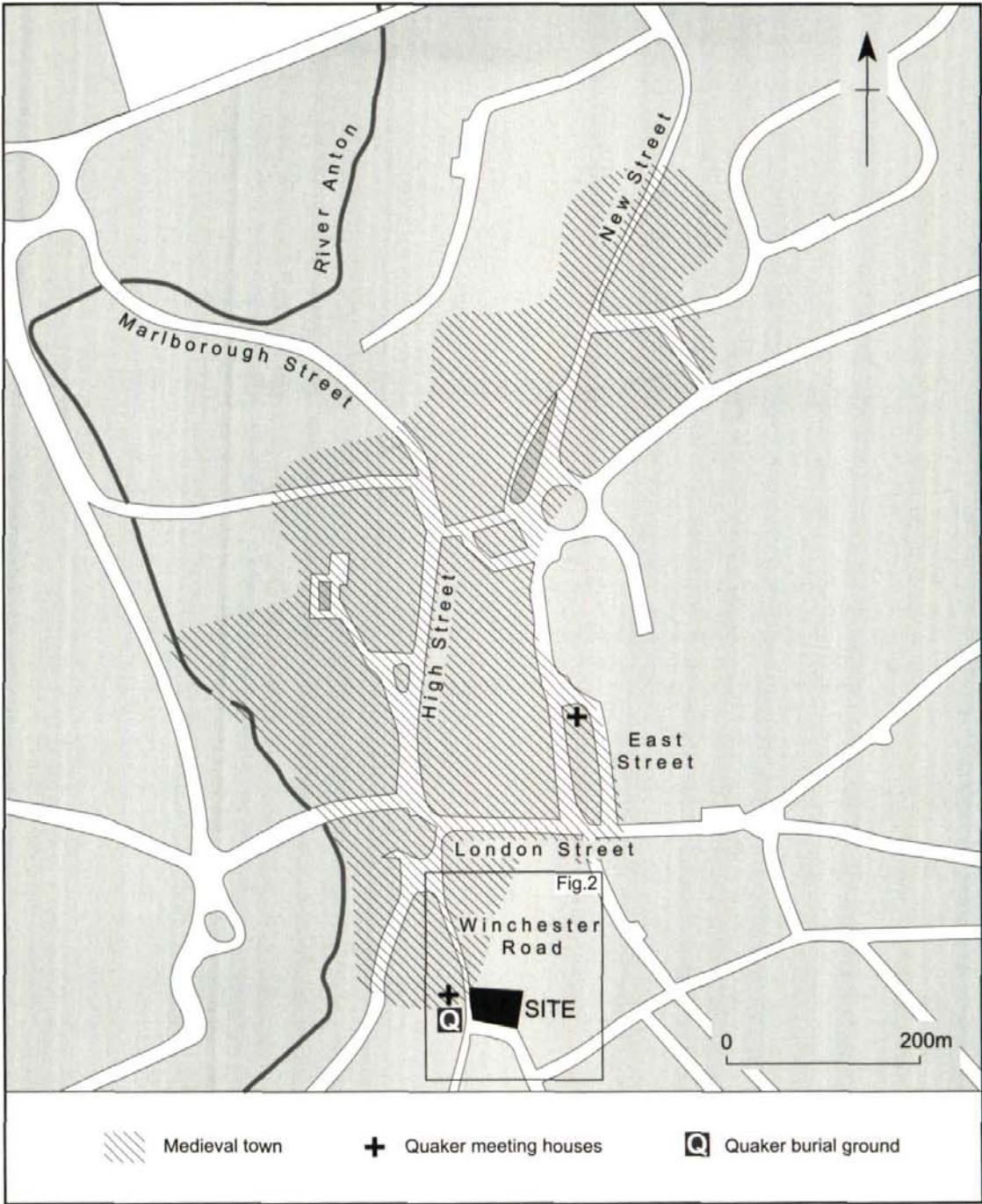


Fig 1 Location map

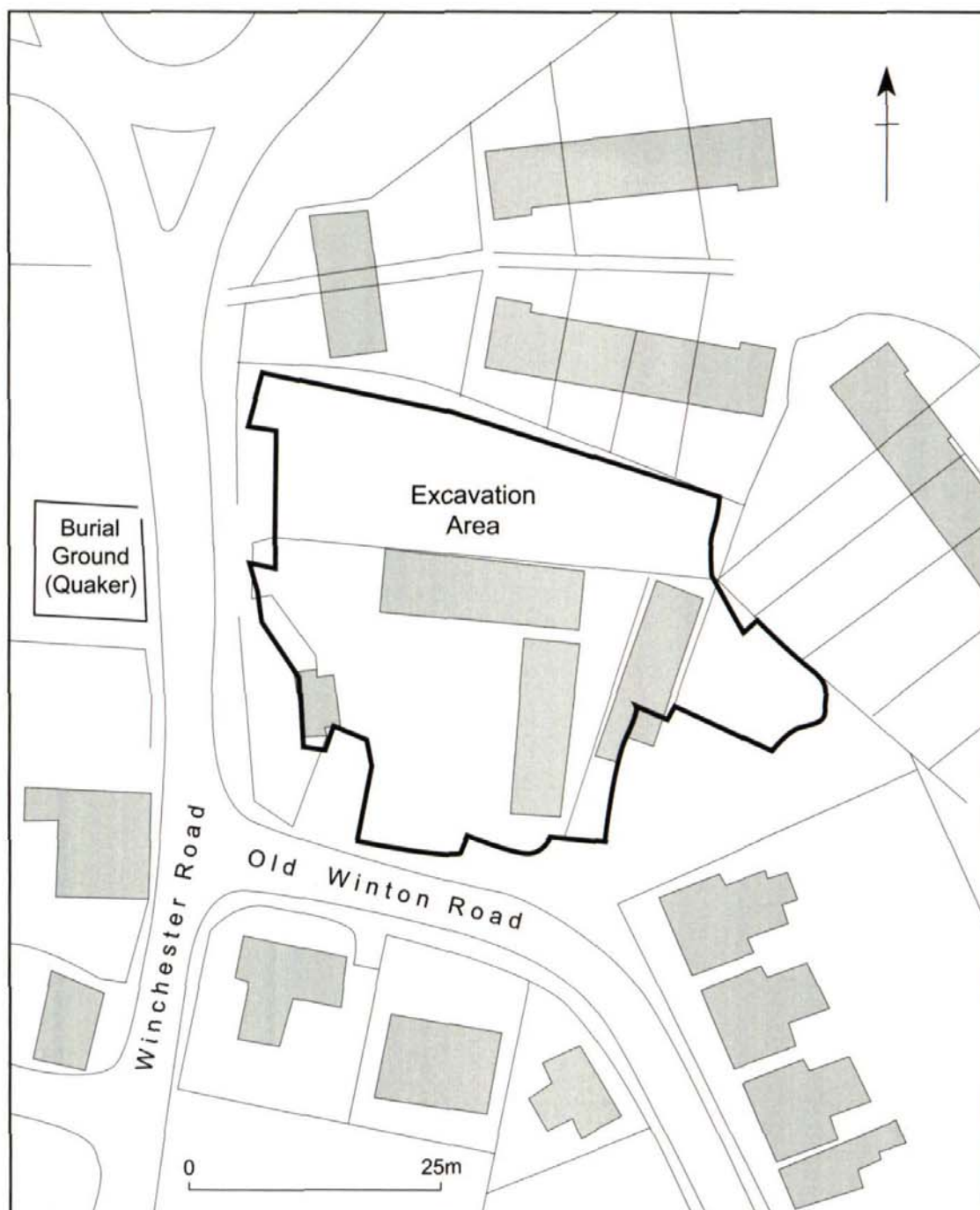


Fig 2 Location of excavations

Road – farmyard buildings and a garden (HRO 21M65/F7/6/2).

The geology is upper chalk. The ground surface had been truncated in part as a result of its recent use, and in part in subsequent clearance and landscaping. The positions of oil tanks, shown on modern maps to the east of the site, were clear on the ground. The east and west sides of the site lay near to their original levels while the ground had clearly been graded down more to the south.

Fifty metres to the north, evidence of a Roman settlement had been found (English Heritage 2000, 3) with Romano-British coffined burials present (Jennings 2000). The county SMR records undated skeletal material recovered from relatively close by in 1869 (SMR No. 23125) at SU 364 451 and a sequence of possible medieval pits from a sewer trench in 1992 (SMR 29010) at SU 367 452.

