Prehistoric Activity and a Romano-British Settlement

at Poundbury Farm, Dorchester, Dorset

By Kirsten Egging Dinwiddy and Philippa Bradley

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with contributions by
Alistair Barclay, Dana Challinor, Nicholas Cooke, Jessica M. Grimm,
Phil Harding, Kevin Hayward, Stephanie Knight, Matt Leivers, Kayt Marter Brown,
Jacqueline I. McKinley, Lorraine Mepham, Ruth Pelling, and R.H. Seager Smith

and illustrations by
Rob Goller and S.E. James

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Front cover: View of probable Early Bronze Age ring-ditch looking north. Note the Neolithic pits to the south-east and west. Early Bronze Age grave 3024 is located to the north-west of the ring-ditch

Back cover: An identical pair of late Roman two-strand, cable twist copper alloy armlets from grave 5079 and a penannular snakeshead armlet from *Durotrigian* style burial in grave 11018. Enamelled silver disc brooch from Romano-British enclosure B. A near-complete flint axe from Neolithic pit 3009, found with a number of axe roughouts.

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Location of the archives

The archive is currently stored at the Wessex Archaeology offices under the following project codes: Poundbury Farm (60021–60022, 60024, 60026) and Poundbury Parkway (60020, 60025). It is anticipated that these archives as well as those for the other sites excavated in the vicinity (detailed in Appendix 1) will be deposited with the Dorset County Museum in due course. Details of the individual archives may be found in Appendix 1. Selected artefacts (see Appendix 1 for details) are on display at Poundbury Farm and may be viewed by appointment. The stone coffin is also stored at Poundbury Farm.

Acknowledgements

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Abstract

The creation of Poundbury, a new extension to the county town of Dorchester, Dorset, has entailed a programme of archaeological investigations undertaken over a number of years. At Poundbury Farm large scale archaeological evaluation undertaken in 2006 in advance of Phases 3 and 4 of the Poundbury Development, revealed evidence for a multi-period landscape. Zones of activity were identified and targeted excavation, comprising five large and four small areas (Areas 1–9) was undertaken in 2007. Excavations were undertaken at Poundbury Parkway in 2005 following an earlier evaluation which had revealed a Middle Bronze Age field system and associated features. This volume presents the results of the excavations at Poundbury Farm and Poundbury Parkway.

At both sites scant remains were found prior to the Early Neolithic of activity comprising a Palaeolithic handaxe and some Mesolithic flints. None of this material was found *in situ*.

At Poundbury Farm pits containing a variety of Neolithic artefacts and environmental remains were identified across the area investigated. Pits occurred as small clusters principally in Areas 3 and 5, and also as isolated features. Two pits in particular contained interesting deposits of Early Neolithic material:

in one, a series of axe roughouts, and a near-complete axe, and from a pit identified during the evaluation, a substantial deposit of grain which has been radiocarbon dated. A little Middle and Late Neolithic activity is indicated by isolated pits and residual flintwork.

Beaker and Early Bronze Age evidence included a number of pits, one of which contained a rubstone, an inhumation burial, and probably the ring-ditch in Area 3, although no direct dating evidence for this feature was recovered. The inhumation burial outside the ring-ditch in Area 3 has been radiocarbon dated to the Early Bronze Age. Unstratified Bronze Age flintwork was found across the site and also at Poundbury Parkway.

By the Middle and Late Bronze Age activity was more extensive than the preceding periods. Evidence comprised the remains of field systems (which have been identified during previous archaeological fieldwork in the area), pits, and possible roundhouses. A pit from Area 1 contained a substantial deposit of grain, radiocarbon dated to the end of the Middle Bronze Age. A number of cremation burials, including a rare example in which a pot was used to cover the urned cremation burial, were identified across the site. At Poundbury Parkway a large part of a Middle Bronze Age field system was investigated together with associated settlement features (pits, post-holes, possible post-built structures) and two cremation burials.

There seems to have been a hiatus in activity and occupation with very little Iron Age material being recovered from either Poundbury Farm and Poundbury Parkway. This mirrors the evidence from a number of other excavations in the area.

The area was resettled during the early Romano-British period when a small farmstead and associated field system was established. The focus of this activity was identified in Areas 4 and 5, however, no edges to the settlement were found. Masonry structures, which seem initially to have been domestic, occurred in the south of the area. Ovens/kilns, grain driers, pits, and other features indicated that a range of both domestic and industrial processes were being undertaken.

Small groups of *Durotrigian* burials of early Romano-British date were identified across Areas 4 and 5. One of the crouched burials within a *Durotrigian* group was buried with a late Roman snakeshead armlet indicating continuity of plot use and burial style at the end of the Romano-British period. Middle and late Romano-British inhumation burials seem to have been placed in relation to the existing field boundaries. One of the burials had been placed in a stone coffin which appears to have been found in the late 18th or early 19th centuries and opened. The coffin seems to have been filled with soil, the lid replaced, and reburied only to be found again during the excavations.

A single urned cremation burial with the rare survival of a clay plug ensuring that the cremated human remains within it were exceptionally well-preserved, was found close to the southern edge of Area 5. A small late Romano-British hoard of coins may have been among the latest activity on the site. After the farmstead was abandoned there was very little evidence for later occupation other than agricultural activity. A single sherd of Saxon pottery does, however, provide important evidence for this period, which is under-represented in the area.

Résumé

La construction de Poundbury, une nouvelle addition à la ville de Dorchester, chef-lieu du Dorset, s'est accompagnée d'un programme de fouilles archéologiques sur plusieurs années. A Poundbury Farm une évaluation archéologique sur une grande échelle, entreprise en 2006 en anticipation des phases 3 et 4 du lotissement de Poundbury, a révélé des vestiges d'un paysage couvrant plusieurs périodes. On a identifié les zones d'activité et des fouilles ciblées, comprenant 5 grandes et 4 petites zones (zones 1–9) ont été entreprises en 2007. Des fouilles furent entreprises à Poundbury Parkway en 2005 à la suite d'une évaluation antérieure qui avait révélé un système de champs de l'âge du bronze moyen et des vestiges associés. Ce volume présente les résultats des fouilles de Poundbury Farm et de Poundbury Parkway.

On a trouvé, sur chacun des sites, de maigres témoignages d'activités datant d'avant le début du néolithique ancien, y compris une hache paléolithique et quelques silex mésolithiques. Aucun de ces matériaux ne se trouvait *in situ.*

A Poundbury Farm, des fosses contenaient une variété d'objets néolithiques et on a identifié des vestiges environnementaux sur toute l'aire examinée. Les fosses se trouvaient soit en petits groupes, principalement dans les zones 3 et 5, mais aussi sous la forme de vestige isolé. Deux fosses en particulier contenaient d'intéressants dépôts de matériel du néolithique ancien : dans l'une, une série d'ébauches de haches, et une hache presque complète, et, dans

une fosse identifiée pendant l'évaluation, un dépôt substantiel de grain qu'on a daté au C^{14}. Une petite industrie du néolithique moyen et final se manifestait par des fosses isolées et des résidus de travail du silex. Les témoignages des peuples à vases et de l'âge du bronze ancien comprenaient un certain nombre de fosses, dont l'une contenait une pierre à aiguiser, une tombe à inhumation, et probablement le fossé circulaire de la zone 3, bien qu'on n'ait recouvré aucun témoignage nous permettant de le dater directement. Une datation au C^{14} de la sépulture à inhumation à l'extérieur du fossé circulaire de la zone 3 l'a placée à l'âge du bronze ancien. On a trouvé à travers le site et aussi à Poundbury Parkway des silex de l'âge du bronze non stratifiés.

D'ici l'âge du bronze moyen et final, l'industrie était plus extensive que pour les périodes précédentes. Les témoignages comprenaient des vestiges de systèmes de champs (qui avaient été identifiés au cours des précédents arpentages archéologiques de la région), des fosses et ce qui pourrait être des maisons rondes. Une fosse de la zone 1 contenait un dépôt substantiel de grain, daté au C^{14} de la fin de l'âge du bronze moyen. Un certain nombre de sépultures à incinération, y compris un rare exemple dans lequel un pot recouvrait l'urne contenant l'incinération. A Poundbury Parkway, on a effectué des recherches sur une grande partie d'un système de champs de l'âge du bronze moyen ainsi que sur les vestiges d'occupation qui l'accompagnaient (fosses, trous de poteaux, éventuelles structures à armature de poteaux) et deux sépultures à incinération.

Il semble y avoir eu un hiatus dans l'industrie et l'occupation, très peu de matériel de l'âge du fer ayant été retrouvé aussi bien à Poundbury Parkway qu'à Poundbury Farm. Cela reflète les témoignages d'un nombre d'autres excavations dans la région.

La zone fut à nouveau occupée au début de la période romano-britannique quand furent établis une petite ferme et son système de champs associé. Le centre de cette activité fut découvert dans les zones 4 et 5, cependant, on ne trouva aucun contour à cette occupation. Des structures en maçonnerie dont l'usage semble initialement avoir été domestique, sont présentes dans le sud de la zone. Des fours/étuves, des séchoirs à grain, des fosses et d'autres traits indiquent que se déroulait là une série de procédés à la fois industriels et domestiques.

On a identifié de petits groupes d'inhumations durotrigiennes datant du début de la période romano-britannique répartis dans les zones 4 et 5. A l'intérieur d'un groupe durotrigien, une des inhumations accroupies était enterrée avec un bracelet à tête de serpent de la période romaine tardive, ce qui confirme une continuité dans l'utilisation de l'emplacement et le type d'inhumations à la fin de la période romano-britannique. Des sépultures à inhumation de la période romano-britannique moyenne et tardive semblent avoir été disposées en fonction des limites de champs existantes. L'une des sépultures avait été placée dans un cercueil de pierre qui semble avoir été découvert et ouvert à la fin du XVIII^{ème} ou au début du XIX^{ème} siècle. Il semble qu'on ait rempli le cercueil de terre, replacé le couvercle et qu'on l'ait ré-enterré pour qu'il soit tout simplement retrouvé au cours des fouilles.

On a trouvé, à proximité de la limite sud de la zone 5, une seule sépulture à crémation avec urne dans laquelle, fait rare, la survivance d'un bouchon d'argile avait garanti l'exceptionnelle conservation des restes humains incinérés qui se trouvaient à l'intérieur. Un petit trésor de pièces romano-britannique tardif constituait peut-être une des dernières activités sur ce site. Après l'abandon de la ferme, il n'y avait que très peu de témoignages d'occupation postérieure autres que d'une activité agricole. Toutefois, un seul tesson de poterie saxonne, fournit néanmoins, un important indice pour cette période qui est sous-représentée dans la région.

Traduction: Annie Pritchard

Zusammenfassung

Im Vorfeld der Erschließung von Poundbury, eines Neubaugebietes bei Dorchester, dem Verwaltungssitz der Grafschaft Dorset, wurden über einen Zeitraum mehrerer Jahre archäologische Untersuchungen durchgeführt. Bei Poundbury Farm lieferten großflächige Voruntersuchungen, die im Jahre 2006 vor den Erschließungsphasen 3 und 4 durchgeführt wurden, den Nachweis einer mehrperiodigen Siedlungslandschaft. Es konnten Aktivitätszonen identifiziert werden, die dann 2007 in fünf größeren und vier kleineren Flächen (Areas 1–9) gezielt ausgegraben wurden. Im Verlauf der Ausgrabungen bei Poundbury Parkway im Jahre 2005, denen ebenfalls eine Voruntersuchung vorausging, wurde eine mittelbronzezeitliche Ackerflur und zugehörige Befunde untersucht. Die Ergebnisse der Ausgrabungen bei Poundbury Farm und Poundbury Parkway werden in diesem Band vorgelegt.

An beiden Fundplätzen kamen einige wenige Fundstücke zutage, die auf menschliche Anwesenheit

schon vor dem frühneolithischen Siedlungsbeginn schließen lassen, darunter ein paläolithischer Faustkeil und einige mesolithische Flintobjekte; bei diesem Material handelt es sich jedoch um Streufunde.

Bei Poundbury Farm wurden in mehreren Gruben im Bereich der Grabungsfläche eine Reihe neolithischer Funde und paläobotanischer Reste identifiziert. Die Gruben traten in kleinen Gruppen auf, vor allem in den Flächen 3 und 5, kamen aber auch vereinzelt vor. Zwei Gruben, im Besonderen, enthielten interessante Deponierungen frühneolithischen Materials: in der einen lag neben mehreren Axtrohlingen auch eine fast fertige Axt, und eine Grube, die während der Voruntersuchungen ausgegraben wurde, enthielt eine umfangreiche Gretreidedeponierung, die auch eine Radiocarbondatierung geliefert hat. Ein geringes Ausmaß mittel- und spätneolithischer Akivität deutete sich durch vereinzelte Gruben und Streufunden von Flintgeräten an. Hinweise auf becher- und frühbronzezeitliche Aktivität konnte anhand einiger Gruben – darunter einer, die einen Reibstein enthielt – einer Körperbestattung und wahrscheinlich einem Ringgraben in Fläche 3 nachgewiesen werden; in letzterem Befund fand sich allerdings kein direkt datierbares Material. Die Körperbestattung außerhalb des Ringgrabens in Fläche 3 konnte in die frühe Bronzezeit radiokarbondatiert werden. Unstratifizierte bronzezeitliche Flintgegenstände fanden sich hier wie auch bei Poundbury Parkway über die gesamte Grabungsfläche verstreut.

Spätestens seit der mittleren bzw. späten Bronzezeit zeichnet sich eine Ausdehnung der Besiedlungsaktivität ab. Es finden sich nun Reste von Ackerfluren (die bei früheren Untersuchungen in der Umgebung gefunden wurden), Gruben und mögliche Rundhäuser. Eine Grube in Fläche 1 enthielt eine große Menge Getreide, für das ein Radiokarbondatum am Ende der mittleren Bronzezeit ermittelt werden konnte. Darüber hinaus lagen über die Fläche verstreut eine Anzahl Brandgräber, darunter ein seltenes Beispiel einer Urnenbestattung mit einem darübergestülpten Gefäß als Deckel. Bei Poundbury Park konnte ein großer Teil einer Ackerflur, dazugehörige Besiedlungsspuren (Gruben, Pfostenlöcher, möglicherweise Pfostenbauten) sowie zwei Brandgräber untersucht werden.

Die sehr geringe Anzahl eisenzeitlicher Funde, sowohl von Poundbury Farm als auch Poundbury Parkway, deutet auf eine weitgehende Besiedlungs- und Aktivitätslücke hin. Dies entspricht den Ergebnissen einer Reihe weiterer Ausgrabungen in der Umgebung.

Mit der Anlage eines kleinen Gehöfts und dazugehöriger Ackerflur begann die Wiederbesiedlung der Gegend in der frühen Römischen Kaiserzeit. Der Schwerpunkt dieser Aktivitäten lag in den Flächen 4 und 5; die Grenzen dieser Ansiedlung konnten allerdings nicht ermittelt werden. Gemauerte Strukturen, die anfänglich einen häuslichen Charakter zu haben schienen, lagen im südlichen Bereich der Grabungsflächen. Öfen, Darren, Gruben und andere Befunde deuten an, dass sowohl hauswirtschaftliche als auch handwerkliche Arbeiten verrichtet wurden.

In den Flächen 4 und 5 wurden kleine Gruppen durotrigischer Bestattungen früh-romano-britischer Zeitstellung identifiziert. Eine der Bestattungen in Hockerlage innerhalb einer der durotrigischen Gruppen war mit einem spätrömischen Schlangenkopf-Armreif bestattet worden, wodurch sich ein Hinweis auf die Kontinuität sowohl der Nutzung der Parzelle als auch der Bestattungssitten bis ans Ende der romano-britischen Periode ergibt. Mittel- und spät-romano-britische Körpergräber scheinen mit Rücksicht auf die Ausrichtung existierender Flurgrenzen angelegt worden zu sein. Eine der Bestattungen war in einen steinernen Sarg niedergelegt worden, der offensichtlich im späten 18. oder frühen 19. Jahrhundert gefunden und geöffnet wurde. Es scheint, dass der Sarg vor seiner Wiederentdeckung während der in diesem Band beschriebenen Ausgrabungen mit Erde gefüllt und der Deckel ersetzt wurde.

Nahe der südlichen Grenze von Fläche 5 wurde eine einzelne Brandbestattung in einer Urne gefunden. Aufgrund der seltenen Erhaltung eines Tonstopfens war der Leichenbrand außergewöhnlich gut erhalten. Die Niederlegung eines spät-kaiserzeitlichen Münzhortes war wahrscheinlich eine der letzten Handlungen im Bereich der Ansiedlung. Abgesehen von landwirtschaftlichen Aktivitäten lassen sich für den Zeitraum nach Aufgabe des Gehöfts keine Hinweise auf nachfolgende Besiedlung finden. Eine einzelne Scherbe angelsächsischer Keramik lieferte jedoch einen wichtigen Nachweis für diese Periode, die im Fundmaterial der Region unterrepräsentiert ist.

Übersetzung: Jörn Schuster

Chapter 1
Introduction

This volume presents the results of archaeological investigations undertaken in 2007 at Poundbury Farm, Dorchester, Dorset, as part of the Poundbury Phase 3 and 4 development (centred on National Grid Reference (NGR) 367426 090997) (Fig. 1.1; Pl. 1.1). The Poundbury development is a new urban extension to the county town of Dorchester, designed by Leon Krier, appointed by HRH Prince of Wales, and incorporating architecture inspired by the past. This is an ongoing development which is expected to be completed by 2025 increasing the population of Dorchester by approximately 5000 people.

In addition a summary of the results of an excavation undertaken in 2005 at Poundbury Parkway is presented in Chapter 4, numerous other archaeological investigations have been undertaken since 1990 in the Poundbury area (Fig. 1.2, eg, Smith *et al.* 1997), the results of which are discussed where relevant and summarised in Appendix 1. This work can be seen against the extensive 1966–1980 excavations at the Iron Age hillfort and Romano-British settlement with associated cemetery at Poundbury Camp (Green 1987; Farwell and Molleson 1993).

Previous Archaeological Work

Previous investigations in the immediate vicinity of Poundbury Farm range from fieldwalking and evaluation to small-scale excavation (Fig. 1.2) and are summarised in Appendix 1 and Chapter 4 (Poundbury Parkway). These investigations were undertaken over a number of years in a fairly piecemeal fashion. However, they do provide evidence for activity across the landscape and allow the results of the larger excavations to be put into context. These results may also be viewed against the known very rich archaeological record (see below).

Plate 1.1 Excavation of Area 4 with probable Romano-British quarry in foreground

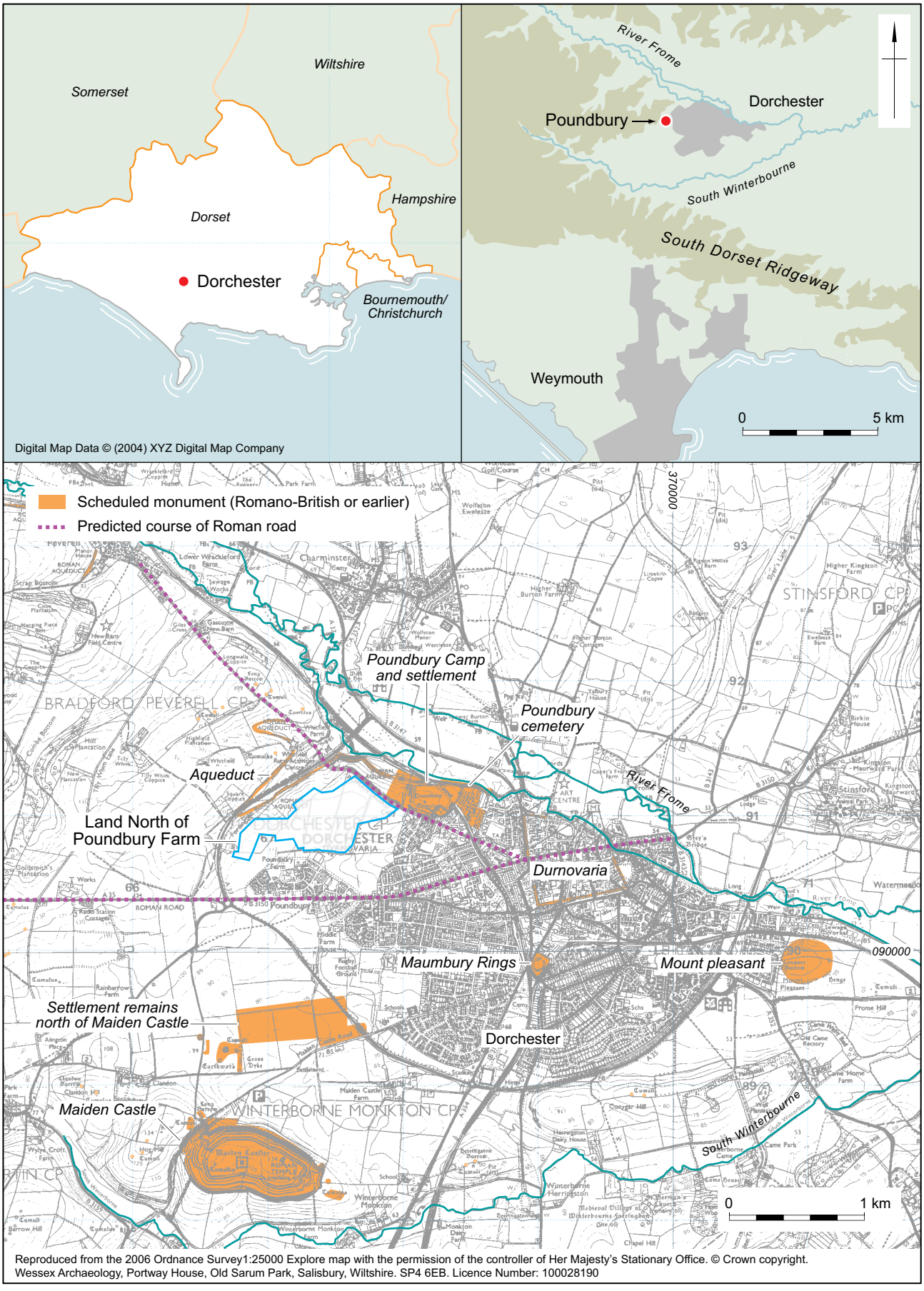

Figure 1.1 Site location

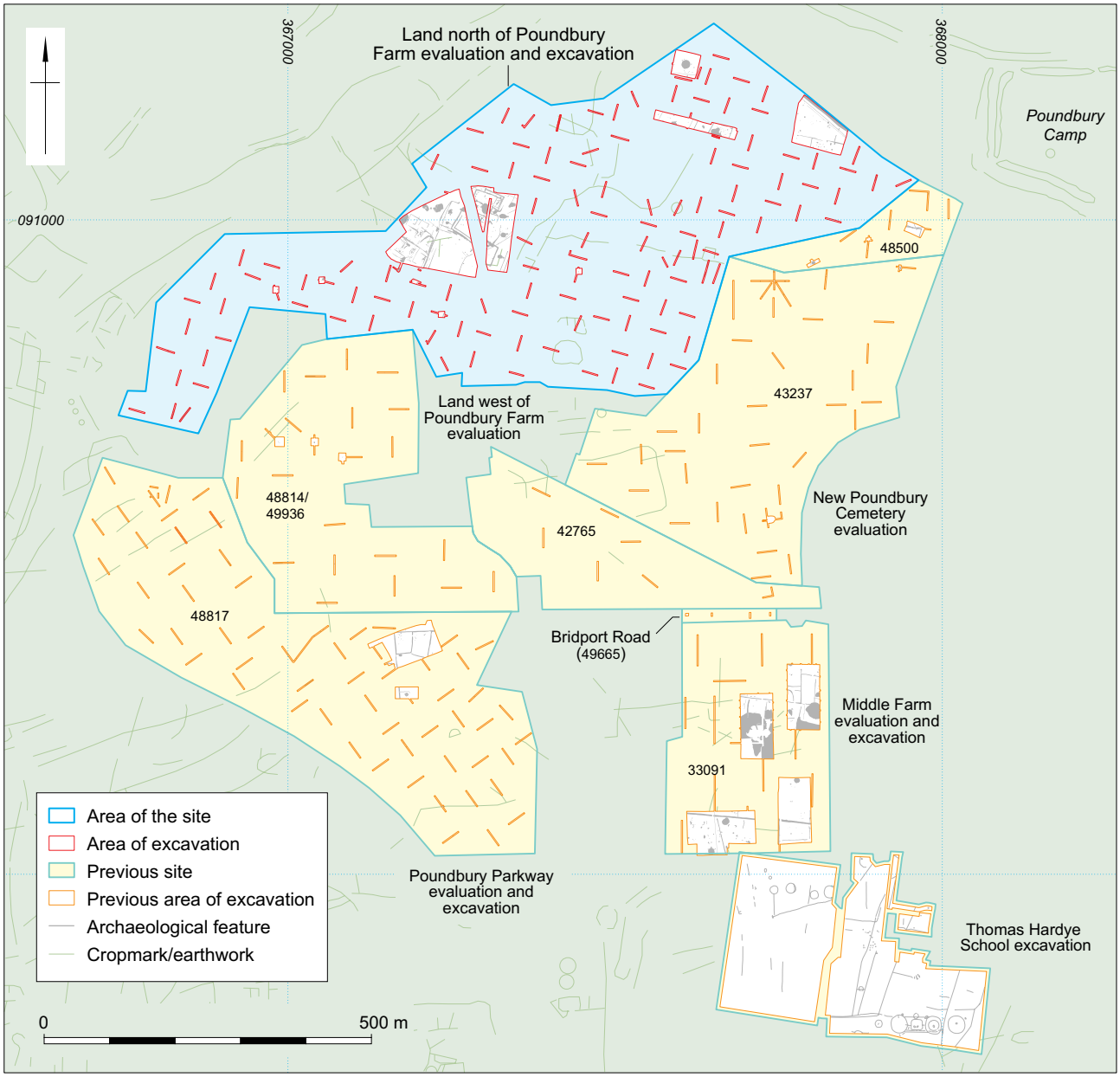

Figure 1.2 Location of excavations around Poundbury Farm (see Appendix 1 for details)

Table: 1.1 Details of the excavation areas

Area	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
NGR	367801 091145	367611 091148	367605 091233	367326 090996	367231 090975	367443 090921	367232 090856	367051 090907	366981 090893
Area (ha)	0.47	0.2	0.14	0.56	1.28	*c.* 0.01	*c.* 0.01	*c.* 0.01	*c.* 0.01
Height (mOD)	SW *(103.3)* N *(101.2)*	SE *(105.1)* NW *(104.38)*	NW *(99.6)* SE *(102.9)*	NW *(107.4)* SW *(109.4)*	S *(109.1)* NW *(101.9)*	NW *(107.1)* SE *(106.7)*	SE *(108.9)* NW *(108.8)*	SE *(104.8)* NW *(103.7)*	SE *(107.1)* NW *(106.9)*

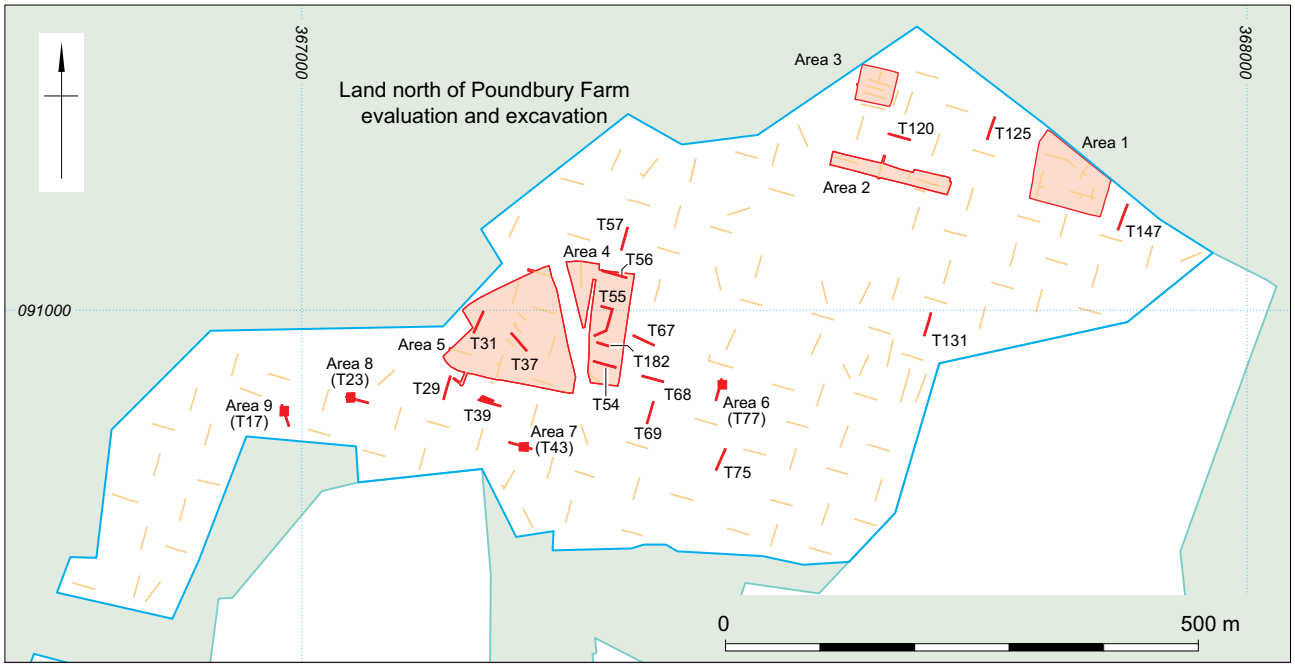

Figure 1.3 Plan showing excavation areas and selected evaluation trenches

Initial archaeological work on the site consisted of an evaluation comprising 165 trenches investigating an area of *c.* 8050 m², or approximately 2% sample of the total site. Some trenches were placed in order to examine known cropmarks, others were randomly located to examine the potential of the whole site. The evaluation revealed evidence for remains dating from the Mesolithic to the Romano-British period, with limited medieval and post-medieval activity (Wessex Archaeology (WA) 2007). Three zones of high archaeological potential were identified (WA 2007, fig. 1), within which nine areas were identified for further investigation through open area excavation. Some of these areas were opened up around single or small groups of features to clarify their nature and date (eg, Areas 6–9, Fig. 1.3). This strategy was approved by Steve Wallis (Senior Archaeologist, Dorset County Council).

Between Areas 4 and 5 a strip of land approximately 20 m by 140 m could not be excavated due to overhead cables and within Area 4 a modern boundary also prevented excavation. However upon removal of the cables and field boundary prior to development, these areas will be excavated and reported on separately.

Site Location, Topography, and Geology

The excavation comprised nine areas located on a prominent east–west ridge overlooking the Frome Valley, approximately 1 km west of Dorchester (Table 1.1, Figs 1.1–1.3). The site was bounded to the north-east by the Poundbury Road, the Dorchester By-pass to the north and west, while a farm track, Poundbury Farm and an access road lay to the south. Relatively little variation in topography occurred across the site; Areas 4 and 5 were located on slightly higher ground up to 109.4 m aOD and the north-western area of the site dropped away to 99.6 m aOD (Table 1.1).

The solid geology is Cretaceous Upper Chalk overlain by clay-with-flints across much of the site (British Geological Survey (BGS) 1981). Soils across the site are mapped as brown Rendzinas of the Andover II Association (Soil Survey of England and Wales 1983).

Archaeological Background

Dorchester and the surrounding landscape have been extensively examined through archaeological investigation, survey and fieldwalking (see for example, RCHM(E) 1970; Smith *et al.* 1997; Davies *et al.* 2002; Sharples 1991; Trevarthen 2008), so only a brief summary is provided here.

The Dorchester region is dominated by prehistoric monuments such as Maiden Castle, Mount Pleasant, Maumbury Rings and Poundbury Camp (Fig. 1.1). These are, however, only the most visible features within a rich archaeological landscape. Archaeological sites and find-spots dating back to the Mesolithic period (*c.* 6500–4000 BC) (RCHME) 1970) have been found in the area, although evidence for occupation before the Neolithic is sparse (*cf.* Woodward 1991a; Woodward 1991b, 34).

Neolithic, Bronze Age, and later prehistoric monuments and settlements are well represented within the landscape. This reflects both the importance of the area in prehistory and the level of archaeological work undertaken.

The Iron Age landscape would have been dominated by substantial hillforts at Maiden Castle and Poundbury (Wheeler 1943; Sharples 1991; Green 1987; Farwell and Molleson 1993), the former being the centre of the *Durotriges* territory. Very little evidence for settlement has been found between these two hillforts but Iron Age sites were identified along the route of the Dorchester By-pass (Smith *et al.* 1997, 5). A little Iron Age activity was found at Poundbury Parkway to the south of the main excavations (Fig. 1.2; Chapter 4, Fig. 4.1) but evidence from the main excavation was sparse (Chapter 2).

The Roman town of *Durnovaria* was established around AD 60 as an administrative centre; its location may have been influenced by a pre-existing shrine (Woodward *et al.* 1993, 367; Trevarthen 2008) or a military base or camp (eg, Frere 1974, 74; Wacher 1978, 316; Field 1992, 125–34; Putnam 1998, 94). Numerous extra-mural cemeteries existed on three sides of Dorchester, the most extensive of which was the Poundbury cemetery (SAM 12501) (Farwell and Molleson 1993). However, the site at Alington Avenue (Davies *et al.* 2002) on the east side of the town is also of significance. A small but important group of late Roman inhumations has also been excavated at Little Keep, Dorchester (Egging Dinwiddy 2009; McKinley and Egging Dinwiddy 2009).

Post-Romano-British activity has been identified within Poundbury Camp and the Poundbury cemetery (Green 1987, 71–92; Farwell and Molleson 1993). The area to the west of Dorchester was predominantly agricultural as indicated by remnants of field systems in both extant field boundaries and soilmarks, which Keen (1984, 238) suggested were laid out during the Middle Saxon period. By the 9th century Dorchester was known as *Durngueir*, or *Dornwaraceaster*, and became *Dorecestre* by 1068 (Ekwall 1991, 148; Mills 1991, 108). The town continued as a busy commercial and political centre for south Dorset, thriving on the medieval woollen industry. The industry's decline by the mid-17th century, a devastating fire and an outbreak of plague all contributed to the waning importance of the town. The open-field system continued in use until the post-medieval period. The site was used for pasture and arable cultivation until immediately prior to the excavations.

Aims and Objectives

Evaluation

The aim of the evaluation was to identify, where possible, the nature, preservation, date, extent, and potential of the archaeology on the site, and establish the focus of further investigative work.

Excavation

A number of specific aims for the excavation were identified following the evaluation:

- investigate the full extent of the archaeological features in the zones of high archaeological potential identified during the evaluation;
- clarify the nature of the Middle Bronze Age to Romano-British period features and identify the Roman road and associated features;
- clarify the nature of the settlement and/or industrial Late Bronze Age/Early Iron Age activity and investigate the features surrounding them;
- investigate the nature and extent of the ring-ditch;
- determine the extent of the remains of the Romano-British settlement/enclosed farmstead; identify and record additional features surrounding and associated with them;
- clarify the nature of the Beaker features, their association with each other and record additional features in the vicinity;
- determine the nature and extent of the Neolithic features.

Post-excavation Analysis

During the post-excavation assessment a number of broad research areas were identified:

- Influence of the landscape and of preceding human activities
- Early use of the landscape
- Burial and ritual practices
- Enclosure and formalisation of the landscape
- Agriculture, industry and settlement

These have been used as a framework for the post-excavation analysis.

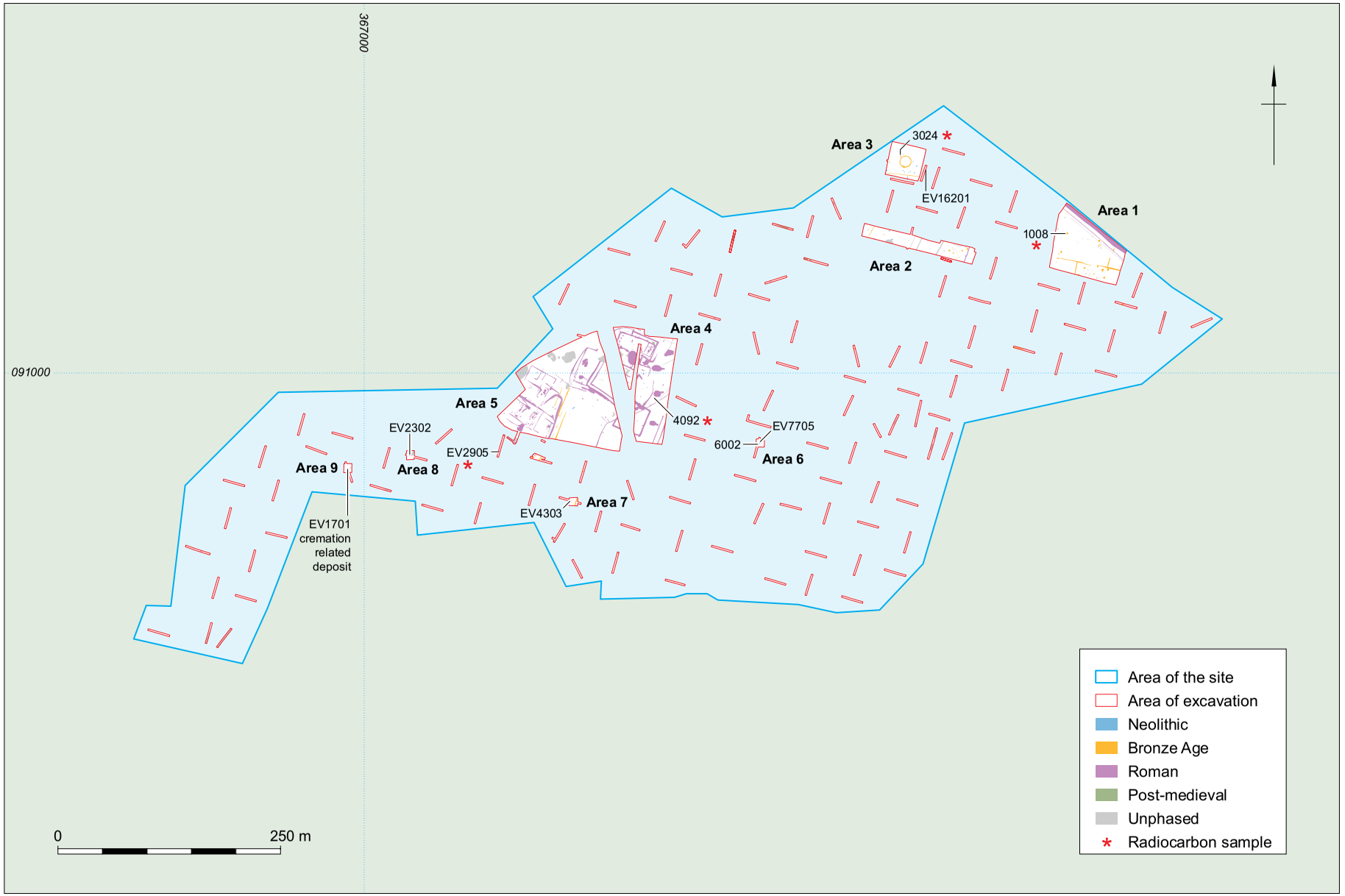

Figure 1.4 Overall site phasing and location of radiocarbon samples

Post-excavation Methodology

All excavation and post-excavation procedures followed Wessex Archaeology's guidelines, which comply with all current legislation (up to early 2009) and recommended standards (IfA 2008; English Heritage 2002; SMA 1993 and 1995). The detailed fieldwork methodology is summarised in the assessment report (WA 2008); specialist methodologies are presented in Chapters 5–7.

Chronology and Phasing

A series of phases was established using a combination of ceramic chronology, stratigraphic analysis, and feature characteristics, specifically datable artefacts (eg, coins) as well as selected radiocarbon dating (Fig. 1.4). These phases have been applied across the site and have been summarised in Table 1.2.

Overall the rural nature of the occupation meant that artefacts were fairly sparse, with many features containing very few or no finds at all. Where dating evidence was present, there were sometimes difficulties due to the condition of the Romano-British pottery assemblage which generally comprised only broadly datable forms and fabrics (see Chapter 5). Samples from four features were radiocarbon dated in order to answer specific questions (see below, Table 1.3). In the absence of any intrinsically datable material, features were phased on the basis of their form, characteristics, spatial distribution and association with other, more firmly dated features and contexts within the site. Despite the obvious limitations of this approach, it was felt that broad phasing in these instances provided the best available interpretation of the evidence.

Radiocarbon Dating

by Alistair Barclay

Four radiocarbon dates were obtained to help clarify the date of selected archaeological features that were either of ambiguous date or had produced no datable artefacts. The dating was undertaken by Rafter, New Zealand and two dates were obtained as part of the *Out of Asia Project* by the University of Belfast. Sample details and results are presented in Table 1.3. The results have been calibrated using the OxCal v4.0.5 programme (Bronk Ramsey 2009) and are quoted at 2 sigma unless otherwise stated in the form recommended by Mook (1986), with the end points rounded outward to 10 years.

The deposit of charred grain (NZA-31070, UBA-16020-1: see Table 1.3) within pit 2905 is of Early Neolithic date (Fig. 1.5 see plot – modelled as

Table 1.2 Summary of main site phasing by excavated area

Area	*Mesolithic*	*Neolithic*	*Bronze Age*	*Romano-British*	*Saxon to post-medieval*
Poundbury Farm					
1			○●	♦	post-medieval pottery
1			○●	♦	post-medieval pottery
2		⋆	●	♦	post-medieval pottery
3		⋆	◊		
4		⋆ □		♦	post-medieval pottery
5	Unstratified finds	⋆ ■		♦	saxon sherd; post-medieval disturbance to sarcophagus and stray finds
6			◊		
7		■			
8		⋆			
9			○		
Poundbury Parkway					
		Unstratified finds	○	♦◘	

⋆ Early Neolithic □ Middle Neolithic ■ Late Neolithic ◊ Beaker/Early Bronze Age ○ Middle Bronze Age
● Late Bronze Age ◘ Iron Age/Romano-British ♦ Romano-British

Table 1.3 Radiocarbon results calibrated according to Reimer et al. (2004), using OxCal v4.0.5 (Bronk Ramsey 2009) and Mook (1986)

Lab ref	*Sample*	*Context*	*Conventional age BP*	*C(‰) δ13*	*95% calibrated date BC*
NZA-30924	Cremated human bone	4088	3044±25	-21.2	1400–1220
NZA-31030	Single charred barley grain	1612, sample 1049	2952±35	-26.9	1300–1050
NZA-31065	Human bone	3025	3694±35	-21.1	2200–1980
NZA-31070	Single charred barley grain	11, sample 2905	4902±40	-25.3	3770–3640
UBA-16020	Single charred emmer grain	11, sample 2905	4869±26	-21.4	3710–3630
UBA-16021	Single charred barley grain	11, sample 2905	4855±25	-22.3	3700–3630

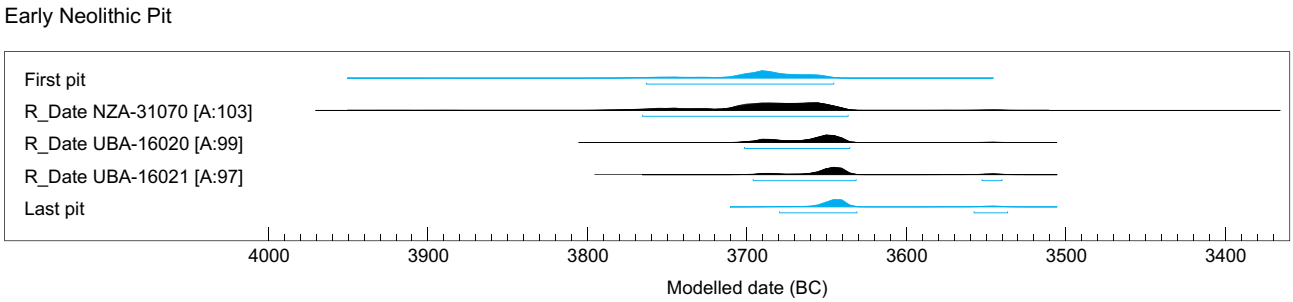

Figure 1.5 Radiocarbon plot Neolithic feature

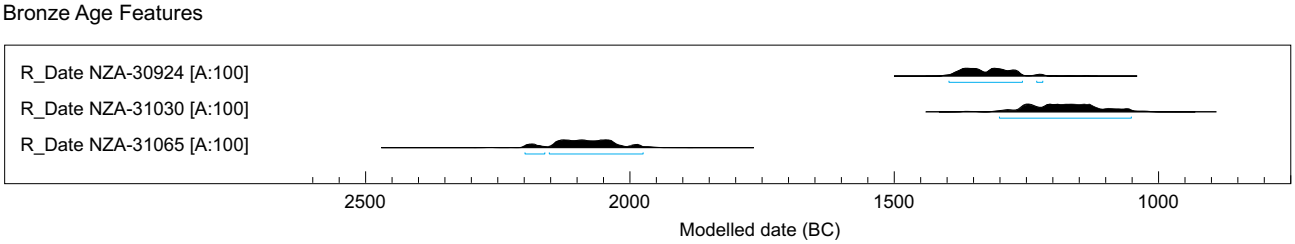

Figure 1.6 Radiocarbon plot Bronze Age features

falling between 3770–3640 cal BC (95.4%) and 3680–3630 cal BC (86.9%) or a less likely end date for the date range of 3550–3540 cal BC (8.5%)), probably of slightly earlier or similar date to the Maiden Castle causewayed enclosure and of earlier date to the bank barrow (Barclay and Bayliss 1999, 23–4 and fig. 2.4; with the caveat that this is a single measurement). The human burial 3025 is of Early Bronze Age date (NZA-31065; 2200–1980 cal BC) and is broadly contemporary with the widespread use of Beaker pottery and the first use of Food Vessels.

The cremation burial, 4088 (NZA-30924; 1400–1220 cal BC), is of Middle Bronze Age date and would be contemporary with the use of Deverel-Rimbury pottery. The deposit of charred barley grain (NZA-31030; 1300–1050 BC) from context 1612 is slightly later than 4088 and is of transitional mid-Late Bronze Age date, it could be contemporary with the final use of Deverel-Rimbury pottery or with the first appearance of Plain Ware ceramics; Figure 1.6 show the radiocarbon dates from the Bronze Age features.

Chapter 2
Early Prehistoric to Iron Age Activity

Palaeolithic and Mesolithic Finds

Limited evidence for Palaeolithic and Mesolithic activity was recovered from Poundbury Farm and its immediate environs. A Palaeolithic handaxe and some possible Mesolithic flints were found at Middle Farm (Butterworth and Gibson 2004, 15), and a small residual assemblage of bladelets, core-trimming flakes and a possible burin of Late Mesolithic (*c.* 8500 BC) date came from the evaluation (Trenches 20 and 37, WA 2007, 5) at Poundbury Farm. No further Mesolithic material was found in Area 5 during the subsequent excavation.

Neolithic Features

Two pit groups (Areas 3 and 5), and several isolated features, (Areas 2 and 7; EV2905) (Figs 1.4, 2.1), contained Neolithic artefacts and environmental remains. Unstratified or residual artefacts were also recovered across the site. Where the pits can be dated they span the Neolithic, although most are Early Neolithic. Artefacts and environmental remains were recovered from most of these features including an important assemblage of barley from the evaluation (EV2905), which has been radiocarbon dated to the Early Neolithic (see Chapter 1 and Pelling, Chapter 7). Flint axe manufacturing waste was also recovered from a pit in Area 3 (see Harding, Chapter 5). Table 2.1 summarises the dimensions and contents of each pit.

Early Neolithic

Pits in Area 3

A group of eight Early Neolithic pits was recorded in Area 3 (Table 2.1; Fig. 2.2). Some of these features are clearly associated and there are similarities in their form and content. Seven of the pits had a single dark brown silty clay fill, the exception being pit 3047, which had a more complex infilling sequence.

Two pairs of pits (3006 and 3010, 3004 and 3012) were located *c.* 4 m to the south of ring-ditch 3114 (see below; Fig. 2.2). The contents of the pits varied, though within each pair only one feature (3004 and 3006) contained pottery. Pit 3010 contained animal bone, charred hazelnut shells, and flint core tool production waste (Table 2.1; Harding, Chapter 5). No datable finds were recovered from pit 3012, but its similarity to, and association with, the other pits may suggest it was contemporary.

Four other pits, all of which contained Early Neolithic pottery, occurred to the east (3003 and 3009) and west (3047 and 3049) of the paired pits (Figs 2.2, 2.4). These were slightly larger but broadly morphologically similar to the paired pits described above. Pit 3047 had four fills of grey-brown silt. Finds including pottery, animal bone, charcoal, and charred plant remains, worked flint, burnt flint, and fired clay, were present in varying quantities throughout these fills. The third fill was considerably darker than the others, perhaps indicating decayed organic matter. A water-worn pebble of pink veined metamorphic rock possibly from western Britain (Object Number (ON) 393) came from the upper fill. Axe manufacturing waste was recovered from pit 3009, which may indicate specialised activities were also occurring.

Some differences in the contents of these pits can be noted (Table 2.1). In both eastern pairs (3006 and 3010; 3003 and 3009) the northern-most pits contained rich, diverse assemblages, whilst the contents of the southern pits were restricted to pottery and hazelnut shells. Significantly, conjoining pottery sherds came from pits 3003 and 3009, indicating their contemporaneity.

Pits in Area 5

Four pits (11002, 11004/EV3714, EV3705, and EV3721) were in a loose group at the centre of Area 5 (Fig. 2.1). Isolated Neolithic pits were identified across Area 5 (11000, 13004 and 13038, Fig. 2.1). The pits were less well-defined than those in Area 3, as they were cut into a deposit of clay-with-flints rather than the chalk. These pits contained one or two fills within which dumps of domestic refuse, including Early Neolithic pottery, flint, and environmental remains, had been made (Table 2.1). Pit EV3721 contained approximately 400 pieces of worked flint, Early Neolithic pottery, and hazelnut shell fragments (WA 2007).

Pits 11000, 13004, and 13038 were dispersed from the main group of pits (Fig. 2.1) but were similar in form and fills. Pits 11000 and 13004 contained worked flint including an axe fragment and a leaf-shaped arrowhead, charred hazelnut shells, and charcoal. Re-fired sherds of Early Neolithic Plain

Figure 2.1 Location of prehistoric features in Areas 4 and 5

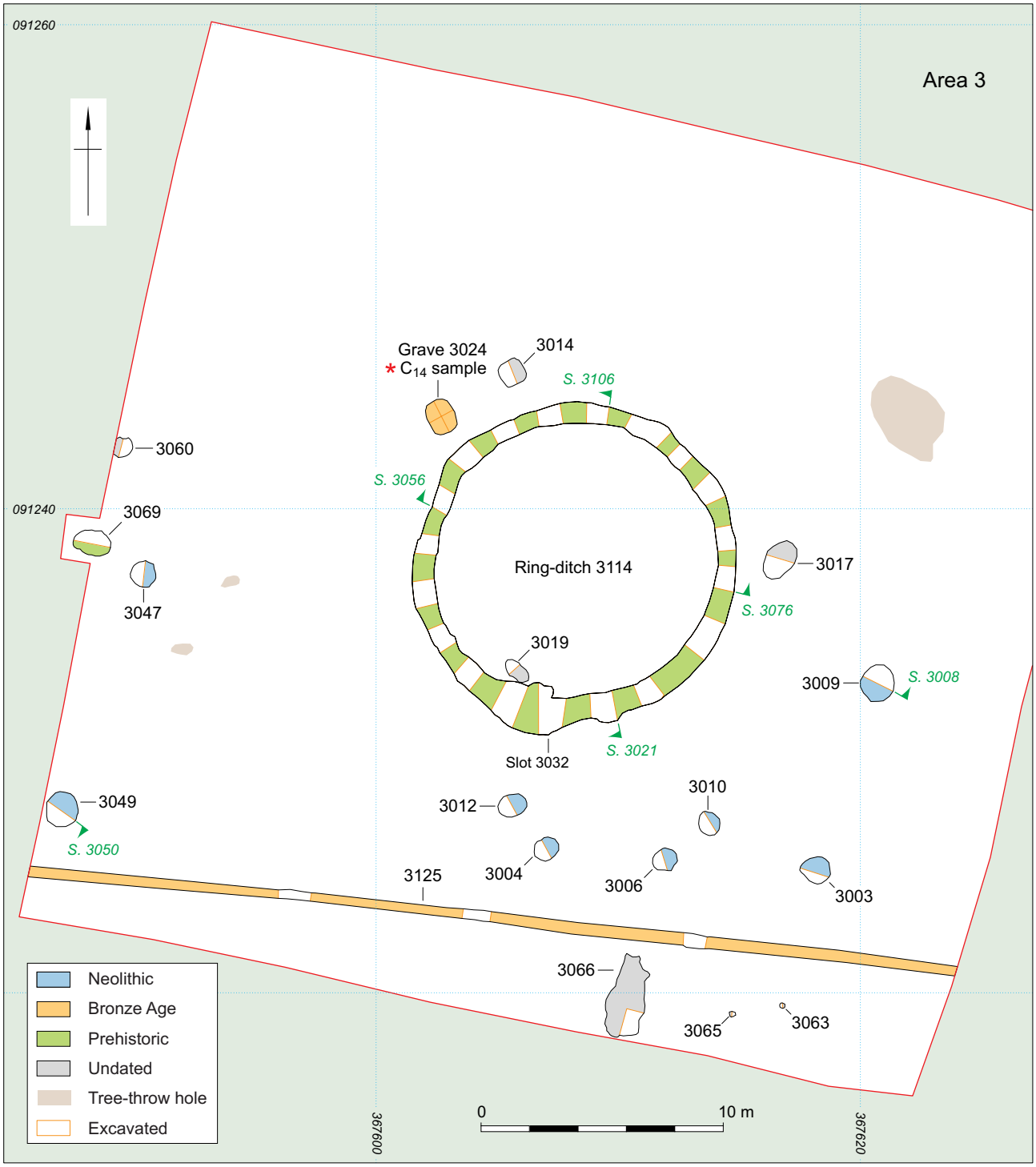

Figure 2.2 Plan of Area 3 showing ring-ditch 3114 and Neolithic pits

Table 2.1 Summary of Neolithic pits

Pit (fill)	*Dimensions (m)*	*Pottery*	*Flint*	*Animal bone*	*Ecofacts*
EARLY NEOLITHIC					
Area 2					
2072 (2073–4)	1.56 x 1.55 x 0.31	EN secondary refuse	axe frag; 13 blades, core		charcoal
Area 3					
3004 (3005)	1.10 x 0.84 x 0.16	EN primary refuse/ deliberate deposit			
3003 (3002)	1.25 x 1.08 x 0.06	EN primary refuse/ deliberate deposit			hazelnut shell
3006 (3007)	1.10 x 0.94 x 0.09	EN primary refuse/ deliberate deposit			
3009 (3008)	1.52 x 1.40 x 0.39	EN primary refuse/ deliberate deposit	debitage, large tool component, axes, scraper; pol. axe reworking flakes; ret./util. blades & flakes (industrial)	deer (roe), antler, cattle, sheep/goat	hazelnut shell; charcoal; molluscs
3010 (3011)	1.00 x 0.92 x 0.32	–	Large tool component; scraper; pol. axe reworking flakes; ret./util. blades & flakes (industrial)	aheep/goat, large mammal	hazelnut shell
3012 (3013)	1.20 x 0.82 x 0.21	–			
3047 (3048, 3115–3120)	1.12 x 1.04 x 0.30	EN primary refuse/ deliberate deposit	axe manuf. debris; scraper; ret./util. blades & flakes	antler (roe deer), cattle, sheep/goat; pig	hazelnut shell; unid. grain; mollusc
3049 (3050)	1.40 x 1.30 x 0.14	EN primary refuse/ deliberate deposit	ret.chips & debitage; scraper	cattle, sheep, goat,	hazelnut shell; charcoal
Area 5					
11002 (11003)	0.52 x 0.52 x 0.60	EN secondary refuse	debitage and axe manuf. debris; (domestic/ritual)	medium mammal	hazelnut shell; charcoal; unid. grains
11004 (11005) = EV3714	1.26 x 1.26 x 0.54	EN secondary refuse	scraper; microdentic.; ret./util. blades & flakes; (domestic/ ritual)		hazelnut shell; charcoal
EV3705	0.96 x 0.94 x 0.26	EN secondary refuse	debitage; scraper; microdentic.; ret./util. blades & flakes		hazelnut shell
EV3721	1.32 x 1.04 x 0.33	EN secondary refuse	debitage; scraper		hazelnut shell
11000 (11001)	1.10 x 1.10 x 0.41	EN secondary refuse (refired)	axe manufacture debris; leaf-shaped a'head; reworked pol. axe frags; (domestic/ritual)		Charcoal
13004 (13005–6)	1.92 x 0.93 x 0.60	EN secondary refuse	blades & scraper	sheep/goat	hazelnut shell; charcoal
13038 (13039)	1.29 x 1.29 x 0.48	EN secondary refuse			
Area 8					
EV2302	0.98 x 1.10 x 0.60	EN primary refuse/ deliberate deposit	debitage; bifacial roughouts inc. sickle		charred sedge and ?emmer wheat
Evaluation					
EV2905	2.35 x 2.35 x 0.31	intrusive post-med	flakes		charcoal; barley grain (3770–3640 cal BC (NZA-31070)
MIDDLE NEOLITHIC					
Area 4					
4115 (4114)	0.90 x 0.83 x 0.66	Mortlake Ware	–		hazelnut shell; charcoal
4053 (4054)	0.67 x 0.62 x 0.10	Mortlake Ware	scraper		hazelnut shell; charcoal; mollusc
LATE NEOLITHIC					
Area 7					
EV4303 (4304)	0.60 x 0.51 x 0.13	Grooved Ware	worked flint	–	hazelnut shell

Bowl pottery were recovered from pit 11000 (Table 2.1). A few sherds of Early Neolithic pottery came from pit 13038. Pit 13004 contained animal bone, although this disparity may be due to the differential survival of bone across the site. The material from these pits appears to represent the disposal of domestic debris.

Isolated pits

Isolated Early Neolithic pits were recorded in Area 2 (2702) and Area 8 (initially identified during the evaluation as EV2302) and in evaluation Trench 29, south of Area 5 (EV2905) (Figs 2.1, 2.4; Pl. 2.1). These pits contained deposits of domestic debris including pottery, worked flint and charred plant remains (Table 2.1). Some differences were noted in the contents of the pits.

Pit EV2905 was south-west of Area 5 in evaluation Trench 29 (Fig. 2.1); it was substantially larger than the other Early Neolithic pits, although it was not fully revealed during the evaluation (Table 2.1). A substantial quantity of probably stored emmer wheat spikelets and naked barley grain was recovered from the pit. A few weed seeds including black bindweed are probably crop contaminants (see Pelling, Chapter 7). A single charred barley grain from this deposit was radiocarbon dated to 3770–3640 cal BC (4902±40 BP, NZA-31070) (Table 1.1). A few flint flakes were also recovered from this feature.

Notable finds from the other isolated Neolithic features include two bifacial sickles or knives from pit EV2302, found together with Early Neolithic pottery west of Area 5 (Fig. 1.4), which may have been deliberately deposited.

Middle Neolithic and Late Neolithic Pits

Two Middle Neolithic pits were recorded in Area 4 (4053 and 4115, Fig. 2.1; Table 2.1). Both were sub-circular in plan; charred hazelnut shells, locally made Mortlake style pottery, and a scraper were recovered from the fills.

A small pit (EV4303) of Late Neolithic date, initially identified during the evaluation and re-examined when Area 7 was opened to see if there were other contemporary features here (Fig. 1.4). This pit contained hazelnut shells, sherds of Grooved Ware pottery, and a small assemblage of worked flint. No further features were identified.

Other Neolithic Material

Residual and unstratified flintwork including probable Late Neolithic scrapers and two chisel arrowheads (Trenches 31 and 57) were recovered. A polished greenstone axe, probably from the Lake District (Harding, Chapter 5), was found in topsoil (Pl. 5.4). A small assemblage of flint including a burnt leaf-shaped arrowhead was found in a Late Bronze Age pit (5099, Area 5). Some residual Early Neolithic pottery was recovered from Late Bronze Age post-hole 2032 (Area 2).

Plate 2.1 Early Neolithic pit EV2905 partially excavated

Beaker and Early Bronze Age Features

Two pits in Area 6 (EV7705 and 6002 (originally identified in the evaluation as EV7707, WA 2007; Fig. 1.4) are thought to be of Beaker date, although only EV7705 contained diagnostic artefacts. Pit EV7705 was sub-circular in plan, measuring 1.20 m by 0.75 m and was 0.12 m deep. The fill, which contained refitting Beaker sherds, a rubstone (Pl. 5.7) burnt clay, charcoal, and charred hazelnut shells, represents a single episode of backfilling.

Pit 6002 lay approximately 0.50 m to the south-east of pit EV7705. It was approximately 1 m in diameter and 0.17 m deep. The two fills contained worked flint, charcoal, fired clay, and charred plant remains including hazelnut shells, barley grains, and a hawthorn stone. Its location and similarity in size and form to pit EV7705 may suggest that they were contemporary.

Ring-ditch 3114

Ring-ditch 3114, probably the remains of a barrow, was positioned on a slight promontory overlooking the Frome Valley to the north and Fordington Bottom to the west (Area 3, Figs 1.4, 2.2). No dating evidence was recovered from the ring-ditch but its size and proximity to several Early Neolithic pits and an Early Bronze Age inhumation grave (3024), probably indicates a Neolithic or Early Bronze Age date. The ring-ditch had suffered substantial later plough damage, and the depth of the ditch varied quite

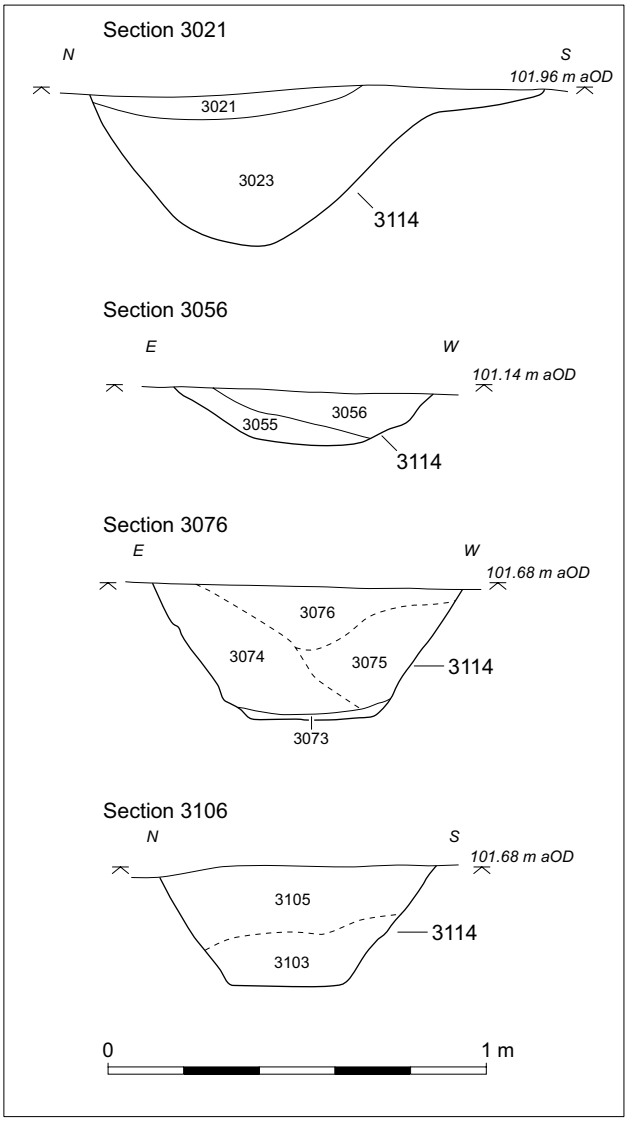

Figure 2.3 Selected sections through ring-ditch 3114

Plate 2.2 Early Bronze Age grave 3024

considerably as a result (Fig. 2.3). Also in this area were a number of undated, possibly contemporary features such as pits (3014 and 3060), post-holes (3065 and 3063), and tree-throw holes (3017 and 3066).

The ring-ditch had an external diameter of 13.30 m, and an internal diameter of 11.35 m. The shallow ditch (up to 0.41 m) had a flat or slightly rounded base (Fig. 2.3). No mound material survived was recovered but a mound can be inferred by the infilling pattern of the ditch. The ditch was between 0.60 m and 1.42 m wide (average 0.90 m), although one small section was 2.20 m wide as a result of later disturbance. Two infilling episodes were recorded, comprising a deposit of loose chalky material probably representing collapsed or eroded mound material and a slow accumulation of silts once the mound had stabilised.

Inhumation Grave 3024

Grave 3024 was immediately outside ring-ditch 3114 (Figs 2.2–2.3, 2.8; Pl. 2.2). It was sub-rectangular in plan, measuring 1.14 m by 1.20 m, and was 0.40 m deep. It contained the moderately well-preserved remains of an adult female (skeleton 3025) *c.* 30–35 years old. The body had been laid on the right side, with the legs flexed. No finds accompanied the burial but a radiocarbon date of 2200–1980 cal. BC (3694±35 BP, NZA-3025) places this inhumation in the Early Bronze Age (Table 1.1; see grave catalogue, below).

Features near Ring-ditch 3114

A number of pits and a tree-throw hole were identified around the ring-ditch (3014, 3019, 3069, EV16201 and 3017) (Figs 1.4, 2.2, 2.4). Pit 3019 lay inside the ring-ditch and was oval to sub-rectangular in plan (1.17 m x 0.64 m), and 0.22 m deep. No finds were recovered from the single naturally accumulated fill but a few heavily eroded and unidentifiable fragments of bone were recovered from a disturbed portion of the ditch adjacent to the pit.

Pit 3014 and probable tree-throw hole 3017 lay approximately 1 m from the ring-ditch (Fig. 2.2). Pit 3014 was sub-square in plan, measuring 1.00 m by 1.00 m, and was 0.26 m deep. It was similar in form and size to grave 3024, which lay 2.35 m to the south-west. The tree-throw hole was irregular in plan and contained a single naturally accumulated fill. Some worked flint was recovered from both of these features.

Pit 3069 (1.75 m by 1.00 m and 0.30 m deep) lay close to the pits and ring-ditch. The fill contained some undiagnostic pottery of broadly prehistoric

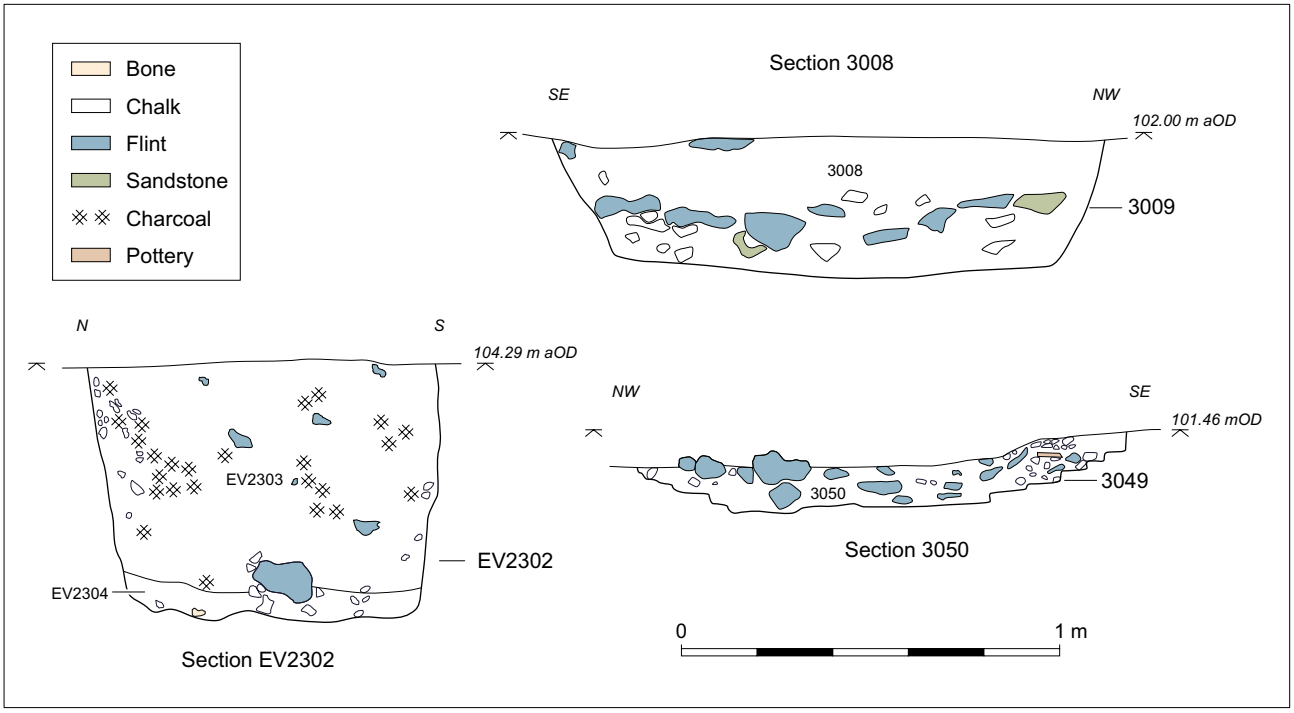

Figure 2.4 Sections of selected Neolithic pits

date, cattle and pig bones, as well as grain and bean/peas, and mollusc shells indicative of an open landscape.

Pit EV16201 was partially revealed during the evaluation (Fig. 1.4), but was not excavated, although it may have been prehistoric given its proximity to Early Neolithic features and the ring-ditch.

Middle Bronze Age Features

Limited evidence was recovered for Middle Bronze Age activity which contrasts with evidence from Poundbury Parkway, where the remains of a small Middle Bronze Age farmstead and two cremation burials were found (see Chapter 4).

The evidence from Poundbury Farm comprised a pit with a substantial deposit of charred grain (Area 1), two cremation burials (Area 4), and some residual Middle Bronze Age pottery. Some features which have been broadly dated to the Bronze Age, particularly in Areas 1 and 2, may date to the Middle Bronze Age, however many of them are poorly dated.

Pit 1008

Pit 1008 was in the north-west of Area 1 (Figs 2.5 and 2.7). It was a large sub-circular pit with steep sides and a slightly irregular base (Table 2.1). There was a substantial deposit of charred grain from the base of the pit; a grain of which produced a date of 1300–1052 cal BC (2952±35 BP, NZA-31030) (Table 1.1), the Middle– Late Bronze Age transition. A large quantity of Late Bronze Age pottery was recovered from the upper fills of the pit (see below). Possible recuts were noted and another deposit of charred grain further up the profile suggests repeated use of the feature (Fig. 2.7).

Other Middle Bronze Age Activity

A small quantity of Middle Bronze Age pottery was recovered from field ditch 1180 and a pit (EV14602) in Area 1, though the majority of features here were of Late Bronze Age date (Figs 2.5, 2.7). A single sherd of Middle Bronze Age pottery came from the fill of ditch 2058 in Area 2 (Fig. 2.6). A fragmentary antler cheek piece with incised ring and dot decoration was recovered from a cleaning layer in Area 5 and is probably of Middle or Late Bronze Age date (Marter Brown and Mepham, Chapter 5).

Cremation Burials and Cremation-related Deposits in Areas 2, 4, and 9

A catalogue of the excavated graves is provided at the end of this chapter.

In Area 4 there were two cremation burials (4092, not illustrated, and 4098), approximately 10 m apart, one unurned and the other urned (Figs 2.1, 2.8). A calibrated date of 1400–1220 cal BC (3044±25 BP, NZA-30924) was obtained on cremated human bone from grave 4092 (Table 1.1). The cremated human

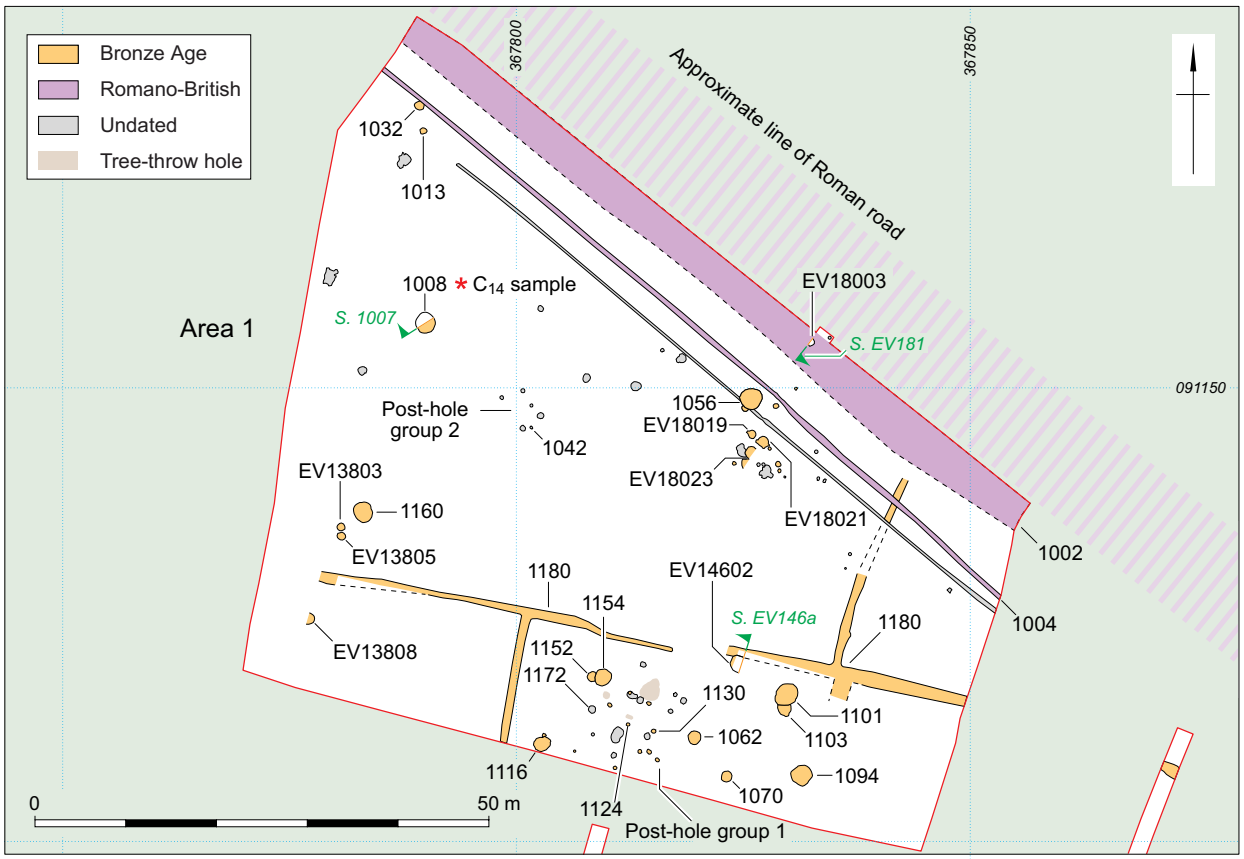

Figure 2.5 Plan of Area 1

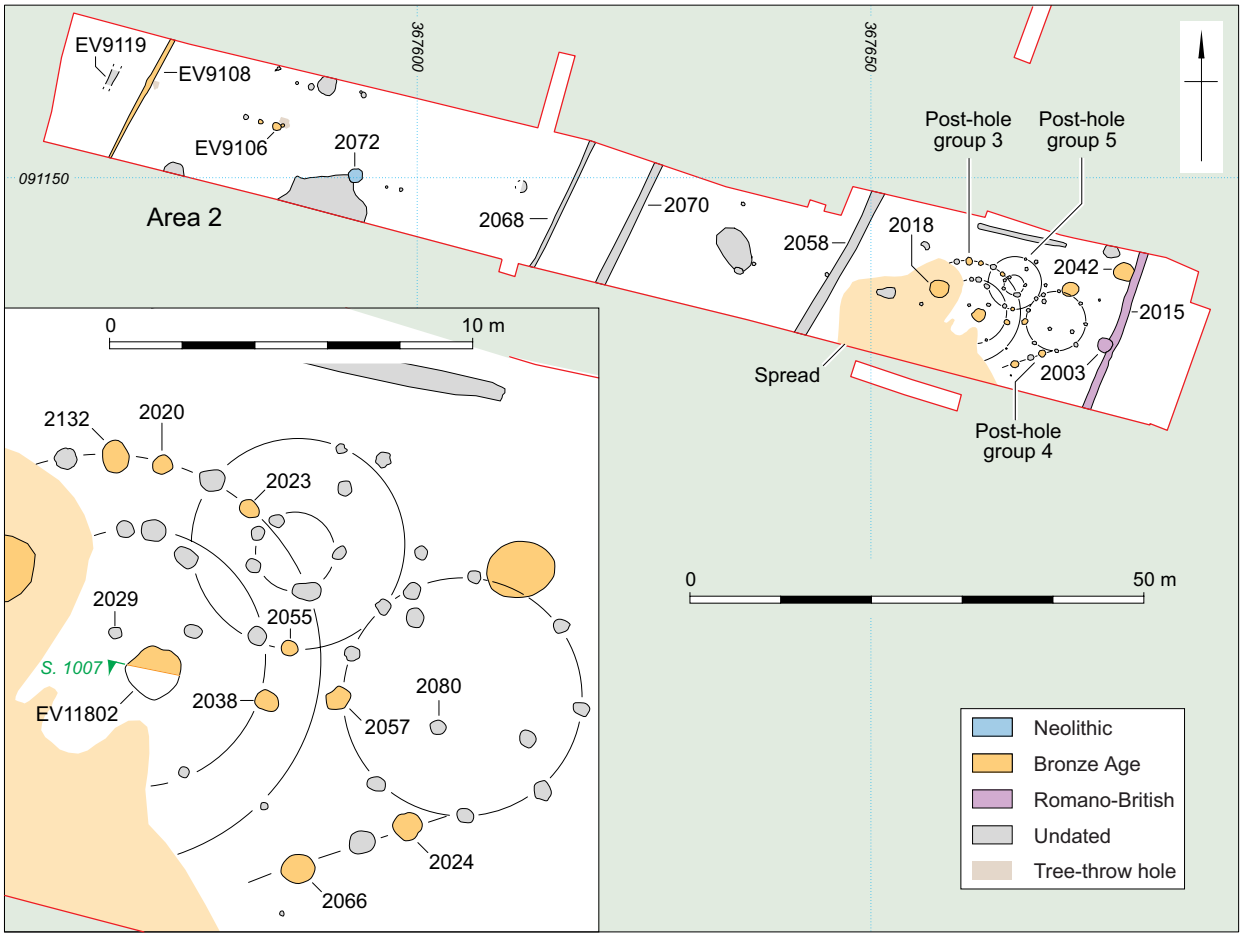

Figure 2.6 Plan of Area 2 with detail of possible Bronze Age structures

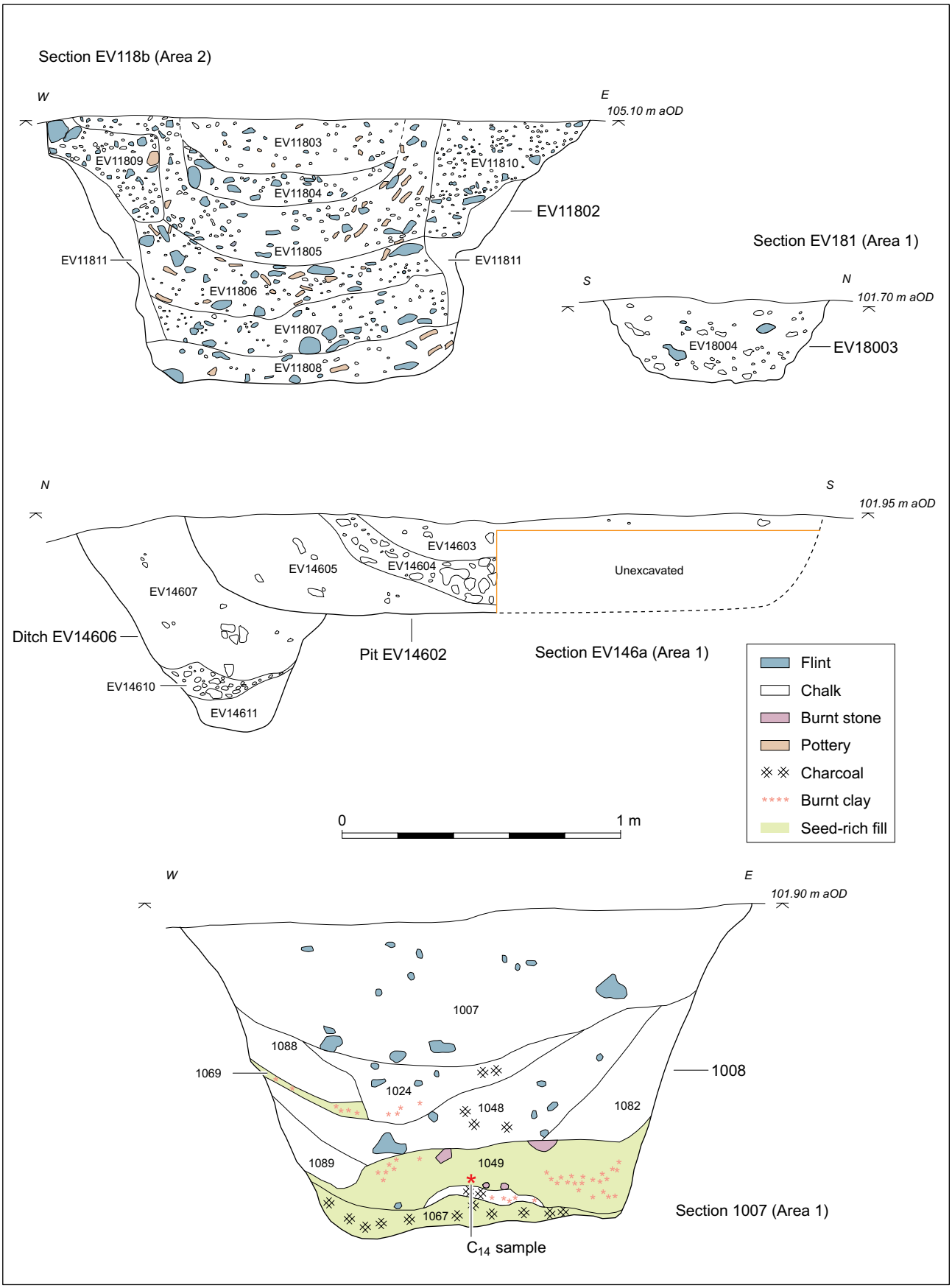

Figure 2.7 Sections of selected features from Areas 1 and 2

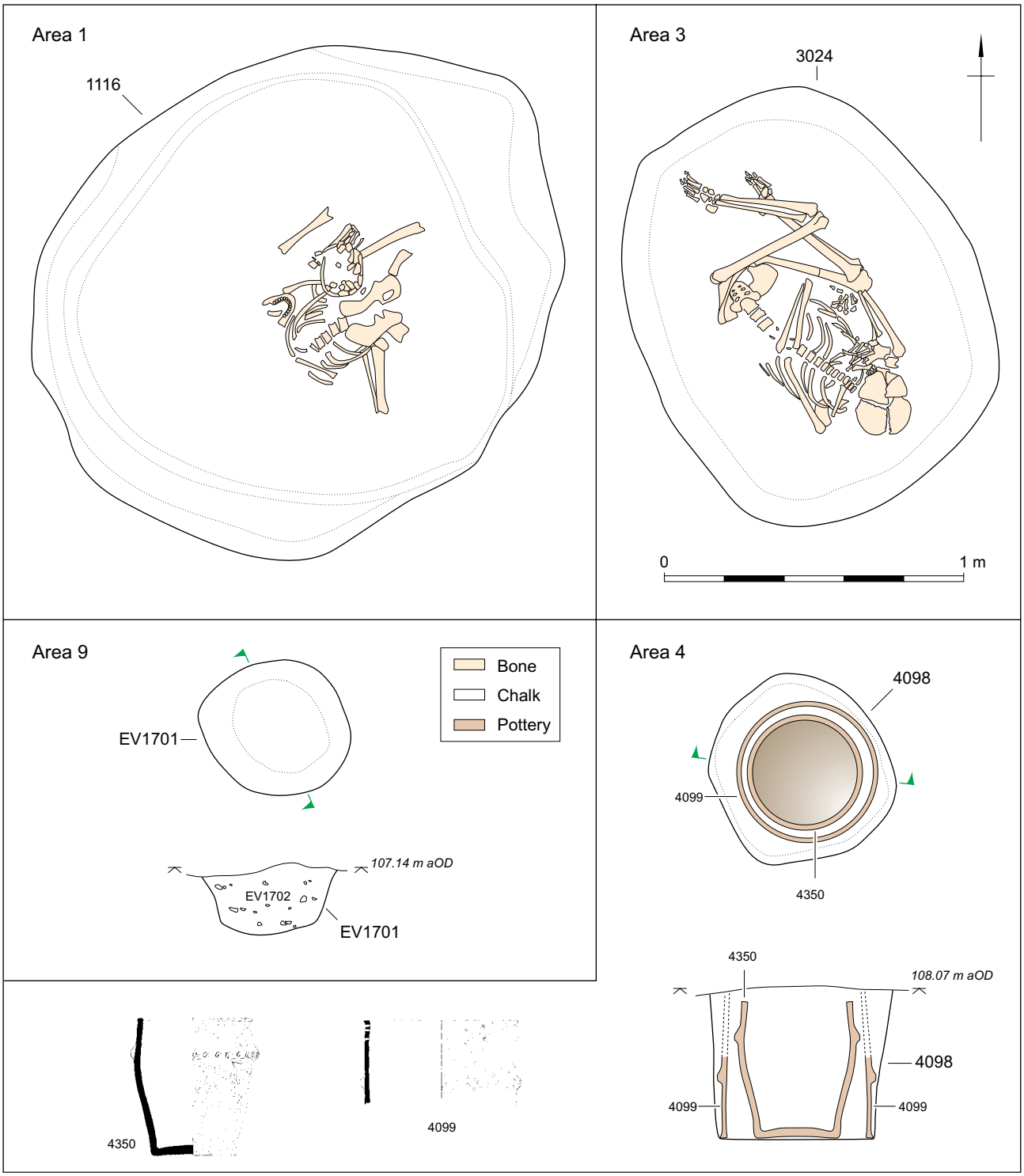

Figure 2.8 Plans of inhumation burials (1116, Area 1 and 3024, Area 3), pit with cremation-related deposit (EV1701) and cremation burial 4098 (Area 4)

remains in grave 4098 were contained within two Middle Bronze Age Bucket Urns.

Grave 4092 (0.60 m by 0.50 m and 0.60 m deep) was sub-circular in plan with steep irregular sides; its base was poorly defined. The cremated remains of two individuals comprising a juvenile/subadult *c.* 10–14 years and a possible female *c.* 25–45 years were recovered. These were mixed with pyre debris (McKinley, Chapter 6). Charcoal from the feature was dominated by ash but also included hawthorn and oak (Challinor, Chapter 7). A small intrusive sherd of Romano-British pottery came from the top of the feature.

Grave 4098 (0.63 m by 0.40 m and 0.40 m deep) was sub-circular in plan with straight, steep sides and a convex base. Within the grave was an unusual

example of an urned cremation burial with two Deverel-Rimbury Bucket Urns. Urn 4350 (Fig. 2.8), was placed in an upright position and contained the cremated remains of two probable females, of *c.* 25 years and *c.* 45 years respectively. The second vessel (urn 4099, Fig. 2.8) was placed over urn 4350 enclosing it and its contents. This seems to have afforded a greater level of protection than usual. A substantial deposit of cremated human remains was recovered (McKinley, Chapter 6). Despite the top of the burial having been damaged by ploughing, it was possible to determine that neither urn had been complete when buried (Leivers, Chapter 5). McKinley (Chapter 6) suggests that this is probably why the more common forms of covering (eg, organic material or flat stones) were not used in this instance. At the time of writing, there are no comparable, contemporary examples of a second vessel being used in this way.

A small sub-circular pit was originally identified during the evaluation in Trench 17 EV1701); the area around the feature was subsequently opened up (Area 9) to see if there were any other prehistoric features (Figs 1.4, 2.8). EV1701 was a small sub-circular pit, the single fill of which (EV1702) contained redeposited pyre debris and a little cremated bone from a subadult/adult *c.* 13 years old (see McKinley, Chapter 6, Table 6.1), together with three sherds of Middle Bronze Age pottery. It is seems unlikely that this deposit represents a cremation burial *per se* and its distance from other known contemporary burials may support this. The sherds from this feature are quite large but abraded perhaps suggesting they were incorporated into the fill when the pyre debris was deposited.

Late Bronze Age Features

Features of Late Bronze Age date were identified across the site and included the remains of a field system and other (possibly similarly dated) landscape divisions, pits, and post-holes. The most extensive Late Bronze Age activity occurred in Areas 1 and 2 (Figs 2.5–2.6), where probable roundhouses were also found. Late Bronze Age features were also identified in Area 5, activity across the area may have originally have been more extensive but the intensive Romano-British occupation has masked much of the evidence.

Probable Field System

The probable remains of a ditched field system were located in Areas 1 and 2, and also identified in several evaluation trenches (Figs 2.5–2.6). It is likely that some of the undated ditches identified across the site are also of this date. The ditches in Area 1 (1180) clearly define a rectilinear field system. A small quantity of pottery and flint came from the naturally accumulated fills suggest a Late Bronze Age date; stratigraphic relationships with later features confirm this sequence. A little residual Middle Bronze Age pottery may suggest that the field system had earlier origins (eg, from ditch 2058 in Area 2, see above).

The ditches in Area 1 were orientated approximately east–west with shorter north–south ditches probably forming divisions. The ditches were fairly substantial, with a range of widths between 1.20 m and 1.42 m. Depths varied between 0.37 m and 1.55 m, although ploughing has reduced many of the features to the shallower end of this range. It is not possible to reconstruct the size of fields within this system. A possible entrance may have been positioned in the centre of ditch 1180 but one end could not be clearly defined (Fig. 2.5).

In Area 2 (Fig. 2.6) further possible remains of the field system were identified: ditch EV9108 and a short length of ditch (EV9119) parallel to it may form a trackway *c.* 3.2 m wide. Interpretation is hampered here by the narrowness of the trench that was excavated. Several other ditches were identified in the evaluation outside the area that was subsequently excavated (EV14101, EV14401 and EV12902; unexcavated ditches in Trenches 120 and 147). A number of undated or poorly dated ditches (2068, 2070 and 2058) may have formed part of this field system but very limited dating evidence was recovered from.

An east–west aligned ditch (3125) in Area 3 (Fig. 2.2) has tentatively been assigned a Bronze Age date on the basis of its similarity to ditches in Area 4. The full extent of ditch 3125 was not revealed but it appeared to follow the natural contour. It was between 0.35 and 0.50 m wide and up to 0.28 m deep. A few undiagnostic flint flakes were recovered from its dark brown silty clay fill.

