SETTLEMENT SITES AND SACRED OFFERINGS

Prehistoric and later archaeology in the Thames valley, near Chertsey

Graham Hayman, Phil Jones and Rob Poulton

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Monograph 4

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A joint venture of Archaeology South-East (part of University College, London)
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Prehistoric and later archaeology in the Thames valley, near Chertsey

by

Graham Hayman, Phil Jones and Rob Poulton

with contributions by

John Chapman, Tony Clark, Kate Clark, Nicola Hembrey, Janet Henderson, Suzanne Huson, Mary Iles, Claire Ingrem, Phil Jones, Simon Mays, Gerry McDonnell, Stuart Needham, Mark Robinson, David Starley, David Underwood and David White

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Produced by SPOILHEAP PUBLICATIONS

a joint venture of Archaeology South-East (University College London) and Surrey County Archaeological Unit (Surrey County Council) intended to provide a publication outlet for the results of archaeological investigation and research from across south-east England

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Surrey History Centre, 130 Goldsworth Road, Woking, GU21 6ND

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ISBN 978-0-9558846-4-1

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Edited by: Rob Poulton

Designed and typeset by Giles Pattison

This report has been published with the aid of a grant from English Heritage

Front cover: Dragline excavation for gravel at Shepperton Ranges in 1987

Back cover: Thorpe Lea Nurseries in 1993, with St Ann's Hill in the background, and pewter plates found at Shepperton Ranges

Printed by Henry Ling Limited at the Dorset Press, Dorchester, DT1 1HD

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All finds drawings in chapter 3 are by David Williams
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SUMMARY

The volume includes detailed reports on four pieces of archaeological work in the Thames valley, near Chertsey. An overview of their geological and topographic position within the Thames valley is provided, together with a discussion of their context within the rapidly expanding body of knowledge for the prehistoric and Roman periods in the local area. There is also a general review of the evidence for ritual deposition of objects in the Thames, from the Mesolithic to the medieval period.

The assessment of riverine finds gives a wider context for the sites at Abbey Meads and Shepperton Ranges, where the finds were recovered during gravel extraction, and most of them were votive deposits in former channels of the Thames. These include the only Iron Age shield in Europe made entirely of bronze and a Neolithic stone axe and pestle from Abbey Meads. The most notable finds at Shepperton Ranges were a Late Bronze Age axe with wooden haft, two Iron Age swords and a nest of five Roman pewter plates.

A trial trench sectioned the earthworks of the hillfort at St Ann's Hill, and another established that at least one area within the enclosure had been densely occupied during the Early Iron Age. Bronze Age metalwork, found on previous occasions, hints at earlier occupation of the hilltop, and Mesolithic flints were also recovered.

Excavations at Thorpe Lea Nurseries produced evidence of Late Mesolithic and/or Early Neolithic date, and a few features of the Neolithic or Early Bronze Age periods. A Middle Bronze Age rectilinear field system was identified, which seems to have continued to influence the organization of the landscape until the end of the Roman occupation. A possible Middle Bronze Age enclosure and two small areas of Late Bronze Age occupation were also found. Two principal areas of Iron Age occupation were investigated. There may have been some limited activity in the Early Iron Age, but the settlements were principally of Middle to Late Iron Age date. The smaller, eastern, settlement was probably abandoned during the early 4th century BC, while the western settlement was longer-lived and was not deserted until the end of the 4th century AD. Evidence for the smelting of iron was provided by slag, although no furnace structures survived. The slag appears in contexts spanning the Iron Age and Roman periods, but may be primarily or solely an Iron Age industry. Roman occupation was largely confined to an area within a large enclosure, continuing the Iron Age farmstead. There is some evidence that activities may have become more centred on livestock farming in the Later Roman period.

RÈSUMÉ

Ce volume fournit les rapports détaillés de quatre différents travaux archéologiques effectués dans la vallée de la Tamise, près de Chertsey. Un aperçu de leur position géologique et topographique dans la vallée de la Tamise est fourni, ainsi qu'une analyse de leur contexte au sein du corpus grandissant des connaissances concernant les périodes préhistorique et romaine dans la région. Ce volume contient aussi un examen de preuves témoignant du dépôt rituel d'objets dans la Tamise, du Mésolithique à l'époque médiévale.

L'évaluation des trouvailles fluviales fournit un contexte plus étendu des sites à Abbey Meads et Shepperton Ranges, où ces trouvailles ont été trouvées lors de l'extraction de gravier. La plupart d'entre elles étaient des dépôts votifs provenant d'anciens cours de la Tamise, incluant notamment le seul bouclier de l'âge du Fer en Europe entièrement fait de bronze ainsi qu'une hache et un pilon de pierre néolithique à Abbey Meads. Les découvertes les plus remarquables à Shepperton Ranges étaient une hache de l'âge du Bronze tardif avec son manche en bois, deux épées de l'âge du Fer et une pile de cinq assiettes romaines en étain.