The archaeological works, which covered the whole site, were undertaken between October and December 2002. Mechanical stripping was undertaken in two halves to obviate any spoil removal from the site. Over much of the site the overburden was revealed to be a thin skim of modern topsoil directly over the natural chalk.

The main features found on site – 21 graves containing 26 burials – yielded two differing radiocarbon dates one in the later 13th and 14th century and another covering 250 or so years in the post-medieval period. Possible interpretations of these disparate dates are fully explored in the discussion section. For the following ‘excavation results’ section the burials are taken to comprise a post-medieval burial ground with the exception of the burial radiocarbon-dated to the medieval period. The report on the human skeletons deals with the burials as a whole.

Based on this, on those features which could be seen to intercut, and on independent dating evidence the following periodisation has been adopted:

|          |                                                                |
|----------|----------------------------------------------------------------|
| Period 1 | Thirteenth/fourteenth century: limekiln, pits, coffined burial |
| Period 2 | Seventeenth/eighteenth century: inhumation cemetery            |
| Period 3 | Later post-medieval: industrial and domestic remains           |

The site archive has been securely copied by the National Monuments Record of English Heritage, and the archive and artefactual collection has been deposited at Andover Museum (Accn no A.2004.18).

## EXCAVATION RESULTS

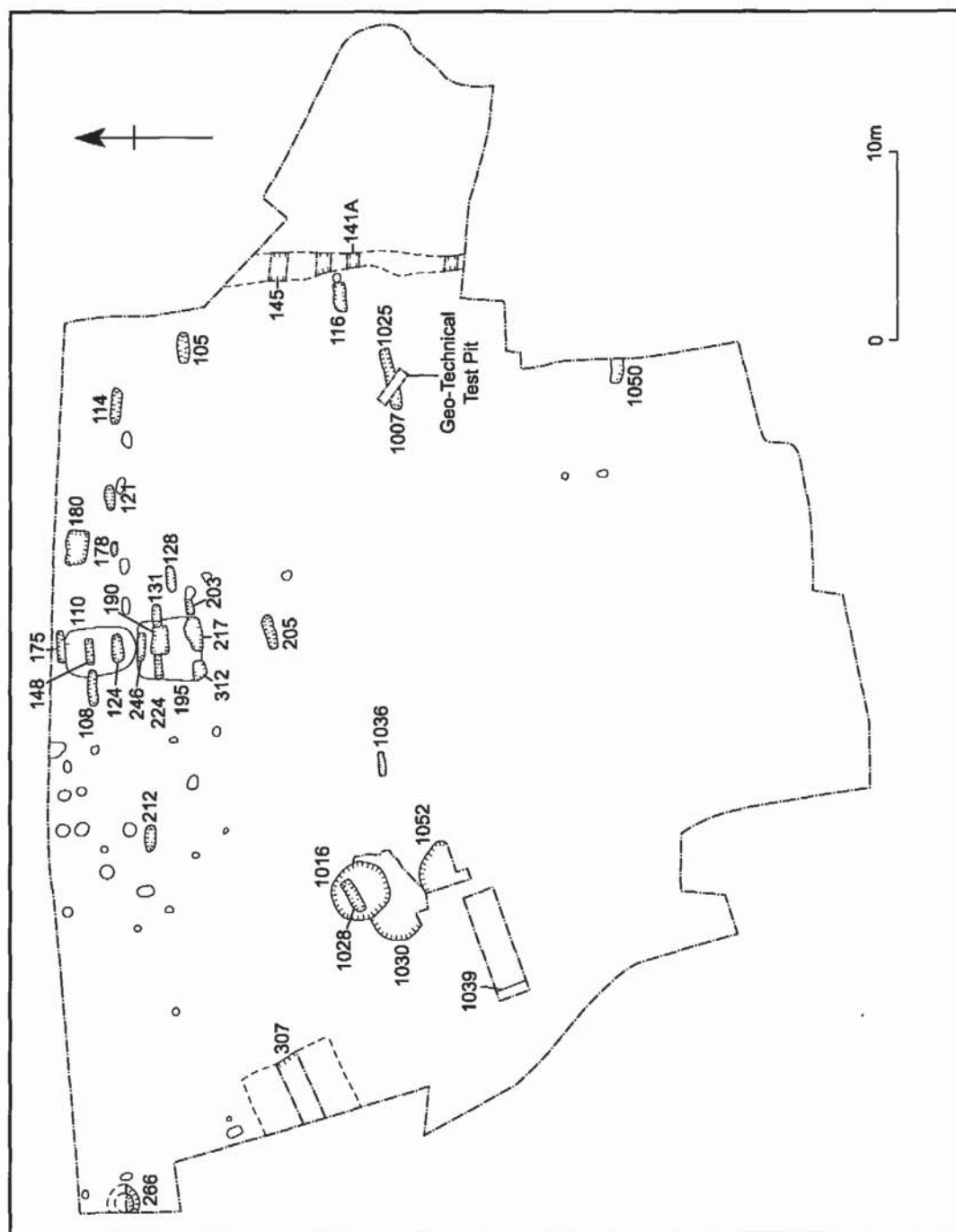
### *Period 1 thirteenth/fourteenth century*

Two large linked pits were excavated close to the northern site boundary (Fig. 3). The northernmost pit, 110, was sub-rectangular in plan with vertical sides and a flat, uneven base. It was linked to the second pit, 195, by a below-ground tunnel which was fire blackened and contained quantities of burnt material (Fig. 4). An area at the base of 110 0.2m lower than the rest of the pit formed a lower entry to the tunnel. The southernmost pit, 195, was rectangular with vertical sides and a flat base through which a north–south running channel had been cut aligned with the underground tunnel. The sides and base showed evidence of extensive burning. Pit 110 was filled with two distinct layers of chalk marl backfill while pit 195 had been backfilled with chalk rubble.

To the west, two further large pits, 1016 and 1030, were excavated, the former cutting the latter (Fig. 3). The pit fills comprised deposits of chalk rubble.

The two northern pits, 110 and 195, could be identified as forming a limekiln similar to an example from across the border at Ludgershall in Wiltshire which was in use in the first half of the 13th century (Ellis 2000, 68). The underground tunnel was the flue providing air to burn the charge at the base of pit 195. At Ludgershall the flue tunnel drew air from a narrow vertical shaft while at Andover pit 110, almost as large as the kiln pit, was dug. No evidence survived of the stone being burnt but the size of the northern pit may suggest that this was the quarry source and that, as at Ludgershall, the natural chalk was used. The two pits to the west may well have been quarries for further kiln stone.

To the east of the site a Period 3 boundary ditch 141A had recut an earlier ditch 145.