Trackway

In Area 5 a number of parallel ditches (group 5500, Fig. 2.1) were traced for at least 65 m. These ditches probably represent the remains of a Late Bronze Age trackway. They seem to have influenced the location of a number of other features including Romano-British enclosures and settlement, perhaps indicating their survival into the Iron Age – despite the lack of evidence for occupation at this time.

The ditches were between 0.48 m and 1.24 m wide, and up to 0.38 m deep. The ditch was filled with a yellow or greyish-brown silty clay from which a few pieces of Late Bronze Age pottery and worked flint were recovered. In Trench 39 similar ditches may have formed the southern end of this trackway (Fig. 2.1). Here, at least two phases of this trackway were identified.

Table 2.2 Summary of the Late Bronze Age post-holes

Feature	*Dimensions (m)*	*Form*	*Post/post-pipe or packing*	*Finds and environmental remains*
1037	0.67 x 0.66 x 0.25	sub-circular,steep sides, concave base	-	-
1039	0.60 x 0.57 x 0.12	circular, steep sides, flat base	-	-
1042	0.31 x 0.26 x 0.22	circular, steep sides, flat base	-	LBA pottery
1050	0.28 x 0.26 x 0.28	sub-circular, steep straight sides, flat base	-	-
1053	0.50 x 0.46 x 0.13	sub-circular, moderate concave sides, slopingbase	-	-
1058	0.46 x 0.40 x 0.11	Sub-circular, steep, concave sides, concave base	-	-
1088	1.2* x 0.63 x 0.17	irregular,shallow, concave sides, irregular base	-	flint
1090	0.32 x 0.31 x 0.33	sub-circular,steep, straight sides, concave base	-	LBA pottery
1124	0.38 x 0.37 x 0.16	Sub-circular, steep, concave sides, concave base	post rotted *in situ*	LBA pottery, burnt flint, charcoal
1130	0.50 x 0.49 x 0.42	sub-circular, steep, straight, sides concave base	post-pipe, post removed	LBA pottery, grain, vetch/bean, bedstraw
1134	0.65 x 0.53 x 0.15	oval, shallow, concave sides, concave base	-	-
1140	0.45 x 0.38 x 0.15	sub-circular, moderate, concave sides, concave base	-	LBA pottery
1142	0.51 x 0.37 x 0.35	oval, steep, concave sides, concave base	-	fired clay, LBA pottery, flint, wheat grain, grass & weed seeds
1144	0.52 x 0.40 x 0.26	oval, steep, concave sides, concave base	-	flint
1146	0.57 x 0.43 x 0.32	oval, steep, straight sides, concave base	-	burnt flint, pottery, flint, grain, glume
1150	0.62 x 0.60 x 0.12	sub-circular, moderate, concave sides, concave base	-	burnt and worked flint spelt, barley, grass seeds
1164	0.44 x 0.42 x 0.14	sub-circular, shallow, concave sides, concave base	-	-
1166	0.49 x 0.44 x 0.35	sval, steep, concave sides, concave base	-	-
1169	0.28 x 0.26 x 0.28	sub-circular, steep, concave sides, flat base	-	LBA pottery
1172	0.78 x 0.72 x 0.40	sub-circular, steep, concave sides, concave base	-	LBA pottery, animal bone
1175	0.66 x 0.56 x 0.13	sub-circular, moderate, concave sides, convex base	-	-
2023	0.50 x 0.46 x 0.13	sub-circular, steep concave sides, flat base	-	LBA pottery, charcoal
2027	0.3 x 0.26 x 0.05	sub-circular, shallow, concave sides, concave base	-	-
2029	0.40 x 0.3 x 0.07	sub-circular, shallow, concave sides, concave base	-	-
2038	0.42 x 0.40 x 0.10	sub-circular, moderate concave sides, flat base	-	LBA pottery, charcoal
2055	0.50 x 0.43 x 0.42	sub-circular, steep, straight sides, flat base	flint packing	LBA pottery
2057	0.48 x 0.46 x 0.28	sub-circular, steep sides, concave base	flint packing	-
2080	0.49 x 0.36 x 0.12	oval, steep sides, flat base	-	-

Settlement Evidence: Post-built Structures, Pits, and Post-holes

Numerous post-holes were identified in Areas 1 and 2 (Figs 2.5–2.6). Not all of these were excavated but some clusters of post-holes probably represent the remains of post-built structures. Pits of varying sizes were identified across Areas 1 and 2 with many features coinciding with the post-hole groups.

A cluster of post-holes (post-hole group 1) lay at the southern edge of Area 1 (Fig. 2.5). Not all of these were excavated and, although no clear pattern could be determined, it seems likely that there was a structure here. A number of pits containing domestic debris were recorded in the same area (see below). The post-holes are summarised in Table 2.2. A single post-pipe was identified in post-hole 1130. Only post-hole 1124 contained a dark organic fill that indicated the post had been left to rot *in situ*. Several post-holes contained domestic debris including burnt and worked flint, Late Bronze Age pottery, animal bone, and fired clay. A few charred grains, and grass and weeds seeds were also found.

Post-hole group 2 to north-west of post-hole group 1 (Fig. 2.5) probably represents the remains of a sub-rectangular structure measuring *c.* 3.95 m by 2.65 m. The largest four post-holes were at the corners of the structure. Late Bronze Age pottery was recovered from post-hole 1042 not labelled.

In Area 2, approximately 120 m west of Area 1, was a large cluster of post-holes (Fig. 2.6, inset plan). Here three post-built roundhouses, associated with storage and rubbish pits, have been tentatively identified, although it was not possible to establish the precise sequence of the structures. Only a small selection of the post-holes were examined, hampering interpretation.

These possible structures ranged between *c.* 6.00 m and 9.60 m in diameter. All of the post-holes had a broadly similar fill (Table 2.2). Two post-holes in the external ring of post-hole group 3 contained notably darker fills than the others with Late Bronze Age pottery and charcoal (2023, 2032). A small quantity of possible cremated human bone was recovered from post-hole 2020 (McKinley, Chapter 6) and residual Early Neolithic pottery came from post-hole 2032. Late Bronze Age pottery was also recovered from post-hole group 5. Flint packing was noted in two post-holes (2055 and 2057), one each from post-hole groups 4 and 5. A short row of pits (2066, 2024 and an unexcavated feature) seems to have been associated with post-hole group 4 (Fig. 2.6).

Pits

A number of pits were recorded in Areas 1 and 2, predominantly close to contemporary settlement features (Fig 2.5–2.6). The dimensions of these features are summarised in Table 2.3, and a selection illustrated in Figure 2.7. The pits were generally steep-sided, circular or sub-circular in plan with flat or slightly irregular bases. Most contained at least five fills but a few had up to ten.

The pits generally contained a combination of alternate silting, collapse, and deliberate infilling with domestic rubbish. Pit EV11802 appeared to have been lined with clay (Fig. 2.7), *in situ* burning and burnt organic material was recorded in pits 1008 (Fig. 2.7) and 1094. Silting and/or trample in the base may have related to initial pit digging (pits 1094, 2018, 2007, and 2042), notably more of these were in Area 2. Some deposits appeared to represent deliberate capping of the refuse deposits. A little intrusive Romano-British and post-medieval pottery was recovered from the uppermost fills of a couple of features (1008 and 1160, Area 1).

All of the pits contained Late Bronze Age pottery including a substantial quantity from pit 1094 (1409 sherds/15,071 g). Two pits in Area 1 contained human bone (1116 and 1154). A single neonate leg bone came from the middle fill of pit 1154, together with animal bone including some antler offcuts, pottery, and fired clay. Unless it was deliberately curated, it is unlikely that the neonatal bone would have been recognised as human at the time of deposition.

Plate 2.3 Late Bronze Age burial in pit 1119

The poorly preserved remains of an inhumation burial (1119) of a probable male over the age of 35 years was found close to the base of pit 1116 (Fig. 2.8, Pl. 2.3). The corpse was placed in a squatting or crouched position, although this was difficult to determine as the remains had become partially disarticulated during decomposition. The burial was covered by a deliberate dump of silty clay containing pottery, animal bone, and flint. The pit continued to be backfilled with domestic waste similar to that found in other pits. The upper fill was cut by a post-hole (1118) with a post-pad.

These large pits, cut into the chalk were probably used for grain storage, which seems to have spanned the end of the Middle and into the Late Bronze Age for at least pit 1008 (see above). Such storage pits were often burned in order to rid the pit of vermin, mould and/or damp prior to subsequent grain storage, although spontaneous combustion may also have occurred (Wyles, pers. comm.).

Other pit contents provide an insight into the nature of activity in the settlement. Charcoal, burnt clay, animal bone, and pottery were present in most pits, indicating domestic activity. Activities such as food processing are attested by the presence of pot-boilers and fragments of saddle querns. Antler, worked bone (gouges, handles/shafts, and a bone awl or point (EV11802), and loomweights indicate that textile production and possibly leatherworking were also taking place (see Marter Brown and Mepham, Chapter 5). A piece of slag was also recovered from pit 1094, although this piece may not have derived from metalworking.

Table 2.3 Summary of Late Bronze Age pits

Feature	*Dimensions (m)*	*Form*	*Fills/sequence*	*Finds*	*Environmental remains*
1008	2.23 x 2.13 x 1.10	sub-circular, steep straight sides, undulating base	9; carbonised grain; burnt clay – *in situ* burning; collapse; infill inc domestic refuse; capping/ consolidation	*initial use*: animal bone, burnt flint & clay, pot; *second use*: quern frags, rubble, LBA pot; *final*: RB CBM, ?*tesserae*, animal bone, flint, LBA pot, worked bone (pol. shaft)	*initial use*: carbonised seeds, charcoal; *backfill*: emmer, barley, spelt, weed seeds
1056	2.30 x 2.25 x 1.00	sub-cirular, steep convex sides, undulating base	6; collapse; infills – chalky	*initial use*: flint, LBA pot; *backfill*: animal bone, LBA pot, worked bone (pol. piece, 2 gouges), burnt & worked flint, pot-boiler	-
1062	1.44 x 1.40 x 0.47	sub-circular, steep, concave sides, undulating base	4; charcoal rich deposit; infill/silting; silting; infill	*infills*: flint, LBA pot	*initial*: spelt, barley, bean, weeds, charcoal *infills*: charcoal
1070	1.16 x 1.12 x 0.46	sub-circular, steep concave sides, irregular base	1; infill	Flint, rubble, burnt stone, LBA pot	-
1094	2.46 x 2.30 x 0.69	sub-circular, steep, convex sides, undulating base	7; primary silting; collapse; ?*in situ* burning; infill; silting	*initial*: LBA pot, burnt clay; *infill*: much LBA pot, animal bone, slag, burnt flint, flint, stone	indet. grain frags, *Avena*/*Bromus*, *Corylus avellana*, spelt + barley grains, glumes, *Vicia*/*Lathyrus*, thorn, *Galium*, C*henopodium*, charcoal
1101	1.40 x 1.30 x 0.60	sub-circular, moderate concave sides, concave base	1; infill	flint, LBA pot	charcoal
1103	2.18 x 1.80 x 1.21	sub-circular, steep, convex sides, undulating base	6; collapse; infill; ?capping; infill; silting	*collapse*: animal bone, flint, LBA pot; *1st infill*: LBA pot, stone	-
1116	1.80 x 1.70 x 0.85	sub-circular, steep straight sides, undulating base	6; natural silting; inhumation burial; infill; collapse; infills	*initial*: LBA pot, charcoal flecks, human remains, animal bone; *backfill*: LBA pot, animal bone, flint, stone	-
1152	1.15 x 1.10 x 0.5	sub-circular, irregular sides and base	1; infill	LBA pot	-
1154	1.92 x 1.60 x 1.16	sub-circular, steep convex sides, sloping base	5; collapse; infill; silting	*initial*: undiag. pot, stone; *backfill*: animal bone, antler, neonatal human bone, LBA pot, fired clay, flint; *silting*: animal bone, flint	*backfill*: spelt/emmer, barley, oats, bean, pea, hazelnut shell, weed seeds, charcoal
1160	2.26 x 2.18 x 1.08	sub-circular, steep irregular sides, undulating base	3; infills; silting/natural backfill	*backfill*: burnt limestone, burnt flint, rubble; *final backfill*: animal bone, LBA pot, ?intrusive iron nail, RB & post-med pot	indet. grain frag, hazel frag
2007	1.92 x 1.72 x 0.73	sub-circular, steep concave sides, undulating base	2; silting/infilling; infilling	LBA pot, flint, stone, animal bone	spelt/emmer, wheat, barley, charcoal
2010	0.64 x 0.60 x 0.12	sub-circular, steep, concave sides, flat base	1; silting	-	Charcoal

2018	1.98 x 1.75 x 1.25	sub-circular, steep concave sides, flat base	5; (post-hole in base); primary trample; silting; ?backfills	*silting/infill*: LBA pot, flint	hulled wheat + barley grains, glumes, *Vicia/Lathyrus, Avena/Bromus, Galium*, animal bone
2020	0.64 x 0.48 x 0.20	sub-circular, steep concave sides, undulating base	1; cremation-related deposit	flint, LBA pot, cremated ?human remains	emmer, spelt, wheat, barley, pea, hazelnut shell, weeds
2024	0.80 x 0.72 x 0.40	sub-circular, steep concave sides, convex base		flint, pot	-
2032	0.96 x 0.90 x 0.78	sub-circular, steep oncave sides, concave base	2; infills	flint, LBA pot	spelt, emmer, barley, bean/pea, weeds, charcoal
2042	2.40 x 2.10 x 1.15	sub-circular, steep straight sides, flat base	10; primary silting; silting; infilling; silting	*silting*: charcoal; *infilling*: animal bone, flint, fired clay, LBA pot, burnt stone, burnt flint, loomweight	indet. grain frag, *Vicia/Lathyrus, Avena/Bromus,* hazel frag, spelt + barley grains, charcoal
2066	0.66 x 0.58 x 0.33	sub-circular, steep concave sides, convex base	1; infill	animal bone; flint LBA pot	-
5099	1.32 x 1.20 x 0.70	sub-circular, steep concave sides concave base	3; infills; silting	*infill*: animal bone (some burnt); quern; flint incl. a'head (?burnt) ON 5852; LBA pot	spelt/emmer, hazelnut shell, weed seeds
5226	1.55 x 1.35 x 0.90	sub-circular, steep irregular sides, irregular base	6; infill; collapse; flinty infill; collapse; silting	*infill*: LBA pot, charcoal	*silting*: charcoal
EV9106	0.92 x 0.92 x 0.37	sub-circular, steep sides, flat base	2; primary; infill	LBA pot, worked & burnt flint, non-local stone, slag,	charcoal
EV11802	1.95 x 1.42 x 0.98	sub-circular, steep convex sides, concave base	9;?clay lining; infill; collapse; infill; silting	*lining*: animal bone; *infills*: LBA pot, animal bone, burnt clay, burnt limestone, flint, loomweight, bone awl/point	grain, chaff, seeds, charcoal
EV13803	0.90 x 0.80	sub-circular	1; infill	-	charcoal
EV13805	1.00 x 0.80	sub-circular	1; infill	LBA pottery	charcoal
EV13808	1.30 x 1.30	sub-circular	at least 1; infill	LBA pottery	Charcoal
EV14602	1.77 x 1.77 x 0.75	circular, steep irregular sides, flat base	3; infills	*infill*: burnt limestone, LBA pot, flaked flint, flint core/tool, animal bone	*infill*: charcoal
EV18003	*c*. 0.80 diam.	sub-circular	-	LBA pottery	-
EV18019	0.88 diam.	sub-circular	-	LBA pottery	-
EV18023	*c*. 1.35 diam.	sub-circular	-	LBA pottery	-

EV18010 and EV18029 were recorded during the evaluation, LBA pottery was recovered from the surface of EV18010

Environmental remains show that a varied range of crops was being grown including barley emmer, spelt, oats, peas, and beans. Wild foods, in the form of hazelnuts, were also being collected (Pelling, Chapter 7).

Iron Age

The absence of any features or artefacts of Iron Age date from Poundbury Farm is perhaps significant given the proximity of the hillforts at Poundbury Camp and Maiden Castle. Excavations in the vicinity have identified similar periods of abandonment, and the current excavations provide further evidence to support the idea that occupation was confined to the Poundbury Camp and Maiden Castle hillforts during the Early Iron Age (Sharples 1991, 260; Smith 1997c, 299). A little Iron Age material was identified at Poundbury Parkway (Chapter 4) and from excavations undertaken to the west and south-west of Poundbury Farm (Gardiner 2003a, 154, 156).

Grave Catalogue

Key: s. – skull, a. – axial, l. – lower limb;
rpd – redeposited pyre debris

Grave EV1701 (fill EV1702)
Fig. 2.8
Sub-circular cut with vertical, straight sides and concave base. 0.42 m x 0.4 m, 0.3 m deep (base at 106.91 m aOD). Middle Bronze Age. Unurned cremation burial and redeposited pyre debris. Dark black-brown clay loam fill with abundant charcoal (oak).
Human bone: 22.8 g. subadult/adult >13 yr
Finds: Pottery (3 abraded sherds) Middle Bronze Age

Pit 2020 (fill 2021)
Fig. 2.6
Sub-circular cut (?post-pit) with steep, concave sides and undulating base. 0.64 x 0.48 m, 0.2 m deep (base at 104.86 m aOD). Late Bronze Age. Probable cremation-related deposit. Mid-grey-brown silty clay fill with charcoal (spindle tree, oak, alder/hazel, blackthorn, ivy).
Human bone: 1.5 g, ?human
Finds: Pottery (129 sherds), flint

Pit 1116 (burial 1119; other fills 1112–5, 1163)
Fig. 2.8; Pl. 2.3
NE–SW, sub-circular. steep, straight, undulating. 1.8 x 1.7 m, 0.9 m deep (base at 101.82 m aOD). Late Bronze Age. Crouched inhumation burial, arms bent, possibly in lap; legs in kneeling position
Human bone: *c.* 13% s.a.l adult > 35 yr, ?male
Finds: animal bone

Grave 3024 (burial 3025; fills 3026, 3028)
Figs 2.2, 2.8; Pl. 2.2
SE–NW, sub-rectangular cut with steep, straight sides and flat base. 1.14 x 1.2 m, 0.4 m deep (base at 100.47 m aOD). Early Bronze Age inhumation burial (2200–1980 cal BC (3694±35 BP, NZA-3025). Flexed, on right side, right hand at right shoulder, left hand by knees; legs bent right *c.* 45° to body, left 90°. Dark grey-brown silty clay overlying pale orange-brown, silt loam grave fill.
Human bone: *c.* 90%. adult *c.* 30–35 yr, female

Grave 4092 (fill 4088)
Fig. 2.1
Sub-circular cut with steep, irregular sides. Base not discerned. 0.6 x 0.5 m, 0.6 m deep (base at *c.* 108.56 m aOD). Middle Bronze Age (1400–1200 cal. BC (3044±25 BP, NZA-30924). Unurned cremation burial and redeposited pyre debris. Dark brown-black silty clay fill with charcoal (ash, oak, hawthorn-type).
Human bone: 957.5 g
1) juvenile/subadult *c.* 10–14 yr
2) adult *c.* 25–45 yr, ??female
Finds: Romano-British pottery sherd (intrusive)

Grave 4098 (burial 4099 and 4350; fill 4100)
Fig. 2.8
Sub-circular cut with steep, straight sides and convex base. 0.63 x 0.4 m, 0.4 m deep (base at 108.5 m aOD). Middle Bronze Age urned cremation burial. Main urn 4350 – most of the remains, mid- reddish- brown silty clay. 'Lid' 4099 – a similar vessel placed upturned over and enclosing the first. Grave fill 4100 – redeposited pyre debris, mid-grey-black silt loam with charcoal (ash, hawthorn/pear/apple or service).
Human bone: 4099 ('lid'): 159.2g, adult >25 yr. 4100 (rpd): 50.4 g, adult >18 yr. 4350 (burial): 2391.8
1) adult >25 yr, ?female
2) adult >45 yr, ?female
Finds:
4099: Deverel-Rimbury Bucket Urn. Large, incomplete (missing basal half). Flat topped rim, 340–380 mm diam. Plain cordon 130–140 mm from rim. Possible post-firing repair.
4350: Deverel-Rimbury Bucket Urn. 50% of rim (flat topped), 235 mm diam., 300 mm tall. Base diameter 190 mm, walls nearly vertical. Finger-impressed applied cordon 60 mm from rim.

Other contexts with human remains

Pit 1154, fills 1155–9
Fig. 2.5
Sub-circular, steep, convex, sloping. 1.92 x 1.6 m, 1.2 m deep (base at 101.34 m aOD). Late Bronze Age, ?redep.
Human bone: *c.* 20% l neonate

Context 3032 (group 3114), fill 3034 and 3033
Fig. 2.2
Ring-ditch – southern side. shallow, concave, concave cut. 1.0 x 0.6 m, 0.1 m deep (base at 101.44 m aOD). redep. Prehistoric, probably Early Bronze Age.
Human bone: 9 fragments ?adult > 18 yr. male

Chapter 3
Romano-British Landscape and Settlement, and Post-Roman Activity

The town of Dorchester became an important administrative centre during the Romano-British period. Previous investigations have shown that the town was encircled by small farmsteads and numerous cemeteries (some substantial) developed along the roadsides (eg, Green 1987; Smith *et al.* 1997; Davies *et al.* 2002; Sharples 1991; Farwell and Molleson 1993; Trevarthen 2008; McKinley and Egging Dinwiddy 2009). Thus it is no surprise that features of Romano-British date were by far the most numerous at Poundbury Farm.

The remains of a small Romano-British farmstead and an associated cemetery were recorded in Areas 4 and 5 (Fig. 3.1; Pl. 3.1), having been initially identified during the evaluation (WA 2007, fig. 1). Evidence for Romano-British activity was also found in Areas 1 (probable Romano-British predecessor of the Poundbury Road) and in Area 2 (a ditch and a pit) (Chapter 2, Figs 2.5–2.6, see below). Romano-British finds from the evaluation include a shale armlet fragment (Tr. 76), a piece of decorated shale, possibly furniture inlay (Tr. 55, Pl. 5.11), a brooch (Tr. 125), and a pin, perhaps from another brooch (Tr. 54) (Fig. 1.3). Romano-British pottery, bricks, and tiles were also recovered (including *tegula*, *imbrex*, and one box flue tile). Two quarry pits of probable Iron Age–Romano-British date were identified at Poundbury Parkway (see Chapter 4). Other sites excavated in the vicinity have produced small quantities of Roman pottery and ceramic building material; probable Late Iron Age–early Romano-British marl pits were found at Middle Farm (Appendix 1).

The south-western part of Area 5 was the most complex in terms of the density of features (Fig. 3.1) and would seem to have been the centre of the settlement. However features extended out of the area excavated so the true extent of the settlement remains unknown.

The settlement spanned the early to the late Romano-British period; most of the enclosures were established early in the sequence and were subsequently modified and extended. It has not been possible to establish an exact sequence of ditch digging, however a broad developmental sequence has been proposed. A number of settlement structures (masonry buildings, ovens, pits, and post-holes) were associated with the enclosures. Most of these features date to the middle and later Romano-British period.

A cemetery was associated with the enclosures in Areas 4 and 5; several small groups and a number of dispersed inhumation graves were identified. Many of the burials were aligned on enclosure ditches (Fig. 3.9). The burials can be divided into two groups on the basis of style of burial and, to some extent, grave goods: early Romano-British *Durotrigian* and mid–late Romano-British. A single urned cremation burial was found to the south of Area 5 (see below).

Limited post-Roman activity was identified across the site and it appears to have been primarily agricultural in nature. A few Saxon to post-medieval ceramic and metal finds were recovered and there was some evidence for infilling of certain features (eg, chalk quarries, see below).

Romano-British Enclosures, Industry, and Settlement in Areas 4 and 5

Enclosures

Five large ditched enclosures (A to E; Figs 3.1–3.5) were constructed and modified throughout the Romano-British period. The Late Bronze Age trackway (5500, see Chapter 2) in Area 5 may have influenced the location of some of the enclosures. Overhead cables prohibited excavation of a strip of land between Areas 4 and 5 (*c.* 20 x 140 m), preventing the investigation of potentially informative stratigraphic relationships between these enclosures.

Plate 3.1 Aerial view of Areas 4 and 5 showing the enclosures

Figure 3.1 Areas 4 and 5 showing main Romano-British features

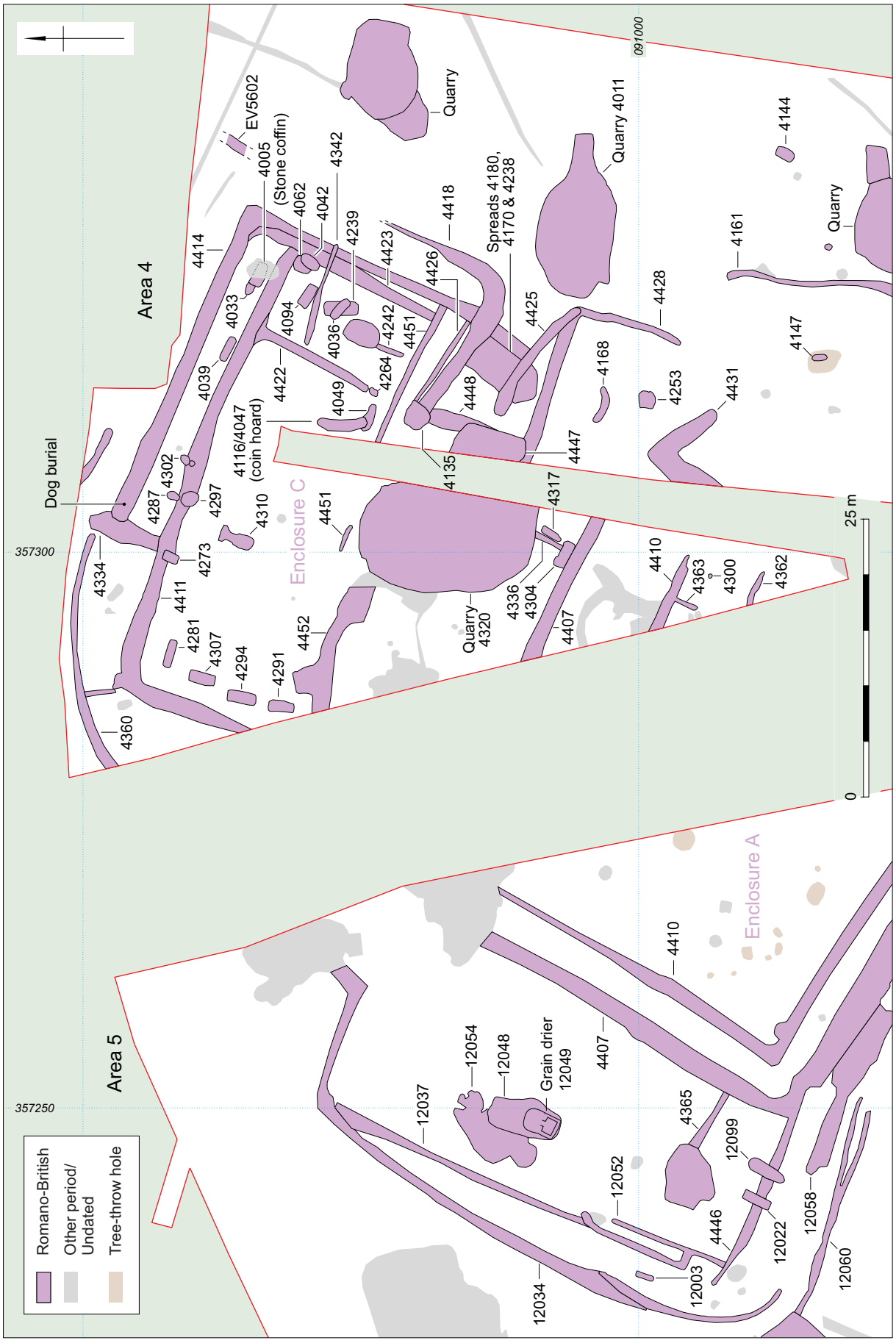

Figure 3.2 Plan of enclosures A and C and associated features

A strip in Area 4 was also not examined due to a modern field boundary. Despite these limitations it has been possible to present an interpretation based on the excavated evidence.

Enclosure A

Enclosure A was a square double-ditched enclosure and was probably the earliest in the sequence (Fig. 3.2), and seems to have been the focus for subsequent enclosures. Enclosure A initially was defined by two broadly parallel ditches (4407 and 4410), one inside the other, approximately 2.5 m apart, and enclosing an area *c.* 44 m by at least 41 m externally. The north-west and north-east sections of the outer ditch (4407) were steep sided, whilst the south-western section was notably wider and more irregular due to localised recutting. Most of the ditch contained a single naturally formed and fairly sterile fill, apart from the southern section where three fills were identified, the middle of which contained some middle Romano-British pottery.

The eastern side of the enclosure was not identified and may well lie in the unexcavated strip (Fig. 3.2). Alternatively, a narrow and sinuous linear feature (4161) may represent part of the eastern extent of enclosure A, although its irregular form combined with the lack of a direct association makes this unlikely. The north-western corner of the enclosure was obscured by a large amorphous spread of subsoil that clearly post-dated the enclosure. No further investigations were carried out in this area.

The less substantial inner ditch of enclosure A (4410) measured *c.* 30 by 30 m. A short length of ditch in Area 4 has been assumed to form the eastern end of this enclosure ditch. A small perpendicular ditch (4363) close to the eastern end of ditch 4410 and a gully (4362) may represent the remains of somewhat insubstantial, probably contemporaneous, internal divisions.

Few other internal features were identified, although only around half of the enclosed area was available for excavation (Fig. 3.2). A small bowl-shaped sub-circular grave (4300) close to the terminal of 4410 and ditch 4363 contained the remains of an infant *c.* 2–3 years old.

Inside the enclosure there were several shallow pits, irregular features, and tree-throw holes, some of which were excavated. Some contained a little charcoal and burnt flint.

Western extension to enclosure A

At some stage enclosure A was extended north-westwards by the addition of a number of ditches (eg, 4365, 4446, 12037, 12052, 12034 and 12058, Fig. 3.2). Ditch 12060 to the south of ditch 4446 may also have been part of this enclosure. The precise sequence is not certain and remodelling of these ditches probably occurred periodically. Ditch 12037 seems to have been early within the sequence. These ditches were quite substantial measuring 0.75–0.95 m wide and up to 0.68 m deep; pottery from their fills provides only a broad Romano-British date. A probable entrance in the south-west corner may have been used to funnel stock into the enclosure.

A number of features within this area, included a substantial middle Romano-British flint-lined grain drier (12049, Figs 3.2, 3.7) and working surface. The grain drier was sub-rectangular, the southern portion was flint-lined, the central flue was stone-lined, and the northern opening unlined. *In situ* burning was recorded at the entrance to the flue, on the unlined end. Its fills were mainly associated with collapse of the superstructure and deliberate infilling but spelt wheat and barley were recovered (Pelling, Chapter 7). An associated working surface, comprising a small cobbled area (12054, Fig. 3.2) measuring *c.* 1.80 m by 1.00 m and a trampled layer (12048; *c.* 9 x 7 m), lay to the north. A large mid-2nd–early 3rd century pot appeared to have been sunk into this surface.

Romano-British grave 12003 was parallel to enclosure ditch 12034. The burial had been made within a coffin, and was that of an adult, probable female aged *c.* 20–25 years (Figs 3.2, 3.9; Egging Dinwiddy, Chapter 6).

Later activity

Two features (12022 and 12009) of mid–late Romano-British date were cut into the upper fills of enclosure ditch 4446. Grave 12022 was aligned north-east–south-west and contained the remains of a coffined, extended burial of an adult female (*c.* 35–45 years) with an *in utero* foetus (*c.* 36–38 weeks) (Egging Dinwiddy, Chapter 6). Grain drier 12009 was of simple form, comprising two chambers with a rammed chalk lining (Table 3.2).

Enclosure B

Enclosure B lay to the south-east of enclosure A; its form has been extrapolated but appears to have been sub-square in plan measuring approximately 32 m by 35 m (Figs 3.1, 3.3). The ditch (4400/4051) varied between 0.88 m and 1.70 m wide and was up to 1.00 m deep. Its relationship with enclosure A was not established although it seems likely that they were broadly contemporary. There was an entrance in the northern side, 4.40 m wide, the western terminal of which contained an iron knife (ON 10034, Marter Brown and Mepham, Chapter 5) and a flint axe (ON 10035) came from the upper fill of this terminal. The upper fill of north-eastern corner of ditch 4051 contained a fine enamel and inlaid silver disc brooch of 2nd–3rd century date (Fig. 5.1, 6, Pl. 5.1, see Marter Brown and Mepham, Chapter 5). A varied range of artefacts was recovered from the enclosure

Table 3.1 Summary of Romano-British grain driers

Feature	*Date*	*Enclosure*	*Dimensions (m)*	*Form*	*Fills/sequence*	*Finds and environmental remains*
4049	mid- RB	C	1.7 x 0.84 x 0.40	simple 2-chambered; pear-shaped; central flue; limestone lined flue; clay lining	4; structure; charcoal-rich deposit; collapse/ backfill	use – animal bone, shale bracelet, charcoal, fired clay; backfill – mid-RB pottery, fired clay, stone, CBM; spelt, barley, hulled wheat, vetch/bean, grasses (inc. brome), bedstraw/ goosegrass, hedge parsley, fat hen
4287/ 4297	mid– late RB	C	2.76 x 1.6 x 0.35	simple 2-chambered; pear-shaped; ?chalky superstructure	2; charcoal-rich deposit; collapse/ backfill; silting	use – RB pottery, animal bone; backfill – late RB pottery, chalk rubble, animal bone, CBM; spelt, barley, grasses, vetch and knotweed
4310	late RB	C	3.1 x 1.5 x 0.19	T-shaped; rounded chamber; central flue; flint & limestone lined flue	3; charcoal-rich deposit; chalky deposit; backfill	animal bone, CBM, stone pottery; spelt, barley, grasses (inc. brome), vetch/bean, bedstraw/goosegrass
5026	mid– late RB	D	1.93 x 1.14 x 0.55	T-shaped; circular stone-lined chamber, sub-oval N end; central flue; faced limestone blocks; chalky bonding; clay lining	7; structure; lining; charcoal-rich deposit; collapsed superstructure; backfill; chalk ?consolidation/ trample; silting	use – slag, animal bone iron nails, stone; backfills – animal bone, iron nails, stone blocks; silting – animal bone, iron nail; spelt, barley, vetch/bean
12009	mid–late RB	A	3.3 x1.26 x 0.60	simple; 2-chambered; elongated oval; rammed chalk lining	2; use - charcoal; heated rammed chalk; silting; recut; charcoal deposit; 2; backfill deposits	use (2nd) – animal bone, unworked shale frags; backfills – early–mid-RB pottery; CBM; animal bone; residual flint; spelt, barley, vetch/bean, grasses (inc. brome)
12049	mid- RB	A	*c.* 2.92 x 1.98 x 0.7	substantial rectangular chambered; central flue; stone-lined flue & chamber	9; construction fill, limestone/chalk lining; trample; demolition; chalk & flint rubble	Backfill – mid-RB pottery, iron, stone rubble; working surface – mid-RB pottery; spelt, barley, vetch/bean, grasses (inc. brome), bedstraw/goosegrass, radish
13017	mid–late RB	D	1.65 x 0.88 x 0.24	simple 2-chambered; figure-of-eight shaped; limestone lined central flue	3; structure; dark deposit (?use waste); silting	use – RB pottery, animal bone, iron fitting; backfill – RB pottery, animal bone
13077	late RB	D	5.0 x 2.5 x 0.60	substantial rectangular chambered; mortared stone-lined chamber & central flue; large rock in centre of lined chamber ?structural	6; structure; *in situ* burning; placed deposit?; rubble collapse; backfill; silting	backfill – late RB pottery, CBM, flint, stone rubble, glass, shell, iron tool, iron nails, whetstone, animal bone (inc. neonatal), human bone

ditch including animal bone, residual flint, a few iron nails, and early–middle Romano-British pottery – predominantly Black Burnished ware (see Seager Smith, Chapter 5). A piece of stamped samian (ON 10036), quern fragments (lava and gritstone), possible window glass, ceramic building material (*imbrex*, *tegula*, and brick), a copper alloy nail, and an iron fitting were recovered from the ditch. Environmental remains from the ditch include some hulled wheat grain and weed seeds (vetch/bean/pea and grasses), with barley, hazelnut shells, red bartsia, and wild radish being recovered from the latest deposit (Pelling, Chapter 7).

The quantity of rubbish in the ditch suggests an increase in nearby domestic and industrial activity over time. It is possible that settlement extended outside the area excavated.

A number of earlier features in this area pre-dated enclosure B. An oval feature 4091 (Fig. 3.3) may have been a short ditch or gully. Ditches 4405 and 4161 may have been boundary markers. Spreads of sediment in the entrance of the enclosure probably represent both natural sedimentation accumulating in the hollows above the infilled ditches as well as attempts to consolidate the area. No conclusively contemporary features were identified within the enclosure but only a limited area of the interior was available for excavation. Romano-British pottery, animal bone, flint, and part of a post-medieval glass bottle were found in tree-throw hole 4071.

Figure 3.3 Plan of enclosure B and associated features

A grave (4056), near the southern corner enclosure ditch 4400 (Figs 3.3, 3.9), contained the remains of a coffined, extended burial of an adult, probable male *c.* 40–50 years. There was no direct relationship between the grave and the enclosure ditch but it seems likely that the latter was still evident when the grave was dug. After the ditch has substantially infilled another grave (4069) was dug across the eastern side of the enclosure. It contained the remains of a coffined, extended burial of an adult, possible male *c.* 45–55 years (Figs 3.3, 3.9, 31.4; see Egging Dinwiddy, Chapter 6). An iron knife (ON 4949) was placed on the left of the male (Pl. 3.7). These graves are probably of middle–late Romano-British date (see below).

Immediately east of enclosure B was a trackway (ditches 4076 and 4081), approximately 4.2 m wide. It is possible that the trackway extended further to the north-east and south-west, although ditch 4076 had a terminal (Fig. 3.3) and evaluation trenches 67–69 did not reveal any evidence for them. A little animal bone, flint, and Romano-British pottery was recovered from the ditches.

Enclosure C

Enclosure C lay to the north of enclosures A and B (Fig. 3.2). It is possible that enclosures A and C originally formed part of the same larger enclosure complex. However the relationship between the two was masked by the unstripped area and a large quarry pit (4320). Enclosure C was modified, extended, and divided over time. While a sequence of development from the middle to late Romano-British period was broadly established (Fig. 3.5, C1–C4), the eastern section proved particularly difficult to disentangle. An abundance of artefacts (including iron nails, hobnails, copper alloy pin fragment, possible iron brooch fragment (ONs 10059 and 1050) hook, copper alloy earring (ON 1002), iron tang, strip and blades, knife, whetstone and coins) from this small area suggests activity comparable to the that found in enclosure D (see below).

L-shaped ditch 4431 to the south of enclosure C was *c.* 5.00 m long, 0.90 m wide and 0.45–0.90 m deep. The fill contained predominantly early Romano-British pottery, animal bone, and undiagnostic fragments of fired clay. This may have been the remains of another enclosure ditch, the remainder of which lies in the unexcavated portion of the site, although its alignment is somewhat different to the other enclosures. It may have been a small sub-enclosure within enclosure A, if the latter extended this far east. Unfortunately the unexcavated strip of land hampers the interpretation of ditch 4431 and its possible relationship to enclosure A.

Enclosure C1

Ditch 4334 appears to represent early activity but its precise function is uncertain, and no finds were recovered from it. At some later stage ditches 4411 and 4452 were dug, forming a large rectangular enclosure (C1, Figs 3.2, 3.5). These ditches enclosed an area measuring *c.* 40 m by 15 m. Ditch 4411 was between 0.65 m and 1.50 m wide and 0.18–0.35 m deep. The ditch was flat based, and it was filled with two naturally accumulated layers. Pottery, animal bone, *imbrex* fragments, and residual flint came from these fills. A small fragment of human skull (a subadult/adult over 14 years old) came from the basal deposit (4198). The fragment of bone did not originate from any of the burials recorded in the vicinity. Ditch 4452, was only investigated during the evaluation (identified as pit EV3513); however it appears to have formed the south-western part of enclosure C. Romano-British pottery was recovered from its fill. The eastern limit of this enclosure could not be identified with certainty but may have been a precursor to ditch 4423.

Enclosure C2

Modification of the enclosure (C2, Figs 3.2, 3.5) included the addition of ditches 4428 and 4336, defining a possible small enclosure, ditch 4422, a probable internal division and ditch 4423 re-defining the eastern end of the enclosure. These additions may simply have reorganised the existing layout. Ditches 4428 and 4336 defined a small enclosure *c.* 22 m by 8 m to the south of the main enclosure. Ditch 4428 was up to 1.24 m wide, and approximately 0.55 m deep. It had sloping sides and a flat base. Up to three fills of largely naturally accumulated deposits were recorded. Domestic debris recovered from these fills included the neck and rim of a wheel-thrown South-east Dorset Black Burnished ware flagon (ON 10068, Seager Smith, Chapter 5; Pl. 5.9), animal bone, iron nails, a sandstone rubber, and ceramic building material (*tegula*). The interpretation of this small enclosure if hampered by the later quarry pits 4447 and 4320 which cut ditches 4336 and 4428.

Two tree-throw holes (4168, 4253) and a grave (4317) were within this enclosure. The tree-throw holes contained animal bone, iron nails, slag, late 3rd–4th century pottery, and copper alloy coins (ONs 10070 and 13513; Cooke, Chapter 5, Table 5.2). Limestone rubble in the upper fill of tree-throw hole 4168 may have been dumped to level the area. Grave 4317 butted up against the edge of ditch 4336, and contained the poorly preserved remains of an adult female over 35 years of age within a coffin.

Enclosure C3

In the late Romano-British period enclosure C was further modified and remodelled (Figs 3.2, 3.5). Ditch 4414 was dug, extending the enclosure to the north-east and remodelling the eastern end.

Ditch 4414 was between 0.98 m and 2.00 m wide and 0.25–0.74 m deep. Up to four fills were identified, most of the which had accumulated naturally. There were concentrations of dumped domestic debris in localised areas, including Romano-British pottery, animal bone, a little ceramic building material, fired clay, oyster shell, and residual flint. The remains of a dog burial were found towards the western end of ditch 4414 (context 4330, Fig. 3.2). This was an old animal with healed injuries and signs of infection (Grimm, Chapter 7).

Two less substantial ditches (4451 and 4426) may have defined an entrance into the enclosure. However, ditch 4451 was not excavated and both ditches appear to have been cut by ditch 4414, so they may instead represent minor modifications to the layout between the major ditch digging of 4414.

Three middle and late Romano-British graves (4033, 4039 and 4005; Chapter 6; Figs 3.2 and 3.9) were recorded in the narrow area between the ditches 4411 and 4414. The graves were positioned close to the northern edge of ditch 4411, suggesting that it was evident when they were dug. Grave 4039 contained the remains of a coffined burial of an adult female approximately 20–25 years of age. Only the western half (head end) of grave 4033 remained, the eastern part having been removed by grave 4005. Grave 4033 contained the sparse remains of an (unsexed) adult over *c.* 40 years old.

Grave 4005 contained a stone coffin made of cornbrash (Fig. 3.2, Pl. 3.6, Seager Smith, Chapter 5, discussed further below). The grave measured 2.24 x 1.18 m and was 0.51 m deep, with straight sides and a flat base. The coffin fitted closely in the grave and had evidently been opened; the lid was broken and the coffin was completely filled with soil – something that the lid was intended to prevent. The grave seems to have been discovered in antiquity, as tentatively indicated by the presence of a late 18th century copper alloy button in the grave backfill (4006) (Marter Brown and Mepham, Chapter 5) and irregular disturbance around the eastern edge of the grave. This disturbance corresponded with damage to the edge of the coffin which would be consistent with the lid having been levered off. Bone preservation was fairly poor but the remains were those of a possible male of around 400–50 years old.

A number of features may have been contemporary with the enclosure, although given the often broad dating evidence and lack of stratigraphic relationships their association is not certain. These features include seven middle–late Romano-British graves, two possible cenotaphs or emptied graves, a pit, two oven/kilns, and a few tree-throw holes.

Four of the graves (4291, 4294, 4307, and 4281) were arranged along the western edge of ditch 4411. All the graves contained the remains of single, *in situ* coffined burials. The generally well-preserved skeletal remains: of three adult females (two *c.* 40–50 years; one *c.* 35–40 years) and an adult male *c.* 45–55 years (Chapter 6; Figs 3.2, 3.9). The grave of a neonate (0–6 months) (4264), at the southern end of ditch 4422, was only 0.06 deep and irregular in shape. Two late Romano-British graves (4094 and 4239) were in the eastern part of the enclosure (Fig. 3.9). Grave 4094 lay parallel to ditch 4411 and adjacent to ditch 4342 and contained the remains of a coffined burial of an infant *c.* 3 years old, as well as redeposited bone from an adult over 50 years old. The grave was somewhat oversized for the burial. Grave 4239 was aligned differently to the rest of the graves in this area but similar to the burials at the western end of the enclosure (Figs 3.2, 3.9) The grave contained the coffined burial of a male *c.* 24–28 years old.

Two sub-rectangular features (4036 and 4062) in the eastern part of enclosure C (Fig. 3.2) have been interpreted as emptied graves or cenotaphs. Feature 4036 cut through the upper fill of grave 4239, although the alignment was more similar to 4094 and ditch 4411. Feature 4062 cut through the upper fills of pit 4042.

Pit 4042 was a shallow feature (1.70 x 1.40 m and 0.37 m deep) from which some 4th century pottery was recovered. Its function is uncertain. There was also a small gully (4242) and associated amorphous spread, similar to feature 4365 in enclosure A (see above).

Two grain driers (4310 and 4049) were also recorded in the enclosure (Figs 3.2, 3.8, Table 3.2). The larger example, 4310 was T-shaped with a globular southern portion; the flue was lined with flint and limestone. Grain drier 4049 was probably middle Romano-British in date. It was smaller and less well constructed that 4310, but its flue was lined with limestone. The northern part of the grain drier was cut away by a short gully 4116/4047. Another grain drier (4287/4297) was cut into the top of ditch 4411 and is probably late in the sequence.

Enclosure C4

Final modifications to the enclosure included an addition to the northern area, and the remodelling of the eastern section. As with many of the modifications already described, it was not possible to conclusively establish whether these were part of the same episode of alterations or developed in a more organic manner.

Curving ditch 4360 (*c.* 22 m long, 0.50–1.00 m wide), north ('outside') of ditch 4411 had a short off-shoot, possibly an internal division (2.80 m long,

0.55 m wide). A short section of unexcavated ditch to the east of ditch 4360 may have been part of this modification. Ditch 4360 may have been a continuation of ditch 12034 (enclosure A) rather than part of enclosure C but any possible relationship could not be examined.

Features that could be confidently assigned to that latest phase of the enclosure (C4) were in the south-eastern section, and were probably dug to define, or possibly redefine, an entrance (ditches 4418 and 4425, Figs 3.2, 3.5). Ditch 4418 was more substantial that ditch 4425. It seems likely that the ditch section identified during evaluation (EV5602) was a northern continuation of ditch 4418, but this was not proven. Ditch 4418 was between 0.79 m to 2.49 m wide and up to 0.35 m deep. The ditch seems to have silted slowly; domestic debris was found throughout the fills but was more common in the upper deposits, and included early to late Romano-British pottery, animal bone, slag, iron nails and hobnails, and residual flint. Ditch 4425 was 1.00 m wide and 0.22 m deep and clear terminals were identified. After initial gradual silting from which a little animal bone was recovered, dumps of rubbish including animal bone, Romano-British pottery, charcoal, hulled wheat, and barley grains and glumes were made.

A gully (4448), a tree-throw hole (4170) and spreads (4180 and 4238, Fig. 3.2) lay within the entrance. These were filled with dumps of late Romano-British domestic debris including 4th century pottery, coins (ON 10038–9: AD 270–96 and 341–8, ON 4982: AD 330–5), a copper alloy strap, an incomplete iron knife blade (ON 10034) from 4170, iron nails, hobnails, a copper alloy pin (ON 10059), slag, oyster shell, and animal bone. A copper alloy earring (ON 10022), two iron hooks (ONs 10061 and 10064), fittings/strips, a small blade (ON 10062), and an iron bow from a brooch (ON 10050) came from the upper fill of ditch 4448. Environmental evidence comprised spelt grains and glumes, hazelnut shell fragments, and seeds from grasses and knotweed.

The latest features in this area were pits 4135 and 4447; the latter may be an extension of the large quarry pit 4320, although no relationship was established (Fig. 3.2). Both of these features contained late Romano-British pottery.

Ditch 4342 was cut through the top of ditches 4423 and 4414, and although was not substantial may represent further modification of the enclosure.

Feature 4116/4047, immediately west of internal division 4422 (Fig. 3.2), was dug through grain drier 4049. Animal bone and some abraded late Romano-British pottery came from the lower fill of 4116/4047. A hoard of seven copper alloy coins (ONs 4905–11) of late 4th date (AD 388–408; Cooke, Chapter 5) was recovered from the upper fill. The level of wear on these coins indicates that they were in circulation for some time before they were deposited, probably early in the 5th century.

A number of features were dug through enclosure ditch 4411 (eg, 4287, 4297, 4302, 4273); a few unexcavated tree-throw holes indicate that the ditch had probably largely silted up. However the fills would have been softer than the surrounding ground, a factor of which the diggers of grave 4273 almost certainly took advantage. The grave measured *c.* 1.40 x 0.90 m and was 0.55 m deep. It contained the remains of a small coffin (shadow *c.* 0.91 x 0.37 m, and iron coffin nails), but no human bone was preserved. A sheep mandible and skull fragments, possibly the remains of deliberate deposit, were found in the south-western part of the grave. The size of the grave and coffin suggest the burial may have included the body of an older infant or juvenile (*c.* 3–12 years). A grain drier (4287 and 4297) and a tree-throw hole (4302) were dug into the top of enclosure ditch 4411. A crude chalk spindlewhorl was recovered from tree-throw hole 4302.

Grave 4304 was dug into the end of ditch 4336 and aligned along the edge of 4407, the southern ditch of enclosure A (Figs 3.2, 3.19). The grave measured 2.42 x 1.00 m and was 0. 70 m deep. The burial, an adult female *c.* 40–50 years old, had been placed in a coffin. Eight angle brackets with well preserved wood were recovered from this grave and are the only instance of coffin furniture from the cemetery (Marter Brown and Mepham, Chapter 5).

Enclosure D

Enclosure D lay to the south-west of enclosures A and C (Figs 3.1, 3.4–3.5); its location may have been influenced by the possible Bronze Age droveway (5500). This enclosure incorporated a number of features: a U-shaped ditch, rectangular enclosures, and masonry structures.

Enclosure D1

The U-shaped enclosure (5253, Fig. 3.4) and ditches forming a large rectangular enclosure (4436, EV2903, 5015, 5296 and 5454) were early Romano-British in date.

A number of short gullies and post-holes at the western end of the U-shaped enclosure may have been associated with an entrance structure. No finds were recovered from the fills, the phasing relying on spatial and stratigraphic relationships.

The northern edge of the rectangular enclosure was formed by ditch 4436, with a possible narrow entrance existed between it and ditch 5253. Ditch 4436 was up to 1.8 m wide and between 0.15 m and 0.80 m deep. A little ceramic building material, animal bone, and sherds of mid-2nd century pottery came from the upper fill. The southern edge of the enclosed area was formed by ditch 5015, part of

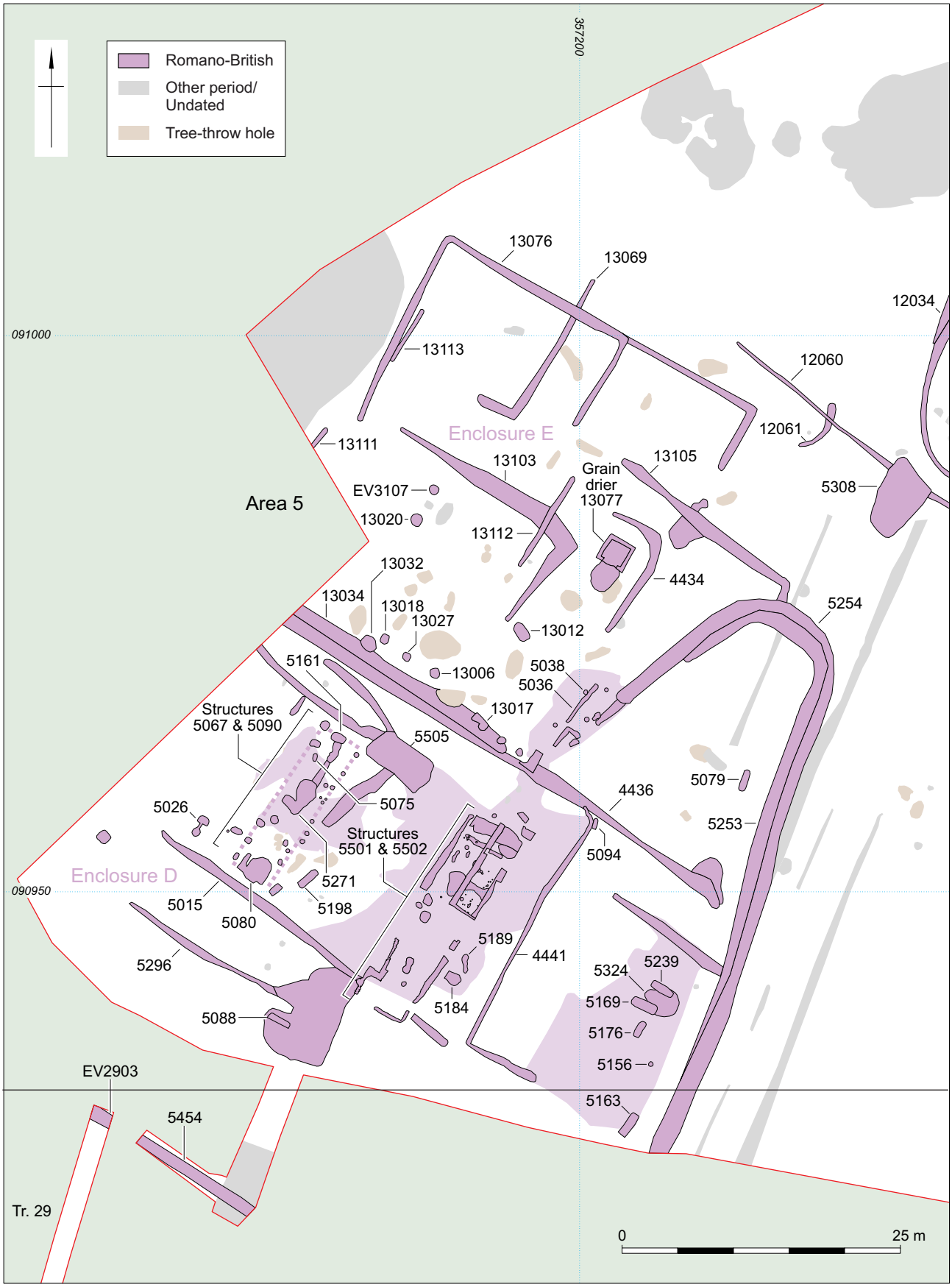

Figure 3.4 Plan of enclosures D and E and associated features

Figure 3.5 Schematic plan showing the development of the enclosures

which was cut by the masonry structure (5501, see below).

Ditch 5296 was parallel to ditch 5015 and may have formed a trackway to the south of the enclosure (Fig. 3.4). It was quite narrow and shallow (0.66 m wide and 0.22 m deep); no dating evidence was recovered. The enclosure system was identified in evaluation trench 29 and an extension to Area 5 (ditches EV2903 and 5454, Fig. 3.4), although only EV2903 was investigated. Ditches identified in evaluation trench 39 (Fig. 3.1) may also belong to this trackway.

Enclosure D2

Limited activity could be attributed to the phase D2 enclosure. Ditch 4441 (0.73 m wide and up to 0.35 m deep) was added to divide the enclosure (Fig. 3.5). Animal bone was recovered from the initial fill and Black Burnished ware pottery came from its latest fill. It is possible that this ditch divided the domestic/industrial and mortuary/open areas of the enclosure.

Enclosure D3 and D4

The U-shaped ditch 5254 was recut extending it further south (Figs 3.4–3.5). The ditch was 1.30–2.10 m wide and between 0.30 m and 0.90 m deep. Its profile was generally quite irregular perhaps suggesting clearance of the existing ditch rather than comprehensive remodelling. Between one and three fills were identified, a localised, chalky primary fill, with later fills containing Romano-British pottery and a few pieces of animal bone. Ditch 13034 cut the north–western section of ditch 4436. It was more

substantial than ditch 4436, measuring 2.50 m wide and 0.60 m deep. The middle and upper fills contained animal bone, Romano-British pottery, slag, and a residual flint scraper (ON 13509). It was cut by a number of later features including a grain drier and several pits and post-holes (see below).

Possible remodelling of the entrance to the U-shaped enclosure was indicated by possible beamslots and post-holes, which were apparently sealed by a spread. A small blue glass bead of Romano-British date was recovered from the fill of post-hole 5038 (ON 10314) and was similar to those from grave 5079 approximately 15 m to the east (Figs 3.4, 3.20; see Marter Brown and Mepham, Chapter 5).

An L-shaped ditch (4434) has been assigned to a late stage of development of enclosure D (Figs 3.4–3.5). It may have formed another division within the enclosure or been built to separate the grain drier 13077 from the other activities occurring within the enclosure.

Internal features

There were a number of internal features within the U-shaped enclosure including undated tree-throw holes and an isolated grave (5079). The grave measured 2.00 m by 0.80 m and was 0.50 m deep. It contained the remains of a juvenile *c.* 8–11 years old buried in a coffin. Grave goods included hobnailed footwear, 22 blue glass beads found at the hip (ON 5833), and two identical copper alloy armlets (ONs 5834–5) of 4th century date (Figs 3.4, 3.20; see Marter Brown and Mepham, Chapter 5 and Egging Dinwiddy, Chapter 6). A blue bead almost identical to those found in this grave was recovered from post-hole 5038 (see above).

Five inhumation burials, an urned cremation burial, and a large pit were in the eastern area of the enclosure (Figs 3.4, 3.9). The south-eastern portion of this area was apparently terraced (5045) and a colluvial deposit (5058), containing artefacts, built up over a fairly substantial period.

The burial in grave 5176 was made in the *Durotrigian* style, without an obvious coffin, the body placed on the side with the legs flexed (see Egging Dinwiddy, Chapter 6; Fig. 3.9). The burial was that of a subadult male *c.* 14–17 years old, who was suffering from mastoiditis (chronic infection of the bone behind the ears). A copper alloy Colchester type brooch, of 1st century AD date, was recovered from beneath the chin (Marter Brown and Mepham, Chapter 5), green staining, from the brooch, was noted on the right jaw bone.

Two inhumation graves (5169 and 5239) were cut into the top of pit 5324, and were therefore at least middle Romano-British in date. Both burials were extended and supine within coffins. Grave 5169 contained the remains of an adult male *c.* 35–45 years, the remains of an adult female *c.* 30–40 years were found in grave 5239. Both wore hobnailed footwear at the time of burial; a shale spindlewhorl (ON 5944; Fig. 3.21) was also found in grave 5239.

Grave 5163 near the southern edge of the excavation (Fig. 3.4) contained the remains of a coffined burial of an adult male, *c.* 20–25 years old. The individual had been buried wearing hobnailed footwear.

Grave 5156 contained the remains of an urned cremation burial of an adult female *c.* 35–45 years and an infant/juvenile *c.* 3–5 years. A few burnt chicken bones were also recovered (see Grimm, Chapter 7).The urn (ON 5880, Fig. 5.7, 1, Pl. 5.10) is of an unusual form and has tentatively been likened to examples of 3rd century date (Seager Smith, Chapter 5) and, as such, is considered late for cremation burials, the preferred rite being extended inhumation burial in this period (Philpott 1991, 53; McKinley, Chapter 6). A clay plug sealed the mouth of the vessel; this is a very rare survival and protected the vessel's contents unusually well (McKinley, Chapter 6). A piece of flint was used to cover the vessel (ON 5880, Seager Smith, Chapter 5).

An isolated, probably early, Romano-British grave (5094) lay at the junction between ditch 4436 and 4441. The grave was very shallow and contained the remains of a possible female subadult, *c.* 14–17 years. The burial was uncoffined and the body laid in a crouched position on the left side in the *Durotrigian* style.

Pit 5324, to the north of grave 5156, was substantial (measuring 3.10 x 1.25 x 0.72 m), and seems to have been filled with rubbish, although its original function remains unclear. A middle Romano-British date is indicated by the pottery; residual flint, animal bone, and the right arm of a neonate (0–0.5 yrs) were also recovered.

The deposit covering most of the terraced area within enclosure D probably accumulated over a fairly long period of time. Artefacts included several iron nails and a piece of repaired samian pottery (ON 5772) as well as animal bone, ceramic building material, oyster shell, fired clay, pottery (mixed Romano-British), and a bone pin/needle shaft (ON 5764). A sherd of probable Early Saxon pottery (Fig. 5.7, 2, see Mepham, Chapter 5) was also recovered from this deposit.

Buildings and associated structures

In the western area of enclosure D there were the remains of a number of semi-sunken structures and masonry buildings. Associated with these were ovens, grain driers, pits, post-holes, and linear features (Figs 3.4, 3.8). Patches of a subsoil probably similar in nature to the deposits within 'terrace' 5045, were seen over this area.

The area was dominated by a large semi-sunken, flint-walled structure (5501, Fig. 3.6), which was

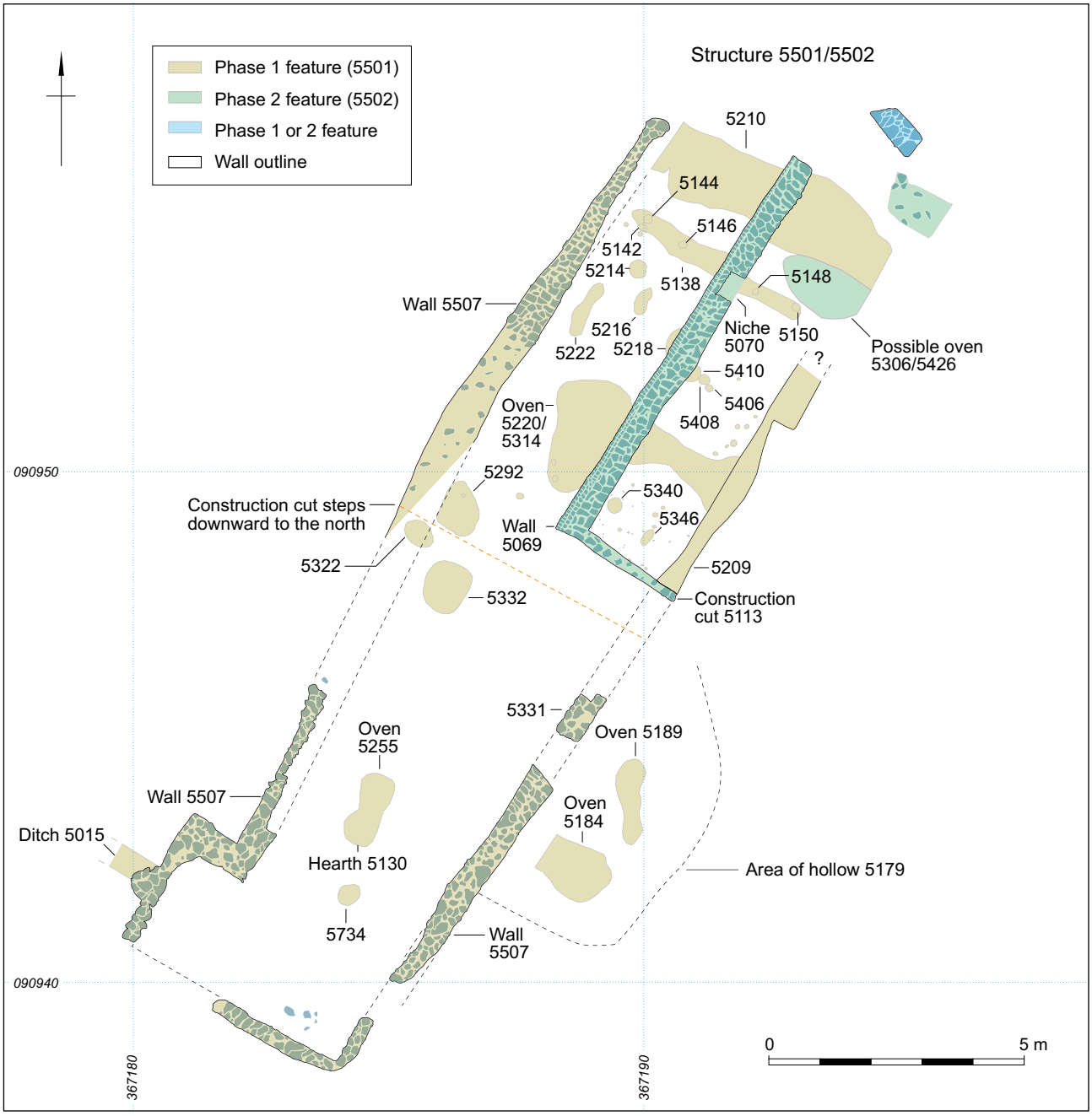

Figure 3.6 Plan of buildings 5501 and 5502

rebuilt at some stage (5502) (see below). Two ovens (5220/5314 and 5255) were identified within the building. Environmental remains from 5220/5314 indicates that chaff and other cereal processing waste was used as fuel (Pelling, Chapter 7). Two more ovens (5184 and 5189) were located outside the building in an apparently deliberately made hollow (5179, Figs 3.4, 3.6, 3.8). The upper fills of these ovens indicate that they were deliberately backfilled in the late Romano-British period and a coin (ON 5915) found within the overlying post-use deposit (5181) was of late 3rd century date.

Building 5501 was demolished and the area levelled. A second smaller flint-walled building (5502) was constructed (Fig. 3.6). A possible oven (5306/5426) appears to have comprised an oval flue (5426) projecting north from a sub-circular chamber (5306). The oven/kiln contained slag and burned clay lining fragments as well as iron fittings, pottery, including a sherd of wheel-thrown Black Burnished ware (Seager Smith, Chapter 5), and the semi-articulated remains of a sheep (Grimm, Chapter 7). Charred plant remains indicate the use of cereal waste as fuel. The evidence suggests a 4th century or later date for the feature, and presumably the building. Artefact-rich deposits overlying the backfilled earlier building may represent a working area immediately to the west of building 5502.

Plate 3.2 Buildings 5501 and 5502 prior to excavation

Building 5501

The earliest of the two masonry structures (5501) was the best preserved. It was possible to determine aspects of the construction, use, and treatment following its demise. The building was used in the middle–late Romano-British period. Initial construction consisted of two rectangular cuts *c.* 20 x 6 m, and *c.* 0.5 m deep. The northern half was slightly deeper, probably to compensate for the sloping topography. The patchy remains of a roughly constructed flint wall approximately 0.5 m wide (5507) was recorded around the inside of the construction cut. To the south, the wall was slightly wider where it crossed ditch 5015. At the northern end was a robber trench (5210) which contained a few remnants of the flint wall. Several post-holes and stake-holes were possibly associated with the original construction (not illustrated; 5212, 5334/5, 5336/7, 5447/6).

The rough nature of the lower wall courses may be misleading, nothing survived above the external ground level to indicate what the superstructure of the building was like. However it is possible that a timber superstructure was set on top of the low masonry wall, a typical style for the period which finds local parallels at Alington Avenue (Davies *et al.* 2002, 62–4, 66–9, figs 28, 30, pl. 20). The relatively sparse quantities of ceramic building materials from the demolition and later deposits suggest that the building was not tiled; glazed windows are also unlikely as only two fragments of window glass were recovered. An internal division or support is indicated by post-holes 5144, 5146, 5148, and 5150 within a post-trench. A few sherds of Romano-British pottery came from the post-trench.

A floor layer (5167; not illustrated), two ovens, a hearth, and some pits/post-holes were associated with this phase of the building. A few metal objects (an iron nail, a copper alloy stud, and some fragments of copper alloy) came from the floor layer and are likely to be associated with the use of the building. The ovens (5255 and 5220/5314) were cut into the base of the construction cut. Oven 5255 contained pottery of broad Romano-British date and some fired clay, which may have been part of the superstructure.

Ovens 5220/5314 and 5255 were double-chambered with a central flue, one originally lined with limestone blocks. Only one use phase was observed in the ovens; rakings from the final use were left within the oven prior to demolition and deliberate backfilling. This undoubtedly occurred at the same time as the demolition of building 5501 and consolidation of the area before the construction of building 5502. Only fired clay and a few pottery sherds, an iron nail and some animal bone came from the ovens. The charcoal-rich deposits within the ovens included the remains of various cereals, vetch/bean, weeds and hazelnut shells. Cereal processing waste seems to have been used as fuel for the oven (Pelling, Chapter 7). The upper deposits comprised deliberate dumps of material which included remnants of the demolished oven superstructure (fired clay, limestone blocks), rubbish (animal bone, pottery, whetstone) and stone rubble from the demolition of building 5501. A possible hearth (5130) lay close to oven 5255. Neonatal human remains were found in the upper fill of oven 5255 (5258) and in a layer immediately above the backfilling of oven 5220/5314 (5221). Both these deposits probably derived from the demolition of building 5501. Neonatal remains are commonly found in association with Romano-British buildings; babies and infants were rarely included in cemeteries (Egging Dinwiddy, Chapter 6), so the recovery of these bones is not unusual.

Along the south-western side of building 5501 was a hollow (5179, Figs 3.4, 3.6, 3.8), which was probably contemporary with the original construction, and may represent a working area. Two ovens (5184 and 5189) were cut into the base. Both were fairly simple in form and clay lined; each showed signs of *in situ* burning.

Building 5001 was demolished and the area levelled. A large quantity of pottery and animal bone suggests that domestic refuse was also disposed of either from the building itself or from elsewhere in the settlement. Two mid–late 3rd century coins were recovered from the levelling deposits (Cooke, Chapter 5, ONs 5789, 5915). These deposits also contained probable demolition debris including stone, ceramic building material, mortar, and iron nails and fittings.

Building 5502

Only the western, southern and possibly the northern walls were evident, the building measuring *c.* 9.5 m by 4.5 m. The wall construction cut (5113) was *c.* 0.66 m wide and 0.57 m deep, cut through the

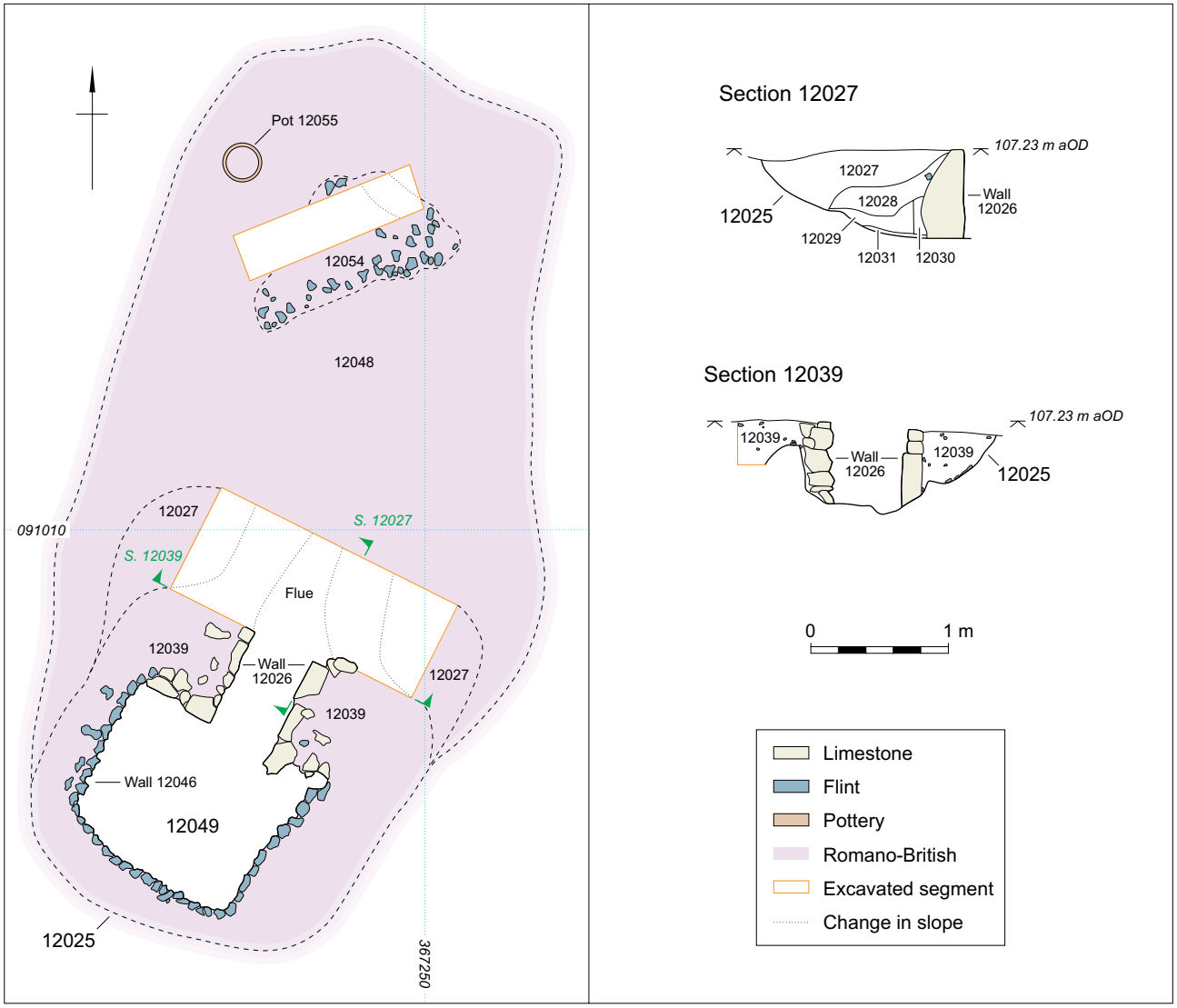

Figure 3.7 Plan of grain drier 12049 and associated spread

levelling deposits (see above). The western wall (5069) was neatly constructed of flint nodules (*c.* 200–400 mm) and was set on a mortar bedding layer (Fig. 3.6). In order to add strength, the wall was deeper where it coincided with earlier features such as oven 5220. A small silver finger ring (ON 5788, Marter Brown and Mepham, Chapter 5) was found amongst the rubble (5070) in a niche on the eastern side of the western wall (Fig. 3.6). The orderly nature of the wall may indicate that a proportion of it was visible above the construction cut.

Only one internal feature, probable oven/kiln (5306/5426) was associated with any certainty with this building. Slag from the feature may suggest an industrial function. The semi-articulated remains of a sheep were also found. The pottery suggests a 4th century date for backfilling of this feature.

The remains of an external surface were recorded, containing limpet and cockle shells, above which was a compact chalky layer (5182) and a gradually accumulated silt (5183). Finds from these layers include hobnails, nail shanks, and fittings. A fragmentary decorated antler cheek piece (ON 5753, Marter Brown and Mepham, Chapter 5) of probable Middle or Late Bronze Age date was recovered from a cleaning layer in this area.

Semi-sunken structures

To the north-east of buildings 5501 and 5502 were several semi-sunken structures (5067 and 5090), ovens, linear features, pits, and post-holes (Figs 3.4, 3.8). Structures 5067 and 5090, although not well defined, appear to represent more than one phase of a working area, activities perhaps including metalworking. Post-holes appear to delineate an approximately rectangular area (Fig. 3.8), within which were two ovens (5271 and 5080). Another semi-sunken structure (5505) lay to the north-east, and outside enclosure E was a further example (5308) (Figs 3.4, 3.8, see below).

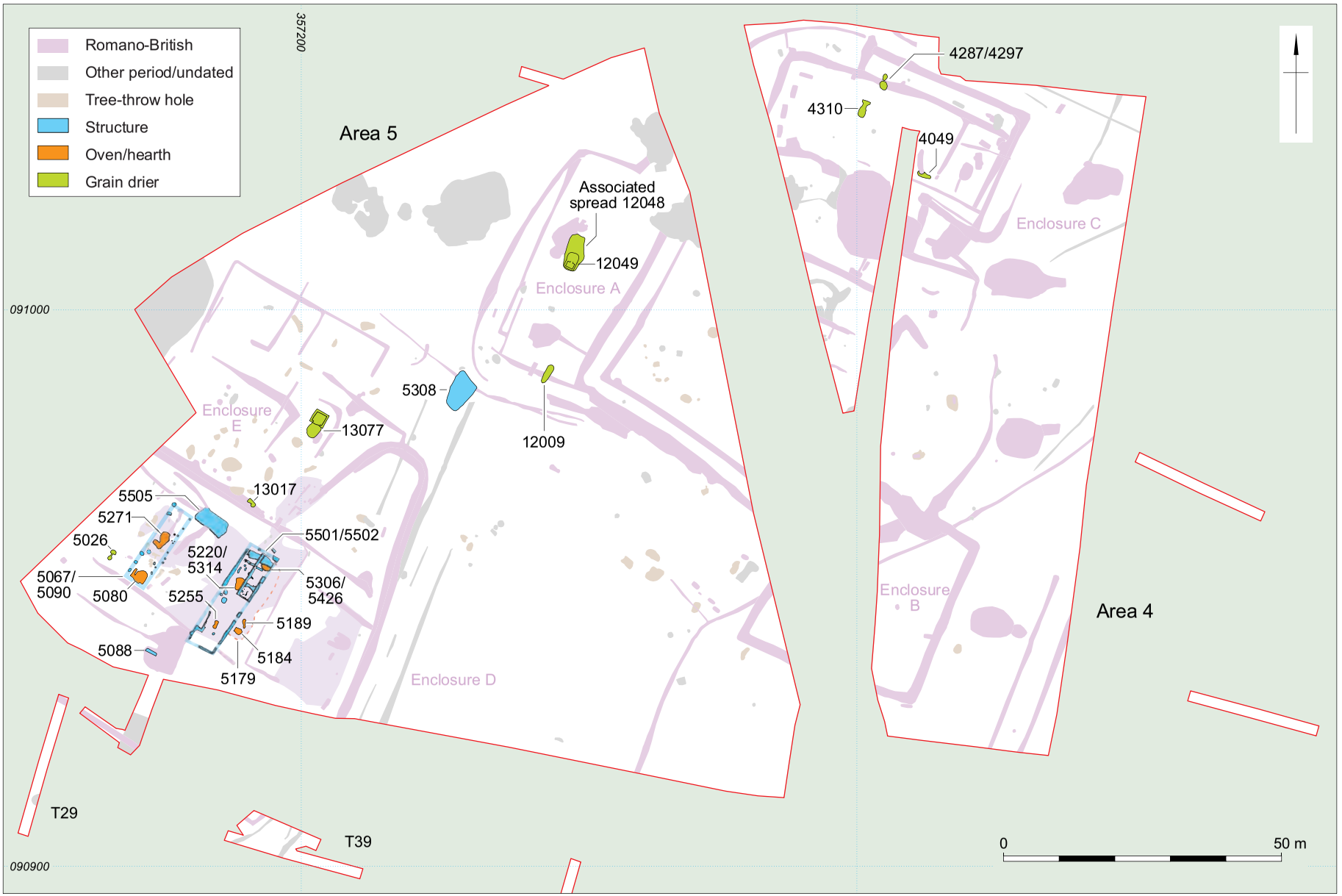

Figure 3.8 Semi-sunken structures, ovens and grain driers in Areas 4 and 5

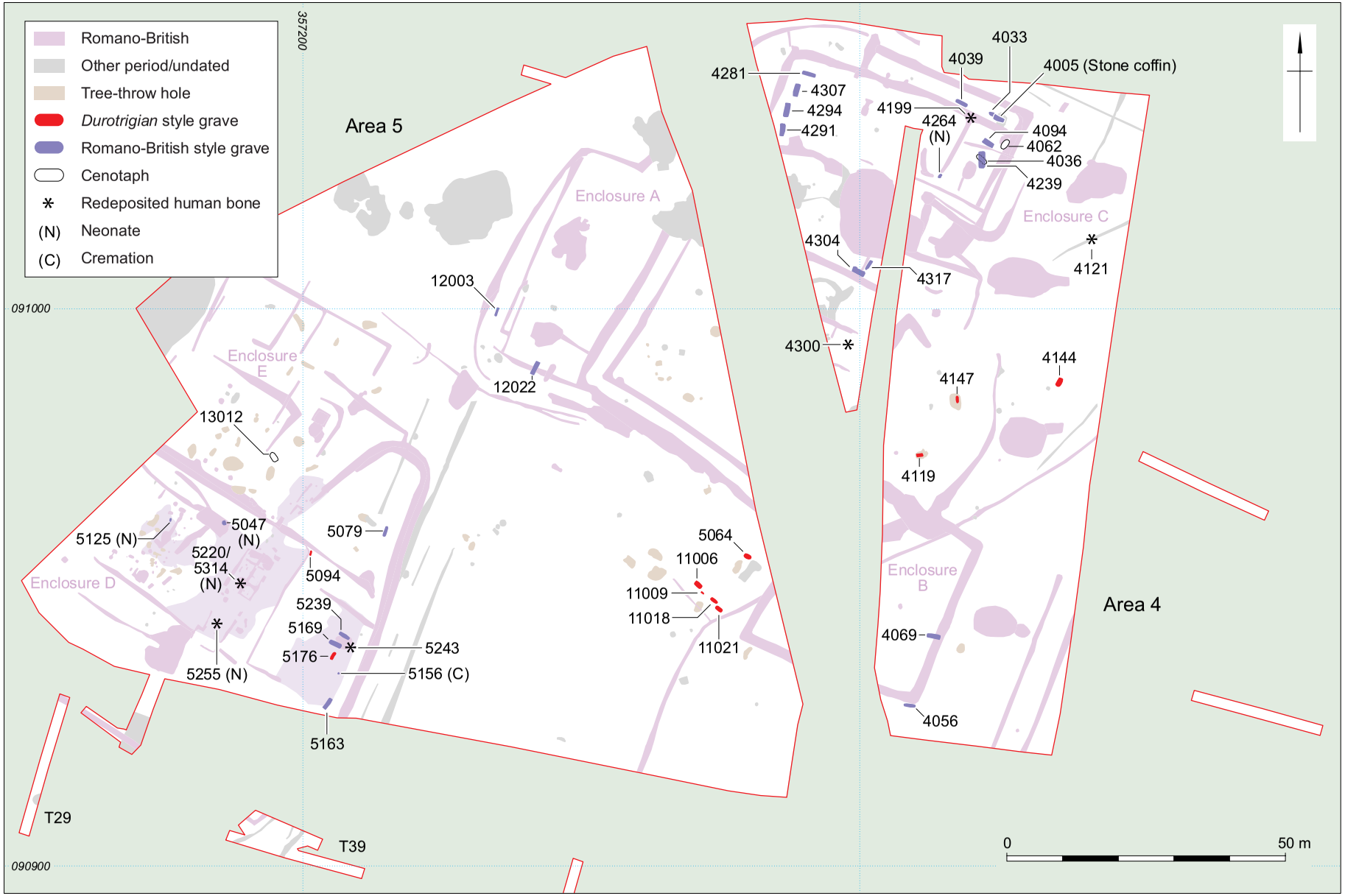

Figure 3.9 Durotrigian *and Romano-British burials in Areas 4 and 5*

Table 3.2 Summary of Romano-British ovens/kilns

Feature	*Date*	*Location*	*Dimensions (m)*	*Form*	*Fills*	*Finds & environmental remains*
5080	late RB	structure 5067	2.88 x 2.58 x 0.15	sub-circular chamber(s), flue at 90°; limestone blocks, chalky mortar; ?industrial oven/kiln	>2; flue contained charcoal-rich deposit	unident. grain frags
5184	mid–late RB	5179, building 5501	1.34 x 1.2 x 0.31	?pear-shaped (incomplete); clay lining; ?domestic oven	4; chalk rubble; charcoal & burnt chalk & burnt clay; sandy layer; backfill	use – fired clay; backfill – late RB pottery, whetstone, stone, charcoal & fired clay; spelt; barley; oats/brome grass, grass, weeds, vetch/bean
5189	mid–late RB	5179, building 5501	1.68 x 0.68 x 0.30	elongated oval; clay lining; ?domestic oven	5; charcoal; burnt clay; charcoal-rich deposit; collapse/ backfill; chalk rubble consolidation	use – RB pottery, iron nail, animal bone, fired clay; backfill – late RB pottery, animal bone, stone rubble; hulled wheat, weeds
5220/ 5314	mid–late RB	building 5501; cut away by building 5502	3.24 x 1.5 x 0.34	2-chambered; pear-shaped; limestone blocks (*ex situ*); ?domestic oven	4; structure; charcoal rich deposit; collapse/ backfill; silting	hulled wheat, barley, hazelnut shell
5255	mid–late RB	building 5501	1.45 x 0.66 x 0.18	2-chambered; figure-of-eight shaped, central flue; ?domestic oven	3; silty primary; charcoal-rich deposit; collapse/ backfill	RB pottery, fired clay, neonatal human bone; spelt, weeds, vetch/bean
5271	late RB	structure 5090	3.5 x 1.96 x 0.33	2-chambered; pear-shaped, flue at 90°; limestone blocks (*ex situ*); ?industrial oven/kiln	3; charcoal-rich deposit & backfills	backfill – late RB pottery, stone, iron nail, animal bone, copper alloy sheet
5306/ 5426	late RB	building 5502	2.18 x 1.39 x 0.44	chamber & flue; ?industrial oven/kiln	1; chamber 5; flue	late RB (wheel-thrown) pottery, copper alloy, flint, slag, animal bone (semi-articulated sheep), burnt clay; hulled wheat, spelt, brome grass, vetch

Pits 5161 and 5075 in the northern end of structure 5090 (Fig. 3.4) were fairly substantial, measuring up to 1.20 x 0.80 m and 0.40–0.25 m deep. Both had steep straight sides and a flat base. Semi-articulated sheep skeletons were recovered from both features (Grimm, Chapter 7). Pit 5161 also contained a few sherds of Romano-British pottery.

Ovens 5080 and 5271 (Figs 3.4 and 3.8) may have been industrial and potentially later than the ovens within, and adjacent to, building 5501. They were double-chambered; both also had flues positioned at right-angles to the main body of the structure, unlike the other ovens. Both contained large limestone blocks probably originally part of the superstructure, one evidently bonded with a chalky or lime mortar. The initial deposits were charcoal-rich, although only a few grain fragments were recovered. The rest of the deposits probably represent demolition or collapse of the superstructure and deliberate infilling. The pottery suggests a late 4th century date for the abandonment of 5271.

Evidence for metalworking was recovered from pit 5198, which was originally thought to represent copper working, however the small quantity of hammerscale found is more likely to indicate ironsmithing. Pit 5198 also contained pottery, and As/Dupondius of 1st to 3rd century date, a couple of iron nails, some slag, a couple of pieces of glass, some animal bone and a couple of unidentifiable iron and copper alloy fragments.

The largest of the semi-sunken structures (5308 and 5505) each measured *c.* 6 m by 4.5 m. The fills seem to have large accumulated naturally and contained only a few finds including pottery, nails, hobnails, shell, and animal bone. These structures seem to have had different functions and were probably outbuildings and working areas for the small farmstead. An iron lift key, a shale armlet blank, and pottery were recovered from the fill of 5505. A few pieces of demolition debris were also recovered (CBM, window glass, fired clay). The grave of a neonate (Egging Dinwiddy, Chapter 6) was cut into

the base of 5505 (Fig. 3.9). Another similar semi-sunken feature (5088) lay to the south-west of building 5501 (Figs 3.4, 3.8).

Grain drier 5026 in the south-western part of enclosure D to the west of the structures (Figs 3.4, 3.8) was of middle–late Romano-British date. It was stone-lined and evidence for *in situ* burning was recorded. An early deposit, possibly a clay lining, was clearly heat affected, and the overlying deposit probably represents the final firing. Some spelt and barley grains were recovered. Slag and iron nails within the initial fills may reflect industrial activities within this area. Upon abandonment the remaining hollow was backfilled with refuse. A subsequent chalky fill, possibly trampled, may indicate an attempt at consolidation, followed by a period of natural silting.

Enclosure E

A number of ditches to the north of enclosure D seem to have formed fields, perhaps associated with the activities being undertaken within enclosure D (Fig. 3.4). Several broad phases were identified. There were only a few features in this area, perhaps reinforcing the idea that these were fields associated with the buildings to the south.

The earliest phase is represented by ditches 13111, 13113 and 13069 (Figs 3.4–3.5). Ditches 13103 and 13105 may have been used to channel stock into this area. Ditch 13076 was subsequently dug, creating a series of small square fields or enclosures. The fills of these ditches contained only a few residual flints, Romano-British pottery and a little animal bone. At some stage ditch 13076 was redug, dividing the enclosure into two areas.

A few pits, post-holes, grain drier 13077, a possible emptied grave or cenotaph (13012), and numerous tree-throw holes were recorded in enclosure E (Fig. 3.4). Other than grain drier 13077, few of these features contained much dating evidence, but a late Romano-British date is possible for most of them.

Grain drier 13077 was dug into the top of a tree-throw hole. It was a large rectangular pit with a rounded south-western chamber. It had a mortared flint and stone lining with a central stone lined flue. Stake-holes cut into the base presumably supported some form of superstructure. A large fragment of limestone near the centre of the square chamber may have acted as a floor support. The chalk base and some of the stone blocks clearly showed evidence for *in situ* heating at the mouth of the flue. A cattle skull and neonatal animal bone placed at the back end of the flue, close to the large limestone fragment, may have been deliberately placed. A fragmented human femur from an adult (possible male) and iron nails within the backfill might suggest that a grave had been disturbed, although the nails could also have been associated with the grain drier superstructure. Once the grain drier had gone out of use domestic rubbish was dumped into it (Table 3.1).

Plate 3.3 Grain drier 13077 showing large stone in base

Quarries

Five marl or chalk quarries were identified in Area 4 (Figs 3.1–3.2, Pl. 1.1), four of which were aligned along the eastern side of the site. They were sub-square measuring 8 m by 11 m, and three had a small squared access ramps. Only feature 4011 was investigated and was found to be over 1.20 m deep but was not bottomed due to safety constraints. Eight fills, generally representing deliberate backfilling episodes were identified. Few finds were recovered, the exception being the upper deposits which contained Romano-British pottery, ceramic building material, flint and iron nails. To the north-west of quarry 4011 was quarry 4230. Feature 4447 may have been associated but no relationship could be established. This quarry was of late Romano-British date. Two much smaller Romano-British quarries were excavated at Poundbury Parkway (Chapter 4, Fig. 4.1).

It is probable that all of the quarries date to the Romano-British period, however these features are inherently difficult to date. Chalk quarries or marl pits of varying dates have been recorded in numerous sites in the vicinity (Gardiner 2001, 154, 159; Butterworth and Gibson 2004). Some of these quarries may be prehistoric in date but as chalk quarrying was still being carried around Poundbury in the early 20th century (Gardiner 2001, 159) they may equally be quite late.