Une tranchée d'évaluation creusée à travers les terrassements des fortifications à St Ann's hill, et une autre tranchée ont permis d'établir qu'au moins une section à l'intérieur de l'enceinte avait été densément occupée pendant l'âge du Fer ancien. Des ouvrages de métal, datant de l'âge du Bronze, trouvés précédemment, semblent indiquer une occupation antérieure de la colline. Des silex mésolithiques ont également été découverts.

Les fouilles à Lea Thorpe Nurseries ont produit des indications datant du Mésolithique tardif et/ou Néolithique ancien ainsi que quelques creusements Néolithiques ou du début de l'âge du Bronze. Un ensemble rectiligne de champs datant de l'âge du Bronze moyen a été identifié, et ces fossés semblent avoir continué à influencer l'agencement du paysage jusqu'à la fin de l'occupation romaine. Un enclos de l'âge du Bronze moyen et deux petites zones d'occupation de l'âge du Bronze tardif ont également été trouvés. Deux secteurs principaux d'occupation de l'âge du Fer ont été étudiés. Il semblerait qu'il y ait eu peut-être quelques activités limitées durant l'âge du Fer ancien, mais l'occupation a été datée principalement de l'âge du Fer moyen au tardif. La petite zone d'occupation à l'Est, a probablement été abandonnée pendant le début du IVème siècle avant JC, alors que l'occupation à l'Ouest a perduré plus longtemps, jusqu'à probablement la fin du IVème siècle après JC. Des résidus de métaux et scories trouvés démontrent que la fonte du fer existait. Toutefois, aucunes structures de fourneaux attestant de ces activités ont survécu. Les scories ont été trouvées dans les couches datant de l'âge du Fer jusqu'aux périodes romaines, mais il semblerait que cette industrie n'ait peut-être été que principalement ou uniquement présente durant l'âge du Fer. L'occupation romaine a été largement limitée à une zone située dans un grand enclos, continuant la ferme de l'âge du Fer. Il existe des preuves que les activités étaient davantage centrées sur l'élevage de bétail pendant la période romaine ultérieure.

ZUSAMMENFASSUNG

In dem hier vorliegenden Bericht wird eine Übersicht über vier archäologische Grabungen gegeben, die im Themsetal nahe der Stadt Chertsey durchgeführt wurden. Im Einzelnen geht es hier um die Fundplätze Abbey Meads, Shepperton Ranges, St Ann's Hill und Thorpe Lea Nurseries.

Der erste Teil des Berichtes gibt einen Überblick über die topographische Lage und geologische Beschaffenheit der einzelnen Fundplätze. Dem folgt eine Diskussion der Befunde, welche auch die in den letzten Jahren rasch anwachsende Funddichte der prähistorischen und römischen Funde der Region berücksichtigt. Im Anschluß daran findet eine allgemeine Darlegung der Beweislage für sakrale Flußdeponierungen in der Themse statt, vom Mesolithikum bis in das Mittelalter.

Diese letzte Besprechung soll vor allem einen Hintergrund für die Fundplatze bei Abbey Meads und Shepperton Ranges bieten, wo die ersten Funde während der Kiesgewinnung gemacht wurden. In dem hier vorliegenden Bericht kommen die Autoren zum Schluß, dass ein Großteil dieser Funde sehr wahrscheinlich Flußdeponierungen waren, die in früheren, jetzt versiegten Seitenarmen der Themse niedergelegt wurden und heute in den abgelagerten Sedimenten wiedergefunden werden. Zu den wichtigsten Funden gehören hier das einzige bis heute in Europa gefundene ausschließlich aus bronze hergestellte eisenzeitliche Schild, ein neolithisches Steinbeil und der Steinmörser von Abbey Meads und das spaetbronzezeitliche Tuellenbeil und sein noch vorhandener Holzschaft, zwei eisenzeitliche Schwerter und der Fund von fünf römischen Zinntellern von Shepperten Ranges.

Etwas weiter flussaufwärts, in der Höhensiedlung von St Ann's Hill, wurden Probeschnitte sowohl durch ihre Außenwälle als auch das Innere ihres Ringwalls gelegt. Einer der Schnitte ergab, daß wenigstens ein Teil des Geländes im Innern des Ringwalls in der frühen Eisenzeit dicht besiedelt war. Bronzezeitliche Metallfunde wurden auch schon zu früheren Zeiten vom St Ann's Hill gemeldet und könnten auf eine noch frühere Besiedlung hindeuten. Teil des Fundrepertoires waren auch mittelsteinzeitliche Flintwerkzeuge.