**Fig 3 Excavated features**

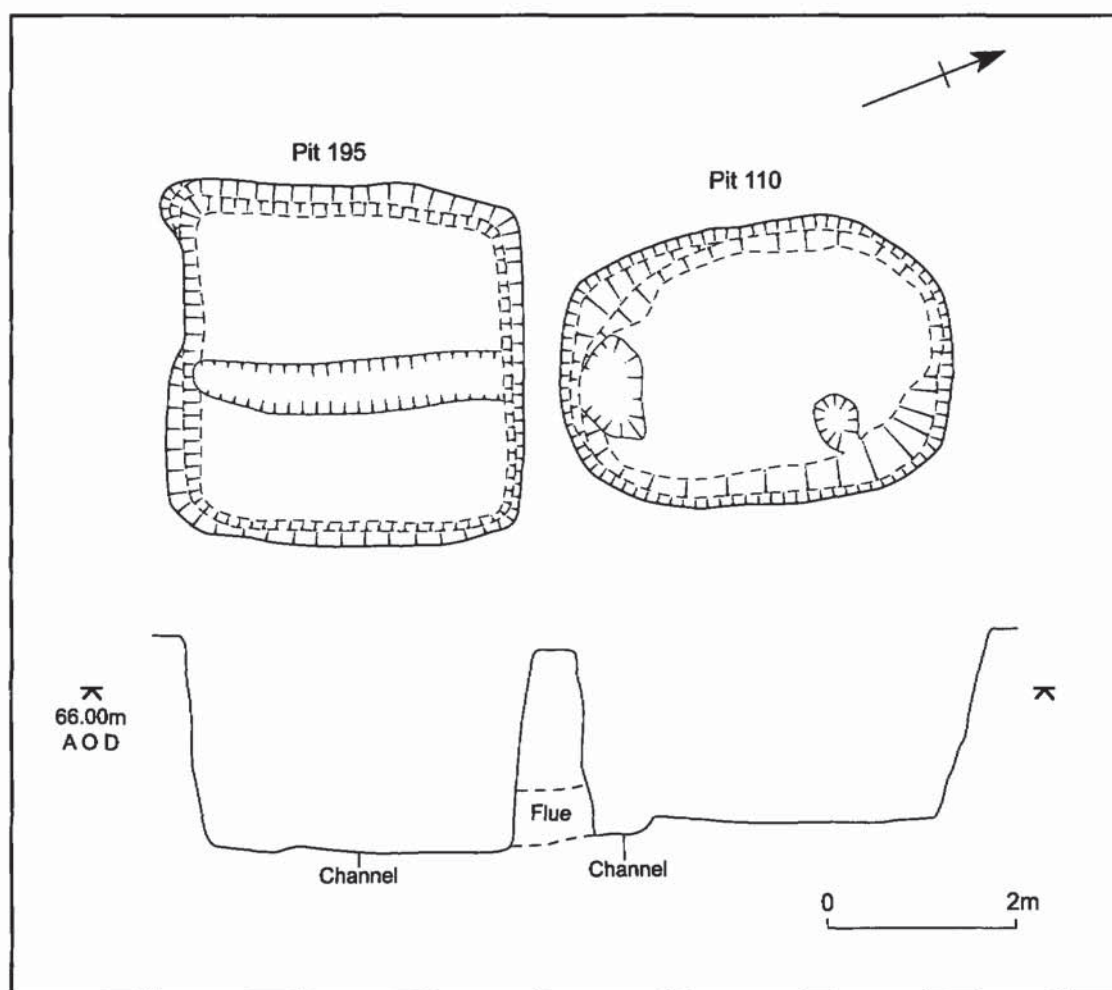


Fig 4 Limekiln 195/110

The ditch line corresponds beyond the excavation to the north with a property boundary of apparent long standing that may mark the rear of holdings on the east side of Winchester Street (Fig. 2).

The upper part of a burial, SK 1006 in grave 1007, was recorded cut by the geotechnical test pit (Fig. 5). This was of a female aged over 46 years with the right arm folded across the lower abdomen and much of the left arm missing. Six coffin nails were noted, those round the skull equidistantly spaced suggesting a confined interment.

Three sherds of medieval pottery were

recovered from pit 110 (Table 1), two possibly of Netherton ware (Fairbrother 1990) and one from Southampton. Five sherds were recovered from pit 195 of Netherton, Newbury, and Southampton wares. These sherds were dated no later than the 14th century. Fragments of brick and tile were found in the upper fills of the pits (see below). A radiocarbon date on charcoal recovered from pit 195 gave a date of  $630 \pm 60$  bp, calibrated at 95% confidence to 1280–1416, while a second radiocarbon date of  $660 \pm 70$  bp, calibrated at 95% confidence to 1242–1419 came from SK 1006 (Table 2).

Table 1 Occurrence of medieval pottery

| <i>Feature/ Context</i>  | <i>no/ wt(g)</i> | <i>date/details</i>                                                                 |
|--------------------------|------------------|-------------------------------------------------------------------------------------|
| <i>Period 1 pits</i>     |                  |                                                                                     |
| 110/111                  | 2/42             | Limestone-tempered, ?Netherton C12-14                                               |
| 110/173                  | 1/3              | Southampton C12-14                                                                  |
| 195/194                  | 4/51             | Newbury A C10-12, ?Southampton C12-14 (2 sherds same pot, Netherton group 2 C12-14) |
| 195/304                  | 1/43             | Newbury B C12-14                                                                    |
| <i>Period 2 graves</i>   |                  |                                                                                     |
| 114/115                  | 1/8              | oxidised, prob Netherton or Southampton C12-14                                      |
| 121/122                  | 1/2              | Limestone-tempered, ?Netherton C12-14                                               |
| 178/179                  | 1/1              | Southampton C12-14                                                                  |
| 1025/1024                | 3/56             | ?Portchester C12-14, Newbury B C12-14, ?Laverstock C13-14                           |
| <i>Period 3 features</i> |                  |                                                                                     |
| 141/142D                 | 1/28             | Nash Hill/Lacock C12-14                                                             |
| 170/169                  | 1/4              | ?Portchester C12-14                                                                 |

Table 2 Radiocarbon dates

| <i>Sample</i> | <i>Lab ref</i> | <i>Radiocarbon</i> | <i><math>\delta^{13}C</math> (0/00) age (yearsBP)</i> | <i>95 % confidence (2<math>\sigma</math>)</i> |
|---------------|----------------|--------------------|-------------------------------------------------------|-----------------------------------------------|
| Pit 195       | RCD-5515       | 630 $\pm$ 60       | -26.4                                                 | 1280-1416                                     |
| SK 1006       | RCD-5539       | 660 $\pm$ 70       | -20.1                                                 | 1242-1419                                     |
| SK 123        | RCD-5540       | 200 $\pm$ 60       | -20.9                                                 | 1631-1898                                     |

*Period 2 seventeenth/eighteenth century*

An extensive inhumation cemetery of 20 graves containing 25 skeletons was laid out along the northern border of the site with a number of graves cut into the fill of the Period 1 pits 110 and 195 (Fig. 3). A selection of the burials is illustrated (Fig. 5). As noted above the coincidence of the group and the Period 1 burial is discussed further below where differing interpretations are explored.

A principal group was concentrated over the infilled limekiln pits and to their east comprising ten graves cutting the pit fills (108, 124, 131, 148, 175, 190, 217, 224, 246 and 312) and

a further six to the east (105, 114, 121, 128, 178 and 203). An outlying grave, 212, lay nearby to the west, with another, 205, close to pit 195 to the south. A further grave, 1036, was located to the south-west while to the south-east was grave 1025 presumably cutting the Period 1 grave 1007. Grave depths averaged *c.* 0.6m.

All the graves were more or less oriented west-east with three of the five outliers deviating the most (Fig. 6). Heads were generally to the west but there were four exceptions with heads to the east: SK 107 in grave 108, SKs 112 and 113 in grave 114, SK 177 in grave 178, and SK 1038 in grave 1036. There was no evidence of coffins although a single nail was found in the fills of