Table 3.3 Summary of Durotrigian *graves (all uncoffined)*

Cut	*Burial*	*Shape*	*Dimensions (m)*			*Orientation*	*Age/Sex*	*Position*	*Grave Goods*
4119	4181	rectangular	1.25	0.60	0.46	W–E	adult >55 yr; f	flexed, r	silver 1st century Colchester-type brooch
4144	4145	sub-rect.	1.75	1.10	0.40	S–N	adult *c.* 35–45 yr; f	crouched, r	Mid-1st century pot
4147	4167	sub-rect.	1.35	0.70	0.36	N–S	adult >55 yr; f	flexed, r	
5064	5066	sub-rect.	1.47	0.90	0.36	NW–SE	adult *c.* 24–28 yr; m	flexed, l	hobnails, lamb foreleg (?summer/ early autumn burial)
5094	5095	sub-rect.	1.00	0.40	0.05	NNE–SSW	subadult/adult *c.* 14–17 yr; ??f	crouched, l	
5176	5177	sub-rect.	1.56	0.70	0.46	SW–NE	subadult *c.* 14–17 yr; m	flexed, r	1st century Cu alloy brooch
11006	11008	sub-rect.	0.80	0.40	0.07	SE–NW	infant *c.* 3–4 yr	flexed, l	
11009	11011	sub-rect.	1.62	0.90	0.34	SE–NW	adult *c.* 40–55 yr; f	flexed, r	4 mid-1st century pots
11018	11020	sub-rect.	1.54	0.70	0.40	NW–SE	adult *c.* 35–45 yr; f	flexed, r	late RB Cu alloy bracelet
11021	11022	sub-rect.	1.47	0.80	0.37	SE–NW	adult *c.* 45–60 yr; f	flexed, r	mid-1st century pot

Mortuary Activity

Thirty-three graves were identified across Areas 4 and 5 (Fig. 3.9); these contained 34 inhumation burials (grave 12022 contained an adult female with *in utero* foetus, Fig. 3.22). One of the graves (4005) contained a stone lidded coffin (Figs 3.9, 3.13, Pl. 3.6). The remains of two individuals were recovered from an urned cremation burial (grave 5156) in the southern part of Area 5 (McKinley, Chapter 6). Redeposited human bone was also recovered from a number of features (eg, pit, grain drier, ditch, grave fills; Egging Dinwiddy, Chapter 6). Two distinct Romano-British burial practices were identified: early Romano-British *Durotrigian* and generally later burials, which have simply been termed Romano-British.

Durotrigian Graves

The *Durotrigian* burial rite is peculiar to this region of Dorset. The bodies are commonly laid on their side with the legs flexed (or even crouched) and are frequently accompanied by a number of grave goods, particularly ceramic vessels. Such burials have been recognised in several cemeteries around Dorchester (Davies *et al.* 2002; Farwell and Molleson 1993; Smith *et al.* 1997). A Late Iron Age/early Romano-British date is usually assigned to this form of burial and it is considered to represent the preferred local 'indigenous' burial rite. Most of the datable *Durotrigian* burials from Poundbury Farm are of early Romano-British date (Table 3.3). However, the presence of a late Romano-British armlet in grave 11018 perhaps indicates that the picture is more complex.

Ten burials were made in the *Durotrigian* style (Table 3.3, details in the grave catalogue). No stratigraphic relationships were recorded with any other features, apart from graves 4119 and 4147, which had been cut through tree-throw holes.

The *Durotrigian* graves contained the remains of largely older adult females (60%), a young adult male, and three immature individuals. Of the latter, two were subadult – a male and a possible female aged *c.* 14–17 years. An infant (11008, Fig. 3.9), approximately 3–4 years old, was the youngest of the *Durotrigian* burials.

The graves were morphologically similar; most were *c.* 0.40 m deep (Table 3.3)and those containing adult remains were *c.* 1.25–1.75 m long (averaging 1.49 m), and 0.60–1.10 m wide (averaging 0.81 m). Graves containing immature remains were *c.* 0.80–1.56 m long (average 1.12 m), 0.40–0.70 m wide (average 0.50 m) and 0.10–0.50 m deep (average 0.23 m). Like the adults, the dimensions of the graves made for immature burials were generally relative to the size and burial position of the individual.

Three graves were orientated south-east–north-west (head/foot) (30%), with the reverse occurring in two cases (20%); all were from the group adjacent to ditch 4405. Each of the remaining five graves varied in orientation (Fig. 3.9; Table 3.3). Eight (80%) burials were made in a flexed position, with two (the adult male and the infant) placed on the left and six on the right side (adult females and the subadult male). The bodies in graves 4144 and 5095 (an elderly female and a subadult possible female) were placed in a crouched position, the former lain on the right and the latter on the left side. There was no evidence to suggest that any of the *Durotrigian* burials had been placed in coffins.

a

b

c

Plate 3.4 Stone coffin, (a) note damage to lid, (b) with lid removed showing soil filling and (c) with the human remains revealed

Plate 3.5 Romano-British skeleton 4089 with knife in grave 4069

Grave goods including pottery vessels, personal adornment items, and offerings of joints of meat, represented by animal bones, were present in seven of the graves (eg, Figs 3.10–12). Three graves were without evidence for grave goods – the infant (11006), the subadult possible female (5094) and an adult female (4147).

Most of the graves appear to have been located in relation to field boundaries or other landscape divisions. Four graves (11006, 11009, 11018, and 11021) were arranged in an approximately linear group next to ditch 4405 (Fig. 3.3), while a fifth grave (5064) lay less than 10 m to the north-east. This group included the remains of the infant and young adult male (graves 11006 and 5064, Table 3.3). Grave 11018 is of late Romano-British date (see Marter Brown and Mepham, Chapter 5) based on the presence of an unusual armlet. The position of grave 11018 within the group suggests that the graves were marked in some way. Pottery vessels from graves 11009 (Pls 3.4–3.5) and 11021, which flanked grave 11018, are of mid-1st century AD date. The late Romano-British date for grave 11018 may indicate a return to earlier burial traditions.

Graves 5094 and 5176 lay in the western part of Area 5 (Fig. 3.9). Grave 5094 (containing the remains of a subadult possible female) was isolated in the corner of a field, whilst the possible male in grave 5176, was part of a group that included later Romano-British burials and an unusual 3rd century urned cremation burial (5156; see below). The remaining three graves (4119, 4144 and 4147), in Area 4, contained the remains of adult females, of which two were associated with later tree-throw holes, which may or may not be of significance. In contrast to the previous group of graves, these did not have an obvious association with any discernible boundaries.

Romano-British Graves

Twenty–three Romano-British inhumation and a cremation grave were recorded in Areas 4 and 5 (Fig. 3.9, Table 3.4, and detailed in the grave catalogue). These inhumation burials were made in the widely adopted extended and supine style, often within wooden coffins (Philpott 1991). Where it was possible to tell, the Romano-British burials at Poundbury Farm were dated to the middle and late Romano-British period (2nd–5th centuries).

The remains of 24 individuals were found buried within the 23 graves. A minimum of six further individuals, most likely of Romano-British date, are represented by disarticulated human remains found in grave and ditch backfills. The *in situ* remains comprise 17 adults (eight males, eight females, one unsexed) and seven immature individuals consisting of a foetus (buried with an adult female), three neonates, two infants, and a juvenile.

Graves containing the remains of adult burials were between 1.13–3.10 m long length (average 2.29 m), 0.50–1.30 m wide (average 0.93 m) and 0.10–1.10 m deep (average 0.62 m) (Table 3.4). Grave 4239 was notably large, containing the remains of a young adult male, whose stature (1.63 m) was slightly below the average for the site (Fig. 3.16, Egging Dinwiddy, Chapter 6, Table 6.5). Graves containing the remains of immature individuals ranged between 0.35 m and 2.15 m long (average 1.06 m), 0.30–1.2 m wide (average 1.53 m), and 0.10–1.00 m deep (average 0.32 m). Two graves (4094 and 5079) that contained the remains of immature individuals were significantly oversized for the burial, the grave dimensions being more akin to those dug for the adults.

Most of the graves (87%) were either rectangular or sub-rectangular in plan. Exceptions comprised an irregular (4%) and two sub-circular graves (9%), the latter contained infant and neonatal bones (Table 3.4).

Very little intercutting occurred between graves, with only grave, 4005 (which contained the coffin),

Table 3.4 Summary of Romano-British graves

Cut	*Burial*	*Shape*	*Dimensions (m)*			*Orientation*	*Coffined (Y/N)*	*Age/Sex*	*Position*	*Grave goods/coffin furniture*
4005	4032	rect.	2.24	1.20	0.51	NW–SE	Y: stone	adult >40–50 yr; ??m	extended, supine	hobnails, nails
4033	4034	sub-rect.	1.13	1.00	0.09	NE–SW	N	adult >40 yr	supine	hobnails, nail
4039	4041	rect.	2.31	1.10	0.97	SE–NW	Y	adult *c.* 20–25 yr; ?f	extended, supine	hobnails, nails
4056	4057	sub-rect.	2.22	0.70	0.70	NW–SE	Y	adult 40–50 yr; ?m	extended, supine	hobnails, dog/fox bone, nails
4069	4089	rect.	2.50	0.80	0.80	W–E	Y	adult *c.*45–55 yr; ??m	extended, supine	knife blade, hobnails, nails
4094	4113	rect.	2.15	1.20	0.96	SE–NW	Y	infant *c.* 3 yr	extended, supine	hobnails, sheep's skull, nails
4239	4240	rect.	3.10	1.30	0.97	N–S	Y	adult *c.* 24–28 yr; m	extended, supine	hobnails, unidentified iron object, nails
4264	4265	sub-rect.	0.70	0.60	0.06	N–S	N	neonate	?	
4281	4280	sub-rect.	2.55	0.70	0.45	NW–SE	Y	adult *c.* 35–40 yr; f	extended, supine	hobnails, iron tang/handle, nails, scraper
4291	4293	sub-rect.	2.42	1.20	0.54	NE–SW	Y	adult *c.* 45–55 yr; m	extended, supine	nails
4294	4296	sub-rect.	2.74	1.10	0.50	N–S	Y	adult 40–45 yr; f	extended, supine	nails
4300	4301	sub-circ.	0.42	0.30	0.08	n/a	N	infant *c.* 2–3 yr	N/A	
4304	4305	rect.	2.42	1.00	0.71	W–E	Y	adult *c.* 30–40 yr; m	extended, supine	nails, iron fittings
4307	4308	rect.	2.37	1.10	0.77	N–S	Y	adult *c.* 40–50 yr; f	extended, supine	hobnails, nails
4317	4318	sub-rect.	2.26	0.70	0.41	S–N	Y	adult >35 yr; f	extended, supine	hobnails, nails
5047	5048	sub-circ.	0.35	0.30	0.06	n/a	N	neonate	?	
5079	5078	sub-rect.	2.00	0.80	0.49	SW–NE	Y	juvenile *c.* 8–11 yr	extended, supine	2 Cu alloy armlets, blue glass beads, hobnails, rooster, nails
5090	5125	irreg.	0.74	6.00	0.10	n/a	N	neonate	?	
5156	5157	sub-circ.	0.38	0.40	0.10 (min.)	n/a	urned burial	adult >25 yr	N/A	?late 3rd century cinerary urn, chicken bones
5163	5165	sub-rect.	1.81	0.70	0.40	S–N	Y	adult *c.* 25–30 yr; m	extended, supine	hobnails, nails
5169	5171	sub-rect.	2.47	0.90	1.08	SE–NW	Y	adult *c.* 35–45 yr; ?m	extended, supine	apotropaic nail in mouth, hobnails, domestic fowl under pelvis, nails
5239	5241	sub-rect.	2.15	0.80	0.88	NW–SE	Y	adult *c.* 30–40 yr; f	extended?	shale spindlewhorl, hobnails, nails
12003	12005	sub-rect.	1.70	0.50	0 .04	?N–S	Y	adult *c.* 20–25 yr; ?f	extended, supine	
12022	12024	sub-rect.	2.55	1.00	0.67	N–S	Y	1) adult *c.* 35–50 yr; f 2) Foetus *c.* 34–40 wks	extended, supine	hobnails, nails

cutting through the burial in grave 4033 (Figs 3.2, 3.13). Possible emptied grave or cenotaph 4036 (see below) cut through the backfill of grave 4239. More frequently the graves cut through earlier features such as enclosure ditches (eg, graves 4069, 4304, and 12022), and pit 5243 (Fig. 3.9). Neonatal and infant remains were found predominantly in a disarticulated state and in association with structures. The *in situ* neonate burials were associated with semi-sunken structures in enclosure D (grave 5047 and 5090), while grave 4264 was cut to the south of a ditch terminal in enclosure C (Figs 3.2, 3.9).

Many graves were clearly associated with enclosure ditches, with some being aligned on the ditches or abutting them (both internally and externally), and others deliberately transversely cutting ditches which, although substantially backfilled, must still have been evident. The graves generally formed small clusters, although several may be considered outliers. The clusters in enclosures C and D seem to represent small family burial plots. The remaining graves comprised a pair containing the remains of a male and a female just south of quarry 4320/4447, and two sets of less closely

Plate 3.6 Early Romano-British skeleton 11011 (Durotrigian) *in grave 11009 with pottery vessels*

Plate 3.7 Early Romano-British grave 11021 (Durotrigian) *showing skeleton 11022 and pottery vessel*

positioned pairs comprising two females in the western part of enclosure A, and two males in the vicinity of enclosure B.

Grave orientation was quite variable, with 40% based on a roughly north–south axis and 35% on a north-west–south-east axis (Table 3.4). As well as location, the grave orientation seems to have been strongly influenced by the enclosure ditches, something exemplified at Alington Avenue on the eastern side of Dorchester (Davies *et al.* 2002, fig. 57, 128–129).

The most frequent orientation of the burial was with the head to the north and feet to the south, followed by head north-west and feet south-east, with a small number of variations (Table 3.5).

As burial position was one of the determining characteristics of the Romano-British style burial, it is no surprise that 17 (89%) of the 19 observable body positions were extended and supine. The remains of the neonates and an infant were either too incomplete, or not recognised as *in situ* burials during excavation, which precluded identification of the burial position (Table 3.4). Different positions included the burials in graves 4239 and 4291 (Figs 3.16, 3.18). The former appeared to have been pushed up against one side of the grave, with the head bent backwards. The position of the skeleton may indicate that the coffin was allowed to tip and tilt during placement within the comparatively deep grave (Table 3.4). This burial also had a clear coffin shadow around the skeleton, although the coffin nails were clustered to one side. It may be that there was a wooden structure (eg, another coffin) adjacent to the burial, however it is also possible that this represents the collapse and splaying of the coffin sides. The body may have been wrapped in a shroud given the position of the bones within the grave. The burial in grave 4291 was extended and supine, however the coffin was placed hard against one side of the grave, leaving space enough for a second burial, although no further evidence for one was found.

Most burials (74%) were made in wooden coffins fixed with varying numbers of iron nails (eg, 4294, 5169, 12022, Figs 3.18, 3.20, 3.22). One grave 4304 contained eight iron angle brackets, which would have been on the corners of the coffin (Fig. 3.19, Marter Brown and Mepham, Chapter 5). A further burial was made within a lidded stone coffin (grave 4005; Figs 3.9, 3.13, Pl. 3.4). Five burials were made uncoffined, of which four were of immature individuals (three neonates, one infant), and one was that of an adult (grave 4033).

Table 3.5 Orientation of Romano-British graves

Orientation (head first)	*No. (% of observable)*
NE–SW	2 (10)
N–S	6 (30)
NW–SE	4 (20)
SE–NW	3 (15)
S–N	2 (10)
SW–NE	1 (5)
W–E	2 (10)

Grave goods were present in 19 graves, those that lacked goods contained the remains of neonates, an infant burial, and an adult female (see Table 3.4). Goods included items of personal adornment (beads, and armlets in grave 5079, Fig. 3.20), practical items such as a knife (grave 4069, Fig. 3.14, Pl. 3.5), and a spindlewhorl (grave 5239) (Fig. 3.21). A single example was recorded of a deliberately placed nail in the deceased's mouth (grave 5169, Figs 3.9, 3.20), a practice which finds local parallels at Little Keep (Seager Smith 2009, 37–8) and the Poundbury Cemetery (Farwell and Molleson 1993, 148, pl. 50).

The most common grave goods were hobnails: 1595 hobnails came from 18 graves, accompanying individuals from a range of ages and both sexes. At least 14 individuals were buried in hobnailed footwear (eg, 4281 and 5169, Figs 3.17, 3.20) as indicated by groups of hobnails in the foot region. Further clusters of hobnails elsewhere in the grave probably also represent shoes or boots provided as grave goods. This may also be the case where hobnails were found throughout the fills of some graves, probably as the result of alter disturbance. In grave 5163 a disparity between the numbers of hobnails may indicate that there had been a repair to the shoe or boot (Marter Brown and Mepham, Chapter 5). Organic grave goods may also have been provided but the evidence was restricted to animal bone. A range of animals was represented including domestic mammals and fowl which presumably represent joints of meat or whole carcasses put into the graves (Grimm, Chapter 7). The grave goods are typical for the period and fit in well with the known evidence from the region.

A few spelt and barley grains were recovered from some of the graves, which fits with the general pattern of material from the middle and late Romano-British features.

Cremation Grave

The cremation grave (5156, Figs 3.9, 5.7, 1) contained the urned cremated remains of two individuals – an adult female *c.* 35–45 years and an infant/juvenile *c.* 3–5 years. A late 3rd century date has been suggested for the urn (Seager Smith, Chapter 5), which would be rather later than the norm for Romano-British cremation burials (Philpott 1991). No parallel has been found for the clay plug (McKinley, Chapter 6).

Mortuary-related Features

Three possible cenotaphs or emptied graves (13012, 4036, and 4062) were recorded in Areas 4 and 5. These generally comprised grave-shaped features containing one or two artefacts of a potentially mortuary nature (eg, iron nails or hobnails). These features would appear to be of a late Romano-British date. A 4th century coin (ON 13505) came from 13012 and may indicate disturbance to this possible grave (Cooke, Chapter 5).

Grave Catalogue

Coffin nails and hobnails: All coffin nails are flat-headed, comparable to the type 1 nails (small- and large-headed types) identified in the Poundbury Cemetery (Mills 1993b, 115). Hobnails are Manning's (1985) type 10, with domed heads and short shanks.

Grave fills: Most graves contained a single backfill, generally grey-brown silty clays and loams. Where different, the fills are described in the catalogue entry.

Key: s. a. u. l. – skull, axial, upper limbs, lower limbs (where not all elements recovered); redep. – redeposited

Illustrations: All Romano-British (RB) features containing human remains are shown on Fig. 3.9. A selection of graves and their contents is illustrated in Figs 3.10–3.22, see individual entries for details.

Grave 4005 (Sk 4032; fills 4006–10, 4020–32)
Fig. 3.13, Pl. 3.4
NW–SE, rectangular; steep, straight sides, flat base. 2.24 x 1.2 x 0.50 m (base at 107.69 m aOD). Late RB stone coffin. Extended, supine, arms ?straight; legs straight. Fills: backfill – mid-brown silty clay loam; coffin fills – light-mid brown sandy silt loam and mid-dark brown silty clay ?seal. Truncates grave 4033. Disturbed/revisited ?antiquarian.
Human bone: *c.* 35% s.u.l. adult *c.* 40–50 yr, ??male
Finds:
Coffin ON 10305/10306: Lower cornbrash (very hard shelly limestone)
Lid (4007):
rectangular with domed upper surface, internally recessed, 2.06 x 0.62 x 0.23 m. Walls 0.07–0.10 m wide. Carefully finished but oblique tool marks apparent. Lid broken into 4 pieces, although neatly and closely fitted

Base (4008):
rectangular, 2.04 x 0.60 x 0.40 m, walls 0.10–0.12 m thick; obliquely tooled, roughly pecked, dimpled appearance, only top of walls smoothed. A *c.* 1.00 x 0.23 m deep splinter broken off long side
Grave goods:
ONs 4755–67, 4769–4870, 10319–22: 115 iron hobnails individually recorded around feet of skeleton, + 21 recovered from samples taken from this area
Backfill finds:
ONs 4750–1, 4768: 3 iron nails, 1 from within coffin (4024) and 2 from grave backfill (4010)
Copper alloy button, post-medieval (late 18th century), intrusive within grave backfill (4006)
17 worked flints, 1 from within coffin (4022), 16 from grave backfill (4006, 4009, 4010)
16 sherds pottery, 1 from within coffin (4022), 15 from grave backfill (4006, 4009, 4010, 4020), 1 sherd from 4006 dates after AD 245
30 animal bone, 8 within coffin (4023, 4026, 4028, 4032), 22 from grave backfill (4006, 4009, 4020): 3rd phalanx of bird (?domestic fowl) foot, mandibular tooth, costa frag. of cattle, anuran bones, maxillary and mandibular teeth as well as part of mandibula and costa of sheep/goat and maxillary tooth and costa frag. of pig

Grave 4033 (Sk 4034, fill 4035)
NE–SW, sub-rectangular; moderate, straight sides and undulating base. 1.13 x 1.00 x 0.10 m (base at 108.15 m aOD). Middle–late RB inhumation. Supine. Truncated by grave 4005.
Human bone: *c.* 16% adult > 40 yr
Finds:
Grave goods:
37 iron hobnails, recovered from base sample
Backfill finds:
ON 4877: 6 animal bone (sheep/goat)
ON 4878: 1 sherd pottery (SE Dorset Black Burnished ware handle)
ON 4879, 1 iron nail

Possible grave 4036 (fills 4037, 4038)
NW–SE, sub-rectangular cut; shallow, irregular sides and irregular base. 1.70 x 0.60 x 0.10 m (base at 108.14 m aOD). Middle–late RB poss. emptied grave. No human remains present. Artefacts in base. Cut into top of grave 4239.
Finds:
Backfill finds:
ONs 4093, 4898, 4899, 4904: 27 sherds (SE Dorset & SW Black Burnished ware, 1 small jar/beaker (Seager Smith & Davies 1993, type 10); Oxfordshire colour coated ware (Young 1977, type C51, AD 240–400+); SW fine micaceous greyware)
ONs 4872, 4883, 4884, 4886, 4887, 4889–97: 63 animal bone (cattle cranium; cattle costa, sheep/goat mandibular fragments, sheep/goat maxillary teeth, two sheep/goat metatarsus; sheep/goat first phalanx)
ON 10323: 1 iron hobnail
2 worked flint

Grave 4039 (Sk 4041, fill 4040)
Fig. 3.14
SE–NW, rectangular; steep, concave sides and base. 2.31 x 1.10 x 1.00 m (107.27 m aOD). Middle–late RB coffined burial. Extended, supine with arms across abdomen; legs straight.
Human bone: *c.* 50%, adult *c.* 20–25 yr, female
Finds:
Grave goods:
ONs 4917, 4918, 10324–6: 68 hobnails, at feet (in two groups)
Coffin furniture:
ONs 4874–6, 4880–2, 4900–2, 4913–6: 13 iron coffin nails, mainly clustering around head and feet
Backfill finds:
4 sherds pottery (SE Dorset Black Burnished ware, jar rim frag.; 2nd century AD+)

Grave 4056 (Sk 4057, fill 4058)
NW–SE, sub-rectangular cut; steep, straight sides and flat base. 2.22 x 0.70 x 0.70 m (108.32 m aOD). Middle–late RB coffined burial. Extended, supine.
Human bone: *c.* 18% s.u.l. adult *c.* 40–50 yr, ?male
Finds:
Grave goods:
ONs 4926, 10327–9: 107 iron hobnails, at feet (in two groups)
Backfill finds:
ONs 4921–4: 4 iron nails
ON 4920: 17 animal bone (dog/fox tooth)
1 fired clay, undiagnostic
1 iron fragment

Possible grave 4062 (fills 4063–4)
N–S sub-rectangular; steep, irregular sides and undulating base. 1.25 x 0.69 x 0.37 m (base at 107.84 m aOD). Late RB poss. emptied grave. No human remains. Cuts pit 4042.
Finds:
Backfill finds:
5 sherds pottery (SW and SE Dorset Black Burnished ware and variant E107, second half 4th century AD+)
12 worked flint

Grave 4069 (Sk 4089, fill 4070)
Fig. 3.14, Pl. 3.5
W–E, rectangular; vertical, straight sides, flat base. 2.50 x 0.80 x 0.80 m (base at 108.02 m aOD). Middle–late RB coffined burial. Extended, supine, hands crossed over abdomen; legs slightly flexed to left. Cuts ditch 4400.

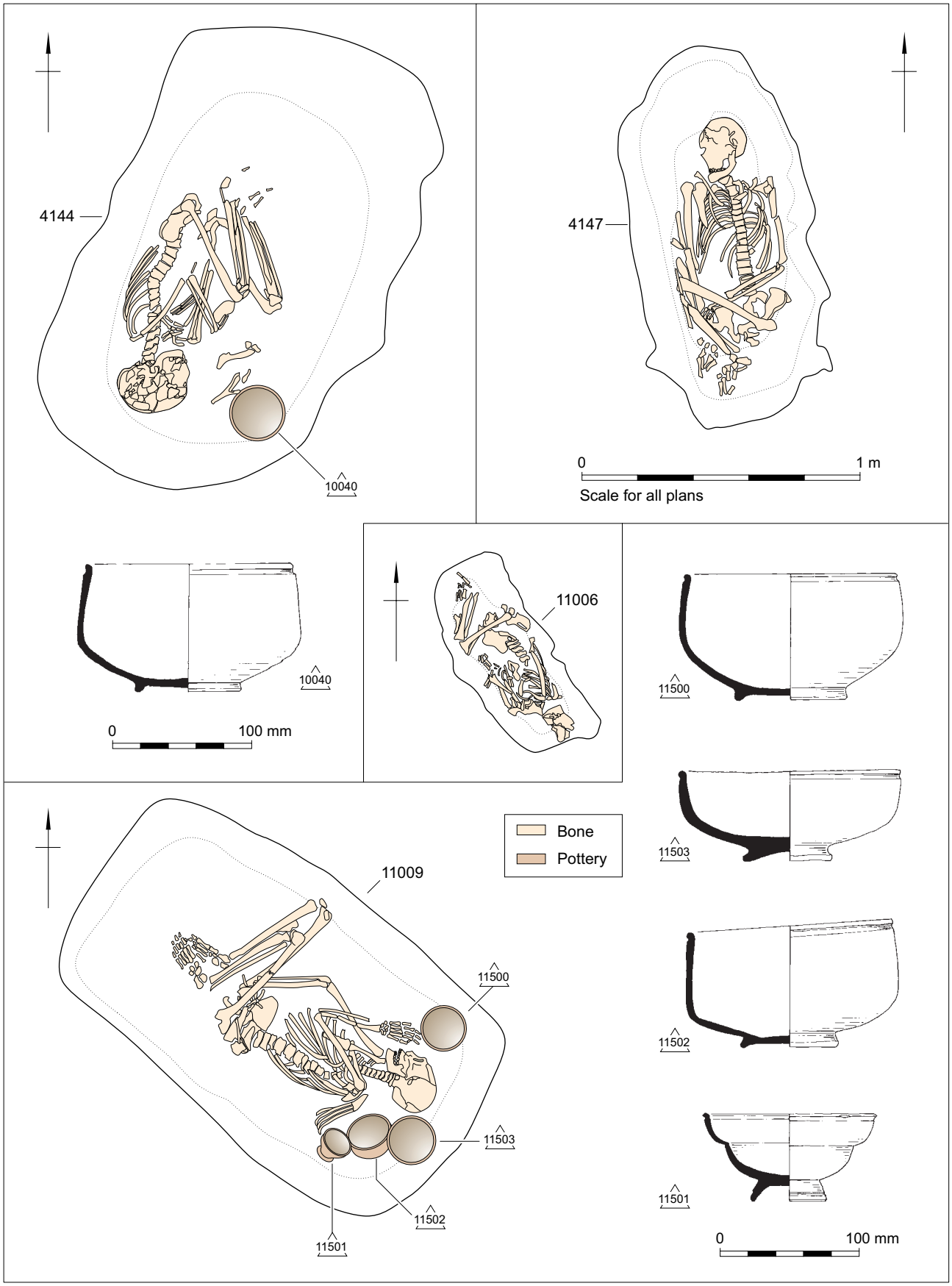

Figure 3.10 Durotrigian *graves 4144, 4147, 11006 and 11009 with associated grave goods*

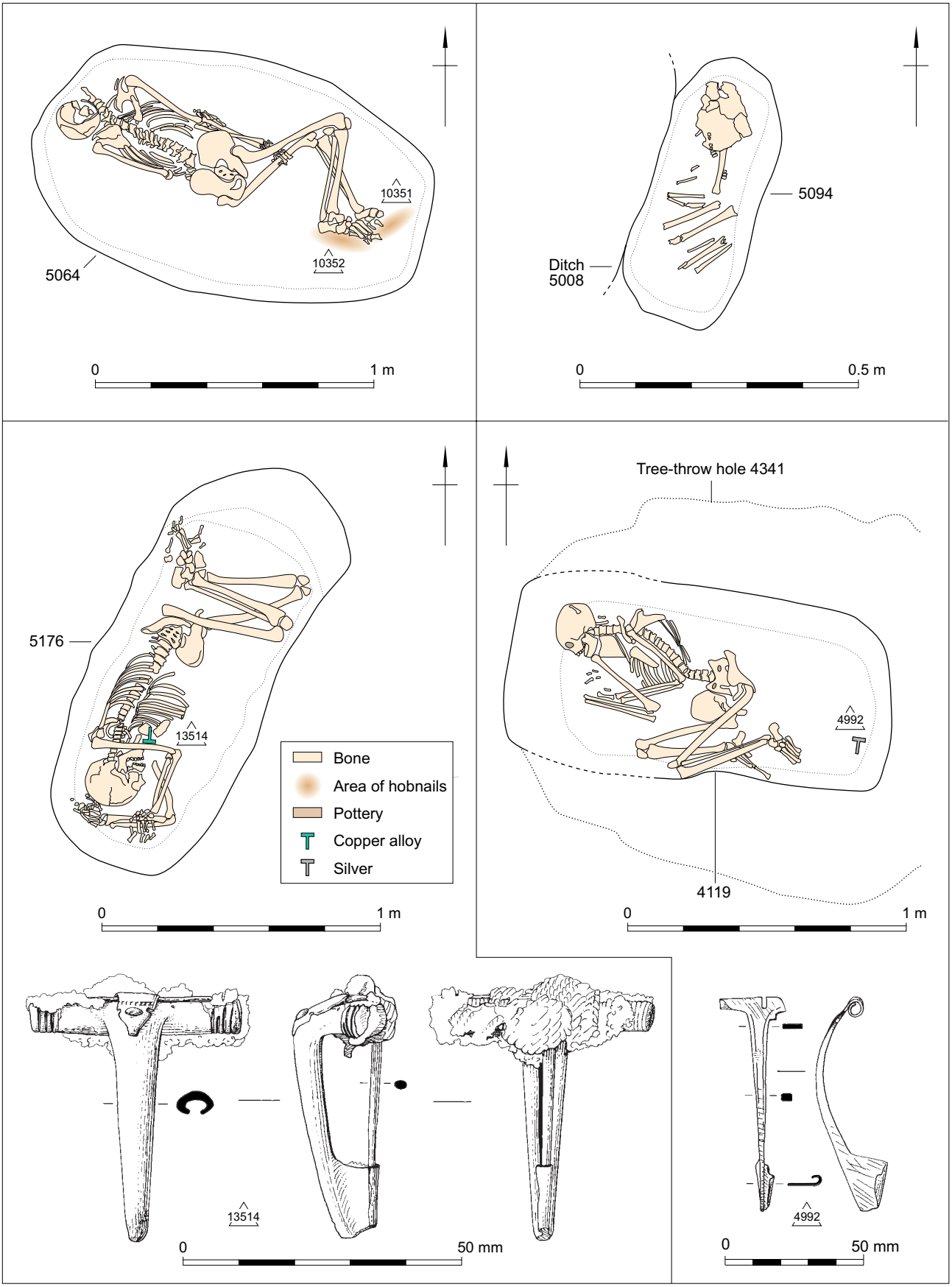

Figure 3.11 Durotrigian *graves 4119, 5064, 5094 and 5176 with associated grave goods*

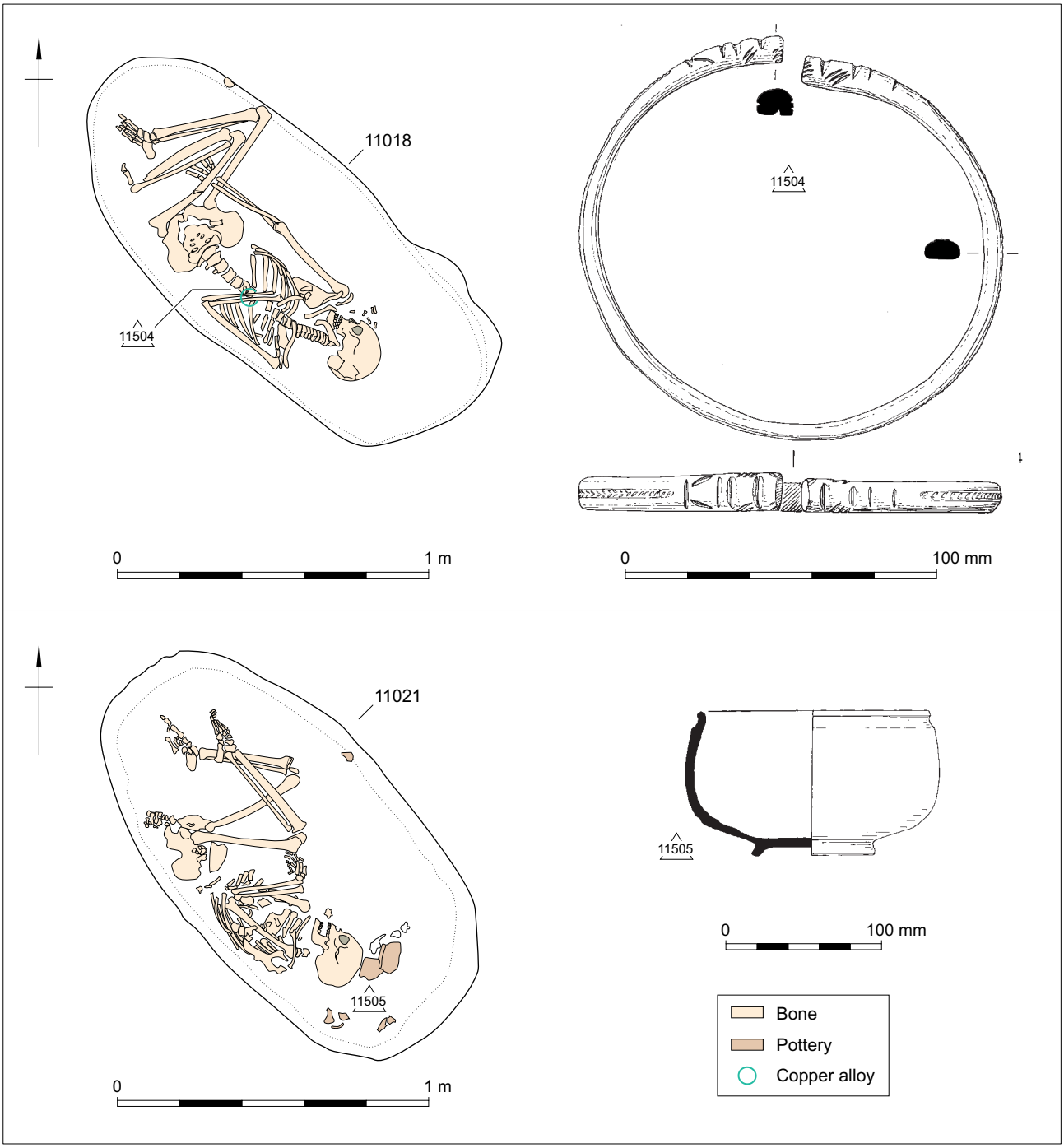

Figure 3.12 Durotrigian *graves 11018 and 11021 with associated grave goods*

Human bone: *c.* 66%, adult *c.* 45–55 yr, ??male
Finds:
Grave goods:
ON 4949: large iron knife blade, ?Manning type 11; total length 246 mm; blade length 170 mm. Placed over chest
ON 4962: 166 iron hobnails; + 14 recorded as bulk finds; concentrated around left foot
Coffin furniture:
ONs 4927–34; 4938, 4939, 4942, 4961, 4963, 4964, 4979, 4980: 17 iron coffin nails, concentrated at head and foot
Backfill finds:
13 sherds pottery (SE Dorset Black Burnished ware)
25 worked flint
1 ceramic building material (*imbrex* frag.)

Grave 4094 (Sk 4113, fill 4095)
Fig. 3.15
SE–NW. rectangular; steep, straight sides, flat base. 2.15 x 1.20 x 1.00 m (base at 107.28 m aOD). Late RB coffined burial. Extended, supine, right arm straight, left arm across abdomen; right leg slightly flexed, left crosses right. Cut into tree-throw hole 4344.

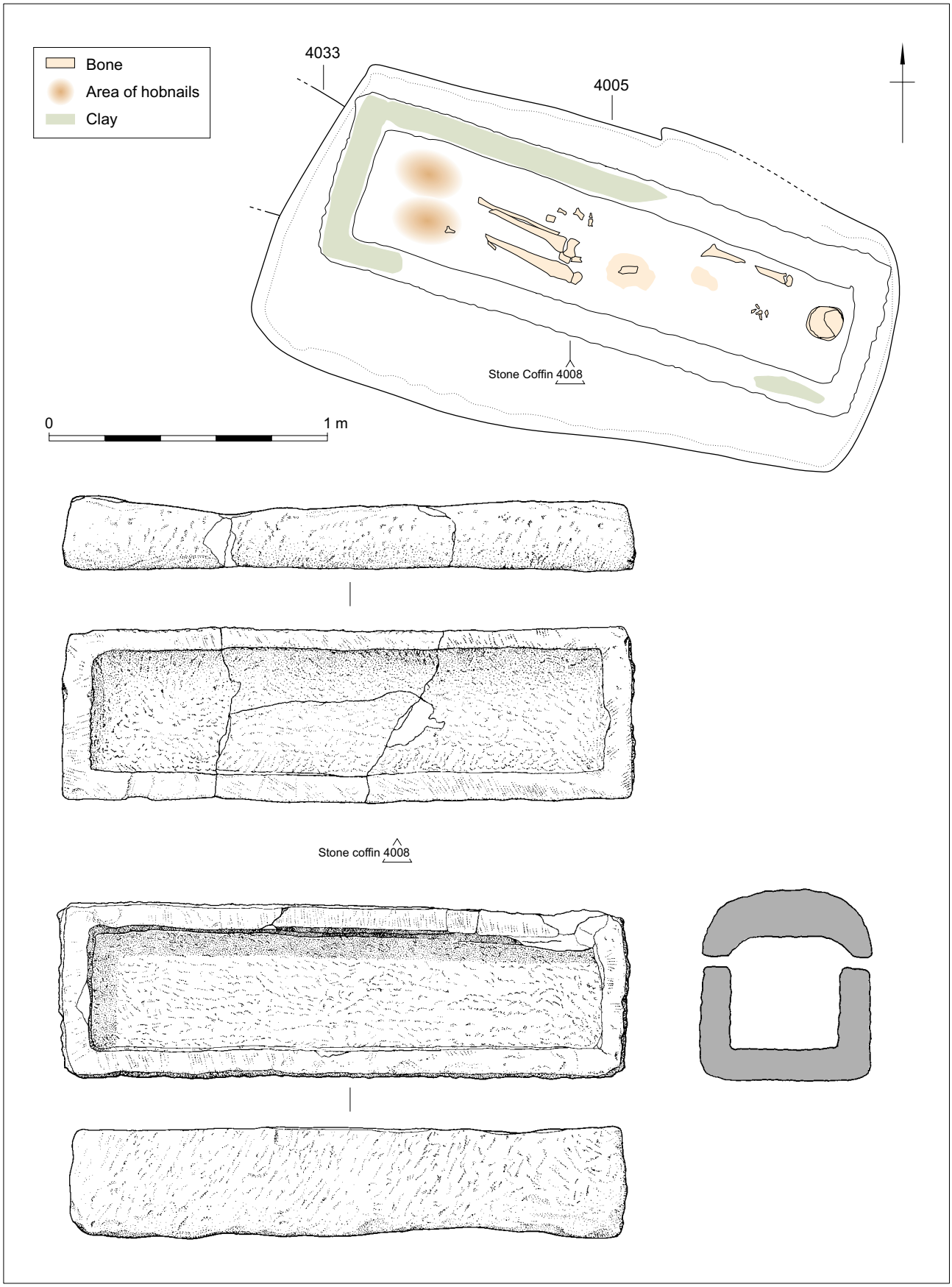

Figure 3.13 Romano-British grave 4005 and detailed drawing of the stone coffin

Human bone:

1) *c.* 88% infant *c.* 3 yr

2) redep. 1 tooth & bone l. adult > 50 yr (= 4034)

Finds:

Grave goods:

ONs 10006–7, 10331–2: 56 iron hobnails, 34 at left foot, 16 at right foot, 2 at skull, 5 extracted from sample

ON 10019: sheep skull, placed by left arm

Coffin furniture:

ONs 4935–7; 4940, 4944–8, 4950–8, 4965–78, 4981, 4983–91, 4993–9, 10000–5, 10020–1, 10030, 10032–3: 62 iron coffin nails, all around grave, but with slight concentrations at head and foot

Backfill finds:

1 sherd pottery (Black Burnished ware variant E107, second half of 4th century+)

7 worked flint

Grave 4119 (Sk 4181, fill 4120)

Fig. 3.11

W–E, rectangular; steep, concave sides, flat base. 1.25 x 0.60 x 0.50 m (base at 108.47 m aOD). Early RB uncoffined burial. *Durotrigian*: flexed, on right side with arms bent *c.* 45°, hands at shoulder height; legs bent. Cut into tree-throw hole 4341.

Human bone:

1) *c.* 96%, adult > 55 yr, female

2) 1 frag. a. adult > 18 yr, ?male

Finds:

Grave goods:

ON 4992: Silver brooch; Colchester type; part of cross-bar broken; narrow, plain bow; pin missing. Found at foot of grave

Backfill finds:

99 animal bones (cattle costa, scapula and femur frags; pig cranium and maxillary tooth; sheep/goat costa, vertebra, maxillary teeth, hyoid, humerus, radius, metacarpus, femur, tibia, centrotarsal and two first phalanges. Sheep include foetal, subadult and adult remains)

210 sherds pottery (SE Dorset Black Burnished ware (Seager Smith and Davies 1993, types 1, 2, 2/3, 20); SW Black Burnished ware (types 2, 13, 22), SW fine micaceous greyware (type 7); samian form 18, one illegible stamped base; 1st–3rd century); most sherds from tree-throw hole 4341

5 iron frags

ON 10010: Bone spindlewhorl, hemispherical, made from femur head of a young cattle (*c.* 3.5-4.5 years old). Found in tree-throw hole 4341

Grave 4144 (Sk 4145, fill 4146)

Fig. 3.10

S–N, sub-rectangular; steep, straight sides, flat base. 1.75 x 1.10 x 0.40 m (base at 108.21 m aOD). Early RB uncoffined burial. *Durotrigian*: crouched, on right side, arms crossed at upper chest, knees close to chest, heels to pelvis. Cut by tree-throw hole.

Human bone: *c.* 88%, adult *c.* 35–45 yr, female

Finds:

Grave goods:

ON 10040: Pottery vessel; SE Dorset Black Burnished ware carinated bowl (Seager Smith and Davies 1993, type 15), external diam. 148 mm, height 88 mm. *c.* AD 50–80. Placed at head

Backfill finds:

ONs 10041–2, 10044–5: 10 animal bones, plus 1 frag. recorded as bulk find

Grave 4147 (Sk 4167, fill 4148)

Fig. 3.10

N–S, sub-rectangular; steep, concave sides, flat base. 1.35 x 0.70 x 0.40 m (base at 108.24 m OD). Early RB uncoffined burial. *Durotrigian*: flexed, on right side with right hand at right shoulder, left hand between thighs; right leg parallel to body (knee to elbow), left leg. bent <45° to body

Human bone: *c.* 97%, adult > 55 yr, female

Finds:

Backfill finds:

9 sherds pottery (SW Black Burnished ware; 1st–2nd century AD)

Grave 4239 (Sk 4240, fill 4241)

Fig. 3.16

N–S, rectangular cut; steep, straight sides, flat base. 3.10 x 1.30 x 1.00 m (base at 107.25 m OD). Middle–late RB coffined burial. Extended, supine, arms crossed at pelvis; legs crossed at lower thigh, v. slightly flexed to right. Body clearly tightly bound, placed up against west edge of grave.

Human bone: *c.* 98%, adult *c.* 24–28 yr, male

Finds:

Grave goods:

ON 10038: 4 iron hobnails + 17 extracted from sample. Position in grave unknown.

ON 10069: iron object, function unknown. Square-sectioned shank (length 72 mm), broken at 1 end but poss. original point at other. Surrounded by cylindrical, slightly flared collar or ferrule (depth 35 mm), within which is much mineralised wood, also along shank. A second shank frag. (length 38 mm) may be from same object but does not join

Coffin furniture:

ONs 10073–83, 10308: 52 iron coffin nails, concentrated at head and foot

Backfill finds:

1 sherd pottery (SW Black Burnished ware)

Context 4264 (fill 4265)

Unrecognised grave cut at terminus of internal division of enclosure with shallow, concave, flat. 0.70 x 0.60 x 0.10 m deep (base at 108.28). Middle–late RB uncoffined burial.

Human bone: *c.* 45%, neonate

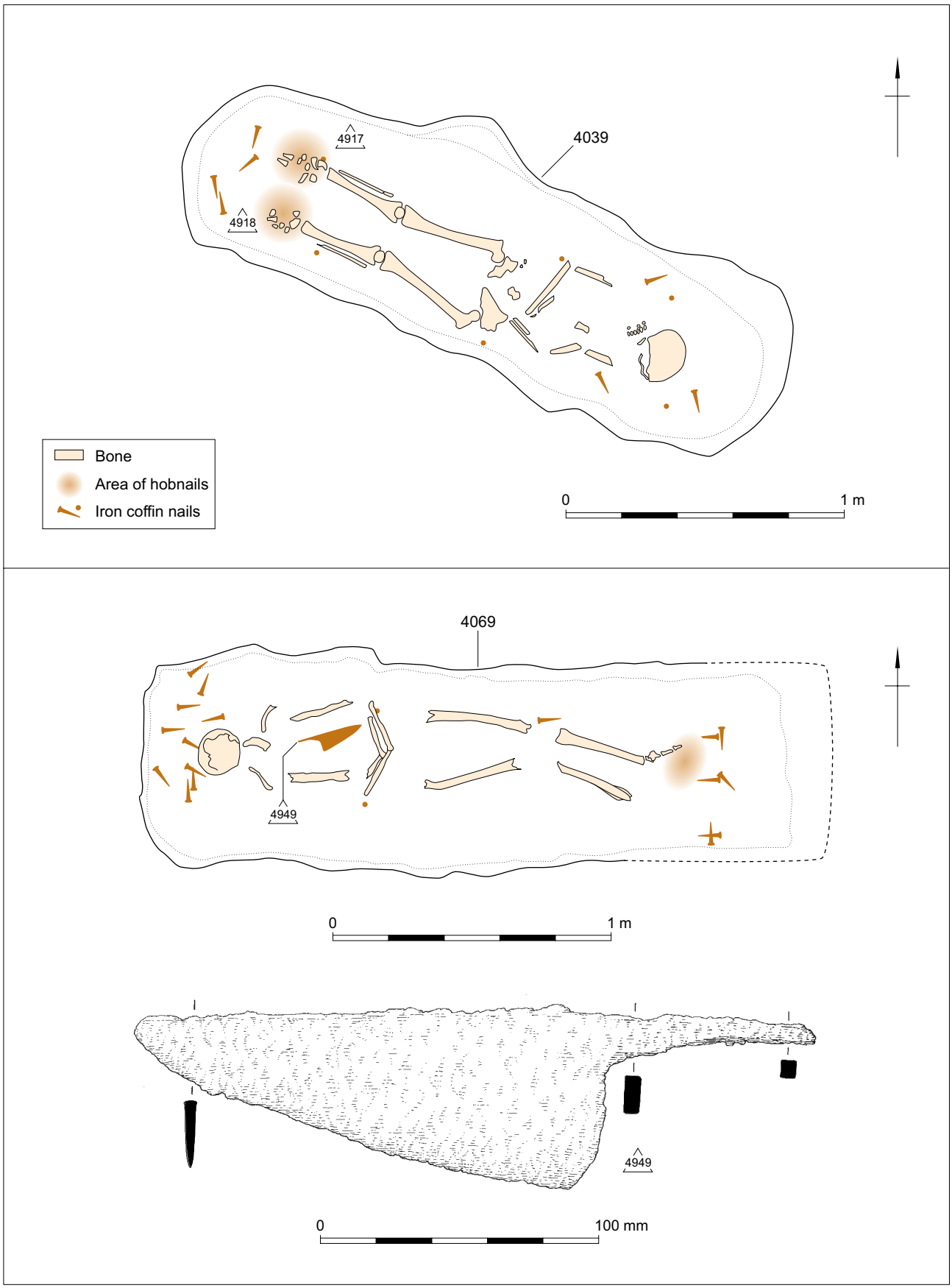

Figure 3.14 Romano-British graves 4039 and 4069 and detail of knife associated with skeleton 4089

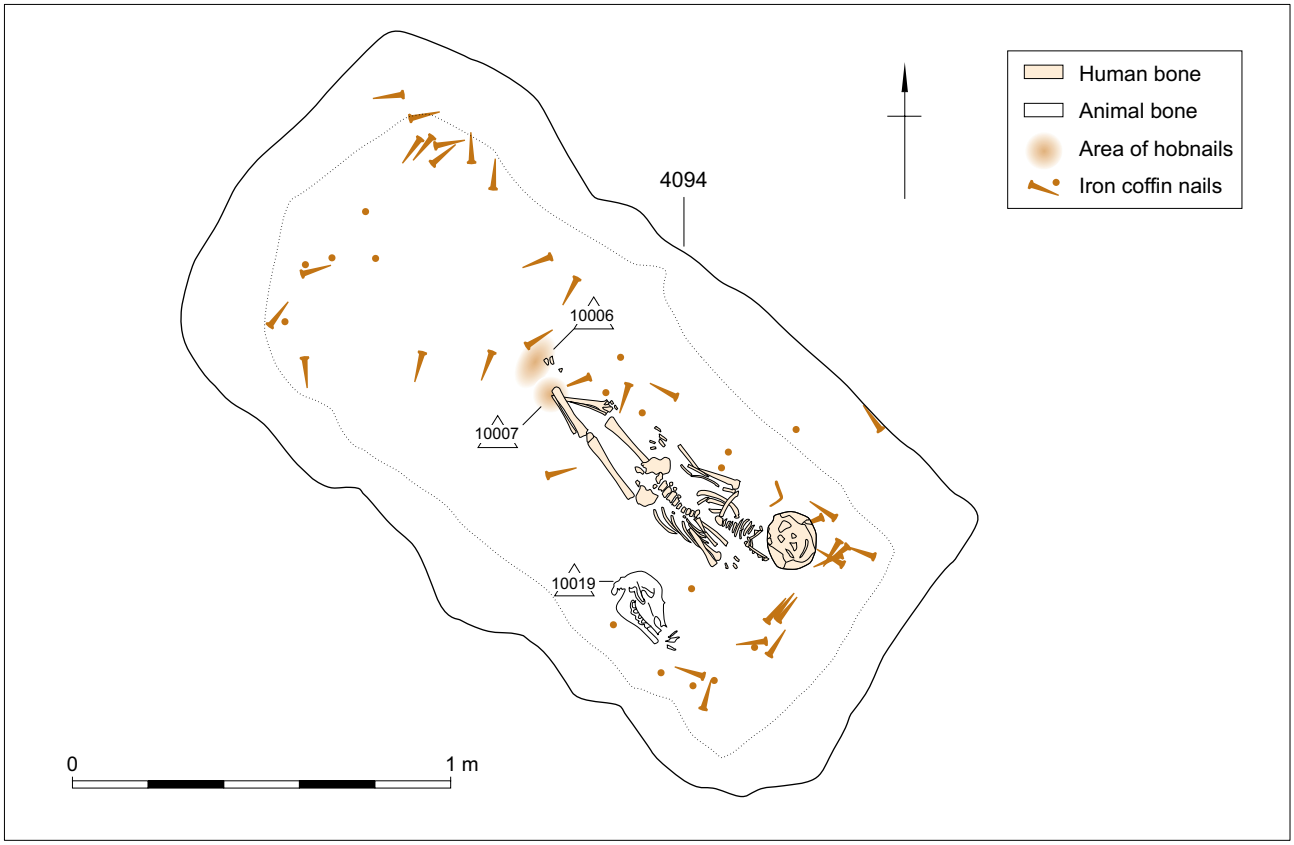

Figure 3.15 Romano-British grave 4094 showing position of coffin nails, hobnail groups and sheep skull

Finds:
Backfill finds:
16 animal bone
1 slag
2 flint
1 stone (whetstone?)

?Emptied grave 4273 (fills 4286, 4274)
N–S?, rectangular. 1.40 x 0.90 x 0.73 deep (base at 107.34 m aOD). ?RB prob. Coffined. No human remains recovered.
Finds:
Backfill finds:
ON 10108: 71 animal bone
ONs 10084–8, 10090–2, 10096–9: 15 iron coffin nails, most at head and foot.
6 animal bone

Grave 4281 (Sk 4280, fill 4279)
Fig. 3.17
NW–SE, sub-rectangular cut; steep, straight sides, flat base. 2.55 x 0.70 x 0.50 m (base at 107.32 m aOD). Middle–late RB coffined burial. Extended, supine, arms and legs straight, hands on upper thighs.
Human bone: *c.* 95%, adult *c.* 35–40 yr, female
Finds:
Grave goods:
ON 10089: iron object, elliptical; tang or handle? Length 46 mm; max. width 20 mm; max. thickness 10 mm
ONs 10341, 10343–4: 34 iron hobnails (9 from left foot, 12 from skull, 13 extracted from sample), + 126 recorded as bulk finds and 59 extracted from samples; in two groups around feet
Coffin furniture:
ONs 10093–5, 10100–1, 10103–9, 10135–8, 10208–24, 10269, 10309, 10342: 39 iron coffin nails, found all around grave
Backfill finds:
2 worked flint (1 scraper)
1 natural ironstone

Grave 4291 (Sk 4293, fill 4292)
Fig. 3.18
NE–SW, sub-rectangular; steep, straight sides, flat base. 2.42 x 1.20 x 0.50 m (base at 107.56 m aOD). RB coffined burial. Extended, supine (tight, up against west edge of grave).
Human bone: *c.* 96% adult *c.* 45–55 yr, male
Finds:
Coffin furniture:
ONs 10111–24, 10126–8, 10133–4, 10139–41, 10153–5, 10204–7: 34 iron coffin nails, found all around grave
Backfill finds:
7 animal bone (sheep/goat scapula)
ON 10125: 1 worked flint
ON 10142: 1 slag
2 sherds pottery (Black Burnished ware)

Grave 4294 (Sk 4296, fill 4295)
Fig. 3.18
N–S, sub-rectangular; steep, straight sides, flat base. 2.74 x 1.10 x 0.50 m (base at 107.38 m aOD). RB coffined burial. Extended, supine, crossed arms and legs.
Human bone: *c.* 75% adult *c.* 40–45 yr, female
Finds:
Coffin furniture:
ONs 10129–32, 10143–51, 10156–70, 10345–7: 33 iron coffin nails, found all around grave.
Backfill finds:
1 animal bone (sheep/goat second phalanx)
7 sherds pottery (Black Burnished ware, samian, 3 sherds datable to the mid-/late 2nd–early 3rd century)
3 worked flint

Context 4300 (fill 4301)
Sub-circular; moderate, concave sides and base. 0.42 x 0.30 x 0.10 m (base at 108.48 m aOD).
Human bone: 12 teeth infant *c.* 2–3 yr
Finds:
Backfill finds:
8 animal bones

Grave 4304 (Sk 4305, fill 4306)
Fig. 3.19
W–E, rectangular; steep, straight sides, flat base. 2.42 x 1.00 x 0.70 m (base at 107.6 m aOD). Middle–late RB coffined burial. Extended, supine, hands on pelvis; legs straight. Grave cuts ditch. Adjacent to grave 4317.
Human bone: *c.* 72% adult *c.* 30–40 yr, male
Finds:
Coffin furniture:
ONs 10172–3, 10178–9, 10181–2, 10190, 10194: Coffin furniture, comprising 8 iron angle brackets (2 at each corner), comprising strips (width 50–55 mm) bent at right-angles; each with one arm longer than other. 2 or 4 rivet holes at terminals, 1 with iron nail *in situ* (length 17 mm). Mineral-preserved wood on internal surfaces
ONs 10171, 10174–7, 10180, 10183–9, 10191–3, 10195–201, 10203: 24 iron coffin nails; most at head and foot, with 5 at midway position
Backfill finds:
6 iron hobnails
12 animal bone (cattle scapula and metacarpus frags, dog/fox metapodial, horse mandibular tooth, sheep/goat mandibular frags, mandibular and maxillary teeth, humerus and metacarpus frags)
1 ceramic building material (*tegula* frag.)
8 worked flint
30 sherds pottery (SE Dorset and SW Black Burnished ware, including variant E107; upright necked jar rim, imitation samian bowl; date range 1st/2nd to late 4th century)

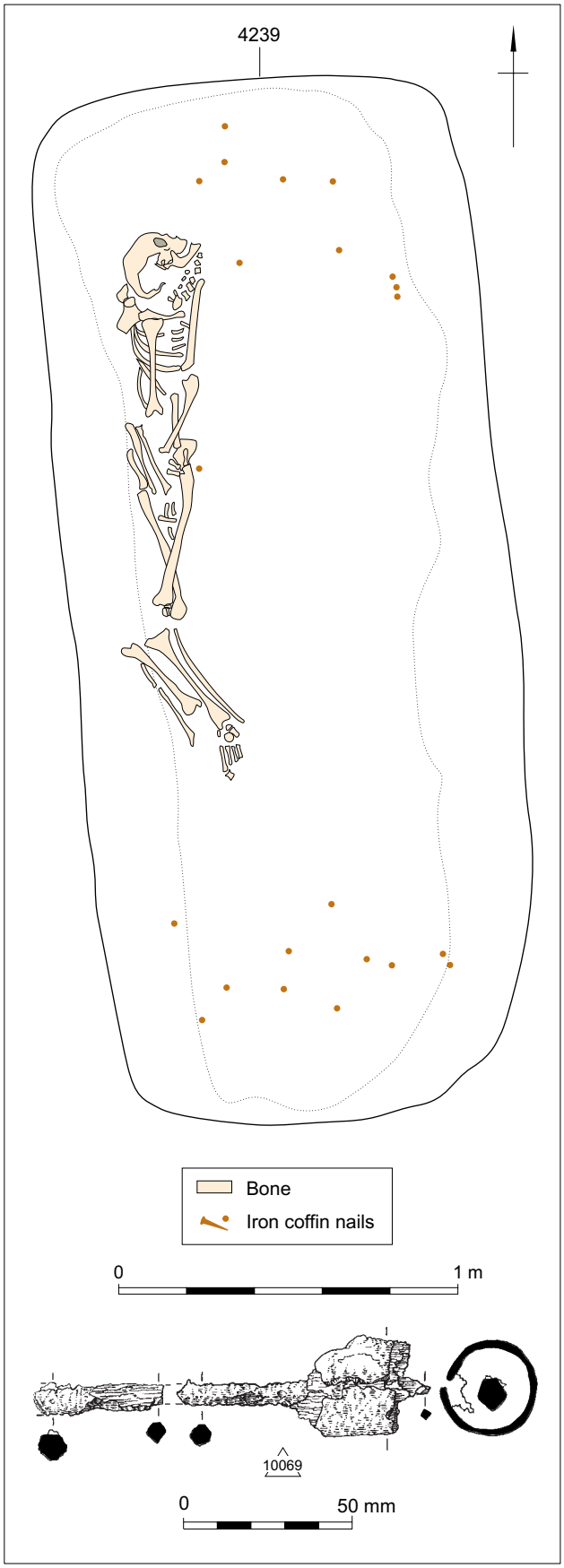

Figure 3.16 Romano-British grave 4239

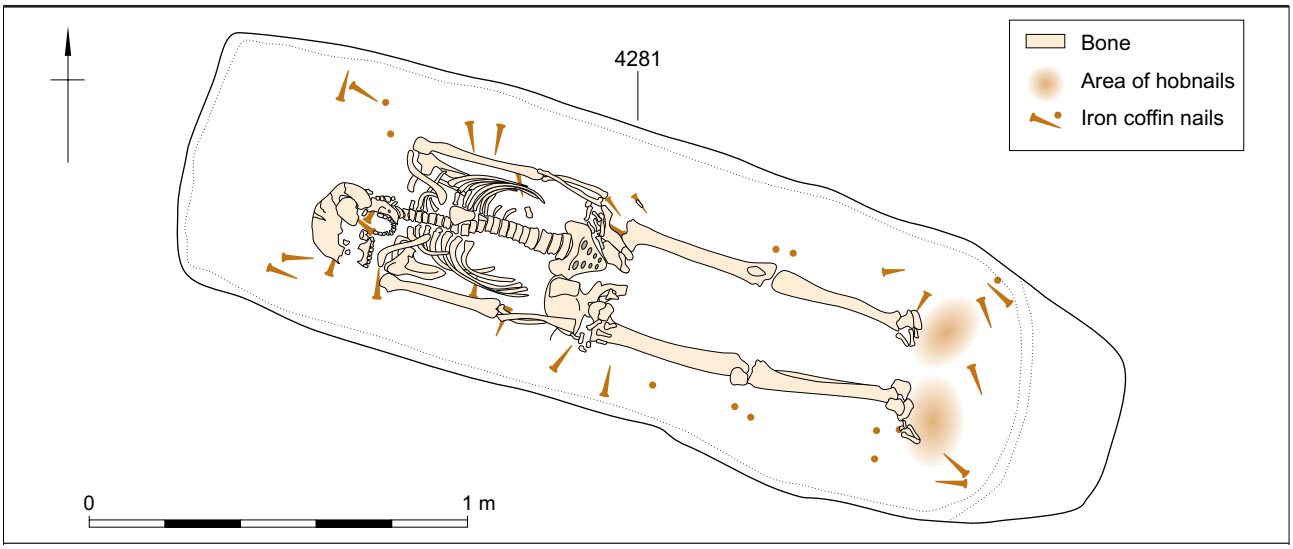

Figure 3.17 Romano-British grave 4281

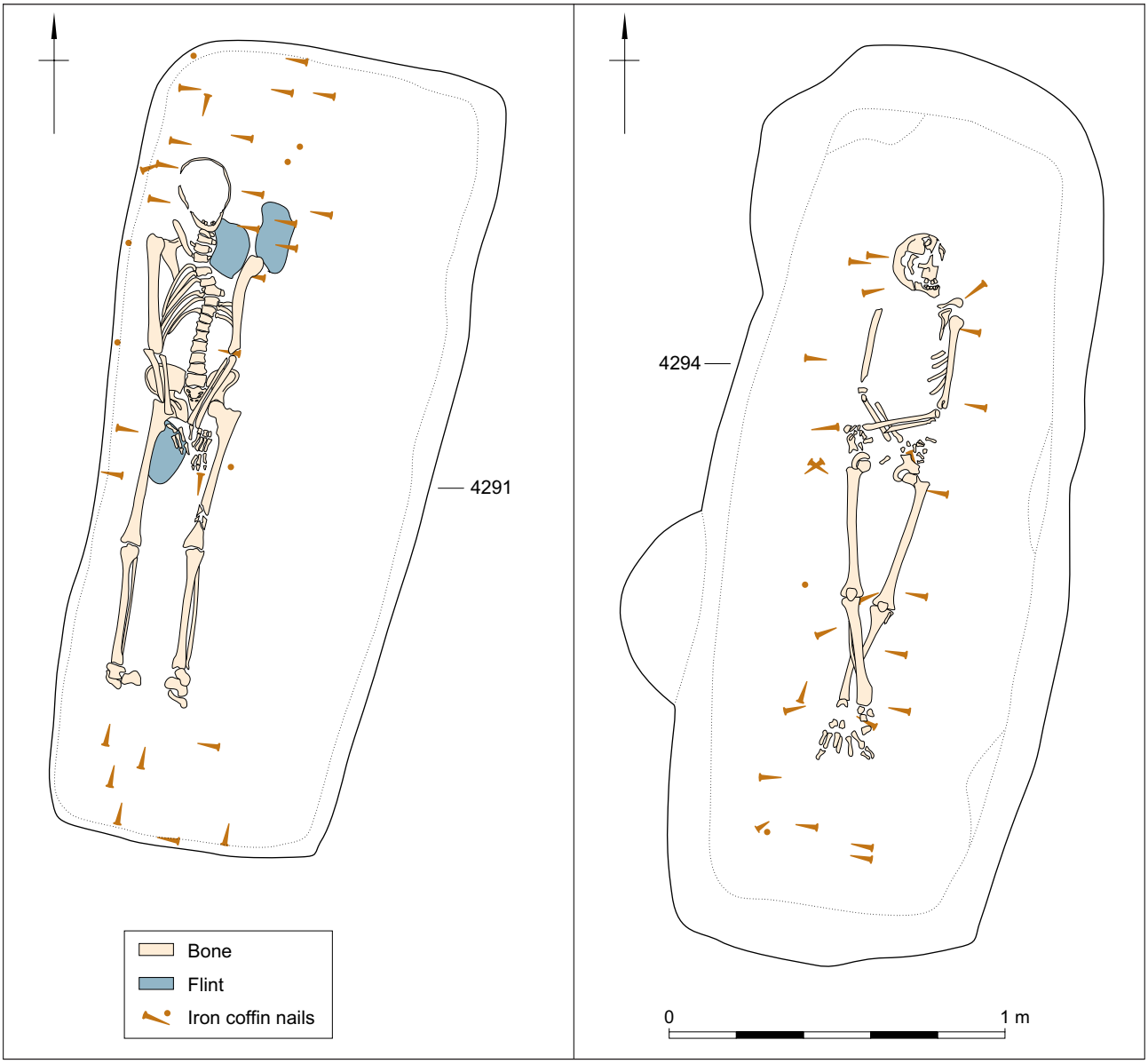

Figure 3.18 Romano-British graves 4291 and 4294

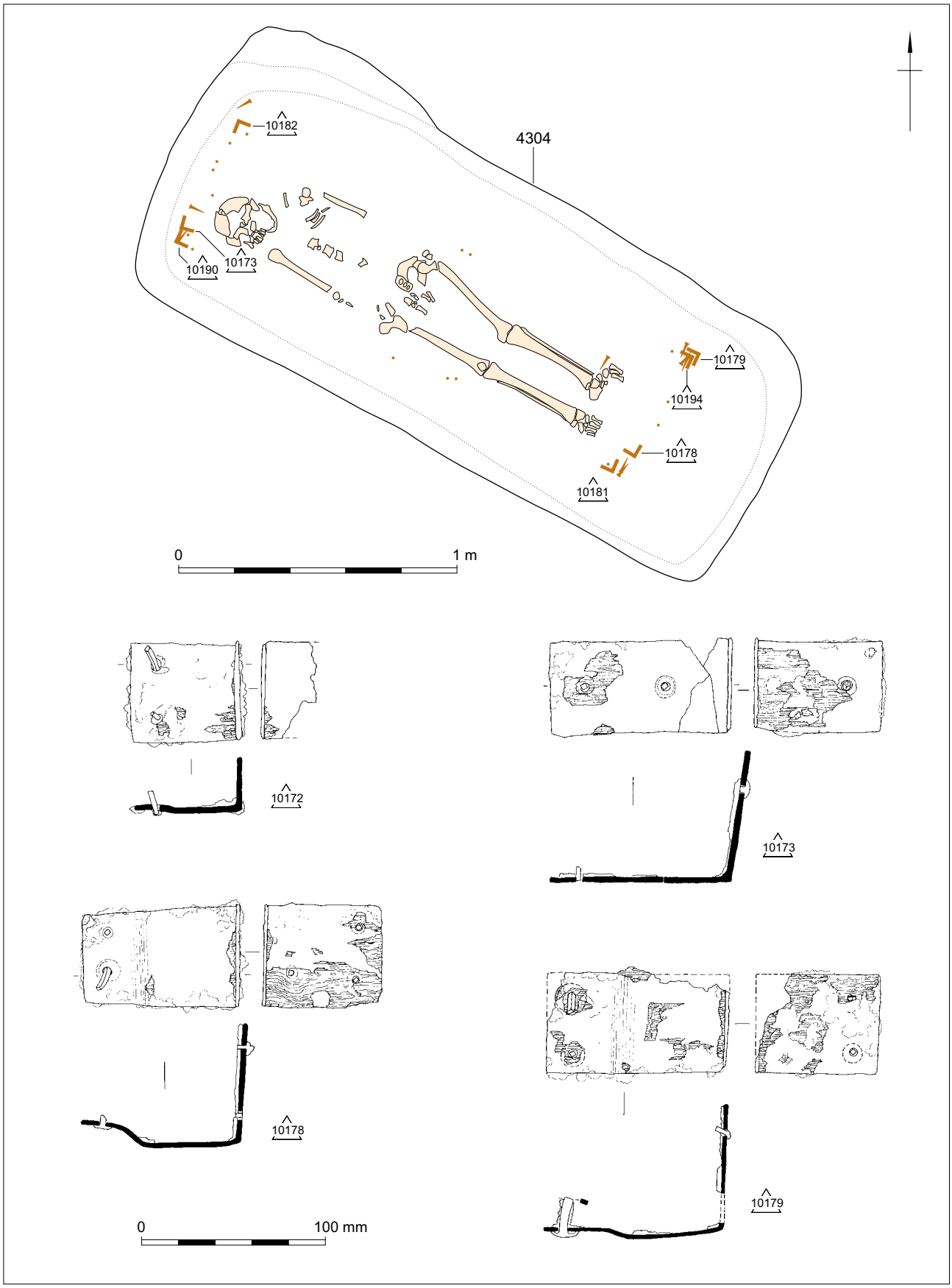

Figure 3.19 Romano-British grave 4304 and corner brackets from the coffin

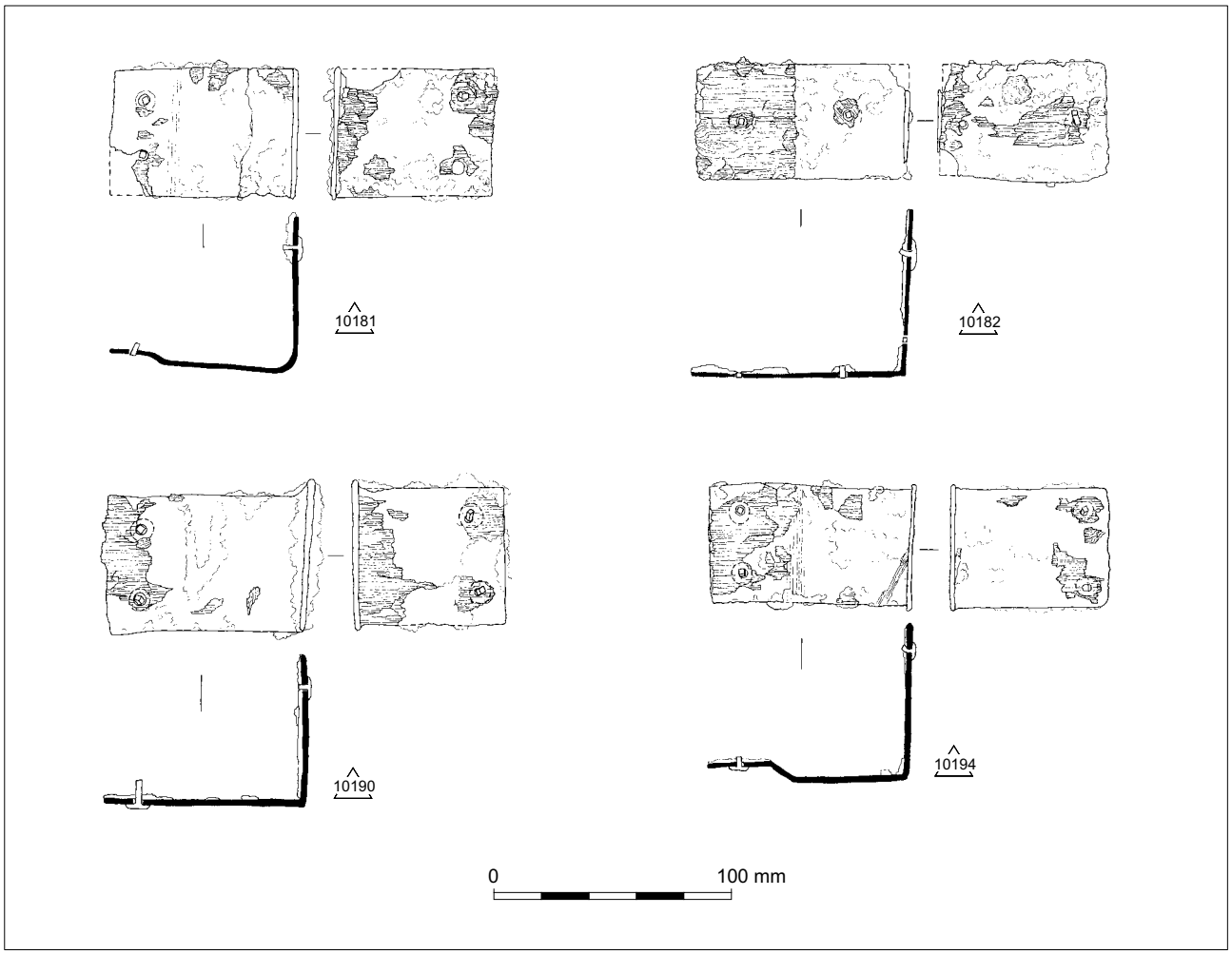

Figure 3.19 Romano-British grave 4304 (continued)

Grave 4307 (Sk 4308, fill 4309)
N–S, rectangular. steep, straight sides, flat base. 2.37 x 1.10 x 0.80 m (base at 106.99 m aOD). ?RB coffined burial. Extended, supine, hands on pelvis; legs straight.
Human bone: *c.* 74% adult *c.* 40–50 yr, female
Finds:
Grave goods:
ONs 10233, 10247, 10250: 15 iron hobnails, at feet (7 left foot; 8 right foot)
Coffin furniture:
ON 10225–32, 10234–44, 10261–5: 27 iron coffin nails; all around grave

Grave 4317 (Sk 4318, fill 4319)
S–N, sub-rectangular; steep, straight sides, flat base. 2.26 x 0.70 x 0.40 m (base at 107.97 m aOD). Middle–late RB coffined burial. Extended, supine, hands on pelvis; legs straight.
Human bone: *c.* 55% adult > 35 yr, female
Finds:
Grave goods:
ON 10283: Iron ?ferrule
ONs 10289–90, 10302: 148 iron hobnails, at feet (general scatter)
Coffin furniture:
ONs 10271–88, 10291–301, 10303–4, 10348–9: 39 iron coffin nails; all around grave
Backfill finds:
3 animal bone (unidentified)
1 worked flint
8 sherds pottery (including late BB1 variant E107, second half 4th century+)

Grave 5047 (Sk 5048, fill 5049)
Sub-circular; moderate, irregular sides, flat base. 0.35 x 0.30 x 0.10 m (base at 104.61 m aOD). RB inhumation burial.
Human bone: *c.* 35% neonate

Grave 5064 (Sk 5066, fill 5065)
NW–SE, sub-rectangular; steep, straight sides, flat base. 1.47 x 0.90 x 0.40 m (base at 108.33 m aOD). ?RB uncoffined burial. flexed, on left side, hands between thighs; legs *c.* 45°.

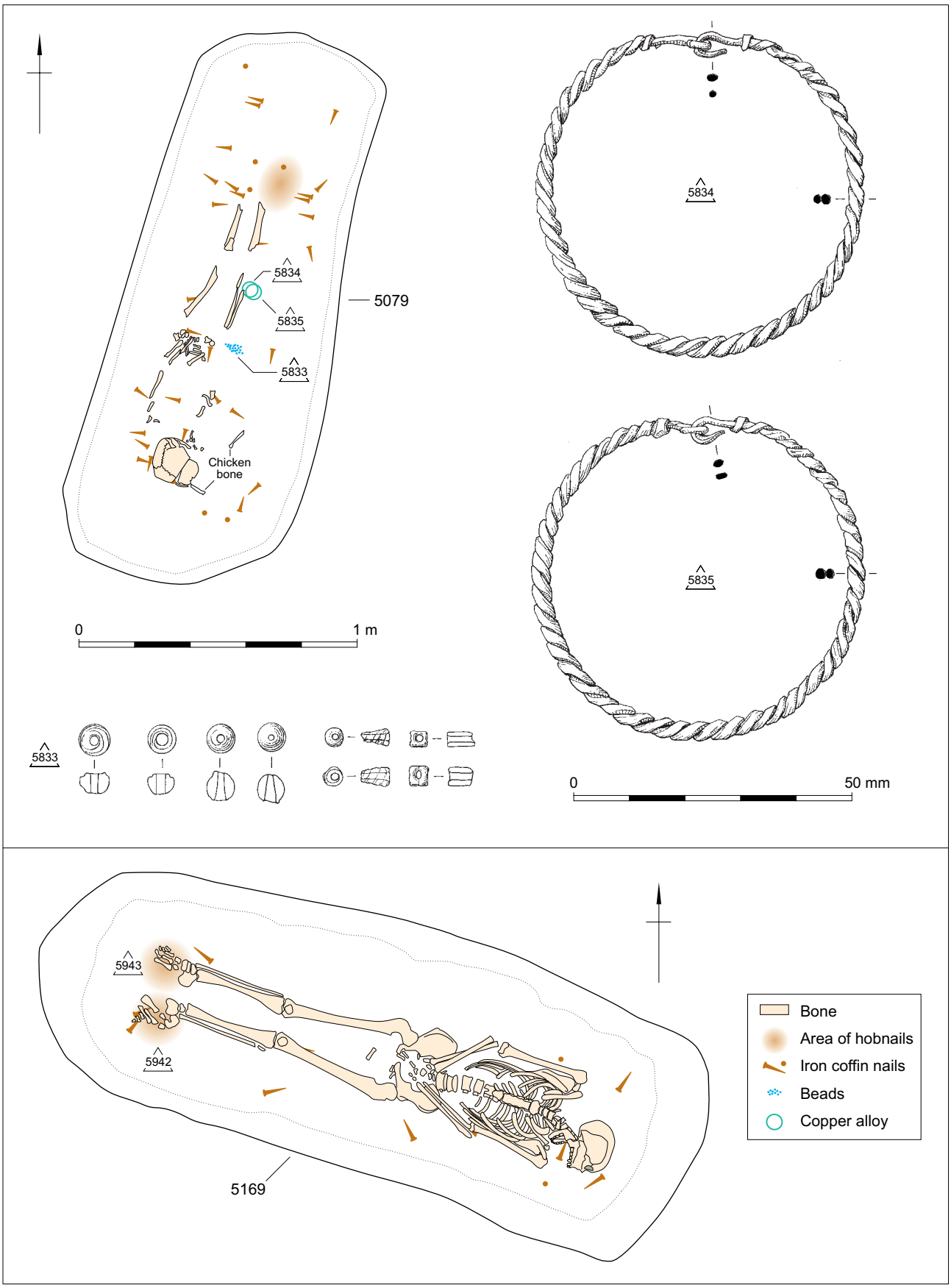

Figure 3.20 Romano-British graves 5079 and 5169 with associated grave goods

Human bone: *c.* 99% adult *c.* 24–28 yr, male
Finds:
ONs 10351–2: 106 iron hobnails, + 88 more recorded as bulk finds, around both feet
23 animal bone (articulated right leg of lamb aged 5–7 months: humerus, radius, ulna, carpals, metacarpus, phalanges 1–3)
Backfill finds:
ON 5787: iron strip

Grave 5079 (Sk 5078, fill 5077)
Fig. 3.20
SW–NE, sub-rectangular; steep, straight sides, flat base. 2.00 x 0.80 x 0.50 m deep (base at 106.3 m aOD). ?RB coffined burial. Extended, supine, hands on pelvis; legs straight.
Human bone: *c.* 35% juvenile *c.* 8–11 yr
Finds:
Grave goods
ONs 5834–5: 2 copper alloy armlets, identical pair, two-strand cable-twisted braelets, each with 2 hook fastenings. 4th century
ON 5833: 22 glass beads, all blue; 16 irregular globular, 3 conical, 3 rectangular; found at right hip
42 animal bone (rooster skeleton: sternum, vertebrae, costae, clavicula, coracoid, scapula, humerus, radius, ulna, carpal, carpometacarpus, pelvis, femur (right only), tibiotarsus, tarsometatarsus, first phalanx of right wing and elements of toes)
ONs 5838–40, 5844–6, 5848–9, 5854: 28 iron hobnails, around feet
Coffin furniture:
ONs 5798–801, 5807–15, 5817–32, 5836–7, 5842–3, 5847, 5850–1, 5853, 5855–8, 5862–3: 55 iron coffin nails, found all around grave
Backfill finds:
6 animal bone (cattle costa, sheep mandibular tooth)
1 sherd pottery (SE Dorset Black Burnished ware)

Grave 5090 (Sk 5125, fills 5091, 5126)
Irregular; shallow, irregular sides, undulating base. 0.74 x 60 x 0.10 deep (base at 104.61 m aOD). Late RB ?*in situ* burial.
Human bone: *c.* 12% neonate
Finds:
Backfill finds:
iron rod, strap, bars, Cu alloy pin, Cu alloy sheet; 20 stray sherds, mostly South-east Dorset Black Burnished ware but includes 2 of coarse, predominantly oxidised BB1 fabric variant (E107). Second half of the 4th century+

Grave 5094 (Sk 5095, fill 5096)
Fig. 3.11
Sub-rectangular; shallow, concave sides, flat base. 1.00 x 0.40 x 0.10 m deep (base at 106 m aOD). ?RB inhumation burial (*Durotrigian*).
Human bone: *c.* 18% subadult *c.* 14–17 yr, ??female

Grave 5156 (Sk 5157, fill 5158)
Sub-circular; moderate, concave sides, flat base. 0.38 x 0.40 m, found during machining, depth at least 0.10 m but likely to have been deeper originally (base at 106.94 m OD). RB sealed urned burial.
Human bone: 683.6 g,
1) adult *c.* 35–45 yr, female
2) infant/juvenile *c.* 3–5 yr
Finds:
Grave goods:
ON 5880: Pottery vessel with clay plug and flint capstone; SE Dorset Black Burnished ware;
everted rim jar with low-waisted, globular profile
Backfill finds:
13 sherds pottery (SE Dorset & SW Black Burnished ware; Seager Smith and Davies 1993, types 2, 15, 26)
2 animal bone (tibiotarsus and tarsometatarsus of hen in lay (unburnt))

Grave 5163 (Sk 5165, fill 5164)
S–N, sub-rectangular; steep, straight sides, flat base. 1.81 x 0.70 x 0.40 m (base at 106.63m aOD). ?RB coffined burial. Extended, supine, hands by side/on pelvis; legs straight.
Human bone: *c.* 69% adult *c.* 25–30 yr, male
Finds:
Grave goods:
ONs 5890–1, 10353–4: 51 iron hobnails (35 left foot, 16 right foot).
Coffin furniture:
ONs 5883–9, 5899–5902: 13 iron coffin nails; at head and feet, with one at each hip.

Grave 5169 (Sk 5171, fill 5170)
Fig. 3.20
SE–NW, sub-rectangular; steep, straight sides, flat base. 2.47 x 0.90 x 1.10 m (base at 105.69 m aOD). RB coffined burial. Extended, supine, hands in pelvis; legs straight.
Human bone: *c.* 99% adult *c.* 35–45 yr, ?male
Finds:
Grave goods:
ONs 5942–3, 10355–6: 170 iron hobnails (85 left foot, 85 right foot), plus another 18 (bulk finds)
22 animal bone: more or less complete domestic fowl (vertebrae, left humerus, both wing tips, pelvis, left femur, left tibiotarsus, left tarsometatarsus and toes from both feet); placed under pelvis
Coffin furniture:
ONs 5930–41, 5929: 15 iron coffin nails; 1 found deliberately placed in mouth as apotropaic deposit
Backfill finds:
3 animal bone (pig cranium, cattle mandibular tooth)
6 sherds pottery (SE Dorset Black Burnished ware; 2 sherds are mid/-late 2nd–3rd century)

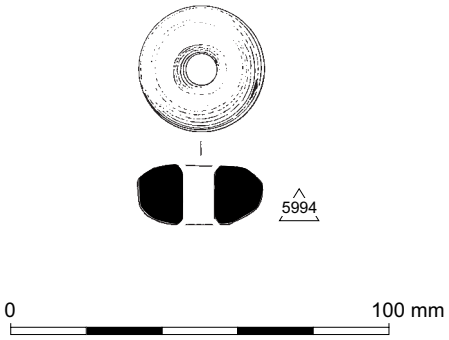

Figure 3.21 Shale spindlewhorl from Romano-British grave 5239

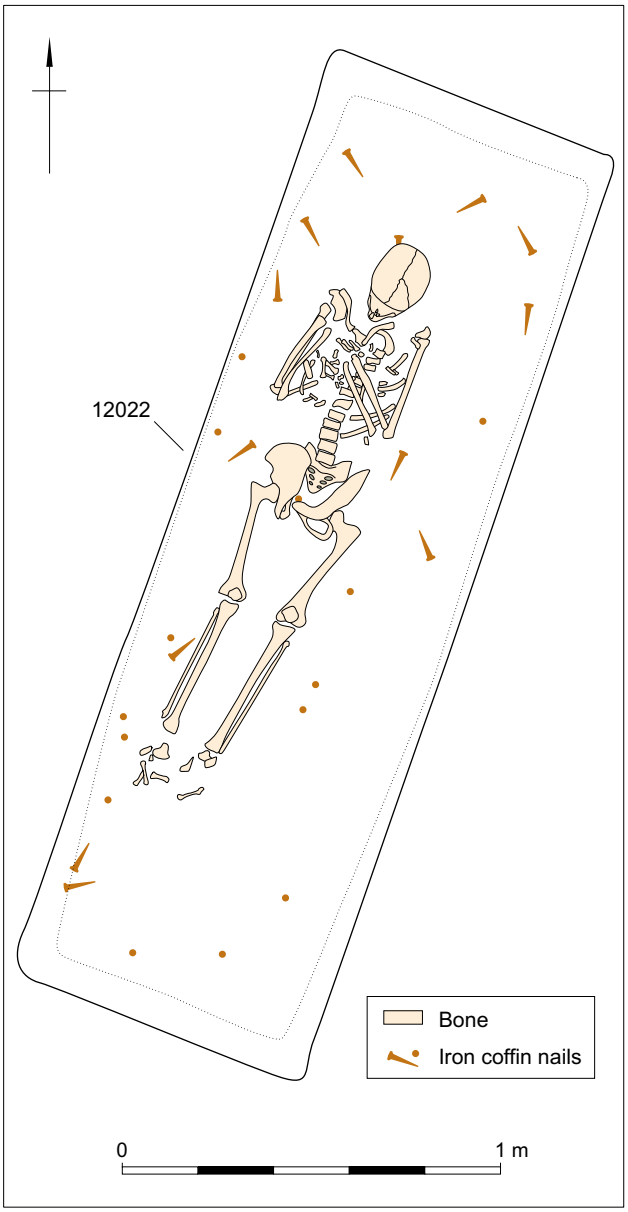

Figure 3.22 Romano-British grave 12022

Grave 5176 (Sk 5177, fill 5178)
Fig. 3.11
SW–NE, sub-rectangular; steep, straight sides, flat base. 1.56 x 0.70 x 0.50 m (base at 106.45 m aOD). RB uncoffined burial; flexed, on right side with arms raised in front and above skull, left 'holding' right forearm; heels to pelvis, bent *c.* 90° to body (*Durotrigian*).
Human bone: *c.* 98% subadult *c.* 14–17 yr, male
Finds:
Grave goods:
ON 13514: Cu alloy Colchester type brooch, complete; wide cross-bar, tightly coiled iron spring; sharply angled, hollow bow; chord hook, with added rivet, wraps around angle; solid catchplate; 1st century AD. Mineralised textile adhering to spring. Found beneath chin.
Backfill finds:
1 animal bone
2 worked flint
4 sherds pottery (SE Dorset Black Burnished ware)

Grave 5239 (Sk 5241, fill 5240)
NW–SE, sub-rectangular; steep, concave sides, flat base. 2.15 x 0.80 x 0.90 m (base at 106.07 m aOD). RB coffined burial. extended?
Human bone: *c.* 92% adult *c.* 30–40 yr, female
Finds:
Grave goods:
ON 5944: Shale spindlewhorl, complete, biconical; diam. 30 mm, central perforation *c.* 8 mm diam. placed by feet, Fig. 3.21
ONs 5946, 10361–2: 42 iron hobnails, at feet (31 from right foot)
Coffin furniture:
ONs 5947–52, 5954–65: 26 iron coffin nails, at head and feet
Backfill finds:
36 animal bone

Grave 11006 (Sk 11008, fill 11007)
Fig. 3.10
SE–NW, sub-rectangular; steep, straight sides, irregular base. 0.80 x 0.40 x 0.10 m (base at 108.47 m aOD). Early RB uncoffined burial (*Durotrigian*). Flexed, on left side with legs bent *c.* 45°, thighs at 90° to body.
Human bone: *c.* 55% infant *c.* 3–4 yr
Finds:
Backfill finds:
14 fired clay, undiagnostic.

Grave 11009 (Sk 11011, fill 11010)
Fig. 3.10, Pl. 3.6
SE–NW, sub-rectangular; steep, concave sides, concave base. 1.62 x 0.90 x 0.30 m (base at 108.2 m aOD). Early RB uncoffined burial (*Durotrigian*). Flexed, on right side, right hand between upper thighs, left hand in front of skull; legs at *c.* 90° to body, heels to pelvis.