Grabungen in der Nähe der Thorpe Lea Nurseries erbrachten Funde aus der späten Mittel- oder frühen Jungsteinzeit und einige Befunde der Jungsteinzeit oder Frühbronzezeit. Unter den Befunden ist auch eine wahrscheinlich in die Mittelbronzezeit datierende geradlinige Feldbegrenzung. Jenes System aus Gräben scheint die Organisition und Einteilung der Landschaft bis zum Ende der römischen Kaiserzeit beeinflußt zu haben. Desweiteren wurden eine wahrscheinlich ebefalls mittelbronzezeitliche Einfriedung und zwei Bereiche spätbronzezeitlicher Aktivität entdeckt. Besondere Beachtung wurde den Bereichen mit eisenzeitlicher Besiedlung geschenkt: Es gab wahrscheinlich eine begrenzte Besiedlung in der Früheisenzeit, aber die hauptsächliche Besiedlung fällt in die mittlere bis späte Eisenzeit. Es ist anzunehmen, dass die kleinere Siedlung im Osten im frühen 4.Jahrhundert aufgegeben wurde; die Siedlung im Westen war langlebiger und existierte bis ins späte 4.Jahrhundert. Es wurden Beweise fuer Erzverhüttung und -verarbeitung gefunden (Schlacke), aber keine Anzeichen von Schmelzöfen. Die Schlacke kam aus Befunden, die in die eisenzeitliche und römische Kaiserzeit datieren, sind aber am wahrscheinlichsten hauptsächlich eisenzeitlich. Die römische Besiedlung war auf ein Gebiet innerhalb des großen Ringwalls beschränkt, wo sie vermutlich ein eisenzeitliches Gehöft fortsetzte. Es gibt einige Hinweise darauf, dass die hauptsächliche Nahrungsgrundlage in der spätrömischen Zeit die Viehzucht war.

PREFACE

The archaeological work reported on in this volume took place during the late 1980s and early 1990s, and its publication is sadly overdue. In fact, reports, including virtually all the information presented here, were completed for all the sites by 1998, but publication plans miscarried for a variety of reasons which it would be tedious to rehearse now. The present volume is the result of an agreement with English Heritage to provide funds for revision and updating, and the provision of an overview to set the work in context. It should be noted, however, that the updating is often less complete than ideally might have been desired. Reasons for this include the unavailability of original contributors, and sometimes the practical difficulty of doing so without starting again, at a cost that could not be justified. Some parts of the report are 'date stamped' to confirm where this has happened. The illustrations were inconsistent in form between chapters, but the pragmatic approach has been taken to standardise scales and north points, but otherwise only make necessary changes. Acknowledgements are given with each chapter, but it is necessary here to thank English Heritage, and especially the project monitors, Sarah Reilly and Vicky Crosby, for their support extended over many years.

A NOTE ON THE DIGITAL SUPPLEMENT

The printed report includes all of the figures, but many tables and some supplementary text, relating to the Thorpe Lea Nurseries pottery, flint and slag reports, are only available in the Digital Supplement. This is available as a downloadable PDF file via the Surrey County Council website at **www.surreycc.gov.uk/scau**