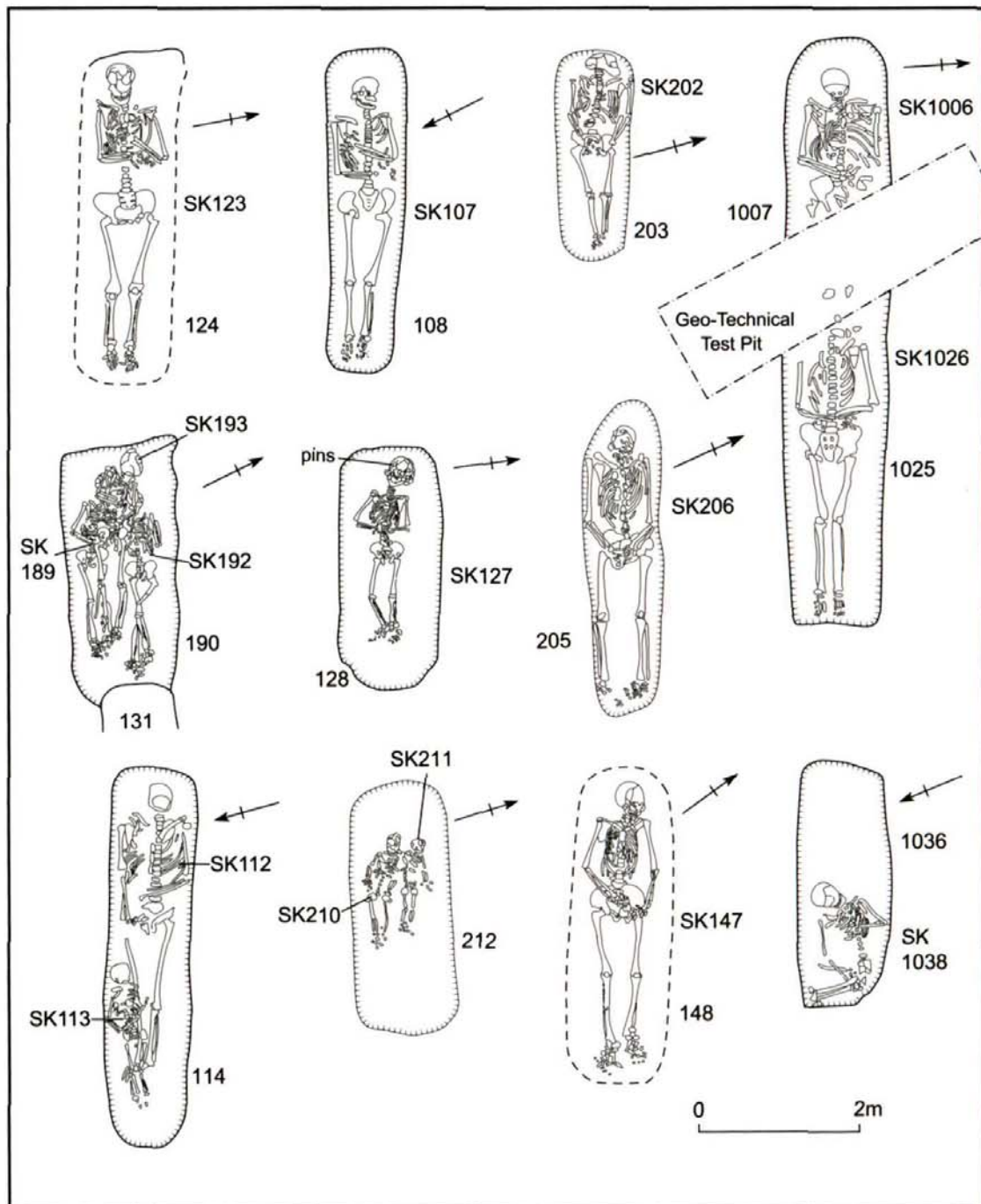


Fig 5 Burials: selected plans

graves 131, 224, 246 and 1028. There were ten adults, all but one under 40, two subadults, 12 juveniles and three infants. Including those identified as possible there were seven females and five males.

Within the overall orderly pattern, there were individual decidedly non-uniform variations (Table 3). Grave 114 contained a male adult and child, grave 190 three children, grave 212 two infants (all Fig. 5), and grave 312 two children. The child in grave 114 had been lain above the adult, while of the three skeletons in grave 190, the central body had been lain above the other two (both Fig. 5).

Most skeletons appeared to have been carefully and deliberately lain in the grave but there were exceptions. SK 1038 in grave 1036 had clearly been carelessly tipped in, the body lying bent over to one end of the grave (Fig. 5). SK 104 in grave 105 had been placed with too little room at the head, and the same was true to a lesser extent for SKs 127 in grave 128 (Fig. 5), 223 in grave 224, and 202 in grave 203 (Fig. 5). Grave 121 was only just large enough to accommodate SK 120. The bodies had all been lain supine. The position of the arms was generally either with both arms slightly bent and hands across the pelvis, or more sharply crossed with hands across the abdomen. In two cases, SKs 107 and 123 in graves 108 and 124 respectively (Fig. 5), the left arm was folded over the right arm across the chest. The evidence would suggest that these different positions simply resulted from burial in a shroud though no material evidence for these latter survived.

The large multiple grave 190 had been cut by grave 131 to the east, but without disturbing the foot bones of SK 192 (Fig. 5). Like the Period 1 SK 1006, SK 1026 in grave 1025 had been cut by the geotechnical test pit. The position of grave 1025 suggested that it had originally cut grave 1007 removing the part of SK 1006 which should have been present on the further side of the test pit (Fig. 5). Apart from these there were no intercutting graves. Some skeletons were incomplete. SK 104 in grave 105 lacked the upper part of the skull – post-depositional damage to skulls is noted in the human bone report.

Unrelated human bones were found in four graves. Grave 114 contained the bones of a

juvenile as well as its adult and child contents (Fig. 5); grave 190 contained bones of an adult as well as its three child burials (Fig. 5); grave 212 contained further juvenile and infant bones; while, lastly, grave 1025 contained adult bones unrelated to SK 1026 presumably derived from the Period 1 SK 1006 in grave 1007.

There were four possible grave-like features which may have been dug for burials and left empty (Fig. 3).

With one exception there were no accompanying artefacts present in the occupied graves. The exception, SK 127, a six-year-old child in grave 128, comprised eight or more copper alloy pins (see below) found beneath the skull which may represent shroud pins gathering the shroud behind the head (Fig. 5). Bone from SK 123, a 12–15-year-old in grave 124, was subject to a radiocarbon assay. This gave a date of  $200 \pm 60$  years bp calibrated at 95% probability to the range 1631–1898. Medieval pottery was found in graves 114, 121, 178 and 1025 (Table 1) and tile in graves 114, 128, 131, 170, 175, 190, 203, 205 and 212.

### *Period 3 later post-medieval*

To the west of the site a deep flat-based pit, 1052, with heavy burning, may have been associated with Andover's brick industry recorded on Old Winton Road to the south (Champion 1973, 6). Of a later, more modern date, a well, 266, and two cellars, 307 and 1039, evidenced the remains of the demolished buildings fronting on Winchester Street. A grave-shaped pit, 1028, had been dug into the Period 1 pit 1016. This contained a deposit of ten human long bones as well as fragments of rib and pelvis and a single coffin nail. Two animal long bones were also present.

To the east of the site boundary ditch 141A recut the Period 1 ditch 145. Its maximum surviving depth of 0.3m and its width, varying between 1m and 1.7m, suggested that it had been truncated and was once a more substantial feature.

There were also numerous postholes most occurring in the northern part of the site – one cutting a Period 2 grave, as well as further pits, one, 180, containing the complete skeleton of a horse. A few sherds of later post-medieval

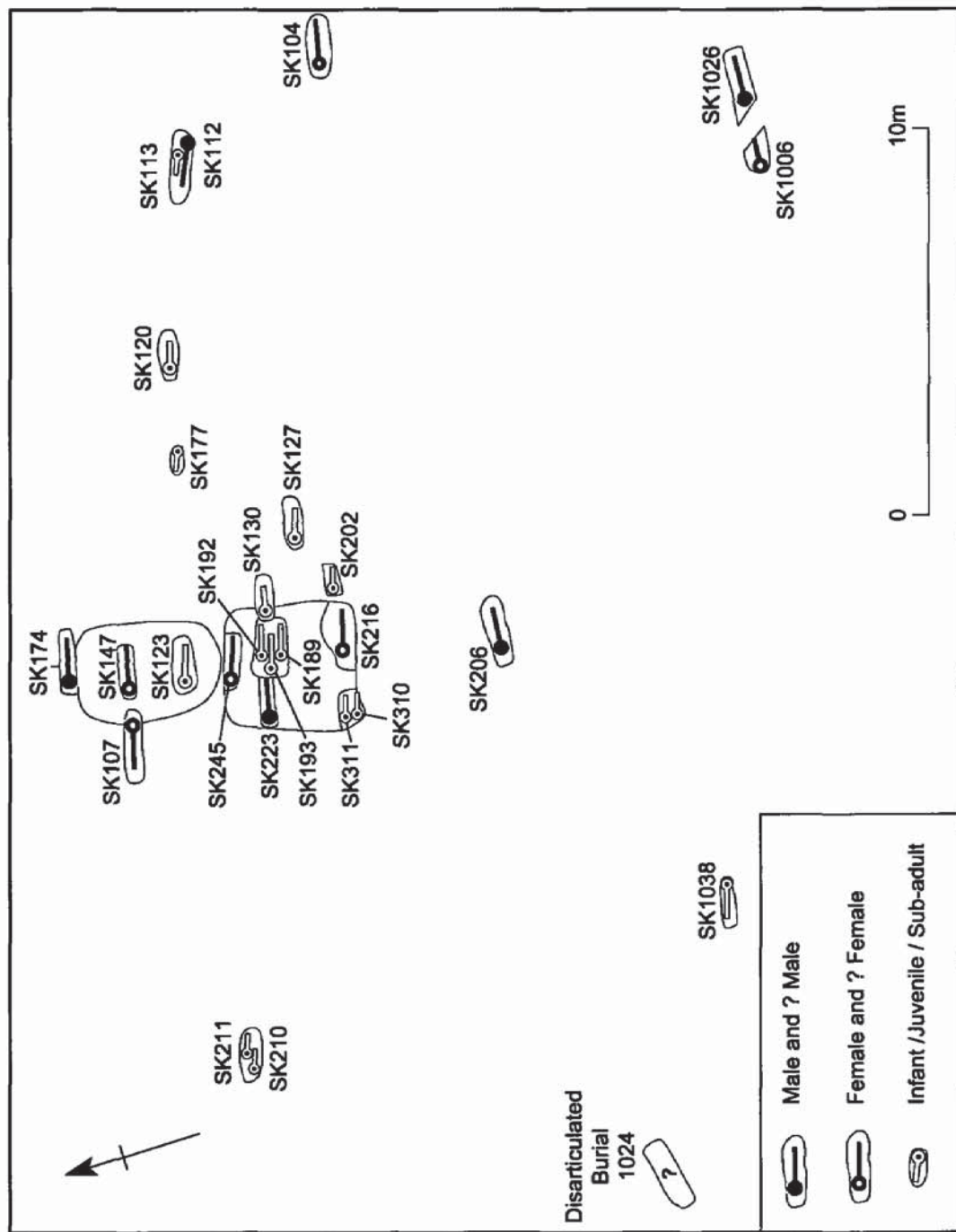


Fig 6 Sex, age and orientation of burials, unsexed skeletons are juveniles or sub-adults

pottery was present in some of these features and many were distinguished by the presence of fragments of ceramic building material.