Human bone: *c.* 91% adult *c.* 40–55 yr, female
Finds:
Grave goods:
ON 11500: Pottery vessel; SE Dorset Black Burnished ware carinated bowl (Seager Smith and Davies 1993, type 15); external diam. 155 mm, height 90 mm; *c.* AD 50–80. Placed at head.
ON 11501: Pottery vessel; South Gaulish samian form 27 cup; external diam. 125 mm, height 64 mm. Used prior to deposition – slightly burnt with abraded wear in centre of base, obliterating stamp, as well as around inner part of rim at point of carination; *c.* AD 50–80. Placed at head.
ON 11502: Pottery vessel; SE Dorset Black Burnished ware carinated bowl (Seager Smith and Davies 1993, type 15); external diam. 150 mm, height 80 mm; *c.* AD 50–80. Placed at head.
ON 11503: Pottery vessel: SE Dorset Black Burnished ware open bowl (Seager Smith and Davies 1993, type 13); external diam. 158 mm, height 64 mm. Severe drying-out cracks through base indicate that this was never a perfect vessel and may be symbolic rather than fully usable; *c.* AD 50–80. Placed at head

Grave 11018 (Sk 11020, fill 11019)
Fig. 3.12
NW–SE, sub-rectangular; steep, straight sides, flat base. 1.54 x 0.70 x 0.40 m (base at 108.27 m aOD). RB uncoffined burial (*Durotrigian*). Flexed, on right side, right hand between upper thighs, left hand on right shoulder; legs at *c.* 90° to body, bent <45°.
Human bone: *c.* 96% adult *c.* 35–45 yr, female
Finds:
Grave goods:
ON 11504: Cu alloy armlet; penannular snakeshead form; central wreath design flanked by single grooves, ending in moulded terminals. Late Roman. Found around left wrist
Backfill finds:
1 sherd pottery (SE Dorset Black Burnished ware)
26 animal bone (sheep/goat cranium, hyoid and mandibular tooth)

Grave 11021 (Sk 11022, fill 11023)
Fig. 3.12, Pl. 3.7
SE–NW, sub-rectangular; steep, concave sides, flat base. 1.47 x 0.80 x 0.40 m (base at 108.26 m aOD). RB uncoffined burial (*Durotrigian*). Flexed, on right side, right hand behind pelvis (through thighs?), left hand flexed above left knee; legs bent *c.* 45°, right at 90° to body, left at *c.* 45° to body.
Human bone: *c.* 95% adult *c.* 45–60 yr, female
Finds:
Grave goods:
ON 11505: Pottery vessel; SE Dorset Black Burnished ware carinated bowl (Seager Smith and Davies 1993, type 15); external diam. 134 mm, height 96 mm; *c.* AD 50–80. Placed at head
Backfill finds:
9 animal bone

Grave 12003 (Sk 12005, fill 12004)
NNE–SSW, sub-rectangular; shallow, concave sides, flat base. 1.70 x 0.50 x 0.04 m (base at 106.79 m aOD). RB coffined burial. Extended, supine with straight arms and legs.
Human bone: *c.* 30% adult *c.* 20–25 yr, ?female
Finds:
Backfill finds:
1 burnt flint (unworked)
2 worked flint
4 sherds pottery (SE Dorset Black Burnished ware)
ONs 12500–2: 4 iron nails (possibly coffin nails)

Grave 12022 (Sk 12024, fill 12023)
Fig. 3.22
NNE–SSW, sub-rectangular; steep, straight sides, flat base. 2.55 x 1.00 x 0.70 m (base at 106.68 m aOD). RB coffined burial. Extended, supine with arms crossed; legs straight.
Human bone:
1) *c.* 96%, adult *c.* 35–45 yr, female
2) *c.* 35%, foetus *c.* 36–38 weeks
Finds:
Grave goods:
ON 12533: 90 iron hobnails, from around feet
Coffin furniture:
ONs 10363, 12503–17, 12519–29, 12578: 32 iron coffin nails, found all round grave.
Backfill finds:
26 sherds pottery (SE Dorset Black Burnished ware, 1st–early 2nd century)
ONs 12530–2: 5 animal bone (left cattle mandible, left tibiotarsus of adult domestic fowl, left femur and tibiotarsus of juvenile domestic fowl, probably deliberate deposits)

Possible grave 13012 (Sk 13013)
NW–SE, sub-rectangular. 1.70 x 1.00 x 0.22 m deep (base at 104.78 m aOD). Possible cenotaph or emptied grave.
Finds:
Grave goods:
ON 13505: Cu alloy coin; House of Constantine, middle third of 4th century
Backfill finds:
ONs 13502–4: 3 iron nails
5 animal bone
2 ceramic building material (1 *imbrex* frag.)
21 sherds pottery (SE Dorset Black Burnished ware; Seager Smith and Davies 1993, types 3, 25)

Other Romano-British contexts containing human remains

Ditch 4121 (fill 4122): *Human bone*: redep. 1 frag. u., adult >18 yr, male

Oven 5220 (fill 5221): *Human bone*: redep. 1 bone u. neonate

Pit 5243 (fill 5242): *Human bone*: redep. 3 bones (r. arm) neonate

Oven 5255 (fill 5258): *Human bone*: redep. 1 frag. (femur) neonate

Grain drier 13077 (fill 13008): *Human bone*: redep. 1 bone (femur shaft) adult > 18 yr, ?male

Romano-British activity in Areas 1 and 2

Limited Romano-British evidence was found away from Areas 4 and 5. In Area 1 the remains of a broad hollow-way (1002) and a possible flanking ditch (1004) were identified at the northern edge of the site (Chapter 2, Fig. 2.5). Another unexcavated ditch may also have been associated with this activity. The hollow-way and ditches may represent the remains of, or precursors to, the Dorchester–Ilchester Roman road, the route of which is now followed by the modern Poundbury Road. The features (occupying a strip up to 10 m wide) extended for at least 90 m along the southern edge of the present road. Hollow-way 1002 (3.24 m wide, 0.30 m deep) had shallow sides and a concave profile; the single fill was more sandy than others seen across the site, and only a single sherd of early Romano-British samian was recovered. Possible flanking ditch 1004 was not clearly defined, but appears to have been around 0.7 m wide. The ditch was shallow sided with a flat base, and at the western end it survived to a depth of *c.* 0.14 m. The single fill was identical to that found in 1002, but two residual Late Bronze Age sherds were recovered from it.

In Area 2 a ditch (2015) and a pit (2003) were dated to the late Romano-British period (Chapter 2, Fig. 2.6). Ditch 2015 seems to have been a recut of an undated ditch. It was 1.40 m wide, 0.45 m deep and contained two fills. Some flint came from the lower fill and late 3rd–4th century pottery, stone rubble, unidentified iron and copper alloy objects, residual flint came from the upper deposit. Undated ditches 2069 and 2070 may have been associated with this ditch but equally may have been part of the Bronze Age activity (see Chapter 2).

Pit 2003 was cut into the top of ditch 2015, it was sub-circular in plan (1.75 x 1.60 m) with steep sides and an irregular base. It was 0.37 m deep and was filled with two layers of silty clay. A large and mixed deposit of primarily domestic rubbish was recovered from this feature, including late 3rd and 4th century pottery, CBM, animal bones, oyster shell, a piece of stone rubble, slag, human longbone fragments (adult >18 years), and some spelt and barley grains. A single sherd of medieval redware is probably intrusive, and there was residual flint in both fills. The upper fill contained a substantial quantity of Late Bronze Age pottery, presumably derived from ditch 2006 (see Chapter 2).

Post-Roman and Later Activity

A single sherd of rock-tempered pottery of probable Early Saxon date (Fig. 5.7, 2) came from the colluvial deposit (5045) in the south-east of Area 5. Locally, Early Anglo-Saxon archaeology is scarce although some post-Roman features were identified at Poundbury Camp (Green 1987, 152; Farwell and Molleson 1993).

Medieval features comprised several shallow lynchets along the western and northern slopes of the site. Although close dating was not possible, it is likely that these features were of earlier medieval date. A single medieval sherd, of probable 13th–14th century date, came from the evaluation (Tr. 76, topsoil).

No features of post-medieval date were identified but numerous artefacts came from the upper fills of features and topsoil. These finds included pottery (redwares, Verwood types from east Dorset, stonewares, porcelain, and modern refined white wares), coins, metalwork, a brick, a roofing slate, two musket balls, some vessel glass, and clay tobacco pipes. This material probably relates to manuring of fields.

Chapter 4
Excavations at Poundbury Parkway

Following evaluation (WA 2001), three areas centred on NGR 367182 090324 were excavated (WA 2005a–b), although only Areas 1 and 2 (*c.* 0.52 hectares) contained archaeological features, and are described here. The site was located south of Poundbury Farm excavations (Fig. 1.2), on land sloping moderately from *c.* 95 m aOD in the south-west to *c.* 99 m aOD in the north-east. The geology comprised upper chalk with patchy remnants of reddish brown clay-with-flints (BGS 1981).

The remains of a Middle Bronze Age enclosure with associated features including two cremation graves and a field system, were identified as was limited Iron Age and Romano-British activity. The recovery of unstratified and residual Neolithic and Early Bronze Age finds is unsurprising given the level of activity in the wider vicinity (see Chapters 1–2). A few medieval and post-medieval finds probably derive from field manuring.

Neolithic and Early Bronze Age

A small assemblage of residual worked flint (ditches 4, 128) and pottery indicates Neolithic and Early Bronze Age activity. The most diagnostic piece of flint was a barbed and tanged arrowhead of Early Bronze Age date that came from a tree-throw hole (97). A few abraded probable Collared Urn sherds came from the upper fill of ditch 4.

Middle Bronze Age

Middle Bronze Age activity is represented by a large enclosure with internal divisions and associated features. West of the enclosure were two intercutting cremation graves. A ditch to the south of these graves may be part of a larger field system.

Enclosure 204

The full extent of a large ditched enclosure (204) in Area 2 (Fig. 4.1) was not revealed. Undated ditches and gullies following a similar alignment to those identified during the evaluation (WA 2001) may have been part of this enclosure. In Area 1, a similar ditch (4) is presumed to be a southern continuation of the enclosure. The enclosure ditch was up to 1.00 m deep with a U-shaped profile and its fills indicated relatively slow natural filling. Middle Bronze Age pottery was recovered from ditches 4 and 186. Comparable material was recovered from the New Cemetery and Sports Field site (Gardiner 2003b, 159, fig. 5, wrongly labelled as Late Bronze Age), and Poundbury Farm (see Chapters 2 and 5). Worked flint of typical Middle–Late Bronze Age technology was recovered from the ditch fills.

Internal divisions

The enclosure was divided into at least two smaller paddocks or fields ostensibly contemporaneous with the main enclosure ditch. These sub-enclosures (A and B) were sub-rectangular in plan, measuring *c.* 24 x 32 m (A), defined by internal ditches 72 and 152, and 27x 42 m (B), defined by ditches 128 and 293. An entrance connecting the two sub-enclosures, approximately 2 m wide, was recorded close to the north-eastern corner of enclosure 204A. A very small opening was observed in the south-western corner of enclosure 204B (*c.* 0.60 m), where ditch 128 and ditch 152 almost converge. Whilst this may have been an entrance, there may also conceivably have been an entrance in the south-eastern corner of 204B, outside the excavated area.

Internal features

A number of features occurred within the enclosures (Fig. 4.1). Middle Bronze Age pottery was recovered from four pits (113, 121, 148, 57), and a whetstone came from pit 148. Four fragmentary cylindrical loomweights came from pits 113 and 148. A few sheep/goat bones were found in pit 148. A small quantity of charred plant remains, including hulled wheat, emmer glumes, and some weed seeds and charcoal was also recovered from these pits (WA 2005b).

Immediately south of the pits was a cluster of post-holes and stake-holes (205) that may have been the remains of a small structure, although no clear plan could be identified. Post-hole 126 contained a notably high quantity of hulled grains – mainly of barley and spelt or emmer wheat. It is assumed that this and the remaining undated features in this cluster are contemporaneous with the pits and enclosure. Two short linear features (172 and 179) and a possible post-hole or pit (95) were devoid of datable material,

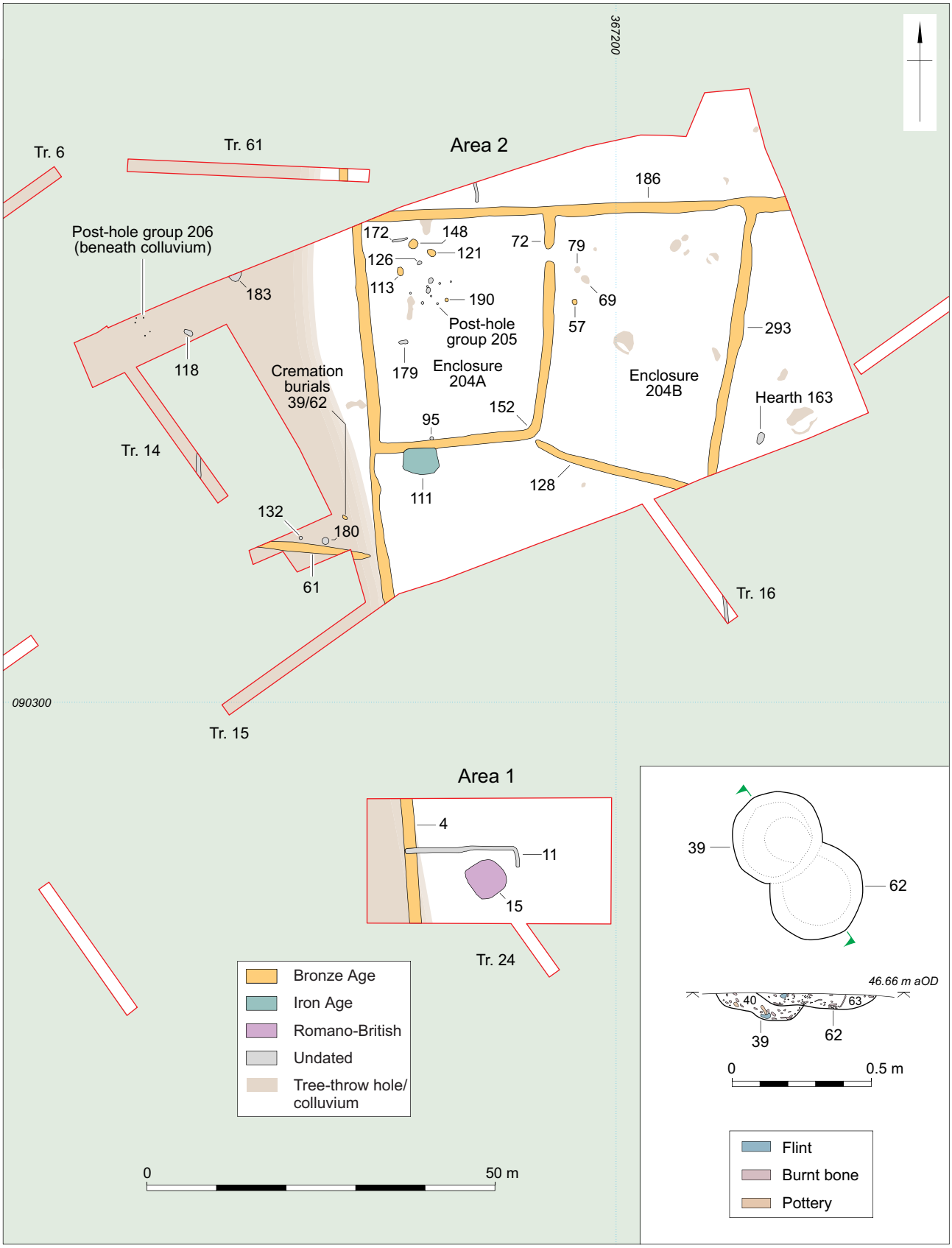

Figure 4.1 Plan of site with detail of cremation burials 39 and 62

Table 4.1 Summary of all finds (number/weight (g))

Worked flint	*Burnt flint*	*Prehistoric pottery*	*Other pottery*	*Fired clay*	*Animal bone*	*Other finds*
1204/43373	91/1543	325/3562	10/43	19/1791	20/64	2 CBM, 3 slag, 1 whetstone, 1 ?non-local stone, 1 Cu alloy object

CBM – ceramic building material

and no obvious function was discernible. Two tree-throw holes (69, 79), south-east of ditch 72, contained Middle Bronze Age pottery.

Other features
To the east of enclosure 204 there was a possible hearth (163) and two tree-throw holes. A substantial assemblage of charcoal consisting of roundwood (twig and branch) came from hearth 163.

A short length of ditch (61), west of enclosure 204 is also of Middle Bronze Age date, and may have been part of a more extensive field system. Immediately north of this ditch were two pits (180 and 132). A few Neolithic flint flakes came from pit 132.

Cremation graves

Two intercutting cremation graves (39 and 62) lay to the north-east of ditch 61 just outside the main enclosure ditch. Grave 39 was cut by grave 62 (Fig. 4.1). Both burials were unurned and redeposited pyre debris was recovered from both deposits. Middle Bronze Age pottery was recovered from grave 39 but it was unclear whether or not this had originally contained the burial. The majority of the bone from grave 39 (context 40) was recovered from the eastern half of the grave. The bone in grave 62 was relatively evenly distributed throughout the fill. The remains of subadults approximately 14–15 years old were recovered (Table 6.1, see McKinley, Chapter 6). The burial from grave 62 may have been female but the individual from grave 39 could not be sexed. Ash and oak charcoal was also recovered from the cremation burials (Challinor, Chapter 7).

Possible structure(s)

A group of five stake-holes (206) in Area 2 may represent a small structure *c.* 3.00 x 1.50 m. One of the stake-holes (50) contained a large amount of charred grain, in particular hulled barley, which is common in Middle Bronze Age contexts. No dating evidence was recovered from these features although the charred material may suggest contemporaneity with the enclosure. Two undated pits (118 and 183) were also in this area.

Iron Age and Romano-British

The only features of probable Iron Age and Romano-British date comprised two large quarry pits (111 and 15); undated ditch 11 may have been associated with the latter.

Pit 111 (Area 2) was sub-rectangular and measured *c.* 5 x 4 m and was 1.30 m deep. It cut the Middle Bronze Age enclosure ditch (153). A few small Iron Age pottery sherds along with a possible copper alloy awl fragment were recovered from the fills of pit 111. A very similar pit in Area 1 (15) contained a little Romano-British pottery. Comparable examples have been interpreted as marl pits at Middle Farm (Butterworth and Gibson 2004) and examples were also identified at Poundbury Farm (see Chapter 3).

Ditch 11 (Area 1) was L-shaped and cut ditch 4, the probable continuation of the Middle Bronze Age enclosure ditch. Ditch 11 may have been associated with quarry pit 15, although no dating evidence was recovered from the ditch.

Dry valley

To the west of the main enclosure was a large, dry valley, infilled with colluvium. This infilling seems to have occurred over a long period from the Bronze Age into the Romano-British period. Examination of a similar dry valley to the east, at Middle Farm, showed a similar slow accumulation of deposits (Allen 1997).

Finds and Environmental Remains

by Stephanie Knight, Matt Leivers, Lorraine Mepham, and Chris J. Stevens

The finds assemblage consists largely of prehistoric material (Table 4.1). Relatively limited environmental remains were recovered but a few features provide important information about Middle Bronze Age crops. The finds and environmental remains are summarised below and in Tables 4.1–4.2; further details may be found in the assessment report (WA 2005b). The cremation deposits are examined in more detail in Chapters 6 (cremated human bone) and 7 (wood charcoal).

Table 4.2 Summary of worked flint

Flint types	*Number*	*% of assemblage*
Retouched tools		
Scrapers	33	2.7
Piercers	3	0.2
Barbed and tanged arrowhead	1	0.1
Core tools	1	0.1
Miscellaneous retouched pieces	31	2.5
Knives	1	0.1
Retouched tools sub-total	70	5.7
Debitage		
Flakes (incl. broken)	975	81.0
Blades (incl. broken)	2	0.2
Core preparation/rejuvenation pieces	2	0.2
Cores/core fragments	54	4.5
Irregular debitage	101	8.4
Total	1204	100

A group of 254 sherds in grog-tempered fabrics (including flint and sand-tempered variants) was recovered. These sherds are generally badly abraded, and mostly featureless, but some inferences can be drawn.

Grog-tempered fabrics have a lengthy currency within the prehistoric period in south Dorset, associated with the Beaker and Collared Urn ceramic traditions of the Early Bronze Age, and extending to the Deverel-Rimbury tradition and associated ceramic forms of the Middle Bronze Age (Cleal 1997, 88). In this instance, one rim sherd with twisted cord impressed decoration can be identified as Collared Urn, and three body sherds with twisted cord impressed decoration may be of similar date.

A small quantity of Middle Bronze Age pottery was recovered (56 sherds). The sherds are predominantly flint-tempered, but some grog-tempered rim and body sherds are likely to have belonged to this period. Diagnostic pieces are scarce, but there are eight rim sherds – six simple upright and two externally expanded, all from bucket-shaped or gently convex vessel forms – and one body sherd with an applied boss, which are more typical of the Middle Bronze Age, compare with two vessels found on an adjacent site in 2001 (Gardiner 2003b, 159, fig. 5, wrongly labelled as Late Bronze Age).

Eight sherds containing rock fragments and seven calcareous-tempered sherds (calcite-tempered and shelly) are likely to belong to a Late Bronze Age plainware assemblage, on the basis of comparison with the much larger assemblage from Poundbury Farm (see Chapter 5).

Fragments of four cylindrical loomweights of Bronze Age type in fine sandy fabrics were recovered (one from pit 113 and three from pit 148). Other fragments are undiagnostic and could derive from further loomweights, or may be structural in origin.

A small quantity of Neolithic and Early Bronze Age flint was identified, including some blades, but most diagnostic was a barbed and tanged arrowhead from tree-throw hole 97 and an edge trimmed knife from colluvium (context 24). The bulk of the assemblage, however, is Middle–Late Bronze Age and conforms to well-established characteristics for this period (see Ford *et al.* 1984; Young and Humphrey 1999).

A few other finds were recovered (Table 4.1), the most notable of which is a whetstone from pit 148 and a possible fragmentary copper alloy awl from pit 111.

Animal bone was generally poorly preserved with only five contexts containing bone. This included cattle tooth fragments and a cattle horn core from the enclosure ditch 204 and sheep/goat radius and metacarpal (both immature, possibly from the same individual) from pit 148.

Limited environmental remains were recovered from the site. However a few features contained rich samples of charred plants, weed seeds and charcoal. Some of the richest samples came from post-holes 50 and 126, containing grains of hulled barley and hulled wheats (emmer or spelt; *Triticum dicoccum/spelta*). These samples also had well-preserved chaff of emmer wheat. While hulled barley is commonly recorded from Middle Bronze Age sites in southern England, for instance at Itford Hill, Sussex (Helbaek 1957), Rowden (Carruthers 1991), Middle Farm (Straker 1997), and Down Farm, Dorset (Jones 1991), emmer wheat is more rarely recorded. Sites from which emmer has been positively identified are concentrated in south-east England (Straker 1990; 1991; Clapham 2000), notable here is the Bronze Age pit at Itford Hill, Sussex.

Discussion

Limited evidence for Neolithic and Early Bronze Age activity was identified. More extensive Neolithic and Bronze Age sites are known from the area, for example various sites in and around Poundbury Farm (Chapters 1–2 and Appendix 1), and along the route of the Dorchester By-pass (Smith *et al.* 1997). The main evidence from the site, however, consists of the remains of a Middle Bronze Age field system with associated settlement features and two cremation graves. Clusters of post-holes indicate that there were post-built structures, one inside the fields and one outside. Pits with domestic rubbish including pottery,

fired clay loomweights, a whetstone, and cereal remains were found; typical domestic debris. Textile production is indicated by the loomweights.

Evidence for economic aspects of the community were also recovered; a little animal bone shows that some of the main domesticates were being kept. Well-preserved charred plant remains including barley, emma, and spelt wheat shed light on the crops being used. This compares well with Middle Bronze Age features from Poundbury Farm (see Pelling, Chapter 7). Access to woodland is indicated by the recovery of charred hazelnuts shells and ash and oak charcoal from the cremation burials.

It is difficult to speculate about the precise nature of the settlement as its full extent was not revealed. However, the domestic nature of this refuse indicates a typical settlement set within an enclosure and associated field system, probably forming part of the wider Middle Bronze Age landscape known form the area (eg, Smith *et al.* 1997; Yates 2007). At both the Bridport Road Ridge and Middle Farm evidence for large Middle Bronze Age enclosures, one associated with a roundhouse were found (Smith *et al.* 1997, 73, 84).

Limited activity on the site, in the form of chalk quarrying appears to have resumed during the Iron Age and Romano-British period, after which the area seems to have been abandoned.

Grave Catalogue

Grave 39

Fig. 4.1

Circular cut; moderate, concave sides, concave base. 0.36 x 0.40 x 0.10 m (base at 46.49 m aOD). Middle Bronze Age urned cremation burial and redeposited pyre debris. Single fill: 40

Human bone: sub/adult/adult *c.* 15–25 yr.

Finds:

43 sherds pottery, flint-tempered, including upright rim, Middle Bronze Age.

Grave 62

Fig. 4.1

Circular cut; moderate, concave sides, flat base. 0.32 x 0.30 x 0.10 m (46.6m aOD). ?Middle Bronze Age unurned cremation burial and redeposited pyre debris. Single fill: 63

Human bone:

1) sub/adult/adult *c.* 15–25 yr.
2) juvenile *c.* 5–12 yr.

Chapter 5
The Finds

Introduction
by Lorraine Mepham

Finds recovered from the site represent a significant addition to the prehistoric and Romano-British assemblages of the Poundbury area. Part of the current assemblage derives from funerary contexts – Bronze Age cremation graves and Romano-British cremation and inhumation graves (see Table 5.1). The Romano-British group augments the already substantial body of evidence for Late Iron Age/ early Romano-British and late Romano-British burials from Poundbury Cemetery (Farwell and Molleson 1993). Other finds derived from contexts and features of various dates, from Neolithic to Romano-British.

The focus within this report has been on selected prehistoric and Romano-British finds categories, for example the contents of the Neolithic pits, and the funerary assemblages of all dates. Other categories, occurring in relatively small quantities here, and/or representing commonly occurring types well-represented elsewhere in the Dorchester area, eg, Romano-British pottery and ceramic building materials, have been treated more summarily. All finds, however, have been recorded at least to minimum archive level, and all data are held on the project database (Access), which is fully accessible within the project archive.

The finds from Poundbury Parkway are summarised in Chapter 4 but selected pieces are discussed below, together with selected pieces from the Poundbury Farm evaluation. Quantities of finds from other sites within the Poundbury development area are given in Appendix 1.

Coins
by Nicholas Cooke

Nineteen Roman copper alloy coins were recovered (Table 5.2). All are common issues, the majority dating to the late 3rd and 4th centuries. In general, they are in fair condition and although a number show signs of both wear and corrosion, most were identifiable to period.

Seven coins (ONs 4905–4911) were recovered from a single context (layer 4048, the upper fill of short ditch 4047), and almost certainly represent a small hoard. These all date to the end of the 4th century and were probably buried early in the 5th century. Five of the coins are small *nummi* minted by emperors of the House of Theodosius between 388 and 402. They form part of the last group of Roman coins officially supplied to Britain. The wear on these coins suggests that they had been in circulation before their deposition, possibly into the 5th century. It has recently been suggested that two hoards of similar Theodosian coins excavated in the south-western corner of Dorchester were deposited in the 5th century (Cooke 2007, 61–7).

The latest of the coins, apart from the hoard, are three issues of the House of Constantine struck in the middle third of the 4th century (ONs 4982, 10038 and 13505); the latter came from an emptied grave or cenotaph (13012), where it is assumed to have been deliberately deposited.

Judging from this small assemblage, there may have been little coin use on the site in the second half of the 4th century before the deposition of the hoard.

Metalwork
by Kayt Marter Brown and Lorraine Mepham

Grave Goods

The majority of the metalwork assemblage derived from contexts within the Romano-British inhumation graves (2127 out of a total of 2489 objects, excluding probably residual finds), although the bulk of this material comprises coffin furniture, such as nails and fittings, rather than personal items. Selected pieces are illustrated with the relevant grave plans, and further details can be found in the grave catalogue (see Chapter 3).

Silver and copper alloy objects
Two brooches (one copper alloy and one silver) and three copper alloy armlets were deposited as grave goods. The bow from a silver Colchester-type brooch came from grave 4119 (ON 4992; Fig. 3.11), where it accompanied an adult female (>55 years). The brooch was placed at the foot of the grave. The brooch is of 1st century AD date; the type is most common in the middle years of the century (Bayley and Butcher 2004, 150). The second brooch, of copper alloy with an iron spring, also a Colchester type of 1st century AD date, was found beneath the chin of the subadult (*c.* 14–17 years) in grave 5176 (Fig. 3.11).

Table 5.1 Grave goods by grave (Romano-British)

Cut	*Grave goods*	*Hobnails*	*Nails*	*Other grave furniture*	*Other*
4005		144	3	stone coffin	1 button (intrusive)
4033		37	1		
4036		1			
4039		68	15		
4056		107	4		
4062					
4069	iron blade	180	17		
4094		56	62		sheep skull
4098	1 pot				
4119	silver brooch				
4144	1 pot				
4147					
4239	iron object	21	52		
4273			15		poss. animal bone
4281	iron tang/handle	219	39		1 ironstone, poss. deliberately deposited
4291			34		
4294			33		
4300					
4304		6	24	8 iron fittings	
4307		15	27		
4317	iron ox goad	148	39		
5064		194			articulated leg lamb
5079	2 copper alloy armlets; 22 glass beads	28	55		dom. fowl skeleton
5156	pottery vessel				dom. fowl skeleton
5163		51	13		
5169		188	15		
5176	copper alloy brooch				
5200			2		
5239	shale spindlewhorl	42	26		
11006					
11009	4 pots				
11018	copper alloy armlet				
11021	1 pot				
12003			4		
12022		90	32		poss. chicken bones
13012	copper alloy coin		3		
Total		1595	515		

Table 5.2 Summary of coins

Obj. No.	*Context*	*Type*	*Issuer/type*	*Mint*	*Issue date (AD)*	*Ident.*
4905	4048	AE 4 nummus	House of Theodosius/Victoria Auggg	Unknown	388–402	As LRBC II, 162
4906	4048	AE 3 nummus	Gratian/Gloria Romanorum	Arles	378	LRBC II, 540
4907	4048	AE 3 nummus	Valens/Securitas Reipublicae	Unknown	364–378	As LRBC II, 82
4908	4048	AE 4 nummus	House of Theodosius/Victoria Auggg	Lyons	388–402	As LRBC II, 386
4909	4048	AE 4 nummus	House of Theodosius/Salus Reipublicae	Unknown	388–402	As LRBC II, 796
4910	4048	AE 3 nummus	Arcadius/Victoria Auggg	Arles	388–402	As LRBC II, 566
4911	4048	AE 3 nummus	House of Valentinian/Gloria Romanorum	Unknown	364–378	As LRBC II, 78
4982	4132	AE 3 nummus	House of Constantine/Gloria Exercitus, 2 soldiers, 2 standards.	Unknown	330–335	As LRBC II, 48
5752	5003	AE 2 antoninianus	cast barbarous radiate	Unknown	270–296	/
5789	5071	AE 2 antoninianus	Carausius/Provid Aug. Mint mark: S|P	Unknown	286–296	RIC V, Part II, Carausius, 503
	5134	AE 2 antoninianus	barbarous copy of Tetricus I?	Unknown	270–296	/
5915	5181	AE 2 antoninianus	Gallienus/Dianae Cons Aug type	Rome	260–268	RIC V, Part I, Gallienus, 181
10038	4180	AE 3 nummus	House of Constantine/ Victoriaeddauggqnn type	Unknown	341–348	? Copy as LRBC I, 137
10039	4180	AE 3 antoninianus	barbarous radiate/Pax reverse	Unknown	270–296	/
10070	4254	AE 2 antoninianus	Gallienus/Virtus Augg	Unknown	260–268	RIC V, Part I, Gallienus 344
10367	5197	AE 2 As/ Dupondius	Illegible	Unknown	1–3 cent	/
13500	5000	AE 2 antoninanus	barbarous copy of Tetricus II	Unknown	270–296	/
13505	13013	AE 2 nummus	Constans/Fel Temp Reparatio copy	Unknown	350–360	Copy as LRBC II, 25
13513	-	AE 3 antoninianus/ nummus	Illegible	Unknown	3–4 cent	/

Three late Roman (4th century) copper alloy armlets were recovered from two of the inhumation graves. Two from isolated grave 5079 in enclosure D (ONs 5834, 5835; Fig. 3.20) comprise an identical pair; these are complete, two-strand, cable-twisted armlets with paired hook fastenings, a type particularly found in Britain (Swift 2000, 160). Examples of this type are known from Lankhills, Winchester, and similar types of two-, three-, or four-strand cable armlets with hook and eye fastenings are also known from a number of sites in southern England (*ibid.*, 126, fig. 149), including the Poundbury cemeteries (Cool and Mills 1993, fig. 65, no. 7). These two were found together at the right knee of the individual.

The third armlet, from grave 11018 (ON 11504; Fig. 3.12), was found around the left wrist of the individual. This is a complete, penannular, snakeshead armlet (Swift 2000, 153), late Roman in style, with a central wreath design flanked by single grooves, and ending in moulded terminals. Although bracelets of this general type are more common on the Continent than in Britain, this example does not fit easily into any of the types that have been identified thus far (Swift, pers. comm.). This burial appears to have been made in the *Durotrigian* style (ie, flexed on its right hand side) within a group of *Durotrigian* burials (see Chapter 3, Fig. 3.9). The occurrence of a clearly late Roman armlet is therefore of some interest and perhaps suggests a return to, or continuation of, earlier burial practices (see Chapter 3).

One post-medieval object is worthy of mention. A late 18th century copper alloy button was found in context 4006, the uppermpost fill of grave 4005, which contained the stone coffin. The button's presence within this deposit indicates the possibility of antiquarian disturbance of this particular burial (see Chapter 3).

Iron objects other than nails

Ten iron objects other than nails came from grave contexts. A large, triangular knife blade, possibly a Manning (1985) type 11 came from grave 4069, from the chest area (ON 4949; Fig. 3.14, Pl. 3.5). The length of the blade is 170 mm and the width at the base 64 mm. A possible tang fragment from a knife or tool was identified from grave 4281 (ON 10089) and an ox goad from grave 4317 (ON 10283; Rees 1979, fig. 73j). An object from grave 4239 (ON 10069) is of unknown function; it comprises a square-sectioned shank (length 72 mm), broken at one end but with a possible original point at the other. It sits within a cylindrical collar or ferrule; there is much mineralised wood within the ferrule and along the shank.

Six further small iron objects or fragments were recovered from two graves (4056, 4119), but cannot be identified; some could be nail fragments. Not all necessarily represent deliberately deposited objects but could be incidental finds incorporated in grave backfills.

Hobnails

In total 1595 hobnails were recovered from within 18 graves. The hobnails are all Manning type 10 hobnails (Manning 1985, 135) with domed heads and short shanks. The number of hobnails per grave ranges from 1 to 194 (Table 5.1), although it should be noted that the exact number is difficult to determine due to poor condition and fragmentation.

In at least 14 cases (graves 4005, 4039, 4056, 4069, 4094, 4281, 4307, 4317, 5064, 5079, 5163, 5169, 5239, 12022) these appear to represent footwear worn by the deceased, occurring as groups at the feet of the skeleton, although in two cases (graves 4094, 4281) hobnails were also found near the skull (2 and 12 hobnails respectively, not illustrated). In two other graves (4033, 4239) the number of hobnails is sufficient to suggest that these, too, represent footwear, although their position in the grave is unknown as the hobnails came from samples. The association of nails with individuals is less certain in graves (4036 (1 hobnail) and 4304 (6)), and these may be incidental finds incorporated into the grave backfill.

Where possible a distinction was made between hobnails from each 'foot', although in many instances only a total number by grave is possible. At Poundbury Cemetery, total numbers of hobnails per grave were divided by two, to give an approximation of the number per shoe; peaks in numbers were observed at 10, *c.* 35, and *c.* 50 nails, suggesting different types of footwear (Mills 1993a, 98). A similar approach for the current assemblage shows peaks at *c.* 20 and c. 50 nails per shoe, and one instance (grave 5169) where each foot had 85 nails. Grave 5163 had 16 hobnails from the right foot and 35 from the left foot and may represent repair of individual shoes (*ibid.*, 99).

Coffin Furniture

Nails were present, in numbers ranging from 1 to 62, from 22 of the graves. In total 515 nails and nail fragments were recorded, though the minimum number as represented by heads is 432 nails. All are flat-headed, comparable to the type 1 nails identified by Mills at Poundbury Cemetery (1993b, 115), and including both small- and large-head types.

The majority of these nails are assumed to be coffin nails and, in several instances, their distribution within the graves give an indication of coffin construction. Although mineralised wood was observed adhering to a number of the nails it was not

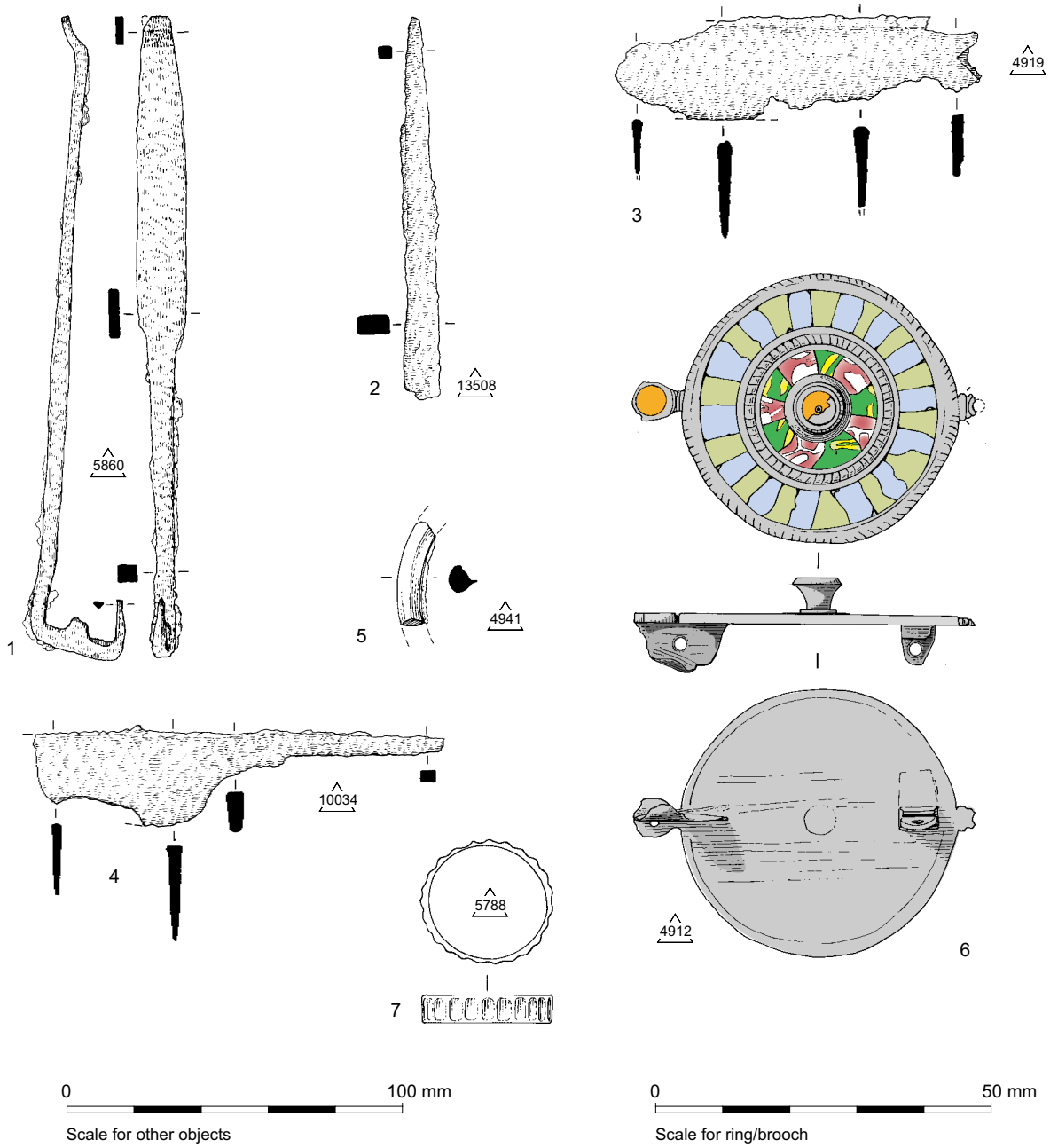

Figure 5.1 Selected iron, silver and shale objects from non-grave contexts

possible to identify the wood species (Pelling, pers. comm.). In several graves (eg, 4069, 4239 and possibly 4039), the nails were concentrated at the head and foot of the grave, suggesting that, in these cases, they were used only to secure the head and foot plates of the coffin. In other instances nails were spread more evenly around the grave (eg, 4281, 4291, 4294, 5079, 12022). In grave 4094 nails were found around the whole of the grave cut but this was substantially longer than the individual buried there; either a much larger coffin than necessary was provided, or the foot plate of the coffin had collapsed outwards. This also seems to have been the case in grave 4239, where the nail concentrations also indicate an over-long coffin, and much wider than is suggested by the position of the (tightly bound) individual on one side of the grave.

The quantity of nails present in each grave varied (see Table 5.1); in the six that contained fewer than ten nails these finds could be incidental while the three from within the stone coffin in grave 4005 cannot be linked to a wooden coffin.

A single nail shank appears to have been deliberately placed within the deceased's mouth in grave 5169. This was the only example of an apotropaic deposit. At Little Keep, Dorchester (Seager Smith 2009) a nail had been deliberately deposited in the position of the (missing) head in one

grave, and at Poundbury Cemetery there is at least one example of an iron nail placed between the upper incisors (Farwell and Molleson 1993, 148, pl. 50).

There was only one instance (grave 4304) of coffin fittings, comprising eight iron angle brackets, with preserved wood adhering to the interior angle (Fig. 3.19). All but one had broken in two at the angle. The bracket arms are relatively uniform in width, at 50–55 mm; one arm of each is consistently longer than the other at 90–95 mm. The brackets have either two or four rivet holes located at plain, square-ended terminals. An *in situ* nail in one bracket measured 17 mm in length (ie, shorter than most of the other coffin nails recovered); the same grave produced 24 further nails. Several graves within the Poundbury Cemetery contained comparable angle brackets, although generally with a greater arm width than these examples (Mills 1993b, figs 85–9). The brackets would have been located at the corners of the coffin, two at each corner.

Plate 5.1 Enamelled silver disc brooch from Romano-British enclosure B

Metal Objects from Non-grave Contexts

Objects of personal adornment include a silver brooch and finger ring, and a copper alloy earring. The silver disc brooch (ON 4912; Fig. 5.1, 6; Pl. 5.1) was found in the uppermost fill of the north-eastern corner of enclosure B. The front of brooch is decorated with two concentric circles of coloured inlay; the outer circle has alternate inlay of blue stone and green glass, and the inner circle purple and white stone interlaced with marbled green and yellow glass. The two circles are separated by a raised ring with close-set cross-grooves. At the centre of the brooch is a small shaft with a circular cross-section, narrow at the base and widening out into a hollowed out circle in which an orange enamel inlay is set; there is further orange enamel inlay in a circular setting above the catchplate. Opposite this is a second, broken attachment that may have been an open loop. The outer edge of the brooch is decorated with close-spaced notches. The brooch dates from the second half of the 2nd century to the early 3rd century (*cf.* Riha 1979, 188, type 7.13).

The silver finger ring is probably of late Roman date (ON 5788; structure 5502) and has tooled decoration on the outer edge (Fig. 5.1, 7). Part of a copper alloy earring (ON 10022; ditch 4448), comprises a bent wire attachment with a loop at one end (Allason-Jones 1989, fig. 4, 340, 550, not illlustrated). Two other objects also came from ditch 4448: a possible iron brooch fragment (ON 10050), and a copper alloy pin fragment (ON 10059); insufficient remains of the latter to enable identification to specific type. The possible brooch comprises a slightly tapering strip bent in an S shape, with the remains of a possible hinge at the top; the profile is reminiscent of a bow brooch, but there is no sign of a catchplate, and in any case the occurrence of such a brooch in iron would be very unusual.

Tools and implements comprise an L-shaped lift key (ON 5860, structure 5505; Fig. 5.1, 1); an incomplete iron chisel from grain drier 13077 (ON 13508; Fig. 5.1, 2); and two iron knife blades, of which one is a Manning type 20 (ON 4919 from ditch 4047; Fig. 5.1, 3) and the other is too incomplete to assign to type (ON 10034 from tree throw-hole 4170; Fig. 5.1, 4).

Other identifiable iron objects include two probable cleat fragments, both of Manning types R54–64 (ditches 13090 and 4448); and a pin fragment (ON 10059, ditch 4448). Remaining objects largely comprise iron nails (111), iron hobnails (87), and various rod, bar, strip, and sheet fragments of copper alloy, lead and iron, some of which might represent fittings of some kind, and some of which may be post-Roman in date. Some objects remain unidentified.

Flint and Chert

by Phil Harding

The evaluation at Poundbury Farm (WA 2007) produced 2071 pieces of worked flint with occasional pieces of Portland chert. This assemblage included stratified material in a cluster of Early Neolithic pits, EV3705, EV3714, and EV3721 (Figs 1.4, 2.1), with pit EV2302 to the south-west.

The subsequent excavations produced a further 2538 pieces of worked flint and chert and an unstratified reworked butt of a polished stone axe

Table 5.3 Summary of worked flint

No. contexts	*Period/feature*	*3. Flake cores*	*4. Broken cores/frags*	*5. Blades*	*6. Broken Blades*	*7. Bladelets*	*8. Broken bladelets*	*9. Flakes*	*10. Broken flakes*	*11. Crested pieces*	*12. Rejuvination tablets*	*15. Chips/microdebitage*	*16. Scrapers*	*17. Other tools*	*22. Axe thinning*	*23. Projectile points*	*25. Core tools*	*26. Edge damaged*	*27. Piercers*	*30. Microdenticulate*	*31. Debitage*	*32. Misc. retouched*	*Total*
1	2072 EN pit total	1	0	13	0	0	0	16	4	0	0	0	0	0	0	0	1	0	0	0	0	0	35
1	3009 EN pit total	4	0	5	1	0	1	16	9	0	0	0	1	2	0	0	11	2	0	0	2	0	54
1	3010 EN pit total	0	0	1	1	0	0	7	6	0	0	0	2	0	0	0	1	1	0	0	0	0	19
7	3047 EN pit total	9	2	46	12	2	0	255	138	0	6	0	13	0	3	0	0	10	0	0	0	2	498
1	3049 EN pit total	3	0	9	3	0	1	104	106	0	2	15	13	0	0	0	3	0	0	0	4	1	264
1	11000 EN pit total	0	0	4	0	1	0	6	4	0	0	0	0	0	1	1	1	0	0	0	0	0	18
1	13004 EN pit total	0	0	9	3	2	0	37	28	0	0	0	2	0	0	0	0	0	0	0	0	0	81
1	11002 EN pit total	0	0	7	4	0	0	37	41	0	1	28	0	0	3	0	0	0	0	0	1	0	122
2	11004 EN pit total	1	2	14	6	4	0	75	73	0	0	102	2	0	0	0	0	1	0	1	0	0	281
1	EV3705 EN pit total	3	2	10	8	1	3	64	78	0	5	10	2	0	0	0	0	1	0	1	3	0	191
1	EV3721 EN pit total	0	0	9	9	0	8	80	105	0	3	144	2	0	0	0	0	0	0	0	4	0	364
1	EV2302 EN pit total	1	0	3	0	0	0	5	5	0	0	0	1	2	0	0	0	0	0	0	6	1	24
2	LN total	0	0	5	0	2	0	47	48	0	3	25	6	0	6	0	0	0	0	0	0	1	143
2	MBA total	2	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
2	LBA–EIA ditch total	1	0	0	0	0	0	21	0	0	1	0	0	0	0	0	0	0	0	0	0	0	23
26	LBA-EIA pit total	2	2	0	0	0	0	222	29	0	2	5	10	1	0	1	0	5	2	0	1	6	288
7	LBA-EIA other total	0	0	0	0	0	0	19	0	0	0	0	1	2	0	0	0	1	0	0	0	0	23
76	RB total	1	0	1	0	0	0	212	20	0	1	0	10	0	0	0	1	0	0	0	1	6	253
3	Uncert. prehist. total	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
61	Undated features total	3	4	2	0	0	0	346	32	1	1	0	12	3	0	0	1	0	0	1	8	1	415
198	Total	32	12	138	47	12	13	1587	726	1	25	329	77	10	13	2	19	21	2	3	30	18	3117

from Area 1. Eight more pits (Fig. 2.2) with stratified stone tool assemblages were found. These included features centred on pits EV3705 and EV3721 from the evaluation, with additional material from an unexcavated portion of pit EV3714 (renumbered 11004), and a new assemblage from pit 11002. All the worked flint from this close group of features was assessed or re-assessed in more detail and included in Table 5.3. Pits 3047, 3049, 3009, and 3010 were in Area 3 around the Early Bronze Age ring-ditch 3114; all contained Early Neolithic pottery. Pits 3009 and 3010 lay within a cluster comprising 3003, 3004, 3006 and 3012, which contained no flint, but did include pottery of demonstrably Early Neolithic or less certain Neolithic/Late Bronze Age date. Worked flint from three isolated pits was also examined; pits 11000 and 13004 also in Area 5, and pit 2072 in Area 2, which also contained Early Neolithic pottery. Most significantly some pits contained axe roughouts providing evidence of bifacial core tool manufacture.

Individual artefacts, including a bifacial knife/laurel leaf of (probably Early) Neolithic date from a tree-throw hole, were present elsewhere across the site. These pieces, often in features that were less securely dated, have helped to broaden the distribution of Early Neolithic activity beyond the pits.

Flint assemblages from the evaluation, in pit EV4303, and the excavation, in pits 4053 and 4115, contained Late Neolithic pottery and small assemblages of worked flints but were subjected to no further analysis. Unstratified scrapers and two atypical transverse arrowheads from the evaluation also suggested Late Neolithic activity in Areas 7 and 4. The remaining worked flint from the excavation comprised material from 37 Bronze Age pits and ditches, 76 Roman features, and 64 of uncertain date. Much of this material represents residual flintwork, including a core tool roughout from a Romano-British ditch in Area 4 and another from the topsoil from Area 5.

The Early Neolithic pits (Table 5.3) contained 62.5% of the flint assemblage but 95% of all blades. Microdenticulates and core tool thinning flakes were also principally restricted to Neolithic contexts while two piercers were found in Late Bronze/Early Iron Age pit fills. These broad diagnostic components of the assemblage (see Pitts 1978; Wainwright and Longworth 1971; Fasham and Ross 1978) fit comfortably within accepted chronological divisions.

Raw material

Workable material was readily available from the clay-with-flints, which provided nodules sufficiently large for core tool production. Thermal fractures and coarse grained inclusions are common but nodules are otherwise of good flaking quality. Fresh flint was also available directly from the Chalk with occasional exploitation of flint from local river gravels. Most of the worked flint is characterised by a light grey to blue surface patina, occasionally developed to white. Post-depositional edge damage was present on material from ploughsoil deposits and from ditch silts, whereas stratified pit assemblages were more frequently in mint condition and often covered by calcium concretion (race) from ground water precipitation.

Portland chert formed only a small but equally workable component of the stone tool assemblage. It occurs naturally in the Portland Formation but locally in the Carstens series soils, that are related to the clay-with-flints, to the south of Maiden Castle (Bellamy 1997).

Technology

Direct hard hammer percussion (Ohnuma and Bergman 1982) appears most likely for blank production. Soft hammer mode is present, which may be attributed to the, perhaps inadvertent, use of thick cortical surfaces, which are known to mimic soft hammers (Ohnuma and Bergman 1982). Flint hammers, some made on discarded cores, were recovered from pit 3009 along with flakes that had been removed from hammerstones.

Flaking techniques repeat many of those noted on refitting material from an Early Neolithic pit at Rowden, Dorset on the South Dorset Ridgeway (Harding 1991). Cores were flaked from either one or opposed prepared striking platforms or by using alternate flaking to produce flakes and blades. Abraded striking platforms were more frequent, but not exclusive, on blades. Alternate flaking was more commonly used in the manufacture of core tools where faceting was also used to modify flaking angles.

Microdebitage was present in all sieved assemblages. Abrasion chips and bulbar scars, both diagnostic fossils of flaking (Newcomer and Karlin 1987), from pit EV3721, confirmed the presence of workshops in the area. Retouch chips (Newcomer and Karlin 1987) from pit 3049 provided similar evidence of scraper manufacture or modification.

Results

Most of the Early Neolithic pits contained only one fill with worked flint distributed throughout the deposit. However some artefacts from pit 3009, including core tool roughouts (Figs 5.2–3, Pl. 5.2), appeared to lie on the surface of a distinct primary fill, with associated Early Neolithic pottery, suggesting a

Table 5.4 Character of flake types from selected Early Neolithic pits

Pit	*Primary %*	*Secondary %*	*Tertiary %*	*Total*
EV3721	7	31	61	211
EV3705	4	27	69	164
11004	2	32	66	174
11002	10	32	66	91
3047	7	34	59	435

hiatus before the secondary fills were added. Most pits contained elements representing all phases of production from core preparation to tool discard. No attempts were made to refit material; however sherds of pottery were conjoined between pits 3003 and 3009, demonstrating that these two closely spaced pits were contemporary.

Assemblages (Table 5.3, Fig. 1.4) from pits comprised flakes and blades in varying quantities with abandoned retouched and utilised material typical of domestic or ritual refuse. Flake composition from selected pits (Table 5.4) indicates that they comprised principally secondary and tertiary removals with only small numbers of primary flakes, but sufficient to demonstrate all phases of production. Cores were also rare suggesting that they may have been disposed of at other parts of the site.

Pits 3009 and 3010 in contrast contained not only flakes and blades, but also axe roughouts (Pl. 5.2), hammerstones from their manufacture and flakes that probably include those from the preliminary stages of axe manufacture.

The cores recovered included an exhausted, rotating flake core and three 'tested pieces' from pit 3009 and a well-prepared opposed platform blade core from pit EV3705. Elsewhere, pit 3049 contained two well worked cores, one with traces of reuse as a hammerstone and a 'tested piece', possibly an abandoned axe.

Possible thinning flakes from axe manufacture were recognised in Early Neolithic pits 11000, 11002 and 3047, none of which contained axe roughouts. Perversely none of the flakes from 3009 or 3010 showed characteristics of core tool thinning flakes (Newcomer 1971) although approximately seven flakes were sufficiently distinctive to suggest that they may have been removed during preliminary stages of core tool manufacture. Given that most core tools showed failed thinning the absence of 'classic' thinning flakes is not surprising.

Small groups of material were recovered from pits and ditches of Bronze Age or later date with additional redeposited artefacts in Roman features. This material, as exemplified by one of the larger groups from Late Bronze Age pit 1160, was characterised by robust flakes with plain butts and very little platform preparation. There were no cores and only two retouched tools, both end scrapers. These relatively small groups of material probably represent small scale late prehistoric flint working, contemporary with the use of the feature incorporating more robust residual elements of earlier industries.

Retouched Tools

Retouched tools accounted for between 28%, (pit 3009) and 1% (pit 3721) of each stone tool assemblage, the exaggerated total in pit 3009 being related to the number of axe roughouts. The domestic retouched tool component, as is most frequently found in Early Neolithic assemblages, was dominated by large, thick, end scrapers made on flakes. Most pits (Table 5.3) contained at least one example. The scrapers from pit 3049 typify this, being 38–67 mm (mean 56 mm) long, 44–71 mm (mean 56 mm) wide, and 11–25 mm (mean 17 mm thick).

The scrapers were accompanied by other retouched material characteristic of the Neolithic period; microdenticulates, leaf-shaped arrowheads, reworked polished axe fragments of both flint (pit 11000) and stone (unstratified) (Pl. 5.4), flakes from their reworking (pits 3009 and 3010), and utilised/edge retouched blades and flakes. The utilised material, a component that is otherwise heavily under-represented, provides a strong argument that these assemblages represent refuse debris; pit 3047 included a large quantity of burnt material including artefacts, a feature repeated in the Early Neolithic pit at Thomas Hardye School (Gardiner *et al.* 2007).

The leaf-shaped arrowhead from pit 11000 is of a 'birch leaf' (Smith 1927) or 'ogival' (Green 1980) form that tapers from a foliate tip to a narrow concave tang. Arrowheads of this type, many of them broken, were found among those excavated from the causewayed enclosure on Maiden Castle (Wheeler 1943, 171, fig 42. 41 and 42). The greenstone axe fragment was identified (Hayward, pers. comm.) as a Green Metavolcanic, probably from the Borrowdale, Lake District (Group VI) quarries (Pl. 5.4).

Bifacial axe manufacture was a particularly noteworthy feature of the Early Neolithic phase. Roughouts were recorded in pits 3049, 3010, and 3009. The 11 examples from pit 3009 averaged 156 mm long, 91 mm wide, 56 mm thick, weighed 765 g, and were all made on large elongated or thin oval nodules (Figs 5.2–5.3) present in the clay-with-flints. The reduction strategy contrasts markedly to that used for flake and blade cores. One side was frequently formed using bold, radial flaking to prepare a flat or slightly convex surface (Fig. 5.2, 1)

Plate 5.2 Axe roughouts and near complete axe from pit 3009

Plate 5.3 Near complete axe from pit 3009

Plate 5.4 Polished Group VI axe, unstratified

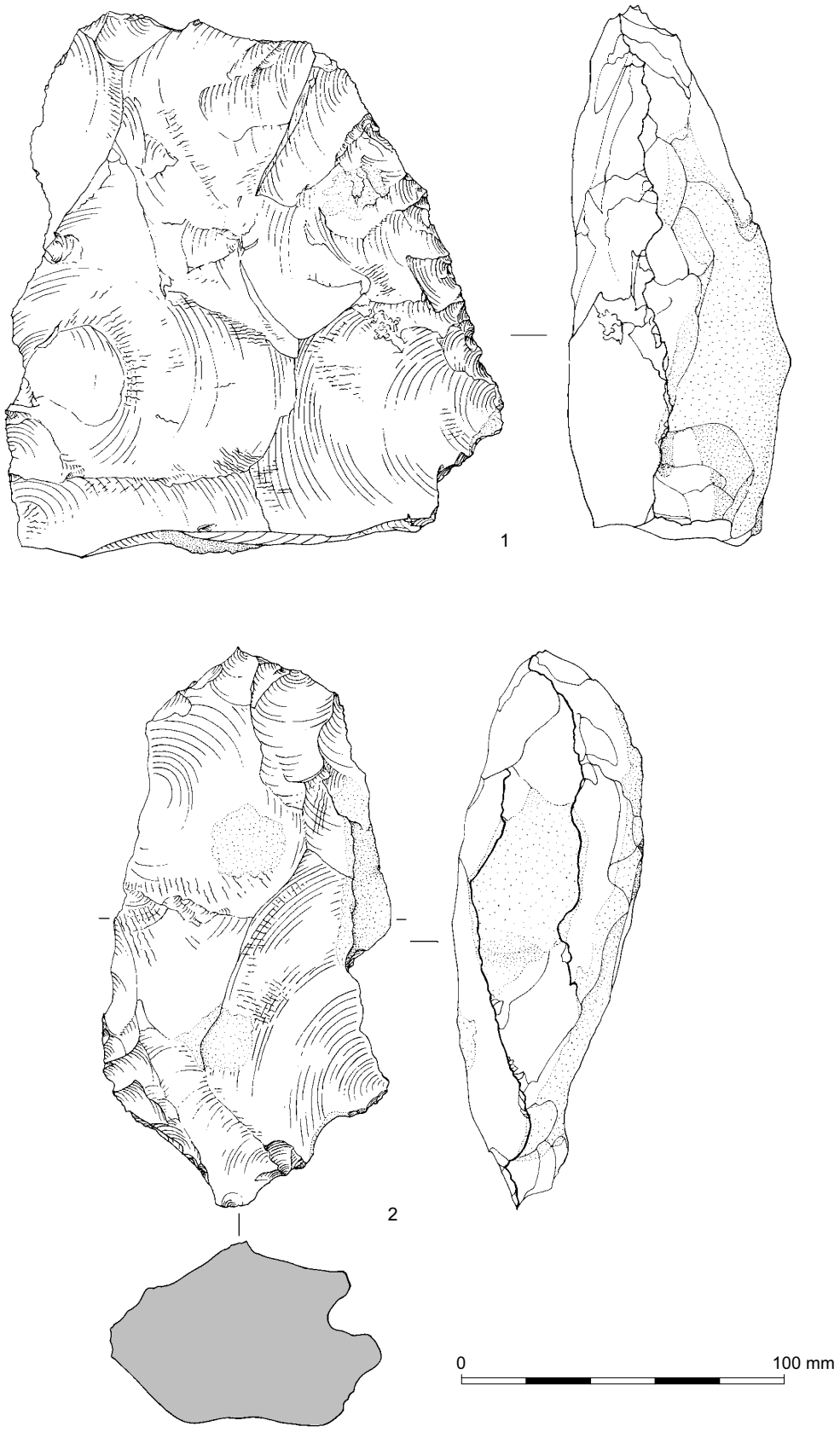

Figure 5.2 Axe roughouts (1–2) from pit 3009, Area 3

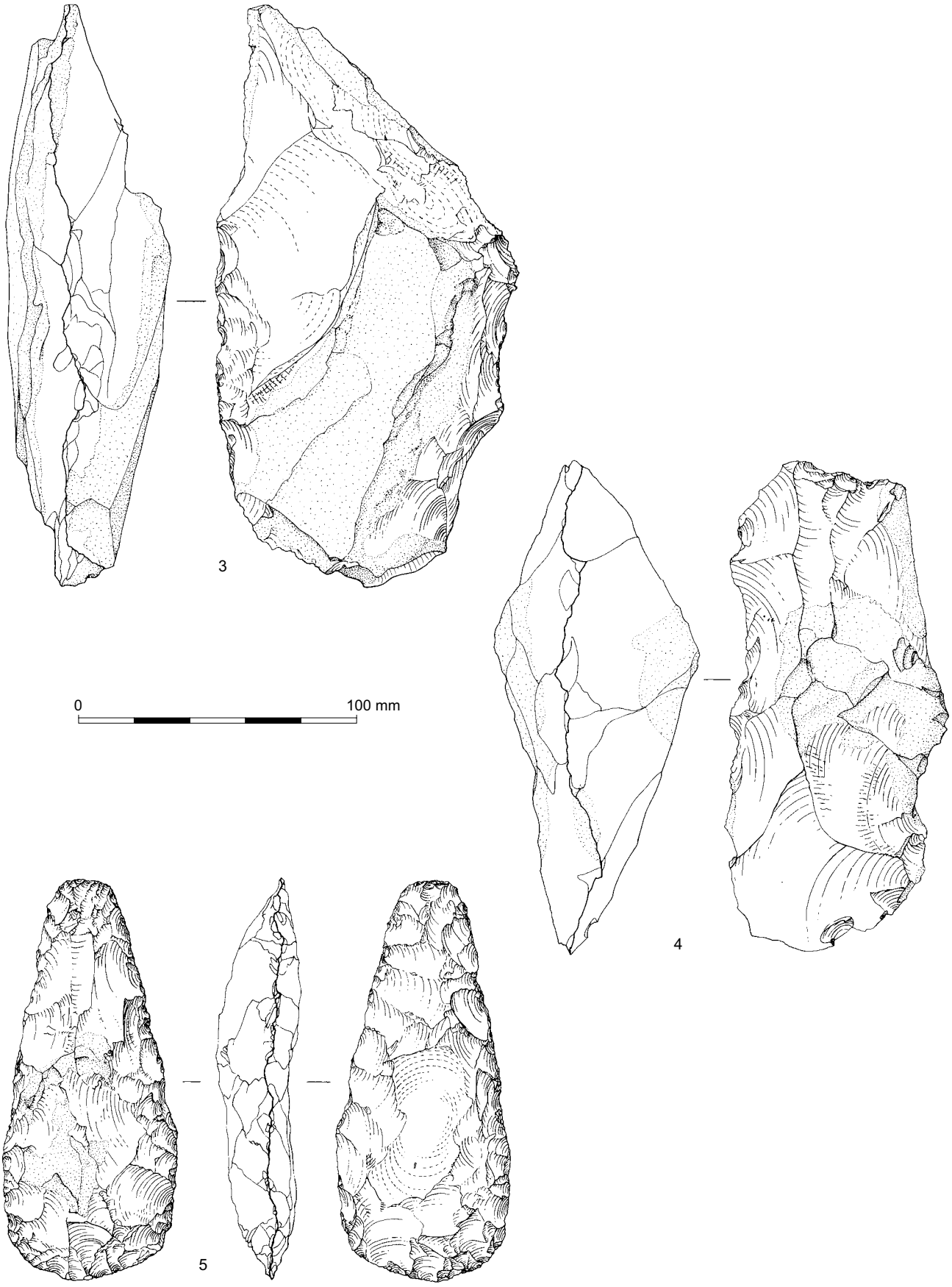

Figure 5.3 Axe roughouts (3–4) and a near-complete axe (5) from pit 3009, Area 3

Table 5.5: Comparative data showing the percentage composition of Early Neolithic flint assemblages from Poundbury Farm with others from selected locations in Southern Britain

Pit	*Cores*	*Fl:Bl*	*Hammers*	*Ret'd*	*Scrp*	*A'heads*	*Others*	*Total no.*
Poundbury – Poundbury Farm								
11000	0.0	88.8	0.0	0.0	0.0	6.2	6.2	18
11002	0.0	100.0	0.0	0.0	0.0	0.0	0.0	93
11004	0.5	96.0	0.0	1.1	1.1	0.0	0.0	179
13004	0.0	97.5	0.0	0.0	2.5	0.0	0.0	81
2072	2.8	94.2	0.0	0.0	0.0	0.0	2.8	35
EV2302	5.5	72.2	0.0	5.5	5.5	0.0	11.1	18
3009	7.6	61.5	3.8	3.8	1.9	0.0	21.1	52
3010	0.0	78.9	0.0	5.2	10.5	0.0	5.2	19
3047	1.8	93.1	0.0	2.4	2.6	0.0	0.0	496
3049	1.2	91.8	0.0	0.4	5.3	0.0	1.2	245
EV3705	1.7	96.0	0.0	1.1	1.1	0.0	0.0	176
EV3721	0.0	99.00	0.0	0.0	0.9	0.0	0.0	216
Total	1.1	94.6	0.1	1.0	1.9	0.0	1.0	1925
Poundbury – Middle Farm								
1518	0.5	88.5	0.5	0.0	7.6	0.0	2.1	184
1504	0.0	97.0	0.0	1.4	0.0	1.4	0.0	68
1507	5.1	90.0	0.8	0.0	3.8	0.0	0.0	234
1506	0.0	94.6	0.0	0.0	5.3	0.0	0.0	130
1096	0.8	96.4	0.0	0.0	1.3	0.0	1.3	224
Rowden (Woodward 1991a)								
	1.4	96.8	0.0	1.3	0.2	0.1	0.1	974
Flagstones (Bellamy 1997)								
	2.7	91.6	2.7	0.0	2.7	0.0	0.0	72
Coneybury Anomaly (Richards 1990)								
	1.8	94.2	0.0	0.0	3.5	0.2	0.1	711
Kilverstone, Norfolk (Garrow 2005)								
All pits	3.2	94.2	0.2	1.7	0.6	0.0	0.2	10,450

which provided flaking surfaces to shape the reverse side. In some cases it proved impossible to 'turn' the edge sufficiently (Fig. 5.2, 2) to create a lenticular cross-section. This is a necessary process making it possible to thin the blank further. Failure to do so most often leads to rejection. Discard also resulted from flawed raw material (Figs 5.2, 1; 5.3, 3). Most of the axes were abandoned at a relatively early stage of flaking, Newcomer's (1971) Stages 1 and 2 (Figs 5.2–5.3, 1–4); although two, including one complete preform (Fig. 5.3, 5), were more heavily flaked implements with no traces of cortex. Pit 3010 contained the blade section of a well-made flake axe broken by end shock, a manufacturing snap and pit 2074 also contained a well worked oval fragment of flint axe with a 'pecked' blade edge, possibly reuse as a hammerstone. Bifacial flaking was not restricted to axe manufacture; pit EV2302, which was also industrial in character, contained two bifacial roughouts, one a sickle. Both tools were of similar design, made on long flake blanks with one backed edge and an opposing bifacial 'blade'.

Discussion

A detailed discussion of the worked flint from the site has been prepared for publication elsewhere (Harding 2011). This focuses on conclusions regarding the *chaîne opératoire* of Neolithic axe manufacture and the important cache of axes found in pit 3009; the principal points are summarised here. These assemblages provide significant additions to an existing record of Early Neolithic domestic/ritual activity occurring in tandem with industrial core tool production within the environs of the causewayed enclosure at Maiden Castle.

The pattern was established (Woodward 1991a; Woodward and Bellamy 1991) using the distributions of flaked and polished flint axes and leaf-shaped arrowheads. Domestic assemblages coexisted alongside material that indicated the manufacture, movement, and use of flint axes in the Neolithic period. Woodward concluded that flaked axes, as indicators of manufacture and flint procurement, were more prevalent within the basin of the River South Winterbourne incorporating the South Dorset

Ridgeway and land to the north and east of Maiden Castle. Furthermore he argued that finished ground and polished implements were more common in an area restricted to the immediate environs of Maiden Castle. However Woodward and Bellamy (1991) were keen to stress that these conclusions were limited and would only be substantiated when results from well-dated, stratified excavated assemblages became available.

Woodward (1991b) was unable to include Poundbury Farm within his survey; nevertheless he did note the presence of hammerstones and cores on the more acid soils on the southern borders of Poundbury Farm. He speculated that this might mark a source area of raw material with associated primary flaking. The work at Poundbury Farm has confirmed the industrial importance of this area especially for axe manufacture. Furthermore it has produced stratified assemblages, with pottery, that attest to the scale of manufacture, confirming the date of production within the Early Neolithic, contemporary with activity at the causewayed enclosure.

The composition of Early Neolithic worked flint assemblages from individual pits at Poundbury Farm is broadly similar (Table 5.5) to results from Poundbury Middle Farm (Harding 2004), Kilverstone in Norfolk (Garrow *et al.* 2005), Rowden (Woodward, 1991a), Flagstones (Bellamy 1997), and the Coneybury Anomaly in Wiltshire (Richards 1990). Elements of the domestic component from Poundbury Farm were characterised by a significantly low core:tertiary flake ratio and higher levels of tool diversity. This was replicated in some of the Early Neolithic pits at Maiden Castle (Edmonds and Bellamy 1991), Middle Farm (Harding 2004), and the pit at Thomas Hardye School (Gardiner *et al.* 2007).

Pits at both Kilverstone (Garrow *et al.* 2005) and Poundbury Farm included refitting sherds of pottery and at Kilverstone, as at Middle Farm, Dorchester (Harding 2004), waste flakes could be conjoined, although no complete pots or reduction sequences could be reassembled. Garrow *et al.* (2005) favoured the idea that this might indicate that material had been placed or stored in a 'demarcated zone', possibly a 'midden' before its intentional deposition in a pit. This model, Whittle's (*et al.* 1999) patterned disposal routines, based around specific specialised activity areas, had been proposed by Richards (1990) to explain the presence of gnawed bone in the Coneybury Anomaly and provides a suitable explanation to account for the composition of the worked flint assemblage from Poundbury Farm.

The compatibility of the domestic/ritual worked flint component with others of similar date stands in marked contrast to the industrial element. Few excavations have produced evidence for flint axe manufacture and deposition, associated with pottery, in a similar quantity to those from Poundbury Farm pit 3009. Three axes from the adjacent pit 3047 may also display similar activity. Results from these stratified deposits confirm not only that axe production, based on the large readily available surface raw material, formed a major element of flint working in the area but also that a range of more specialised bifacial sickles/knives was also manufactured. Care (1979) speculated that the Clay-with-flints provided a long term raw material supply from the Mesolithic period continuously through the Early and Late Neolithic, most particularly where there was no evidence for flint mining, as in the area around Poundbury Farm.

Pitts (1996), in a major review of stone axes in Britain, stressed the role of context in their discovery, concentrating special attention to collections of unbroken flaked and/or polished axes that had been collected together and deliberately cached. Records of their discovery are often poor and do not specify how frequently they occurred in pits. The axes from pit 3009 at Poundbury Farm were undoubtedly collected together and are synonymous with having been cached. Pitts (*op. cit.*) noted that most caches comprised between two and eight implements and were more frequent in axe producing areas.

In addition study of the deposition of axes has highlighted a recurring relationship between axes and wet locations. This has been reinforced by results of study (Yates and Bradley 2010) relating to Bronze Age hoards of metalwork, which frequently coincided with locations near to or overlooking water courses and springs. A similar, but less well-defined, pattern can be discerned for hoards of flint axes as listed by Pitts (1996). It is notable that the occurrence of cached axes from Poundbury Farm were also located on prominent ground overlooking the River Frome.

The axes from pit 3009 were very probably contemporary, possibly part of a single batch, and may represent the work of a single knapper. The presence of two bifacial sickles/knives in pit EV2302 also suggests that systematic, repetitive industrial output was being undertaken in tandem with the axe production.

Woodward (1991a) proposed that the area may have functioned as an 'open-quarry' site for preliminary raw material testing, roughing out and shaping with subsequent refining, finishing and grinding undertaken elsewhere. Finished axes were presumably removed for grinding and polishing, possibly to a source nearer water and suitable grinding stones; Wheeler (1943, 322, fig. 112.1) suggested that a broken sarsen saddle quern from a Neolithic pit at Maiden Castle may have been used subsequently as a grinding stone to polish axes.

Table 5.6 Quantification of unworked stone fragments by phase (No. frags/weight (g))

Lithography	*Phase*						
	Early Neolithic	*Late Bronze Age*	*Early Romano-British*	*Late Romano-British*	*Romano-British*	*Unphased*	*Total*
Local							
Chalk L1	2/967	–	–	–	1/13	–	3/980
Sarsen L2	4/4466	30/4249	–	–	–	–	34/8715
Coastal lime-stones & sediments							
Burr stone L3	–	1/77	–	–	–	–	1/77
Lower Cornbrash L5	–	–	–	2/95400	–	–	2/95400
Carbonaceous siltstones L14	–	–	–	13/823	2/357	–	15/1180
Green mudstone L10	–	37/3539	–	3/307	1/18	2/94	43/3958
Possible Dolostone or Kimmeridge shale L11	–	–	–	6/116	–	–	6/116
Laminated mudstone L12	–	42/5269	–	1/228	3/369	–	46/5866
Grey siltstone L18	–	6/283	–	–	–	–	6/283
Other Portland/ Purbeck limestones	–	21/683	–	–	1/250	–	22/933
Other sources							
Ironstone L9	4/643	3/249	1/22	1/1110	2/83	7/849	18/2956
Upper Greensand L6/L15	–	–	–	1/114	2/43	–	3/157
Igneous rock	–	–	–	–	–	1/445	1/445
Total	10/6076	140/14,349	1/22	27/98,098	12/1133	10/1388	200/121,066

The Early Neolithic material from Poundbury Farm is the most significant and numerically superior component of the stone tool assemblage from the site; nevertheless it is pertinent to mention the small assemblages from Late Neolithic and Bronze Age features. The former joins a corpus of material from pits in the Dorchester area (Butterworth and Gibson 2004; Gardiner *et al.* 2007) and is a strong reminder of continued occupation in the area. Flint working continued in the area into the Late Bronze Age, albeit on a reduced level of exploitation to that evident in the Neolithic period. This trend is also reflected in an assemblage from Poundbury Parkway (Chapter 4) and on sites along the Dorchester By-pass (Bellamy 1997) and from Middle Farm (Harding 2004). The focus of worked flint shifts from deposition in pits to one where increased quantities are found in ditches, both ring ditches and field boundary ditches. These features assumed a greater role in the landscape in the Bronze Age and provided additional locations for refuse disposal. No large concentrations of industrial debris, such as were found in the Late Bronze Age field boundary ditch fills at Rowden (Harding 1991) on the South Dorset Ridgeway, were recorded at Poundbury Farm, although industrial waste was recorded from the upper ditch deposits at Middle Farm and Bridport Road Ridge along the course of the Dorchester By-pass (Bellamy 1997).

Worked Stone

by R.H. Seager Smith with petrological identifications and provenancing by Kevin Hayward

The most common use of stone on this site was as a building material. Evidence for the use of deliberately shaped stone blocks is, however, limited (5220/5314 domestic oven in masonry walled structure 5500); 5271 and 5080 (?industrial oven/kilns); flues in grain driers 4049, 4310, 5026, 12049, 13017, 13077; Tables 3.1–3.2); and the *in situ* walling predominantly consisted of unshaped lumps of local rock types, especially chalk, flint, and limestone, with no obvious signs of working. However, no samples of the walling were collected and therefore no quantification is available.

The 200 pieces of stone rubble that were retained were mostly found as stray pieces in the fillings of pits and ditches. Although these pieces represent an unknown proportion of the total quantity present on the site, the rock types and their distribution by period is summarised in Table 5.6. None of these fragments showed any signs of working and although some may be pieces of very broken portable objects such as querns, it is more probable that most represent naturally occurring stones or building debris. The range of rock types is comparable with other assemblages from the vicinity (eg, Bellamy 1993, 168;

Plate 5.5 Perforated, inscribed chalk fragment from Early Neolithic pit 3047 (context 3120)

Plate 5.6 Sarsen saddle quern from Early Neolithic pit 3049 (context 3050)

Plate 5.7 Rubstone from pit EV7705 associated with Beaker pottery (context 7706)

Plate 5.8 Burr stone pestle from late Romano-British pit 5105 (context 5106)

Copson and Healy 1993; 1997; Seager Smith 1997), and owes its diversity to the many different geological formations (Upper Jurassic to Tertiary) occurring within a 5–40 km radius of the site as well as accessible transport links via roads, tracks, and water (River Frome) between these outcrops and the Dorchester district. The site itself lies on Chalk of the Upper Cretaceous period while sarsen forms part of the hard, Tertiary sediments exposed on either side of the Frome Valley 3–5 km to the east. A concentration of large sarsen stones can still be seen around Little Mayne Farm, West Knighton (RCHM(E) 1970, 513), for example, some 7 km to the south-east. It is also possible that sarsen may once have been present in the immediate area, derived from the Bagshot Beds now eroded from the surface of the chalk (Wainwright 1979, 1–4). The presence of sarsen flakes in Early Neolithic pit 3009 finds parallels in Early and Middle Neolithic contexts at Flagstones (Copson and Healy 1997, 136) and in Neolithic and Early Bronze Age contexts at Mount Pleasant (Wainwright 1979, 163).

Approximately 70% of the stone rubble pieces derived from the Upper Jurassic and Cretaceous succession of Portlandian/Purbeckian limestones and sandstones which fringe the Dorset coast, the South Dorset Ridgeway, just 5 km to the south, forming the boundary between this coastal zone and the Wessex chalklands. The source of the two very large Lower Cornbrash fragments from grain drier 13077 may have been quarries located close to the Dorchester to Portland Roman road (Arkell 1947, 23), 8–10 km south of the town. This stone type was also used for the coffin from grave 4005 (see below). The source of the ironstone is less certain. Ironstone of Upper Jurassic age occurs on the Dorset coast around Abbotsbury, as well as in the Tertiary deposits of Reading Beds and London Clays in the Frome and Piddle valleys and in Poole Harbour (eg, Agglestone

Grit). Upper Greensand outcrops around Bincombe and occurs as an irregular belt to the north of Dorchester, from Minterne Magna eastwards towards Hilton.

A more distant geological source is represented by a single piece of pink volcanic rock with unusual mineral inclusions found during the evaluation (60020, context 122 Early or Middle Bronze Age pit). This could derive from the Permian Trapp basalts of the Exeter region although a rhyolite from a Continental source (France or the Channel Islands) is perhaps a more likely identification.

Stone Objects

In addition to the Early Neolithic polished axe and the late Roman stone coffin discussed separately, the worked stone objects comprised five querns, four rubstones, three whetstones, a pestle, two roof tile fragments, and a piece of perforated chalk as well nine unaltered but probably utilised stone fragments. Most of the rock types were locally available (chalk, flint, sarsen, greensand, ironstone) but a wider range of imports, from the south-west and even one from the Continent, were recognised while the use of Portlandian/Purbeckian rocks, dominant amongst the stone rubble, was limited to a single item.

Querns

The quern fragments included a large piece from a sarsen saddle quern (Pl. 5.6) from Early Neolithic pit 3049 as well as several fragments probably from a single saddle quern made from a coarse sandy gritstone, probably Abbotsbury ironstone or a Tertiary sandstone from Purbeck, from the Late Bronze Age pit 1008. A handful of tiny, highly degraded, fragments of vesicular basaltic lava found in Romano-British ditch 4400 are most likely to derive from a quern or millstone of Neidermendig lava, imported from the Andernach region of the Rhineland, north-west Germany. Although commonly found on Roman sites across England, especially in early contexts and on military and urban sites (Shaffrey 2003, 155), no other examples of grinding stones from this region have been found in the immediate vicinity. Two pieces from upper rotary stones are also likely to be of Romano-British date although both were unstratified. One was from a stone approximately 500 mm in diameter and 75 mm thick while the thickness of the other (100 mm) suggests that it was probably from a larger stone, perhaps even qualifying as a millstone. Both were made from Upper Greensand; as noted above, this could derive from a variety of sources although quern production has been noted in the vicinity of Penn Pits on the Dorset-Somerset border (Peacock 2009, 117).

Rubstones and rubbers

The four items described as rubstones were all incomplete but derived from thinnish (less than 40 mm), roughly rectilinear blocks with at least one smoothed and slightly dished or angled working surface, polished through repeated use. The earliest, made from a coarse sandy gritstone probably from the Tertiary deposits on Purbeck, was found in pit EV7705 (Pl. 5.7), associated with Beaker pottery. Two others, one probably of Shaftsbury (or other Dorset) Greensand (feature group 4428) and one of very fine Abbotsbury ironstone or a Tertiary sandstone from Purbeck (feature 5340) were of Romano-British date while the fourth, also made from very fine ironstone, was found in unphased natural feature 5128.

Two small (maximum 80 mm across) metasediment pebbles with smoothed surfaces from Late Bronze Age pit EV14603 and Romano-British ditch EV13303 may also represent hand-held rubstones. All these objects could have been used in a variety of food preparation, craft and/or industrial processes.

Whetstones

All three whetstones were incomplete; two, from Middle Bronze Age pit 148 (Poundbury Parkway) and late Romano-British ditch 4259 (group 4447), were bar-shaped, while the third from late Romano-British oven 5184, was rod-shaped. Both the Roman examples were made from local Dorset Greensand while the example from pit 148 was made from the fine-grained ironstone from the Abbotsbury or Purbeck regions.

Pestle

A small, finely-made and well-preserved Burr stone pestle (Pl. 5.8) was found in Late Romano-British pit 5105. Burr stone is one of the large suite of distinctive freestone rocks quarried between Langton Matravers and St Aldhelm's Head on the Isle of Purbeck. The pestle is of the L- or elbow- shape, typical of such items made in this area, and of sub-circular cross-section; its grinding surface shows abraded wear. Although not common finds, the online database of the Roman Purbeck limestone industry (http://www.palmyra.uklinux.net/pur-preface.html) lists nine pestles from other local, Dorset, sites and at least another nine from as far afield as Corbridge and Fishbourne, Shakenoak, and Colchester as well as London, Chichester, and Silchester. Most appear to be of 2nd century AD or later date.

Other items

Particular interest attaches to a perforated chalk fragment (Pl. 5.5) from Early Neolithic pit 3047. This item, now a small, irregular block, 5–10 mm thick, preserving part of one straight edge, has a circular

perforation, surrounded by at least two inscribed concentric rings on both flat surfaces. The perforation was drilled from both surfaces, giving it an hour-glass shaped cross-section. Although no precise parallels have been found, Neolithic worked chalk objects are well-documented locally, occurring at Maiden Castle (Wheeler 1943, fig. 49; Laws 1991, 211), Mount Pleasant (Wainwright 1979, 167), and Flagstones (Copson and Healy 1997, 129). Although unaltered, five small, rounded, water-worn pebbles found in pit 3047 may also have been ornamental or of amuletic significance. Four were of quartzite while the fifth was a pink-veined metamorphic rock, all representing 'exotics' transported over a considerable distance from a south-western British, perhaps Cornish, source.

Two small fragments of fine, fissile slate from Cornwall or North Wales were found in the topsoil of evaluation trench 30 and the subsoil of Area 5. This latter piece derived from the centrally-perforated, triangular apex of a roof tile, with part of the iron fixing nail surviving *in situ*. Evidence from Greyhound Yard, Dorchester suggests that slate was not used in this area until at least the medieval period (Bellamy 1993, 168).

Other utilised fragments of stone included a roughly rectangular fragment of tabular flint (175 x 155 x 35 mm) used to cover the Black Burnished ware jar containing cremated human remains in grave 5156 (Pl. 5.10) and a small, irregularly-shaped, black haematite nodule, probably Abbotsbury ironstone, found adjacent to the mandible of the individual buried in grave 4281. Although unaltered, items such as iron nodules were often placed in graves in chalk regions and may have had some sort of amuletic significance or were, perhaps, chosen for their material, thought to possess magical and/or medicinal powers (Philpott 1991, 163–4).

Stone Coffin

by R.H. Seager Smith and Kevin Hayward

A single stone coffin made from Lower Cornbrash of the Upper Jurassic period was found in grave 4005. The coffin was made in two parts, a rectangular base and an internally, recessed, domed lid (Fig. 3.13; Pl. 3.4). The sides of the base were roughly and unevenly finished but more or less vertical; the lid (as the most visible element) had been more carefully treated although tool marks were still apparent. A shallow sub-rectangular niche, *c.* 0.12 m wide, cut into the wall of the long side of the lid at the foot end, may have provided leverage for positioning.

Lower Cornbrash quarries have been identified close to the Dorchester–Portland Roman road (Arkell 1947, 23) with further outcrops on the banks of the adjacent backwater. This concretionary, 'blue-hearted' rock is difficult to work and less suitable than more even-grained materials, but it may have been chosen for reasons of practicality, its source being only 8–10 km south of the town, rather than requiring transport over distances of up to 40 km to the quarries at Ham Hill or on the Isle of Purbeck, for example.

Other stone coffins are known from the area but only within *Durnovaria*'s main late Romano-British cemetery at Poundbury (ten examples; Mills 1993c, 133–4); none occurred in the other outlying rural cemeteries such as Alington Avenue (Davies *et. al.* 2002, 126–46), Fordington (RCHM(E) 1970 573–5), or Maiden Castle Road (Smith *et al.* 1997, 64–6). This concentration within the main cemetery, where they were also associated with mausolea (A. Woodward 1993, 227), and overall scarcity, support an interpretation of high status. One of the Poundbury coffins was made from Portland limestone while eight were of Ham Hill stone from south Somerset and one was Greensand (Mills 1993c, 133–4). Although the coffin bases were all broadly similar in shape, the lids were different in form to the Poundbury Farm example; nine had flat-topped lids (Mills 1993c, 133) while the Portland limestone coffin had a gabled (roof-ridged) lid (RCHM(E) 1970, 583, no. 225e, pl. 229). Seven contained evidence for gypsum or plaster packing, perhaps to act as a preservative or a 'sponge' for poorly preserved, bloated bodies or to permit the delay of the funerary rites, or as a further indication of wealth and prestige (Davies and Grieve 1986, 85), but grave goods were rare, occurring in only two examples (Mills 1993c, 133). Information concerning the age and sex of the individuals buried in these coffins was available for only five of the ten (four females and one male), while it was assumed from the size that all contained adults (*ibid.*, 133). Stone chipings and dust in the bases of the grave pits suggest that at least some the coffins received their final dressing *in situ* (*ibid.*, 133) but there was no evidence for this at Poundbury Farm.

At Poundbury Farm, iron hobnails found in the area of the feet, representing nailed boots or shoes worn by the deceased at the time of burial, were the only grave goods. Uniquely, the body, that of an older adult, possibly male, was packed with soil, level with the top of the coffin base. This deposit and damage to the coffin base, in the form of a long splinter broken off one of the long sides, coinciding with areas of modern disturbance on either side of the grave pit, may indicate that the coffin had been previously opened, examined, and backfilled, the lid perhaps being broken at this time. A late 18th century copper alloy button (see above) found in the soil filling may indicate the date of this disturbance and it is likely that the soil was added at this time.

Detailed Description of Stone Coffin (Grave 4005)

Lower Cornbrash coffin and lid. The rock is a very hard shelly limestone with numerous large (8–10 mm across) bivalves and small, sparsely distributed ooids, probably from quarries close to the Roman road from Dorchester–Portland (Arkell 1947, 23). The coffin base: rectangular, 2.04 x 0.60 x 0.40 m with walls 0.10–0.12 m thick; obliquely tooled with a roughly pecked, dimpled appearance; only the top of the walls was smoothed off. A long (*c.* 1 m; 0.23 m deep) splinter had broken off one of the long sides at the head end (NW) of the coffin, coinciding with areas of modern disturbance on either side of the grave pit.

Coffin lid: rectangular with a domed upper surface and internally recessed, 2.06x 0.62x 0.23 m with walls 0.07–0.10 m wide. More carefully finished than the base but oblique tool marks still apparent. On exposure, the lid was already broken into four pieces, although these were neatly and closely fitted.

Neolithic and Bronze Age Pottery

by Matt Leivers

The prehistoric pottery assemblage consists of 4526 sherds weighing 43,161 g. This total includes selected sherds from evaluation and other preceding phases of work on the same or immediately adjoining areas.

The material ranges in date from Early Neolithic to Late Bronze Age. Only very small quantities of Middle and Late Neolithic and Early Bronze Age pottery were recovered; although Middle Bronze Age pottery accounts for a large proportion of the total assemblage by weight, the sherds derive from only three substantial vessels.

Methods

The material was analysed in accordance with the nationally recommended guidelines (PCRG 1997). Sherds were examined using a x20 binocular microscope to identify clay matrices and tempers and fabrics were defined on those bases. No petrological analyses have been undertaken. All data have been entered onto a database, further details of which can be found in the archive.

Condition

Condition of sherds was assessed on the basis of the degree to which edges and surfaces were abraded. The assemblage was dominated by sherds in moderate condition, with much smaller proportions of good, poor and very poor. There were very few completely reconstructable profiles, despite the occurrence of single-vessel deposits.

Pottery by Chronological Period

A total of 25 fabric groups were defined, which have been grouped into four chronological periods. All the fabrics are period-specific with the exception of F2, which is present in both the Middle Bronze Age and Late Bronze Age periods. The breakdown of ceramics by fabric group and chronological period is given in Table 5.7. Fabric descriptions are given in Appendix 2.

Early Neolithic

A total of 710 sherds weighing 6161 g were identified as Early Neolithic, in seven fabrics: three flint-tempered (F4–F6), three sandy (Q5–Q7), and one vesicular (V4). There is nothing to suggest anything other than local manufacture for the Early Neolithic assemblage, with no sign of the Gabbroic wares which occur in some other earlier Neolithic assemblages in the area, such as Maiden Castle (Cleal 1991, 184).

The assemblage includes 69 rim sherds which derive from a maximum of 27 vessels. Using Cleal's expanded version of Smith's classifcation as applied to the assemblages from Windmill Hill and Carn Brea (Smith 1965; 1981) and Maiden Castle (Cleal 1991, 171–81), five different rim forms were identified (other fragments were too small to identify accurately):

Simple

r1. Upright, rounded (3 examples, eg, prn (pottery record number) 362, 269)
r2. Out-turned, rounded (7 examples, eg, prn 363, 351, 272, 286)
r5. Upright, squared (7 examples, eg, prn 243)
r11. Inturned, pointed (9 examples, eg, prn 254, 280, 242, 247, 266, 273, 318)

Rolled-over

r8. Upright, squared (one example, prn 368)

The variability of Early Neolithic rim form is well illustrated by the fact that prns 318 and 362 and prns 266 and 269 are each classified as forms r11 and r1, despite each pair deriving from a single vessel.