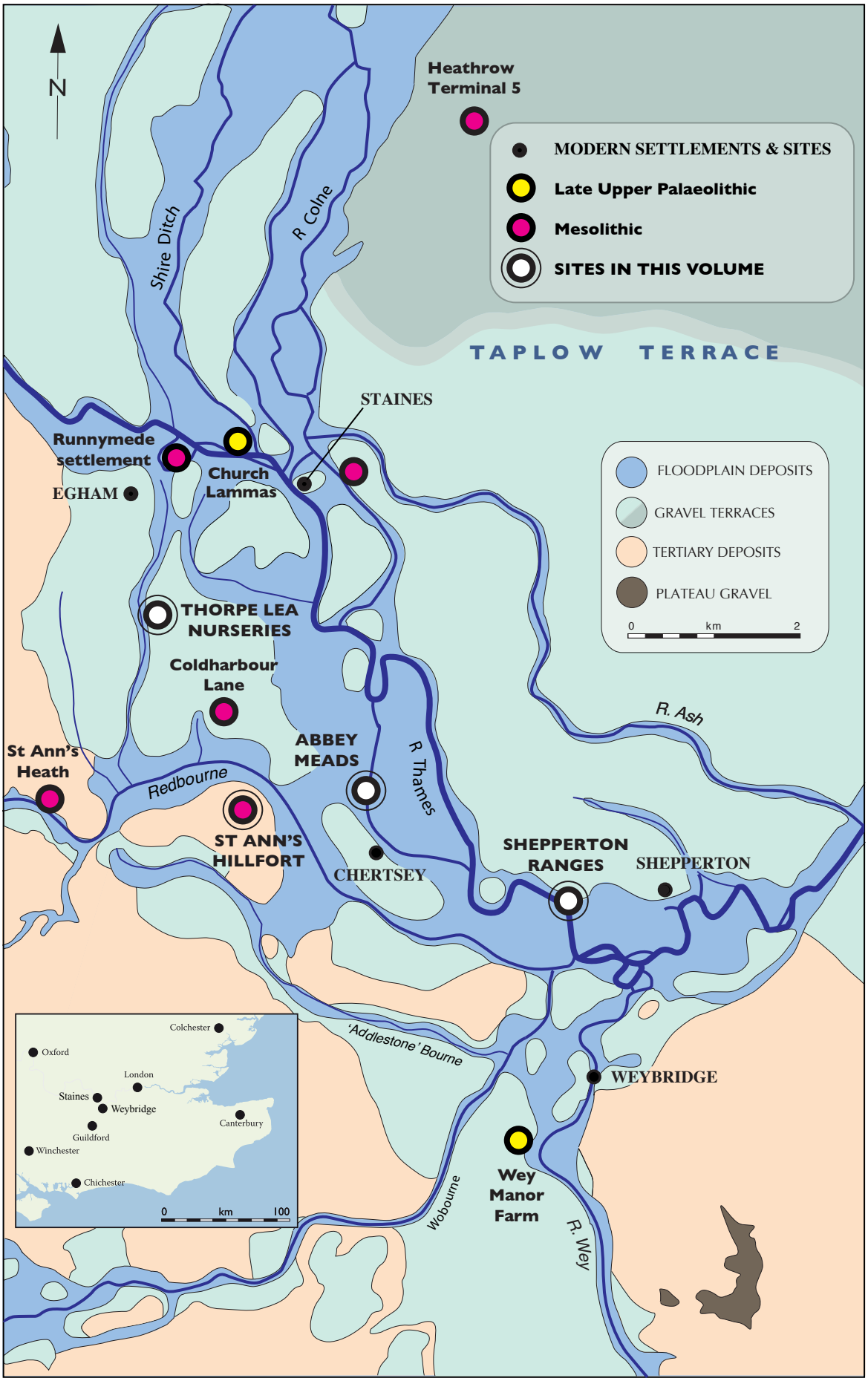


Fig 1.1 Overview: location of the sites and of the principal Late Upper Palaeolithic and Mesolithic discoveries in the study area

CHAPTER 1: THE ARCHAEOLOGY OF THE THAMES VALLEY, NEAR CHERTSEY

1 GEOLOGY AND TOPOGRAPHY

by Phil Jones

Three of the sites discussed in this volume lay upon the alluvial floodplain of the Thames, with Thorpe Lea Nurseries 6km north-west of Shepperton Ranges, and Abbey Meads equidistant between the two. All three are visible from the fourth site, St Ann's Hill, a prominent topographical feature within the local landscape between 1km and 2km from Thorpe Lea Nurseries and the Meads, and nearly 3km from the Ranges (fig 1.1).

In general terms the region straddles the middle Thames reach of the Pleistocene gravels, that descend, more coherently on the north side of the river, through the Boyne Hill, Taplow, Shepperton, Kempton Park and Colney Street terraces, and are mirrored, more disjointedly because of the imposing upland plateau of the Bagshot Tertiary series, on its south side. The area of study includes the confluences of two important tributary rivers of the Thames, with the outfalls of many braided streams of the south-flowing Colne extending along 11km of its northern banks and the Wey joining from the south.

The Tertiary plateau that defines the edge of the Thames floodplain in the region of study extends from Wimbledon in the east to Wokingham in the west, and is largely comprised of inter-bedded sands, clays and pebble deposits of the Bagshot series through to those of the Barton Beds that cap many of its highest parts, except where overlain by Plateau Gravels of Pleistocene age. These high gravels are relatively extensive within the western part of the area of study around Virginia Water, but significant outliers cap St Ann's Hill and St George's Hill, both of which were adapted with earthwork circuits in the later prehistoric period. In general terms the Tertiary uplands are acidic and, where not improved in historical times, support a heathland ecology that may have been maintained throughout the Holocene period. It is only the valley floors of the two Bourne streams, that rise in east Berkshire and flow west through the Bagshot plateau, that may have been improved to enable agricultural use in the prehistoric period, although any evidence for this is sealed by the considerable depth of alluvium that has resulted from the unstable nature of most of the 'solid' geology. The earliest agricultural encroachment of the uplands seems not to have occurred before medieval assarting. The resources that William Cobbett's 'Great Heath' was able to provide, however, were manifold, with its understorey of fodder and faggots, extensive tracts of peat, heather for honey and the only available building stones of the district. Until recent times the region was sarsen-strewn, and the prospection for buried sarsen boulders with poles maintained a local industry that was supplemented by the cutting of blocks of 'ferricrete', a ferro-cemented agglomerate of the local gravels and pebble beds. Wherever found along the littoral of the Bournes, however, the activities of the later prehistoric and Roman inhabitants of settlements seem more concerned with ironworking than working the land. The quarrying or gathering of the limonite nodules of the Bracklesham Beds from sites along the lower Wey valley in the east, through to Wickham Bushes in the west, may even have been the principal activity of the inhabitants of north-west Surrey.