Pit 1028, with its deposit of human and animal bones may represent the redeposition of human bones found in the course of groundworks perhaps when the road frontage building foundations were dug.

## FINDS

### *The pottery by Roy King*

Sixteen sherds of medieval and four sherds of post-medieval pottery were recovered (Table 1). Netherton, Nash Hill/Lacock, Portchester, Laverstock, Southampton and Newbury fabrics were represented in the medieval collection, the earliest fragment of Newbury A fabric dating to the 10th to 12th centuries and the remainder of the fabrics dating 12th–14th century. The only pottery from medieval contexts was from the kiln pits 110/195, the remainder occurring in Period 2 graves 114, 121, 178, and 1025, and in Period 3 ditch 141 and pit 170.

The sherds of post-medieval pottery came from posthole 259 (17th-century salt-glazed), animal burial 180 (16th-century+) and well 266 (17th–19th earthenwares).

### *Brick and tile by Roy King*

Brick (23 fragments) and tile (210 fragments) were present in a number of contexts. Kiln pits 110 and 195 both contained material with three fragments of tile in pit 110 and 17 fragments of tile and four of brick in pit 195. All the finds came from upper, possibly settlement, layers of the pits. Graves 114, 128, 131, 175, 190, 203, 205, 212 all contained fragments of tile. Brick and tile also occurred in Period 3 pits 116, 170 and 1030, ditch 141, scattered human remains layer 1024 and in 17 posthole features.

### *Small finds by Lynne Bevan*

A large mid-blue glass bead, intrusive in the Period 1 pit 110, was plano-convex in shape. It had sustained considerable damage around

its outer edge, the surface of which is now chipped, pitted and opaque in places due to deterioration of the glass. Though it is not an immediately chronologically diagnostic type, a 17th or 18th-century date is probable for this poor-quality bead, which may have been a trade bead of some kind.

Eight copper-alloy pins came from grave 128 (Fig. 5). There were three complete examples and five with intact heads but with broken points. There were fragments of five other pins surviving as broken shaft and end fragments. The small size of the complete pins and their find context suggest that they were used as shroud pins. Small, round-headed copper alloy pins were a long-lived type and were used for clothing, funereal and haberdashery purposes throughout the post-medieval period into the 19th century. Tylecote (1972) notes that brass pins in general were mass-produced from 1700 and are not typologically datable from their heads.

A buckle from Period 3 ditch 141A is a cast copper alloy double loop buckle of a common, long-lived type which is generally dated c. 1550–1650 (Whitehead 1996, 61–2), with a later 16th-century date within this broad range being the most likely in this case. It was well-preserved and stable, and exceptionally complete, with the plate and pin intact and *in situ*.

A total of ten iron nails was recovered, of which six from grave 1007 occurred in a spatial distribution suggesting coffin nails. Single coffin-type nails were recorded in graves 131 and 246, and a larger nail came from pit 1028.

### *Animal bone*

Animal bone was represented principally by the 19th-century horse burial 180. Fragments were also recorded in well 266, grave 190 and, with human bone, in pit 1028.

### *Radiocarbon dates*

Radiocarbon dating of three samples was undertaken by A. Walker and R. Otlet of Radiocarbon Dating of Wantage (Table 2).

The date curves for the first two were straightforward with the peaks falling within the 95%

confidence range. That for burial 123 in contrast suggested three spikes at 1643–1692, 1727–1812 and 1819–1849. Totalling 68.2% these had probability percentages of, respectively, 19.6%, 37.1% and 11.5%.

*The human bone* by Sharon Clough

#### *Introduction*

The skeletal assemblage from the site at Winchester Road, Andover, consisted of 26 inhumation burials and some disarticulated remains. Many of the inhumations were complete whilst with others a high proportion of the skeleton was recovered. The skeletons were generally in a good state of preservation and this is likely to be due to the alkaline burial environment. There was some evidence for post-mortem damage particularly to skulls.

#### *Methodology*

Each skeleton was laid out individually for study with the bones in their anatomical position. Data was recorded on a purpose-built Microsoft Access database. Each individual was assessed for sex, age, stature, pathology and morphological anomalies. The sex of individual skeletons was assigned according to morphological criteria, particularly features of the pelvis and skull. Where both morphological characteristics and measurements were diagnostic, a firm sex was assigned to an individual. If morphology and metrics were ambiguous, a tentative assignment was given according to the relative proportion of characteristics of either sex. In some cases insufficient sexually dimorphic features were preserved to assign a firm sex to an individual, in which case a tentative assignment was given where possible. No attempt was made to assign sex to juveniles, as secondary sexual characteristics do not manifest themselves until puberty (Bass 1987, 19) and are not fully expressed until young adulthood. These were categorised as 'undetermined'.

A variety of criteria were employed to assign age-at-death to individuals. The accuracy of adult age estimation depends largely on the completeness and extent of preservation of the individual skeleton. The dentition is often the best preserved feature. Lovejoy's 'attritional ageing scheme' was utilized, which assesses the

attrition of the entire dental arcade. Although analysis of the extent of cranial suture fusion as a means of aging adults (Meindl & Lovejoy 1985) has been criticized, it was used for this assemblage. An age estimate was assigned to each individual despite the limited availability of age-related features in some instances.

Stature was estimated using the formulae calculated by Trotter & Gleaser (1952) bearing in mind the limitations to this technique. Only where long bones were fused are stature estimates feasible, and these begin to fuse at c. 16 years (Brothwell 1981). Estimates also depend on the number of long bones measured. Where the number of bones recovered, or their condition, was inadequate, the individual's stature was recorded as 'insufficient data'. Owing to the margin of error inherent in stature, all estimates are made to the nearest centimetre or half inch.

#### *Sex, age and stature (Table 3)*

Of the total of 26 skeletons, six were classified as 'female' or 'female?', five were classified as 'male' or 'male?', with the remainder, infants and juveniles, classified as 'undetermined'.

The assemblage could be categorised by age as one neonate (0–1 month), two infants (1 month–1 year), 12 juveniles (unfused epiphyses), and two subadults (permanent dentition incomplete but some epiphyses fused). Of the adults, seven were under 30, one was 30–35, and one was 46+. The numbers of juveniles and the absence of older adults is particularly marked.

Comparing sex and age, and bearing in mind that juveniles cannot be sexed, there was one more male for adults of 30 or under while both adults over 30 were female.

The adult individuals could be estimated for height. One was between 1.50 and 1.60m, four between 1.61 and 1.65m, one between 1.61 and 1.69, and five over 1.69m.