Form

Many individual sherds are too small to ascertain overall vessel profile, or even rim diameter, and it is therefore not possible to place the assemblage in any classificatory scheme such as Cleal's (1992). However, most appear to derive from open or neutral vessels (rim angles are uncertain in many cases); none is carinated, or even markedly shouldered. The vessels divide into cups and bowls, which are really just the two ends of a range of rim diameters since no profiles are complete enough to suggest variations in depths or volumes. Again, following Cleal (1991), the breakdown of the assemblage is as follows:

Table 5.7 Prehistoric pottery fabrics by chronological period

Date	*Fabric*	*No. sherds*	*Weight (g)*	*Av. sherd weight (g)*
Early Neolithic	F4	164	1,429	8.71
	F5	362	3,342	9.23
	F6	56	265	4.73
	Q5	3	42	14
	Q6	49	343	7
	Q7	42	342	8.14
	V4	34	198	5.82
Sub-total	EN	710	6,161	8.68
Middle Neolithic	F7	36	203	5.64
	F8	2	20	10
	V3	5	60	12
Sub-total	MN	43	283	6.58
Middle Bronze Age	F2	458	8,999	19.65
Sub-total	MBA	458	8,999	19.65
Late Bronze Age–	C1	12	898	74.83
Early Iron Age	F1	324	2,155	6.65
	F2	129	875	6.78
	F3	57	447	7.84
	Q1	229	1,637	7.15
	Q2	113	626	5.54
	Q3	3	35	7
	Q4	568	7,661	13.49
	R1	28	268	9.57
	R2	14	168	12
	R3	89	1,230	13.82
	S1	1	14	14
	V1	50	174	3.48
	V2	1,697	11,529	6.79
Sub-total	LBA	3,314	27,717	8.36
Uncertain	G1	1	1	1
Total		4,526	43,161	9.54

Cups (up to 120 mm diameter) 272/286
Small bowls (130–200 mm) 247
Medium bowls (210–300 mm) 362/318; 363; 243; 350/351; 246; 263
Large bowls (>310 mm) 242; 273/280; 266/269

Ten vessels have applied lugs (prns 243, 247, 249, 257, 268, 273, 277, 325, 362, and 363; all illustrated except 249 (scar), 277 (oval), 325 (trumpet), Figs 5.4–5.5). These fall into two broad types: oval (all unperforated) and trumpet lugs (all perforated), all horizontally applied. Oval lugs can be further subdivided into three sorts: flat, upturned, and plain. All appear to have been attached very simply by pressure, with no sign of any plugs or tenons.

Distribution

With the exception of a single sherd from the topsoil and a group of 15 sherds from a spread in evaluation trench 37, the entire Early Neolithic assemblage was recovered from a scatter of 17 pits spread across the hilltop, the majority from a group of pits in Area 3 (see Fig.1.4). These pits can contain two types of deposit:

i) Individual or small numbers of non-joining sherds from one or more vessels (ie, 2032; 2072; EV3705; EV3712/11005 – prns 318/362 & 363; EV3721; 11002; 13004; 13038), sometimes refired (ie, 11000)

Assemblages of type (i) tend to be in poor (or at least worse) condition than those of type (ii). As noted, some contain or consist entirely of refired sherds, and much of this material appears to be refuse.

ii) Sizeable sherds or several refitting sherds from one or more vessels, sometimes amongst other material more like type (i). One (EV2302 – prns 350/1) comes from an isolated pit in Area 8, otherwise the pits are all those in Area 3: (ie, 3003 – prn 242; 3004; 3006; 3009 – substantial parts of four vessels; two quite heavy bowls (one with upturned lugs – prn 243; one (prn 246) joins from feature 3003 (contexts 3002); two much thinner-walled, possibly smaller (more cup-like) vessels (prn 247 with lug scars) similar to the one in 3047 (below); 3010; 3047 – sherds spread amongst seven fills from four or

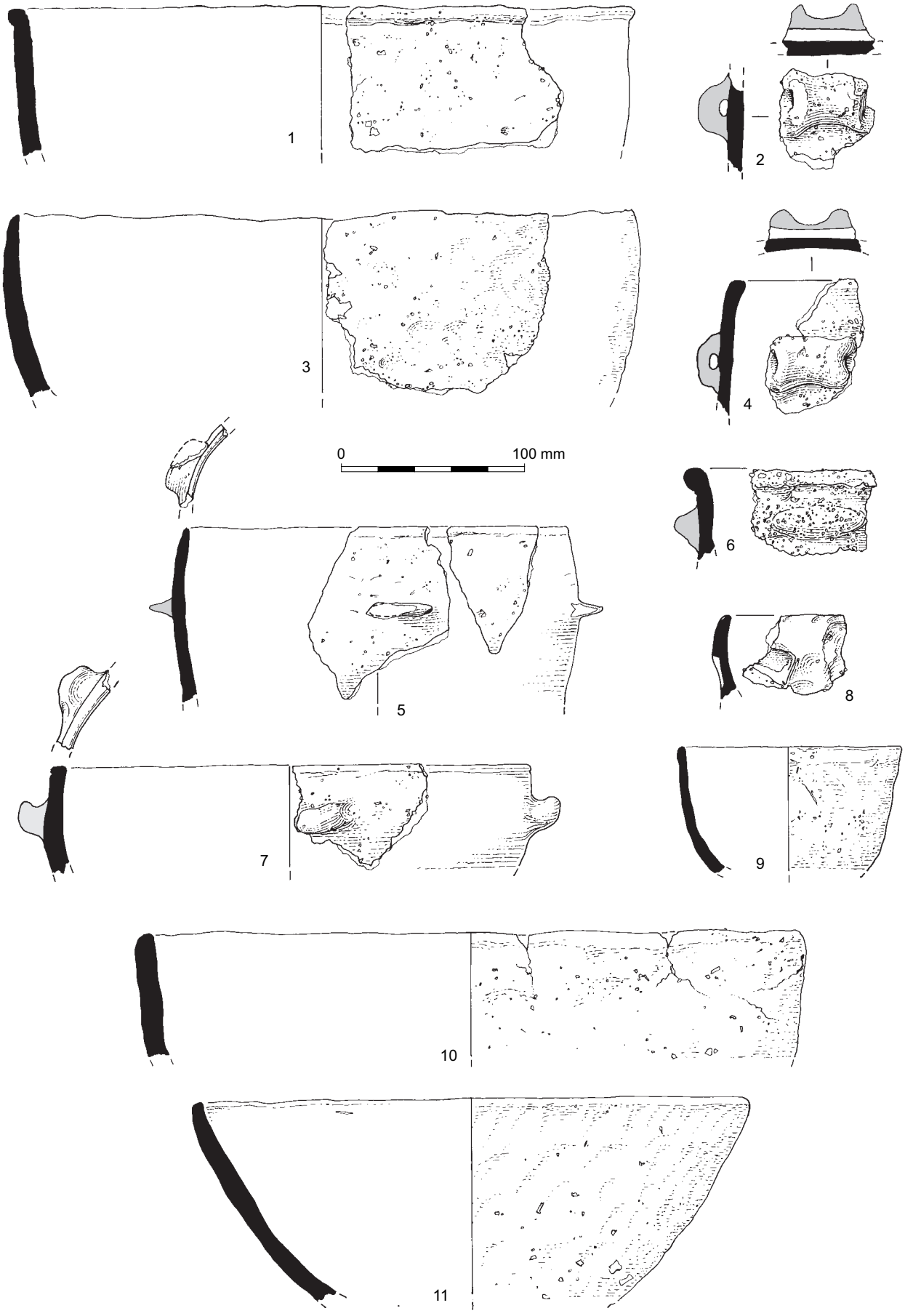

Figure 5.4 Early Neolithic pottery 1–11 (details in catalogue)

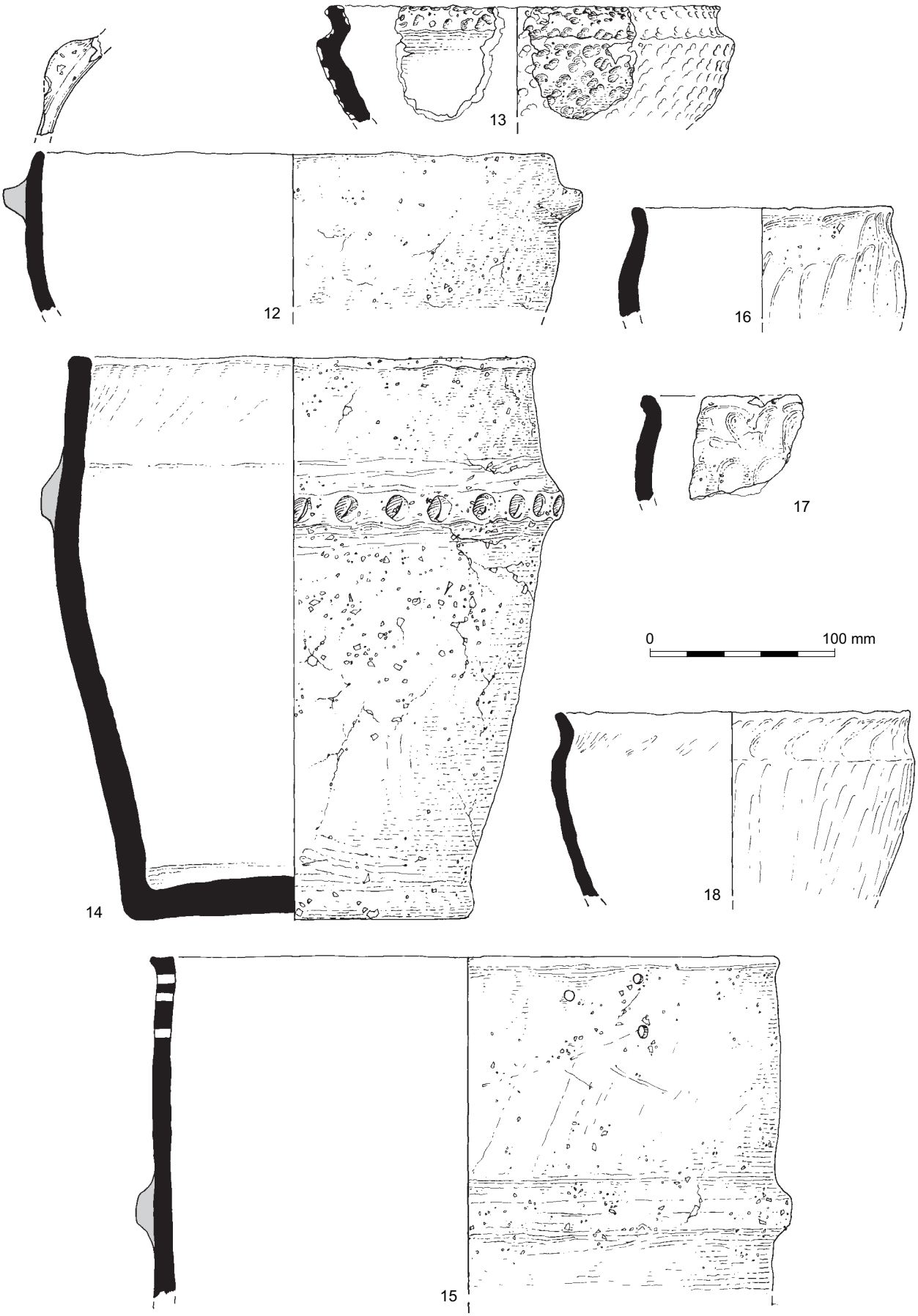

Figure 5.5 Middle Neolithic and Bronze Age pottery 12–18 (details in catalogue)

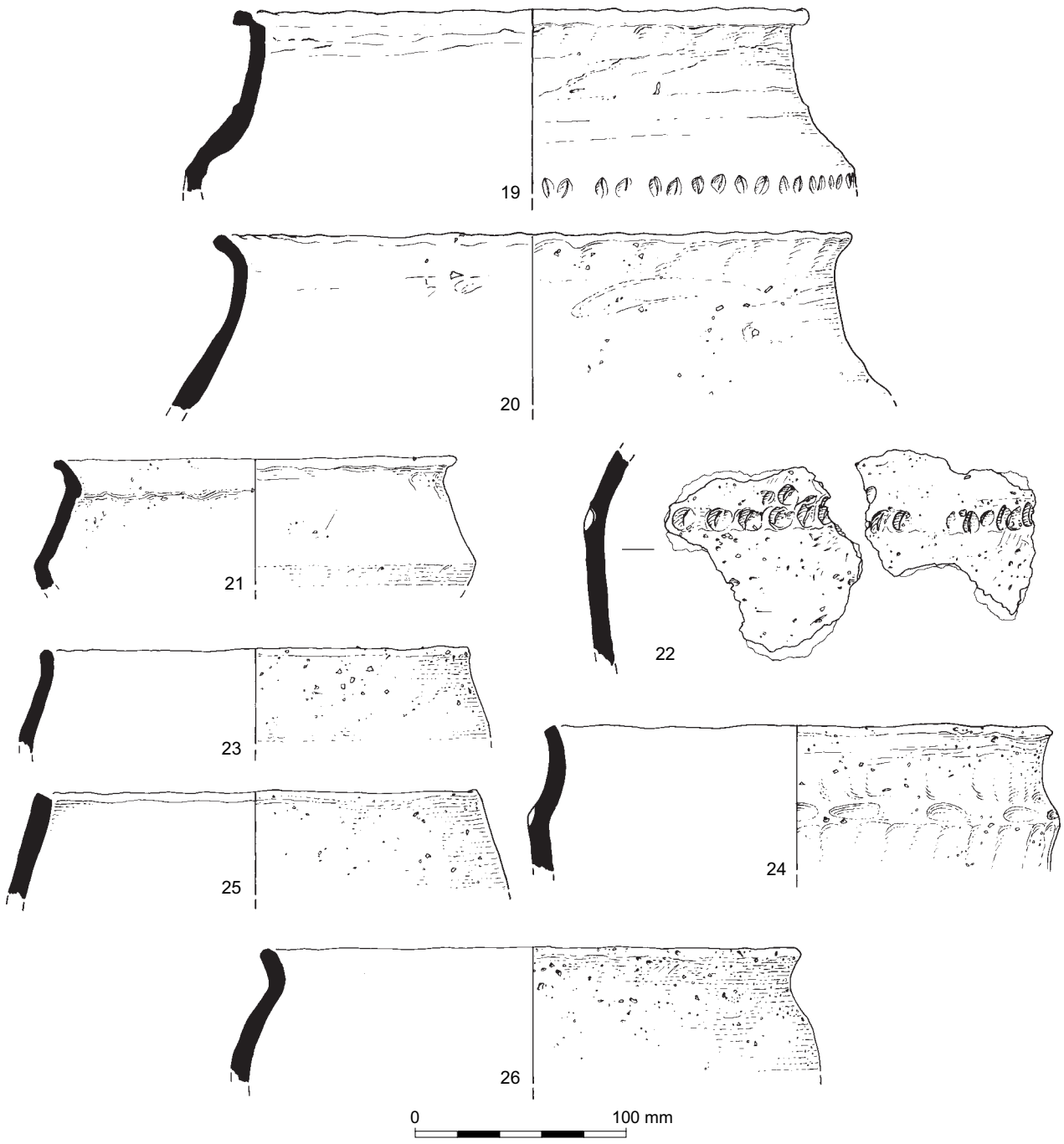

Figure 5.6 Bronze Age pottery 19–26 (details in catalogue)

possibly five vessels. There are cross context joins. Prn 268 has a trumpet lug; prn 254/7 is a trumpet lug and rim; prn 272/286 a thin-walled cup or small bowl; prn 266/9 a large bowl; prn 273/280 a lugged bowl; 3049).

Whereas those assemblages falling into type (i) tend to contain an assortment of sherd types (rims, bodies, bases), those of type (ii) tend to be dominated by rims and the upper portions of vessels. The condition of the sherds in type (ii) deposits varies, but is generally better than those of type (i), suggesting that this material is not secondary waste.

Discussion

Parallels for the assemblage (both in terms of fabrics and forms and circumstances of deposition) occur locally, for instance at Flagstones (Cleal 1997), Maiden Castle (Wheeler 1943; Cleal 1991), and Rowden (Davies *et al.* 1991) and place the material firmly within the South-Western regional style (Whittle 1977) or what used to be known as Hembury

Ware. The absence of any sherds with gabbroic inclusions points to an entirely locally-made assemblage, as in the pre-enclosure pits at Flagstones (Cleal 1991).

The lack of carination is a particularly notable feature of the assemblage. The absence of reconstructable profiles may be a contributory factor, but carination is rare amongst some comparable assemblages (9 vessels from 58 at Maiden Castle, only a single example from Flagstones). At Rowden, where fabrics and some forms were very similar, carinations were more frequent, but lugs entirely absent. This may be a chronologically significant distinction: the Rowden pit was radiocarbon dated to 3800–3380 and 3940–3630 cal BC (HAR-5248 4860±70 bp; HAR-5247 4940±70 bp at 2 σ recalibrated using OxCAl v4.0.1), and it could be supposed that the Poundbury material would lie at the upper end of this range, in the 37th century BC.

Very slight shoulders are present at Poundbury, and these are also present at Flagstones and Rowden. The other forms (lugged and unlugged) are commonly represented at several sites.

Middle Neolithic

Middle Neolithic Impressed Wares were represented by 43 sherds weighing 283 g in one vesicular and two flint-tempered fabrics (V3; F7, and F8). All are probably of local manufacture. For the most part, vessels are too fragmentary to suggest forms.

Sherds were identified from two pits (4053 and 4115) in Area 4. Thirty sherds from pit 4053 include rim sherds from five separate vessels, together with decorated body sherds; all are fairly abraded. A further 13 sherds from pit 4115 are all very small and heavily abraded body sherds, but carry traces of characteristic impressed decoration. Apart from one five vesicular sherds from pit 4053, all of the Impressed Ware is in coarse, flint-tempered fabrics.

All of the identifiable vessels belong to the Mortlake sub-style, but as each is represented by a very small number of sherds, no forms are reconstructable. Decoration employs the usual range of techniques and motifs. No meaningful conclusions can be drawn from such a small assemblage.

Late Neolithic

Sixteen sherds from evaluation trench 43 (pit/post-hole EV4303) can be identified as Grooved Ware. These sherds are in a relatively coarse, grog-tempered fabric and include decorated rim and body sherds from one, or possibly two vessels. Grooved Ware is well-represented in the Dorchester area.

Early Bronze Age

No definite Early Bronze Age material was recovered from the Poundbury Farm excavations but four conjoining sherds with comb tooth impressions, characteristic of Beaker ceramics, came from the evaluation (Area 6, pit EV7705, Fig. 1.4) A small group of 254 sherds in grog-tempered fabrics (including flint and sand-tempered variants) was recovered during excavations at Poundbury Parkway (see Chapter 4). These sherds are generally badly abraded, and mostly featureless, but some inferences can be drawn.

Grog-tempered fabrics have a lengthy currency within the prehistoric period in south Dorset, associated with the Beaker and Collared Urn ceramic traditions of the Early Bronze Age, and extending to the Deverel-Rimbury tradition and associated ceramic forms of the Middle Bronze Age (Cleal 1997, 88). In this instance, one rim sherd with twisted cord impressed decoration can be identified as Collared Urn, and three body sherds with twisted cord impressed decoration may be of similar date.

Middle Bronze Age

At Poundbury Farm, Middle Bronze Age ceramics came from grave 4098 (Fig. 2.8), which contained substantial portions of two Deverel-Rimbury Bucket Urns, neither of which appears to have been complete at the time of deposition. The lower of the two (4350) stood on its base and contained cremated human remains. The second larger vessel (4099) had inverted over the first so that 4350 was effectively inside 4099. The base of 4099 had been destroyed by ploughing.

The lower (4350, of which the more substantial portion survives) is a bucket-shaped urn with an approximate diameter at the mouth of 235 mm. Approximately 50% of the rim is present, with a markedly oval shape probably the result of post-depositional deformation. The pot is 300 mm tall, and has a basal diameter of 190 mm. The walls flare at the base; 60 mm below the flat-topped rim, a 20 mm deep finger-impressed cordon had been applied. The absent portions of the rim and the corresponding portions of the upper third of the wall were not present in the pit, indicating that this portion of the vessel was missing when the burial was made.

The upper vessel (4099) is very fragmentary, but can be reconstructed with a diameter of 340–380 mm at the mouth. No overall profile or height can be suggested (although a very sizable pot is indicated) and at least the lower half is entirely absent. As with 4350, the rim is flat, and there is an applied cordon below it. On this vessel, the cordon is plain. Above the cordon the exterior is for the most part well finished, smooth and dark; below it for the most part unfinished, rough and paler. A number of small holes have been drilled through the wall below the rim, post-firing. The irregular arrangement and clustering suggest that they may have effected a repair.

The evaluation at Poundbury Farm produced a few sherds of Middle Bronze Age pottery and included material from a small pit which contained rdeposited pyre debris (EV1701), a few sherds from features 1180/EV14602 (Area 1) and ditch 2058 (Area 2).

A small quantity of Middle Bronze Age pottery came from excavations at Poundbury Parkway, associated with the grog-tempered material already mentioned. There sherds were predominantly flint-tempered, but some grog-tempered rim and body sherds are likely to have belonged to this period. Diagnostic pieces are scarce, but there are eight rim sherds – six simple upright and two externally expanded, all from bucket-shaped or gently convex vessel forms – and one body sherd with an applied boss, which are more typical of the Middle Bronze Age; compare two vessels found on an adjacent site in 2001 (Gardiner 2003b, 159, fig. 5, wrongly labelled as Late Bronze Age).

Deverel-Rimbury pottery has been recovered from earlier investigations at Poundbury, particularly in association with the Middle Bronze Age settlement (Green 1987). The 'soft, usually grog-filled fabric' (Smith 1987) which typified the ceramics from the settlement boundary ditch (as well as the vessels from the New Cemetery and Sports Centre evaluations: Gardiner 2003b, 159, fig. 5) is not present within the present material, which has more in common with the flint-tempered fabrics from the post-Bronze Age 'detritus layer'.

Late Bronze Age

At Poundbury Farm 3314 sherds weighing 27,717g were identified as Late Bronze Age. In addition, eight sherds containing rock fragments and seven calcareous-tempered sherds (calcite-tempered and shelly) from Poundbury Parkway are likely to be contemporary. The near-total absence of decoration and the reconstructable vessel forms suggest a Post-Deverel Rimbury (PDR) plainware assemblage.

Fabrics

Fourteen fabric types have been defined, one calcareous (C1), three flint-tempered (F1–3), four sandy (Q1–4), three rock-tempered (R1–3), one shell-tempered (S1), and two vesicular (V1–2). The vesicular fabrics are light and corky, and undoubtedly originally contained calcareous inclusions of some kind which have subsequently been leached out completely.

Within the fabrics there is a wide range of coarseness and a very broad distinction between finewares – defined here on the basis of a combination of fabric type, surface treatment (predominantly smoothing), and the presence of decoration (which is rare) – and coarsewares. Most of the flint-tempered fabrics which occur as coarsewares are also present as finewares. The rock-tempered fabrics are mostly coarse, the remainder mostly fine.

The range of inclusion types is consistent with a local source of raw materials, although some variation in the presence and frequency of naturally occurring inclusions such as iron oxides suggests that different clay sources were exploited within this local area.

Vessel forms

The range of vessel forms which can be identified is rather restricted, and is limited to jars of varying sizes and profiles. Most are known only from rims (many of which are internally bevelled) and upper bodies (which tend to be weakly shouldered or gently convex). There are few reconstructable jar profiles but forms are likely to have been mainly bipartite: forms are best seen in the illustrated group from pit 1094 (Figs 5.5–5.6, and see below).

Decoration

As a whole, the incidence of decoration within the assemblage is low, and is restricted to individual examples of a rim with fingertip impression, a vertically finger-fluted exterior surface, an applied cordon, and two instances of finger-tip impression on shoulders.

Distribution

Late Bronze Age pottery was recovered from a variety of feature types – ditches, pits, post-holes, tree-throw holes, cremation burials, and layers with a distribution extending across the excavated areas (Chapter 2, Figs 1.4; 2.5–2.6), but clustering in Areas 1 and 2.

The majority of the pottery came from pits (2974 sherds weighing 25,770 g compared to 341 sherds weighing 1947 g from other contexts). Mean sherd weight for pottery from pits is 8.66 g, slightly higher than the overall mean weight for the period (8.36 g). The condition, the presence and absence of various parts of vessels, and the fact that some sherds have been refired suggests that the material in the pits are likely to have been refuse from nearby settlement. There are no examples of deliberate deposition of whole pots.

Significant deposits

Only ten features contained more than 50 sherds. The largest groups were all from pits: 1094 (1409 sherds), 1085 (294), 2018 (291), 1116 (222), and 2020 (129).

Pit 1094, which contained the most substantial ceramic assemblage (1340 sherds; 15,071 g) serves to illustrate the material as a whole. The represented vessels consisted largely of rather fine-walled jars (11 vessels minimum). Sherds are either quartz-tempered or vesicular, and (with the exception of 11 sherds in Q1) occur in only two fabrics (Q4 and V2). The

reconstructable portions of the assemblage are show in Figures 5.5–5.6.

One further group deserves mention: 45 sherds weighing 1106 g from a minimum of eight vessels in pit 1008. This group is noteworthy because of the radiocarbon date of 1300–1050 cal BC (NZA-31030; Table 1.3) obtained from a grain of charred barley from the lower fill of the pit. Unless the true date lies in the very latest part of the distribution, this is an earlier determination than might be expected for these ceramics, which appear to be solidly Late Bronze Age. However, the assemblage came from fills higher than that producing the date (Chapter 2).

This material confirms and adds to the pattern of small settlements identified across the farmed downland west of Dorchester (Green 1987; Smith 1992; Smith *et al.* 1992; 1997). In particular, there are similarities with the material from excavations at Coburg Road, where the Late Bronze Age assemblage showed a very strong preference for calcareous temper, in that instance beef calcite (Cleal 1992).

Catalogue of Illustrated Vessels

(Figs 5.4–5.6)

Early Neolithic

1. Three rims and one refitted body sherd; prns 350/351, context EV2303 (pit EV2302)
2. One sherd with trumpet lug; prn 268; context 3115 (pit 3047)
3. Two rims and 4 refitted body sherds; prn 242; context 3002 (pit 3003)
4. One trumpet lug and joining rim; prns 254 and 257; context 3048 (pit 3047)
5. Sherds from thin-walled sandy bowl with plain lug; prns 318, 361 and 362; contexts EV3712 (pit) and 11005 (pit 11004)
6. Out-turned rim with lug, very flinty; prn 363; context EV3712 (pit)
7. Two joining rims, one with lug; prn 243; context 3008 (pit 3009)
8. Rim sherd with lug scars; prn 247; context 3008 (pit 3009)
9. Thin-walled cup/bowl; prns 272 and 286; contexts 3117, 3120 (pit 3047)
10. Plain rim sherds; prns 266 and 269; contexts 3115 and 3116 (pit 3047)
11. Joining rims and body sherds; prn 246; context 3008 (pit 3009)
12. Refitted rims, one lug; prns 273 and 280; contexts 3117 and 3119 (pit 3047)

Middle Neolithic

13. Joining rim and body sherd; prn 298; context 4054 (pit 4053)

Middle Bronze Age

14. Complete profile of small urn; prns 339–341; context 4099 (cremation grave 4098)
15. Rim and upper body of urn; prns 342–345; context 4350 (cremation grave 4098)

Late Bronze Age

16–26. The assemblage from context 1099 (pit 1094) consists of refitting rim sherds (no complete circumferences or profiles) from prns 63, 64a–64d, 65, 71–75.

Romano-British Pottery

by R.H. Seager Smith

The Romano-British pottery, totaling 4266 sherds, 46,795 g, is predominantly of late 3rd –late 4th or early 5th century date with smaller amounts of earlier Roman (1st–early/mid-3rd century) material, most occurring residually. All the sherds have been scanned and quantified by fabric type within each context (Table 5.8) to establish the date and range of products present. In general, the condition of this assemblage is poor, the majority of sherds being relatively small (mean sherd weight = 11 g) and highly abraded, although this is in keeping with the nearby assemblages from sites on the route of the Dorchester By-pass and Western Link roads (Seager Smith 1997, 102, table 8 and 226).

In common with all other assemblages from the Dorchester area (Davies and Hawkes 1987, 117–28;

Table 5.8 Total number and weight (g) of sherds by fabric type

Ware	*No.*	*Wt (g)*
Imported finewares		
Samian	75	623
Central Gaulish black slipped ware	1	1
Amphora		
Dressel 20 amphora	17	412
Cadiz amphora fabric	3	172
Unassigned amphora	1	3
Mortaria		
North Gaulish mortaria	5	308
Oxon colour-coated ware mortaria	1	13
Oxon whiteware mortaria	2	56
Unassigned mortaria	2	232
British finewares		
South-western fine micaceous greyware	5	18
New Forest colour-coated ware	42	411
Oxon colour-coated ware	39	214
Oxidised wares		
Corfe Mullen Ware	2	11
North Gaulish oxidised coarseware	1	34
Oxidised wares	38	316
'Reduced' coarsewares		
SE Dorset Black Burnished ware	3211	34,352
SW Black Burnished ware	441	4250
Coarse, predominantly oxidised BB1	333	5091
Greywares	47	278
Total	4266	46,795

Table 5.9 Proportions of the various Black Burnished ware fabrics (as percentage of total sherds from site) and comparisons with other Dorchester sites (no data for Wessex Court)

Fabric	*Poundbury Farm*	*Greyhound Yard*	*County Hall*	*Alington Avenue*	*Former hospital*	*By-pass sites*	*Western Link Road*
SE Dorset	75	60	71	85	61	63	67
SW BB	10	15	18	7	18	10	20
E107	8	not ident.	not ident.	not ident.	3	4	9

Table 5.10 Proportions of the major fabric families as a percentage of the number of sherds from the various Dorchester sites

	Poundbury Farm	*Greyhound Yard*	*Wessex Court*	*County Hall*	*Former hospital*	*Alington Avenue*	*By-pass sites*	*Western Link*
Imported finewares	1.8	9.6	5.6	3.0	5.0	2.5	1.0	1.0
Amphora	0.5	3.0	3.0	2.0	4.0	1.0	0.3	0.2
Mortaria	0.2	0.4*	not quantified	0.1*	0.6	0.3*	0.2*	>0.1*
British finewares	2.0	3.0		3.0	3.0	2.0	0.6	3.0
Oxidised wares	1.0	4.0		2.0	4.0	1.0	0.4	
Reduced coarsewares	94.5	80.0	91.0	89.0	83.0	93.0	97.5	95.7

* excluding New Forest and Oxfordshire fabrics

Plate 5.9 Rim/neck of wheel thrown Black Burnished ware flagon, showing the wheel-thrown surface

Seager Smith 1992; 1993a; 1993b; 1997; 2002; 2008; Seager Smith and Davies 1993), this assemblage is dominated by the Black Burnished wares, with a limited range of other (relatively) local fine- and coarsewares as well as a few regional and Continental imports.

Imported tablewares are limited to samian and a single sherd from a Central Gaulish black slipped ware beaker, the date range of this assemblage being beyond that of the commonly imported finewares. No detailed analysis of the samian fabrics was undertaken but products from all three major production centres are represented. Forms include a possible Ritterling 12 bowl, form 18, 18/31 and 31 platters and bowls, cup forms 27, 27 g and 33, dish form 36, decorated bowls (form 37), and two sherds from closed forms, probably beakers, indicating supply throughout the importation period, from the mid-1st to late 2nd/early 3rd centuries. Three pieces (contexts 5056, 5058 (both colluvium in 'terrace' 5045), and 12006 (fill of grain drier 12009)) show evidence of repair; in one instance (context 5056), the lead staple survived *in situ*. Three stamps were also noted (contexts 4120 (grave 4119), 4176 (ditch 4403) and 11011

(grave 11009)) but only one (context 4176) is legible, reading MARTIAL[, probably Martialis who worked at Lezoux *c.* AD 125–45.

The amphorae are dominated by the ubiquitous Dressel 20 type, which carried olive oil from southern Spain to all parts of the western empire from the mid-1st until the mid-3rd century. The Cadiz fabric, commonly used for the low-waisted Cam 186C form (Peacock and Williams 1986, 122–3, class 18), carried fish-based products, also from southern Spain. A single amphora sherd remains unassigned. Mortaria too, are relatively uncommon. The five north Gaulish sherds belong to a single vessel dated *c.* AD 65–100 (Seager Smith and Davies 1993, 222, WA 309), a type common in Dorchester and the surrounding region. The two unassigned sherds are probably of British origin and of earlier Roman (1st–3rd century) date. One, from context 4155 (a spread overlying enclosure ditch 4400), had a high, bulbous flange with horizontal groove around the exterior and a low inturned bead and is made from a pale-firing, sandy fabric with grog/clay pellets and a thin scatter of

Plate 5.10 Romano-British cremation urn with detail of clay plug in mouth and piece of flint which covered the pot

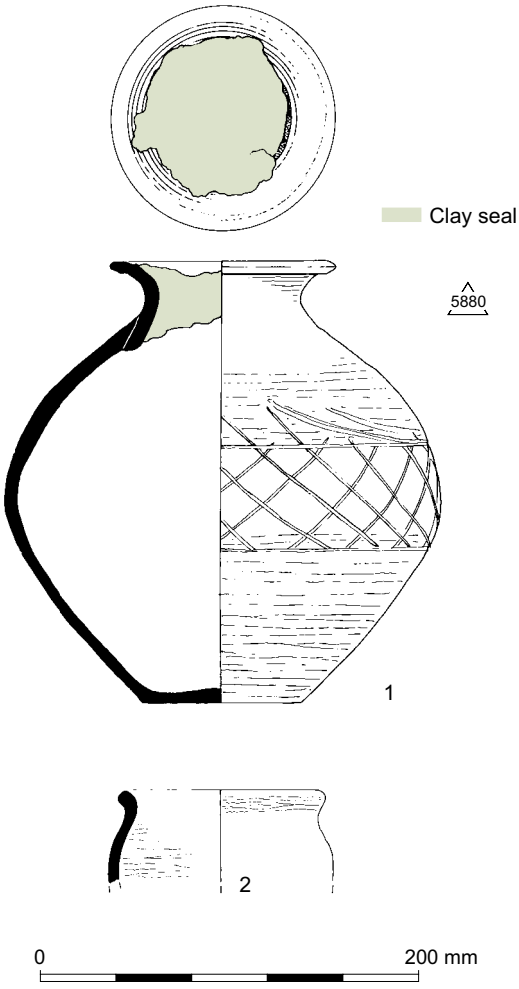

Figure 5.7 Romano-British Black Burnished ware jar containing cremation burial, note clay plug in mouth (1) and Saxon sherd from Area 5 (2)

flint/translucent quartz trituration grits. The second (context 5044 (post-demolition deposit)), has a hammerhead rim with a grooved bead and is made in a hard, dense, pinkish-orange fabric with quartzite grits. After *c.* AD 250, the supply of mortaria switched to the major regional production centres (in Oxfordshire and the New Forest). Around Dorchester, the higher quality Oxfordshire vessels seem to have been preferred to the softer, New Forest mortaria fabrics and in keeping with this, the small number of late Roman mortaria from this site consisted only of Oxfordshire products.

The South-western fine micaceous greywares form part of a standard range of small jars, beakers, and a few bowls found in Dorchester and widely across south-western Britain (Seager Smith and Davies 1993, 283) and are dated from the late 1st–late 2nd/early 3rd centuries. Three sherds (context 4038; ?cenotaph 4036) are rouletted. The remainder of this group comprises late Roman wares from the Oxfordshire and New Forest industries. Products from these centres occurred in almost equal quantities but reflect the strengths of each industry; red-slipped bowls from Oxfordshire, while beakers were most commonly from the New Forest. Oxfordshire forms include bowls copying samian form 38 (Young 1977, 160, type C52) and necked forms with full, curved bodies (*ibid.*, 164, type C75) as well as single sherds from a flagon (*ibid.*, 148, type C8) and a funnel-necked beaker (*ibid.*, 152, type C22). The New Forest sherds are predominantly from indented beakers (Fulford 1975, type 27), although bag-shaped forms (*ibid.*, type 44), flagons, and a handful of abraded red-slipped bowl sherds were also noted.

The oxidised coarsewares also form part of the standard range of products seen in Dorchester (Seager Smith 1993a; 1993b; 1997; 2002; 2008; Seager Smith and Davies 1993) and span the entire Romano-British period. The oxidised 'catch-all' fabric was used to record all unprovenanced white/orange/buff firing fabrics, including white-slipped red wares. Comparatively few featured sherds are present, the majority of pieces being plain body sherds from flagons, although smaller numbers of bowls and beakers are represented. The two fabrics from known sources, Corfe Mullen whiteware (Calkin 1935, 54) and North Gaulish oxidised ware (Seager Smith and Davies 1993, 280–1, fabrics 37P, Q, and U) are poorly represented at this site, probably because most of the activity here is of late Roman date. These too, were most commonly used for flagons.

The 'reduced coarsewares' are dominated by the various Black Burnished ware fabrics: South-east Dorset (Wareham/Poole Harbour), the South-western Black Burnished wares and sherds of the very coarse, shale-rich and often oxidised latest Roman fabric (fabric E107), probably from the Wareham/Poole Harbour region. Fabric proportions for this site, and comparisons with other areas of Dorchester are shown in Table 5.9.

While the proportions of the South-east Dorset and the South-western Black Burnished wares are well within the range seen at other sites in the area, the high percentage of the E107 fabric and relatively low level of the South-western wares emphasise the late date of this assemblage.

Overall, the vessel forms are common elements in the Late Iron Age and Romano-British ceramic traditions of the Dorchester region. All were recorded using the type series set up for the Dorchester area (Seager Smith and Davies 1993). As always, jars are represented by the widest range of types (WA types 1–3, 6–9 and 12) spanning the entire Romano-British period with 1st–2nd century round-bodied open bowls (WA types 13, 15, 16, 33, 36/40), straight-sided bowls and dishes (WA types 20, 22, 24, and 25) dating from the mid-2nd century onwards and a variety of miscellaneous forms, including beakers (WA 10), lids (WA 26), flagons (WA 29), and tubs (WA 72). The sizes and proportions of the vessels all conform to those suggested by Gillam (1976) and Davies and Hawkes (1987), while the techniques of surface treatment and decoration follow the generalised 'rules' described elsewhere (Farrar 1973, 76–8; Gillam 1976; Williams 1977; Seager Smith and Davies 1993). However, one novel feature of this assemblage is the presence of at least two wheel-made South-east Dorset Black Burnished ware sherds, one a flagon rim/neck (ON 10068) from context 4258 (ditch 4428) (Pl. 5.9), and a rounded shoulder from a jar with combed wavy lined decoration between two incised grooves from context 5431 (a possible hearth 5426 associated with structure 5502). Although generally considered to be a hand-made industry throughout, wheel-made jars in typical and variant Wareham/Poole Harbour fabrics have also been recorded at the site of the former Dorchester Hospital, probably dating to the second half of the 4th or even early decades of the 5th century (Seager Smith 2008). In addition to the sherds of fabric E107, other pieces potentially of this date include a convex-sided dog-dish from context 5044 (post-demolition deposit), and jar sherds decorated with burnished diagonal parallel lines (context 4038; ?cenotaph 4036) and combed wavy lines (context 2005 (pit 2003), 4141 and possibly 4143 (ditch 4448)) in place of the more common lattice. It may be noted that none of this latest Roman material occurred in the same context as the single early Saxon sherd (context 5058; see below) from this site.

One other unusual vessel (ON 5880: Fig. 5.7, 1; Pl. 5.10) was used to contain cremated human bone deposited in grave 5156. Although encompassed by the WA type 2 (jars with everted rims, usually beaded;

rim diameter less than the maximum diameter of the body), the low-waisted, globular profile of this vessel is uncommon. It is, however, matched by a smaller vessel, tentatively dated to around the late 3rd century, from the Poundbury settlement (Davies and Hawkes 1987, 125, fig. 86, 5). Other ceramic grave goods were all of mid-1st century AD date, accompanying inhumed individuals (all adult females over *c.* 35 years of age; see Egging Dinwiddy, Chapter 6) buried in *Durotrigian* style. A South-east Dorset carinated bowl (WA type 15; ON 10040) with firing shadows was buried with the woman in grave 4145 while the same form in a South-western fabric (ON 11505) was found in grave 11021. Four vessels, comprising a round-bodied bead rim bowl (WA type 13; ON 11503) and two carinated bowls (WA type 15; ONs 11500 and 11502) in South-east Dorset Black Burnished ware and a South Gaulish samian cup form 27 g (ON 11501), accompanied the woman in grave 11009. None of these vessels need date much after *c.* AD 80. One other vessel (ON 5914) seems to have been deliberately deposited in a small pit (feature 5172) although the reasons for its deposition remain unclear. The feature was truncated during site cleaning and only the base of the South-east Dorset Black Burnished ware jar survived, although its 'late' surface treatments indicate a date after *c.* AD 235/245.

The greywares occurred in only neglible quantities (Table 5.8) but form part of the standard range seen in Dorchester. Rims included fragments from a small dropped flange bowl, a plain rimmed dish or copy of samian form 38, two everted rim jars and two flagons. Although unprovenanced, most are probably of late Roman date.

At a broad-brush level, the relative proportions of the main fabric families in this and the other Dorchester assemblages can be seen to be directly comparable (Table 5.10). This assemblage most closely resembles that from the Western Link road (its nearest neighbour and also predominantly of late Roman date) while the rural sites in the *Durnovaria* hinterland (Alington Avenue and the Dorchester By-pass sites, spanning the entire Romano-British period) show similarly high levels of coarsewares with comparatively low levels of imported fine- and specialist (amphorae and mortaria) wares. Far greater quantities of these latter wares occurred in the urban assemblages from Greyhound Yard, Wessex Court, and the former hospital site, with the peripheral, 'sub-urban' County Hall assemblage falling somewhere between. Only the British finewares (predominantly New Forest and Oxfordshire wares) remain relatively steady throughout, at 2–3% of the assemblages, except for the By-pass where only one site, Maiden Castle Road (Seager Smith 1997, 115–16) extended into the late Romano-British period.

Overall, then, the relatively small number of non-Black Burnished wares indicates that the normal range of functions usually assigned to the 'reduced' and oxidised coarseware fabrics in other parts of the country (eg, food preparation and storage roles) were ably filled in this area by the Black Burnished wares. The Black Burnished potters enjoyed such overwhelming dominance of the Dorchester market that there was little room for anything other than 'specialist' vessels such as mortaria, amphorae, fine tablewares, flagons, and a few curiosities – at least until the late Romano-British period when a slightly wider range of fabrics reached the town. In this area, many of these non-Black Burnished coarsewares probably functioned outside the normal utilitarian kitchen roles, meeting the demand for slightly better quality pottery between the Black Burnished wares and the true finewares.

Post-Roman Pottery

by Lorraine Mepham

A single rock-tempered sherd from a weakly-shouldered jar has been tentatively identified as Early Saxon on the grounds of fabric and form (Fig. 5.7, 2), although no direct parallels in the area are known. This came from terraced area 5045 (Area 5).

Four sherds are post-medieval, all coarse redwares; these came from ditch 1122 (1180, Area 1), pit 1160 (Area 1), pit 2003 (Area 2), and topsoil in Area 4.

Other Finds

by Kayt Marter Brown and Lorraine Mepham

Grave Goods

Twenty-two cobalt blue glass beads were recovered from the fill of grave 5079 (ON 5833, Fig. 3.20), that of a coffined juvenile (*c.* 8–11 yrs old), where they were clustered around the area of the right hip. The set comprised predominantly irregular globular beads, with three conical and three rectangular. Glass beads were noted from five late Roman inhumations at the Poundbury Cemetery (Guido and Mills, 1993, 100) including 16 loose, globular, blue glass beads from grave 388, placed around the neck of the individual and associated with a set of jet beads.

A complete, biconical shale spindlewhorl (ON 5944, Fig. 3.21) accompanied the adult female burial in grave 5239 (*c.* 40–55 yrs old); it was placed by the feet. The form is comparable to one of the four shale spindlewhorls previously identified at Poundbury Cemetery, which also came from the burial of a mature female (Guido and Mills 1993, 100, grave 1328, main cemetery).

Plate 5.11 Decorated shale possible fitting from evaluation trench 55

Objects from Non-grave Contexts

Glass

A small, spherical blue glass bead (ON 10314), very similar to those from grave 5079, was found in post-hole 5038. This feature was *c.* 15 m to the west of grave 5079, so it is unlikely that this bead came from the same necklace.

Eleven other pieces of glass are of Roman date; these comprise a possible window fragment (ON 5859; structure 5505); and ten vessel fragments. All of the latter are small and only two can be related to a specific vessel form – a base fragment with concentric circles in relief from pit 13096, and a plain base from ditch 4448), both from blue/green prismatic bottles. A clear, thin-walled, horizontally corrugated fragment fom ditch 4140 probably comes from a drinking vessel of some form; while a tiny blue and white marbled fragment almost certainly represents a small bowl or cup (ON 10315; pit 5198). A T-shaped rim fragment in pale blue/green glass could come from a bottle or flask (ON 5921; pit 5198). A deep blue fragment from post-hole 5041 (ON 5785) has a narrow curvature and appears to come from the neck of a small vessel, perhaps an unguent bottle. The remaining four fragments are completely undiagnostic (enclosure B (4400); ditch 4448, layer 5004, pit 5198).

In addition, one fragment from the evaluation (from subsoil in trench 55) is Roman, probably of 1st or 2nd century AD date – the fragment derives from an extended trail with pinched projections drawn out below an angular jug handle (eg, Price and Cottam 1998, figs 67–8).

Shale

A flattish, unworked shale fragment (ON 5750; subsoil 5002), with part of an incised circular line measuring *c.*140 mm in diameter, may represent a blank intended for armlet manufacture. A small fragment of a plain, lathe-turned armlet was recovered from grain drier 4049 (ON 4941, Fig. 5.1, 5).

In addition, two pieces of worked shale were recovered from the evaluation: a possible armlet fragment from the topsoil; and a decorated, rectangular strip with one perforation, possibly a furniture inlay, from trench 55 (pit 5506, Pl. 5.11). All these objects are stylistically Romano-British.

Fired clay

Of the fired clay assemblage, only one portable object was definitively identified – a triangular loomweight from pit 2042. This loomweight type is generally considered to be of Middle Iron Age–Romano-British date, but examples have been found in Essex which were apparently well-stratified with Late Bronze Age/Early Iron Age pottery (eg, Major 1998; Mepham 2009). Five other possible loomweight fragments (including two from the evaluation) were identified on the basis of surviving surface or corner fragments, but these could not be assigned to type. The remainder of the assemblage, which comprises small, abraded and largely featureless fragments, probably represents structural material. Possible lining material was recovered from oven 5184.

Ceramic building material

From the excavation, all but one of the fragments of ceramic building material recovered are Romano-British (a total of 102 fragments); within this total seven *tegula* and 13 *imbrex* fragments were identified, the remainder comprising small, miscellaneous fragments of unidentifiable tile type. Much of this material occurred in small quantities within the Romano-British features, including the enclosure ditches, kilns, and corn drier and also four fragments as incidental finds within the backfill of graves 4304, 4069, and 13012. A further 22 Romano-British fragments were recovered from the evaluation, including three *imbrices*, three *tegulae* and one possible box flue tile.

Slag

A small quantity of slag was recovered, mainly from Romano-British contexts but with a few pieces from late prehistoric contexts. With the possible exception of two pieces from ditch 4418, which are very dense and possibly smelting slag, and one very light and vesicular piece from Bronze Age pit 1085 which is not necessarily derived from metalworking, all the slag appears to derive from ironsmithing. Some groups may also include clinker (particularly from pit 5198). Two of the larger groups (depression 4179 and feature 5427, the former including recognisable hearth bottoms) are relatively unabraded and could represent *in situ* material, but the rest is likely to be residual. No context produced more than 1 kg of slag, and quantities are insufficient to postulate any more than very small-scale ironsmithing on site.

Worked bone

(identifications by Jessica M. Grimm)

Several pieces of worked bone were found in late prehistoric features. At least three objects, and possibly four, came from Late Bronze Age pit 1056. Two proximal cattle humerus shafts (left and right) were apparently crudely fashioned into gouges (ONs 13515, 13516). Both objects were probably shafted and one has split, probably during use. A similar object made from a cattle radius was found at Middle Farm, and dated to the Middle–Late Bronze Age (Stacey and Walker 1997, fig. 75, 4). The heavily fragmented proximal part of a left cattle tibia, also with traces of surface polish, might also have functioned in the same manner (ON 13518). A sheep/goat left tibia shaft, cut to size and polished through use (ON 13517), may have formed part of a smaller gouge (*ibid.*, fig. 75, 6).

The upper fill of Late Bronze Age pit 1008 contained a small, highly polished shaft fragment (*cf.* sheep/goat metapodial); the original form is unknown, but it could have come from a point or gouge, or similar implement. Late Bronze Age pit 2042 contained a worked fragment, which was possibly fashioned from the scapula of a large mammal. A fragmentary antler cheek piece came from a cleaning layer in Area 5 (ON 5753). This object is highly abraded but retains the incised ring and dot decoration. The lower end has broken off and there is no sign of peg holes or strap slot. The object is likely to be of Middle or Late Bronze Age date (see, for example, Runnymede Bridge: Needham 1991, fig. 65, B14). Two antler offcuts came from Late Bronze Age pit 1154. An awl or point was recovered from a Late Bronze Age pit in Area 2 during the evaluation (EV11802) (see Chapter 2).

A pin or needle point came from Romano-British terraced area 5045 (ON 5764), and a spindlewhorl (ON 10010), made from a femur head of a young cattle, was found in tree-throw hole 4341, into which grave 4119 was dug.

Chapter 6
Human Remains

Cremated Bone

by Jacqueline I. McKinley

Cremated human bone was recovered from seven features, mostly forming dispersed singletons situated within five areas of the main site (Areas 2, 5, 4, and 9, see Chapters 2 and 3), and Poundbury Parkway *c.* 500 m to the south (Chapter 4). The nine cremation-related contexts included the remains of two urned burials (Middle Bronze Age and late Romano-British) and three unurned burials with redeposited pyre debris (Middle Bronze Age). Other deposits included redeposited pyre debris of general prehistoric date and an undated deposit of uncertain form.

Methods

All the cremation-related deposits were subject to whole-earth recovery. Four grave fills were recovered as separate samples from each half (graves 62, 4092, 4098) or quadrant (grave 39) of the grave. The fills of both vessels from grave 4098 were excavated under laboratory conditions in spits of 20 mm depth (4088 as 13 spits and 4350 as nine spits); a photographic record was made at each spit level. These sub-contexts were maintained throughout analysis to enable details of the burial formation processes to be ascertained. The bone weights presented in Table 6.1 represent the total weights from individual deposits, a more detailed breakdown by sub-context is held in the archive.

Processing of the whole-earth samples followed the standard process of wet-sieving to 1 mm fraction-size and flotation using a 500 micron mesh for recovery of charred plant remains and charcoal (see Chapter 7). The sieve residues >5 mm mesh size were sorted and all non-osseous material removed; the <5 mm sieve residues were retained and subject to a rapid scan by the writer for the recovery of identifiable skeletal elements.

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5–21; 2000a). Age was assessed from the stage of skeletal and tooth development (Scheuer and Black 2000), and the general degree of age-related changes to the bone (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (*ibid.*; Gejvall 1981).

A summary of the results is presented here, full details are held in the archive.

Results and Discussion

Disturbance and condition

The surviving depths of the features containing cremated bone varied from 0.05 m (grave 62) to 0.65 m (grave 4092), with most at or over 0.10 m. The two shallowest graves, 39 and 62, were from the Poundbury Parkway site, the latter cutting into the upper levels of the former; there is evidence indicating some slight contamination between these deposits. In both cases the charcoal-rich fill was evident at surface level and it is possible that a small quantity of bone may have been lost as a result of disturbance. The only other deposit from which bone may be missing by this mechanism is burial 5157 within grave 5156. Although this complete, lidded burial had survived intact (Figs 3.9; 5.7, 1), it was disturbed during machine stripping of the site. In view of the full recovery of the vessel and lid, however, most if not all of the bone is likely to have been collected.

The majority of the bone is in good condition, trabecular bone (demonstrated to suffer preferential loss in acidic soil conditions; McKinley 1997a, 245; Nielsen-Marsh *et al.* 2000) being a common component. This is particularly so within the Romano-British burial 5157, where the survival of the lid had excluded any soil infiltration into the vessel preserving the osseous contents as they would have been at the time of deposition (see Fig. 5.7, Pl. 5.10). In contrast, the small quantities of bone recovered from cuts EV1701 and 2020 (both 0.20 m deep) is worn and chalky in appearance with little or no trabecular bone, indicative of an acidic burial environment. The material from cut EV1701 was probably adversely affected by the variation in geology on this part of the site, which comprised clay with flints compared with the degraded chalk encountered elsewhere. The very poor condition of the bone from cut 2020 suggests it was redeposited from a less favourable burial environment than that in which it was found. Only in the latter two cases is there likely to have been any loss of bone due to poor preservation.

Table 6.1 Summary of results from cremated human bone assemblage

Context	*Cut*	*Deposit type*	*Phase*	*Bone weight (g)*	*Age/sex*	*Pathology*
Poundbury Parkway						
40	39	un. burial + rpd	MBA	246.6	subadult *c.* 14–15 yr	
63	62	un. burial + rpd	?MBA	441.6	subadult *c.* 14–15 yr ?f	
Poundbury Farm						
1702	1701	rpd	prehist.	22.8	subadult/adult >13 yr	
2021	2020	?crd	LBA	1.5	?human	
4088	4092	?un. burial + rpd	MBA	957.5	1) juvenile/subadult *c.* 10–14 yr 2) adult *c.* 25–45 yr; ??f	pnb – r.mandible, humerus
4099	4098	'lid' fill	MBA	159.2	adult >25 yr	amtl; enth – femur
4100	4098	rpd	MBA	50.4	adult >18 yr	
4350	4098	urned burial*	MBA	2391.8	1) adult >25 yr 2) adult >45 yr min. 1, prob. both f	pnb – rib; fracture? – fibula; oa – C; ddd – L; op – C1, T, L
5157	5156	sealed urned burial*	LRB	683.6	1) adult *c.* 35–45 yr; f 2) infant/juvenile *c.* 3–5 yr	op – T/L, L; enth – patella

un. – unurned; rpd – redeposited pyre debris; crd – cremation-related deposit; * undisturbed; pnb – periosteal new bone; amtl – *ante mortem* tooth loss; oa – osteoarthritis; ddd – degenerative disc disease; enth – enthopathies; op – osteophytes; C/T/L – cervical/thoracic/lumbar; f – female

Demographic data

A minimum of nine individuals are represented within the assemblage. The four Middle Bronze Age graves, two of which contained dual burials, held the remains of three immature individuals and three adults, the latter probably all female (Table 6.1). Although the one Middle Bronze Age deposit from Area 9 appears to represent the remains of redeposited pyre debris rather than a burial (context EV1702), its distance from the known graves potentially of the same date (*c.* 350 m) renders it unlikely to have derived from one of the same cremations. It has, therefore, been included in the minimum number count. The single late Romano-British burial comprised the remains of a mature adult female and a young immature individual.

The high proportion of immature individuals (50%) and absence of any identified male adults within the small Middle Bronze Age assemblage may be significant but could be an artefact of the small number of burials represented. Most of these dispersed graves lay on or towards the margins of the areas of excavation, and further singletons and small groups may lay within the surrounding area where they could have been missed by the evaluation trenches. The assemblage formed two groups of two burials, that from Poundbury Parkway including the remains of two subadults of similar age, at least one a probable female (Table 6.1). The other two graves, situated within *c.* 9 m of each other in Area 4, are both dual burials, one of two adults (both probably female) and the other of an adult female with a juvenile/subadult. Singletons or small grave groups such as these are characteristic of the period and were probably associated with small individual settlements situated in close proximity.

The late Romano-British burial represents a variation from the normal mortuary rite as represented by the several small groups of contemporaneous inhumation graves from the site, one of which it is directly associated with (south Area 5, Figs 3.4; 3.9). The unburnt bone assemblage includes a high proportion of immature individuals (33%) and a similar proportion of male to female adults but with a slight emphasis on the former (Egging Dinwiddy, below). The overall cemetery evidence does not suggest differential mortuary treatment of individuals on the basis of age/sex.

Few Romano-British cremation burials have been recovered from the extensive cemetery excavations of this date undertaken in Dorchester, but those that have are all of middle–late Romano-British date; three from Alington Avenue (compared with 91 inhumation burials; Davies *et al.* 2002, 125) with the same number from Poundbury (1126 inhumation burials; Farwell and Molleson 1993, 30; Molleson 1993, table 62). It has been suggested that the occasional persistence of this apparently non-normative rite into the late Romano-British period is indicative of conservatism within a small proportion of the population (Molleson 1993, 30). There may, however, be an alternative reason, pertinent in at least some cases. Late Romano-British cremation burials are occasionally found in some of the large urban cemeteries (*ibid.*) and the numbers have increased slightly in recent years (eg, Birbeck and Moore 2004; McKinley 2003a). Growing numbers are now also coming to light in rural settings, often as a result of radiocarbon dating of unurned and unaccompanied burials (eg, Lovell 2005; McKinley 2003b; 2010). The one region in which cremation burials of this date are common in Britain is in the cemeteries of the

northern frontier forts (Cool 2004; McKinley 2004a). This, it is believed, may be linked to the place of origin of those using these cemeteries. Cremation had remained predominant among the northern Germanic peoples, particularly in the Saxon coastlands around the Elbe and Weser basins (Todd 1980, 147–51), and Topal (1981, 75) considers that it remained the norm from north of the Alps to the Black Sea. The military in Britain are known to have included non-native personnel (Jarrett 1994) and the link between the persistence of the cremation rite in such a confined area of Britain and the northern, particularly Saxon, Germanic regions probably represents a significant link (Cool 2004; McKinley 2004a). It is, therefore, possible that rather than demonstrating a persistence of native conservatism, the occasional presence of late Romano-British cremation burials in cemeteries where the overwhelming rite is disposal by inhumation of the unburnt corpse is indicative of a few foreign migrants retaining the rite with which they were familiar.

Pathology

Minor pathological changes were observed in the remains of at least three of the four adults identified. Most of the lesions recorded in the remains from grave 4098 affected the older adult but much of the bone could not be confidently attributed to one or other individual (Table 6.1).

Ante mortem loss of the left mandibular 1st molar was observed in the remains from grave 4098; the M2–3 sockets are clearly preserved in the same individual. The most likely cause is dental caries but no supportive evidence for the diagnosis survives. Dental caries are rarely recorded in cremated remains due to the shattering of the tooth enamel during cremation and the rare recovery of the fragments.

Uneven bony callusing to a fragment of fibula shaft suggests a possible well-healed fracture, but the small size of the fragment and incomplete skeletal recovery (a common characteristic of the mortuary rite) mean the side and exact location of the fracture is unknown. Periosteal new bone (indicative of infection) was recorded in several bones from two graves. The adult female from grave 4092 has slight, medium-grained active new bone on the dorsal alveolar border of the right mandible suggestive of a dental infection spread to the supportive structure. The same individual has patchy fine-grained new bone on a fragment of humerus shaft. The lesions are most likely to have been related to an overlying soft tissue infection, possibly of traumatic origin. One of 196 fragments of rib shaft from grave 4098 has a minimum 12 mm length of fine-grained periosteal new bone on the ?visceral surface. This suggests that one of the two individuals from this grave had a slight infection affecting a limited area of the lung. Any untreated infection can have debilitating effects on the general health of the individual and there is always the danger of it spreading to other parts of the body.

Lone osteophytes (new bone on joint surface margins) are generally regarded as age-related changes but in association with other lesions they may be indicative of diseases such as osteoarthritis or degenerative disc disease (Rogers and Waldron 1995). Lesions indicative of slight osteoarthritis were observed in the cervical spine of the older adult from grave 4098, with slight osteophytes affecting vertebral body margins in all areas of the spine. Degenerative disc disease, resulting from a breakdown in the intervertebral disc, also generally reflects age-related wear-and-tear and was observed in the lumbar spine of the same individual. Enthesopathies (new bone at tendon and ligament insertions on the bone) were observed at the common sites of the anterior patella and dorsal femur shaft in two individuals and, in these cases, are most likely indicative of age-related stress (Rogers and Waldron 1995, 24–25).

Pyre technology and cremation ritual

The majority of the bone is white in colour, indicative of full oxidation (Holden *et al.* 1995a; 1995b), but a few fragments from four burials (graves 39, 4092, 4098, and 5156) show black, blue, or grey colouration indicative of incomplete oxidation. In most cases only one or two fragments of any one skeletal element was affected and never the entire bone. In one case (grave 39) only a single lower limb element was affected, and in two cases between three (Romano-British grave 5156) and six elements (grave 4092, adult) from four skeletal areas were affected. There was extensive (though still a small minority of fragments) involvement of all areas of the skeletal in the case of the remains from grave 4098, but it cannot be stated with any certainly that the remains of both individuals or only one were affected.

A variety of intrinsic and extrinsic factors may affect the efficiency of oxidation (McKinley 1994a, 76–8; 2004a, 293–5; 2008). The slight variations seen in most cases here are likely to reflect only an incidental shortfall in fuel affecting time/temperature towards the end of the cremation process. It is probably significant that the remains of adults were predominantly affected, and that the greatest variation was seen in the remains from the dual adult burial. Research on the variation in levels of oxidation in Romano-British cremation burials has indicated that body mass and a failure to make sufficient adjustments to the size of the pyre were probably the main factors influencing efficiency of cremation (McKinley 2008). Dual burials are believed to be indicative of dual cremation and the dual burial of two adults is relatively rare (see below). Were these two individuals cremated together, as is likely to have

been the case, the pyre may not have been constructed using sufficient fuel to accommodate them, resulting in a shortfall in the length of time the pyre burnt for and temperature sustained within it.

The weights of bone recovered from the burials range from 246 g to 2391.8 g, but the variability in the number of individuals in each burial and age of individuals renders the production of a meaningful average difficult. The unurned burials generally contain less bone than the urned ones. Most of the bone from graves 4092 and 5156 represents that of the adults rather than the immature individuals. The dual burial in grave 4098 averages at 1195.9 g per individual though the actual weight attributable to each is unknown (the two could not be fully separated). The weights from the Middle Bronze Age adult burials, therefore, all appear substantial, representing *c.* 60% of the average weight of bone expected from an adult cremation (McKinley 1993) and falling within the upper range of weights recovered from burials of this date (McKinley 1997b). The weight from the Romano-British burial, although representative of a lower proportion (*c.* 43%; McKinley 1993) of the average expected from an adult cremation than its earlier counterparts, is within the median-upper range recovered from burials of this date (McKinley 2004b, table 5), doubtless aided by the unusually intact nature of the deposit.

The maximum fragment size recovered from the burials was between 36 mm (unurned subadult grave 39) and 139 mm (urned Romano-British adult). The unurned deposits had a noticeably lower range (36–47 mm) than either of the urned burials (84–139 mm), the largest fragments being recovered from the lidded vessel where there had been no soil infiltration. This difference in burial form is also reflected in the sieve fraction distribution of the majority of the bone, most of that from the unurned deposits being recovered from the 5 mm fraction (51–57% by weight), whilst the majority from the urned burials was in the 10 mm fraction (*c.* 57–71%). Most of the factors affecting the size of cremated bone fragments are exclusive of any deliberate human action other than that of cremation itself (McKinley 1994b). In this case, the mode of burial was clearly instrumental in offering increased protection to the brittle bone, the detrimental effects of soil infiltration observed elsewhere (*ibid.*) being demonstrated by the condition of the bone from the lidded vessel, which is closely commensurate with that from a modern cremator prior to cremulation (mechanical crushing) of the bone. There is no evidence from any of the burials to suggest deliberate fragmentation of the bone prior to burial.

Between 35% and 81% by weight of the bone from each burial was identifiable to skeletal element. The affect of fragment size on the ease of identification is demonstrated by the variation between the unurned (35–38%) and the urned burials (69–81%), the highest figure being obtained from the lidded Romano-British vessel. Elements from all four skeletal areas are represented within each burial, with the commonly observed under-representation of axial skeletal elements and over representation of skull elements (taphonomy and ease of identification; McKinley 1994a, 5–6). The two urned burials held the closest to normal distribution, though axial skeletal elements were under-represented in both cases, at the expense of skull elements in grave 4098 and lower limb elements in grave 5156. There is no evidence suggestive of deliberate selection of specific skeletal elements in any of the burials.

Tooth roots and the small bones of the hands and feet are commonly recovered from the remains of cremation burials of all periods, and it has been suggested that their frequency of occurrence may provide some indication of the mode of recovery of bone from the pyre site for burial (McKinley 2000a; 2004a, 299–301). Between ten and 115 elements were recovered from the individual burial remains, the lowest number from grave 39 and the highest from grave 4098. With the exception of grave 39, the Middle Bronze Age graves all contained a greater number of these small elements than the still relatively high number of 25 recovered from the Romano-British grave. The numbers recovered in all but one case are high compared with figures from elsewhere; eg, only 2–3 such elements were recovered from late Romano-British burials at Brougham, Cumbria (McKinley 2004a) and Middle Bronze Age burials usually include in the region of 5–20. Their frequent inclusion at Poundbury Farm suggests that rather than hand collection of individual fragments, the material in the upper levels of the burnt-out pyre (which would include all the bone) may have been raked-off and subsequently winnowed (by wind or water) which would enhance the ease of recovery of such small bones. Where a distinction could be made between the bone from the burial and that from the redeposited pyre debris (see Table 6.1 and below), the latter contained equal numbers (graves 39 and 62) or far fewer of the small elements than did the burial (eg, grave 4098 eight from redeposited pyre debris and 115 from the burial).

Three of the burials, 50% of the Middle Bronze Age deposits and the Romano-British burial, contained the remains of two individuals. The latter and one of the earlier burials comprised those of an adult and an immature individual, which represents the most frequently observed combination within any period, the adult most commonly being female. The cremation and burial of two adults together is relatively rare though examples were found at

Knighton Heath, Dorset (Petersen 1981) and at Twyford Down in Hampshire (McKinley 2000b). The implication in most of these cases is for a close family link between individuals who died within a short time of one another, most likely as a result of acute infection.

Pyre goods were recovered from only one grave: the late Romano-British deposit which contained 2.8 g of chicken bone. The tradition of including animal remains on the pyre is common within the Romano-British period, 3.5–47% of burials from a range of ten cemeteries having been found to contain cremated animal remains, with chicken forming a frequently recovered species (McKinley 2004a).

The deliberate inclusion of pyre debris in the fill of Bronze Age cremation graves is frequently observed. Generally such deposits were made after the burial, around or above it (McKinley 1997b). As has been observed elsewhere (*ibid.*; 2000b; Walker and Farwell 2000), its inclusion is likely to indicate the close proximity of the pyre site to the place of burial even where no evidence for the pyre site survives. In disturbed burials and graves containing unurned burials it can be difficult to separate fully the two types of deposit since it is often only in osteological analysis that the concentration of bone in one part of the grave (the burial) can be distinguished from the rest of the fill. In grave 4098, however, the redeposited pyre debris was in the grave fill around the urned and covered/lidded burial remains (though some had infiltrated into the covering vessel following the breakage of its base; see below). Consequently, it was possibly to ascertain that only 2.1% (possible 8% if all that from the 'cover/lid' originated from the backfill) of the bone recovered from the grave (50.4 g; Table 6.1) was deposited with the pyre debris. This also held a range of skeletal elements and comprised more fragmentary material than was recovered from the burial (maximum fragment 18 mm, majority (74%) from 5 mm sieve fraction). These observations may simply demonstrate the known additional protection offered to the very brittle cremated bone by deposition within an urn (McKinley1994b), and/or the higher levels of manipulation of the pyre debris compared to the bone collected for burial and its consequent greater degree of fragmentation.

In graves 39 and 62 the bone appeared to be concentrated in the eastern (72.1% of bone) and northern (58%) halves of the graves respectively, though the distribution in the latter was relatively even and the main bone deposit may have been central. In grave 4092, the bone was again clearly concentrated in the southern half (71%). The majority (92%) of the 2601.4 g of bone from grave 4098 was contained in the burial made in the upright urn. The uppermost 40 mm of fill was devoid of bone. The greatest proportion of the bone (45%) was recovered from the central 60 mm, which marked with widest point in the 220 mm deep vessel fill. The vessel appears to have been laid on one side while the bone was being added, as demonstrated by the limited horizontal distribution of the bone in the four upper spits to one-quarter then one-half of the vessel width. The size of the bone fragments increased towards the base (spit 1: 36 mm, spit 4: 46 mm, and spit 9: 84 mm) as did the proportion of the bone in the 10 mm sieve fraction from which the majority of the bone in all spits was recovered (52%, 71%, and 75% respectively). This suggests the larger bone fragments were selected, perhaps as a fortuitous easy handful, for initial deposition. There is also an increase in the number of small skeletal elements (see above) in the central and lower levels of the fill, but this could have dropped down between the larger fragments at any time prior to the infiltration of the soil matrix. No consistent pattern in the proportion of different skeletal elements at different levels was observed (all the spits contained a selection) demonstrating there was no ordered deposition of elements. Although it was not possible to attribute all of the bone fragments to one or other adult (similar size), the recovery of duplicate skeletal elements from individual spits and joins between skeletal elements from different spit (eg, 1 and 7, 2 and 5, 6 and 9) seems to indicate that the remains of each were mingled together prior to deposition in the vessel for burial.

Concluding Remarks

There are several unusual aspects to some of the cremation burials from Poundbury Farm which renders them of national significance. The form of the Middle Bronze Age burial made in grave 4098 is highly unusual. The vessel used as the container for the bone, which had not been subject to post-depositional disturbance other than infiltration by soil, although almost complete, was clearly damaged prior to burial (missing *c.* 50% of its rim; Leivers, Chapter 5). A second larger vessel of the same form had been inverted over it creating a fully encasing lid or cover (Figs 2.8; 5.5, 14–15). Although it is highly probable that most urned burials (of all periods) were lidded in someway, probably using an organic cover such as textile or skin, and there are numerous Bronze Age examples of flat stones having been used as lids (as with the late Romano-British burial from here), there are currently no contemporaneous parallels for a second vessel being used in this way. The condition of the burial urn may have been instrumental in the choice of lid, since the damaged rim may not have supported the fastening required to hold a soft cover in place and a flat stone would not have fully sealed the opening.

The late Romano-British cremation burial is important for two reasons. It adds to a growing

corpus of burials of this date from small rural cemeteries which should contribute to our understanding of the persistence of this 'non-normative' rite in a variety of mortuary settings (see above). The survival of the clay plug sealing the vessel is currently unique in the British archaeological record. Without the stone cover it would not have survived but would have been washed down into the general fill of the vessel. Excavators need to be attentive to possible changes in soil type and texture within urn fills (which need to be recorded the same as any other archaeological context; McKinley forthcoming) in order to detect any subtle changes which may be indicative of such a stopper within the mouth of burial vessels.

Unburnt Bone

by Kirsten Egging Dinwiddy

The unburnt human bone assemblage was recovered from 45 contexts of Bronze Age and Romano-British date in Areas 1–5 (Table 6.2; Figs 1.4; 3.9).

The Bronze Age skeletal material was derived from four contexts. Two included the remains of *in situ* burials; one (Early Bronze Age) was discovered in a grave found adjacent to a prehistoric ring-ditch, the other near the base of a former storage pit infilled during the Late Bronze Age (Chapter 2, Fig. 2.8; Pls 2.2–2.3). Redeposited bone from additional individuals was recovered from the same ring-ditch and a further storage pit containing Late Bronze Age artefacts.

The majority of the unburnt human bone assemblage was retrieved from 41 Romano-British contexts including the *in situ* remains of 34 inhumation burials (11 *Durotrigian* style, and 23 extended and supine (referred to as Romano-British; Chapter 3). Both styles of burial were made in the Romano-British period, and while there is some temporal overlap, the earliest were made in the *Durotrigian* manner. Coffins were evident in 17 Romano-British style graves, and another contained a stone coffin. Most of the graves were arranged in small cemetery groups associated with the large enclosures (Fig. 3.9), with the remainder representing pairs and singletons. Redeposited bone was recovered from 13 Romano-British contexts comprising the backfills of three graves, ovens, a grain drier, a ditch and a pit (Table 6.2).

Methods

The degree of erosion to the bone was recorded using McKinley's grading system (2004c, fig. 7.1–7). Age was assessed from the stage of skeletal and tooth development (Beek 1983; Scheuer and Black 2000), and the patterns and degree of age-related changes (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994); where the quantity and quality of the sexing criteria was compromised, the indicated sex may be qualified (probable/possible). Measurements were taken and skeletal indices calculated where possible (Brothwell and Zakrzewski 2004; Trotter and Gleser 1952; 1958; Bass 1987). Non-metric traits were recorded in accordance with Berry and Berry (1967) and Finnegan (1978).

Results

A summary of the results is presented in Table 6.2, full details can be found in the archive. To allow comparisons with equivalent burial styles, and also with Romano-British material in general, the osteological evidence from the *Durotrigian* and Romano-British style burials is discussed both separately and collectively where appropriate.

Disturbance and condition

Disturbance was evident in a moderate proportion of the burial remains (30% *Durotrigian*; 39% Romano-British). Intercutting between graves was observed twice. Grave 4005 (and it's subsequent disturbance) removed *c.* 75% of the burial in grave 4033. The burial in grave 4239 remained undisturbed despite the grave being cut by 'empty grave' 4036 (Fig. 3.2). Further contemporaneous disturbance was indicated by the presence of redeposited bone within the backfill of three Romano-British graves, the burial of origin was determined in only one case. The rest probably represent further, undetected burials.

Disturbance by later activity was indicated by disarticulated bone contained within later features. The neonatal remains in the backfill of building 5501 (Chapter 3, Figs 3.6, 3.9) probably represent a disturbed burial, redeposited during demolition and consolidation. The stone coffin was almost certainly revisited in antiquity, as indicated by a large feature cut into the grave fills (Fig. 3.13; Pl. 3.4). Despite being lidded, the coffin was filled with soil and the poorly preserved bone was in disarray. The purpose of a lidded container was to prevent the infiltration of soil so it is unlikely that infilling occurred when the burial was made. The presence of a post-medieval button in the uppermost fill of 4005 is a clue to the probable date of the disturbance (Marter Brown and Mepham, Chapter 5). It is not clear whether the 'empty graves' (4036, 4062, and 13013) were revisited and the contents removed or if they ever contained burials. Animal burrowing was also noted

Table 6.2: Summary of results from unburnt human bone assemblage

Context	*Cut*	*Deposit*	*Quantification*	*Age/sex*	*Pathology*
Prehistoric (Early and Late Bronze Age)					
1119	1116	*in situ*	*c.* 13% s.a.l	adult > 35 yr; ?m	calculus
1158	1154	redep.	*c.* 20% l	neonate	
3025	3024	*in situ*	*c.* 90%	adult *c.* 30–35 yr; f	calculus; Schmorl's node – T9; oa – 1L ap; op – T10, 1L bsm, 2 l. ribs, 2 r. ribs, l. patella; pitting – 2 l. ribs; enth – calcanea
3034	group 3114	redep.	10 frags l poss. cattle radius	?adult > 18 yr; m	
Durotrigian (Early Romano-British)					
4120	4119	redep.	1 frag. a.	adult > 18 yr; ?m	
4145	4144	*in situ*	*c.* 88%	adult *c.* 35–45 yr; f	amtl; abscess; calculus; *osteochondritis dissecans* – dist. l. femur; pnb – mand., max.; destructive lesion – C4; fracture – r. 2nd MtT; oa – C2-5, T1, 2, 8Ts ap, l. hip; op – C1 & 6, 1L bsm,1 l., 2 r. ribs, r. glenoid, l. dist. ulna, r. hip; pitting – L5 ap, r. rib; enth – patellae
4167	4147	*in situ*	*c.* 97%	adult > 55 yr; f	amtl; abscess; caries; calculus; periodontal disease; *cribra orbitalia*, pnb – max.; fracture – T7-8 (bodies); Schmorl's nodes – T7-8; ddd – T5-9, L1 & 4-5; oa – T2 & 4-6, L5-S1 ap, knees; op – C1-2 & 4 ap, T7-12 & L5 bsm, 2 r. ribs, glenoids, l. prox ulna, l. dist. radius, carpals, r. 1st – 4th MtC, prox. IPs (hands), dist. IP (r. hand), r. knee, l. calcaneum, 1st MtT, l. 5th prox. IP (l. foot); pitting – C4 ap, t-ms, r. clavicle, 1 l. rib; enth – calcanea; cortical defect – r. 1st MtT & prox. phal.; mv – wormian bones, double facets – C1 & condyle
4181	4119	*in situ*	*c.* 96%	adult > 55 yr; f	amtl; granuloma; caries; calculus; periodontal disease; *cribra orbitalia*; ?solitary bone cysts – l. carpals; pnb – 3 ribs, l. dist. fibula; hypervascularity – skull; ?destructive lesion – 1T; fracture – T7-8 (bodies), 9 r. ribs, l. dist. fibula; Schmorl's nodes – T5-6 & 8-12, L1 & 3-4; ddd – C6, T7-12, L1-2 & 4-S1; oa – C4-5, T1 & 3-9 ap, T8 & 11-12 c-v joints, 4 ribs (l. & r.); op – C5-7, T1-5 & 7-10, L1-5 bsm, C7, T10, L3, & 5-S1 ap, T10 c-v joints, glenoids, l. 1st-2nd MtCP joints & 1st IP, l. acetabulum, sacro-iliac joints; pitting – l. t-m, T1, 4-7 & 9 c-v joints, T11 ap, clavicles; exostoses – r. 1st MtTP joint; enth – sacro-iliac joints, scapulae, humeri, r. ulna, finger phal., femora, patellae, calcanea; cortical defect – l. prox. radius; mv – mand. tori (bi-)
5066	5064	*in situ*	*c.* 99%	adult *c.* 24–28 yr; m	calculus; hypoplasia; periodontal disease; *cribra orbitalia*; hypervascularity – skull; Schmorl's node – T7-11, L2-5; pitting – prox. femora; enth – humeri; cortical defects – clavicles, prox. 1st prox. phal.; plastic change – bowed radii; mv – wormian bones, M3 absent (max. r.), C1 double facets, caudal shift, tarsal facets
5095	5094	*in situ*	*c.* 18%	subadult *c.* 14–17 yr; ??f	calculus
5177	5176	*in situ*	*c.* 98%	subadult *c.* 14–17 yr; m	calculus; hypoplasia; periodontal disease; *cribra orbitalia*; pnb – r. mastoid & ?l; cortical defect – l. 1st prox. phal. (foot); mv – wormian bones, impacted M3s, P2
11008	11006	*in situ*	*c.* 55%	infant *c.* 3–4 yr	pnb – r. tibia
11011	11009	*in situ*	*c.* 91%	adult *c.* 40–55 yr; f	abscess; caries; calculus; hypoplasia; periodontal disease; *cribra orbitalia*, pnb – l. max., calcanea; fracture – l. prox. 1st prox. phal. (hand); op – C1-2, C5 ap, T4, 8-9 & 12 & L4 bsm, T9 & T12 c-v joints; clavicles; pitting – T6 & 8-9, glenoids, prox. 2nd MtCs; exostoses – l. prox. fibula; enth – clavicles, ulnae, l. 1st MtCP; patellae; cortical defects – prox. 1st prox. phal. (feet); mv – mand. tori

Table 6.2: Summary of results from unburnt human bone assemblage (continued)

Context	*Cut*	*Deposit*	*Quantification*	*Age/sex*	*Pathology*
11020	11018	*in situ*	*c.* 96%	adult *c.* 35–45 yr; f	amtl; caries; calculus; hypoplasia; periodontal disease; hyper-eruption; *cribra orbitalia*; ?*osteochondritis dissecans* – dist. r. humerus; solitary bone cyst – prox. 2nd r. MtT; spondylolysis – L5; fracture – L5 (body); pnb – max., r. t-m, L5; Schmorl's nodes – T6-12, L1-3; ddd – L5-S1; oa – T11-12 c-v joints; op – C3 ap, T7 c-v joint, L4-5 ap, S1, 2 ribs, shoulders, l. dist. ulna, r. lunate, 1st MtCPs, r. prox. IPs (hand), hips, l. prox. IP (foot), ribs; pitting – C3 ap, T1 c-v joint, 2 ribs, l. glenoid, hips, 2 dist. IPs (feet); enth – iliac crests; cortical defect – 1st IPs (feet); coalition – r. calcaneum; mv –wormian bones, C1 double facet
11022	11021	*in situ*	*c.* 95%	adult *c.* 45–60 yr; f	amtl; abscess; caries; calculus; hypoplasia; periodontal disease; *os acromialie* (bi-); *osteochondrosis dissecans* – r. dist. humerus; spondylolysis – L4-5; fracture – dist. intermediate phal. (hand); Schmorl's nodes – T8-12, L1; ddd – L4-S1; op – C1-2, C7 ap, T1-2 ap, T6-9 & 11 bsm, T1-2, 8 & 11 c-v joints, L1, 3-5; pitting – T4 ap, t-ms, hips, 5th MtTPs; enth – maxilla; cortical defects – 1st prox. phal.(feet); l. prox. clavicle; mv – wormian bones, mand. Cs bi-partate root, accessory sacral facets
Romano-British					
2005	2003	redep.	1 frag. l.	adult > 18 yr	
4008 (4010/20 /22/28/32)	4005	stone coffin. (4008)	*c.* 35% s.u.l.	adult *c.* 40–50 yr; ??m	calculus; oa – r. MtTP; op – occipital condyle, r. prox. humerus, 1 prox. IP (hand), knees; enth – patellae; ?gall/kidney stones
4034	4033	*in situ*	*c.* 16%	adult > 40 yr;	op – C2 ap, r. rib
4041	4039	coffined	*c.* 50%	adult *c.* 20–25 yr; f	calculus
4057	4056	coffined	*c.* 18% s.u.l.	adult *c.* 40–50 yr; ?m	calculus
4089	4069	coffined	*c.* 66%	adult *c.* 45–55 yr; ??m	mv – slight occip. bunning
4113	4094	coffined	*c.* 88%	infant *c.* 3 yr;	*cribra orbitalia;* pnb - orbits (?scurvy/trauma); mv – accessory tooth cusps; partial sacralisation – L5
4113b ?= 4034	4094	redep.	1 tooth & bone l.	adult > 50 yr;	hypoplasia
4122	4121	redep.	1 frag. u.	adult > 18 yr; m	
4198	4199	redep.	1 frag. s.	subadult/adult >14 yr	
4240	4239	coffined	*c.* 98%	adult *c.* 24–28 yr; m	calculus; Schmorl's node – T5-6 & 8; cortical defect – prox. 1st MtT
4265	4264	*in situ*	*c.* 45%	neonate	
4280	4281	coffined	*c.* 95%	adult *c.* 35–40 yr; f	abscess; calculus; Schmorl's node – 1T, L1-4; ddd – C5; op – L5 bsm, r. prox. femur, 3 r. ribs; pitting – 4 r. ribs; mv – wormian bones, occipital bunning, lumbarised S1
4293	4291	coffined	*c.* 96%	adult *c.* 45–55 yr; m	caries; calculus; hypoplasia; periodontal disease; fracture – T10-12, L1 (bodies), L1, L4-5 (arch); ankylosis – T12-L1 & L5-S1; pnb – max. sinus; Schmorl's nodes – T6-7 &11-12, L2-3; ddd – T1-12, L2-3; oa – C3-4 ap, T7-9, L2-3 ap, T10-11 c-v joints; r. 11th-12th ribs; op – C1-2 & 5, L1-5 ap, T5-6 & T10-L5 bsm, T1 & 9 c-v joints, glenoids, prox. femora, r. ankle; pitting – C5, T2-3, 5-6 & 11 ap, T3, 5-7 c-v joints, r. t-m, l. dist. ulna, r. acetabulum, r. knee, l. ankle, tarsals, r. prox. MtTs; exostoses – sacrum; enth – tibiae, fibulae, calcanea; syndesmophytes – Ts & Ls; cortical defects – dist. l. humerus, prox. l. 1st MtT; mv – wormian bones, C1 double facets, mand. tori, tarsal facets
4296	4294	coffined	*c.* 75%	adult *c.* 40–45 yr; f	amtl; calculus; oa – l. 1st MtCP, l. acetabulum; op – l. 1st MtCP; pitting – r. t-m, l. prox. humerus, l. dist. radius; cortical defect – prox. r. intermediate phal.; mv – wormian bones, mand. C bi-partate root; tarsal facets
4301	4300	*in situ*	12 teeth	infant *c.* 2–3 yr	
4305	4304	coffined	*c.* 72%	adult *c.* 30–40 yr; m	abscess; caries; calculus; hypoplasia; *cribra orbitalia;* enth – calcanea; mv – wormian bones, mand. tori, C1 double facets

Table 6.2: Summary of results from unburnt human bone assemblage (continued)

Context	*Cut*	*Deposit*	*Quantification*	*Age/sex*	*Pathology*
4308	4307	coffined	*c.* 74%	adult *c.* 40–50 yr; f	amtl; *cribra orbitalia*; fracture – 3rd prox. IP. (l. foot); ddd –T10, L1-3 & L5-S1; oa – T12 c-v joints, 1T ap, 3 l. ribs; op – C1 af, T7-9 & T12-S1 bsm, T10 c-v joints, L1-5 ap, glenoids, r. carpal, r. 1st-3rd MtCPs, dist. IP (hands), r. knee, r. ankle, l. MtTP; pitting – T6-12 ap & c-v joints, l. t-m, r. knee, r. ribs; enth – r. innominate; exostoses - l. prox. 3rd inter. phal.; mv – fusion r. 5th phals. (foot)
4318	4317	coffined	*c.* 55%	adult > 35 yr; f	hypoplasia
5048/9	5047	*in situ*	*c.* 35%	neonate	
5078	5079	coffined	*c.* 35%	juvenile *c.* 8–11 yr	caries; hypoplasia; mv – accessory tooth cusps
5125	5090	*in situ*	*c.* 12%	neonate	
5165	5163	coffined	*c.* 69%	adult *c.* 25–30 yr; m	hypoplasia; periodontal disease; hypervascularity – skull; enth – patellae; mv – wormian bones, occip. bunning, *os trigonum*
5171	5169	coffined	*c.* 99%	adult *c.* 35–45 yr; ?m	calculus; hypoplasia; periodontal disease; *cribra orbitalia; spina bifida occulta* – S1-3; ivory osteoma; spondylolysis – L5; pnb – T9, T11-12 anterior body; trauma – (?blade) frontal; fracture – naviculars; ?cyst – l. orbit; Schmorl's node – T6-L5; ddd – T9-12, L3-5; oa – 9th & 10th ribs (bi-), T2-5 ap, T10 c-v joint, prox. femora, 1st MtTPs; op – T2-9 & T12-S1 bsm, C7, T1, T11, L1-2 & L4-5 ap, T1-6 & T11 c-v joints, r. shoulder, l. glenoid, acetabulae, l. navicular; pitting – T6-7 & T9 c-v joints; exostoses – ?innominates, l. navicular; enth – innominates, l. tibia, patellae, naviculars; ?plastic change – T9-12, sesmoids (feet); coalition – r. capitate & trapezoid; calcified thyroid, rib cartilage; mv – retained mand. m2, mand. Cs bi-partate root, C1 & condyle double facets, mand. tori (bi-), tarsal facets
5221	layer	redep.	1 bone u.	neonate	
5241	5239	coffined	*c.* 92%	adult *c.* 30–40 yr; f	amtl; granuloma; calculus; periodontal disease; fracture – dist. r. tibia & fibula, r. navicular; oa – T10 ap; op – occipital condyle, C1-2, T4 & T6, L3-5, S1 ap, T2 & T7-9 bsm, T3 & T5-8 c-v joint, ribs, l. sacro-iliac, r. elbow, r. dist. radius, prox. femora, r. ankle, r. tarsals; pitting – T2 & 6 ap; enth – innominates, r. humerus, r. radius, femora, patellae, r. tibia & fibula, r. talus, calcanea; cortical defects – r. acetabulum, ?1st MtTs; mv – accessory sacral facets
5242	5243	redep.	3 bones (r. arm)	neonate	
5258	5255	redep.	1 frag. (femur)	neonate	
12005	12003	coffined	*c.* 30%	adult *c.* 20–25 yr; ?f	caries; hypoplasia; cortical defect – r. clavicle
12024a	12022	coffined	*c.* 96%	adult *c.* 35–45 yr; f	amtl; granuloma; caries; calculus; hypoplasia; periodontal disease; *cribra orbitalia*; pnb – L4-5, max.; Schmorl's nodes – T4 & T6-11, L1-5; ddd – C4 & 6, T7, L5; oa – T1, 3-4, & 11-12 aps & c-v joints, r. 3rd rib, sacro-iliac joints, 5th prox. IPs (hands); op – C3, T6-7 & T9, L5-S1 bsm, T1-5, T7 & 9-10 c-v joints; T11-L2 & L5-S1 ap, ribs, r. 1st MtCP; pitting – l. sterno-clavicular, l. glenoid; enth – femora; cortical defects – l. prox. radius, dist. ulnae, r. capitate, r. 1st intermediate phal. (foot); plastic change – 5th MtT shafts; mv – mand. r. M3 absent, C1 double facets, mand. tori, accessory sacral facets
12024b	12022	*in utero*	*c.* 35%	foetus *c.* 36–38 wks	poorly mineralised
13099	13077	redep.	1 bone (femur shaft)	adult > 18 yr; ?m	enth

Key: s. a. u. l. – skull, axial, upper limbs, lower limbs (where not all elements recovered); amtl – *ante mortem* tooth loss; pnb – periosteal new bone; ddd – degenerative disc disease; oa – osteoarthritis; op – osteophytes; enth – enthesophytes; C, T, L, S – cervical, thoracic, lumbar & sacral vertebra(e); ap – articular process; bsm – body surface margins; c-v – costo-vertebral; dist. – distal; prox. – proximal; mand. – mandible; max. – maxilla; MtC – metacarpal; MtT – metatarsal; MtCP/MtTP – metaphalangeal joint; IP – interphlangeal joint; t-m – temporo-mandibular; mv – morphological variation; f – female; m – male

in some of the graves, the most obvious example being grave 11009, where a section of the ribcage was displaced (Pl. 3.6). This implies that the body was not fully skeletalised and the grave backfill not completely settled when this occurred.

The Early Bronze Age grave was *c.* 0.43 m deep, whilst the Late Bronze Age burial was *c.* 0.65 m from the top of pit 1116. The *Durotrigian* adult grave depths ranged between 0.07 m and 0.46 m, averaging 0.33 m. The Romano-British adult graves ranged more widely from 0.04 m to 1.08 m (average 0.53 m). The graves of immature individuals, particularly the youngest, were generally more shallow. Four graves were 0.10 m deep or less, however exceptions include a juvenile grave (0.54 m deep) and an infant, who was buried in an 'adult-sized' grave, which was 0.96 m deep. Variation seems to be related to burial style and age of the individual though the pattern is not consistent. Factors such as location, geology, topography and later activity have been influential.

Bone preservation is generally good, although variation within a single skeleton was frequently observed. As commonly occurs, trabecular bone and epiphyses were most prone to degradation. It is well recognised that various factors affect bone preservation such as variations in mortuary practice and grave micro-environment (McKinley 2009a, 13).