The northern o f the two Bournes, which was dammed to create Virginia Water, originally divided into two branches where it approached the Thames floodplain close to Redlands and the M3 motorway (TQ 01006730), and it is this bifurcation that isolates St Ann's Hill from the main part of the Tertiary plateau and accentuates its prominence. Its northern branch, the Redbourne, still runs along the northern and eastern flanks of the hill past Thorpe and onward to define the southern edge of the original island of Chertsey (*Ceortes eig** *c*890: Ekwall 1960), before its confluence with the Thames, east of Hamm Court Farm and close to the outfall of the River Wey (TQ 07006549). Its southern branch, now barely a ditch, ran south from Redlands, but its first *c*700m length of floodplain, which is up to 100m across, became choked with peat. This course had once been a more significant topographical feature, and is straddled by Taplow and Boyne Hill terraces on both sides of its floodplain past Cockrow Hill and on through Addlestone until it joins with the more southerly of the principal Bournes at Hamm Moor.

*the island of Cerotus

The southern Bourne, called Windle Brook in Bagshot and Hale Bourne further downstream, has a more substantial floodplain, especially through Chobham where it is joined by several other streams, and is also lined with remnants of Taplow and Boyne Hill terraces. Beyond its confluence with the 'Addlestone Bourne', their combined outfall with the Thames lies immediately south from the Shepperton Ranges site of this volume. It may be of significance for the archaeology of the Ranges that the Thames confluences of both major Bournes, as well as the River Wey, lie within a few hundred metres of each other.

The eastern side of the lower Wey valley is sharply bounded by Tertiary uplands, including St George's Hill, with only marginal vestiges of the Taplow and Boyne Hill terraces. West of the floodplain, however, extends a considerable tract of the Taplow terrace up to 1km wide, and with remnants of higher terraces stretching further. A significant factor of the terraces along the southern side of the Thames and along the lower Wey, however, is that they are as acidic as the deposits of the 'solid' geology, from which they largely derive their clasts of sand and pebbles. They, too, would have supported only poor soils, and the inhabitants of the rash of Iron Age and Roman sites below St George's Hill may have been primarily concerned with the exploitation of the limonite seams on the hill, rather than with farming practices.

The confluent zone of the Wey and the Bournes with the Thames in the Shepperton Ranges area would have been a dynamic, constantly changing pattern of islands and braided streams until relatively recently. Today, six principal islands of Floodplain Gravels have been 'fossilised', including those of Hamm, Hamhaugh and Ham Moor, and another that was reclaimed in the medieval period had lain towards the south end of the Shepperton Ranges site.

One of the more important features of the local landscape lies 8km upstream from Thorpe Lea Nurseries, and even more distant from Shepperton Ranges, but would have been visible from both. The prominence upon which Windsor Castle stands may also have been visible from St Ann's Hill, although the flanks of Coopers Hill may have masked the view. The hill is that alluded to in *Clivore* or 'people at a cliff or slope' (Ekwall 1960) rather than that of its present name which was transposed from the Saxon palace 2.5km distant at what is now Old Windsor. It is an inlier of Upper Chalk that rises sharply from its Thameside cliff and the Floodplain Gravels that skirt it, except on its southern side where a shallower slope faces the approach through the Home Park, across Reading Beds clays of the Lambeth group. The hill would always have been the most dominant eminence for the landscape of the study area, even though it lies just outside it.

Sheet 269 of the Geological Survey and observations within gravel quarries throughout the study area suggest that the Colne had been more dynamic than the Thames in the creation of the local floodplain landscape during the early Holocene period. Downstream from Windsor Castle, the Thames winds through a single, narrow floodplain of alluvium past Datchet and Old Windsor until, by Runnymede and Coopers Hill, a multiplicity of braided palaeochannels of the Colne carved south across the Floodplain Terrace of Colney Street Gravels, capturing Thames waters as they did so, and creating in the process the giant 'U-bend' meander, over 10km across, between Egham and Sunbury. North of the Thames, the lower part of the Colne floodplain is up to 3.5km across and includes, from west to east, the braided streams of the Colne Brook, the Wraysbury River, Shire Ditch, the Colne and the Bournehead Stream, and two more of its watercourses run roughly parallel with the Thames as Sweeps Ditch and the River Ash. The last of these meets with the Thames c11km from the main confluent area around Staines. Between the Colne Brook and the Bournehead Stream lay several islands, the largest of which includes the village of Horton. Yeoveney, Binbury, the High Street area of Staines and Budbury are among the others, as well as innumerable smaller eyots and strands that remain to be discovered.