#### *Pathology*

One individual, the Period 1 SK 1006, had evidence of bone growth around the anterior margins of the vertebrae (osteophytes), and roughening and porosity of the end plates of the vertebral body. The same individual and six others, SK 104, SK 112, SK 147, SK 206,

Table 3 Human skeletons: sex, age, height and other details

| <i>SK no</i> | <i>Gr no.</i> | <i>Sex</i> | <i>Age</i>  | <i>height</i> | <i>other</i>          |
|--------------|---------------|------------|-------------|---------------|-----------------------|
| 104          | 105           | ?F         | c. 16       | 1.69–1.75     |                       |
| 107          | 108           | ?F         | 30–35       | 1.51–1.58     |                       |
| 112          | 114           | M          | 25–30       | 1.69          | + disartic juv        |
| 113          | 114           | ?          | 2–4         | –             | + disartic juv        |
| 120          | 121           | ?          | 13–14       | –             |                       |
| 123          | 124           | ?          | 12–15       | 1.73          |                       |
| 127          | 128           | ?          | c. 6        | –             |                       |
| 130          | 131           | ?          | c. 5        | –             |                       |
| 147          | 148           | ?F         | c. 25       | 1.61          |                       |
| 174          | 175           | M          | 25–30       | 1.70          |                       |
| 177          | 178           | ?          | c. 9 months | –             |                       |
| 189          | 190           | ?          | 5–6         | –             |                       |
| 192          | 190           | ?          | c. 12       | –             | + disartic juv        |
| 193          | 190           | ?          | c. 12       | –             | + disartic adult      |
| 202          | 203           | ?          | c. 8        | –             |                       |
| 206          | 205           | ?M         | 18–25       | 1.63          |                       |
| 210          | 212           | ?          | 6–9 months  |               |                       |
| 211          | 212           | ?          | 0–2months   |               | + disartic juv/infant |
| 216          | 217           | F          | c. 25       | 1.61–1.69     |                       |
| 223          | 224           | ?M         | c. 15       | –             |                       |
| 245          | 246           | F          | 20–30       | 1.65          |                       |
| 310          | 312           | ?          | 6–7         | –             |                       |
| 311          | 312           | ?          | c. 7        | –             |                       |
| 1006         | 1007          | F          | 46+         | 1.61          |                       |
| 1026         | 1025          | M          | 30          | 1.71–1.74     | + disartic adult      |
| 1038         | 1036          | ?          | c. 9        |               |                       |

SK 245, and SK 1026 were observed to have Schmorl's nodes – indentations on the upper and lower surfaces of the vertebral bodies (Rogers & Waldron 1995), caused by herniation of the intervertebral disc contents through the vertebral end plates. They are often associated with osteophytosis and degeneration of the vertebral discs and may be associated with

trauma (Roberts & Manchester 1995). Apart from SK 104 these were all adults.

SK 112 had ribs that appeared to have been broken and then reset and healed. On the left and right sides the articulating surface on the neck of 11 ribs showed signs of a new articulating surface having been created above the original one. There were some osteophytes

on some of the original articulating surfaces. One right rib had a pointed bony growth on the proximal surface ending in an articulating surface. Another rib had a bony growth, smaller and more rounded also on the proximal surface. One rib, left side, displayed a definite break that had healed; two ribs one from each side were much thickened and rounded. This evidence suggests a break of one or more ribs, resulting in a movement of the rib cage to accommodate the new position, with new bony growths as adaptations to the new position.

SK 147 had fused thoracic vertebrae (4 and 5) at the right articular process and a fused manubrium to sternum. Although there was no evidence of direct fracture of the bone, thoracic vertebrae 4 and 5 lie directly posterior to the sternum and manubrium, which suggests a related injury. Vertebrae usually fuse by the body and it is unusual to have them fuse by the articular process. In connection with this injury there are Schmorl's nodes (discussed above) in the vertebrae below the fused ones.

SK 174 also does not have evidence of direct fracture but does have evidence of trauma. An injury has occurred to the sacrum resulting in it being slightly higher on the left. The first sacral body has not fused along the transverse line on the left side. On the right side the auricular surface is slightly misshapen, with some osteophytes on the distal part of the surface. The medial sacral crest is skewed to the left, along with the fifth lumbar vertebra's spinous process. This suggests a lower back injury early on in life that prevented the sacrum from fusing correctly.

#### *Metabolic infections and congenital disease*

Skeletons SK 127, SK 147, SK 223, and SK 104 had evidence of *cribra orbitalia*, pitting and porosity in the eye sockets resulting from an iron deficiency anaemia. In addition porotic hyperostosis can be present on the cranium appearing as thickened, porous bone on the parietals, with a characteristic 'hair on end' appearance on x-rays. This can be caused by lack of iron in the diet or by a variety of non-dietary factors such as blood loss, chronic diarrhoea, parasitic infections and genetic disease.

Skeleton SK 1038, a juvenile of c. 9 years old, presented with possible mastoiditis. There was evidence of periosteal reactive bone in the mastoid region, left and right. The left had a large concave feature on the lower point of the mastoid process. On the interior of the ear region (petrous portion) the bone was 'thinned' and looked newly woven and remodelled. This was possible evidence of osteomyelitis secondary to ear infection, which resulted in perforation of the mastoid process to the exterior.

*Spina bifida occulta* was observed in skeleton SK 1026. This individual was a male of about 30 years of age, with the entire skeleton except the skull being complete. The individual presented with a cleft of the first and half of the second sacral vertebrae, to the left of the midline. There was an extra facet on the dorsal side of the sacrum to the left of the posterior sacral foramen. The first sacral foramen were elongated due to the cleft. The left articular surface was absent, which corresponded with the diminished articular process of the fifth lumbar vertebrae on the left. There was a developing facet where the transverse process of the fifth lumbar vertebrae met the sacral wing. The articular surfaces of the sacrum and innominate on the left were shortened. The pelvis was asymmetrical due to the sacral problems. The left pelvis sat higher than the right and the two innominates did not articulate correctly at the pubic symphysis. The left sciatic notch was a different shape to the right, being much narrower. The post auricular space on the left had strong muscle attachments and the distance to the posterior superior iliac spine was greater on the left. There was a very slight difference in the depth of the acetabulum, the left being deeper.

The sacral cleft had affected the vertebrae. The superior articular processes on the right were enlarged on the lumbar vertebrae, with associated elongated shape and osteophytes. Schmorl's nodes were present on the lumbar vertebrae and lower thoracic, indicating degenerative disc disease. The 11th thoracic vertebrae had shortened inferior articular processes and the transverse processes were also shortened. There was a possible scoliosis (a lateral deviation of the spinal column from

the midsagittal plane), convex to the left from about thoracic vertebrae nine.

The result of the spinal pathology was that the sternal notches, where the ribs attach, were lower on the left than the right. Also the clavicle was much more robust and curved on the right than the left. The cleft may have had an effect on the gait of the individual as the femoral neck appears shortened on both sides, and thicker on the left with more muscle attachments. There were strong Achilles tendon attachments and the left fifth metatarsal is 2mm shorter than the right. This congenital defect would have affected the gait and posture of this individual who would have walked with a significant limp in his left leg, and suffered from a spine which curved sideways. In addition, the differences in the clavicles, which indicate differential use of the shoulders, suggest he may have utilized a crutch.

Two individuals, SK 216 and SK 147 had benign neoplasms in the form of round smooth projections of dense bony tissue known as ivory osteoma.

#### *Dental pathology*

SKs 120, 147 and the Period 1 1006 had particularly severe cases of caries – 'rampant caries'. Calculus, an accumulation of mineralised bacterial plaque on the teeth when oral hygiene is inadequate, was present on SK 223, a 15 year old possible male. There were large deposits on the left lower first molar, second premolar, canine and right lower first premolar. The deposits were mainly buccal (cheek side), with some lingual (tongue side). The most excessive deposit was on the right first premolar, which jutted out buccal side several millimetres. Half of the individuals had some level of plaque on their teeth.

There were two cases of periodontal disease, SK 147 and the Period 1 SK 1006. SK 147 had a particularly severe presentation unusual in an individual of such a young age. All the right lower molars had been lost ante-mortem, with evidence of periodontal disease in that region. The left lower molars had major loss of alveolar bone so that their roots were fully exposed and there was subgingival calculus and root caries. The maxilla had evidence of periodontal disease to a lesser extent. Periodontal disease

in this case may be evidence of an underlying long-term problem, as this individual had a series of pathological conditions.

There was one incidence of abscess in SK 206 above the first upper premolar on the right side. It was a circular hole 5mm in diameter with rounded edges. The tooth below had entirely lost the crown due to caries.

#### *Non-metric traits*

Exotosis in the trochanteric fossa was present in the femurs of SK 216. Exotosis on the tibia was present on SK 104 and SK 189. The latter was a juvenile of about 5–6 years old, the exotosis was on the left tibial medial condyle and pointing in a distal direction *c.* 10mm in length. SK 104 was a 16 year old ?female. The exotosis was on the right tibia on the soleal line just below the proximal fibular facet, the same on the left. There was partial retention of the metopic suture in SK 107 and SK 310.

A dental non-metric trait was observed on SK 147 which has an enamel pearl on the upper second molar, buccal side where the roots join. SK 174 has an extra cusp on the right upper second molar (Hillson 1996). This individual also presents with tooth rotation (45°) of the right upper premolars.