The prehistoric bone varied, but is generally in poor condition. The remains from the grave were more consistently preserved (grade 4) than the remains from the pit (grade 2–5, mostly 5), probably due to the condition of the body at the time of burial and the subsequent burial micro-environment.

Most (80%) of the *Durotrigian* bone from *in situ* burials is in good condition, with a range between grades 0 and 2. The preservation of the Romano-British material is generally poorer and more variable, with *c.* 65% of skeletons exhibiting three or more grades. Parts of five skeletons, and most of the remains from grave 12003 are in the poorest state of preservation (grade 5+).

Bone degradation seems to be linked to a number of factors, with unfavourable backfill composition, burial within a coffin, and root activity the most common causes for poor preservation. However the patterns are not consistent.

Most of the redeposited bone comprises fragments, although a few near complete skeletal elements are present. The condition of the redeposited bone covers the full range but was predominantly good, with *c.* 78% at grade 0–2. Poor condition was due to natural erosion and abrasion through reworking. The most degraded bones were from ditch fills and had been subjected to greater levels of reworking and exposure. Neonatal bones were the least deteriorated.

The percentage of skeletal recovery from the prehistoric *in situ* remains ranged from *c.* 13 % to 90%, the greater being that from the burial made within a grave. The pit micro-environment and partial disarticulation of the body had been particularly detrimental to bone preservation and recovery.

The *Durotrigian* rate of skeletal recovery was the highest, ranging from *c.* 18% to 99%, with an average of 83%; over 70% of the graves contained more than 90% of the skeleton. The Romano-British rate of skeletal recovery had a similar range ie, a few teeth to *c.* 99%, however the average was only 58%, and just 25% of graves contained more than 90% of the skeleton. The use of coffins for burial seems to have accelerated bone deterioration (though inconsistently), hence the lower recovery rates. The most common factor in the rate of skeletal recovery was bone preservation, followed by disturbance and related removal of remains from the grave.

Canid gnawing was observed on a redeposited adult femur shaft recovered from a late Romano-British grain drier (13077). The well-preserved bone had patches of surface polish suggesting it had been handled frequently in a dry state prior to deposition. It is not clear why or how this bone had been utilised, though it is possible that it was retrieved by a canine and it's origin was not known to those who handled it. A similar example was found in a middle to late Iron age context near Ramsgate, though this had also been deliberately cut at either end (McKinley 2009b, 4).

Staining from metal objects such as grave furniture and/or goods was noted, for instance, on the arms and mid-thorax of 11020 from a copper alloy bracelet (Fig. 3.12), and on the mandible of 5177 from a copper alloy brooch (Fig. 3.11). The organic-rich grave fill (originating from underlying ditch 4446) was probably responsible for the greenish staining in another set of remains (12024a, grave 12022, Fig. 3.3).

Demographic data

A minimum of 45 individuals of Bronze Age and Romano-British date were identified (Table 6.3), Of those, 34 were buried in graves and one in a pit. All but one occupied grave contained single burials, the exception being a mother and *in utero* foetus (Romano-British). The redeposited bone was probably derived from disturbed *in situ* burials, though the burial of origin was only attributable in one case. Ten further individuals were identified on the basis of contextual data, distribution of remains, and repeated elements within the redeposited assemblage (Table 6.2; see below).

The prehistoric assemblage includes the remains of four individuals comprising one neonate (0–6 months) and three adults (Table 6.3). *In situ* burials comprised an Early Bronze Age female and a Late Bronze Age possible male. An unsexed adult and a neonate were identified from redeposited material, the former from a prehistoric ring-ditch and the latter

Table 6.3 Summary of demography

	Prehistoric	*Durotrigian*	*Romano-British*	*Total*
Immature				
Foetus < 40 wk	–	–	1 (u)	1
Neonate 0–6 mth	1 (u)	–	5 (u)	6
Infant *c.* 6 mth-4 yr	–	1 (u)	2 (u)	3
Juvenile *c.* 8–11 yr	–	–	1 (u)	1
Subadult *c.* 13–18 yr	–	2 (1??f, 1m)	1 (u)	3
Sub-total	1	3	10	14
Adult				
> 18 yr	1 (u)	1 (?m)	3 (1m,1?m, u)	5
c. 20–30 yr	–	1 (m)	4 (1f, 1?f, 2m)	5
c. 30–40 yr	1 (f)	–	3 (2f, 1m)	4
c. 35–45 yr	1 (??m)	2 (f)	3 (2f, 1?m)	6
c. 40–50 yr	–	1 (f)	5 (2f, 1?m, 1??m, 1u)	6
> 45 yr	–	1 (f)	2 (1m, 1??m)	3
> 55 yr	–	2 (f)	–	2
Sub-total	3	8	20	31
Total	4 (1f, 1m, 2u)	11 (6f, 3m, 2u)	30 (8f, 10m, 12u)	45

Key: f – female; m – male; u – unsexed

from a re-used storage pit (Chapter 2). The adults died at around 30–45 years of age. These remains most likely represent unrelated singletons from a broad temporal range. Similar burials have been recorded in the Dorchester vicinity (Smith *et al.* 1997; Sharples 1991; Farwell and Molleson 1993; Davies *et al.* 2002; RCHM(E) 1970).

The *Durotrigian* assemblage represents the remains of 11 individuals from ten graves. These include three (27.3%) immature individuals and eight adults (72.7%; Table 6.3). All but one adult and one subadult (13–18 years) were securely sexed, the remainder being a probable male (redeposited) and a possible female. There is a preponderance of adult females (75%), whose median age range was *c.* 40–50 years; all were over 30 years and half were over 45. In contrast, the *in situ* male died between *c.* 20 and 30 years of age. Similar demographic imbalances have been recognised in local *Durotrigian* assemblages – an abundance of females was tentatively indicated in the Dorchester By-pass assemblage (Jenkins 1997, 292) and a greater proportion of older adults was noted in the Poundbury Cemetery assemblage (Molleson 1993, 156). At Alington Avenue the distribution was more equal (Waldron 2002, 147–8).

The proportion of immature individuals in the *Durotrigian* assemblage is only half that observed in the equivalent assemblage from the Poundbury Cemetery (52%; Molleson 1993, 155–6). The rate is more akin to those of the later phases of Alington Avenue (25%; Davies *et al.* 2002, 129), Lankhills, Winchester (29% Clarke 1979), and 34.3% from the Poundbury Cemetery (Molleson 1993, table 62). It is possible that the older average age of the females is related to the fewer immature individuals, though perhaps the younger females, males and immature individuals were being disposed of differently or elsewhere (eg, Poundbury Cemetery).

The Romano-British burial assemblage represents the remains of a minimum of 30 individuals, with 24 from the 23 excavated graves – including an *in utero* foetus. The remaining six individuals comprise two neonates, a subadult/adult over *c.* 14 years and three adults (one male, one probable male, one unsexed), all represented by redeposited material that could not be attributed to known burials (Tables 6.2, 6.3). The ten immature individuals accounted for 33.3% of the assemblage, with 20 adults totalling 66.7%. Most of the adults were securely sexed (70%). The ratio of males to females is fairly even (33% and 27% respectively) and the median age for all the adults falls into the 30–45 year range. Most age ranges were represented by both sexes and little difference was noted between them.

This equal distribution of the sexes and age groups are similar to those from the Poundbury Cemetery, where they appeared to represent the living population using the burial ground (males 29%, females 31%; 34.3% immature; Molleson 1993, table 62). In other contemporaneous cemeteries, however, a general trend towards a higher male to female ratio (close to 2:1) has been noted, for example at Alington Avenue (59% *vs* 27% ; Davies *et al.* 2002, 129), Little Keep, Dorchester (61.5% *vs* 35%; McKinley 2009a, 14), and at Cirencester in Gloucestershire (57% *vs* 26%; Wells 1982).

The percentages of immature individuals at these sites are somewhat lower than from the Poundbury

Cemetery and Farm, with 25% from Alington Avenue (Davies *et al.* 2002, 122, table 23), 17.4% from Cirencester (Wells 1982), and only 10.3% from Little Keep (McKinley 2009a, table 2). These figures probably relate to the higher proportion of males. Neonatal individuals (0–6 months) comprised a higher proportion of the assemblage (16.7%; 20% including a foetus) than those from Cirencester (4.4%) or Poundbury Cemetery (*c.* 6%; Molleson 1993, 212 table 62). However, most of the neonatal remains were recovered from contexts associated with structures and not from the cemetery groups. This follows a recognised pattern of common exclusion from cemeteries and persistent recovery from agricultural or domestic settlement locations (although less so in later phases) (Philpott 1991, 97–102; Struck 1993; Scott 1999, 115; McKinley 2009a, 16).

The Poundbury Farm Romano-British assemblage, albeit a small one, appears to represent the local, rural population using the cemetery, as the Poundbury Cemetery does for the general urban population. These both contrast strongly with the assemblages from Little Keep and Alington Avenue (Davies *et al.* 2002, 122), the former being described by McKinley (2009a, 16) as being possibly the preferred burial location of unmarried males, male immigrants, or migrant workers gravitating to the town for work, perhaps from an extended rural hinterland.

The *Durotrigian* and Romano-British demographies are dissimilar with some older females preferring the local, traditional *Durotrigian* mode of burial, while those choosing to bury in the Romano-British style appear to represent the local population, more akin to the assemblage from the main Poundbury Cemetery (Molleson 1993, 165). This may indicate the influence of 'Roman' or continental fashions on the population.

Collectively the *Durotrigian* and Romano-British demographic data indicate a slight favouring of females to males (50:42.8%), and an adult average age at death within the *c.* 35–45 year range. At 31.7%, the proportion of immature individuals is still comparable to Poundbury Cemetery, and higher than Alington Avenue, Little Keep, and Cirencester, The representation of neonatal material remains high at 12.2%.

Skeletal indices

Stature could be estimated for 18 adults (40% overall), comprising one prehistoric (50%), six *Durotrigian* (75%) and 11 Romano-British individuals (55%) (Table 6.4). The Early Bronze Age female was somewhat taller than the average of 1.61 m calculated by Roberts and Cox from their Bronze Age sample (2003, 396 table 8.1). The *Durotrigian* females' mean stature was marginally greater than that of their counterparts from the Dorchester By-pass site (range 1.50–1.63 m; Jenkins 1997, 254) and the average calculated from a large sample of Romano-British females (1.59 m; Roberts and Cox; 2003, 163). The range of female statures was quite narrow (0.03 m variance). The *Durotrigian* male, by contrast, was particularly short at 0.09 m below the 1.69 m average calculated by Roberts and Cox (2003, 106, 163).

The females buried in the Romano-British style were on average slightly shorter than the *Durotrigian* females, but still a little taller than the 1.59 m average for the period (Roberts and Cox; 2003, 163,) and comparable with those from the Poundbury Cemetery (Molleson 1993, 166). The female statures from Alington Avenue and Little Keep, however, are somewhat shorter at 1.57 m and 1.56 m respectively (Waldron 2002, table 29a; McKinley 2009a, table 3). The range of female statures is substantially larger than that of the *Durotrigian* females, with a variance of up to 0.13 m. The average stature of the males buried in the Romano-British style fell below Roberts and Cox's average (1.69 m), as was similarly noted at the Poundbury Cemetery and Alington Avenue (Molleson 1993, table 28; Waldron 2002, table 29a). The males from Little Keep, however, were slightly taller than the average for the period (1.70 m; McKinley 2009a, table 3). The sexual dimorphism in mean statures of the Romano-British material from Poundbury Farm (0.05 m) is comparable to that recorded for Poundbury Cemetery, and somewhat less than that for Alington Avenue (0.09 m) and Little Keep (0.14 m) (Waldron 2002, table 29a; McKinley 2009a, table 3). The range of male statures at Poundbury Farm was 0.10 m. The greatest stature (1.71 m; (5171)) was taller than the nearest by 0.03 m.

By comparison, statures ranged widely for both sexes in the Poundbury Cemetery collection (Molleson 1993, 166) and at Little Keep (McKinley 2009a, table 3), implying a greater homogeneity in the Poundbury Farm population. This suggests less integration with 'external' populations compared to the more cosmopolitan urban population, although this may be a product of the fairly small assemblage size. Again Alington Avenue and Little Keep stand out with their notable differences in demography to the Poundbury Farm and Poundbury Cemetery populations. The attainment of average and above average statures is an indicator of adequate protein in the diet. It is interesting that many of the males but not the females were failing to achieve the 'average' height for the period in both the *Durotrigian* and Romano-British assemblages, which might imply an imbalance of access to resources. Alternatively, it may just be that most of the local males were of slightly shorter than average stock.

Table 6.4 Summary of main skeletal indices

		Prehistoric			*Durotrigian*			*Romano-British*		
		No.	*Range*	*Mean*	*No./%*	*Range*	*Mean*	*No./%*	*Range*	*Mean*
Stature	M	-	-	-	1/33	1.60 m (5'3")	1.60 m (5'3")	5/*50*	1.61–1.71 m (5'3½–5'7¼")	1.65 m (5'5") (SD 0.04)
	F	1	1.67m (5'5¾)	-	5/83	1.62–1.65 m (5'3¾"–5'5")	1.64 m (5'4½") (SD 0.01)	6/*75*	1.51–1.64 m (4'11¾"–5'4½")	1.60 m (5'3") (SD 0.05)
Cranial	M	-	-	-	2/100	76.06–76.88 (mesocranial)	76.47 (SD 0.58)	3/*30*	76.19–82.51 (meso–brachycranial)	78.73 (SD 3.34) (mesocranial)
	F	1	80.45 (brachycranial)	-	5/83	68.72–76.19 (dolicho–mesocranial)	72.36 (SD 2.96) (dolichocranial)	3/*38*	72.19–81.71 (dolicho–brachycranial)	76.86 (SD 4.76) (mesocranial)
Platymetric	M	-	-	-	2/100	77.43–81.90 (platymeric)	79.88 (SD 2.18) (platymeric)	3/*30*	80.59–102.54 (platy–stenomeric)	87.12 (SD 9.01) (eurycnemic)
	F	1	80.4–84.42 (platymeric)	82.41 (SD 2.84)	5/83	63.71–105.3 (platy–stenomeric)	83.90 (SD 15.74) (platymeric)	4/*50*	71.92–95.34 (platy–eurymeric)	82.40 (SD 9.83) (platymeric)
Platycnemic	M	-	-	-	2/100	67.98–86.10 (meso–eurycnemic)	75.65 (SD 7.90) (eurycnemic)	6/*60*	66.30–90.45 (meso–eurycnemic)	76.29 (SD 8.71) (eurycnemic)
	F	-	-	-	4/66	63.71–73.94 (platy–eurycnemic)	68.20 (SD 3.50) (eurycnemic)	5/63	62.16–85.08 (platy–eurycnemic)	71.45 (SD 8.62) (mesocnemic)

Table 6.5 Summary of other cranial indices

Index	*Durotrigian*				*Romano-British*			
	No.	*Range*	*Mean*	*SD*	*No.*	*Range*	*Mean*	*SD*
nasal	-	-	-	-	1m	44.60	44.60	-
	3f	39.18–46.32	43.80	4.01	-	-	-	-
orbital	-	-	-	-	1m	96.61	96.61	-
	3f	82.82–93.8	89.24	5.72	-	-	-	-
palatial	-	-	-	-	1m	64.07	64.07	-
	-	-	-	-	-	-	-	-
upper facial height	-	-	-	-	1m	57.75	57.75	-
	2f	52.01–55.10	53.56	2.18	-	-	-	-
cranial length-height	1m	74.47	74.47	-	1m	70.68	70.68	-
	2f	66.14–67.89	67.02	1.24	1f	76.67	76.67	-
cranial breadth-height	1m	97.90	97.90	-	1m	91.22	91.22	-
	2f	86.51–95.56	91.19	6.19	1f	100	100	-
fronto-parietal	2m	68.53–74.83	71.71	4.42	3m	63.58 – 77.08	70.54	9.55
	5f	67.15–71.54	69.56	1.79	1f	67.39		

Key: f – female; m – male

The cranial index expresses the shape of the skull (length: width) which can be affected by genetics, nutrition, and health (Ortner and Putschar 1985, 32). The cranial index was calculated for 14 adults (Table 6.4); one Early Bronze Age seven *Durotrigian*, and six from the Romano-British collection.

The Early Bronze Age female was brachycranic (short, broad-headed). The *Durotrigian* females were generally doliocranic (long-headed), ranging from dolichocranic to mesocranic (medium-headed) while the two males were mesocranic, a pattern also noted in the later collections from Little Keep and Alington Avenue (McKinley 2009a, 17; Waldron 2002, 15). A mesocranic mean range was calculated for both sexes in the Romano-British Poundbury Farm assemblage, as in the Poundbury Cemetery material (Molleson 1993, 167). The Romano-British cranial index ranges are quite wide, particularly in the females, which range from dolichocranic to brachycranic. Outliers do not appear to have been treated differently in burial to the other individuals. Other cranial indices were calculated for small numbers of individuals, precluding comment in most cases (Table 6.5).

The platymeric index (demonstrating the anterior/posterior flattening of the proximal femur, influenced by genetics, nutrition and biomechanical stress) was calculated for 14 adults (seven *Durotrigian* (87.5%) and seven Romano-British (35%)) (Table 6.4). Overall, the *Durotrigian* femora and those of the Romano-British females were on average platymeric (flattened), whilst the Romano-British males were on average eurymeric (broad), implying that one or more of the factors governing femoral shape were different in the Romano-British males. Where both femora could be measured (four *Durotrigian* and five Romano-British cases), there was a moderate to notable variation between the two sides (3.2–23.1 *Durotrigian*; 0.4–15.1 Romano-British), with higher readings evenly distributed between the sides. Marked differences between the sides were noted in all four *Durotrigian* and two Romano-British cases, suggesting that in some instances considerably greater physical stresses were placed on one side, possibly indicative of particular activities. Both the *Durotrigian* and Romano-British assemblages followed the patterns seen in the Alington Avenue, Poundbury Cemetery and Little Keep assemblages, with most femora in the platymeric range (flattened) (Waldron 2002, 151; Molleson 1993, 167; McKinley 2009a, 17).

Several femora were classified as stenomeric (rounded). Such a classification is thought to occur predominantly in pathological cases (Bass 1987, 214), with the pathology causing the affected leg to be favoured, and therefore diminishing the shape changing stresses applied to the bone. One affected individual had slight osteoarthritic changes to the corresponding hip. No pathological changes considered sufficient to cause stenomeria were observed in the remaining individuals. Examples were also recorded at Little Keep and the Poundbury Cemetery (McKinley 2009a, 18; Molleson 1993, 167).

The platycnemic index (illustrating the medio-lateral flattening of the tibia, influenced by genetics, nutrition and/or biomechanical stress) was calculated for 17 adults (six *Durotrigian* (75%), 11 Romano-British (55%)) (Table 6.4). Overall, the average tibiae were eurycnemic (flattened), except again the Romano-British males, whose tibiae were on average mesocnemic (medium). The tibiae from the *Durotrigian* assemblage fell predominantly in the mesocnemic range (moderately flat), although many were eurycnemic, whilst the reverse was true of the Romano-British. Where both tibiae were measured, slight variations between sides were observed in both assemblages. In the *Durotrigian* assemblage indices were higher in the right in 33% of cases, and in the left in 66%. In the Romano-British examples higher scores in the right occurred in 57% cases (all females), and from the left in 43% cases (all males). Although a small sample, this appears to indicate differences in tibial shape determining factors between male and females. Similar index ranges to the Romano-British material were observed at Poundbury Cemetery and Alington Avenue (Molleson 1993, 167; Waldron 2002, 151).

Platycnemia (very flattened tibiae) was calculated for small proportions of each assemblage. The suggested link between squatting facets (see below) and platycnemia (Brothwell 1972, 91) is not supported by the data from Poundbury Farm – squatting facets were seen in 71% of the observable tibiae, none of which were platycnemic.

The robusticity index (expressing the relative size of the femur shaft) was calculated for five *Durotrigian*, and five Romano-British adults. Where both femora were measured there was a slightly greater variation between sides in the *Durotrigian* male, otherwise differences were small. Sexual dimorphism was more notable in the *Durotrigian* assemblage with the female scores towards the lower end of the range and the male scores towards the higher (means 119.1 and 134.2 respectively), however this is a very small sample. The Romano-British robusticity values were less sexually dimorphic. The female average was slightly greater than that of the males, but one female (12024a) had particularly robust femora (135.3).

Non-metric variation

Variations in skeletal morphology may indicate population diversity or homogeneity (eg, developmental variations/abnormalities), and participation in certain movements potentially related to particular activities (eg, mechanical modification), (Tyrrell 2000, 292; Berry and Berry 1967). The interpretive potential however is not straight-forward due to the complex or undefined aetiology of

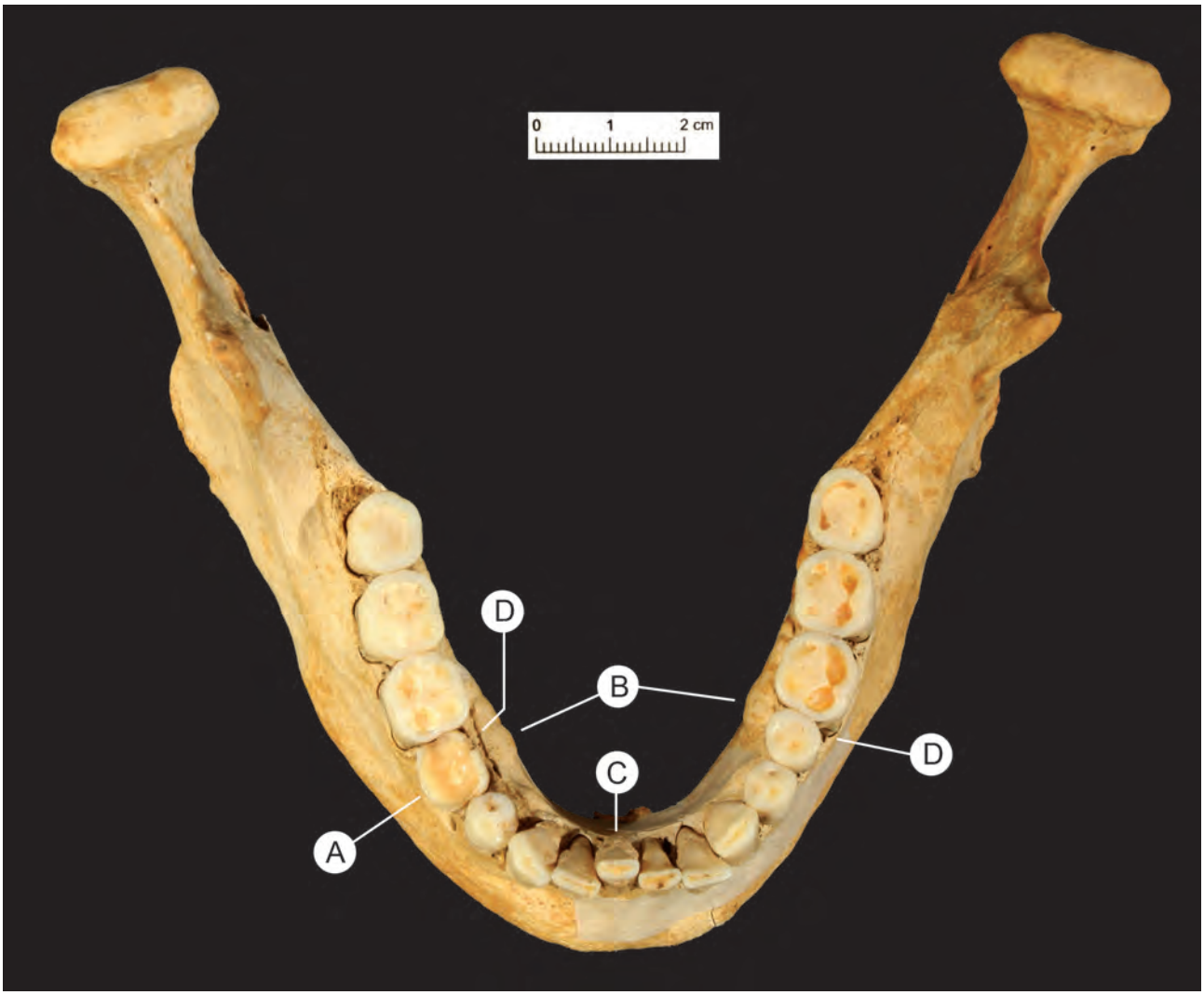

Plate 6.1 a) Retained deciduous molar; b) mandibular tori c) calculus, and d) periodontal disease – adult probable male 5171

individual traits. A number of developmental variations or abnormalities were observed in the Poundbury Farm assemblage (Table 6.2 and archive).

A few dental anomalies were observed. Congenital third molar absence was seen in two dentitions (one male, one female), with an overall rate of 8%, similar to that at Little Keep (8.7%) but far less than the more typical rate of *c.* 39% at Poundbury (Molleson 1993, 168–9). Impaction of the mandibular 3rd molars, and as a consequence the right 2nd premolar was noted in a subadult. Other dental anomalies include bi-partate mandibular canine roots – observed in the dentitions of three individuals (one *Durotrigian* female, two Romano-British), of which one also has a retained deciduous molar (Pl. 6.1a). Accessory cusps were noted in the permanent molars of two immature individuals.

Metopic sutures were observed in two females, one prehistoric and one Romano-British (6.7%) – consistent with 'normal' prevalence rates (Berry and Berry 1967, table 1). Examples were also noted at Poundbury Cemetery, including three from the *Durotrigian* assemblage (Molleson 1993, 168–9).

Ossicles at the lambdoid sutures (36.4% *Durotrigian*; 38.9% Romano-British), were only slightly less frequent than at Poundbury Cemetery and Little Keep (41% and 48.8% respectively; Molleson 1993,168–9; McKinley 2009a, 18). At 56%, the trait was far more common at Alington Avenue (Waldron 2002, 151). A notable lambdoidal ossicle was observed in the skull of a *Durotrigian* adult female; at 53 x 46 mm the ossicle was quite large, though the skull morphology was unaffected. Ossicles at the lambda were more common at Poundbury Farm (*Durotrigian* 14.3%; Romano-British 7.1%) and at Little Keep (8.7%) than in the much larger assemblage from Poundbury Cemetery (3.6%) (McKinley 2009a, 19; Molleson 1993, 168–9). The most noteworthy cranial variation was a bregmatic bone seen in a Romano-British female, as these are

Table 6.6 Summary of permanent erupted dentition

	Max. teeth	*Man. teeth*	*Total no. teeth*	*Max. tooth positions*	*Man. tooth positions*	*Total tooth positions*
Prehistoric						
Female (secure sexing)	14	16	30	15	16	31
Male (all levels)	5	5	10	-	-	-
Total	19	21	40	15	16	31
Durotrigian						
Female (secure sexing)	57	61	118	85	96	181
Female (all levels)	68	72	140	85	102	187
Male (secure sexing)	30	30	60	30	30	60
Total	98	102	200	115	132	247
Romano-British						
Female (secure sexing)	60	69	129	55	78	133
Female (all levels)	75	79	154	55	78	133
Male (secure sexing)	52	57	109	57	63	120
Male (all levels)	62	68	130	59	67	126
Unsexed	14	12	26	-	1	1
Total	151	159	310	114	146	260

very rarely seen in archaeological contexts (Arnott *et al.* 2002, 159–160, quoting Barnes 1994; Berry and Berry 1967, 367 and table 1).

There are some disparities in other cranial variations between the *Durotrigian* and Romano-British burial remains, and between the Poundbury Farm and the Poundbury cemetery. For example, more mandibular tori (Pl. 6.1b) (associated with firm clenching or grinding of the teeth) were observed in the Romano-British assemblage (33.3%), than in the *Durotrigian* (25%), both higher than the rate for Poundbury Cemetery (13.6%, and Little Keep (17.8%) (Molleson 1993, 168–9; McKinley 2009a, 19). Half of the observable *Durotrigian* skulls had posterior occipital condylar canals, a rate only slightly lower than that from Poundbury Cemetery (60.6%; Molleson 1993, 168–9), yet none of the Romano-British skulls had the trait. More Romano-British skulls had double occipital condylar facets (18.2%) than those from Poundbury Cemetery (3.2%) and Little Keep (5%), though none were observed in the *Durotrigian* assemblage (Molleson 1993, 168–9; McKinley 2009a, 19). The *Durotrigian* parietal foramen rate (33.3%) was close to that from Little Keep (38.6%; McKinley 2009a, 19), whilst the higher rate from the Romano-British skeletons (45.5%) was more akin to that from Poundbury (50.2%; Molleson 1993, 168–9).

Accessory sacral facets, which represent a joint between the ilium and second sacral vertebra (Berry and Berry 1967; Ehara *et al.* 1988, 857) present clinically as true joints present at birth. More commonly, however, they are acquired as a result of the stress of weight-bearing, and often increase in incidence with age (Ehara *et al.* 1988, 859). Accessory sacral facets were observed in three adult females (one *Durotrigian* (11.1%), two Romano-British (37.5%), two of which showed signs of heavy loading and advanced wear-and-tear of the spine (see below).

Os acromiale (non-fusion of the tip of the acromion process of the scapula) may be related to activity-related stress and/or familial association, and is generally observed in *c.* 3–6% of individuals (Stirland 2005, 121; Knüsel 2000, 115–6). *Os acromiale* affected both scapulae of a *Durotrigian* adult female, who had skeletal changes consistent with straining of the spine, shoulder, and elbow joints probably through heavy labour from a young age (Table 6.2),

Some less common morphological variations were also recorded, although few were repeated within the assemblage. A Romano-British female had notably flattened distal 1st metacarpals, a trait also observed in two probably familialy-linked individuals at Little Keep (McKinley 2009a, 19). This extreme variation of the normal range may limit the overall flexibility of the joint; expression rates differ between populations (Inoue and Tsubo 2005, 101; Yoshida *et al.* 2003, 753). A small coalition defect was observed between the capitate and trapezoid in the right wrist of a Romano-British male. A *calcaneus secundarius* (Bergman 1998) is the likely cause of a second coalition defect in the right foot of a *Durotrigian* female.

No familial relationships were identified in any of the assemblages, though the *Durotrigian* assemblage appears to be more homogeneous than that from the Romano-British burials. The latter group may include a greater proportion of individuals originating from the wider population, perhaps as a result of the development of Roman Dorchester. However the *Durotrigian* burials do only represent a selection of the community. Some physical characteristics appear to

Table 6.7 Summary of dental pathology (permanent erupted dentition only) no. (%)

	Teeth	*Socket positions*	*Calculus*	*Ante mortem tooth loss*	*Caries*	*Abscesses*	*Hypoplasia*
Prehistoric							
Male	10	-	6 (60)	-	-	-	-
Female	30	31	30 (97)	-	-	-	-
Total	40	31	36 (90)	-	-	-	-
Durotrigian							
Male	60	60	40 (67)	-	1 (2)	-	40 (67)
Female	140	187	70 (50)	53 (28)	26 (19)	10 (5)	13 (9)
Total	200	247	110 (55)	53 (21)	27 (14)	10 (4)	53 (27)
Romano-British							
Male	130	126	35 (27)	5 (4)	18 (14)	3 (2)	20 (15)
Female	154	133	57 (37)	36 (27)	12 (8)	2 (2)	8 (5)
Unsexed	26	1	3 (12)	-	4 (15)	-	6 (23)
Total	310	260	95 (31)	41 (16)	34 (11)	5 (2)	34 (11)

be broadly homogeneous, and whilst they are in some ways comparable to various local assemblages, it would appear that the Poundbury Farm communities included fewer 'non-locals' than the nearby urban cemeteries.

Some traits, particularly when considered in conjunction with other skeletal evidence, indicate individual participation in strenuous or rigorous activity.

Molleson (1993, 184) describes the Poundbury Cemetery collection as representing 'an indigenous British population, living and dying in the area', a description that fits well with the Poundbury Farm assemblage.

Pathology

Pathological lesions were observed in the remains of two Bronze Age, ten *Durotrigian* and 21 Romano-British individuals. A summary is presented in Table 6.2.

Dental disease

All or parts of 28 erupted permanent dentitions were recovered (Table 6.6), These comprised two Bronze Age (one male, one female), nine *Durotrigian* (two males, seven females) and 17 Romano-British (eight males, eight females, one unsexed).

Dental calculus (calcified plaque/tartar) is linked to a diet dominated by soft, carbohydrate rich foods such as porridge or gruel (Hillson 1986, 278). The two Bronze Age dentitions are in poor condition and exhibited only mild calculus and are not discussed further. Calculus was observed in a further 25 dentitions (96.2% of combined *Durotrigian* and Romano-British; eg, Pl. 6.1c). Most deposits (92%) are mild–moderate in severity (Brothwell 1972, fig. 58b), and slightly heavier on the mandibular teeth. Distribution is fairly consistent on most sides of the teeth, and evident on six or more teeth in 76% of cases. The *Durotrigian* rate is somewhat higher than that of the Romano-British assemblage (Table 6.7), though this may be due to the predominance of older individuals in the former group. The combined rate (40.2%) is similar to the rate calculated from a large Romano-British sample by Roberts and Cox (43.4%; 2003, 132, table 3.11). Biological sex had little influence on the extent and severity of the condition. The heaviest calculus deposits are in female dentitions, though both were over *c.* 40 years at death. As is often the case, there is a general increase in severity with age, however calculus distribution and severity can be misleading; factors such as *ante* and *post-mortem* tooth loss, and its predisposition to flake off the teeth during post-excavation handling can bias the results.

Periodontal disease (gingivitis; Ogden 2005) can lead to bone resorption and subsequent root exposure and tooth loosening. In approximately half of the combined *Durotrigian* and Romano-British assemblage (Table 6.2), between one and all sockets have changes consistent with the condition (eg, Pl. 6.1d). Most sockets are mildly affected (*ibid.*, score 2), though some dentitions (33%) have more severe changes (score 3), mostly affecting the molar and premolar positions. The maxilla and mandible were equally affected, as were both sexes. Little difference was noted between the two burial styles.

The *ante mortem* loss of 2–20 teeth was recorded in nine female dentitions (Table 6.7). These comprise 71.4% *Durotrigian* and 50% Romano-British dentitions. A similar distribution between the maxilla and mandible was seen in the *Durotrigian* sample, whereas a slightly higher proportion of mandibular teeth were subject to loss in the Romano-British assemblage (14.4% *vs* 9.6%). The 1st molars were most affected (27.1% of all affected), though most teeth had been subject to some loss. Higher frequencies were recorded in individuals over *c.* 40 years of age, and no loss was observed in those below *c.* 30 years of age, however, the pattern is inconsistent.

Table 6.8 Summary of fractures

	Skull	*Axial*	*Upper limb*	*Lower limb*	*Contexts*
Durotrigian					
Female	-	9 *ribs;* 4 *Ts;* 2 *Ls*	2 *fingers*	1 *fibula* 1 *foot*	4145, 4181, 11011, 11020, 11022
Total	-	15	2	2	19 sites
Romano-British					
Female	-	-	-	1 *tibia* 1 *tarsal* 1 *toe*	4308, 5241
Male	2 *frontal*	3 *Ts* 4 *Ls*	-	2 *tarsals*	4293, 5171
Total	2	7	-	5	14 sites

The Romano-British rate is fairly comparable to the average for the period (14.1%; Roberts and Cox 2003, table 3.12), but the *Durotrigian* rate is somewhat higher at 20.6%. Combined, the rate is 18.5%, All are greater than the rates recorded from Alington Avenue and Little Keep (13.4% and 10% respectively; Waldron 2002, 152; McKinley 2009a, 20). The higher rate in the *Durotrigian* sample may be related to the predominance of older females. Both age and sex appear to affect tooth loss rates, especially if caries are the main cause of the losses (see below).

Dental caries (destruction of the tooth by acids produced by oral bacteria present in dental plaque) were recorded in between one and ten teeth in nine dentitions (five *Durotrigian* and four Romano-British). The majority of lesions were in the molars (3rd molars most severely affected), with fewer in the premolars, and least in the anterior teeth. A slightly greater proportion of maxillary teeth had carious lesions. The origin of only *c.* 50% of the lesions was discernable with broadly similar proportions occurring in the contact areas, occlusal fissures and cervical regions. Overall the *Durotrigian* rates are higher than the Romano-British (13.2% *vs* 9.6% maxillary; 11.8% *vs* 3.4% mandibular), probably due to the demographic nature of the former group. Although there is some age-related correlation with the highest number of lesions occurring in a 45–60 year old, it is inconsistent. Most of the individuals (63%) who had suffered *ante mortem* tooth loss also had caries, and it is probable that the conditions were linked.

Dental caries are more frequent in both groups (Table 6.7) than the 7.5% average suggested by Roberts and Cox (2003, 131–2, table 3.10). Combined the rate is 12%, a rate similar to that for the Little keep cemetery (12.5%; McKinley 2009a, table 4). A greater rate was recorded for the Poundbury Cemetery assemblage (15.8%; Molleson 1993, 183), whilst at Alington Avenue the rates are considerably lower at 2.2% (Waldron 2002, 152). These disparate rates might reflect differences in the demographic make-up of each assemblage. Females are more susceptible to dental pathology such as caries during pregnancy due to the associated changes in oral chemistry. Differences in diet, oral hygiene and overall health (that may imply differences in status or lifestyle could) also be responsible.

Most peri-apical voids in the jaws are related to chronic inflammation and necrosis of the tooth pulp, where it has been exposed to micro-organisms (eg, via caries, fracturing, or wear). Resultant granulation material can lead to permanent smooth walled cavities up to 3 mm in diameter. Larger voids are indicative of cystic granuloma, however other cysts may be responsible (Soames and Southam 2005, 65–84). Three peri-apical voids indicative of granuloma were observed (two mandibular; one maxillary; Table 6.2), though no obvious cause was evident in the tooth.

With chronic infection, pus accumulation often leads to dental abscess formation with suppuration liable to cause secondary infection of the surrounding structures (see below) (Katzenberg and Saunders 2008, 322–3; Dias and Tayles 1997, 548; Soames and Saunders 2005, 45–63; Ogden 2008, 283–308). Between one and three lesions indicative of dental abscess were recorded in six dentitions (57% *Durotrigian* females; 12.5% Romano-British (both sexes)) (Table 6.7). Lesions were more common in the mandible than the maxilla (61% *vs* 38%), with the maxillary 2nd and mandibular 1st molar position most commonly affected. Three individuals (two over *c.* 45 years) had three lesions, indicating a possible age-related association. The link between abscesses and dental caries was clear in most cases, the carious lesion having exposed the supportive structures to infection. The remaining case (a mandibular third molar) had severe periodontal disease and calculus build-up that probably increased the risk of inflammation and infection. Secondary infection as a result of dental abscess was observed in a several cases (see below).

The dental abscess rates (4% *Durotrigian*; 1.9% Romano-British; 3% combined) are similar to the 3.9% mean calculated for the Romano-British period (Roberts and Cox 2003, 152), but higher than the rates at Alington Avenue (*c.* 0.8%; Waldron 2002, table 3.13). The latter assemblage again indicates a distinct lack of dental pathology.

Slight dental enamel hypoplasia (an enamel defect, reflective of a period of illness or nutritional stress in the immature individual; Hillson 1979) was observed in five *Durotrigian* dentitions (two males, three females), and eight Romano-British dentitions (four males, two females and a juvenile) (Table 6.7). Overall lesions were most commonly observed on the maxillary right 1st incisors (8.2%). Most were present as faint lines in the tooth crowns, although in some cases the grooves were deeper or wider. One tooth had distinct pitting. Up to 29 crowns within one dentition had lesions, though in most cases between three and five teeth were affected. More than three lines were observed in most crowns, and, from the location of the lesions, most individuals appear to have been exposed to periods of stress between the ages of *c.* 2 and 4 years.

Seven individuals appear to have experienced repeated, periods of stress, apparently following one or two more severe episodes indicated by the depth and extent of the defect. There is no pattern regarding the location, severity, or variety of dental enamel hypoplastic defects with sex, age or phase. The rate for the *Durotrigian* individuals is quite high at 26.5%, whereas the rate within the Romano-British assemblage was relatively low (7.3%), the reason for this remains unclear. The average for the period is *c.* 9.1% (Roberts and Cox 2003, table 3.16), though several sites within their sample have higher rates.

Unfortunately there are problems with the recording of these stress indicators. In adults the tooth wear may be such that the defects formed in the earliest stages of development have been worn away. The exact causes and timing of the stressful events are complex and not as readily definable as once thought (Lewis and Roberts 1997, 581–2). Due to the subjective nature of recording dental enamel hypoplasias, results vary widely between observers and are thought to be inappropriate for direct comparison.

The dental health of the *Durotrigian* and Romano-British individuals was reasonable, with moderate rates of *ante mortem* tooth loss, caries, and abscesses. Considered together with a lack of excessive attrition, it would seem that, as indicated in the Poundbury Cemetery assemblage (Molleson 1993, 182), a cereal based diet including relatively soft and sticky components was common. The dental health of the Alington Avenue individuals, by comparison was considerably better – demonstrating a difference in one or more factors such as food type and texture, dental hygiene, overall health, and lifestyle.

Dental enamel hypoplasia patterns suggest that most of those affected were subjected to the barrage of early childhood illnesses, rather than starvation, given that most had achieved average or above statures and lacked any signs of malnutrition. It must also be noted that these are the individuals that survived these stresses, those that perished having no time to form such indicators.

Congenital conditions

Rare occurrences of minor congenital conditions were recorded (Table 6.2), including *spina bifida occulta*, the incomplete ossification of the mainly sacral spinal processes. The condition was recorded in one Romano-British adult male, whose 1st–3rd sacral vertebrae (S1–S3) were incomplete (20% sacra; 10% males, 5% adults). The presence of the condition, which is also influenced by environmental factors, was noted in 18 individuals at Poundbury Cemetery (Molleson 1993, 156, 187) and four cases were noted at Alington Avenue (Waldron 2002, 153). Roberts and Cox (2003, table 3.7) calculated an average rate of 17.4 % for the period, not at great variance to Poundbury Farm.

Trauma

Healed fractures were evident in the remains of nine adults, including two males (Romano-British) and seven females (five *Durotrigian*; two Romano-British) (Table 6.8). In the *Durotrigian* assemblage 1–12 bones were affected, though in 60% of cases only one bone was fractured. Of the single fracture cases, two (66.7%) involved hand or foot bones, the fourth was the 5th lumbar vertebrae (L5). In the individual with 12 fracture sites, the injured elements were predominantly axial. In the Romano-British affected individuals there were between one and seven fracture sites, with the females suffering breaks in up to two sites, and the males 5–7. Fractures were seen exclusively in the lower limb/foot of the females, whilst one male had only spinal fractures. The other male (5171) had injuries to the skull, spine and foot. Overall, most fractures involved axial elements, however where the individual showed a single fracture, sites comprised mainly hand and foot bones.

Vertebrae were the most commonly affected elements, with six adults and 15 vertebrae affected (20% of adult individuals; 5% of all adult vertebrae; Table 6.8). Vertebral body fractures are most commonly the result of vertical force acting on the longitudinal axis of the vertebral column (Adams 1987, 100).

In the case of healed wedge compression fractures in two individuals, the cause of injury probably involved a heavy fall. One of these, an older adult

male (Romano-British), had sustained a number of serious injuries to the thoracic and lumbar spine, quite some time prior to death. The injuries include wedged compression fractures of T10 to L1 (left/anterior) and fractures in the neural arches of L1 and L5 (spondylolysis). The latter fractures had healed, but somewhat skewed to the left. Large osteophytes running along the left/anterior of the injured bodies are in various states of ankylosis, though the disc spaces have been preserved. Further ankylosis was imminent between the L4 and S1 right apophyseal joints and surrounding structures. The result is acquired right thoracic/lumbar scoliosis (lateral curvature of the spine; Salter 1999, 366), with some anterior displacement. Despite the relative stability provided by the ankylosis, there are a number of osteoarthritic lesions that are likely to be linked to this traumatic deformity (eg, costo-vertebral and thoracic/lumbar apophyseal joints).

Spondylolysis is a fracture of the neural arch – ie, the *pars interarticularis* – of the fifth and occasionally the fourth lumbar vertebrae, which may have some hereditary aspects (AAOS 2007; Salter 1999, 372–4; Ehara *et al.* 1988, 857; Ortner and Putschar 1985 357–8). Causes also include repeated stress and/or a single, excessive incident in adolescence/young adulthood. More recently, repeated hyperextension was found to be more causative, while Ward *et al.* (2010) concluded that certain aspects of vertebral morphology (ie, medio-lateral facet joint spacing) appear to predispose individuals to spondylolysis.

Four individuals had spondylolysis of the L5; the L4 was also involved in one case (Table 6.2). All of the spondylolytic fractures were bilateral, and had failed to unite in all but one case. Roberts and Cox noted spondylolysis in 49 of 2475 individuals (*c.* 2%; 2003, 151). Although the samples are small, there appears to be some patterning regarding age, sex, and burial type. The two *Durotrigian* spondylolytic spines were from females, whereas the two Romano-British spines were from males. All affected individuals were over *c.* 35 years, two were over *c.* 45 years, however the fractures had clearly occurred a long time prior to death. These data may imply differences in participation in physically demanding activities, or perhaps a hereditary predisposition.

Vertebral end-plates can be damaged when the spine is placed under sudden axial load, and/or anterior-posterior shear stress. Such forces can cause herniation of one or more intervertebral discs (commonly in the lumbar spine; Salter 1999, 276–7), often a cause of vertebral end-plates avulsion. Bone damage can disrupt the disc nutrient supply and overall spinal function (Maat and Mastwijk, 2000; Herkowitz and Ball 2004, 182).

An injury consistent with a traumatic incident involving an end-plate avulsion was seen in a Romano-British probable male (5171). A *c.* 7 mm deep lesion, measuring *c.* 28 x 12 mm was observed on the anterior portion of the inferior body surface of T11. The lesion has rounded sclerotic walls, and a fracture line extends laterally across the floor of the lesion and 13 mm beyond.

A severe fracture of the right distal tibia and fibula was evident in an adult female (Romano-British; Pl. 6.2). The tibia shows a posterior-medial to anterior lateral distinct fracture line and branching hairline cracks on the distal articular surface. A small nodule (*c.* 10 x 7 mm) that projects *c.* 10 mm from the fibula is probably a piece of fibular notch margin. The fibula and tibia are fused via ossification of a portion of the interosseous ligament, with the distal section of the fibula slightly splayed laterally. Hairline fractures in the posterior navicular, and changes to the ankle ligament entheses, indicate associated dislocation and soft tissue damage. The injuries, which occurred some time prior to death, probably resulted from abrupt abduction or external rotation of the foot and ankle following a heavy, awkward fall (Salter 1999, 613).

A *Durotrigian* female over *c.* 55 years suffered several injuries including vertebral compression fractures, several vertical rib fractures, and an obliquely fractured left distal fibula (fully-healed). Active and healed new bone at the rib fracture sites likely indicate active healing. Most rib fractures result from direct injury such as a fall against a hard object/surface, and most heal unaided (Adams 1987, 107). The leg fracture probably resulted from similar though less severe action discussed above. The evidence suggests that this individual suffered at least two episodes of traumatic injury. Elderly females are more prone to limb injuries, though this is mainly due to bone weakening through osteoporosis (*ibid.*, 132), of which there is no evidence in this individual.

Adult male 5171 (Romano-British) had also sustained two injuries to the frontal bone, one *c.* 40 mm above the right orbit and a second on the left supra-orbital margin (Pl. 6.7). Further trauma was evident in the mid-foot and spine (see above and below). Both head injuries were healed and partly remodelled. The one on the right was evident as an oval depression *c.* 14 m x 12 mm, and *c.* 2 mm deep. A deeper crescent formed the medial edge, whilst the lateral sloped gently to a central, circular depression *c.* 3.5 mm in diameter and *c.* 1 mm deep. The left injury extends laterally *c.* 10 mm from the supra-orbital notch towards the zygomatic process. Part of the supra-orbital margin *c.* 16 x 6 mm, and up to *c.* 2 mm thick has been dissected. The resultant sub-rectangular portion is somewhat flattened, though advanced healing has diffused the edges. The medial edge has a shallow slope, while the deepest section (*c.* 4 x 2.5 mm) was on the steeply sloping lateral side. The latter injury is consistent with a blade impact that

Plate 6.2 Fractures of distal right tibia and fibula – adult female 5241. Note small piece of avulsed fibular notch margin adhering to the fibular

Plate 6.3 New bone deposits (lamellar) on right aspect of T11-T12 – adult probable male 5171

removed a flake of the orbit margin. The right frontal injury may represent a depressed fracture and/or a penetrating wound. It seems that this individual had be the victim of some form of interpersonal violence. Other skeletal evidence suggests that this individual had also participated in heavy, strenuous activity or activities.

Other injuries comprised minor hand and foot fractures that are notable in their distribution and fairly high frequency. All were well-healed with only mild deformation and arthritic changes. These injuries were almost exclusively in females and derive mainly from accidental trapping, knocking and crushing of the hands, fingers and toes. A traumatic event was the likely cause of a unilateral navicular (mid-foot) fracture. In contrast, the mid-foot injuries in a male (5171) are more likely to have been associated with repeated stress damage. Clinically, such fractures are seen as a result of activities such as long marches, athletics and sports, dancing and equestrian activities (Ameres *et al.* 2010).

Direct comparison of injury rates with other sites is unreliable due to the lack of available True Prevalence Rates (TPRs). It does seem, however, that a reasonable proportion of the individuals at Poundbury Farm sustained injuries (Crude Prevalence Rate (CPR) 32.1% all adults; 62.5% *Durotrigian* adults; 20% Romano-British adults). The higher injury rate in males as opposed to females from the Romano-British assemblage (CPR 5.4% *vs* 2.2%) is in accordance with a recognised general trend (Roberts and Cox 2003, 151). A similar situation is demonstrated at Poundbury Cemetery (CPR 37.4% *vs* 18.5%; Molleson 1993, table 47) and at Cirencester (CPR 26.7% *vs*. 6.6%; Wells 1982, 167). Notably all five females in the *Durotrigian* assemblage had sustained an injury.

The causes of injury at Poundbury Farm are broadly consistent with findings from other assemblages of the period, with accidents and falls accounting for most (Roberts and Cox 2003, 155–6). The rate of rib fractures (4.9% *Durotrigian*) is fairly consistent with the average for the period (*ibid.*, 3.4%), but much lower than the Poundbury Cemetery (13%) and Little Keep (17.2%) rates (Molleson 1993, table 47; McKinley 2009a, 23). Evidence for facial fractures and weapon injuries, however is uncommon on most sites. At Poundbury Cemetery only one individual (a female) exhibited weapon injuries (0.08%; Roberts and Cox 2003,

Table 6.9 Summary of spinal lesions in adults no. (%)

	Total no. vertebrae	*Osteoarthritis*	*Schmorl's nodes*	*Degenerative disc disease*	*Lone osteophytes*	*Lone pitting*
Prehistoric						
Female	23	5 (22)	1 (4)	-	2 (8)	-
Total	23	5 (22)	1 (4)	-	2 (8)	-
Durotrigian						
Female	151 (86)	34 (23)	28 (19)	24 (16)	55 (36)	12 (8)
Male	25 (14)	-	8 (32)	-	-	-
Total	176	34 (19)	36 (20)	24 (14)	55 (31)	12 (7)
Romano-British						
Female	115 (59)	13 (11)	21 (18)	11 (10)	38 (33)	18 (16)
Male	77 (39)	16 (21)	21 (27)	21 (27)	30 (39)	8 (10)
Unsexed	3 (3)	-	-	-	1 (33)	-
Total	195	29 (15)	42 (22)	32 (16)	69 (35)	26 (13)

158). At Little Keep, however, interpersonal violence was more conspicuous (McKinley 2009a, 24–5). The frequency of hand and foot fractures is relatively high, and that they occur predominantly in females is interesting. The types of injuries and who received them may be reflective of the nature of activities in and around the settlement, and who were participating in them. Activities on the site include both arable and pastoral farming, cereal processing, metal and probably textile working. Most of these activities have the potential for slips, trips, and falls, accidental trapping, knocking and crushing, as well as over-loading and repetitive stressing. However, one individual (5171) stands out with their apparent involvement in interpersonal violence with weapons, and excessive foot and spine fatiguing activity (see above and below).

Osteochondritis dissecans, a condition normally seen more frequently in males, leads to fragmentation and disruption in an articular joint. In adults it is generally believed to be predominantly traumatic in origin, resulting in obstructed blood flow and localised necrosis (Rogers and Waldron 1995, 28–30; Roberts and Manchester 1997, 87–89; Aufderheide and Rodriguez-Martin 1998, 81–83; Knüsel 2000, 116; Salter 1999, 355). Two lesions consistent with *osteochondritis dissecans* were recorded on the condyles of a left distal femur and a right distal humerus in the *Durotrigian* assemblage (females) (25% *Durotrigian* adults; 4.9% combined adults). The condition, which can cause an aching swollen joint that locks or catches, was not common in antiquity. Roberts and Cox (2003, table 3.27) give a CPR of 0.04% for the period. Local contemporaneous cases include one from Poundbury Cemetery and four from Alington Avenue (Molleson 1993; Waldron 2002, 153).

Inflammation and infection

Inflammation, due to infection, irritation, and/or injury of the periosteal membrane covering bone may lead to the formation of new bone. Infection may be introduced directly as a result of trauma, develop in response to an adjacent soft tissue infection, or spread via the blood from elsewhere in the body. Inflammation can also be caused by friction from adjacent structures or external stimuli. Particular distribution patterns can be characteristic of certain diseases, conditions and deficiencies (detailed where appropriate), though it is seldom possible to detect the factors involved in individual cases.

Six adult *Durotrigian* females (86%), two Romano-British males (25%), and one female (12.5%), and three immature skeletons have periosteal new bone deposits (Table 6.2). Infection was the most likely cause in most cases. The maxilla is most commonly affected in the adults, most cases being secondary to dental abscesses. The mandible is also affected in two cases. Most infections had been active at point of death, and at least one maxillary infection had been a recurrent problem.

Three cases of secondary sinusitis as a result of fistulous dental abscesses were recorded, all had substantially healed. A small deposit of woven new bone in a right tempero-manibular joint was noted in an individual with dental abscesses.

Chronic infection of the ear such as, *otitis externa* or acute *otitis media* may be responsible for changes to the right, and possibly left mastoid processes in a subadult male. The surfaces of the mastoid processes were sclerotic, finely porotic, pale and 'moth-eaten' in appearance, whilst a small patch of woven new bone was present above the right auditory meatus.

Finely porotic new bone deposits on the medial surfaces of the calcanea of a *Durotrigian* older adult female may have been caused by prolonged inflammation of the ligaments and tendons, for example *Flexor Hallucis Longus* syndrome, *Plantar Fascitis* or Tarsal Tunnel syndrome. These conditions often result from slight structural variations, particular activities and/or possibly obesity (Maffulli *et al.* 2005; Barrett and O'Malley 1999).

Table 6.10 Summary of extra-spinal lesions in adults no. (%)

Joint	*Durotrigian*		*Romano-British*		*Combined*	
	Joint count	*OA*	*Joint count*	*OA*	*Joint count*	*OA*
Costo-vertebral (ribs)	121	23 (19)	127	43 (34)	248	66 (26.6)
Sacro-iliac	10	-	12	2 (17)	22	2 (9.1)
Hand – meta-phalangeal	53	-	67	3 (4)	120	3 (2.5)
Hand – proximal IP	59	-	64	1 (2)	123	1 (0.8)
Hip – femur	13	1 (8)	21	3 (14)	34	4 (11.8)
Knee – medial	14	2 (14)	23	-	37	2 (5.4)
Foot – meta-phalangeal	58	-	64	12 (19)	122	12 (9.8)

Possibly associated with the spinal trauma reviewed above, a few patches of lamellar new bone were observed on the right lateral aspect of T11–T12 of probable male 5171 (Pl. 6.3). Less extensive deposits were also observed on the edges of the large, fusing osteophytes similarly located on T9 and T10. It is likely that the deposits resulted from soft tissue damage related to the event(s) that caused the spinal injuries.

Joint disease

Joint diseases represent the most commonly recorded conditions on archaeological skeletal assemblages. Similar lesions (osteophytes and other forms of new bone development and micro- and macro-pitting) may form in response to several different disease processes, whilst some occur as lone lesions largely reflective of age-related 'wear-and-tear'. Many conditions increase in frequency and severity with age, though other factors are often involved. The aetiology of some conditions is not entirely understood.

All or parts of one prehistoric, eight *Durotrigian* and 11 Romano-British spines of sexed individuals were recorded (Table 6.9) and a total of 114 prehistoric, 912 *Durotrigian* and 1048 Romano-British extra-spinal joints were observed (Table 6.10).

Schmorl's nodes result from intervertebral disc rupture, causing disruption of the vertebral body surface, and are usually the result of heavy loading of the spine (Rogers and Waldron 1995, 27; Roberts and Manchester 1997, 107). The damage commonly occurs in young adult spines, the resulting bone lesions often remaining into later life. A small Schmorl's node was recorded on the T9 of the prehistoric female (Table 6.2).

Five *Durotrigian* adult spines had Schmorl's nodes on 2–12 vertebrae (mean 7), whilst four Romano-British spines had lesions on 7–12 vertebrae (average 8). More females were affected and had the highest frequencies in the *Durotrigian* assemblage, however the assemblage is small and dominated by older females. In the Romano-British assemblage males were more frequently affected, although the female had the highest number of affected vertebrae. Combined, there is no notable difference in Schmorl's node occurrence between the sexes. In the *Durotrigian* examples Schmorl's nodes were most frequently observed in T8, whilst in the Romano-British assemblage it was T6, L2, and L3. No lesions were observed in vertebrae above T5.

The *Durotrigian* Schmorl's node rate is similar to that from Little Keep (19.5%; McKinley 2009a, table 5). Both are slightly above the average (17.7%) calculated for the Romano-British period by Roberts and Cox (2003, table 3.21), whilst the Romano-British rate is a little below. That being so, the combined rate is somewhat comparable to Robert's and Cox's average (*ibid.*).

Degenerative disc disease results from the breakdown of the intervertebral disc, and reflects age-related wear-and-tear (Rogers and Waldron 1995, 27). The condition is absent from the prehistoric assemblage.

Four *Durotrigian* spines have changes consistent with degenerative disc disease, affecting 2–11 vertebrae. All were female. Five Romano-British spines have 1–14 vertebrae with lesions. At least seven vertebrae were affected in the males with the condition. In the *Durotrigian* assemblage only one cervical vertebra (C6) is affected, the only position above T5 to be so; the most common location is L5 (16.7%). In the Romano-British sample, however, all positions below C5, including S1 had examples of lesions, with T10, L3 and L5 most frequently involved. Only females had degenerative disc disease lesions in the cervical vertebrae; they were also most affected in the lumbar region (50%). The most frequent region for lesions in males was the lower thoracic (38%). Proportionately more Romano-British male than female vertebrae had lesions (27% *vs* 10%; Table 6.9), whilst at Little Keep the reverse was true (15.7% *vs* 34.1%). A very different distribution pattern was seen in the 'tradesmen' of Little Keep, with cervical lesions counting the highest in the males and overall (McKinley 2009a, 27). The rates and distribution indicate major differences in activities causing excessive wear-and-tear of the intervertebral discs, both between the sexes in each

population, and between the two populations' lifestyles and occupations eg, rural *vs* urban. The age-related link to the extent of the condition is reinforced by the data; those with the highest frequency of vertebral lesions were *c.* 45 years or over.

Lesions indicative of osteoarthritis (Rogers and Waldron 1995, 43–44) were recorded in between two and 30 joints (spinal and extra-spinal) in four female *Durotrigian* individuals, and between one and 39 joints in the remains of six Romano-British individuals (three male, three female). No lesions were observed in the prehistoric assemblage (Tables 6.2, 6.9, 6.10) .

Spinal osteoarthritis (Table 6.9) was recorded in four *Durotrigian* female spines, affecting between two and 14 vertebrae. Two male and two female Romano-British spines had osteoarthritic lesions in between four and 11 vertebrae. The greatest frequencies were in an adult female and a male *c.* 45–55 years; the former had additional lesions in the left hip joint. As with degenerative disc disease, there is an age-related link to the extent of the condition, Overall the thoracic vertebrae were most commonly observed with the condition, with the T10 and T12 slightly more so in the Romano-British spines. Within the Romano-British male assemblage, each vertebral region displayed lesions in fairly equal proportions, whereas only the thoracic was affected in the females. More cervical and fewer lumbar vertebrae were involved in the *Durotrigian* (female) assemblage compared to the Romano-British.

The overall rate of spinal osteoarthritis in the Romano-British assemblage was comparable to that for Little Keep (15.6%, McKinley 2009a, table 5), whereas the *Durotrigian* rate was a little greater. Unfortunately most comparable data generally comprise less useful CPRs, the average calculated by Roberts and Cox (2003, tables 3.19 and 3.20) being 13%. The Poundbury Farm *Durotrigian* CPRs were considerably higher than average (40%), whilst the Romano-British was less so (20%). However, both are lower than the CPRs for Alington Avenue (43.1%; Waldron 2002, 153) and Little Keep (48.3%; McKinley 2009a, 28).

Following a similar pattern to that of degenerative disc disease, proportionately more Romano-British males than females had osteoarthritic lesions in the spine, whilst the reverse was true at Little Keep (11.0% *vs* 22.7%; *ibid.*).

As discussed above, there appears to be some variation in the activities between the sexes, and between the groups. The males at Poundbury Farm moved in a way that used most regions of the spine, whereas the Little Keep results indicate male activity caused greater wear-and-tear in the S1 joints. The females from Romano-British Poundbury Farm and Little Keep were comparably affected, both lacking the more generalised distribution shown in the *Durotrigian* female spines. As demonstrated at Poundbury Farm, a strong age-related link is indicated by the higher rates of spinal osteoarthritis from assemblages with a preponderance of older individuals (*ibid.*; Waldron 2002, 153).

Osteoarthritic lesions were observed in between one and 23 *Durotrigian* extra-spinal joints in three females, and between one and 35 Romano-British extra-spinal joints in three males (30%) and three females (37.5%) (Table 6.10).

Ribs were most frequently affected with 88.5% of *Durotrigian*, and 67.2% of Romano-British extra-spinal lesions occurring there (73.3% combined). All 23 *Durotrigian* rib lesions were observed in one female. The rates (Table 6.10) are substantially greater than the 9.8% of ribs from Little Keep (McKinley 2009a, table 6). Hip, pelvic, and toe joints accounted for 26.7% of the Romano-British osteoarthritic lesions. All Romano-British toe meta-phalangeal joints with osteoarthritic lesions were from males. By comparison, hip and knee lesions accounted for 11.5% of all *Durotrigian* lesions, Overall, 22.2% of lesions occurred in the lower limb. The condition was rarely observed in the upper limb, with only the fingers of a Romano-British female affected, and none within the *Durotrigian* assemblage (6.3% Romano-British lesions; 4.4% all lesions). There was little difference overall between the frequency of lesions on the left and right; only a few more left hips and only left fingers had the condition.

Again, further comparable data is generally limited to CPRs (Little Keep is an exception), with Roberts and Cox providing a CPR of 11.1% for extra-spinal joints for the period (2003, tables 3.19 and 3.20), the CPR for extra-spinal joint involvement at Poundbury Cemetery being 16.5% (Molleson 1993, table 51). As with spinal osteoarthritis, the Poundbury Farm *Durotrigian* CPRs were considerably higher than average (40%), as was the Romano-British (30%), yet these are lower than the rates for Alington Avenue (43.1%; Waldron 2002, 153) and Little Keep (69%; McKinley 2009a, 28, table 6).

The distribution and severity of arthritic changes in the extra-spinal joints of the Poundbury Farm population suggest that individuals were generally involved in activities that caused heavier wear-and-tear on the lower limbs, with most cases of osteoarthritis occurring there. The upper limb joints did, however, show early signs of deterioration ie, lone osteophytes and/or pitting in the shoulders, wrists and hands (Table 6.2). This general pattern contrasts with both the Poundbury Cemetery and Little Keep assemblages, where the lower limb was rarely affected by osteoarthritis, though some joint deterioration was observed (Molleson 1993, table 51; (11.2%) McKinley 2009a, 29, table 6)

Plate 6.4 Various skull base bones including skull base bones and mandible of foetus 12024b

Plate 6.5 Right ilium; ribs with striated new bone deposits – foetus 12024b

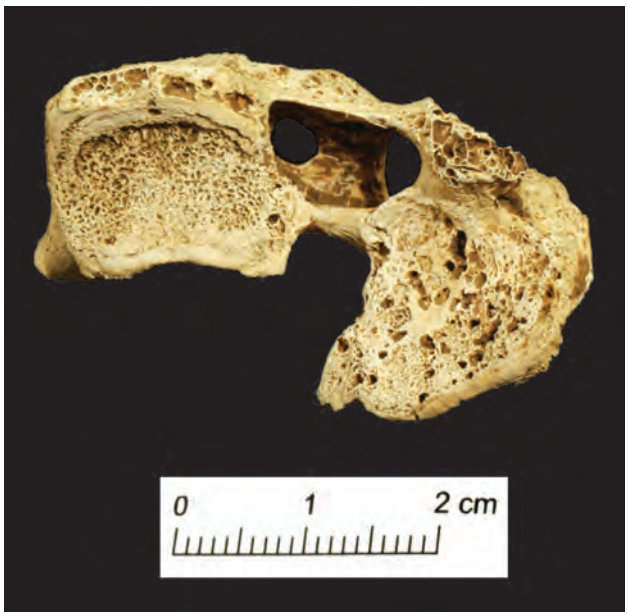

Plate 6.6 Cavity probably representing a soft tissue neoplasm in fourth cervical vertebra (inferior aspect) – adult female 4145

These joint degeneration patterns indicate that in general the Poundbury Farm community was participating in fairly heavy labouring tasks and walking and/or riding fair distances, as is necessary in an agricultural community. By comparison, the 'tradesmen' of Little Keep for example (McKinley 2009a, 48), appear to have been relatively sedentary members of an urban population, whose notably high rates of extra-spinal lesions may be a result of a greater degree of repetitive and more specialised activity.

Metabolic conditions

Cribra orbitalia (evident as pitting of the orbital roof) has been linked to iron deficiency anaemia as a result of malnutrition, chronic blood loss, parasitic infestation, or high pathogen load (Molleson 1993; Roberts and Manchester 1995, 166–9; Lewis and Roberts 1997, 583).

No lesions were observed in the prehistoric assemblage. Prevalence rates in the remainder (Table 6.11) were fairly high, affecting 11 individuals (six *Durotrigian*, five Romano-British) with a combined rate of 48.6% of all orbits. Lesions were porotic, predominantly bilateral and mild, though three of the *Durotrigian* cases were severe. Comparative data is largely in the form of CPRs. The Poundbury Cemetery assemblage displayed an overall CPR of 19.3%, also with a higher rate in the *Durotrigian* individuals (40%; Molleson 1993, 156). Roberts and Cox (2003, table 3.17) note an overall CPR of 9.6% for the period, though the two sites from their sample with TPR data indicate a rate closer to 17%.

In addition to a cribrotic lesion, the right orbit of a Romano-British infant (*c.* 3 years) contained lamellar new bone, indicating a localised infection or haemorrhage. In this location haemorrhages can be symptomatic of vitamin C deficiency (scurvy) (Ortner and Eriksen 1997, 212–20; Ortner *et al.* 1999, 321–31; Aufderheide and Rodriguez-Martin 1998, 310–13), although traumatic injury or infection should also be considered. No further evidence for deficiency was apparent.

A very well preserved Romano-British foetus (*c.* 36–38 weeks; *in utero*) was morphologically normal, with no bony proliferations or erosions, and no evidence for haemorrhage or fractures. The distribution of the new bone deposits reflects the normal growth pattern, though the texture and colour of the bone appears a little unusual. The most recent deposits are plaque-like. On the flat bones the deposits are thin with distinctly 'frayed' edges and an 'open' appearance, and on the short, irregular bones they are pale grey and porotic. The deposits on the shafts of the longbones are striated and only appear on one side. The striated external rib deposits were notable, being in a similar location to pitting seen in association with scurvy (M. Lewis, pers. comm.; Pls 6.4–5).

Lewis (pers. comm.) reports seeing many cases of extensive, non-specific periostitis in perinatal bones, including at least four cases from Poundbury Camp. However, she advises that at present, in cases like this only histological examination has the potential to distinguish pathological from normal growth. That being said, there are a number of possible causes that would appear as widespread periostitis including: birth trauma, child abuse, hypervitamintosis A and infantile cortical hyperostosis (Lewis and Roberts 1997). Other possible causes include rickets, scurvy,

Table 6.11 Rates of cribra orbitalia

	Durotrigian			*Romano-British*			
Orbits	*Affected/observable*	*Female*	*Male*	*Affected/observable*	*Female*	*Male*	*Unsexed*
Right	3/6	2/5	1/1	6/10	2/4	2/5	1/1
Left	5/7	4/6	1/1	4/10	2/4	2/5	0/1
Total	8/13 *(61.5%)*	6/11 *(55%)*	2/2 *(100%)*	10/20 *(50%)*	4/8 *(50%)*	4/10 *(40%)*	1/2 *(50%)*

Plate 6.7 a) Traumatic injury to right frontal; b) traumatic injury (blade) to left supra-orbital margin; c) lesion (probable soft tissue abnormality) – adult probable male 5171

and syphilis. The mother does not appear to have had any deficiencies or diseases, nor was there a twin to cause nutrient deficiency. In such a small sample it is not possible to make relevant comparisons with regards to pathology against typical growth patterns and how these manifest within a population. Indeed there is a general lack of research in this area, and the diagnosis must therefore remain undetermined.

Neoplastic growth

Neoplasms (new growths) represent the uncontrolled growth in soft and hard tissue cells, which remain evident after the stimulus has ceased. Benign neoplasms are more common, and are localised with their clinical significance limited to the size and location of the growth, and its impact on the surrounding structures (Roberts and Manchester 1997, 186–7).

A soft tissue tumour of the nervous system is likely to be responsible for the rounded, smooth walled lesion in the C4 of adult female 4145 (Pl. 6.6). The lesion intrudes into the left side of the body, exiting on the superior left body surface. Such a growth could cause adverse neurological effects in the left shoulder, though there are is no osteological evidence to support this.

A *c.* 2 mm diameter ivory osteoma (a smooth, convex projection of dense bone) was identified on

the left frontal of an adult Romano-British male. Such small, asymptomatic lesions are commonly recorded in archaeological skeletal collections.

Miscellaneous

A collection of nine small spherical and amorphous pieces of dense ossified tissue from the (disturbed) burial within the stone coffin were probably stones from the kidney or gall bladder. The production of new bone and calcification of cartilaginous tissue may be triggered by a variety of processes, including diseases or a predisposition to hyperostosis. In most cases, ageing is the dominant factor. Fragments of calcified thyroid and rib cartilage were recovered with a probable male *c.* 35–45 years old. This individual (5171) also had widespread enthesophytes, and an ivory osteoma (Table 6.2), perhaps suggesting a hyperostotic tendency.

Causative factors in enthesophyte formation (bony growth at tendon and ligament insertions) include advancing age, traumatic stress, and various diseases (Rogers and Waldron 1995, 24–5). It is not always possible to determine the aetiology of particular lesions. Almost all of the *Durotrigian* adults (87.5%) had some lesions affecting between one and eight sites. Nine (45%) of the Romano-British adults had between one and nine lesions; the males were more commonly affected. The most common site was the anterior surface of the patellae the calcanea (achilles attachment), the innominate crests and the femora. The two individuals with the most frequent lesion sites also had healed, severe fractures, factors which may cause compensatory muscle use, and consequent enthesophyte formation. The widespread presence of osteophyte formation in this assemblage may also indicate a natural higher predisposition to form bone. There is some correlation between age and the number of sites with enthesophytes, although this does not apply consistently.

Costo-clavicular ligament enthesopathies were evident as deep cortical defects in the clavicles of a young *Durotrigian* adult male, who also had enlarged conoid tuberosities and notably bowed radii shafts. Such changes would suggest repeated involvement in activity requiring excessive loading of the shoulders, upper chest and forearms. The clavicles of the female with humeral *osteochondritis dissecans* (see above), were notably bowed, and had changes consistent with persistent strong pulling of the sterno-clavicular ligaments. Other skeletal markers indicate that this female frequently participated in strenuous activity involving the shoulders, chest and spine (see above).

The distinct (bilateral) lateral twisting and bowing of the distal 5th metatarsals of a Romano-British female is a congenital deformity that creates a widened forefoot with a distinct lateral prominence at the base of the fifth toe. The abnormality is often associated with splayfoot (ie, loss of the transverse arch), and may lead to bunionettes or 'tailor's bunions' if pressured by footwear or seating position, for example cross-legged (Brown and Cullen 2009).

Most of the lesions described as cysts (Table 6.2) represent 'pseudo-erosions' or solitary bone cysts, believed to be asymptomatic and not the result of a specific disease process (Rogers and Waldron 1995, 61–3).

There was a well-defined *c.* 2.5 mm diameter, smooth walled lesion inside the left orbit of an individual who, incidentally, had received a traumatic injury to the left supra-orbital ridge (see above; Pl. 6.7). There are many possible causes of such a lesion within the orbit, including haemangioma, various vascular malformations or lesions, cysts or neoplasms. Some are congenital or developmental while others may be spontaneous or caused by viral infection (Smoker *et al.* 2008, 185). A similar lesion was identified within the nasal cavity of an elderly male from Little Keep (McKinley 2009a, 31).

Chapter 7
Environmental Evidence

Animal Bones

by Jessica M. Grimm

Methods

Selected assemblages were analysed from Neolithic, Middle and Late Bronze Age, and Roman features. Finer chronology has not been attempted as the animal bone assemblages are too small for meaningful results to be produced. Only the Roman assemblage is large enough for detailed comparisons to be made. No distinction has been made between hand recovered and sieved materials.

For each animal bone fragment, the following characteristics were recorded where applicable: species, bone element and side, fusion, mandible wear stages (following Grant 1982), sex, and measurements (following von den Driesch 1976). The positions of butchery marks were recorded according to the pictorial system of Lauwerier (1988). To establish the degree of burning the data published by Wahl (1981) was used. Evidence for gnawing and condition (on a scale of 1–5) were recorded. The zone system of Serjeantson (1996) was used to record completeness. The data published by Prummel and Frisch (1986) were used to distinguish sheep and goat. To identify foetal bones of the domesticates the atlas published by Prummel (1987) was used. Withers heights were calculated using von den Driesch and Boessneck (1974, cattle), Matolcsi (1970, cattle), May (1985, horse), Teichert (1975, sheep), and Harcourt (1974, dogs) and ages estimated using Habermehl (1975) and Jones (2006).

Conjoining fragments were counted as one bone in order to minimise distortion. Whenever possible, bones were pieced together to take measurements. Fragments that could not be identified to species or family were recorded as small, medium or large mammal, bird or amphibian. Full details of each bone may be found in the site archive.

Results

Neolithic Assemblage

All the Neolithic material comes from pits in Area 3 and is characterised by a high degree of fragmentation. The fragments have an eroded surface which probably masks modification marks such as butchery and gnawing. The only evidence for canid gnawing was found on the diaphysis of a cattle humerus. The proportion of loose teeth is probably the result of preservation and some reworking. Many of the teeth found in the Neolithic assemblage consisted of little more than loose enamel flakes with the dentine having been completely weathered away. The assemblage is probably biased towards burnt fragments (mainly scorched) as burnt bone is more resilient to adverse soil conditions. Among the scorched fragments are a cattle femur, a pig humerus, and a piece of antler.

Species present in the Neolithic assemblage include cattle (NISP 22), sheep/goat (23), sheep (2), goat (*Capra hircus*, 1), pig (3), roe deer (*Capreolus capreolus*) antler and post-cranial bones (6), and deer antler fragments (8). Most of the deer remains were found in pit 3009. Among them were a shed antler and right metatarsus of roe deer. More roe deer antler was found in pit 3047.

Middle and Late Bronze Age

The Middle–Late Bronze Age material comes from pits in Areas 1–2. The preservation of the material is fair and modification marks were visible. The high proportion of gnawed bone and loose teeth, as well as the higher average weight of the fragments, seem to indicate that the material was deposited in the pits after having been accessible to dogs. Canid gnawing was evident on the bones of horse, cattle, sheep/goat, and pig. The high proportion of burnt bones consists of small mammal fragments which are either scorched or completely calcined, from pit 5100. Bone does not discolour when meat is cooked or roasted, the discoloured fragments being the result of throwing bones deliberately into the fire. This might indicate the practice of waste burning or the use of bone as additional fuel.

The Middle and Late Bronze Age assemblage contains the remains of cattle (NISP 31), *cf.* crane (*Grus grus*, 1), dog (2), horse (6), pig (6), sheep (3), sheep/goat (62), and *cf.* wild boar (*Sus scrofa*, 1). The presence of foetal/neonate cattle and sheep/goat bones indicates that animals were kept near the site. A right tibiotarsus shaft fragment probably belonged to a juvenile crane.

*Table 7.1 Romano-British assemblages: species list according to NISP, Bone Weight and minimum Number of Individuals (*partial skeletons)*

Species	NISP		BW		MNI	
	n	%	*g*	%	*n*	%
Cattle (*Bos taurus*)	257	4.8	9.340	41.0	6	8.7
Horse (*Equus caballus*)	48	0.9	2.802	12.3	2	2.9
Sheep (*Ovis aries*)	821*	15.3	2.344	10.3	46	65.8
Sheep/Goat (*Ovis/Capra*)	2673*	49.7	6.671	29.3		
Pig (*Sus domesticus*)	11	0.2	74	0.3	1	1.4
Dog (*Canis familiaris*)	71*	1.3	386	1.7	3	4.3
Fox (*Vulpes vulpes*)	1	0.0	1	0.0	1	1.4
Dog/Fox	3	0.1	5	0.0	-	-
Red deer (*Cervus elaphus*)	2	0.0	86	0.4	1	1.4
cf. Weasel (*Mustela nivalis*)	1	0.0	0	0.0	1	1.4
Vole (Arvicolinae)	1	0.0	0	0.0	1	1.4
Birds						
Carrion crow/rook (*Corvus corone/frugilegus*)	1	0.0	1	0.0	1	1.4
Domestic fowl (*Gallus gallus* dom.)	101*	1.9	54	0.2	5	7.1
Raven (*Corvus corax*)	9*	0.2	14	0.1	1	1.4
cf. Wigeon (*Anas Penelope*)	1	0.0	3	0.0	1	1.4
Classes						
Anuran	50	0.9	4	0.0	-	-
Bird	1	0.0	0	0.0	-	-
Large mammal	303	5.6	667	2.9	-	-
Medium mammal	1023	19.0	323	1.4	-	-
Small mammal	1	0.0	0	0.0	-	-
Total	5379	100.0	22.775	100.0	70	100.0

Roman assemblage

Taphonomy

The preservation of the Roman assemblage is mainly fair with a few contexts in good condition. The material comes from a wide variety of features in Areas 4–5 including graves, structures, pits, and ditches. Most of the material seems to come from primary deposits, as the proportions of loose teeth and gnawed bone are relatively low. Canid gnawing was seen on the bones of horse, cattle, and sheep/goat. The assemblages is quite fragmented and the burning of bone incidental. The burnt fragments are mainly classified as mammal and are either scorched or calcined.

Faunal lists

The many (partial) skeletons of sheep/goat, dog, domestic fowl, and raven identified in the Roman assemblage make the quantification of species proportions difficult (Table 7.1). Taking the evidence of the NISP, BW, and MNI together, it seems that sheep/goat were probably the most numerous animals kept, whereas beef and mutton were probably equally important in the diet. Pig, horse, and domestic fowl were the other domestic animals kept. Pork was probably only occasionally consumed but domestic fowl probably played an important role in the diet. This is consistent with other assemblages from the Dorchester area, such as those from Greyhound Yard (Maltby 1993), County Hall/Colliton Park (Hamilton-Dyer 1993), and County Hospital (Grimm 2008), and other urban sites in Wessex where its remains provide over half the bird bones found by the 1st–2nd centuries AD (Coy 1989, 29).

Among the wild animals in the Roman assemblage are fox, ?weasel, vole, crow, raven, ?wigeon, and frog/toad. All of these are likely to belong to the background fauna, the corvids, for example, might have been attracted by human food remains. However, fox and weasel might have been hunted for their fur or killed in order to protect the domestic fowl and their eggs. Fowling might be indicated by the presence of crow, raven, and wigeon, as although corvids are no longer eaten they were in the past. Some pits acted as traps for frogs and toads explaining the numbers of anuran bones.

The presence of weasel and raven might also have a ritual background as they are often found in Roman contexts. The ritual shaft at Springhead, Kent, for instance contained the complete skeleton of a raven as well as the cranium of a weasel, and another raven skeleton was found in the sealing layer of the road leading from the waterfront to the sanctuary (Grimm forthcoming). Corvids are often associated with death and black magic and they play an important part in mythology and legends. For instance, the Roman goddess Juno, associated with women, marriage, and birth (Fink 1999, 155), is often depicted with a raven. Schuster (2001, 644–5) records that weasels were seen as demonic and an encounter with a weasel was

often interpreted as a bad sign. The Romans thought that weasels were poisonous and the natural enemies of snakes (Plinius, Book VIII).

Representation of different anatomical elements

The analysis of the representation of different anatomical elements shows very different patterns for horse, cattle, sheep/goat, and pig. Almost all skeletal elements are present, indicating that at least some on-site slaughtering of all four species took place. The cattle and sheep/goat assemblages are large enough for a more detailed analysis. The pattern for cattle clearly indicates the presence of prime meat cuts represented by scapula, humerus, pelvis, and femur. Although they are more sturdy elements, the radius and tibia are less well represented and this is probably related to their lower meat yield. Equally sparse are most elements of the feet (carpals/tarsals, metacarpus, and phalanges). Mandibles are, as always, well represented. This bias probably has taphonomic factors as the mandible is relatively resilient and generally survives the butchery process in one piece. Summarising the pattern for cattle, it seems that normal butchery waste is here enriched by kitchen refuse.

In establishing the distribution pattern for sheep/goat, the material from contexts 5075, 5138, 5161, 5307, and 5332 was not included as the presence of ABGs would skew the results. The remaining assemblage shows a pattern which is quite characteristic for this small ruminant. Sturdy elements like the mandible, proximal radius, metacarpus, distal tibia, and metatarsus dominate the assemblage. Elements of the meat-rich parts of the skeleton, like humerus and femur, are also well represented. The sheep/goat assemblage thus represents a mixture of butchery and kitchen refuse.

Age analysis

Five cattle mandibles could be aged and they belonged to cattle much older than 3 years of age. Wear stages of the 3rd molar according were: H, J, J, K, and M. Cattle epiphysial fusion data are in line with these results. The dominance of older cattle indicates the use of secondary products like milk and traction, with meat production of lesser importance. Cattle at the end of their useful lives were slaughtered for consumption.

The only ageable pig maxilla belonged to an animal of *c.* 24 months. The two ageable post-cranial pig bones indicate subadult animals. Since pigs are only used for meat production the find of subadult animals is no surprise.

The numerous sheep/goat mandibles were aged and the results can be seen in Figure 7.1. The results show a preference for the consumption of the meat of subadult animals aged 6–10 months (C5) and 8–13 months (C6+). A third of all mandibles belonged to

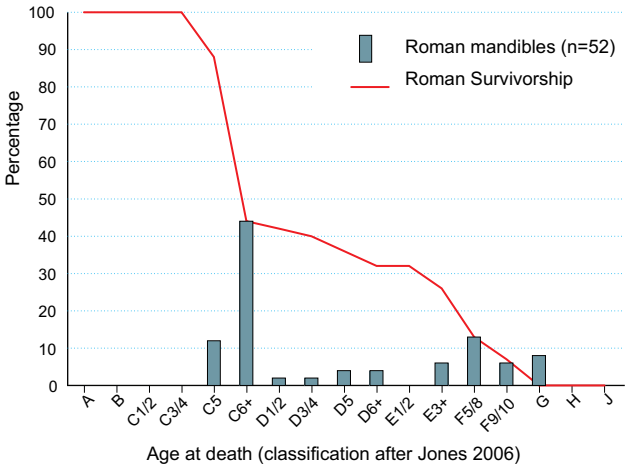

Figure 7.1 Classification of the sheep maxillae and mandibles per assemblage

adult animals (from E3+ onwards). This figure might be biased as the bones of juvenile animals are less resilient. The presence of foetal/neonate bones (see below), however, shows that this bias is only slight. If we assume that most lambs were born in March and April, the C5 and C6+ group were killed between September and May the following year. This slaughtering regime could thus provide meat during autumn, winter, and spring.

Transforming the epiphyseal age data according to the method devised by Uerpmann (1972, 16) shows the results to be consistent with the age analysis based on the jaws. Over half of the lambs died in their first 7–10 months. This suggests autumn/winter slaughter.

The combined data show that the remains derive mainly from two age groups: a large group of animals killed in their first year and a smaller group who are killed after their second year. This means that the majority of the meat came from older lambs or animals at the end of their useful lives. All animals thus derive from a mixed husbandry strategy where meat production competed with the production of secondary products like milk, wool, and manure.

Foetal bones were present for cattle (n=1) and sheep/goat (n=5). Two of the foetal sheep/goat bones could be aged according to the data provided by Habermehl (1975, 114). The total length of a right humerus of 68 mm, and of a left metacarpus of 83 mm, indicate foetuses of 136–145 days after conception. Since birth takes place around 145 days, these bones represent stillborn animals. According to Reichstein (1994, 448) the presence of foetus/neonate bones is an indicator for animal keeping on the spot as the meat of these animals is normally not eaten, but discarded. Foetal remains could be included in the assemblage when animals with young are slaughtered or when the mother animal dies during birth.

Other animals for which age-at-death data is available are dog and horse. The dog in the late Roman ditch 4415 was skeletally fully mature and its very worn teeth indicate an old animal. No unfused horse bones were found. Most horse teeth were too fragmented for crown height to be used in reconstructing age at death. No young horses were present in the Poundbury settlement excavation either (Buckland-Wright 1987, Mf4: D12); so horse breeding was probably not undertaken in the area.

Sex

Based on the morphology of the pelvis, two cows, a stallion, two ewes, and a ram could be identified. Large canines in the maxilla of a horse skull also indicated a stallion. Heavy horns on a sheep skull indicated another ram. The spur on a tarsometatarsus indicated a rooster. Overall numbers are too small to analyse the sex proportions within the different species.

Breed

The cattle seem to belong to the typical Iron Age short-horned type. A complete humerus in context 13099 provided a height at the withers of *c.* 1.30 m. A similarly large animal was present at the A37 Western Link Road site (Reilly 1997, 272). The sheep breed around Poundbury was clearly horned as ten skulls were found with (traces of) horn cores. No evidence for naturally polled animals was found. On average, the sheep from Poundbury Farm had a height at the withers of *c.* 0. 59 m (range: 0.54–0.62 m; n=13). This is very similar to the sheep recorded at A37 Western Link Road (Reilly 1997, 272). A horse radius and a horse metacarpus provided withers heights of 1.26 m and 1.44 m and the dog skeleton in the late Roman ditch 4415 of *c.* 0.56 m.

Pathologies and anomalies

Although not many bones show pathological changes this does not mean that the animals were healthy. As the surrounding soft tissues and cartilage where the lesions possibly originated have disappeared; only the reaction of the bone to an illness can be analysed.

Most pathology in the sheep occurred in the jaws. Siegel (1976, 361) also noted this for 18 British sites ranging from Neolithic to medieval times. Calculus was seen on 23 out of a possible 54 mandibles. Of these, six had a metallic bronze and one a metallic silver appearance. A left mandibula in context 13058 shows a lump below the erupting P4. An X-ray showed that the 'lump' contains the roots of this P4. A pair of mandibulae in context 5307 showed in the left mandible an irregular 2nd molar. This particular 2nd molar had an extra cusp on the lingual side between the two regular cusps. Other pathology occurring in the sheep/goat assemblage includes an incomplete fracture of *Tuber ischiadium* of the left pelvis. A smooth callus had formed on the caudal side. The bone belonged to a complete lamb skeleton in context 5168. A right metatarsus in context 5307 showed smooth new bone formation (23.0 x 13.9 mm) just below the articulation on the medial side of the shaft. In the middle of this formation, a smooth rimmed hole (cyst) had formed (8.0 x 5.0 mm).

Two right cattle acetabuli in context 4142 showed bridging between the *Pars lunata minor* and *Pars lunata major*. In one case, the bridging was so severe, that a completely closed socket had formed. Bridging in the acetabulum might be a result of advanced age and/or stress. It is possible that these animals were used as beasts of burden. A left mandibula in context 4268 displays a case of periodontal disease with the formation of a patch of new bone around the alveolus of P4 on the buccal side. Several bones of the dog skeleton in the late Roman ditch 4415 showed signs of pathology, which are described below.

The presence of an extra foramen below the premolar row on the buccal side is a common anomaly in sheep (Halstead *et al.* 2002, 549). The anomaly was present on 29 out of a possible 50 mandibles. Of these 29, 55% occurrances were below the P2, 35% below P2/P3, and 10% below P3. One out of a possible five cattle lower 3rd molars had an absent 3rd pillar.

Butchery marks

The accumulation of cut- and chop-marks on particular skeletal elements provide evidence for butchery practices (see for instance Uerpmann 1977; Binford 1981; Ewersen 2004), as some marks occur during skinning and partitioning of the carcass, others relate to food preparation.

The butchery marks left on the cattle bones were caused by knives and cleavers. The practices of disarticulation, portioning, filleting, and the utilisation of marrow are attested. However, most marks derive from filleting the meat off the bone. The part use of cleavers for this task is a typical Roman butchery signature. Marks deriving from disarticulation were seen on the mandibula, thoracal vertebra, costa, pelvis, femur, and calcaneus. Portioning marks were visible on costa and pelvis. Filleting was evident for costa, scapula, humerus, pelvis, and femur. A split femur shaft attested the possible utilisation of marrow.

In the sheep/goat assemblage the butchery marks were mainly caused by knives and involved disarticulation, portioning, filleting, and the utilisation of marrow. Marks related to disarticulation were seen on the cranium and a metacarpus. Portioning of the carcass was attested by a vertically split cervical vertebra and a chopped humerus. Filleting marks were visible on costa, scapula, humerus, and radius. A split tibia shaft might attest marrow utilisation.

Butchery marks were also seen on a horse pelvis (disarticulation with a cleaver and filleting with a knife) and two horse tibiae (filleting with a knife). The meat of horses was thus occasionally used. Filleting marks caused by a knife were further seen on a pig pelvis and femur. Cut marks were also identified on the articulation of a scapula of domestic fowl.

Special deposits in the Romano-British Period

Graves

Animal bone was recovered from the following graves: 4005, 4036, 4119, 4304, 4317, 5064, 5079, 5169, and 12022 which contained a range of identified bones including horse, cattle, sheep/goat, pig, dog/fox, domestic fowl, and toad/frogs.

Many of the animal bone fragments were probably incorporated into the grave when it was dug. This is probably true for the material found in the stone coffin (4005). However, the articulated front leg of a lamb in grave 5064 (male aged *c.* 20–30), the rooster in grave 5079 (juvenile aged *c.* 8–11), the domestic fowl placed under the pelvis in 5169 (?male aged *c.* 35–45), and a sheep's skull placed to the left of the corpse in grave 4094 (infant *c.* 3 years old) are almost certainly grave goods. As sheep are commonly born in March and April, it is possible that the burial of the individual in grave 5064 took place at the end of summer or early autumn.