The north to south-running streams between the larger of these islands continued as palaeochannels south of the present Thames, indicating that its waters had been captured by the Colne. East of Thorpe Lea Nurseries runs the Fulbrook or Holbrook, or even the 'Aye' of medieval *Ayebrugge* that crossed it, which once included larger bodies of water called *Sirepool* and Meadlake. Further south past Thorpe its name changes to the Fleet before it meets the Abbey River west of Chertsey. The existing stream, however, runs above a palaeochannel that carried Thames/Colne waters, which, for most of the medieval period, made passage west from Staines on the *via regis* almost impossible in winter, even after the construction of Egham causeway.

A watercourse west of Thorpe Lea Nurseries had also originally carried Colne/Thames waters, from the island of Tinsey (Runnymede) south to the edge of Milton Park where the present stream bifurcates each side of Great Fosters as Deepenbrook in the east and Lashbrook in the west. Both meet with the Redbourne in the Thorpe Green area.

Another palaeochannel, the furthest west in the floodplain and probably wholly formed by Thames waters since it defines the western edge of Runnymede, runs south to hug the river cliff below Coopers Hill, and then onward past Stroude to its coalescence with the Lashbrook close to its outfall into the Redbourne.

The Abbey River, which runs south from Penton Hook to fringe the eastern edge of the Abbey Meads site and pass on to Chertsey and the Thames north of Chertsey Bridge, was always said to have been cut by order of the abbot. Whereas the Abbey may have re-aligned its course, most expediently to facilitate wharfage nearby, the Meads (chapter 2) provided evidence of a much earlier origin, with its palaeochannel shifting from west to east across the site. The island of Chertsey is surrounded by palaeochannels of the Abbey River to the north and the Redbourne to the south, and the last time it became water-bound was in the floods of 1947.

In addition to the complicated pattern of streams that braided the lowest floodplain terrace gravels on both sides of the Thames, there is an earlier system of palaeochannels that is little understood. A wide and deep palaeochannel running north-west to south-east towards the south end of the Thorpe Lea Nurseries site was completely choked by a homogeneous fill of calcareous clay, presumably derived from a major episode of erosion upstream on the chalk. Similar fills within palaeochannels have been found south of the Thames at TASIS in Thorpe village (Munnery 2010) and north of the river at Staines Road Farm (Jones 2008, 2–4) and Hengrove Farm (SCAU 2007), where they usefully enabled the survival of animal bone in contrast to elsewhere on the generally acid soils of the lower gravel terrace. Much more needs to be known about this and other earlier patterns of river channels through the district, although very much has already been destroyed without sampling or record.

2 ARCHAEOLOGICAL BACKGROUND

by Phil Jones

2.1 PALAEOLITHIC AND MESOLITHIC

Until the onset of the Early Anglian ice sheet *c*430,000 years ago, the Thames flowed north-east from Marlow, but the breaching of a proglacial lake between Rickmansworth and Watford caused its diversion south through the then northernmost stretch of the Wey/Mole river to create the River Colne of the study area (Schreve et al 2011, 42). The Boyne Hill gravels were laid down in the early Hoxnian interglacial

Fig 1.2 Overview: the Late Upper Palaeolithic site at Church Lammas under excavation. Such sites cannot be readily identified in archaeological evaluation, and it was only just recognised before being engulfed by mineral extraction

Fig 1.3 Overview: a Mesolithic pit at St Ann's Heath School

as the first of the post-Anglian terraces to fringe the Thames, and have yielded the first evidence of human activity with a plethora of Acheulian axes, including 240 from two adjacent gravel pits just south of Burnham Beeches, Bucks.

Little is known about subsequent Palaeolithic activity in the area between the outfalls of the Rivers Colne and Wey into the Thames, however, except for occasional hand axes and parts of animals that might have been hunted, most usually mammoths, although such remains are always derived from the erosion of earlier terrace deposits.

Several Late Glacial encampments, however, have been discovered in recent years in the portion of the basin within north-west Surrey, including three in the area of study on fluvial silts of late Devensian age. The earliest was a scatter of Creswellian flint tools and debitage uncovered at Wey Manor Farm, a few hundred metres south from where the River Wey joins the Thames. The single nucleated cluster represents a short stay, of perhaps a night, during the short period of warming that occurred during the Windermere Interstadial, around 13,000 years ago, before cold set in again as the Loch Lomond Stadial (Jones forthcoming a). Two flint scatters belonging to that later stage of the Upper Palaeolithic were found 65m apart and immediately north of the main confluent area of the Colne with the Thames at Church Lammas, Staines (fig 1.2), in association with bones of reindeer, horse and aurochs (Jones forthcoming b). There can be no doubt that many more of these short-lived encampments remain to be found, although perhaps as many or more will have been destroyed by post-glacial and subsequent flooding, and by mineral extraction and suburban development.