#### *Skeletal abnormalities*

SK 245 was a 20–30 year old female. This individual presented with two unusual non-pathological traits. Firstly, the parietal bones of the skull presented with a slight thickening, of unknown aetiology; and secondly the right supraorbital margin was angular, creating a triangle effect in comparison to the left side which was more rounded.

SK 112 was a 25–30 year old male who as previously mentioned had suffered broken ribs. Perhaps related traits are the right mastoid process being much larger than the left and the mandible on the left side has extra bone growth on the gonial angle distally. Also the hyoid bone has the horn fused on the right side and on the left the two bones (body and horn) articulate with some bony growth.

SK 193 was a 12 year old juvenile who presented with the first and second ribs on the right side showing eburnation. There was also a possible rib that had become misshapen, with

a large amount of eburnation on its surfaces. This might be a load-bearing injury or the possible rib is actually ossified cartilage, which again results from strenuous work, to support the rib cage.

SK 223 also has a similar unusual bone, though lacking the accompanying eburnation. In neither skeleton are the scapulae, vertebrae or clavicles involved.

#### *Disarticulated remains*

A number of bones unrelated to the burials were found in four of the graves. A juvenile ulna, humerus and carpal bone were found in grave 190, juvenile ribs, epyphysis, tibia, carpals and metacarpals were found in grave 114, a juvenile/infant femur was found in grave 212, and fragments of adult pelvis, ulna and scapula came from grave 1025. These bones represent a minimum number of five further individuals.

#### *Discussion*

Although this is a small skeletal assemblage various points can be made. There was an approximately even proportion of adult males and females. There was a high number of juveniles with 50% of the sample not reaching puberty, and of those surviving to adulthood only one (the Period 1 SK1006) lived to an age of 46+. There was an unusually high prevalence of pathological conditions, the more remarkable given the high proportion of juvenile remains. Juveniles tend to die from acute conditions, which leave no skeletal manifestations, rather than the long term, chronic diseases which cause most pathological lesions which can be identified on bone. The incidence of trauma was noticeably low, with only one individual presenting with an actual fracture. The incidence of joint disease was also noticeably low, the absence of osteoarthritis being particularly notable, although this is of course a disease relating to adulthood. The incidence of caries and other dental pathologies was high, suggesting a high sucrose intake.

#### DISCUSSION

The excavations suggested that there was no medieval suburban development in the area

examined although the Period 1 limekiln is suggestive of a building nearby. Its radiocarbon date predates the fire of 1435 so an associated building may well have been destroyed. Alternatively the site could have been the focus of a lime-burning industry placed beside a principal highway.

Radiocarbon dating gave two widely separate dates for two of the burials demonstrating two episodes of extra-churchyard burying – one medieval and one post-medieval. The finding of Romano-British burials nearby must mean that earlier dates cannot be ruled out for undated burials. The presence of human bone in some of the graves unrelated to their skeleton contents might be seen as implying a spread of disturbed burials from a much earlier period though no human bone fragments came from the Period 1 pit fills.

Could the majority of the burials be medieval? Burial outside consecrated ground was a matter of last resort in the medieval period. Possible reasons are discussed by Gilchrist & Sloane (2005, 71–7). The occurrence of more than a single example would likely be as the result of an epidemic. Although set aside from other burial grounds ‘catastrophe’ cemeteries were, it seems, consecrated post facto (ibid., 74), so a continuing non-consecration of a cemetery is unlikely. Known examples are characterised by closely spaced burying. Extra-churchyard burials of single isolated instances was the case for suicide, adultery, paganism, heresy and excommunication, but no secure archaeological examples are known. The burial of suicides is documented (ibid., 72), but it may have been the case that disposal in water was a more common practice (ibid.). Burials of unbaptised and stillborn infants were not allowed on consecrated ground (ibid.) and a group of 24 is known from an extension of the cathedral cemetery at Hereford (ibid.; Shoesmith 1980, 51). Possible murder victims are known from the ‘barber surgeon’ at Avebury and from a medieval burial at Chanctonbury Ring (Gilchrist & Sloane 2005, 73).

Although therefore without parallels a medieval catastrophe cemetery at Winchester Street is possible. The Black Death was particularly virulent in Hampshire (VCHH 1903, 32–6; 1912, 264), with documentary evidence

for serious disagreements about maintaining existing graveyards or consecrating new ones (VCHH 1903, 33).

The evidence does, however, suggest that the radiocarbon dated medieval burial SK 1006 in grave 1007 must be seen as an isolated example. It is distinguished from the others by the presence of coffin nails and by an age at least 11 years older than the oldest of the others. The skeleton's leg bones had been cut away by grave 1025 – no other graves intercut to the extent of removing skeletal material. It lies, with grave 1025, the furthest from the other burials. Any explanation for burying an older woman in a coffin outside consecrated ground must remain open.

A post-medieval date, following the radiocarbon dated example is the second major possibility for the burials as a group. Looking at the Winchester Street graves as post-medieval runs up immediately against the lack of the usual post-medieval evidence of coffin accessories – grips, grip plates, name plates in metal or markers in stone. There is one example of shroud pins but the absence of finds in the other graves, whether from accompanying coffins or shrouds or occurring by chance in backfill, is noticeable. The answer seems likely to be that this simplicity denotes that the burials should be seen in the context of the Society of Friends' (Quakers) burial ground on the opposite side of Winchester Street. This dates from 1672 when a piece of pasture land called Elms Close was bought 'at a place called Brides Cross' (HRO 24M54/311). The burial ground, which still survives redevelopment of the area, is 12m by 12m square but the actual site of burial seems likely to have been a smaller area once surrounded on three sides by a low stone wall as shown on an undated photograph (HRO 24M54/491). A stone plaque on site records a burial in 1701 and a centrally placed slab, dated 1842, the burial place of three members of a prominent Quaker family, the Heaths. Burials recorded at Andover in Society of Friends records (Quaker Digest Registers) range from 1667 to at least 1825 and total 33.

The burial ground postdates Quaker meetings which were held in Andover for Nether Wallop, Upper Clatford and Andover Quakers in 1669 and which had become a weekly occurrence

in Andover by 1681. In 1713 the Friends built a meeting house, still surviving as a barn-like structure, on land adjoining the burial ground (Butler 1999, 228). The principal Quaker meeting house, dating from the 17th century, was at the south end of East Street (Fig. 1). By 1749 there were few Andover Quakers other than the Heaths partly because of disagreements over the association of the Heaths with the drink trade. The East Street meeting house closed in 1843 when Andover meeting was discontinued (HRO 24M54/491). It was sold in 1880, and was later demolished (Butler 1999, 228). By the time of a failed attempt to sell the Winchester Street burial ground in 1899 it had long been unused (HRO 24M54/491). Excavations are noted to have taken place there in the 1980s but there are no further records (English Heritage 2000, 13) and it would seem most likely that this would have been a watching brief on works preparing the site to be opened to the public.

Only one other Quaker burial ground – at Kingston-upon-Thames (Bashford & Pollard 1998; Bashford & Sibun 2007) – has been excavated under modern controlled circumstances, while a second – at Bathford, Avon (Stock 1998a) – was recorded in watching brief circumstances. Stock (1998b) has reviewed Quaker burial and the subject is also discussed in connection with the Kingston cemetery. Stock (1998a) notes that there are differences between theory and practice but in general the evidence suggests that Quaker burial accorded with the recommendations in contemporary texts. A location outside a churchyard was fundamental since the view (dated 1659 in the name of George Fox, the founder of the Society of Friends) was that any designation of ground as holy was unnecessary – all ground being 'God's ground' (Stock 1998b, 129). There was no particular attachment to the burial grounds themselves (Stock 1998b, 139) and a positive distaste for funeral ceremony (*ibid.*, 132). Oriented burial was not deliberately chosen, nor any specific skeleton layout with heads to the west. Graves were supposed to be anonymous with no gravestones or markers but there were exceptions at both graveyards, Stock suggesting that the practice may have taken place in the early decades of the Friends

but then went out of use (1998a, 137). Coffins were of extreme simplicity – Quakers employed cabinet-makers not undertakers, and burials were initially in coherent rows with no special burial locations. Any special graveyard liturgy was and is against Quaker principles, the 1724 *Book of Discipline* warning against mourning or against any burial expenses above the most basic (Bashford & Sibun 2007, 140–1).