A small quantity of burnt chicken bone was recovered from the late Romano-British urned cremation burial (5156) and probably results from a carcass or partial carcass being placed on the pyre (see McKinley, Chapter 6).

Pits

Four pits 5075 and 5161 (associated with 5090), 5307, and 5332, as well as gully 5138 in Area 5 contained the semi-articulated remains of sheep. Due to restrictions in the field, none of these was recorded in any great detail. Comparative material is known from the A37 Western Link Road (Reilly 1997, 270).

Pit 5075 contained three complete sheep skeletons which were recorded as 14 ABGs. The pit was small and the animals seem to have been packed into it. This is probably why no complete articulated skeletons were observed in the field. It seems that all three animals were laid in roughly the same position overlaying each other as indicated by the heads which were all to the south-east. The skeletons were reassembled based on anatomy and location in the pit. It was impossible to attribute the fragmented skulls, vertebrae, and costae as well as most phalanges to any one of the skeletons. Sheep 1 was probably a ewe aged 8–13 months according to tooth development. The right radius showed a cut mark on the shaft, which might be indicative of filleting. Sheep 2 and 3 were also aged 8–13 months. The incomplete fragmented cranium recorded as ABG 5870 shows a chop on the condyles from the back of the head towards the throat, showing that it had been decapitated.

According to the mandibles in pit 5161, at least six animals were present: three of 6–10 months, two 8–13 months, and one 3.5–6 years old. In addition, this pit also contained the humerus of a stillborn animal (see above). The minimum number of elements seems to be in accordance with a minimum number of seven animals. The under-representation of the hyoid, patella, calcaneus, talus, and the phalanges can be explained by their small size. In addition, the atlas, epistropheus, and sacrum segments are relatively fragile. The over-representation of the metacarpus might be accidental due to overlap in zonation. Again, evidence for the slaughter of the animals can be found on the bones of the cranium and the first vertebrae. The back of the cranium fragment recorded as ABG 5911 shows cut marks on the condyles, which stem from decapitation. An atlas shows horizontal cut marks above the *Tuberculum ventrale*, which correspond to the cutting of the throat.

Pit 5307 contained, according to the mandibles, at least ten animals: one 1–4 months, six 8–13 months, one 13–22 months, one 14–27 months, and one 2.5–4.5 years. However, element representation does not agree with this. It seems likely that instead of, or alongside, complete animals, partial skeletons were buried in this pit. Heads, hind legs, and feet were frequently deposited. Again, cut marks on the cranium and first vertebrae indicate how these animals were killed. Cut marks were visible on the condyles of two fragmented crania. An atlas had deep horizontal cut marks around the *foramen transversarium*. Two other atlases showed horizontal cut marks on the *tuberculum ventrale* resulting from cutting the throat. Another atlas showed a slanting cut just above one of the *Fovea articularis caudalis* evidence for disarticulation/decapitation between the atlas and epistropheus. Another atlas showed horizontal cuts around the *tuberculum dorsalis*, which are also likely the result of decapitation between atlas and epistropheus. An epistropheus showed horizontal cut marks slightly above the middle of the *arcus dorsalis*, which probably result from cutting the throat of the animal. Apart from the sheep/goat assemblage, the pit contained a few cattle bones: two large scapula fragments, teeth and a first and second phalanx.

The sheep assemblage in pit 5332 is quite fragmented and no ageable mandibles were found. The pit seems to have contained the remains of two lambs. A proximal radius was fused but all phalanges were unfused, so it seems that the lambs were only a few months old.

Gully 5138 contained at least one older lamb aged 8–13 months according to its mandibles. The MNE of the elements shows that the remains of up to a possible of three animals were present. A left calcaneus of cattle was also present.

Dog skeleton

The near complete skeleton of a dog was found in the early fill of late Roman enclosure ditch. Unfortunately, the skeleton was not recognised as such in the field and not recorded in detail. However, the presence of only one other bone fragment, a cattle scapula, indicates that this was indeed a placed deposit.

Bone preservation was fair to good. Elements missing include right scapula, left radius, left ulna, the pelvis, most metapodials, carpals/tarsals, and phalanges. These smaller elements are easily overlooked when no samples are taken. Since the skeleton was not recognised as such, it is possible that the larger missing elements were left in the field as the undug half of the feature. Another explanation might be that the dog was placed on the right side, causing less favourable burial circumstances for the left side.

The dog was skeletally fully mature and its very worn teeth indicate and old animal. Its height at the withers would have been *c.* 0.56 m. Two of its ribs showed signs of a fracture. Both were broken in the same place and came from roughly the same area in the ribcage. Although the fracture area is badly preserved, it seems that fake articulations have formed instead of a fully healed break. This is often the case, as the ribs do not get time to heal properly due to the constant movement due to breathing. A thoracal vertebra shows osteaphytes around both articulations. This pathology is likely a result of old age and fits nicely with the very worn teeth which also indicate old age. The dog's left humerus has an expanded shaft (30 x 12 mm) just below middle on the medial side. No change in the appearance of the bone surface is visible. The enlargement might derive from a very well healed fracture. Its right humerus shows a large patch (16 x 12 mm) of new bone formation on the lateral side of the distal end (joint surface not affected). An inflammation of the soft tissue is a possible cause. The right second metatarsal shows exostoses on the medial and lateral side of the distal epiphysis. The sagittal crest had completely worn away. Again, this pathology probably attests to the age of the dog.

Raven skeleton

Feature 13096 contained the left coracoid, left scapula, both humeri, the pelvis, right femur, and both tibiotarsi of a raven, possibly representing a complete raven. Other identified bones from the feature include: cattle cranium, humerus and metacarpus fragments, a horse maxillary molar, and sheep/goat mandibula and humerus fragments.

Summary and synthesis

Species proportions

Since the area around Roman Dorchester would have been open pasture and arable fields with no natural wood left (Allen 1997, 281–3), reliance on sheep farming with small proportions of cattle and pig seems logical. Additionally, the Poundbury area offers well-drained chalklands that would have been free of liver fluke (Buckland-Wright 1987, Mf4: D10). Sheep are highly susceptible to liver fluke disease which will, untreated, result in poor condition and possibly death (Behrens 1962, 137–42). The potentially exhausted soils that had formed by the end of the Late Iron Age due to intensive farming and grazing further advocate the keeping of sheep (Bullock and Allen 1997, 198).

As the Dorchester area has seen a number of archaeological investigations the dichotomy between town and rural countryside can be addressed. If we compare species proportions (NISP values excluding ABGs) for several major excavations in the Dorchester area we see low pig proportions for all sites apart from Greyhound Yard (Maltby 1993) in the centre of the town (Fig. 7.2). Unfortunately, excluding the ABGs was not possible for the Iron Age and early Roman phases of the Poundbury Settlement excavation as separate bone counts were not published for the ABGs (Buckland-Wright 1987). This results in too high sheep proportions for both periods. However, a very high proportion of sheep was seen for the early Roman County Hall assemblage (Hamilton-Dyer 1993) on the outskirts of *Durnovaria*.

Roughly equal proportions of cattle and sheep supplemented by a low proportion of pig can be seen for a number of sites: A37 Western Link Road (Bullock and Allen 1997), Alington Avenue (Maltby 2002), late Roman County Hall (Hamilton-Dyer 1993), late Roman Poundbury settlement (Buckland-Wright 1987), middle Roman County Hospital (Grimm 2008), and the present Poundbury Farm site. A high cattle proportion with roughly equal proportions of sheep and pig can be seen for the post-Romano-British period at Greyhound Yard. Thus a broad chronological trend can be seen regarding species proportions with high sheep proportions and low cattle and pig proportions in the early Romano-British period. Subsequently, cattle proportions increased more strongly than pig proportions during the Romano-British period. As cattle and pig produce more meat than sheep or goat, their increase indicates a higher meat demand. Since all sites are either located in or around *Durnovaria*, it is likely that the developing town demanded this increase in meat production.

Traditionally, the proportion of pigs in Roman assemblages has been seen as an indicator of Romanisation (King 1991). With this in mind,

Buckland-Wright (1987, Mf4: D13) notes that there are no changes between the Late Iron Age A and the early Romano-British period in the Poundbury Settlement. However, the proportion of pig increases from the early to the late Romano-British period and this is explained by a demand for pork from *Durnovaria*. The analysis of several assemblages from within *Durnovaria* (County Hall/Colliton Park, Greyhound Yard, and County Hospital) has shown that the proportion of pig declined the further the site lay from the town centre. The County Hall/Colliton Park site on the outskirts of *Durnovaria* in particular had a more rural character and its inhabitants were probably less influenced by Roman eating habits (Hamilton-Dyer 1993, 81). Contrary to Buckland-Wright, this led Maltby (1993, 325) to conclude that pig breeding did not have a tradition in this area and that the inhabitants of the town relied on in-town pig breeding or obtained their pork from much further a field.

Husbandry strategies

Cattle husbandry around Dorchester was focused on the production of secondary products like milk, manure, and traction. Age analysis of the assemblages from Greyhound Yard (Maltby 1993, 320), Alington Avenue (Maltby 2002, 115), and Poundbury Settlement (Buckland-Wright 1987, Mf4: D9 and this report) showed that most cattle were (much) older than 3 years at time of death. Meat production was clearly not the priority. Although some contexts of the Greyhound Yard site showed a higher proportion of calves (Maltby 1993, 320) the town did not, or could not, demand prime meat.

Sheep husbandry in the Dorchester area clearly differed between sites. Where the Poundbury Farm assemblage balanced meat production with the production of secondary products, the assemblages from early Roman Greyhound Yard (Maltby 1993, 323), the Dorchester By-pass (Bullock and Allen 1997, 197), and the A37 Western Link Road (Reilly 1997, 273) indicate that the sheep were probably kept as a meat stock. In contrast, the late Roman assemblages from Greyhound Yard (Maltby 1993, 323) and the Poundbury Settlement assemblage suggest more emphasis on wool and milk production due to a high proportion of adults (Buckland-Wright 1987, Mf4:B12).

Sheep biometrics

With regard to the phenotype of the Roman sheep from the Dorchester area, Bullock and Allen (1997, 198) have stated that the exhausted soils that had formed by the end of the late Iron Age probably resulted in poor nutrition and thus smaller sheep. In order to examine this hypothesis a biometric study was carried out involving Late Iron Age and Romano-British assemblages from the Dorchester area and

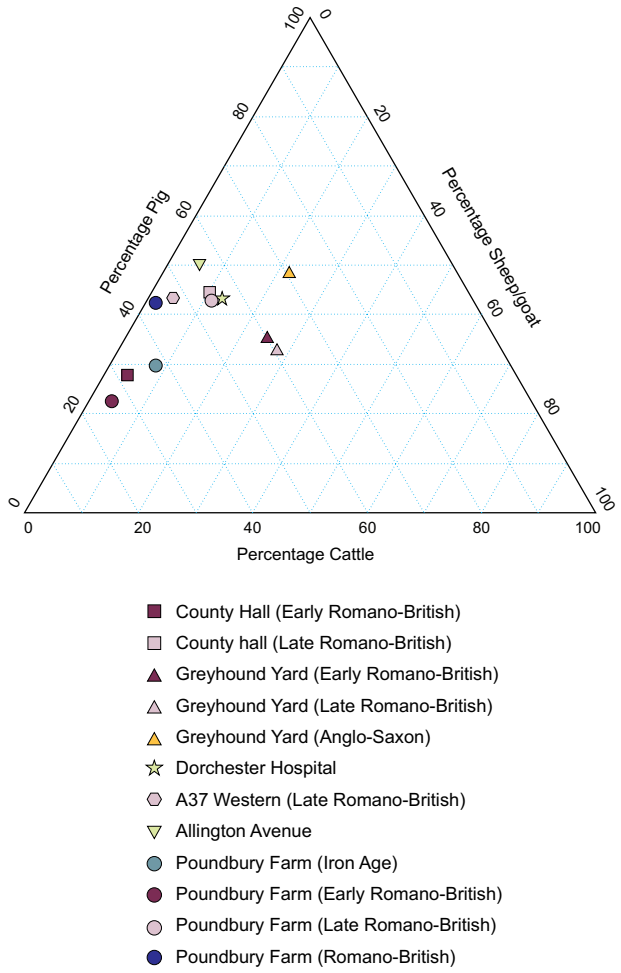

Figure 7.2 Cattle, sheep/goat and pig proportions for Iron Age and (post) Roman sites in the Dorchester area

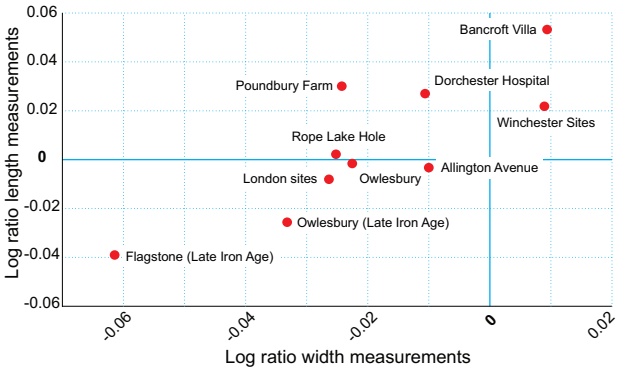

Figure 7.3 Log ratio mean values for length and width measurements for selected Late Iron Age and Roman sites

beyond. The logarithm of the ratio between a measurement and its standard was calculated (see Davis 1996 for a full description and zoorchaeological application of the method). In order to overcome the small sample size all length and width measurements were pooled together since Davis (1996, 611) was able to show that measurements taken along the same axis (length, medio-lateral width, and

Table 7.2 Selected special deposits from the Dorchester area

Site	*Context details*	*Animal bones*	*Reference*
St Georges Road	Pit 01079	Paired limbs juvenile sheep	Bullock & Allen 1997, 190
Flagstones	Pit 00018	ABGs inc. remains juvenile & neonatal sheep; at least 3 adult dogs	Bullock & Allen 1997, 192–3
	Pit 00019	Hind limbs juvenile sheep/goat, partial skeleton juvenile sheep, near-complete skeleton ewe (butchered), puppy & cattle bones	
Maiden Castle Road	Pit 02387	Sheep forelimb, butchered sheep l. hind limb, pair butchered cattle hind limbs, juvenile dog head & pigeon skeleton	Bullock & Allen 1997, 194
A37 Western link	SFB 420	Sizeable dump sheep/goat carcasses, different ages, no butchery but gnawing seen. Skeletons deposited together or over short period	Reilly 1997, 270–3
	Ditch/gully complex (418–420, 422, mid- RB)	3 partial sheep skeletons & other bone waste	
	Pit 579 (LRB)	8 partial skeletons inc. 7 mostly immature sheep (2 butchered)	
	Cistern 360	2 partial sheep skeletons, 3 dog skeletons	
	Post-hole 790	3 partial sheep skeletons	
County Hall, Dorchester	Pit 523 (pre-4th century)	remains of at least 5 sheep, some butchered	Hamilton-Dyer 1993, 78
Poundbury settlement (IA features)	Pit E512	2 neonate sheep/goat skeletons	Buckland-Wright 1987, Mf4: A14
	Pit E551	4 sheep/goat neonates, 1 foetus	
	Pit E876	2 x 6 mth old sheep & 1 goat skeletons	
	Pit E563	2 yr old sheep/goat skeleton	
Poundbury settlement (ERB features)	Pit D339	3 partial sheep/goat skeletons (1 foetal/neonate, 2 x 18–24 mth old)	Buckland-Wright 1987, Mf4: B7
	Pit D607	7 sheep/goat skeletons (knife cuts on axis & atlas, aged 9–12 to 18–24 mnths	
	Pit D274	1 complete & 1 partial neonate/foetal skeletons sheep/goat	
Poundbury settlement (LRB feature)	Pit G1135	complete goat skeleton	Buckland-Wright 1987, Mf4: C7
Alington Avenue	Pits 1789 & 2175, building 459	3 butchered semi-articulated sheep skeletons	Maltby 2002, 112–3

antero-posterior depth) are strongly correlated. The standard used in this biometric study comprises of the measurements of a flock of unimproved Shetland sheep as published by Davis (1996).

The mean logratio values for length and width were plotted against each other in order to characterise the sheep assemblage from a particular site (Fig. 7.3). It shows that the sheep from both Late Iron Age assemblages, as well as from selected Roman sites in London (for references see ABMAP http://ads.ahds.ac.uk/catalogue/specColl/abmap/search.cfm?CFID=1939926&CFTOKEN=64372150) were on average smaller than the standard Shetland flock used for comparison. In contrast, the Roman sheep assemblages from the Winchester sites (Maltby 1987a; 2010) and Bancroft villa, Buckinghamshire (Levitan 1990) were on average larger than the Shetland flock. The Roman sheep from Alington Avenue (Maltby 1988), Owlesbury, Hampshire (Maltby 1987b) and Rope Lake Hole, Dorset (Coy 1987) were of similar height as the Shetland flock, but had a more slender appearance. Equally slender were the Romano-British sheep from Poundbury Farm and the County Hospital (Grimm 2008). But as these sheep were on average larger than the standard Shetland flock, they probably produced more wool and meat. The biometric study has shown that the soil exhaustion at the end of the Late Iron Age did not lead to poorer health in the flocks in the Dorchester area. On the contrary it is likely that improved breeds or a change in animal management by the Romans improved the sheep breeds in the Dorchester area.

Table 7.3 A summary of animal bone grave goods in Late Iron Age/Roman inhumation graves from the Dorchester area

Site	*Period*	*Grave*	*Sex*	*Age (months)*	*Animal*
Maiden Castle Road (n=22)[1]	RB	02202	m	35–40	immature chicken
			?f	25–35	
		02230	f	17–25	skull, mandibles, atlas & axis juvenile sheep
		02367	m	adult	lower forelimbs juvenile sheep
A37 Western Link Rd (n=30)[2]	LIA/ERB	514	?	adult	l. foreleg foetal sheep/ goat
		916	f	65+	l. foreleg foetal sheep/ goat
		914	m	30–35	foreleg large subadult pig/ wild boar
		922	f	25–45	sheep/goat vertebrae
		5009	f	65+	l. foreleg foetal sheep/ goat
		5018	f	30–40	l. side split skull & jaw mature pig
		5111	?m	25–35	vertebrae & 2 forelimb parts mature sheep
		5130	f	65+	l. foreleg foetal sheep/goat
		250	?	65+	l. foreleg foetal sheep
Poundbury (n=1380)[3]	LRB	429	f	30	part thoracic skeleton fowl
		521	f	25	sheep neonate frags & an older animal
		522	juv.	13	sheep/goat l. fore-limb neonate & half skull pig yearling
		574	f	25	fowl skeleton & skull young dog
		718	m	50	fowl skeleton
		1182	juv.	9	sheep head with 1st vertebrae
		1250	f	25	complete young sheep
		1255	juv.	6	fowl skeleton
		1309	juv.	7	young sheep skull with atlas
		1320	f	25	subadult sheep skull with 1st vertebrae
		1344	m	25	fowl skeleton & l. forelimb neonate sheep/goat
		1348	m	55	l. split subadult pig skull
		1354	f	65	fowl skeleton & neonate sheep ribs
		1355	m	45	r. split yearling pig skull
		1402	f	40	5 ribs subadult sheep/goat
		1409	f	45	l. forelimb immature sheep/goat & 6 ribs
		1415	m	35	cattle mandible & sacrum
		1421	-	-	fowl skeleton
Alington Avenue (n=103)[4]	LIA/ERB	3214	f	adult	r. leg hen
		3227	f	adult	l. hind leg young pig, l. leg hen
		3238	m	elderly	l. leg rooster
		3408	f	adult	r. forelimb young pig, l. hind limb young fowl
		767	?	?	immature fowl bones
		782	?	?	3 bones hen in lay
		1142	m	adult	l. leg fowl
		2135	?	?	mature fowl bones
		2621	f	adult	l. half hen
		2629	f	15–25	l. forelimb sheep <5–7 mths
		2637	-	-	rooster skeleton
		3661	m	adult	skeleton lapdog bitch
		4380	f	adult	skeleton young dog

1 – Bullock & Allen 1997; 2 – Reilly 1997; 3 – Buckland-Wright 1993; 4 – Maltby 2002

Special deposits

The assemblages of butchered (partial) sheep skeletons from four pits can be compared with a number of sites in the area (Table 7.2). It is probably not surprising to find so many 'special deposits' containing sheep/goat in an area dominated by sheep/goat breeding. Although some sheep/goat will undoubtedly have featured in ritual behaviour most of the above-mentioned cases are likely have a natural origin. Reilly (1997, 270–3) and Buckland-Wright (1987, Mf4: B7) both advocate natural causes for their finds and the latter specifically mentions winter starvation of young animals. As many of the more complete skeletons at Poundbury Farm had their throats slit it is not unlikely that these animals were put out of their misery (disease or starvation). The partial skeletons indicate some form of butchery. These deposits might either have a ritual character or represent the dumping of parts of a carcass shortly after butchery without leaving the remains to the dogs. It is equally possible that some of these partial carcasses represent meat that had spoiled.

As noted above deliberate deposits of joints of meat were placed in a number of the graves at Poundbury Farm, including the articulated right front leg of a lamb and two skeletons of domestic fowl, which were presumably deposited as a joint, complete carcasses, and a sheep's head. A comparative analysis of similar finds from the Dorchester area (Table 7.3) shows that the Poundbury material is not unusual. Clearly not all the deceased were given animal offerings but these were not restricted to either sex or age. In terms of species proportions, of the 50 graves tabulated, 20 contained sheep/goat, 19 fowl, 7 pig, 3 dog, and 1 cattle remains. Again, it is not surprising that, in a sheep breeding area, there is a preference for sheep deposited in graves. As bird bone survives less well in a settlement context, the extraordinary nature of their high proportion cannot be assessed. A further characteristic of the material deposited in the graves is the age range, even foetal/juvenile skeletons were included. This may relate to beliefs regarding rebirth. On the other hand, the offering of such a young animal is a smaller economical loss than offering prime animals or even old animals.

Charred Plant Remains

by Ruth Pelling

A sampling programme for the recovery of charred plant remains, other environmental material, small bones, and artefacts, was undertaken. Features sampled ranged in date from the Neolithic to the Romano-British period. A number of remarkable pit deposits were encountered, the lower fills of which consisted largely of charred grain. Such remains provide a rare opportunity to examine *in situ* deposits in contrast to the mixed redeposited material usually encountered in the backfills of pits and other features. In the Romano-British period a number of industrial or semi-industrial grain driers also produced large deposits of charred remains, presumably associated with the function of these features. This material is also compared with that recovered from previous excavations (Monk 1987) as well as an increasing body of data from local sites including Maiden Castle and sites within and around Dorchester.

Methods

Wherever it was possible samples of deposit were taken from the full range of feature types and periods represented on the site. Bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2 mm, and 1 mm mesh. Following an initial assessment (Wessex Archaeology 2008), 24 samples were selected for more detailed analysis: six from Neolithic or undated prehistoric pits; nine from Middle to Late Bronze Age pits, and nine from Romano-British features which included ditches, grain driers, ovens, a pit, ditch, and 'burnt layer'.

Flots were sorted under a stereo-binocular microscope at magnification of x10–x40. Due to time restraints the smallest fraction (<1 mm) was not always sorted in full and either a measured percentage was sorted or the flot was scanned and species presence noted. A very rich deposit from pit 1008 (fill 1049) produced some 750 ml of grain, of which 5% was measured from each sieve (4 mm, 2 mm, 1 mm, and 0.5 mm) with a graduated measuring cylinder. By measuring each fraction from within the stack of sieves any bias in measuring caused by size or weight of items sorting was reduced. A further four samples which were not sorted and identified in detail, were scanned in order to confirm species presence and relative abundance to further explore the patterns in the data.

Results

The detailed results are given in Tables 7.4–7.6. Nomenclature of wild species follows Stace (1997) and for cereals follows Miller (1987) for wheats and Zohary and Hopf (1994) for barley. Cereal grain is quantified on the presence of embryo ends. Chaff element (glume bases, spikelet fork, rachis segment, etc) is given and weed seeds are counted as seed, nutlet, fruit, and so on unless otherwise stated. In the combined totals chaff is counted as glume bases, where one spikelet fork equals two glume bases.

Table 7.4 Charred plant remains in the Neolithic pit samples assessed only

Feature	*Context*	*Sample*	*Vol (l)*	*Flot vol (ml)*	*Grain*	*Chaff*	*Hazel nutshell*	*Charcoal*	*Cereal comments*
Unspecified Neolithic Area 3 – Pit									
3009	3008	3508	8	15	+	-	+	+	*Triticum* sp. (wheat) grain frag.
		3509	9	15	-	-	+	+	
		3510	8	10	-	-	+	+	
		3511	9	15	+	-	+	+	indet. grain frag.
Early Neolithic Area 3 – Pits									
3047	3115	3521	9	50	+	-	+	++	indet. grain frag.
	3118	3520	4	35	+	-	+	++	indet. grain frag.
	3119	3519	7	80	+	-	-	+++	-
	3120	3518	10	25	+	-	-	+	indet. grain frag.
3049	3050	3513	35	80	+	-	+++	+	indet. grain frag.
Late Neolithic Area 4 – Pit									
4053	4054	4525	18	50	-	-	+++	++	
	4045	4526	10	30	-	-	+++	++	
4115	4114	4556	9	150	-	-	++++	+++	

+– present; ++ – 5-10; +++ – 11-30; ++++ – >30

A number of exceptional deposits were encountered which appear to consist of grain, spikelets, and even ears of cereals burnt *in situ*. Preservation of much of the material was unusually good and the numbers of items high. There are clear chronological patterns in the species identified from the site although certain aspects of the data remain remarkably constant. The grain-rich deposits in the Neolithic and the Middle–Late Bronze Age samples appear to consist of partially processed stored grain or spikelets. In the Romano-British deposits in contrast there is a shift in the composition of the samples suggesting different types of activity are represented. In terms of species there is an apparent shift from emmer wheat to spelt wheat overtime, with both species being cultivated for a long period. Similarly the barley variety appears to shift from a naked to a hulled variety. Significantly barley forms a major component of the assemblage in all periods. The presence of collected wild resources (mainly hazelnut) in the Neolithic is typical of the period, where after these resources are rarely represented in the deposits.

Notes on Identification and Quantification

The exceptionally high number of grain encountered in some samples and the inherent difficulties in identifying grain to species level were such that grain was not fully identified and quantified in the richer samples. Grain was always identified to genus (*Hordeum*, *Triticum*, etc) and total counts of grain, chaff, and weed seeds were always given. The grain species (*Triticum dicoccum* or *T. spelta*, etc) noted were then given a relative abundance for each sample of present, common or dominant (+, ++, and +++). Where two species were equally dominant they were both given a dominant score (+++). There is no numerical value implied by the relative abundance, rather this score simply highlights which species were present. All numerical analysis therefore relates to the total figures only.

The separation of the hulled wheats, spelt (*Triticum spelta*) and emmer (*T. dicoccum*) is often unreliable on the basis of the grain due to the range of grain shapes and potential overlap. The separation of chaff (glume bases and spikelet forks) tends to be more reliable. The preservation of grain was such in many of the samples, however that large numbers of 'typical' grain were present enabling a relatively positive separation of the two species, aided by the identification of the glume bases. Identification was more confident for those samples where only one species was noted (for example pit EV2905 (fill EV2911)). Typical emmer grain was slender, with pointed ends, a pronounced humped dorsal ridge, and steep embryo. Typical spelt wheat grains had blunt ends, a low dorsal ridge, and were parallel sided. The glume bases of emmer were narrow, angular, and smooth, while the spelt wheat glume bases were heavily ridged and wide.

Grains of barley (*Hordeum vulgare*) were numerous and often dominant in the samples. The majority of the grain is hulled in which the grain is enclosed in tightly adhering lemmas (husks). In the better preserved examples remnants of the lemma were still visible. Where the lemma had been destroyed the grain retained the angular profile typical of the hulled variety (Jacomet 2008). The presence of asymmetric grain in many samples suggests that a six-row variety is represented although this is not a reliable method

Table 7.5 Charred plant remains from Middle and Late Bronze Age pits

		Sample	*11*	*1612*	*1600*	*1602*	*1632*	*1609*	*2502*	*2505*	*2503*	*5509*
		Context	*2911*	*1049*	*1007*	*1024*	*1158*	*1064*	*2008*	*2021*	*2033*	*5100*
		Feature	*2905*	*1008*	*1008*	*1008*	*1154*	*1062*	*2007*	*2020*	*2032*	*5099*
		Area		*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	*5*
		Date	*E Neo*				*Middle–Late Bronze Age pits*					
		Sample vol. (l)	*40*	*10*	*8*	*10*	*18*	*9*	*20*	*18*	*16*	*9*
		Flot vol. (ml)	*60*	*728*	*10*	*90*	*50*	*80*	*60*	*225*	*40*	*40*
		%/fraction sorted	*100%*	*5% (36ml)*	*100%*	*100%*	*100%*	*100%*	*>1mm*	*100%*	*100%*	*100%*
Cereal grain												
Triticum dicoccum L.	Emmer wheat grain		25	-	-	-	+++	+	-	8	-	-
Triticum dicoccum L.	Short, 'drop-shaped' emmer grain		+	-	-	-	-	-	-	-	-	-
Triticum cf. *dicoccum* L.	cf. Emmer wheat grain		15	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat grain		-	-	5	-	+	++	-	-	-	-
Triticum spelta L.	Spelt wheat, short grain		-	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat, germinated grain		-	-	-	-	-	-	-	-	-	-
Triticum cf. *spelta* L.	cf. Spelt wheat grain		-	-	-	-	-	-	-	43	1	-
Triticum spelta and *dicoccum*	Spelt and emmer, well preserved		-	87	-	95	105	-	142	-	-	-
Triticum spelta/dicoccum	Spelt/emmer wheat grain		32	-	1	-	-	-	78	-	2	-
Triticum spelta/dicoccum	Spelt/emmer wheat germinated grain		-	-	-	-	-	-	-	-	-	-
Triticum sp.	Wheat grain		53	-	-	-	-	-	3	261	19	1
Triticum sp.	Wheat, short grain		-	-	-	-	-	-	-	-	-	-
Triticum sp./*Secale cereale* L.	Wheat/rye grain		-	-	-	-	-	-	-	-	-	-
Hordeum vulgare sl.	Barley, cf. naked grain		94	-	-	-	+	-	-	-	-	-
Hordeum vulgare sl.	Barley, hulled grain (some asymmetric)		-	1105	85	1570	777	+++	503	15	9	-
Hordeum vulgare sl.	Barley, hulled, tail grain		-	+	-	-	-	-	+	-	-	-
Avena sp.	Oats		-	-	-	-	1	-	-	-	-	-
Cerealia indet.	Grain		177	63	11	144	49	-	77	112	21	6
Total grain (includes scanned totals)			396	1255	102	239	932	350	803	439	52	7
Cereal chaff												
Triticum dicoccum L.	Emmer wheat glume base		81	6	-	1	9	-	8	-	-	-
Triticum dicoccum L.	Emmer wheat spikelet fork		17	-	-	4	2	-	2	-	1	-
Triticum cf. *dicoccum*	cf. Emmer wheat glume base		11	-	1	-	-	-	-	-	-	-
Triticum cf. *dicoccum*	cf. Emmer wheat spikelet fork		-	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat glume base		-	-	5	4	12	-	25	-	8	-
Triticum spelta L.	Spelt wheat spikelet fork		-	-	-	1	-	-	-	-	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat glume base		25	11	17	7	29	-	49	4	16	2

Table 7.5 Charred plant remains from Middle and Late Bronze Age pits (continued)

		Sample	*11*	*1612*	*1600*	*1602*	*1632*	*1609*	*2502*	*2505*	*2503*	*5509*
		Context	*2911*	*1049*	*1007*	*1024*	*1158*	*1064*	*2008*	*2021*	*2033*	*5100*
		Feature	*2905*	*1008*	*1008*	*1008*	*1154*	*1062*	*2007*	*2020*	*2032*	*5099*
Triticum spelta/dicoccum	Spelt/Emmer wheat spikelet fork		12	3	-	4	1	-	5	-	5	-
Hordeum vulgare sl.	Barley, 6-row rachis		-	-	-	-	-	-	-	-	-	-
Hordeum vulgare sl.	Barley rachis		1	3	-	2	1	-	-	-	-	-
Cerealia indet.	Large culm node		-	-	-	-	4	-	-	1	4	-
Cerealia indet.	Basal culm node/rhizome		-	-	-	-	1	-	-	-	-	-
Cerealia indet.	sprouted embryo		-	-	-	-	-	-	-	-	-	-
Cerealia indet.	detached embryo		-	-	-	-	-	-	-	-	-	-
Total chaff (includes scanned totals)			176	26	23	32	63	0	106	5	40	2
Other economic species												
Vicia faba var *minor*	Celtic/Field Bean		-	-	-	-	-	1	-	-	-	-
cf. *Vicia faba* var *minor*	cf. Celtic/Field Bean		-	-	-	-	7	-	-	-	-	-
Pisum sativum L.	Pea		-	-	-	-	-	-	-	-	1	-
cf. *Pisum sativum* L.	cf. pea		-	-	-	-	1	-	-	-	-	-
Vicia/Pisum sp.	Bean/Pea		-	-	-	1	-	2	-	1	-	-
Vicia/Lathyrus /Pisum sp.	Vetch/Bean/Pea		-	-	-	-	-	-	-	-	1	-
Brassica cf. *oleraceae/napa/rapa*	Cabbage/turnip		-	-	-	-	-	-	-	-	-	-
Brassica nigra L.	Black Mustard		-	-	-	-	-	-	-	-	-	-
Brassica/Sinapis sp.			-	-	-	-	-	-	-	-	-	-
Beta vulgaris L.	Beet, capsule		-	-	-	-	-	-	-	-	-	-
Papaver somniferum L.	Opium Poppy		-	1	-	-	-	-	-	-	-	-
Corylus avellana L.	Hazelnut shell fragments		-	-	1	-	1	-	1	1	1	5
Crataegus monogyna Jacq.	Hawthorn stone		-	-	-	-	-	-	-	-	-	-
Indet. fruit			-	-	-	-	-	-	-	-	-	-
Weed seeds												
Papaver rhoeas/dubim L.	Long-headed/Field Poppy		-	1	-	-	-	-	-	-	-	-
Raphanus raphanistrum L.	Raddish, capsule		-	-	-	-	-	-	-	-	-	-
Chenopodium album L.	Fat hen		-	-	1	-	4	-	-	-	2	1
Chenopodium album L.	Fat hen, recent seeds?		-	-	-	-	-	-	-	-	+	-
Chenopodium sp.	Fat Hen/Goosefoot		-	-	-	-	-	-	1	-	-	-
Atriplex sp.			-	1	1	7	5	-	-	-	-	-
Chenopodeaceae indet			-	14	3	2	6	-	1	-	4	-
Polygonum aviculare L.	Knotgrass		-	-	-	-	5	-	2	-	-	-
Rumex cf. *acetosella* L.	Sheep's sorrel		-	3	-	-	-	-	-	-	-	-
Rumex sp.	Docks		-	-	-	4	3	-	7	-	1	-
Fallopia convolvulus (L.) A. Love	Black Bindweed		13	3	1	6	7	1	2	7	1	4
Persicaria maculosa Gray	Redshank		-	-	-	-	-	-	-	-	-	-

Table 7.5 Charred plant remains from Middle and Late Bronze Age pits (continued)

		Sample	*11*	*1612*	*1600*	*1602*	*1632*	*1609*	*2502*	*2505*	*2503*	*5509*
		Context	*2911*	*1049*	*1007*	*1024*	*1158*	*1064*	*2008*	*2021*	*2033*	*5100*
		Feature	*2905*	*1008*	*1008*	*1008*	*1154*	*1062*	*2007*	*2020*	*2032*	*5099*
Polygonaceae	Internal structure		1	7	-	8	12	-	-	1	1	2
Vicia/Lathyrus sp.	Vetch/Vetchling/Tare etc		-	-	-	-	4	-	-	28	8	-
Medicago/Trifolium/Lotus sp.	Medic/clover/trefoil etc		-	13	3	26	25	-	2	2	2	-
Lithospermum arvense L.	Field Gromwell		-	-	-	-	-	-	-	-	-	-
Galeopsis sp.	Hemp-nettles		-	1	-	-	-	-	-	-	-	-
cf. *Sherardia arvensis* L.	Field Madder		-	-	-	-	3	-	1	-	-	-
Veronica hederafolia L.	Ivy-leaved Speedwell		-	-	-	-	1	-	-	-	-	-
Odontites vernus (Bellardi) Dumort	Red Bartsia		-	1	-	-	-	-	-	-	-	-
Galium aparine L.	Bed-straw/goosegrass etc.		-	2	2	5	41	10	3	6	9	-
cf. Malvaceae			-	-	-	-	1	-	-	-	-	-
Apium graveolens L.	Wild Celery		-	-	-	3	-	-	-	-	-	-
Torillis japonica (Houtt.) DC	Upright Hedge-parsley		-	1	-	-	-	-	-	-	-	-
Appiaceae,	small seeded		-	9	-	-	9	-	-	1	-	-
Plantago media/lanceolata	Hoary/Ribwort Plantain		-	-	-	-	-	-	-	3	3	-
Sambucus nigra L.	Elder		-	1	-	1	-	-	5	-	-	-
Lapsana communis L.	Nipplewort		-	1	-	-	-	-	-	-	-	-
Tripleurospermum inodorum (L.) Sch. Bip.	Scentless Mayweed		-	1	-	-	-	-	-	-	-	-
Lolium/Festuca sp., small seeded	Rye-grass/Fescues		3	-	-	-	-	-	-	-	-	-
Phleum/Poa annua type	Catstail/Meadow-grass		3	-	-	-	1	-	-	-	-	4
Avena fatua type	Wild oats, floret base		-	-	-	-	-	-	-	-	-	-
Bromus sp.	Brome grass		-	-	-	-	-	-	-	6	-	-
Avena/Bromus sp.	Oats/Brome grass		-	-	-	-	-	-	-	-	-	-
Poaceae indet.	Large seeded grass		1	-	-	-	-	-	1	-	-	-
Poaceae indet.	Small grass seed		-	-	-	-	-	-	-	3	-	3
Poaceae indet.	Grass tuber/rhizome		-	-	-	-	-	-	-	-	-	-
Poaceae type	Small culm node		-	-	-	-	-	-	1	-	-	-
Poaceae type	Slender culm segments		-	-	-	-	-	-	-	8	-	-
Total weeds			-	-	-	-	-	11	-	-	-	-
Mouse dropping			-	-	-	-	-	-	-	-	-	-
Ignota			-	-	-	10	9	-	-	-	-	-
Small fraction sorted	If scanned, quantities are approx.						<1mm		<1mm	<1mm	<1mm	
Cereals												
Avena sp.	Oats, grain		-	-	-	-	-	-	-	-	-	-
Triticum dicoccum L.	Emmer wheat glume base		-	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat glume base		-	-	-	-	1	-	-	-	-	-
Triticum spelta L.	Spelt wheat spikelet fork		-	-	-	-	-	-	-	-	-	-

Table 7.5 Charred plant remains from Middle and Late Bronze Age pits (continued)

		Sample	*11*	*1612*	*1600*	*1602*	*1632*	*1609*	*2502*	*2505*	*2503*	*5509*
		Context	*2911*	*1049*	*1007*	*1024*	*1158*	*1064*	*2008*	*2021*	*2033*	*5100*
		Feature	*2905*	*1008*	*1008*	*1008*	*1154*	*1062*	*2007*	*2020*	*2032*	*5099*
Triticum spelta/dicoccum	Spelt/Emmer wheat glume base		-	-	-	-	-	-	10	-	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat spikelet fork		-	-	-	-	-	-	-	-	-	-
Hordeum vulgare sl.	Barley rachis		-	-	-	-	-	-	-	-	-	-
Cerealia indet	detached embryo		-	-	-	-	-	-	-	-	-	-
Brassica sp. including *B. nigra*	Mustard/cabbages etc		-	-	-	-	-	-	-	-	-	-
Brassica/Sinapis sp.	Mustard/cabbages etc		-	-	-	-	-	-	20+	2	-	-
Weed seeds												
Silene sp.	Campion/Catchfly		-	-	-		-	-	-	-	-	-
Stellaria media agg.	Chickweed		-	-	-	-	1	-	-	-	-	-
Chenopodium album L.	Fat hen		-	-	-	-	20	-	-	10	10	-
Chenopodium album L.	Fat hen, recent seeds?		-	-	-	-	-	-	-	-	-	-
Atriplex sp.	Orache		-	-	-	-	-	-	-	-	-	-
Chenopodeaceae indet			-	-	-	-	10	-	-	-	-	-
Rumex sp.	Docks		-	-	-	-	-	-	10+	-	1	-
Persicaria lapathifolium (L.) Gray	Pale Persicaria		-	-	-	-	-	-	-	-	-	-
Polygonaceae	Internal structure		-	-	-	-	10	-	-	-	-	-
cf. *Sherardia arvensis* L.	Field Madder		-	-	-	-	5	-	-	-	-	-
Appiaceae	Small seeded		-	-	-	-	5	-	-	-	-	-
Plantago lanceolata/media	Plantain		-	-	-	-	1	-	-	5	1	-
Vicia/Lathyrus sp.	Vetch/Vetchling/Tare		-	-	-	-	-	-	-	-	-	-
Medicago/Trifolium/Lotus sp.	Medic/clover/trefoil etc		-	-	-	-	10	-	-	5	10	-
Tripleurospermum inodorum (L.) Sch. Bip.	Scentless Mayweed		-	-	-	-	1	-	-	-	-	-
Lapsana communis L.	Nipplewort		-	-	-	-	-	-	-	-	-	-
Lolium/Festuca sp., small seeded	Rye-grass/Fescues		-	-	-	-	-	-	-	-	5	-
Phleum/Poa annua type	Catstail/Meadow-grass		-	-	-	-	-	-	-	-	-	-
Bromus sp.	Brome grass		-	-	-	-	-	-	-	-	-	-
Poaceae indet	Small seeded grass		-	-	-	-	-	-	-	-	-	-
Poaceae indet	Large seeded grass		-	-	-	-	-	-	-	-	-	-

+ – present/occasional ++ – frequent +++ – dominant species/abundant

of identification given the distortion possible during charring. The presence of six-row barley is confirmed by occasional well-preserved rachis nodes still retaining the attachment points. In the Early Neolithic pit sample (feature EV2905) the grain was clearly different in appearance and is considered to be of the naked variety. The grain was rounded in cross- section, plump, shorter, and wider and much blunter at the apex than the hulled barley recovered from the site. Some very well-preserved examples still retained fragments of chaff or epidermis however which could result in confusing identification. However the consistent roundness of the grain in this deposit compared to all other deposits on the site did indicate a genuine difference. Jacomet notes (2008) that the chaff of naked barley enclosed the grain more tightly when charring occurred at lower temperatures. The remarkable preservation of the grain would suggest this to have been the case. While the genetic difference between hulled and naked barley is only slight the shift from one to the other is of archaeological significance as the different crops require different processing methods or have different uses.

Prehistoric/Neolithic pits

The majority of the earlier prehistoric pits investigated (features 3049, 4115, 6002, 11002, and 13004) produced flots characterised by large quantities of charcoal (see Challinor, below) and hazelnut shell fragments (*Corylus avellana*). A summary of the charred plant remains from the early prehistoric samples is given in Table 7.4. The small quantity of cereal grain present was highly abraded and pitted and could only be identified broadly as wheat (*Triticum* sp.) or barley (*Hordeum vulgare*). Two additional wild species were hawthorn (*Crataegus monogyna*) and bedstraw/cleaver (*Galium* sp.), the latter possibly occurring as a weed of the cereals. Such deposits are typical of the Neolithic when wild resources tend to be much better represented than cereal remains (Moffett *et al.* 1989; Robinson 2000).

Early Neolithic pit EV2905

A significant early deposit of cereals, dominated by grain and chaff with a limited weed flora, was recovered from the fill of pit EV2905 (fill EV2911). Preservation of much of the grain is exceptional. Two cereals were positively identified: emmer wheat (*Triticum dicoccum*) and naked barley (*Hordeum vulgare* var *nudum*). The ratio of the wheat grain to glume bases is 1:1.4 (125 grain to 175 glume bases). Assuming some of the indeterminate grain is also derived from wheat, this would suggest spikelets of emmer are represented (in which the grain is still held within the enclosing glumes at a ratio of 1:1). The total number of barley grains is 94. The small number of weed seeds consisted of occasional grasses and seeds of black bindweed (*Fallopia convolvulus*) which may have been harvested with either crop. Both barley and emmer are likely to have been sown in spring although the processing requirements are quite different such that the mixing of the two cereals is more likely to have occurred after harvest. A grain of naked barley from this deposit produced a surprisingly early date of 3770–3640 cal BC (4902±40 BP; NZA-31070), placing it in the Early Neolithic. It would appear from this deposit that the cultivation of cereals was already well established here during the Early Neolithic. While cereals are routinely recovered in small numbers from Neolithic sites the recovery of substantial deposits of grain remains rare in Britain. The few sites from which large deposits of dated cereal grains have been recovered include the frequently cited long houses at Balbridie, Grampian region (Fairweather and Ralston 1993) and Lismore Fields, Derbyshire (Jones and Rowley-Conwy 2007, table 23.1), as well as Hambledon Hill, Dorset (*ibid.*). In all three cases emmer wheat dominated the assemblages while barley, including both hulled and naked varieties, was identified from Balbridie and Hambledon Hill. These sites are exceptional, although an increasing number of sites are now producing occasional pits with substantial grain deposits. A deposit of several thousand emmer spikelets was recovered from a small pit at Westwood Cross, Isle of Thanet, Kent producing an Early Neolithic date of 3800–3650 cal BC (4951±35 BP; NZA-26510; Stevens unpubl.). A slightly later date of 3650–3100 cal BC was recovered from an assemblage of grains and glumes that may also represent possible emmer spikelets from The Stumble, Essex (4675±70 BP; OxA-2299; Wilkinson and Murphy 1995, 58; Murphy 1989). A deposit interpreted as emmer wheat spikelets recovered from a deposit sealed by peat in Newham, East London, produced a date close to that from Poundbury Farm of 3770–3630 cal BC (4890±35 BP; GU-18956;Pelling unpubl.).

Despite the increasing number of sites producing large deposits of cereals from the Neolithic the typical pattern for British sites is for low numbers of poorly-preserved grain, little or no chaff and more abundant hazelnut shell (Moffett *et al.* 1989; Robinson 2000; Stevens 2007). This is in contrast to the typical pattern seen on Late Bronze Age and Iron Age sites, for example (Greig 1991). That chaff in particular is rarely recovered from Neolithic assemblages (Robinson 2000) has led to discussions about storage methods and the suggestion that, in the Neolithic, crops were perhaps stored as fully de-husked grain (Stevens 2007), in contrast to the later prehistoric period when storage pits are well known. The storage of hulled wheat in the spikelet, as is typical in the Iron Age, provides greater protection against insect and fungal attack (van der Veen 1992). The presence of dated spikelets at Poundbury, however, suggests that grain was being stored as spikelets at least on some

sites and that the absence of chaff on many sites is simply a product of preservation bias or changes in methods and scale of storage and processing activities. The absence of associated archaeology at Poundbury renders any more detailed interpretation difficult although the deposit in itself is of considerable interest.

The occurrence of naked barley seems to have both a temporal and geographical spread. Naked barley is sporadically recovered from sites of Neolithic–Iron Age date across much of southern Britain although frequently as a contaminant of, or in a mixture with, hulled grain. In the Neolithic both seem to appear (Jones and Rowley-Conwy 2007, table 23.1) while naked barley may have persisted longer in cultivation in south-west England (Campbell and Straker 2003). While naked barley and emmer are both spring sown crops, their differing processing requirements are such that they are unlikely to have been cultivated together. It is likely, therefore, that two harvests are represented, possibly mixed after burning and discarded in the pit.

The weed flora associated with the grain is limited, consisting of black bindweed (*Fallopia convolvulus*), an indeterminate Polygonaceae, and a small number of grass seeds. Similar assemblages have been found associated with the deposits of emmer wheat discussed above: seeds of bindweed, cleavers (*Galium* spp.), and vetches (*Vicia*/*Lathyrus* sp.) were recovered at Westwood Cross (Stevens unpubl.), while the Stumble produced goosegrass and vetch (Murphy 1989). Clearly there appears to be a dominance of twining species in these early deposits which would have been favoured by uprooting or by scythe low on the straw.

Middle–Late Bronze Age pits

The largest group of samples examined were from pits broadly dated to the Middle–Late Bronze Age. Given the broad dating of these features it is not possible to examine temporal trends in detail although, generally speaking, this group of features has produced consistent results in terms of species presence. Several of the pits produced large deposits of grain, while one pit (1110) and three post-holes (1130, 1142, and 1146) produced smaller quantities of remains (not examined in detail). Nine samples were examined from pits, most of which were in Areas 1 (features 1008, 1154, 1062) and 2 (2007, 2020 (cremation related feature), 2032), while one sample was examined from Area 5 (feature 5099). Cereal grain was particularly well-represented in these deposits, being abundant in pits 1008, 1154, 1062, 2007, and 2020. An exceptional sequence of deposits was recovered from pit 1008 the lower fill of which (context 1049) produced a radiocarbon date on hulled barley grain (1300–1050 cal BC, 2952±35 BP; NZA-31030), which places it at the end of the Middle Bronze Age. In those samples which produced over 100 cereal grains, the numbers of chaff items, weed seeds, and other economic plants (mostly pulses) were relatively low, suggesting the deposits to be composed of largely processed grain. The cereal assemblage as a whole is strongly dominated by barley although wheat is dominant in a small number of features. The dominance of barley in part explains the absence of chaff; barley is a free-threshing cereal in which the grain falls away from the rachis with relative ease following threshing. However, the possible presence of ears of barley in pit 1008 (see below) suggests that the absence of chaff is largely a product of preservation. While the numbers of glume wheat grains and glume bases are low, they do occur in similar quantities which would be consistent with the presence of spikelets. The samples not examined beyond the assessment produced a similar range of material with cereal grain, occasional chaff, pulses, hazelnut shell, and weeds in varying densities (WA 2008, table 15).

Three major cereal crops are represented in this period: barley, which dominates, and two hulled wheat crops. Of the grain-rich deposits all but one is dominated by barley, the variety of which is clearly hulled, in contrast to the Neolithic grain deposit (pit 2905). Much of the grain is exceptionally well-preserved and it is likely given the number of asymmetric grains that it includes the six-row variety (in which each rachis segment carries three grains). While occasional possible naked grains were noted in pit 1154, this variety does seem to have been largely replaced by hulled barley by this period. Both emmer and spelt wheat are represented in this period by grain and glume bases. Sufficiently characteristic grain of emmer wheat was noted in at least one sample (pit 1154) to confirm emmer was the dominant wheat species in some deposits, although spelt was well represented in others.

A particularly substantial deposit of charred cereal grain was noted in pit 1008 during excavation. Multiple samples were taken from the fills in order to examine variation through the deposits, although time constraints meant that only three fills were examined in detail: contexts 1024, 1049, and 1007. The 10 litre sample from context 1049 was so rich that a 5% sub-sample was examined producing 1255 grains, a density of 25,378 grains per litre. The majority of the identifiable grain were of barley (n=1105), most of which was very well- preserved and identified as the hulled form. The remaining grain was either of hulled wheat or was of indeterminate species. Chaff was very rare in proportion to grain consisting of 23 items, most of which consisted of glume bases (of hulled wheat), with three barley rachis present. The overlying deposit produced 1809 grains from 10 litres of

Plate 7.1 Charred ears of barley in lower deposits of pit 1008 (Area 1)

deposit, while the upper fill produced only 102 grains. It appears that context 1049 represents the primary deposit which has become more dilute with other waste material and the backfill of the pit in the higher fills. Without micro-excavation of the deposit under the microscope it is not possible to establish the *in situ* positioning of the grain. Photographic records, however, suggest that the grain was lying in positions suggestive of ears (Pl. 7.1). In addition some grain was noted to be fused together in the growth position when examined under the microscope. It is reasonable to suggest, therefore, that grain was burnt *in situ* and that the pit contained whole ears of barley rather than processed grain. Barley has long awns and it is possible that they created sufficient space and air between the ears that fire spread through the deposit rapidly, burning away the majority of chaff, and the grain simply slumping into the pit.

Barley was clearly an important crop during the Middle–Late Bronze Age as it appears to have been in the Romano-British period (see below). It appears from the deposits examined that naked barley had been replaced by the hulled variety by the Middle Bronze Age. A deposit of clean naked barley recovered from a Middle Bronze Age pit at Rowden, Winterbourne Steepleton (Carruthers 1991), 5 km to the west of Poundbury, however, suggests that it was still cultivated locally at this time. The deposit at Rowden was exceptional, recovered from a storage pit within a roundhouse which had burnt in a catastrophic fire (*ibid.*). It is possible, therefore, that it was more commonly present on sites but that, given its different processing requirements, it is less frequently represented as charred material. The significance of the different proportions of the two varieties is, therefore, difficult to establish.

Naked barley appears to have continued to be cultivated for slightly longer in south-west England than elsewhere and is present at a number of Middle Bronze Age sites (Campbell and Straker 2003). It is not clear why hulled barley should have largely replaced naked barley or, indeed, why this occurred at a later date in the south-west than elsewhere. The tightly adhering hulls and awns of hulled barley are such that, in traditional farming communities, it is generally used for fodder or malting while naked barley has been more widely used for culinary purposes. However the genetic difference between the various forms of barley (hulled, naked, six-row, two-row) is the result of only one of several genetic mutations (Zohary and Hopf 2000, 60) and pure crops of naked barley may have been difficult to maintain. Crops being cultivated for fodder would require little processing prior to consumption. The shift from naked to hulled may then be related to a change in use from human to animal feed. However, hulled barley is higher yielding than naked and its straw is less prone to lodging (buckling, Beaven 1947). Naked grains are also more prone to sprouting in the ear and vulnerable to insect or fungal attack than hulled grain. It has been suggested, therefore, that the shift from naked to hulled barley is related to increased wetness in the Iron Age not suiting naked barley (Bakels 1991). It is likely that a combination of factors is responsible for the shift in barley type which will include climatic and social factors.

While barley is undoubtedly an important cereal nationally throughout the Bronze Age and Iron Age (Greig 1991), its apparent dominance over wheat at Poundbury Farm is, perhaps, unusual. In contrast, Iron Age samples recovered during the earlier excavations at the site were dominated by hulled wheat (Monk 1987). This was also the case at Iron Age Maiden Castle (Palmer and Jones 1991). Given the low number of features examined in detail it is not possible to establish if this is a true reflection of this part of the site, although it is interesting that barley-rich deposits were recovered from pits in both Areas 1 and 2. Significantly at Poundbury Farm the barley is consistently represented as a clean, semi-processed crop which was apparently being stored (possibly in ears) in pits. This may be a reflection of differential storage patterns (eg, barley was being stored in pits for longer term storage and wheat in bags for every day use), or may reflect a greater reliance of barley than wheat at the site in this period, spelt becoming dominant in the Iron Age, or may be related one particular harvest, or simply is a product of chance preservation.

A number of Middle Bronze Age sites in the south-west have produce assemblages dominated by barley (both naked and hulled) such as Trethellan Farm, Newquay, Cornwall (Straker 1991) and Rowden (Carruthers 1991) and Bestwall Quarry, Warham, both in Dorset (Carruthers 2009), to the east of Poundbury. Barley grows well on a range of

soils but also copes better in poor soils and adverse conditions including drought than wheat, as well as in saline conditions. In addition the use of barley as a fodder crop may also affect its significance in the economy. At Poundbury Farm, however, both hulled wheats and barley are well-represented, although overall counts are varied. In the absence of a detailed sequence of dates it is not possible to establish if there is a temporal and/or spatial pattern in the relative proportions of barley and wheat across the site as a whole (including the material examined by Monk 1987). It is likely therefore that the chance burning of *in situ* storage deposits has resulted in the preservation of barley deposits, which if being stored for fodder may otherwise have been under represented in the archaeological record.

This period appears to be one of transition in terms of the wheat crop. Locally spelt wheat appears to have largely replaced emmer by the Early Iron Age (eg, Monk 1987; Jones and Palmer 1991). In the Hampshire chalklands (Campbell 2000) spelt wheat was the dominant crop by the end of the Bronze Age. The absence of a detailed sequence of dates hinders any temporal interpretation of the data and much of the material at Poundbury Farm may be Middle rather than Late Bronze Age. Earlier excavations at Poundbury produced Early Iron Age assemblages dominated by spelt wheat with emmer present in small numbers (Monk 1987). At Maiden Castle the majority of Neolithic wheat species identified were of emmer while spelt wheat dominates the Iron Age samples (Palmer and Jones 1991). Interestingly emmer is the main wheat identified by Helbaek amongst the Iron Age pottery impressions recovered from Wheeler's excavations at Maiden Castle, suggesting emmer wheat may be under-represented among charred plant remains (Palmer and Jones 1991). The local evidence, including that from Poundbury Farm, suggests, therefore, that spelt wheat was being cultivated by the Middle–Late Bronze Age and had largely replaced emmer wheat by the Early Iron Age. Emmer wheat may have continued to be cultivated on a small localised scale, its chaff being used as temper in pottery production.

A small number of pulses are represented suggesting the practice of a mixed arable economy. Both Celtic bean (*Vicia faba* var *minor*) and pea (*Pisum sativum*) were represented. Occasional fragments of hazelnut shell (*Corylus avellana*) suggest some continued reliance on, or exploitation of, wild resources. A small number of seeds of *Brassica*/*Sinapis* species were recovered from two samples with over 20 seeds noted in pit feature 2007. Preservation was not sufficient to enable identification but it is possible that seeds derive from a cultivated cabbage or turnip type crop.

Weed seeds were fairly numerous, although rare in proportion to grain suggesting incomplete removal of weeds prior to storage of the cereals. The range of weed species represented is relatively limited and dominated by species with binding and climbing habit such as black bindweed (*Fallopia convolvulus*), the vetches (*Vicia*/*Lathyrus* sp.), and goosegrass (*Galium aparine*). Some of the small seeded medick/trefoils and so on (*Medicago*/*Melilotus*/*Lotus*/*Trifolium* spp.) may also be binding species, although this group also includes low growing species such as the clovers. In addition the weed flora includes a number of tall growing species such as the goosefoots/fat hen and oraches (*Chenopodium* spp., *Atriplex* spp.). These species are all likely to have been harvested with the cereal crops and are mostly species typical of a range of disturbed and cultivated soils.

Romano-British plant remains

Nine samples of Romano-British date were examined, most of which were from Area 5, with samples from a grain drier (feature 4049) and Enclosure B ditch (feature 4178; group 4400) examined from Area 4. The samples were almost all rich in cereal remains with seven of the nine producing over 150 grain or chaff items, and four producing over 1000 items. In contrast to the preceding period the deposits were dominated by hulled wheats and, consequently, produced abundant chaff as well as grain. The exceptions to this were the samples that produced smaller assemblages (both features from Area 4) and one sample from a pit (feature 11014) which was dominated by barley (with some oats) and had no associated chaff. This period also differed from the preceding one in that the wheat is clearly all spelt wheat (*Triticum spelta*). (A single glume base of *T. dicoccum* from grain drier 4310 can probably be regarded as contamination or a relic weed of the spelt crop). While weed seeds were fairly numerous in some samples, they are restricted to a few taxa, including various grasses, vetches, and docks.

While scattered remains were present in a number of features, the density of material present in those examples from the Area 5 grain driers and ovens suggests that they derive from large-scale burning events. The Area 4 samples produced much more limited remains, more in character with general crop processing debris or more scattered remains. It was not clear what was the function of the grain driers in Area 5 although the density of remains would be consistent with some sort of crop processing activity or the use of cereal chaff and waste as fuel.

Six samples produced assemblages in which chaff forms the greatest proportion: grain drier features 4310, 12009, and 12049, burnt layer 5306, and ovens 5184 and 5220. In all six samples the glume bases and

identifiable grain is dominated by spelt wheat. As chaff is always more readily destroyed than grain during burning (Boardman and Jones 1990) it can be assumed that all the deposits contain the by-product of spelt wheat processing, that is the glume bases (hulls) and associated impurities (weeds). The proportion of glume bases to grain was particularly high in the burnt layer and ovens, all three producing relatively few grains. These samples may, therefore, be regarded as cereal processing waste (chaff and straw with some weeds and lost cereal grain) which has been used as fuel. Conversely, while it is likely that in the grain drier samples the proportion of chaff is slightly under-represented due to differential preservation, the large numbers of cereal grain are such that it is likely the assemblages contain both spikelet forks and additional chaff.

Hulled wheats (spelt and emmer) require an additional stage of processing to separate the grain from the tightly enclosing glumes (Hillman 1981; 1984). This is likely to be achieved through pounding, grinding, or rubbing and may or may not involve first roasting the spikelets to render the glumes brittle (Hillman 1982). Hulled wheat chaff is, therefore, a readily available source of fuel on sites producing or using spelt or emmer which would be particularly useful if roasting grain where the flavour of the grain might be altered by the fuel source. Analysis of plant remains from Roman grain driers by van der Veen (1989), and others (eg, Campbell 2008; Hillman, 1982; Pearson and Robinson 1994; Pelling 1999), have consistently demonstrated the use of chaff as a fuel source. The function of the grain driers at Poundbury is difficult to establish, although the likelihood that both spikelets (the product) and additional chaff (processing waste) are present would suggest that they had been used for processing cereals in some way, using processing waste from previous episodes as fuel. Occasional grain showed signs of being germinated and a small number of sprouted embryos or 'coleoptiles' were noted, although the numbers involved were not sufficient to indicate germination for the production of malt. It is possible that the features were used for roasting spikelets in order to render them brittle prior to dehusking and harden the grain for milling. Importantly the use of large grain drier type structures would imply large-scale processing which is supported by the numbers of plants remains involved.

A sample from pit fill 11017 (feature 11014) produced no chaff at all. This sample was dominated by grain of barley (1566 barley grains in a total of 1969 grains) with a much smaller number of oats. The absence of chaff is very much a reflection of the free-threshing nature of these cereals and they are likely to have been brought into the site in a fully processed state, or the chaff has simply not survived burning (see discussion on pit 1008 above). This sample represents a somewhat different event than the glume-rich deposits possibly derived from stored barley burnt *in situ* and comparable to the barley-rich pit samples from the Middle–Late Bronze Age period. Alternatively this deposit might derive from barley being roasted in the grain driers which has been accidentally burnt and subsequently discarded. Certainly the deposit would suggest the continued use of barley at the site into the Romano-British period.

The Romano-British arable economy

Two, possibly three, cereal species were identified in the Romano-British samples. The wheat appears to be all spelt wheat (*Triticum spelta*) with no evidence for emmer beyond a single spikelet fork in one of the grain driers (feature 4310). A number of wheat grains were short and rounded, particularly in feature 4310, but were not sufficiently well-preserved to enable identification to species. Short rounded grain is a characteristic of free-threshing wheat grain. However, the identification of short grained spelt wheat at a number of Romano-British sites such as Tiddington, Warwickshire (Moffett 1986) and Mansfield College, Oxford (Pelling 2000) suggests caution in the identification of free-threshing grain for this period in the absence of diagnostic chaff. Barley was also identified and formed the bulk of the assemblage from pit 11014. As in the preceding period the variety identified was hulled and included asymmetric grain suggestive of the 6-row or lax-eared variety. The third possible cereal identified was oats (*Avena* sp.), represented by 116 grains in pit 11014 with the barley grain. Oats and barley tend to be spring sown crops and were often cultivated together as a drage, or mixed crop, in the medieval period. Alternatively oats are a persistent weed of spring sown barley and contamination of the barley crop may have been severe, such that the deposit represents the discarded contaminated crop. A single floret base of wild oats (*Avena fatua*) was recovered from context 4061 (feature 4049), although this does not preclude the presence of cultivated oats in pit 11014. It is not possible to confirm whether the oats in pit 11014 were cultivated or were simply a weed of the barley crop. Certainly cultivated oats were present by this time in southern Britain, being recorded in the Danebury Environs region by the Late Iron Age (Campbell 2000).

Earlier excavations of Roman deposits at Poundbury produced the same range of crop species as the current samples (Monk 1987) including oats, although again it was not clear if the oats represent crop plants or weeds. A number of other sites in and around Dorchester have also produced Roman material which has generally included spelt wheat, barley and some oats. At County Hall, Colliton Park

Table 7.6 Charred plant remains from Roman features

	Sample	*4541*	*4585*	*4648*	*11768*	*12755*	*12764*	*5548*	*5527*	*5547*
	Context	*4061*	*4175*	*4315*	*11017*	*12008*	*12029*	*5427*	*5188*	*5311*
	Feature number	*4049*	*4400*	*4310*	*11014*	*12009*	*12049*	*5306*	*5184*	*5220*
	Feature Type	*grain*	*ditch*	*grain*	*pit*	*grain*	*grain*	*burnt layer*	*oven*	*oven*
	Area	*4*	*4*	*5*	*5*	*5*	*5*	*5*	*5*	*5*
	Date	*RB*	*RB*	*RB*	*RB*	*RB*	*RB*	*RB*	*RB*	*RB*
	Sample Volume (litres)	*22*	*10*	*19*	*11*	*24*	*5*	*3*	*3*	*1*
	Flot volume (ml)	*25*	*8*	*50*	*220*	*125*	*40*	*250*	*30*	*5*
		100%	*scanned*	*>1mm*	*>2mm*	*>2mm*	*scanned*	*>1mm*	*scanned*	*scanned*
Cereal grain										
Triticum dicoccum L.	Emmer wheat grain	-	-	-	-	-	-	-	-	-
Triticum dicoccum L.	Short, 'drop-shaped' emmer grain	-	-	-	-	-	-	-	-	-
Triticum cf. *dicoccum* L.	cf. Emmer wheat grain	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat grain	-	-	12	-	24	+++	7	+++	+++
Triticum spelta L.	Spelt wheat, short grain	-	-	-	-	-	-	1	-	-
Triticum spelta L.	Spelt wheat, germinated grain	-	-	9	-	5	-	13	-	-
Triticum cf. *spelta* L.	cf. Spelt wheat grain	3	-	4	-	13	-	-	-	-
Triticum spelta and *dicoccum*	Spelt and Emmer, well preserved	-	-	-	-	-	-	-	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat grain	-	-	9	-	8	-	-	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat germinated grain	-	-	-	-	2	-	-	-	-
Triticum sp.	Wheat, short grain	-	+	29	-	+	-	-	-	-
Triticum sp.	Wheat grain	22	-	97	-	265	-	109	-	-
Triticum sp./*Secale cereale* L.	Wheat/Rye grain	-	-	-	-	1	-	-	-	-
Hordeum vulgare sl.	Barley, cf. naked grain	-	-	-	-	-	-	-	-	-
Hordeum vulgare sl.	Barley, hulled (some asymmetric)	2	+	14	1566	60	+++	-	-	-
Hordeum vulgare sl.	Barley, hulled, tail grain	-	-	-	-	-	-	-	-	-
Avena sp.	Oats	-	-	3	66	1	-	2	-	-
Cerealia indet.	grain	52	++	253	307	>1000	-	173	-	-
Total grain (includes scanned totals)		79	72	430	1989	1379	250	305	>100	20
Cereal chaff										
Triticum dicoccum L.	Emmer wheat glume base	-	-	-	-	-	-	-	-	-
Triticum dicoccum L.	Emmer wheat spikelet fork	-	-	1	-	-	-	-	-	-
Triticum cf. *dicoccum*	cf. Emmer wheat glume base	-	-	-	-	-	-	-	-	-
Triticum cf. *dicoccum*	cf. Emmer wheat spikelet fork	-	-	-	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat glume base	-	64	78	-	707	+++	1000+	+++	+++
Triticum spelta L.	Spelt wheat spikelet fork	-	-	2	-	4	-	5	-	-

Table 7.6 Charred plant remains from Roman features (continued)

		Sample	*4541*	*4585*	*4648*	*11768*	*12755*	*12764*	*5548*	*5527*	*5547*
		Context	*4061*	*4175*	*4315*	*11017*	*12008*	*12029*	*5427*	*5188*	*5311*
		Feature number	*4049*	*4400*	*4310*	*11014*	*12009*	*12049*	*5306*	*5184*	*5220*
Triticum spelta/dicoccum	Spelt/Emmer wheat glume base		9	-	21	-	37	200+	1000+	1000+	150
Triticum spelta/dicoccum	Spelt/Emmer wheat spikelet fork		5	-	192	-	2	-	65	-	-
Hordeum vulgare sl.	Barley, 6-row rachis		-	-	2	-	-	-	-	-	-
Hordeum vulgare sl.	Barley rachis		-	-	-	-	-	4	1	2	1
Cerealia indet.	Large culm node		-	-	-	-	1	-	-	-	-
Cerealia indet.	Basal culm node/rhizome		-	-	-	-	-	-	-	-	-
Cerealia indet.	sprouted embryo		-	-	1	-	-	-	9	-	-
Cerealia indet.	detached embryo		-	-	-	-	-	-	-	-	-
Total chaff (includes scanned totals)			19	64	591	0	1756	204	3141	1002	151
Other economic species											
Vicia faba var *minor*	Celtic/Field Bean		-	-	-	-	-	-	-	-	-
cf. *Vicia faba* var *minor*	cf. Celtic/Field Bean		-	-	-	-	-	-	-	-	-
Pisum sativum L.	Pea		-	-	-	-	-	-	-	-	-
cf. *Pisum sativum* L.	cf. pea		-	-	-	-	-	-	-	-	-
Vicia/Pisum sp.	Bean/Pea		-	1	-	1	-	-	-	-	-
Vicia/Lathyrus /Pisum sp.	Vetch/Bean/Pea		-	-	-	-	-	-	2	-	-
Brassica cf. *oleraceae/napa/rapa*	Cabbage/turnip		-	-	-	1	-	-	-	-	-
Brassica nigra L.	Black Mustard		-	-	-	1	-	-	-	-	-
Brassica/Sinapis sp.			-	-	-	11	-	-	-	-	-
Beta vulgaris L.	Beet, capsule		-	-	1	-	-	-	-	-	-
Papaver somniferum L.			-	-	-	-	-	-	-	-	-
Corylus avellana L.	Hazelnut shell fragments		1	-	-	-	-	-	-	-	2
Cretaegus monogyna Jacq.	Hawthorn stone		1	-	-	-	-	-	-	-	-
Indet fruit			-	-	-	-	-	-	1	-	-
Weed seeds											
Papaver rhoeas/dubim L.			-	-	-	-	-	-	-	-	-
Raphanus raphanistrum L.	Raddish, capsule		3	-	1	-	-	+	-	-	-
Chenopodium album L.	Fat hen		-	-	-	-	-	-	-	-	-
Chenopodium album L.	Fat hen, recent seeds?		-	-	-	-	-	-	-	-	-
Chenopodium sp.	Fat Hen/Goosefoot		-	-	-	-	-	-	-	-	-
Atriplex sp.	Oraches		-	-	-	-	-	-	-	-	-
Chenopodeaceae indet			-	-	-	-	-	-	-	-	-
Polygonum aviculare L.	Knotgrass		2	-	1	-	-	+	1	-	-
Rumex cf. *acetosella* L.	Sheep's sorrel		-	-	-	-	-	-	-	-	-
Rumex sp.	Docks		6	-	3	18	-	+	-	-	-

Table 7.6 Charred plant remains from Roman features (continued)

		Sample	*4541*	*4585*	*4648*	*11768*	*12755*	*12764*	*5548*	*5527*	*5547*
		Context	*4061*	*4175*	*4315*	*11017*	*12008*	*12029*	*5427*	*5188*	*5311*
		Feature number	*4049*	*4400*	*4310*	*11014*	*12009*	*12049*	*5306*	*5184*	*5220*
Fallopia convolvulus (L.) A. Love	Black Bindweed		-	-	1	-	-	-	-	-	-
Persicaria maculosa Gray	Redshank		-	-	-	1	-	-	-	-	-
Polygonaceae	Internal structure		-	-	-	2	-	-	-	-	-
Vicia/Lathyrus sp.	Vetch/Vetchling/Tare etc		61	+	13	1	-	+	1	-	+
Medicago/Trifolium/Lotus sp.	Medic/clover/trefoil etc		4	+	1	-	-	-	-	+	-
Lithospermum arvense L.	Field Gromwell		-	-	-	-	-	-	-	+	-
Galeopsis sp.	Hemp-nettles		-	-	-	-	-	-	-	-	-
cf. *Sherardia arvensis* L.	Field Madder		-	-	-	-	-	-	-	-	-
Veronica hederafolia L.	Ivy-leaved Speedwell		-	-	-	-	-	-	-	-	-
Odontites vernus (Bellardi) Dumort	Red Bartsia		-	+	-	-	-	-	-	-	-
Galium aparine L.	Bed-straw/goosegrass etc.		-	+	1	-	-	-	-	-	-
cf. Malvaceae			-	-	-	-	-	-	-	-	-
Apium graveolens L.	Wild Celery		-	-	-	-	-	-	-	-	-
Torillis japonica (Houtt.) DC	Upright Hedge-parsley		-	-	-	-	-	-	-	-	-
Appiaceae,	small seeded		2	-	1	-	-	-	-	-	-
Plantago media/lanceolata	Hoary/Ribwort Plantain		1	-	-	-	-	-	-	-	-
Sambucus nigra L.	Elder		-	-	-	-	-	-	-	-	-
Lapsana communis L.	Nipplewort		-	-	-	-	-	-	-	-	-
Tripleurospermum inodorum (L.) Sch. Bip.	Scentless Mayweed		-	-	-	-	-	-	-	-	-
Lolium/Festuca sp., small seeded	Rye-grass/Fescues		-	+	51	-	-	+++	36	+	-
Phleum/Poa annua type	Catstail/Meadow-grass		-	-	-	-	-	-	-	-	-
Avena fatua type	Wild oats, floret base		1	-	-	-	-	-	-	-	-
Bromus sp.	Brome grass		1	+	6	1	2	-	3	+	+
Avena/Bromus sp.	Oats/Brome grass		-	-	-	2	-	-	-	-	-
Poaceae indet.	Large seeded grass		-	-	4	-	4	-	3	-	-
Poaceae indet.	Small grass seed		-	-	2	-	-	+++	-	-	-
Poaceae indet.	Grass tuber/rhizome		-	-	-	-	-	-	-	-	-
Poaceae type	Small culm node		-	-	-	-	-	-	-	-	-
Poaceae type	Slender culm segments		-	-	-	-	-	-	-	-	-
Total weeds			-	100	-	-	-	300	-	60	5
Mouse dropping			-	-	-	-	-	-	1	-	-
Ignota			5	-	4	1	-	-	-	-	-
Small fraction sorted	If scanned, quantities are approx.		<1mm		<1mm	<2mm	<2mm		<1mm		

Table 7.6 Charred plant remains from Roman features (continued)

		Sample	*4541*	*4585*	*4648*	*11768*	*12755*	*12764*	*5548*	*5527*	*5547*
		Context	*4061*	*4175*	*4315*	*11017*	*12008*	*12029*	*5427*	*5188*	*5311*
		Feature number	*4049*	*4400*	*4310*	*11014*	*12009*	*12049*	*5306*	*5184*	*5220*
Cereals											
Avena sp.	Oats, grain		-	-	-	50	-	-	-	-	-
Triticum dicoccum L.	Emmer wheat glume base		-	-	1	-	-	-	-	-	-
Triticum spelta L.	Spelt wheat glume base		-	-	1	-	>700	-	-	-	-
Triticum spelta L.	Spelt wheat spikelet fork		-	-	-	-	5	-	-	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat glume base		-	-	>100	-	411	-	>1000	-	-
Triticum spelta/dicoccum	Spelt/Emmer wheat spikelet fork		-	-	-	-	13	-	-	-	-
Hordeum vulgare sl.	Barley rachis		-	-	-	2	1	-	-	-	-
Cerealia indet.	detached embryo		-	-	-	-	1	-	-	-	-
Brassica sp. including *B. nigra*	Mustard/cabbages etc		-	-	-	>150	-	-	-	-	-
Brassica/Sinapis sp.	Mustard/cabbages etc		-	-	-	-	-	-	-	-	-
Weed seeds				-							
Silene sp.	Campion/Catchfly		-	-	-	-	4	-	-	-	-
Stellaria media agg.	Chickweed		-	-	-	-	-	-	-	-	-
Chenopodium album L.	Fat hen		-	-	-	-	-	-	-	-	-
Chenopodium album L.	Fat hen, recent seeds?		++	-	-	-	-	-	-	-	-
Atriplex sp.	Orache		-	-	-	20	-	-	-	-	-
Chenopodeaceae indet			-	-	-	-	-	-	-	-	-
Rumex sp.	Docks		1	-	-	5	-	-	-	-	-
Persicaria lapathifolium (L.) Gray	Pale Persicaria		-	-	-	2	-	-	-	-	-
Polygonaceae	Internal structure		1	-	-	-	-	-	-	-	-
cf. *Sherardia arvensis* L.	Field Madder		-	-	-	-	-	-	-	-	-
Appiaceae	Small seeded		-	-	-	-	-	-	-	-	-
Plantago lanceolata/media	Plantain		-	-	-	5	-	-	-	-	-
Vicia/Lathyrus sp.	Vetch/Vetchling/Tare		-	-	-	-	2	-	-	-	-
Medicago/Trifolium/Lotus sp.	Medic/clover/trefoil etc		20	-	-	-	1	-	-	-	-
Tripleurospermum inodorum (L.) Sch. Bip.			-	-	1	-	-	-	-	-	-
Lapsana communis L.			-	-	-	1	-	-	-	-	-
Lolium/Festuca sp., small seeded	Rye-grass/Fescues		-	-	30	-	2	-	50+	-	-
Phleum/Poa annua type	Catstail/Meadow-grass		30	-	1	10	-	-	-	-	-
Bromus sp.	Brome grass		-	-	-	-	3	-	-	-	-
Poaceae indet.	Small seeded grass		-	-	-	-	5	-	-	-	-
Poaceae indet.	Large seeded grass		-	-	-	-	2	-	-	-	-

+ – present/occasional ++ – frequent +++ – dominant species/abundant

(Ede 1993), and Greyhound Yard in Dorchester (Jones and Straker 1993) the wheat included free-threshing grain. Roman deposits from sites along the Western Link of the Dorchester By-pass also produced short grained wheat similar to free-threshing grain although some were identified as spelt raising the possibility that all the short grained wheat was spelt rather than free-threshing wheat (Letts 1997). Short grained spelt wheat is therefore apparently present on local sites including Poundbury, which raises the possibility that this is a local trait. The status of oats as a crop locally is unclear although they occur on most of the sites examined (Ede 1993; Jones and Straker 1993; Straker 1997; Letts 1997; Monk 1987).

The Romano-British period deposits also produced a small number of possible garden or horticultural crops some of which are difficult to distinguish from weeds. Pulses were very rare in the samples and none was identifiable to species, although their presence suggests they were cultivated. A large number of *Brassica* seeds was present in the sample from pit 11014 (particularly in the scanned 500 μm flot), including seeds tentatively identified as cultivated cabbage/turnip/rape type (*Brassica* cf. *oleracea/napus/rapa*) and black mustard (*Brassica nigra*). While *Brassica* crops harvested for their leaf or root are unlikely to have produced large numbers of seeds, the seeds themselves might be become charred if used as an oil crop or flavouring, or they may occur as weeds of cereals if cultivated on the same plots in later years. A seed capsule of beet (*Beta vulgaris*) may represent another cultivated garden species, grown for its leaf in this period, and recorded on a number of Romano-British period sites as a crop plant (van der Veen 2008). As with the *Brassicas*, the occurrence of the capsule in the cereal crop may be the result of a relic crops occurring as weeds in the arable fields. The identification of horticultural crops is often hampered by preservation and the remains are less likely to become charred and, therefore, to enter the archaeological record. Nationally there was a significant increase in the range of horticultural species cultivated during the Romano-British period and all those identified at Poundbury are known in this period in Britain (van der Veen 2008). Single fragments of hazelnut shell (*Corylus avellana*), hawthorn (*Crataegus monogyna*), and an unidentified fruit stone, may also derive from food remains although could have entered the deposits with fire wood.

The deposits from the grain driers and ovens discussed above suggest that crop processing was being conducted on a substantial scale in at least parts of the site during the Romano-British period. Earlier excavations at Poundbury conversely produced a cereal assemblage with far less evidence for crop processing activity leading the author to suggest the site has a less primarily agricultural nature than the proceeding period (Monk 1987, 134). The current assemblages suggest that the reverse is probably true and that crop processing took place on a fairly substantial scale but in a restricted area. This would be in keeping with a well ordered and substantial arable site. If crops were processed (dehusked and/or dried prior to storage) on a large scale using grain driers or malting kilns resulting in large deposits of processing by-products in the processing area, then it might be expected that there would be a reduction in more widely spread every day processing waste resulting from small-scale domestic activity.

The Roman samples have produced a very limited weed assemblage in relation to grain and chaff suggesting that some level of processing had taken place to remove the weeds. The binding species such as the vetches and goosegrass which so characterised the Middle–Late Bronze Age period, are significant in only two samples (features 4049 and 4310). Conversely annual grass seeds of a range of species are dominant in the samples, particularly seeds of the rye-grasses/fescues (*Lolium/Festuca* sp.) but also brome grass (*Bromus* sp.) and oats (*Avena* sp.) although this last grass may include cultivated varieties. An increase in grass seeds has been noted at a range of sites during the Iron Age (eg, Campbell 2000) and is likely to be, in part, the result of changes in ploughing technique, deeper ploughing favouring annual species over the perennials. The remaining species tend to be characteristic of a range of disturbed soils with some indication of the continued cultivation of lighter sandy soils (wild radish, *Raphanus raphanistrum*). The barley-rich sample (from feature 11014) stands out from the remaining samples in the number of seeds of docks (*Rumex* sp.) and oraches (*Atriplex* spp.) as well as the numerous *Brassica* seeds (although see above for discussion on *Brassicas* as a crop species). It is likely therefore that these largely common ruderal species were closely associated with the barley (and possibly oats) crop.

Conclusions

The charred plant remains from Poundbury both compliment and contradict the data from previous excavations (Monk 1987). The range of arable species is broadly consistent from the two areas of the site although the current data suggests a much greater significance for barley in the Middle–Late Bronze Age and possibly the Romano-British period. The Romano-British period also seems to have greater emphasis on barley than previous excavations at the site suggested. Importantly the data demonstrate the practice of cereal cultivation in the Early Neolithic. Significant changes in the crop species cultivated occurred over time, details of which are much more in evidence from the current assemblage than the

Table 7.7 Charcoal from selected features (Poundbury Farm and Poundbury Parkway)

	Site	*Poundbury Farm*				*Poundbury Parkway*
	Phase	*Middle Bronze Age*	*Late Bronze Age*	*Middle Bronze Age*	*Romano-British*	*Middle Bronze Age*
	Feature type	*cremation grave*	*cremation-related feature*	*cremation grave*	*pit*	*cremation grave*
	Feature number	*4098*	*2020*	*4092*	*5198*	*39*
	Context number	*4100*	*2021*	*4088*	*5197*	*40*
	Sample number	*4555*	*2505*	*4551*	*5529*	*8*
	% flot identified	*25*	*12.5*	*12.5*	*25*	*100*
Quercus sp.	oak	–	51rhs	1	96rs	16
Alnus glutinosa Gaertn.	alder	–	2	–	6r	–
Corylus avellana L.	hazel	–	–	–	4r	–
Alnus/*Corylus*	alder/hazel	–	1	–	–	–
Populus/*Salix*	poplar/willow	–	–	–	4r	–
Prunus spinosa L.	blackthorn	–	1	–	–	–
Maloideae	hawthorn, pear, apple, service	–	–	12r	–	–
cf. Maloideae		1	–	–	–	–
Euonymus europaeus L.	spindle	–	55r	–	–	–
Hedera helix L.	ivy	–	5	–	–	–
Fraxinus excelsior L.	ash	109r	–	126rh	–	99r
Indet. ring porous		–	–	–	–	3
Indet.		1	–	2	1	2
Total		111	115	141	111	120

r – roundwood; s – sapwood; h – heartwood

previous excavations at the site. There appears to have been a shift from naked barley in the Neolithic to hulled barley by the Middle Bronze Age. Similarly while emmer wheat was the only wheat species identified in the Neolithic, both emmer and spelt were being cultivated by the Middle Bronze Age. Only spelt wheat was present in the Iron Age deposits examined by Monk (1987) and in the Romano-British deposits examined in the present study. The Middle–Late Bronze Age appears to be a period of significant change and innovation at the site and the number of pits with grain-rich deposits suggests that agricultural storage and presumably, therefore, cultivation was being practised on a significant scale. By the Romano-British period there appears to be a further increase in the scale of processing, suggesting much greater emphasis on large-scale cereal processing than had been suggested by the earlier excavations. There is also some evidence for an increase in the range of crop species in this period to possibly include oats, but also horticultural crops such as *Brassicas* and leaf beat, and a change in weed flora to include a greater proportion of annual grasses. The identification in the field of a number of deposits from all periods which were clearly rich in charred grain and chaff has produced a good number of exceptional samples with which to explore aspects of the cereal economy at the site. However, the majority of features produced more scattered deposits of remains more typical of low-level domestic activity. It is, therefore, difficult to gauge how typical are the rich samples of sites in the region, although it appears that long term pit storage and large scale crop processing were taking place.

Wood Charcoal

by Dana Challinor

The assessment of the charcoal established that there was potential for the analysis of material from a number of features (WA 2008). Nine samples from six features were submitted for analysis: a Late Bronze Age cremation-related feature, 2020, containing possible worked exotic wood; a Romano-British pit, 5198, that, on assessment was considered to have contained evidence for possible copper working; four Middle Bronze Age cremation burials 39, 62, 4092, and 4098 from which a radiocarbon date of

1400–1220 cal BC (3044±25 BP; NZA-30924) was obtained. The aims were to examine the use of wood fuel in funerary ritual, to characterise and explore the use of wood for copper working, and compare/contrast any patterns through time, where possible.

Methods

With the exception of those from Poundbury Parkway, the samples were rich in charcoal and were divided to provide a representative sub-sample of *c.* 100 fragments that were >2 mm in size. Of the poorer samples, one was analysed in full (all of the identifiable >2 mm fragments were identified); the other produced so little charcoal it was not analysed, but was scanned at low magnification (x7 to x45) to characterise the assemblage. Where more than one sample from the feature was present, one was analysed in full, the other was scanned at low magnification to determine if the assemblages were comparable.

The charcoal was fractured and sorted into groups based on the anatomical features observed in transverse section at x7–x45 magnification. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope at up to x400 magnification. A total of 598 fragments were examined. Identifications were made with reference to Schweingruber (1990), Hather (2000), and modern reference material. Classification and nomenclature follow Stace (1997).

Results

The results by fragment count are given in Table 7.7. The taxonomic level of identification varied according to the biogeography and anatomy of the taxa, but nine taxa were positively identified; *Quercus* sp. (oak), *Alnus glutinosa* (alder), *Corylus avellana* (hazel), *Populus*/*Salix* (poplar/willow), *Prunus spinosa* (blackthorn), Maloideae (hawthorn, apple, pear, etc.), *Euonymus europaeus* (spindle tree), *Hedera helix* (ivy) and *Fraxinus excelsior* (ash). All are native to Britain, and the possible exotic wood in 2020 was identified as *Euonymus* (spindle tree). The preservation of the charcoal was generally good, although frequently fragmented in the cremation samples and less than 4 mm in size. The few fragments categorised as indeterminate were not identifiable because of poor preservation or were very soft and crumbled on fracturing. It is likely that these indeterminate fragments represent additional specimens of taxa positively identified at the site.

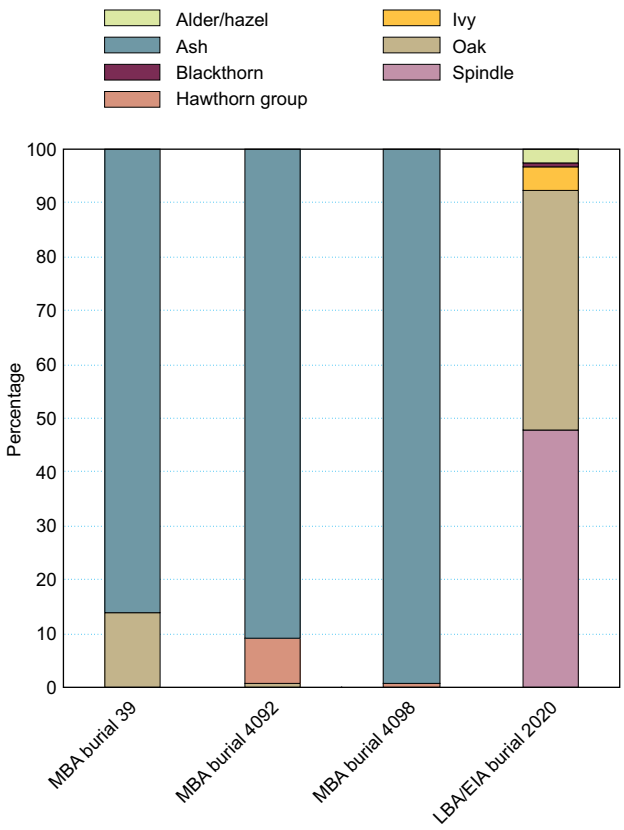

Figure 7.4 Charcoal from selected features

Several of the samples contained roundwood fragments indicative of immature wood or small diameter stems, although none was complete enough to merit growth ring analysis. Two samples produced larger, significant quantities of roundwood. Context 5197 had a reasonable amount of immature oak, which did not exhibit the large rays characteristic of oak, and the spindle tree from cremation-related feature 2020 also comprised many roundwood fragments. The spit samples, which were scanned, appeared to have similar assemblages to the analysed samples, and contained abundant ash. The non-analysed Poundbury Parkway sample from burial 62 produced only a few fragments which were identified as oak.

Discussion

Cremation burials and cremation-related features

The nature of the cremation-related deposits at Poundbury Farm and Poundbury Parkway is relevant to the interpretation of the charcoals. Most of them were classified as mixed deposits of burial and redeposited pyre debris (WA 2008). The two Middle Bronze Age burials (4098 and 39 – Poundbury Parkway) were contained in urns, a third was un-

urned (4092); in each case the charcoal derives from redeposited pyre debris in the grave fills. All three of these burials were dominated by ash (Fig. 7.4). Ash has traditionally been considered to make the best fuelwood (Edlin 1949) and would provide a good even heat with the high calorific value necessary to cremate a human body. The use of ash (and oak) in cremations has also been linked to the necessity to provide a good firm support for the pyre structure (Gale 1997). The apparent predominance of a single taxon in cremation deposits has been linked to ritual selection, on the basis that domestic assemblages are more mixed in character and indicate more indiscriminate gathering practices (Thompson 1999). Without a comparable dataset of domestic deposit types at Poundbury, this analysis is not possible, but the Middle Bronze Age data is consistent with those from other sites.