The same can be said for the camps of Mesolithic kin-folk, although the discovered evidence for these is more widespread within the study area. The development of microlith types over *c*6000 years was spurred, in part, by adaptive strategies necessitated by climate, vegetation and faunal changes, best exemplified locally by a peat formation sampled from a natural fluvial feature at Church Lammas that spanned perhaps over 2500 years of the early Holocene period (ibid). It begins with the dominance of pine and continues to woodland of birch, hazel and oak, but what is remarkable is the presence of microscopic charcoal throughout the sequence that probably reflects the clearance activities of Mesolithic

groups. Similar particulate charcoal inclusions were also present in palaeochannels at nearby Meadlake Place that had also been filled during the early Holocene (Branch & Green 2004, 11). Recent discoveries of Mesolithic flint scatters from the area of study include lower terrace and floodplain sites such as London Road, Staines, where a small assemblage was recovered from a tree throw (Hayman 2001), four small features at St Ann's Heath School (fig 1.3; Lambert 2010), tree throws at Wey Manor Farm (Hayman 1999), and stray finds from Coldharbour Lane, Thorpe (Robertson 2002) and Thorpe Lea Nurseries (this volume). A small assemblage has also been recovered from the upland site of St Ann's Hill where, in addition to a few blades, a rod microlith was found (this volume).

2.2 NEOLITHIC AND EARLY BRONZE AGE (fig 1.4)

There is increasing evidence of an overlapping commonality of place and means of subsistence between Mesolithic peoples and their successors with new flint tool types and pottery, albeit with a recognition of a short period at the start of the 4th millennium before the imperative for the construction of monuments had begun. That Neolithic Britain experienced no significant changes from an essentially peripatetic hunting economy is long established, but it is not just some chambered tombs of the Cotswolds and Wales that are underlain by curious Mesolithic features or associated finds (Moore 2003, 142). Just north of the study area, at the Perry Oaks complex of monuments, an array of Late Mesolithic pits containing burnt flints lay beneath the central bank of the later Stanwell cursus and have been interpreted as being part of a communal meeting place (Lewis & Welsh 2004, 105), and eight straight-backed microliths, possibly part of a single weapon, were recovered from beneath the earliest Neolithic horizon at Runnymede Bridge (Needham 2000, 71)

One of the most important monuments within the local landscape during the Neolithic period was the causewayed camp at Yeoveney (Robertson-MacKay 1987). The enclosure almost certainly fulfilled social functions, and its interior seems also to have served domestic purposes, but there was also evidence of ritual activities, most obviously represented by human burials within its ditches, although our modern distinctions between such separate functions need not usefully be applied to the Neolithic milieu. The two concentric ditches of the Yeoveney camp were dug, perhaps successively, during the Early Neolithic period, and the chosen site lay towards the southern end of an island surrounded by Colne palaeochannels and very close to where they met with the Thames.

Perhaps as significant as the Yeoveney enclosure was the Stanwell cursus, the twin ditches and central bank of which run from perhaps the edge of the Taplow terrace for at least 4km to a northern terminus on the floodplain of the Colne. Curiously, its construction had been preceded, first by the digging of the Mesolithic pits, and then by the erection of a double row of posts on the same alignment as the ditches. Three smaller cursuses were also found towards the western end of the Perry Oaks site, and other monuments included a U-shaped enclosure on a slight rise associated with large amounts of burnt flints, and three possible ring ditches. This remarkable array of monuments on the level ground of the terrace can only be partly explained by the relatively large area of 21ha that was stripped in advance of the construction of Terminal 5 of the airport. They may even form part of a still larger ritual landscape extending east along the terrace to include another ring ditch within the airport (Canham 1978), a double-ditched ring ditch, mortuary enclosure and votive well at the Imperial College site (Crockett 2001) and perhaps also a larger double-ditched ring enclosure at East Bedfont, if it had such an earlier usage as some suggest (Cotton 2004, 25). The monument complex at Perry Oaks, however, may represent the real focus of the concentration, chosen, perhaps, because of the proximity of the Colne. It seems not to have extended beyond the terrace edge since several large-scale stripped excavations south of the airport, although sometimes revealing Neolithic ring ditches, as at Ashford (Carew et al 2006) and Shepperton (fig 1.5; Jones 2008), have not revealed any such density of monuments.

On the other hand, although the Neolithic ring ditches on the terrace contained relatively few finds, at least two further south included reasonable quantities of domestic debris as well as evidence of ritual functions. At Staines Road Farm, Shepperton, the ring was sited on the flood plain edge of a stream of the Colne, and was filled in the mid 4th millennium, soon after being created, with the white, calcareous fluvial clay through which it was dug. The ditch was subsequently recut and a crouched burial placed by the single causewayed entrance was found to be of similar date. Other placements along the ditch, including a human torso, antler picks, the remains of a wolf/dog and large pieces of Peterborough Ware, were buried by a soil that contained considerable quantities of struck flint, animal bone, and both plain and decorated pottery sherds. Radiocarbon dates for the sealing fill were similar to that of the initial deposit, although a cattle bone from it dated to the first