The Winchester Street burials could be described as oriented but it is also clear that they could be better described as aligned parallel with the property boundary. The number of burials with heads to the east (four) is high (Fig. 6). Such a circumstance is very rare. In a medieval context an association with criminals (Gilchrist & Sloane 2005, 74), or a regional (Scottish) connection was adduced (*ibid.*, 153). Within the Quaker context, however, the simplicity of the graves and their failure to conform to orientation or body position norms rings true. At Bathford the alignment was north–south (Stock 1998a, fig. 11.4) and at Kingston both north–south and east–west with, in the latter case, only one-third with heads to the east (Bashford & Sibun 2007).

With the exception of the presumed medieval SK 1006 (see above), there was no definite evidence of a coffin in the form of equally spaced coffin nails, although single examples were present in graves 131 and 246 and a coffin nail was also found in pit 1028. Although coffined burials are argued for all the burials at both Bathford and Kingston, no coffin nails survived at Bathford (Stock 1998a, 148), while at Kingston confirmatory evidence came only from coffin attachments and soil discolouration (Bashford & Sibun 2007, 120). Looking at late medieval and post-medieval burial in general Litten suggests that coffinless burials ceased in the mid 17th century (1991, 57). The width of the Winchester Street graves (on average just under 0.5m for both adult and child burials) is narrower than at Bathford and Kingston (and elsewhere), and some of the skeletons fit very tightly in the grave. The alternative, coffinless, possibility is discussed further below.

The possible evidence of graves prepared but remaining unused is paralleled at Kingston where there were 28 empty graves (Bashford & Sibun 2007, 114). The explanation at Kingston

that bodies were removed to be reburied elsewhere seems unlikely at Winchester Street – the alternative explanation there that corpses had been removed by Resurrectionists is possible though another explanation is offered below.

The position of the bodies at Winchester Street does suggest, as argued above, that they were shrouded, although shroud pins, other than the collection in grave 128 were absent. There were no examples of hands straight down beside the body as was almost universally the case at Kingston – only five burials there having hands across the pelvis (Bashford & Sibun 2007, table 5). The absence of the iron and copper-alloy coffin attachments found at Bathford and Kingston seems likely to have been real and not the result of soil conditions in the light of the survival of the copper-alloy pins in grave 128.

Of the four multiple interments at Winchester Street, three were of infants or children only, while the fourth was of an adult and child. The situation at Kingston was quite different with only five double interments out of 360 of which four were coffins above each other and only a single wider grave containing the side by side burial of two adults (Bashford & Sibun 2007, 117).

At Kingston it was noticeable that the population was low in joint disease, suggesting they were not employed in manual work, and that there were no signs of dietary deficiency or excess (Bashford & Sibun 2007, 142). In the Winchester Street group, a 12-year-old evidenced heavy manual work, there was a case of broken ribs and of an earlier back injury, and a 30-year-old may have limped and used crutches. In addition four skeletons gave evidence of iron deficiency. However despite these differences it was nevertheless the case that the group was relatively low in joint disease and trauma. Unlike the Kingston population, there was a high level of caries, seemingly a general feature of early post-medieval populations. At Kingston, although the high degree of ante-mortem tooth loss may mask the incidence of caries, the argument is developed that the Quaker diet was lower than the population as a whole in sugar and processed carbohydrates (Start & Kirk 1998, 173). This would appear to

be contradicted by the Winchester Street data if a Quaker context is accepted.

Apart from the pathology what particularly marks out the Andover group is the high juvenile mortality. Of the 360 burials at Kingston 88% were 'young adult', ie over 17, or older (Bashford & Sibun 2007, fig. 19). At Winchester Street the situation was reversed with only 37% older than 17. The ratio of under 1 year/1–11 years/11–17 years is 3:8:6 at Winchester Street and 5:44:16 at Kingston – a higher proportion of neonates at Winchester Street. In other areas the osteological data from both sites is generally comparable, a slightly higher proportion of female to male being noted at both sites.

In attempting to date and characterise the Winchester Street cemetery certain aspects can be highlighted. The later the burial in post-medieval practice the more likely is the presence of surviving coffin fittings or evidence of textiles or other materials. The absence at Winchester Street of evidence for these items seem likely to indicate an early date though clearly care needs to be taken with the special case of Quaker burial. The radiocarbon date offers a wide range in the post-medieval period. There is a 1:5 chance that the date fell wholly in the 17th century and a 1:2.5 likelihood of a date in the last three quarters of the 18th century. At Kingston, Bashford and Pollard note that the cemetery seemed 'more reminiscent of medieval precedents' in the presence there of wooden coffins (1998, 164). Nevertheless at both Bathford and Kingston there were stone and brick-walled graves and lead coffins albeit in small numbers, while there was no evidence of these later post-medieval burial developments at Winchester Street.

An earlier post-medieval date is suggested by the proportion of children at Winchester Street, perhaps indicative that the burial ground was not simply a predecessor or an extension of the known burial ground, but that there was an association with an epidemic. Plague episodes are recorded in Hampshire in the 16th and 17th centuries (VCHH 1912, 426), with records suggesting its disappearance c. 1670 and replacement by smallpox and tuberculosis as major causes of death (Harding 1998, 207). The date ranges of epidemics at Kingston throughout the

period are listed by Bashford & Sibun (2007). The population of the Winchester Street burial ground, predominantly young, might be seen as a reflection of epidemic disease, reinforced by the evidence of a catastrophic breakdown in families witnessed by the occurrence of burials such as the male and the infant in grave 114, the three child burials in grave 190, or the two infants in grave 212 (Fig. 6). There is also the evidence of the hurried deposition of the corpse – particularly in grave 1036, or of the grave not being quite large enough – as in graves 105, 128, 203 and 224. If an association with an epidemic is made, again an earlier date seems more likely. The four possible 'empty graves' found might also be an indication of less controlled preparatory grave digging in an epidemic. The small width of the graves has been noted above and it is possible to argue that the burials were of shrouded bodies directly into the grave – perhaps with the reuse of a coffin limited only to the body's transport as with the parish coffin (Litten 1991, 124). An association with an epidemic context might also be reflected in the cemetery layout. On the west side of Winchester Street and elsewhere, Quaker burial grounds are small, rectangular, and carefully planned in contrast with the spread of burials from the excavation site.

That Quaker burial outside an established burial ground might take place prior to the use of a newly designated site is suggested at Kingston (Bashford & Sibun 2007, 140). It was also the case at Kingston that the designated cemetery there became too full and that burial began in a nearby plot before becoming an official extension (*ibid.*). At Andover, as noted above, the western burial ground was purchased in 1672. The Quaker Digest Registers for the Hampshire and Dorset Quarterly Meetings give a total of 33 burials at Andover of which four precede this date. These are of Debora Girle buried in 1667, and Margaret Wolston, Hannah Wolston and Hester Welstead buried in 1668. No ages are given but of these the names of Margaret Wolston and Hester Welstead's husbands are recorded and Hannah is noted as Margaret's daughter. All came from Nether Wallop some 10km from Andover and three were recorded as from Wallop meeting. As noted in the introduction the earliest reference to Quaker meetings,

in 1669, was to Quakers from Nether Wallop, Upper Clatford and Andover.

If the assumption is made that these four are among those whose bodies were found in the excavation then it is possible to suggest that the remaining 21 (discounting SK 1006 in grave 1007) were from Andover or Upper Clatford and that their names were not recorded. The Quakers were and are committed to the careful keeping and archiving of records but lacunae in the early years whether from unmade or lost records are very likely. The absence of a record of any burial ground on the east of Winchester Street would suggest that it preceded that to the west, and indeed gave an impetus to the 1672 purchase of land for a burial ground precisely in that area. Even so the number buried to the east of Winchester Street – the suggested 25 – compared to the total recorded in the western burial ground – 29 after the four pre-1672 names have been omitted – is very high. It might be taken, with the archaeological evidence noted above, as an indication of rapid burial in response to an epidemic. The number certainly appears more than might be expected in a small town from the first decades of the formation of the sect.

The small number of post-1672 burials on the west side of Winchester Street requires some comment. The records themselves are not complete – Mary Walden, recorded on the

1701 plaque, is not listed nor is Anthony Purver, recorded as buried there in 1777 (Brickell 1988) – and they end in 1837. The prominent local family, the Heaths, are only represented by three burials prior to 1837 plus, presumably, the two further names on the 1842 slab. A further 30 Heath names are recorded as buried at Alton. Of the total of 29 post-1672 burials, 14 were from the 17th century, seven from the 18th and eight from the 19th. Although the numbers of Quakers were in decline from the second half of the 18th century (Bashford & Sibun 2007, 105) it does seem that the Winchester Street burial ground became increasingly less used, with, if the Heaths can be taken as an example, burial preferred at Alton.

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