The assemblage from the Late Bronze Age cremation-related feature 2020 is in sharp contrast with the other three samples. The nature of this deposit is unclear – only a small amount of human bone was recovered and it may represent several cremation (and/or other related) episodes. Certainly, the assemblage was reasonably diverse, with five taxa recorded, as would be expected from redeposited pyre debris deriving from different episodes of burning. The presence of spindle tree in the assemblage is of particular interest. Spindle wood, as suggested by the name, has commonly been used for carving and wood turning to make pegs, inlays, and spindles (Gale and Cutler 2000). The assemblage from Poundbury Farm was dominated by roundwood fragments; these were not complete and no pith was recorded. The distinct curvature to the rings and the shape of the charcoal suggested that it may have been worked. Identifying worked wood from charcoal is difficult unless it has been worked against the growth rings – which does not appear to have been the case here. In this sample, the natural curvature of the rings appears to have been utilised to shape the wood, in the way that might be expected for something like a handle.

In any case, spindle tree is not regularly recovered from archaeological assemblages although it does make a good charcoal fuel (Edlin 1949). Given its association with cremated remains in context 2021 and the possible evidence of working, it seems reasonable to assume that the charcoal derives from the burnt remains of an artefact placed upon the pyre.

Industrial features

One pit (5198) dating to the late Romano-British period was considered to have contained evidence for metalworking, which was originally thought to represent copper working. However, the presence of a small quantity of hammerscale in the soil sample from this feature suggests that ironsmithing is a more likely provenance for the assemblage. Charcoal fuel was commonly used for iron working, both smelting and smithing (Bayley *et al.* 2001), as it provides a higher heat output and tends to produce less smoke than wood fuel.

Oak would have provided a good quality charcoal fuel, capable of achieving the high temperatures necessary. The assemblage from 5198 was dominated by oak, of which most came from immature roundwood. Similar assemblages are commonly found in iron-working contexts at other Roman sites (eg, Challinor 2008; Figueiral 1992).

Availability of woodland resources

The origin of the wood utilised for fuel is usually local. Ash is particularly prevalent on Chalk and Limestone lithologies and would have been available on the nearby Dorset Downs. Spindle tree would also have grown on the Chalk as it favours calcareous soils. Alder and willow/poplar would have grown in damp ground habitats such as adjacent to the River Frome. The dominance of ash charcoal in the Poundbury Farm and Parkway assemblages in the Middle Bronze Age suggests that ashwoods were common in the area, although the nature of the ritual activities might have influenced collection practices and may not accurately reflect the vegetation.

Chapter 8
Discussion

The investigations at Poundbury Farm have enabled a large area of the landscape to be examined through archaeological evaluation and selective excavation. Cropmark evidence, geophysical survey, and fieldwalking, together with information gathered from numerous previous excavations in the vicinity have enabled a picture of the landscape to be established from the Neolithic through to the end of the Romano-British period. Limited evidence was found for pre-Neolithic activity and the site seems to have been largely abandoned after the end of the Romano-British period. The examination of such a large area has enabled isolated and small clusters of hard to identify prehistoric features to be found. This provides important evidence for domestic and ritual activity away from the more obvious monuments which have tended to dominate both the previous excavations and discussions of the area. The results from the Poundbury Farm and Poundbury Parkway excavations fit with the broad patterns of occupation established by, for example, Smith *et al.* (1997) for sites excavated along the Dorchester By-pass, at Alington Avenue (Davies *et al.* 2002, 1–3; 185–196), and earlier excavations at Poundbury (Green 1987).

Earlier Prehistoric Activity

At Poundbury Farm, in common with many sites in the vicinity, very little activity was identified before the Neolithic. A few Mesolithic flints came from the evaluation (Trenches 20 and 37) but as these were unstratified they are of limited help in understanding the use of the landscape at this time. Evidence from other sites is similarly limited. A Palaeolithic handaxe and some possible Mesolithic flints were found at Middle Farm (Butterworth and Gibson 2004, 15), while some Mesolithic flint has been identified in scatters to the north-east of Poundbury at Stinsford Hill (Woodward 1977, 122; 1991a, 129), to the west of Stinsford (Williams 1972; Wymer 1977, 69) and as residual finds in Dorchester (see for example, Trevarthen 2008, 13). Extensive fieldwalking undertaken as part of the Maiden Castle landscape survey recovered limited evidence for Mesolithic flintwork (Woodward 1991b, 35). It is likely that the landscape was at least partly cleared during the Late Mesolithic (*cf.* Allen 1997, 278), the higher ground over looking the Frome Valley would have provided a vantage point and the availability of a range of resources would have been attractive to hunter-gatherers. It is likely therefore that this area was occupied during the Mesolithic period but the sporadic occupation has left very little trace within the areas excavated.

Neolithic activity at Poundbury Farm comprised pits which were dispersed across the landscape either in small groups (Areas 3 and 5) or isolated features. A probable Early Bronze Age ring-ditch in Area 3 (see below) appeared to respect the pit groups, perhaps hinting that the area still held some special meaning. It is also possible that the pits were marked in some way that has not survived.

These pits dated from the Early Neolithic through to the Late Neolithic, although the former were the most numerous. These pits typically contained a range of domestic debris (pottery, flint, worked stone, a few animal bones, and charred plant remains), although there may have been some element of formality to the deposition of some of their contents. Refitting sherds were found in pits 3003 and 3009, indicating that they were contemporaneous. There were also cross-context joins found in several other features (Leivers, Chapter 5). There does seem to have been some differentiation between the contents of the pits (Chapter 2). All of these characteristics find parallels both locally, for example at Poundbury (Green 1987, 22), Flagstones (Healy 1997, 30), Middle Farm (Butterworth and Gibson 2004), and Thomas Hardye School (Gardiner *et al.* 2007), and nationally (eg, Thomas 1999; Garrow *et al.* 2005).

A number of pits stand out on the basis of their contents: axe manufacturing waste, including a number of roughouts in various stages of completion, together with a near-complete axe, indicate that this was an important activity occurring on the site. One pit (3009) contained the remains of 11 axe roughouts in varying stages of completion, apparently made by a single individual (Harding, Chapter 5). Axe manufacture has been identified in the general area from stray finds and from excavations, for example, at Maiden Castle (Wheeler 1943; Edmonds and Bellamy 1991), while core thinning flakes and a broken axe roughout were also recovered from Middle Farm (Harding 2010). The recovery of axe manufacturing waste from Poundbury Farm provides additional confirmation that this was an important activity occurring within the Neolithic landscape and

seems to have been focused on the causewayed enclosure at Maiden Castle (Woodward 1991b; Woodward and Bellamy 1991). The flint assemblage from Poundbury Farm also shows that specialised knives and sickles were also being made on the site (Harding, Chapter 5; Harding 2010). The raw materials for this 'industrial' production of flint artefacts were readily available from the clay-with-flints, which seems to have been used from the Mesolithic into the Neolithic (Care 1979). Interestingly, the production of flint axes does not seem to have carried on into the later Neolithic at Poundbury Farm (Harding, Chapter 5).

A pit identified during the evaluation (EV2905) contained a large deposit of charred grain (barley and emmer wheat). So substantial was this deposit that it was thought most likely to be of Middle–Late Bronze Age date, although the possibility of a Neolithic date was not completely excluded (WA 2007, 18). Re-evaluation of this material included obtaining a radiocarbon date on a single grain from this deposit, which produced an Early Neolithic date of 3770–3640 cal BC (4902±40 BP; NZA-31070). This large deposit of charred grain is a relatively rare occurrence and provides an important addition to our understanding of cultivation at the beginning of the Neolithic (Pelling, Chapter 7). Further radiocarbon dating of grain from this deposit has been undertaken as part of the *Out of Asia – A New Framework for Dating the Spread of Agriculture in Europe* research project (see Chapter 1), which has produced comparable results.

Limited Middle and Late Neolithic activity is indicated by two pits containing Impressed Wares of the Mortlake sub-style and a small quantity of Grooved Ware sherds came from a pit or post-hole identified during the evaluation (Leivers, Chapter 5). Small assemblages of worked flint and sparse environmental remains, including a few indeterminate cereal grains and charred hazelnut shells, were also recovered. Some redeposited Middle and Late Neolithic flintwork was recovered from across the site, specifically atypical transverse arrowheads from Areas 4 and 7 (Harding, Chapter 5).

Beaker and Early Bronze Age activity was relatively sparse. A pit in Area 6 contained a deposit of domestic debris including some refitting Beaker sherds and a rubstone, the latter providing important evidence for grain processing, which is comparatively rare at this time. A few residual flints of Beaker date were found including barbed and tanged arrowheads from both Poundbury Farm and Poundbury Parkway.

It has been assumed that the ring-ditch in Area 3 is of Early Bronze Age date given its form and size. However, very few artefacts were recovered from its fill so the dating of this ring-ditch is somewhat tenuous. A grave to the north-west of the ring-ditch contained the remains of a woman aged around 30–35 years old. A radiocarbon date on the human bone produced an Early Bronze Age date of 2200–1980 cal BC; 3694±BP; NZA-31065; Barclay, Chapter 1). The ring-ditch is on clay-with-flints, on the slope overlooking the Frome Valley and Fordington Bottom. There are relatively few barrows known from the clay-with-flints contrasting with the numerous examples to the south of Maiden Castle (Smith *et al.* 1997, fig. 3). This may reflect the use of the deeper more fertile soils for occupation while the denuded chalk slopes were used for siting barrows (Allen 1997, 280, 282, fig. 120). This ring-ditch, if it represents a ploughed-out barrow, extends the known distribution of barrows along the chalk slopes.

Later Prehistoric Activity

Activity was limited between the Early and Middle Bronze Age at both Poundbury Farm and Poundbury Parkway. Field systems of Middle and Late Bronze Age date were established, as were some settlements, particularly at Poundbury Parkway and there is evidence for funerary practices at both Poundbury Parkway and Poundbury Farm. Further evidence for Late Bronze Age settlement was found.

The field systems appear to form part of the same extensive systems that have been previously identified in the area (eg, Allen 2002, 195; Butterworth and Gibson 2004, 18; Gardiner 2003a, 154; 2003b, 159; Green 1987, 25–6; Healy 1997, 290; Smith *et al.* 1997; Yates 2007, 62–3). These form the first large-scale division of the landscape and, with them, developments in agriculture can be noted with increased cereal production (see Pelling, Chapter 7). At Poundbury Farm the evidence is hard to interpret in most of the excavated areas although in Areas 1 and 2 the field system seems to have been associated with post-built structures, pits, and other features indicative of settlement. One pit excavated in Area 1 contained a substantial deposit of charred hulled barley grain which has been radiocarbon dated, producing a date of 1300–1050 cal BC (2952±35 BP; NZA-31030). This deposit seems to represent semi-cleaned grain being stored, possibly in the form of ears (Pelling, Chapter 7). Pit deposits provide evidence for domestic rubbish such as pottery, animal bone, fired clay (including some loomweights), worked bone, and some flint. A decorated antler cheek piece fragment from a cleaning layer in Area 5 is stylistically probably of Late Bronze Age date. Neonatal or foetal cattle and sheep/goat bones from Late Bronze Age deposits indicate that some animal husbandry was occurring.

During the Middle Bronze Age cremation burials and other cremation-related deposits were made within this settled landscape. The large-scale excavations at Poundbury Farm have enabled these

features to be identified; such evidence has been relatively scarce in the archaeological record in this area (*cf.* Smith 1997b, 290). At Poundbury Parkway, two unurned cremation burials were made within fields defined by the field system (Chapter 4; McKinley, Chapter 6). At Poundbury Farm the cremation burials and cremation-related deposits seem to have been isolated in the landscape. Cremation burials 4098 (urned) and 4092 (unurned) were approximately 10 m apart in Area 4; the other cremation-related deposits were found in Areas 2 and 9. A calibrated radiocarbon date of 1400–1220 cal BC (3044±25 BP; NZA-30924) was obtained on the cremated human bone from grave 4092.

The cremation burials in grave 4098 are of some interest as two Deverel-Rimbury Bucket Urns were used, one for the cremated remains and the second as a lid, providing more protection than is common (McKinley, Chapter 6). Despite plough damage it was possible to determine that neither of the vessels was complete when they were buried and the upper vessel seems to have been repaired at some stage (Leivers, Chapter 5). The cremated remains were those of juvenile/subadults and adults, possible females.

Few finds and no features at Poundbury Farm and Poundbury Parkway were dated to the Iron Age and these sites appear to have been largely abandoned at the end of the Bronze Age. This supports the idea that settlements in the area were largely abandoned and the hillforts at Maiden Castle and Poundbury Camp were occupied (*cf.* Sharples 1991, 260; Smith 1997c, 299). Scant evidence for Early and Middle Iron Age activity was identified at Poundbury Farm and along the route of the Dorchester By-pass (Gardiner 2003a, 156; Smith 1997c, 299). However, a Late Iron Age enclosure was identified at Dorchester First School (Bellamy *et al.* 1993, 152). At Flagstones Late Iron Age reoccupation was identified as well as *Durotrigian* burials (*ibid.*, 299). Two Middle–Late Iron Age burials were also found at Alington Avenue (Davies *et al.* 2002, 196).

Romano-British Farmstead and Cemetery

The Poundbury Farm site was reoccupied during the early Romano-British period when a small farmstead with an associated cemetery was established. This farmstead comprised masonry-footed buildings, ovens, and grain driers within a series of enclosures. It is possible that the settlement was originally more extensive as no edges were identified (see Chapter 3). It could have formed part of the more extensive activity identified at Fordington Bottom (Smith *et al.* 1997). The Poundbury Farm settlement is typical of the many small farms identified around Dorchester such as Poundbury and Alington Avenue (Green 1987; Davies *et al.* 2002); much more extensive 'villages' have been identified at Maiden Castle Road and Fordington Bottom (Smith 1997c, 300–1), which seem to have been regularly spaced around the Roman town. The nature of these settlements and their relationship to *Durnovaria* has been discussed in detail elsewhere (see for example, Smith *et al.* 1997; Davies *et al.* 2002; Woodward *et al.* 1993) and is therefore not repeated here. However, many of the characteristics of these settlements and particular structure types find parallels at Poundbury Farm.

At Poundbury Farm it has been possible to establish a broad sequence for the development of the enclosures. It can be seen that the settlement consisted in the early Romano-British period of relatively simple fields and enclosures with limited evidence for settlement. Associated with this activity were a number of *Durotrigian* burials, some of which appeared to form groups (see below).

Towards the middle and late Romano-British period many of the enclosures were remodelled and extended. A number of structures found in the south-western area excavated seem to belong to this phase of expansion. In the south-western part of Area 5 at Poundbury Farm there were a number of outbuildings, working areas and ovens. A masonry semi-sunken building (5501) to the east of this working area may originally have been a domestic dwelling although the evidence is ambiguous. It seems to have been masonry-footed and comparable to examples excavated at Alington Avenue (Davies *et al.* 2002, 62–4, 66–9; figs 28, 30; pl. 20). At Poundbury Farm it seems likely that the low masonry walls were topped with a timber superstructure and a thatched roof given the paucity of ceramic building materials recovered from this area of the site. This building was demolished and a smaller masonry building (5502) replaced it. This smaller building seems to have been built in a similar manner using the same raw materials and methods as the earlier building. Two mid–late 3rd century coins were recovered from levelling layers above building 5501 indicate a late Roman date for this rebuilding.

A number of ovens was also associated with building 5501, both inside it and to the east in a working area. Cereal processing waste was used to fuel these ovens; the number of ovens found suggests the large-scale production and processing of grain was taking place (see Pelling, Chapter 7), presumably to supply the Roman town or other local communities as well as the needs of the Poundbury Farm settlement itself.

A number of semi-sunken structures, which find parallels sites in the vicinity (eg, Green 1987; Smith *et al.* 1997; Davies *et al.* 2002), were identified mainly in the south-western area of the Poundbury Farm settlement. Semi-sunken structure(s) 5067/5090 were associated with a number of post-holes and, although the evidence is very slight, these structures may have

formed outbuildings perhaps associated with industrial processes, for example, hammerscale from this area may indicate ironworking was taking place. A number of ovens and grain driers were also present in this part of the site, perhaps supporting the idea that agricultural and industrial processes were being carried out here. While the ovens seem to have been associated with structures, the grain driers were mostly located away from the buildings and other structures. Indeed a couple of the grain driers were quite isolated, presumably to separate dirty processes from living quarters.

Several chalk quarries, perhaps for liming the acidic soils, of probable Romano-British date were recorded on the eastern side of Area 4 at Poundbury Farm. There were also two similar examples perhaps of Iron Age–Romano-British date at Poundbury Parkway although they were poorly dated. Chalk quarries or 'marl' pits have been recorded in numerous sites in the vicinity, the dates of which vary, and have frequently proved difficult to determine (Gardiner 2003a, 154; 2003b, 159; Butterworth and Gibson 2004). Some may even be relatively late as chalk quarrying was still being carried out in the Poundbury region in the early 20th century (Gardiner 2003b, 159).

Environmental remains from the settlement are comparable with species being cultivated at other sites in the vicinity, although there appears to have been a greater emphasis on barley than previously identified (see Pelling, Chapter 7). There also seems to have been an increase in the range of crops grown, to include oats, brassicas and possibly leaf beet at this time. This increase in agricultural production has been noted at a number of other sites around Dorchester and it has been suggested that as *Durnovaria* and the surrounding settlements grew more of the surrounding landscape was put into agricultural production (see for example, Smith *et al.* 1997, 304).

The finds assemblage from Poundbury Farm generally reflects the relatively low status of this rural settlement. Personal items, some coins, a few tools and implements, and fittings were among the material recovered, much of which have been found on sites from the vicinity. A few individual items stand out as being unusual, for example, the inlaid and enamelled brooch from the upper fill of enclosure B (Fig. 5.1; Pl. 5.1) and may imply slightly higher status than the bulk of the material; the stone coffin certainly implies high status (see below). Small quantities of worked stone (querns, rubstones, and rubbers and a Burr stone pestle), fired clay loomweights, spindlewhorls of shale, bone and ceramic, and a bone pin or needle point indicate a range of processing tasks were being carried out on the site. Ironsmithing was also occurring, although no individual context contained more than 1 kg of slag, hampering the interpretation of this material. The relatively limited quantities of ceramic building material and a single fragment of possible window glass imply that the buildings were not tiled or had glazed windows. A small late Roman coin hoard may have been some of the last artefacts to have been deposited on the site, probably early during the 5th century. A further two hoards of coins found in Dorchester seem to have been deposited at around the same time (Cooke 2007, 65).

The finds assemblage provides limited evidence for external contacts. Local and regional pottery was used and a few continental imports include tablewares (samian and a sherd of Central Gaulish black slipped beaker), and amphora (Dressel 20 and Cam 186C), the latter would have contained Spanish olive oil and fish sauce. Repairs to the samian, including an *in situ* lead staple, perhaps indicate that there was not a ready source of replacement pottery. Kimmeridge shale and a range of locally available rocks were used for a range of objects including armlets, querns, and as building materials. A few pieces of Neidermendig lava, imported from the Andernach region of the Rhineland, north-west Germany, are likely to derive from quernstones.

The animal bone assemblages from Poundbury Farm and Poundbury Parkway indicate that sheep were the dominant species, with some cattle and pig (see Grimm, Chapter 7). A dog had been buried in the ditch of enclosure C; the remains showed that this was an old animal, with healed injuries and infections. The fact that this animal survived into old age implies that it was held in some regard. Notable characteristics of the husbandry strategies indicate equal emphasis on meat production and secondary products. Some evidence was recovered for apparently ritual deposition of animal bones, in particular butchered partial sheep carcasses; practices which fnd parallels in the Dorchester area (see Grimm, Chapter 7, Table 7.2). Joints of meat or complete carcasses were placed in graves as offerings (Table 5.1). A little burnt chicken bone from the late Roman urned cremation burial probably derives from a pyre offering, chicken being one of the most commonly used species for offerings of this type (McKinley 2004a).

Associated with the Poundbury Farm settlement was a dispersed cemetery. The burials can be divided into two groups, largely based on burial position, and grave goods: *Durotrigian* burials and middle–late Romano-British burials. The *Durotrigian* burials occur as small groups and as isolated examples across the site (Fig. 3.9), and seem to be largely of 1st century AD date (Table 3.3). However, grave 11018, within the *Durotrigian* group outside enclosure B, contained the remains of a female, aged 35–45 years, who was wearing a late Romano-British snakeshead armlet

(Fig. 3.12). The woman was flexed on her right side, conforming to the *Durotrigian* burial style (Whimster 1981, 43; Farwell and Molleson 1993, 7, 216). It is possible that the other graves within this group were marked in some way and grave 11018 appears to respect the others within this group. It is probable that this grave is a late addition to this group which may have been a family plot. Examples of crouched or contracted late Romano-British and, indeed, post-Roman burials are known from the Poundbury Cemetery (Farwell and Molleson 1993, 21, 83; fig. 62; pl. 33), and two probable late Roman crouched burials were found at Maiden Castle Road (Smith *et al.* 1997, 65; fig. 51, 293). Another example of a late survival of the *Durotrigian* burial style in a late Roman context is known from Wyke Regis, Dorset, where a possible 3rd century example was found (RCHM(E) 1970, 615). It appears, therefore, that the grave from Poundbury Farm is another example of a late occurrence of the *Durotrigian* style of burial.

Twenty-three inhumation graves of middle and late Romano-British date were identified. The graves contained 24 individuals; redeposited human remains indicate that at least another six individuals were represented. The split of males and females is quite even (Table 3.4); one grave (12022) contained the remains of a woman aged 35–50 with a foetus of around 34–40 weeks. The typical burial rite of extended inhumation, frequently within wooden coffins, was largely adopted (Philpott 1991, 53) although there are a number of exceptions. Nails were recorded in 22 graves ranging in number from one to 62. Mineralised wood was recorded on a number of the nails but it was not possible to identify this to species. In one grave there was evidence for coffin fittings in the form of eight angle brackets (Fig. 3.19) which would have been fitted two to each corner. At least one grave (4291) contained flint blocks (Fig. 3.18). Similar flint and chalk blocks at Little Keep in Dorchester may have been used to keep the body within the grave, or more practically to keep the corpse in position (Egging Dinwiddy 2009, 8).

A single burial was made within a stone coffin. Two graves containing the remains of immature individuals were notable for their size, being comparable to the range for adults (Table 3.4). In one grave (4291) the coffin was pushed up against the edge of the grave, leaving enough room for a second coffin, although no evidence for this was found (Fig. 3.18). Similar evidence at Poundbury Cemetery was interpreted as providing space for perishable grave goods (Farwell and Molleson 1993, 39). In another grave (4239), the coffin may have tilted as it was being buried (Fig. 3.16). The neonates were, as is common in the Romano-British period (Philpott 1991, 97), often associated with buildings (Chapter 3, Fig. 3.9). Two possible empty graves or cenotaphs were also identified, although the significance of these is uncertain.

Many of the graves were positioned in relation to field boundary ditches which were presumably still evident at this time, so grave orientation was quite varied (Table 3.5). This practice of positioning the graves near to the enclosure ditches fnds local parallels and is perhaps best illustrated at Alington Avenue (Davies *et al.* 2002, 127, 130; fig. 55). Grave goods were recorded in 19 of the graves (Table 3.4), and are largely items of personal adornment (armlets, brooches, beads) or practical items such as pottery vessels, knives, and spindlewhorls, with hobnails being the most common. One of the richest graves was that of a juvenile around 8–11 years old who was buried with two copper alloy armlets, blue glass beads, a rooster, and nailed shoes or boots (Chapter 3, Fig. 3.20).

Evidence for other mortuary rituals included the find of an apotropaic nail in the deceased's mouth in grave 5169 (Fig. 3.20). This practice was also seen at Little Keep and within the main Poundbury Cemetery (Seager Smith 2009, 37–8; Farwell and Molleson 1993, 148; pl. 50). Nails seem to have been used in mortuary and ritual contexts to ward off evil spirits or to 'fix' the dead (Black 1986, 223; Dungworth 1998, 153).

A single late Romano-British urned cremation burial near the southern edge of Area 5 provides a rare insight funerary practices as the clay plug and flint capping stone survived intact on top of the urn (see McKinley, Chapter 6).

A stone coffin was found within enclosure C; it contained the poorly-preserved remains of a possible male aged between 40 and 50 years. Hobnails found around the feet of the skeleton indicate that nailed shoes or boots had been worn by the deceased at the time of burial. The grave seems to have been disturbed at some point in the past and the coffin itself was filled with soil, which the lid was obviously designed to keep out. The lid of the coffin was also broken. One edge of the base of the coffin was also damaged, corresponding to the area of disturbance around the grave (see Chapter 3, Pl. 3.4). A small late 18th century button from the backfill appears to indicate that the burial was discovered in antiquity and opened, which may explain why the coffin was filled with soil. Apart from some hobnails, no other grave goods were found within the coffin but it is possible that objects were removed when the grave was previously opened.

Given the poor state of the human bone from the coffin it is difficult to assess fully the status of this individual but the presence of a coffin implies a person of a certain standing. The distribution of stone coffins appears to be largely urban or occurring on high-status rural sites (Philpott 1991, 53). In the

Dorchester area stone coffins have only been found at the main Poundbury Cemetery (Mills 1993c), where they occurred in association with mausolea; none has been recorded in the outlying cemeteries, perhaps reinforcing the idea that stone coffins were reserved for individuals of a certain status.

The demographic make-up of the *Durotrigian* assemblage at Poundbury Farm suggests that, in this particular population, mature males and very young infants were treated differently, their remains being disposed of elsewhere, however, this is a small assemblage which may not therefore be truly representative. The Romano-British assemblage is more representative of the living population, particularly as neonatal remains were recovered from the nearby settlement features. No conclusive familial relationships were identified in either of the assemblages but the distribution and clustering indicates some commonality between groups of individuals.

The physical characteristics of the individuals represented at Poundbury Farm appear to be largely homogeneous, both temporally and spatially, and are broadly comparable to the various local assemblages. Molleson (1993, 184) describes the Poundbury Cemetery collection as representing 'an indigenous British population, living and dying in the area', and there is no evidence from Poundbury Farm to indicate otherwise.

Dental health was reasonable and, considered together with a lack of excessive attrition, it seems that, as in the Poundbury Cemetery assemblage (Molleson 1993, 182), a cereal based diet including relatively soft and sticky components was common. The dental health of the Alington Avenue individuals, by comparison, was considerably better – indicating a difference in food texture and possibly type. The predominant attainment of average and above average statures at Poundbury Farm suggests that there was no shortage of protein. This may reflect the lifestyle of the individuals on these sites, perhaps related to status or simply reflecting the differences between urban and rural populations, however, the evidence is not clear.

The health of the individuals was apparently fairly good. The most common health problems were those originating in childhood. High rates of *cribra orbitalia* (indicating severe anaemia) and dental hypoplasia (indicating nutritional or health stress) suggests wide ranging stresses on immature individuals. Factors can include deficiencies of vital vitamins and minerals, whether due to a true dietary lack, heavy parasite infestation, or gastro-intestinal problems.

Only one individual may be described as having been involved in inter-personal violence, contrasting with the Little Keep assemblage (McKinley and Dinwiddy 2009). Indeed traumas are much more likely to be associated with heavy, hard work, slips, trips and falls in both the *Durotrigian* and Romano-British assemblages at Poundbury Farm. Joint degeneration patterns indicate that the Poundbury Farm population were participating in fairly heavy lifting and general labouring tasks (for example, farming and quarrying), and can be compared to the Poundbury Cemetery (Molleson 1993), particularly in comparison to the 'tradesmen' of Little Keep (McKinley 2009).

Post-Roman and Later Activity

At both Poundbury Farm and Poundbury Parkway there was very limited evidence for activity after the Roman settlement was abandoned probably at the end of the 4th or early 5th century. A single sherd of Early Saxon pottery came from the terrace on Area 5, and a little medieval and post-medieval pottery, a few metal finds, and a roofing slate were also recovered. Much of this material came from the topsoil or other unstratified contexts, and is likely to derive from manuring. The site remained in cultivation prior to the excavations.

Appendices

Appendix 1: The Archives

Poundbury Parkway and Land North of Poundbury Farm

The archive for the archaeological fieldwork described and discussed in this volume is currently held by Wessex Archaeology under the site codes 60020, 60021 and 60022. The records relating to the Parkway evaluation (60020) form one self-contained block, while the records relating to the land north of Poundbury Farm (60021 and 60022) together form a second block. The archives will in due course be deposited with the Dorset County Museum, Dorchester (DCM).

The summarised archive contents are as follows:

Site Name: Poundbury Parkway
WA project code: 60020
Date of fieldwork: 2005
Grid reference: 367182 090324
Publication reference: This report
Archive contents: 8 boxes finds; 3 files records

Site Name: Land North of Poundbury Farm
WA project code: 60021, 60022
Date of fieldwork: 2006; 2007
Grid reference: 367426 090997
Publication reference: This report
Archive contents: 125 boxes finds; 22 files records

The stone coffin from grave 4005 is stored at Poundbuury Farm and there is a display of finds, which may be consulted by appointment; these finds are summarised in Table A1.

Earlier fieldwork at Poundbury

A further eight fieldwork projects have taken place within the Poundbury development area; their locations are marked on Figure 1.2. The archives for all these projects are held (at time of writing) by Wessex Archaeology. The intention is that all these outstanding archives should also be deposited in due course with the Dorset County Museum, Dorchester (DCM).

Site Name: Middle Farm, Bridport Road
WA site code: W342
WA project code: 33091
Date of fieldwork: 1990; 1992
Grid reference: 367700 090100
Publication reference: Butterworth and Gibson 2004, 15–25
Archive contents: 26 boxes finds; 8 files records
Finds summary: 4173 pieces worked flint (Palaeolithic handaxe; Late Mesolithic microlith; possible Mesolithic pick or tranchet axe; remainder Neolithic & Bronze Age: 2 arrowheads; 66 scrapers; 31 other tools); 2315 sherds pottery (264 Early Neolithic; 123 Early/Middle Bronze Age; 1880 Late Bronze Age; 48 Late Iron Age/Roman); 8 quernstone frags; one poss. whetstone; 2 shale armlet frags; 1 copper alloy object (Late Bronze Age); 13 iron objects (Roman).
Site summary: Fieldwork comprised evaluation (fieldwalking & trial trenching) & excavation. Identified archaeological remains ranging in date from Early Neolithic– Romano-British. These included a cluster of Early Neolithic pits; an Early/Middle Bronze Age field system; Middle–Late Bronze Age roundhouses & pits; Late Iron Age/Romano-British marl pits.

Table A1: Finds on display at Poundbury Farm

Object type	*Obj. no.*	*Context*
Cu alloy bracelet	5834	5077
Cu alloy bracelet	5835	5077
Cu alloy bracelet	11504	11020
Flint axe roughout	-	3008
Flint axe roughout	-	3008
Flint flakes & cores	-	3008
Flint axe	3750	3008
Flint bt arrowhead	3	unstratified
Flint axe	10035	4175
SE Dorset BBware carinated bowl	10040	4146
S Gaulish samian Dr 27 cup	11501	11010
SE Dorset BBware carinated bowl	11502	11010
Shale spindlewhorl	5944	5240
Silver disc brooch	4912	4040
Silver finger ring	5788	5070
Quernstone	-	7706
Stone axe	-	unstratified
Stone coffin	10305 & 10306	4005

Site Name: Poundbury Phase II Development
WA site code: W2765
WA project code: 42765
Date of fieldwork: 1996
Grid reference: 367400 090500
Publication reference: Lewis 1996, 134
Archive contents: 1 box finds; 1 file records
Finds summary: Post-medieval pottery & ceramic building material (not retained); 244 pieces worked flint (inc. 6 scrapers & 4 other tools; some ?Neolithic). All finds from fieldwalking; none recovered from evaluation trenches.
Site summary: An evaluation comprising geophysical survey, fieldwalking, & evaluation trenching was carried out over an area to the south-east of Poundbury Farm. Geophysical survey & trenching failed to find evidence for any archaeological features, despite presence of cropmarks on aerial photographs, either because these were not archaeological, or because they were subsequently destroyed by ploughing. Fieldwalking produced low density of worked flint across site, inc. some ?Neolithic pieces, unlikely that material could be used to provide any reliable indicators about archaeology below ploughsoil.

Site Name: Poundbury Sports Centre & Cemetery
WA site code: W3237
WA project code: 43237
Date of fieldwork: 1997
Grid reference: 367700 090800
Publication reference: Smith 1997a, 160; Gardiner 2003b, 157–9
Archive contents: 3 boxes finds; 2 files records
Finds summary: 427 pieces worked flint (8 scrapers, 2 other tools; Late Neolithic & Bronze Age; roughly half from stratified features); 215 sherds pottery (170 late prehistoric, mostly sherds from two vessels (Gardiner 2003a, 159, fig. 5); 2 Roman; 43 post-medieval); 54 pieces ceramic building material (4 possibly Roman); 23 pieces burnt flint; 4 iron objects
Site summary: Evaluation comprising 40 trenches covered area between Bridport Road & Poundbury Road. Range of archaeological features & deposits, inc. hillwash, later Bronze Age ditched field system, isolated pits of Bronze Age date, prob. Middle Bronze Age enclosed settlement & residual finds of Neolithic, Bronze Age, & Romano-British date.

Site Name: New Poundbury Cemetery
WA site/project code: 48500
Date of fieldwork: 2000-1
Grid reference: 367940 090980
Publication reference: Gardiner 2003b, 157–9
Archive contents: 2 boxes finds; 2 files records
Finds summary: 315 pieces worked flint (16 scrapers, 4 other tools, 1 polished axe flake; Neolithic & Bronze Age); 48 sherds pottery (14 late prehistoric; 33 Roman; 1 medieval); 20 pieces animal bone; 3 pieces ceramic building material (Roman); 422 pieces burnt flint.
Site summary: Two areas excavated (Areas 1 & 2), in area earlier evaluated (see above, site code 43237). 2 large pits in Area 1, prob. chalk quarries. Early Roman pottery in upper fills of one of these suggests prehistoric date; second pit undated, but proximity & morphological similarities suggest the 2 pits were contemporary. In Area 2, no further evidence recovered for date of ditched field system revealed during evaluation, although a Bronze Age date still seems most likely.

Site Name: Land to west of Poundbury Farm I
WA site/project code: 48814
Date of fieldwork: 2000–2001
Grid reference: 367050 090610
Publication reference: Gardiner 2003a, 154–6
Archive contents: 1 box finds; 2 files records
Finds summary: 292 pieces worked flint (late Neolithic–Bronze Age; just under half from colluvium or stratified features); 109 sherds pottery (95 late prehistoric; 8 Late Iron Age/Roman; 6 post-medieval); 4 pieces ceramic building material (post-medieval).
Site summary: Evaluation comprising 23 trenches identified range of archaeological features & deposits across site comprising dispersed occupation site, inc. poss. roundhouse (but see below, site code 49936) & pits, prob. Late Bronze Age date, & associated ditched field system.

Site Name: Land to south-west of Poundbury Farm
WA site/project code: 48817
Date of fieldwork: 2000–2001
Grid reference: 367150 090350
Publication reference: Gardiner 2003a 154–6
Archive contents: 11 boxes finds (records with W8814)
Finds summary: 2866 pieces worked flint (4 arrowheads; 1 tranchet tool; 1 core tool; 1 pick; Neolithic & Bronze Age; 1 large group *in situ* knapping debris); 119 pieces burnt (unworked) flint; 564 sherds pottery (267 late prehistoric; 17 Roman; 280 post-medieval); 162 ceramic building material (11 Roman; remainder post-medieval); 24 pieces stone; 120 pieces glass (post-medieval); 17 iron objects (post-medieval); 49 animal bone.
Site summary: Evaluation to SW of Poundbury Farm comprised 65 trenches.Area revealed a Middle/Late Bronze Age landscape similar to that observed elsewhere in area; individual components inc. rectilinear enclosure & associated field system, thin scattering of pits & post-holes.

Site Name: Land to west of Poundbury Farm II
WA site/project code: 49936
Date of fieldwork: 2001
Grid reference: 367040 090660
Archive contents: 1 box finds; 1 files records
Finds summary: 67 pieces worked flint (1 scraper; Neolithic–Bronze Age); 24 sherds pottery (all prehistoric).
Site summary: Excavation W of Poundbury Farm already evaluated (see above, site code W8814). 3 trenches of which Tr 3 revealed shallow ditch, further evidence of field systems uncovered by evaluation. Single pit in same trench, prob. chalk quarry, produced quantity of struck flint & 1 Iron Age pottery sherd. Trench 1 did not reveal evidence for poss. roundhouse identified during evaluation, but rather a gully prob. associated with field systems.

Site Name: Bridport Road, Poundbury
WA site/project code: 49665
Date of fieldwork: 2001
Grid reference: 366700 090300
Archive contents: 1 box finds; 1 file records
Finds summary: 5 pieces worked flint (Neolithic/Bronze Age).
Site summary: Evaluation comprising 4 trenches revealed no archaeological features or deposits. Worked flints recovered from natural clay deposit likely to be residual.

Appendix 2: Fabric Descriptions

c1 fine silty sand matrix; some rock fragments; moderate fine and medium vesicles; moderate to abundant chalk

f1 micaceous quartz sand matrix; moderate fine to medium well sorted crushed calcined flint
f2 micaceous quartz sand matrix; moderate fine to coarse poorly sorted crushed calcined flint
f3 silty sand matrix; occasional coarse calcined flint
f4 micaceous fine quartz sand; sparse medium calcined flint
f5 micaceous fine quartz sand; iron minerals; sparse medium to coarse calcined flint
f6 micaceous fine quartz sand; sparse fine to medium calcined flint
f7 slightly micaceous fine quartz sand matrix; moderate to common fine to very coarse poorly sorted calcined flint
f8 fine silty fabric, some iron minerals; sparse fine to coarse vesicles. Sparse to moderate calicned flint

g1 fine silty matrix. Moderate medium to coarse grog

q1 fine micaceous quartz sand fabric
q2 micaceous quartz sand fabric with some fine calcined flint
q3 slightly micaceous quartz sand; some mixed rock fragments prod accidental or natural
q4 micaceous fine quartz sand fabric, some iron minerals, sparse calcined flint
q5 fine sand, very small amount of quartz. Sparse fine vesicles.
q6 micaceous fine quartz sand; sparse fine to medium calcined flint
q7 medium quartz sand matrix; sparse to moderate long voids

r1 fine silty sand matrix; moderate fine and medium vesicles; calcite
r2 micaceous quartz sand; detrital temper – includes rock fragments, quartzite, calcined flint, chalk/limestone
r3 sandy matrix; sparse coarse calcined flint; moderate to common medium to coarse calcite

s1 fine sand matrix; sparse iron minerals; moderate crushed shell

v1 quartz sand matrix, slightly micaceous; moderate coarse vesicles
v2 fine silty sand matrix; some rock fragments; moderate fine and medium vesicles
v3 fine silty fabric, some iron minerals; sparse fine to coarse vesicles
v4 fine micaceous sandy matrix; moderate long voids

Bibliography

Adams, J.C., 1987. *Outline of Fractures*, London, Churchill Livingstone

Allason-Jones, L., 1989. *Ear-Rings in Roman Britain*, Oxford, Brit. Archaeol. Rep. 201

Allen, M. J., 1997. Landscape, Land-use and farming, in Smith *et al.* 1997, 277–83

Ameres, M.J., Montalbano, G. and Yeh, B., 2010. *Navicular Fractures*. Emedicine online clinical reference site, http://emedicine.medscape.com/article/85973-overview

American Academy of Orthopaedic Surgeons (AAOS), 2007, *Spondylolysis and Spondylolisthesis*, http://www.orthoinfo.org

Arkell, W.J., 1947. *Geology of the Country Around Weymouth, Swanage, Corfe and Lulworth*, Memoir of the Geological Survey of Great Britain, Sheet 341–3, England and Wales, London, HMSO

Arnott, R., Finger, S. and Upham Murray Smith, C., 2002. *Trepanation: history, discovery, theory*, London, Taylor and Francis

Aufderheide, A.C. and Rodríguez-Martín, C., 1998. *The Cambridge Encyclopaedia of Human Palaeopathology*, Cambridge, Univ. Press

Bakels, C.C., 1991. Western Continental Europe, in W. van Zeist, K. Wasylikowa and K.-E. Behre (eds), *Progress in Old World Palaeoethnobotany*, Rotterdam, Balkema, 279–298

Barclay, A.J. and Bayliss, A., 1999. Cursus monuments and the radiocarbon problem, in A. Barclay and J. Harding (eds), *Pathways and Ceremonies: the cursus monuments of Britain and Ireland*, Neolithic Studies Group Seminar Pap 4, Oxford, Oxbow, 11–29

Barnes, E., 1994. *Developmental Defects of the Axial Skeleton in Palaeopathology*, Miwot, Colorado, Univ. Press

Barrett, S.L. and O'Malley, R., 1999. *Plantar Fasciitis and other causes of Heel Pain in American Academy of Family Physicians*, http://www.aafp.org/afp/990415ap/2200.html

Bass, W.M., 1987. *Human Osteology*, Missouri Archaeol Soc, Columbia

Bayley, J. and Butcher, S., 2004. *Roman Brooches in Britain: a technological and typological study based on the Richborough Collection*, London, Rep. Res. Comm. Soc. Antiq. London 68

Bayley, J, Dungworth, D. and Paynter, S. 2001. *Archaeometallurgy*, Centre for Archaeology Guidelines 2001/01, London, English Heritage

Beaven, E.S. 1947. *Barley. Fifty Years of Observation and Experiment*, London, Duckworth

Beek, G.C., van, 1983. *Dental Morphology: an illustrated guide*, Bristol, J. Wright

Behrens, H., 1962. *Lehrbuch der Schafkrankheiten,* Berlin/Hamburg, Paul Parey

Bellamy, P.S., 1993. Building materials and construction, in Woodward *et al.* 1993, 168

Bellamy, P. S., Graham, A. and Richards, J., 1993. Dorchester First School, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 115, 152

Bellamy, P., 1997. Flaked stone assemblages, in Smith *et al.* 1997, 136–54

Bergman, R.A., 1998. *Anatomy Atlases: illustrated encyclopaedia of anatomical variation*, http://www.anatomyatlases.org

Berry, A.C. and Berry, R.J., 1967. Epigenetic variation in the human cranium, *J. Anat.* 101(2), 261–379

Biffen, R.H. 1924. Report on the Cereals, 493–4, in R.C.C Clay, An Early Iron Age site on the Fifield Bavant Down, *Wiltshire Archaeol. Mag.* 42, 457–96

Binford, L.R., 1981. *Bones, Ancient Men and Modern Myths,* New York, Academic Press

Birbeck, V. and Moore, C., 2004. Preservation and investigation of Roman and medieval remains at Hyde Street, Winchester, *Proc. Hampshire Fld Club Archaeol. Soc.* 59, 77–110

Black, E.W., 1986. Romano-British burial customs and religious beliefs in south-east England, *Archaeol. J.* 143, 201–39

Boardman, S. and Jones, G., 1990. Experiments on the effects of charring on cereal plant components, *J. Archaeol. Sci.* 17, 1–11

British Geological Survey of Great Britain (England and Wales), 1981. *British Geological Survey of Great Britain, 1:50,000 Solid and Drift Series, Sheet 328*

Bronk Ramsey, C., 2009. Bayesian analysis of radiocarbon dates, *Radiocarbon*, 51, 337–360

Brothwell, D.R. 1972. *Digging Up Bones*, London, Brit. Mus. (Natur. Hist.)

Brothwell, D. and Zakrzewski, S., 2004. Metric and non-metric studies of archaeological human remains, in M. Brickley and J.I. McKinley (eds), *Guidelines to the Standards for Recording Human Remains*, Reading Brit. Assoc. Biol. Anthropol. Osteoarchaeol./Inst. Fld Archaeol., 24–30

Brown, C. and Cullen, N., 2009. *Bunionette*. Emedicine online clinical reference site, http://emedicine.medscape.com/article/1236005-overview

Buckland-Wright, J.C., 1987. The animal bones, in Green 1987, 129–32

Buckland-Wright, J.C., 1993. The animal bones, in Farwell and Molleson 1993, 110–11

Buikstra, J.E. and Ubelaker, D.H., 1994. *Standards for Data Collection from Human Skeletal Remains*, Arkansas, Archaeol. Surv. Res. Ser. 44

Bullock, A.E. and Allen, M.J., 1997. Animal bones, in Smith *et al.* 1997, 190–9

Butterworth, C. and Gibson, C., 2004. Neolithic pits and a Bronze Age field system at Middle Farm, Dorchester, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 126, 15–25

Calkin, J.B., 1935. An Early Romano-British kiln at Corfe Mullen, Dorset, *Antiq. J.* 15, 42–5

Campbell, G. and Straker, V., 2003. Prehistoric crop husbandry and plant use in Southern England: development and regionality, in K. A. Robson-Brown (ed.), *Archaeological Sciences 1999: proceedings of the Archaeological Sciences Conference, University of Bristol, 1999*, Oxford, Brit. Archaeol. Rep. 1111, 14–30

Campbell, G., 2000. Plant utilisation: the evidence from charred plant remains, in Cunliffe 2000, 45–59

Campbell, G., 2008. Plant utilization in the countryside around Danebury: a Roman perspective, in B. Cunliffe and C. Poole, *The Danebury Environs Roman Programme: a Wessex landscape during the Roman era, vol 1*, Oxford, Univ. Comm. Archaeol. Monogr. 70, 53–100

Care, V., 1979. The production and distribution of Mesolithic axes in Southern England, *Proc. Prehist. Soc.* 45, 93–102

Carruthers, W.J., 1991. The carbonised plant remains, in Woodward 1991a, 106–11

Carruthers, W.J., 2009 The charred plant remains, in L. Ladle and A. Woodward, *Excavations at Bestwall Quarry, Wareham 1992–2005. Volume 1. The prehistoric landscape*, Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 19, 339–348

Challinor, D., 2008. Wood charcoal, in P. Booth, A-M. Bingham and S. Lawrence, *The Roman Roadside Settlement at Westhawk Farm, Ashford, Kent, Excavations 1998–9*, Oxford, Oxford Archaeol. Monogr. 2, 343–9

Clarke, G., 1979. *Pre-Roman and Roman Winchester Part II: the Roman cemetery at Lankhills*, Oxford, Clarendon

Cleal, R.M.J., 1991. The earlier prehistoric pottery, in Sharples 1991, 171–85

Cleal, R.M.J., 1992. Significant form: ceramic styles in the earlier Neolithic of southern England, in N. Sharples and A. Sheridan (eds), *Vessels for the Ancestors,* Edinburgh, Univ. Press, 286–304

Cleal R.M.J., 1997. Earlier prehistoric pottery, in Smith *et al.* 1997, 86–102

Cooke, N., 2007. A late Roman coin hoard from the County Hospital site, Dorchester, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 128, 61–7

Cool, H.E.M., 2004. *The Roman Cemetery at Brougham, Cumbria: excavations 1966–67*, London, Britannia Monogr. 21

Cool H.E.M. and Mills J.M., 1993. The copper alloy and silver gravegoods, in Farwell and Molleson 1993, 89–96

Copson, C.K. and Healy, F., 1993. Portable stone objects, in Smith, 1993, 36

Copson, C.K. and Healy, F., 1997. Stone, in Smith *et al.* 1997, 133–6

Coy, J. P., 1987. Animal bones and marine molluscs (Rope Lake Hole), in P.J. Woodward, *Romano-British Industries in Purbeck: excavations at Ower and Rope Lake Hole,* Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 6, 177–9

Coy, J., 1989. The provision of fowls and fish for towns, in D. Serjeantson and T. Waldron (eds), *Diet and Crafts in Towns: the evidence of animal remains from the Roman to the post-medieval periods*, Oxford, Brit. Archaeol. Rep. 199, 25–40

Cunliffe, B., 2000. *The Danebury Environs Programme: The Prehistory of a Wessex Landscape Volume 1: Introduction,* Oxford, Univ. Comm. Archaeol. Monogr. 48

Davies, S.M. and Grieve, D., 1986. The Poundbury pipe-line: archaeological observations and excavations, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 108, 81–8

Davies, S.M. and Hawkes, J.W., 1987. The pottery, in Green 1987, 117–28

Davies, S.M., Woodward, P.J. and Ellison, A.B., 1991. The pottery, in Woodward 1991a, 96–101

Davies, S.M., Bellamy, P.S., Heaton, M.J. and Woodward, P.J., 2002. *Excavations at Alington Avenue, Fordington, Dorchester, Dorset, 1984–87,* Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 15

Davis, S.J.M., 1996. Measurements of a group of adult female Shetland sheep skeletons from a single flock: a baseline for zooarchaeologists, *J. Archaeol. Sci.* 23, 593–612

Dias, G. and Tayles, N., 1997. Abscess cavity – a misnomer, *Int. Journ. Osteoarchaeology* 7, 548–54

Driesch, A. von den., 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites,* Cambridge, Massachusetts: Peabody Mus. Archaeol. Ethnol. Bull. 1

Driesch, A. von den and Boessneck, J., 1974. Kritische Anmerkungen zur Widerristhöhenberechnung aus Langenmaßen vor- und frühgeschichtlicher Tierknochen, *Säugetierkundliche Mitteilungen* 22, 325–48

Dungworth, D., 1998. Mystifying Roman nails: *clavus annalis*, *defixiones* and *minkisi*, in C. Forcey, J. Hawthorne and R. Witcher (eds), *TRAC 97, Proc. Seventh Annual Theoretical Archaeology Conference*, Oxford, Oxbow, 148–59

Ede, J., 1993. Plant remains, in Smith, 1993, 73–7

Edlin, H.L., 1949. *Woodland Crafts in Britain: an account of the traditional uses of trees and timbers in the British countryside*, London, Batsford

English Heritage, 2002. *Environmental Archaeology; a guide to theory and practice of methods, from sampling and recovery to post-excavation*, Swindon, Centre for Archaeology Guidelines

Edmonds, M. and Bellamy, P., 1991. The flaked stone, in Sharples 1991, 214–29

Egging Dinwiddy, K., 2009. *A late Roman Cemetery at Little Keep, Dorchester, Dorset*, http://www.wessexarch.co.uk/projects/dorset/dorchester/little-keep

Ehara, S., El-Khoury, G.Y. and Bergman, R.A., 1988. The accessory sacroiliac joint: a common anatomical variant, *Amer. J. Roentgenol.* 150, 857–9

Ekwall, E., 1991. *The Concise Oxford Dictionary of English Place-names*, Oxford, Univ. Press

Evans, J.G., 1972. *Land Snails in Archaeology*, London, Seminar

Ewersen, J., 2004. Die unterschiedliche Nutzung von Haus- und Wildtieren im Neolithikum Ostholsteins am Beispiel der Schnittspurenanalyse an Knochen aus Grube-Rosenhof, Wangels LA 505 und Heidmoor, *Archäologische Informationen*, 27(1), 109–21

Fairweather, A.D. and Ralston, I.B.M., 1993. The Neolithic timber hall at Balbridie, Grampian Region, Scotland: the building, the date, the plant macrofossils, *Antiquity* 67, 313–23

Fasham, P.J. and Ross, J.M., 1978. A Bronze Age flint industry from a barrow site at Micheldever Wood, Hampshire, *Proc. Prehist. Soc.* 44, 47–68

Farrar, R.A.H., 1973. The techniques and sources of Romano-British Black Burnished Ware, in A.P. Detsicas (ed.), *Current Research in Romano-British Coarse Pottery,* London, Counc. Brit. Archaeol. Rep. 10, 67–103

Farwell, D.E. and Molleson, T.I. 1993. *Poundbury: the Cemeteries Volume II,* Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 11

Field, N.H., 1992. *Dorset and the Second Legion: new light on a Roman campaign*, Tiverton, Dorset Books

Figueiral, I., 1992. The charcoals, in M.G. Fulford and J.R.L. Allen, Iron-making at the Chesters Villa, Woolaston, Gloucestershire: Survey and Excavation 1987–91, *Britannia* 23, 188–91

Fink, G., 1999. *Who's who in der antiken Mythologie*, München, Deutscher Taschenbuch Verlag

Finnegan, M., 1978. Non-metric variations of the infracranial skeleton. *J. Anat.* 125(1), 23–37

Ford, S., Bradley, R., Hawkes, J. and Fisher, P., 1984, Flint-working in the metal age, *Oxford J. Archaeol.* 3(1), 155–74

Frere, S., 1974. *Britannia: a history of Roman Britain*, London, Book Club Associates

Fulford, M., 1975, *New Forest Roman Pottery*, Oxford, Brit. Archaeol. Rep. 17

Gale, R., 1997. Charcoal, in A.P. Fitzpatrick, *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992*, Salisbury, Wessex Archaeol. Rep. 12, 253

Gale, R. and Cutler, D., 2000. *Plants in Archaeology: identification manual of vegetative plant materials used in Europe and the southern Mediterranean to* c. *1500*, Westbury and Kew, Kew Gardens

Gardiner, J., 2003a. Dorchester, Land to the West and South-West of Poundbury Farm, 2000–2001, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 125 154–6

Gardiner, J., 2003b. Dorchester, New Cemetery and Sports Centre, Poundbury, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 125 157–9

Gardiner, J., Allen, M.J, Powell, A., Harding, P., Lawson, A.J., Loader, E., Mckinley, J., Sheridan, A. and Stevens, C., 2007. A matter of life and death: Late Neolithic, Beaker and Early Bronze Age settlement and cemeteries at Thomas Hardye School, Dorchester, *Proc. Dorset Nat. Hist. Archaeol. Soc.* 128, 17–52

Garrow, D., Beadsmore, E. and Knight, M., 2005. Pit clusters and the temporality of occupation: an earlier Neolithic site at Kilverstone, Thetford, Norfolk. *Proc. Prehist. Soc.* 71, 139–57

Gillam, J.P., 1976. Coarse fumed ware in northern Britain and beyond, *Glasgow Archaeol. J.*, 4, 58–80

Gejvall, N.G. 1981. Determination of burnt bones from prehistoric graves. *OSSA LETTERS* 2, 1–13

Grant, A., 1982. The use of tooth wear as a guide to the age of domestic ungulates, in B. Wilson, C. Grigson and S. Payne (eds), *Ageing and Sexing Animal Bone from Archaeological Sites*, Oxford, Brit. Archaeol. Rep. 109, 91–108

Greig J.R.A., 1991. The British Isles, in W. van Zeist, K. Wasylikowa and K.-E. Behre (eds), *Progress in Old World Palaeoethnobotany*, Rotterdam, Balkema, 299–333

Green, H.S., 1980. *The Flint Arrowheads of the British Isles*, Oxford, Brit. Archaeol. Rep. 75

Green C. Sarey, 1987. *Excavations at Poundbury, Dorchester, Dorset, 1966–1982, Vol. I: the settlements*, Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 7

Grimm, J.M., 2008. Animal bone, in M. Trevarthen, *Suburban life in Roman Durnovaria. Wessex Archaeology*, http://www.wessexarch.co.uk/publications/suburban-life-roman-durnovaria

Grimm, J.M., forthcoming. Animal bone [Sprinhead Sanctuary], in C. Barnett, J.I. McKinley, J.M. Grimm, and C.J. Stevens, *Settling the Ebbsfleet Valley CTRL Excavations at Springhead and Northfleet, Kent – The Late Iron Age, Roman, Saxon and Medieval Landscape, Volume 3: Late Iron Age to Roman human remains and environmental reports*, Oxford Wessex Archaeology

Guido, M. and Mills, J., 1993. Beads (jet, glass, crystal and coral), in Farwell and Molleson 1993, 100–2

Habermehl, K.H., 1975. *Die Altersbestimmung bei Haus- und Labortieren, 2. vollständig neubearbeitete Auflage*, Berlin/Hamburg, Paul Parey

Halstead, P., Collins, P. and Isaakidou, V., 2002. Sorting the sheep from the goats: morphological distinctions between the mandibles and mandibular teeth of adult *Ovis* and *Capra*, *J. Archaeol. Sci.* 29, 545–53

Hamilton-Dyer, S., 1993. Animal bones, in Smith. 1993, 77–82

Harcourt, R.A., 1974. The dog in prehistoric and early historic Britain, *J. Archaeol. Sci.* 1, 151–75

Harding, P., 1991. Stratified groups from Rowden and Cowleaze, in Woodward, 1991a, 73–87

Harding, P., 2004. Worked flint, in Butterworth and Gibson 2004, 20–3

Harding, P. 2010. Axes and pits: Early Neolithic flint working at Poundbury Farm, Dorchester, Dorset, *Lithics* 31, 113–29

Hather, J.G., 2000. *The Identification of Northern European Woods; a guide for archaeologists and conservators*, London, Archetype

Healy, F., 1997. Site 3, Flagstones, in Smith *et al.* 1997, 27–48

Helbaek H., 1957. Note on carbonised cereals, in G.F. Burston and G.A. Holleyman, The late Bronze Age settlement on Itford Hill, Sussex, *Proc. Prehist. Soc*. 23, 167–209

Henderson, J., 1987. Factors determining the state of preservation of human remains, in A. Boddingtons, A.N. Garland and R.H. Janaway (eds), *Death, Decay and Reconstruction*, Manchester, Univ. Press, 43–54

Herkowitz, N. and Ball, G.R., 2004. *The Lumbar Spine*, Int. Soc. Study Lumbar Spine, LWW Medical Book Collection

Hillman, G., 1981. Reconstructing crop husbandry practices from charred remains of crops, in R. Mercer (ed.), *Farming Practice in British Prehistory*, Edinburgh, Univ. Press, 123–62

Hillman, G., 1982. Evidence for spelting malt, in R. Leech (ed.), *Excavations at Catsgore 1970–73. A Romano-British Village*, Bristol, Western Archaeol. Trust Excav. Monogr. 2, 137–41

Hillman, G., 1984. Interpretation of archaeological plant remains, in W. van Zeist and W. Casperie (eds), *Plants and Ancient Man, Rotterdam*, Balkema, 1–41

Hillson, S.W., 1979. Diet and dental disease, *World Archaeology* 2(2), 147–62

Hillson, S.W., 1986. *Teeth*, Cambridge, Univ. Press

Hinton, P. 1982. Carbonised seeds, 382–90, in P. Drewett, Later Bronze Age downland economy and excavations at Black Patch, East Sussex, *Proc. Prehist. Soc.* 48, 321–400

Holden, J.L., Phakley, P.P. and Clement, J.G., 1995a. Scanning electron microscope observations of incinerated human femoral bone: a case study, *Forens. Sci. Int.* 74, 17–28

Holden, J.L., Phakley, P.P. and Clement, J.G., 1995b. Scanning electron microscope observations of heat-treated human bone, *Forens. Sci. Int.* 74, 29–45

Hopkins, D.E.W. and Wiltshire, P.Q., 2003. The disposal and decomposition of human and animal remains: implications for health of people past and present, in P. Murphy and P.Q. Wiltshire (eds), *The Environmental Archaeology of Industry, Symposia of the Association for Environmental Archaeology*, Oxford, Oxbow, 167–70

Institute of Field Archaeologists, 2008. *Standard and Guidance for Archaeological Excavation*, Reading, Institute of Field Archaeologists

Inoue, S. and Tsubo, K., 2005. Locking metacarpophalangeal joint of the thumb: morphological risk factors, *J. Japanese Soc. Surgery of Hand*, 22(2), 101–7

Jacomet, S., 2008. *Identification of cereal remains from archaeological sites*, (3rd edition, 2008, translated in to English by James Grieg), IPAS, Basel

Jarrett, M.G., 1994. Non-legionary troops in Roman Britain: part one, the units, *Britannia* 25, 35–77

Jenkins, A.V., 1997. Human bone, in Smith, *et al.* 1997, 254–58

Jones, M. (with an appendix by M. Robinson), 1991. The carbonised plant remains, in J. Barrett, R. Bradley and M. Hall (eds), *Papers on the Prehistoric Archaeology of Cranborne Chase*, Oxford, Oxbow Monogr. 11, 49–53

Jones, G., 2006. Tooth eruption and wear observed in live sheep from Butser Hill, the Cotswold Farm Park and Five Farms in the Pentland Hills, UK, in D. Ruscillo (ed.), *Recent Advances in Ageing and Sexing Animal Bones*, Oxford, Oxbow, 155–78

Jones, J. and Straker, V., 1993. Macroscopic plant remains, in Woodward *et al.* 1993, 349–50

Jones, G. and Rowley-Conwy, P., 2007. On the importance of cereal cultivation in the British Neolithic, in S. Colledge and J. Conolly (eds),

The Origins and Spread of Domestic Plants in Southwest Asia and Europe, London, Inst. Archaeol., 391–419

Katzenberg, M.A. and Saunders, S.R., 2008. *Biological Anthropology of the Human Skeleton*, New Jersey, Hoboken

Keen, L.J., 1984. The towns of Dorset, in J. Haslam (ed.), *The Anglo-Saxon Towns of Southern England*, London, Phillimore, 203–47

King, A., 1991. Food production and consumption – meat, in R.F.J. Jones (ed.), *Britain in the Roman Period: recent trends*, Sheffield, Univ. Sheffield, 15–20

Knüsel, C., 2000. Activity related changes, in V. Fiorato, A. Boylston and C. Knüsel (eds) *Blood Red Roses: the archaeology of the mass grave from the battle of Towton AD 1461*, Oxford, Oxbow, 103–18

Lauwerier, R.C.G.M., 1988. *Animals in Roman times in the Dutch eastern river area*, Nederlandse Oudheden 12, Amersfoort, ROB

Laws, K., 1991. The chalk, in Sharples 1991, 210–14

Letts, J., 1997. Charred plant remains, in Smith *et al.* 1997, 267–70

Levitan, B., 1990. V*ertebrate Remains from Bancroft Villa, Milton Keynes, Bucks, 1983–86*, London, Anc. Monum. Lab. Rep. 58/90

Lewis, J.S.C., 1996. Poundbury Phase II, Dorchester, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 118, 134

Lewis, M. and Roberts, C., 1997. Growing pains: the interpretation of stress indicators. *Int. J. Osteoarchaeol.* 7, 581–6

Lovell, J., 2005. Excavation of a Romano-British farmstead at RNAS Yeovilton, *Somerset Archaeol. Natur. Hist.* 148, 7–70

Maat, G.J.R. and Mastwijk, R.W., 2000. Avulsion injuries or vertebral endplates, *Int. J. Osteoarchaeol.* 10, 142–52

McKinley, J.I., 1993. Bone fragment size and weights of bone from modern British cremations and its implications for the interpretation of archaeological cremations, *Int. J. Osteoarchaeol.* 3, 283–7

McKinley, J.I., 1994a. *The Anglo-Saxon Cemetery at Spong Hill, North Elmham Part VIII: the cremations*, Gressenhall, E. Anglian Archaeol. 69

McKinley, J.I., 1994b. Bone fragment size in British cremation burials and its implications for pyre technology and ritual, *J. Archaeol. Sci.* 21, 339–42

McKinley, J.I., 1997b. Bronze Age 'barrows' and the funerary rites and rituals of cremation, *Proc. Prehist. Soc.* 63, 129–45

McKinley, J.I., 2000a. The analysis of cremated bone, in M. Cox and S. Mays (eds), *Human Osteology*, London, Greenwich Medical Media, 403–21

McKinley, J.I., 2000b. Human bone and funerary deposits, in Walker and Farwell 2000, 85–119

McKinley, J.I., 2003a. *Cremated bone from the Anchor Street Works, Anchor Street, Lincoln (ANSA03)*, Unpubl. rep. for City of Lincoln Archaeol. Unit

McKinley, J.I., 2003b. *Cremated bone from Glebe Farm, Brough,* Nottinghamshire, unpubl. rep. for Trent and Peak Archaeol.

McKinley, J.I., 2004a. The human remains and aspects of pyre technology and cremation rituals, in Cool 2004, 283–309

McKinley, J.I., 2004b. The cremated bone, 97–103, in V. Birbeck and C. Moore, Preservation and investigation of Roman and medieval remains at Hyde Street, Winchester, *Proc. Hampshire Fld Club Archaeol. Soc.* 59, 77–110

McKinley, J.I., 2004c. Compiling a skeletal inventory: disarticulated and co-mingled remains, in M. Brickley and J.I. McKinley (eds), *Guidelines to the Standards for Recording Human Remains*, Reading, Brit. Assoc. Biol. Anthrop. Osteoarchaeol./Inst. Fld Archaeol., 13–16

McKinley, J.I., 2008. In the heat of the pyre: efficiency of oxidation in Romano-British cremations – did it really matter?, in C.W. Schmidt and S. Symes (eds), *Beyond Recognition: the analysis of burned human remains*, Oxford, Elsevier, 163–84

McKinley, J.I., 2009a. The human remains, in Egging Dinwiddy 2009, 11–35

McKinley, J.I., 2009b. Human Bone from the route of the Weatherlees–Margate–Broadstairs wastewater pipeline, available at: http://www.scribd.com/doc/28444484/Kentish-Sites-and-Sites-of-Kent-Specialist-Report-3-Human-Bone-Report

McKinley, J.I., 2010. Cremated bone report (Human remains, section 12, CD), in Framework Archaeology, *The Landscape Evolution of the Middle Thames Valley, Heathrow Terminal 5 Excavations Volume 2*, Framework Archaeology Monogr. 3, Oxford and Salisbury

McKinley, J.I., forthcoming, 'How did it go?' ... putting the processes back into cremation, in J. Pearce (ed.), *Death as a Process*, Oxford, Oxbow

McKinley, J.I. and Dinwiddy, K.E., 2009. 'Deviant' burials from a late Romano-British cemetery at Little Keep, Dorchester, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 130, 1–19

Maffulli, N., Renström, P., and Leadbetter, W.B. 2005, *Tendon Injuries: basic science and clinical medicine*, New York, Springer

Major, H., 1998. Objects of baked clay, in S. Wallis and M. Waughman, *Archaeology and the Landscape in the Lower Blackwater Valley*, Chelmsford, E. Anglian Archaeol. 82, 160–3

Maltby J.M., 1987a. *The Animal Bones from the Later Roman Phases from Winchester Northern Suburbs: 1: the unsieved samples from Victoria Road trenches X–XVI*, London, Anc. Monum. Lab. Rep. 125/87

Maltby J.M., 1987b. *The Animal Bones from the Excavations at Owslebury, Hants. An Iron Age and Early Romano-British Settlement*, London, Anc. Monum. Lab. Rep. 8/87

Maltby J.M., 1988. *The Animal Bones from the 1984/85 Excavations at Alington Avenue, Dorchester, Dorset*, London, Anc. Monum. Lab. Rep. 182/88

Maltby, J.M., 1993. Animal bones, in Woodward *et al.* 1993, 315–40

Maltby, M., 2002. Animal bones, in Davies *et al.* 2002, 111–16

Maltby, M., 2010. *Feeding a Roman Town, Environmental Evidence from Excavations in Winchester, 1972–1985*, Winchester, Winchester Museums

Manning, W.H., 1985. *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum*, London, Brit. Mus.

Matolcsi, J., 1970. Historische Erforschung der Körpergröße des Rindes auf Grund von ungarischem Knochenmaterial, *Zeitschrift für Tierzüchtung und Züchtungsbiologie* 87, 89–137

May, E., 1985. Widerristhöhe und Langenknochenmaße bei Pferden – ein immer noch aktuelles Problem, *Zeitschrift für Säugetierkunde* 50, 368–82

Mepham, L., 2009. Fired clay and ceramic building material, 36–7 in P. Andrews, West Thurrock: late prehistoric settlement, Romano-British burials and the medieval manor house. Channel Tunnel Rail Link excavations 2002, *Trans. Essex Soc. Archaeol. Hist.* 40, 1–77

Miller, T.E. 1987. Systematics and evolution, in F.G.H. Lupton (ed.), *Wheat Breading: its scientific basis*, London, Chapman and Hall, 1–30

Mills, A., 1991. *The Popular Dictionary of English Place-names*, Oxford, Univ. Press

Mills J.M., 1993a. The hobnails, in Farwell and Molleson 1993, 99

Mills J.M., 1993b. Iron coffin nails and fittings, in Farwell and Molleson 1993, 114–27

Mills, J.M., 1993c. Stone coffins, in Farwell and Molleson 1993, 133–4

Moffett, L., 1986. *Crops and Crop Processing in a Romano-British Village at Tiddington: the evidence from the charred plant remains*, London, Anc. Monum. Lab. Rep. 15/86

Moffett, L., Robinson, M.A. and Straker, S., 1989. Cereals, fruit and nuts: charred plant remains from Neolithic sites in England and Wales and the Neolithic economy, in A. Milles, D. Williams and N. Gardner (eds), *The Beginnings of Agriculture*, Oxford, Brit. Archaeol. Rep. S496, 243–61

Molleson, T.I., 1993. The human remains, in Farwell and Molleson, 1993, 142–214

Monk, M., 1987. Archaeobotanical studies at Poundbury, in Green, 1987, 132–7, fiches 5–6

Mook, W.G., 1986. Business Meeting: recommendations/resolutions adopted by the twelfth international radiocarbon conference, *Radiocarbon* 28, 799

Murphy, P.J., 1989. Carbonised Neolithic plant remains from the Stumble, an intertidal site in the Blackwater Estuary, Essex, England, *Circaea* 6(1), 21–3

Needham, S.P., 1991. *Excavation and Salvage at Runnymede Bridge 1978: the Late Bronze Age waterfront site*, London, Brit. Mus.

Newcomer, M.H., 1971. Some quantitative experiments in hand axe manufacture, *World Archaeology* 3, 85–94

Newcomer, M.H. and Karlin, C., 1987. Flint chips from Pincevent, in G. de G. Sieveking and M.H. Newcomer (eds), *The Human Uses of Flint and Chert: papers from the fourth international flint symposium*, Cambridge, Univ Press, 33–6

Nielsen-Marsh, C., Gernaey, A., Turner-Walker, G., Hedges, R., Pike, A. and Collins, M., 2000. The chemical degradation of bone, in M. Cox, and S. Mays (eds), *Human Osteology in Archaeology and Forensic Science*, London, GMM, 439–54

Ogden, A.R., 2005. *Identifying and Scoring Periodontal Disease in Skeletal Material*, Bradford, Biological Anthropology Research Centre, Univ. Bradford

Ogden, A.R., 2008. Advances in the palaeopthology of the teeth and jaws, in S. Mays and R. Pinhasi (eds), *Advances in Human Palaeopathology*, Chichester, Wiley, 283–308

Ohnuma, K. and Bergman, C., 1982. Experimental studies in the determination of flaking mode, *Bull. Inst. Archeol. Univ. London* 19, 161–70

Ortner, D.J. and Erikson, M.F., 1997. Bone changes in the human skull probably resulting from scurvy in infancy and childhood, *Int. J. Osteoarchaeol.* 7, 212–20

Ortner, D.J., Kimmerle, E.H. and Diez, M., 1999. Probable evidence of scurvy in subadults from archaeological sites in Peru, *Amer. J. Phys. Anthrop.* 108(3), 321–31

Ortner, D.J. and Putshar, W.G.J., 1985. *Identification of Palaeopathological Conditions in Human Skeletal Remains*, Washington, Smithsonian Institution Press

Palmer, C. and Jones, M., 1991. Plant resources, in Sharples 1991, 129–39

Peacock, D.P.S., and Williams, D.F., 1986. *Amphorae and the Roman Economy*, London, Longman

Peacock, D.P.S., 2009. Querns, in T. Light and P. Ellis, *Bucknowle, a Romano-British Villa and its Antecedents: Excavations 1976 – 1991*, Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 18, 117

Pearson, E., and Robinson, M., 1994. Environmental evidence from the villa, in R. Williams and B. Zeepvat, *Bancroft, A Late Bronze Age/Iron Age*

Settlement, Roman Villa and Temple-Mausoleum, Aylesbury, Buckinghamshire Archaeol. Soc. Monogr. 7, 565–83

Pelling, R., 1999. Charred and waterlogged plant remains, in A. Mudd, R.J. Williams and A. Lupton, *Excavations alongside Roman Ermine Street, Gloucestershire and Wiltshire: the archaeology of the A419/A417*, Oxford, Oxford Archaeology, 469–93

Pelling, R., 2000. Charred plant remains, 324–28, in P. Booth and C. Hayden, A Roman settlement at Mansfield College, Oxford, *Oxoniensia* 65, 292–331

Pelling, R., 2003. Charred plant remains, 71–73, in P. Hutchings, Ritual and riverside settlement: a multi-period site at Princes Road, Dartford, *Archaeological Cantiana*, 123, 41–79

Pelling, R. Unpubl. The charred and waterlogged remains, A13 unpubl. rep. for Oxford Archaeology

Petersen, F.F., 1981. *The Excavation of a Bronze Age Cemetery on Knighton Heath*, Dorset, Oxford, Brit. Archaeol. Rep. 98

Philpott, R., 1991. *Burial Practices in Roman Britain: a survey of grave treatment and furnishing AD 43–410*, Oxford, Brit. Archaeol. Rep. 219

Pitts, M.W., 1978. On the shape of waste flakes as an index of technological change in lithic industries, *J. Archaeol. Sci.* 5, 17–37

Pitts, M.W., 1996. The stone axe in Neolithic Britain, *Proc. Prehist. Soc.* 62, 311–72

Prehistoric Ceramic Research Group (PCRG), 1997. *The Study of Prehistoric Pottery: general policies and guidelines for analysis and publication*, Southapton, Prehistoric Ceramics Research Group Occas. Pap. 1/2 (revised)

Price, J. and Cottam, S., 1998. *Romano-British Glass Vessels: a handbook*, York, Counc. Brit. Archaeol. Pract. Handbk Archaeol. 14

Prummel, W. and Frisch, H.-J., 1986. A guide for the distinction of species, sex and body side in bones of sheep and goat, *J. Archaeol. Sci.*, 13, 567–77

Prummel, W., 1987. Atlas for identification of foetal skeletal elements of cattle, horse, sheep and pig part 2, *Archaeozoologia*, 12, 11–42

Putnam, W.G., 1998. Dorchesterr Roman aqueduct 1998, *Proc. Dorset Natur. Hist. Archaeol. Soc*. 120, 94–6

Rees, S.E., 1979. *Agricultural Implements in Prehistoric and Roman Britain*, Oxford, Brit. Archaeol. Rep. 69

Reichstein, H., 1994. Über Knochen von Rinder-, Schaf- und Schweinefeten aus Kloaken und Abfallschächten spätmittelalterlicher bis frühneuzeitlicher Städte in Norddeutschland, in M. Kokabi and J. Wahl (eds), *Beiträge zur Archäozoologie und Prähistorischen Anthropologie*, Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg 53, 445–8

Reilly, K., 1997. Animal bone, in Smith *et al.* 1997, 270–3

Reimer, P.J., Baillie, M.G.L., Bard, E., Bayliss, A., Beck, J.W., Bertrand, C., Blackwell, P.G., Buck, C.E., Burr, G., Cutler, K.B., Damon, P.E., Edwards, R.L., Fairbanks, R.G., Friedrich, M., Guilderson, T.P., Hughen, K.A., Kromer, B., McCormac, F.G., Manning, S., Bronk Ramsey, C., Reimer, R.W., Remmele, S., Southon, J.R., Stuiver, M., Talamo, S., Taylor, F.W., van der Plicht, J., and Weyhenmeyer, C.E., 2004. IntCal04 Terrestrial radiocarbon age calibration, 0–26 Cal Kyr BP *Radiocarbon* 46,1029–1058

Richards, J.C., 1990. *The Stonehenge Environs Project*, London, English Heritage Report 16

Riha, E., 1979. *Die römischen Fibeln aus Augst und Kaiseraugst*, Augst, Forschungen in Augst 3

Roberts, C. and Manchester, K., 1997. *The Archaeology of Disease*, Stroud, Sutton

Roberts, C. and Cox, M., 2003. *Health and Disease in Britain from Prehistory to the Present Day*, Stroud, Sutton

Robinson, M., 2000. Further considerations of Neolithic charred cereals, fruit and nuts, in A.S. Fairbairn (ed.), *Plants in Neolithic Britain and Beyond,* Neolithic Stud. Grp Seminar Pap. 5, Oxford, Oxbow, 85–90

Rogers, J. and Waldron, T. 1995. *A Field Guide to Joint Disease in Archaeology*, Chichester, Wiley

Royal Commission on Historical Monuments England (RCHM(E)), 1970. *An Inventory of the Historical Monuments in the County of Dorset, Volume 2, South-East, Part 3*, London, Roy. Comm. Hist. Monum. England

Salter, R.B., 1999. *Textbook of Disorders and Injuries of the Musculoskeletal System* (3 edn), Philadelphia, Lippincott Williams & Wilkins

Scheuer, L. and Black, S., 2000. *Developmental Juvenile Osteology*, London, Academic

Schweingruber, F.H., 1990. *Microscopic Wood Anatomy* (3 Edn), Swiss Federal Institute for Forest, Snow and Landscape Research

Schuster, T., 2001. *Bösselkatrien heet mien Swien. Das Tier in der ostfriesischen Kulturgeschichte und Sprache*. Leer, Schuster

Scott, E., 1999. *The Archaeology of Infancy and Infant Death*, Oxford, Brit. Archaeol. Rep. S819

Seager Smith, R.H., 1992. Roman pottery, in N.J. Adam, C.A. Butterworth, S.M. Davies and D.E. Farwell, *Excavations at Wessex Court, Charles Street, Dorchester, Dorset 1989*, Wessex Archaeology unpubl. rep. 32812

Seager Smith, R.H., 1993a. Roman pottery, in Smith 1993, 41–61

Seager Smith, R.H., 1993b. Roman pottery, in N.J. Adam, C.A. Butterworth, S.M. Davies, S. and D.E. Farwell, *Excavations at Wessex Court, Charles Street, Dorchester, Dorset 1990*, Wessex Archaeology unpubl. rep. 33721

Seager Smith, R.H., 1997. Stone, in Smith *et al.* 1997, 253

Seager Smith, R.H., 2002. Late Iron Age and Romano-British pottery, in Davies *et al.* 2002, 93–107

Seager Smith, R.H., 2008. *Pottery*, http://www.wessesarch.co.uk/projects/dorset/dorchester_county_hospital/09_Pottery.pdf

Seager Smith, R.H. and Davies, S.M., 1993. Roman pottery, in Woodward *et al.* 1993, 202–89

Seager Smith, R.H., 2009. Hobnails, coffin furniture and other nails, in Egging-Dinwiddy 2009, 36–8

Serjeantson, D., 1996. The animal bones, in S. Needham and T. Spence (eds), *Refuse and Disposal at Area 16 East, Runnymede*, London, Brit. Mus., 194–223

Shaffrey, R., 2003. The rotary querns from the Society of Antiquaries' excavations at Silchester, 1890–1909, *Britannia* 34, 143–74

Siegel, J., 1976. Animal pathology: possibilities and problems, *J. Archaeol. Sci.* 3, 349–84

Sharples, N., 1991. *Maiden Castle. Excavations and Field Survey 1985–6*. London, English Herit. Archaeol. Rep. 19

Society of Museum Archaeologists, 1993. *Selection, Retention and Dispersal of Archaeological Collections*, London, Society of Museum Archaeologists

Society of Museum Archaeologists, 1995. *Towards an Accessible Archaeological Archive*, London, Society of Museum Archaeologists

Smith, I.F., 1965. *Windmill Hill and Avebury: excavations by Alexander Keiller, 1925–1939*, Oxford, Clarendon

Smith, I.F., 1981. Neolithic pottery, 161–79, in R.J. Mercer, *Excavations at Carn Brea, Illogan, Cornwall, 1970–73*, Cornish Archaeol. 20, 1–204

Smith, I., 1987. The Neolithic and Bronze Age pottery, in Green 1987, 114–7

Smith, R. A., 1927. Flint Arrowheads in Britain, *Archaeologia* 76, 81–106

Smith, R.J.C., 1992. Middle Farm, Bridport Road, Dorchester, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 114, 239

Smith, R.J.C., 1993. *Excavations at County Hall, Dorchester, Dorset, 1988 in the North-west Quarter of Durnovaria*, Salisbury, Wessex Archaeol. Rep. 4

Smith, R.J.C., 1997a. Proposed sports centre and cemetery, Poundbury, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 119, 160

Smith, R.J.C., 1997b. Iron Age and later, in Smith *et al.* 1997, 291–4

Smith R.J.C., 1997c. Iron Age, Roman and medieval, in Smith *et al.* 1997, 299–306

Smith, R.J.C., Healy, F., Allen, M.J., Morris, E.L., Barnes, I. and Woodward, P.J., 1997. *Excavations Along the Route of the Dorchester By-pass, Dorset, 1986–8*, Salisbury, Wessex Archaeol. Rep. 11

Smoker, W.R.K., Gentry, L.R., Yee, N.K., Reede, D.L., Nerad, J.A., 2008. Vascular Lesions of the orbit: more than meets the eye, *RadioGraphics* 28, 185–204

Soames, J.V. and Southam, S.R., 2005. *Oral Pathology*, (4 edn), Oxford, Univ. Press

Soil Survey of England and Wales, 1983, *Soils of England and Wales, Sheet 5, South West England 1:250,000*, Harpenden, Soil Survey

Stace, C., 1997. *New Flora of the British Isles* (2 edn). Cambridge, Univ. Press

Stacey, L. and Walker, K.E., 1997. Objects of worked bone, in Smith *et al.* 1997, 125–7

Stevens, C.J., unpubl. *Charred Plant Remains from the Excavations at Westwood Cross, Broadstairs, Thanet,* Wessex Archaeology, unpubl. rep. 64040.1

Stevens, C.J., 2007. Reconsidering the evidence: towards an understanding of the social contexts of subsistence production in Neolithic Britain, in S. Colledge and J. Conolly (eds), *The Origin and Spread of Domestic Plants in Southwest Asia and Europe*, Walnut Creek, Left Coast Press

Stirland, A.J., 2005. *The Men of the Mary Rose: Raising the Dead*, Sutton, Stroud

Straker, V., 1990. Charred plant macrofossils, in M. Bell (ed.), *Brean Down Excavations 1983–1987*, London, English Heritage Monogr. 15, 211–19

Straker, V., 1991. Charred plant macrofossils, in J.A. Nowakowski, Trethellan Farm, Newquay: excavation of a lowland Bronze Age settlement and Iron Age cemetery, *Cornish Archaeol.* 30, 161–79

Straker, V., 1997. Charred plant remains, in Smith *et al.* 1997, 184–90

Struck, M., 1993. Kinderbestattungen in romano-britischen Siedlungen – der archäologische Befund, in M. Struck (ed.), *Römerzeitliche Gräber als Quellen zu Religion, Bevölkerungsstruktur und Sozialgeschichte*, Archäologische Schriften des Instituts für Vor- und Frühgeschichte der Johannes Gutenberg-Universität, Mainz, 313–18

Swift, E., 2000. *Regionality in Dress Accessories in the Late Roman West*, Montagnac, Monographies Instrumentum 11

Teichert, M., 1975. Osteometrische Untersuchungen zur Berechnung der Widerristhöhe bei Schafen, in A.T. Clason (ed.), *Archaeozoological Studies*, Amsterdam, North-Holland Publishing/Elsevier, 51–69

Thomas, J., 1999. *Understanding the Neolithic*, London, Routledge

Thompson, G. B., 1999. The analysis of wood charcoals from selected pits and funerary contexts, in A. Barclay and C. Halpin, *Excavations at Barrow Hills, Radley, Oxfordshire, volume 1: the Neolithic and Bronze Age monument complex*, Oxford, Thames Valley Landscapes 11, 247–53

Todd, M., 1987. *The Northern Barbarians 100 BC – AD 300*, Oxford, Blackwell

Topal, J., 1981. *The Southern Cemetery of Matrica*, Budapest, Akademiai Kiado

Trevarthen, M., 2008. *Suburban Life in Roman Durnovaria Excavations at the former County Hospital Site Dorchester, Dorset 2000–2001*, Salisbury, Wessex Archaeology

Trotter, M. and Gleser, G.C., 1952. Estimation of stature from long bones of American whites and Negroes, *Amer. J. Phys. Anthrop.* 10(4), 463–514

Trotter, M. and Gleser, G.C., 1958. A re-evaluation of estimation of stature bases on measurements of stature taken during life and of long bones after death, *Amer. J. Phys. Anthrop.* 16(1), 79–123

Tyrrell, A., 2000. Skeletal non-metric traits and the assessment of inter- and intra-population diversity: past problems and future potential, in M. Cox and S. Mays (eds), *Human Osteology in Archaeology and Forensic Science*, London, GMM, 289–306

Uerpmann, H.-P., 1972. Tierknochenfunde und Wirtschaftsarchäologie. Eine kritische Studie der Methoden der Osteo-Archäologie, *Archäologische Informationen* 1, 9–27

Uerpmann, H.-P., 1977. Schlachterei-Technik und Fleischversorgung im römischen Militärlager von Dangstetten (Landkreis Waldshut), *Regio Basiliensis Baseler Zeitschrift für Geographie*, 18, 261–72

Veen, M. van der, 1989. Charred grain assemblages from Roman-period corn driers in Britain, *Archaeol. J.* 146, 302–19

Veen, M. van der, 1992. *Crop Husbandry Regimes. An Archaeobotanical Study of Farming in Northern England: 1000 BC–AD 5000*, Sheffield, Sheffield Archaeol. Monogr. 3

Wacher, J., 1978. *The Towns of Roman Britain*, London, Book Club Associates

Wahl, J., 1981. Beobachtungen zur Verbrennung menschlicher Leichname: Über Vergleichbarkeit moderner Kremationen mit prähistorischen Leichenbränden, *Archäologisches Korrespondenz-blatt*, 11, 271–9

Wainwright, G.J. and Longworth, I.H., 1971. The Rinyo-Clacton reconsidered, in G.J. Wainwright and I.H. Longworth, *Durrington Walls: Excavations 1966–1968,* Oxford, Rep. Res. Comm. Soc. Antiq. London 29, 235–306

Wainwright, G.J., 1979. *Mount Pleasant, Dorset: Excavations 1970–1971,* Oxford, Rep. Res. Comm. Soc. Antiq. London, 37

Waldron, T., 2002. The human remains, in Davies *et al.* 2002, 147–54

Walker, K.E. and Farwell, D.F., 2000. *Twyford Down, Hampshire. Archaeological Investigations the M3 Motorway from Bar End to Compton, 1990–93,* Winchester, Hampshire Fld Club Monogr. 9

Ward C.V., Mays, S., Child, S. and Latimer, B., 2010. Lumbar vertebral morphology and isthmic spondylolysis in a British medieval population, *Amer. J. Phys. Anthrop.* 141, 273–80

Wells, C., 1982. The human burials, in A. McWhirr, L. Viner, L. and C. Wells, *Romano-British Cemeteries at Cirencester, Cirencester*, Cirencester Excavation Committee, 135–202

Wessex Archaeology, 2001. *Land South-west of Poundbury Farm, Dorchester, Dorset, Archaeological Evaluation*, unpubl. client rep. 48817.02

Wessex Archaeology, 2005a. *Poundbury Parkway Construction, Poundbury, Dorset: Archaeological Excavation Report*, unpubl. client rep. 60020.01

Wessex Archaeology, 2005b. *Poundbury Development, Phase II, Poundbury, Dorchester, Dorset, Archaeological Post-excavation Assessment Report*, unpubl. client rep. 60020.02

Wessex Archaeology, 2007. *Land to the North of Poundbury Farm, Poundbury, Dorchester, Dorset, Archaeological Evaluation Report*, unpubl. client rep. 60021.03

Wessex Archaeology, 2008, *Land to the North of Poundbury Farm, Poundbury, Dorchester, Dorset, Post-excavation assessment report and updated project design for analysis and publication*, unpubl. client rep. 60024.01

Wheeler, R.E.M., 1943. *Maiden Castle, Dorset*, Oxford, Rep. Res. Comm. Soc. Antiq. London 12

Whimster, R., 1981. *Burial Practices in Iron Age Britain. A Discussion and Gazetteer of the Evidence c. 700 B.C.–A.D.43*, Oxford, Brit. Archaeol. Rep. 90

Whittle, A.W.R., 1977. *The Earlier Neolithic of Southern England and its Continental Background*, Oxford, Brit. Archaeol. Rep. 35

Whittle, A., Pollard, J. and Grigson, C., 1999. *The Harmony of Symbols. The Windmill Hill Causewayed Enclosure, Wiltshire*, Oxford, Oxbow

Wilkinson, T.J. and Murphy, P., 1995. *The Archaeology of the Essex Coast, Volume 1: the Hullbridge Survey*, Chelmsford, E. Anglian Archaeol. 71

Williams, P.F., 1972. Some surface finds in south Dorset, in R.A.H Farrar (ed.), Archaeological Notes and News for 1972, *Proc. Dorset Natur. Hist. Archaeol. Soc.* 94, 87

Williams, D.F., 1977. The Romano-British Black Burnished industry: an essay on characterisation by heavy mineral analysis, in D.P.S. Peacock (ed.), *Pottery and Early Commerce*, London, Academic, 163–215

Woodward, A.B., 1993. Discussion, in Farwell and Molleson, 1993, 215–39

Woodward, P.J., 1977. Stinsford (SY 704915), *Proc. Dorset Natur. Hist. Archaeol. Soc.* 99, 122

Woodward, P.J., 1991a. *The South Dorset Ridgeway: survey and excavations 1977–84*, Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 8

Woodward, P.J., 1991b. Discussion, in Sharples 1991, 34–6

Woodward, P.J. and Bellamy, P., 1991. Artefact distribution, in Sharples 1991, 21–32

Woodward, P.J., Graham, A.H. and Davies, S.M., 1993. *Excavations at Greyhound Yard, Dorchester 1981–1984*, Dorchester, Dorset Natur. Hist. Archaeol. Soc. Monogr. 12

Wymer, J.J., 1977. *Gazetteer of Mesolithic Sites in England and Wales*, London, Counc. Brit. Archaeol. 20

Yates, D.T., 2007. *Land, Power and Prestige. Bronze Age Field Systems in Southern England*, Oxford, Oxbow

Yates, D. and Bradley, R. 2010. The siting of metalwork hoards in the Bronze Age of south-east England, *Antiq. J.* 90, 41–72

Yoshida, R., House, H.O., Patterson, R.M., Shah, M.A. and Viegas, S.F., 2003. Motion and morphology of the thumb metacarpophalangeal joint, *J. Hand Surgery* 28A(5), 753–7

Young, C., 1977. *The Roman Pottery Industry of the Oxford Region*, Oxford, Brit. Archaeol. Rep. 43

Young, R. and Humphrey, J., 1999. Flint use in England after the Bronze Age: time for a re-evaluation? *Proc. Prehist. Soc.* 65, 231–42

Zohary, D. and Hopf, M., 1994. *Domestication of Plants in the Old World*, Oxford, Univ. Press

Archaeological survey and excavation in and around Poundbury Farm, Dorchester has revealed a multi-period landscape with evidence spanning the Neolithic through to the Romano-British period.

A number of pits contained axe manufacturing debris, early Neolithic pottery and environmental remains, including one with an extensive dump of charred grain.

A ring-ditch of probable Early Bronze Age date was recorded, although there was limited evidence for contemporary occupation. Middle and Late Bronze Age field systems, pits, roundhouses, and cremation burials were identified. In keeping with other sites in the area, Iron Age activity was very limited.

In the early Romano-British period a farmstead was established, comprising enclosures, stone-built structures, grain driers, ovens and other features. Early Romano-British *Durotrigian* graves, as well as middle and late Romano-British graves, were associated with the settlement. One individual was buried in a stone coffin, and there was a single late Romano-British cremation burial.

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