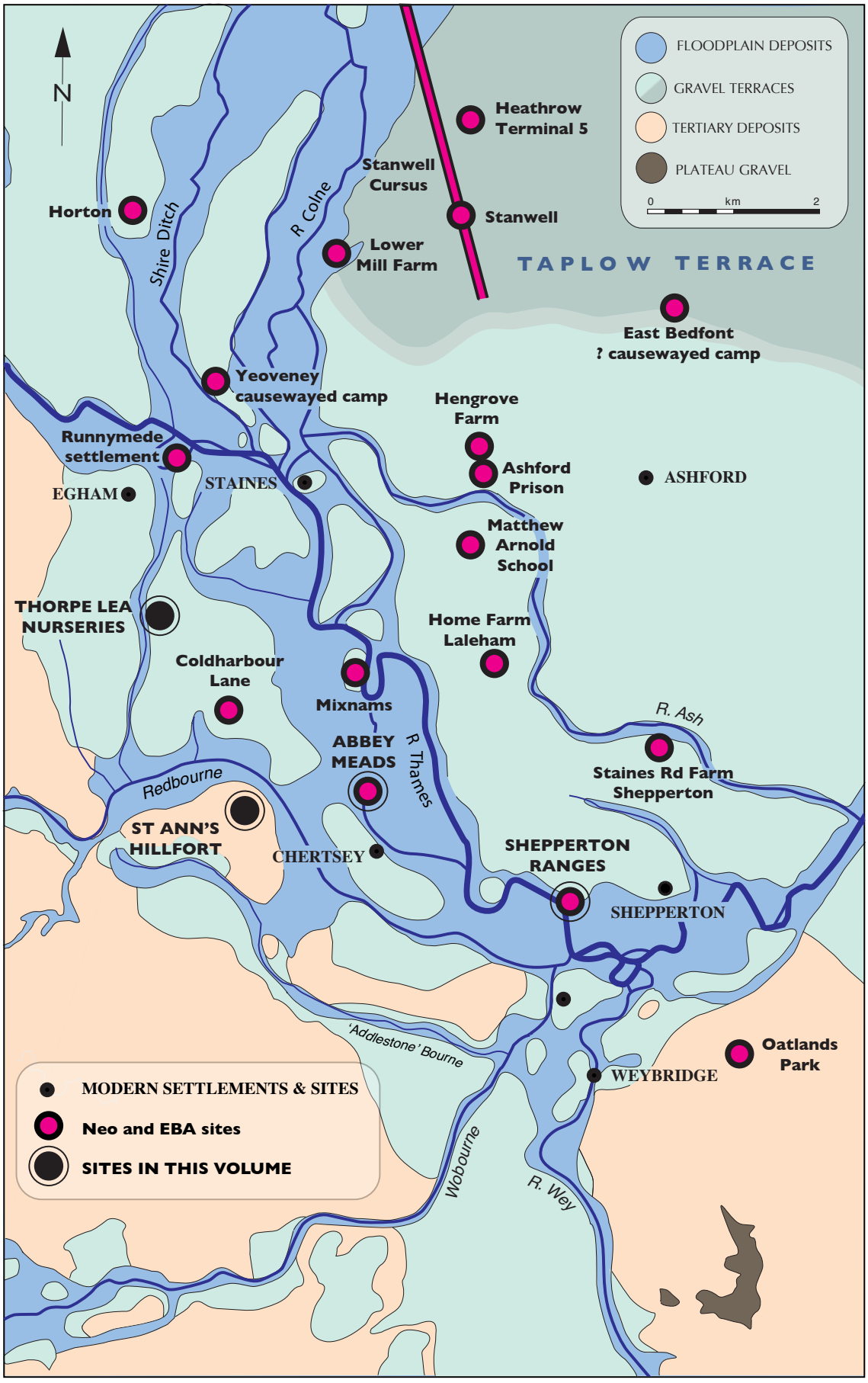


Fig 1.4 Overview: location of the principal Neolithic and earlier Bronze Age discoveries in the study area

Fig 1.5 Overview: the Neolithic ring ditch at Staines Road Farm, Shepperton under excavation

half of the 4th millennium BC probably better indicates the earliest use of the site (Jones 2008). At Manor Farm, Horton, further west and close to another stream of the Colne, another ring ditch contained struck flints and similar plainware of domestic character as well as Peterborough Ware bowls and birch bark containers (Ford & Pine 2003).

The single most important discovery of the Neolithic period in recent years within the study area is a post-built structure at Horton, close to a Colne palaeochannel (Alistair Barclay pers comm), and it is remarkable on account of the lack of any other examples in a far wider area of the Thames Basin. Whether it served domestic or special functions remains uncertain, but its rarity might suggest the latter. Further downstream on an island in the Thames/Colne confluent area at Runnymede Bridge and only 0.7km south-west of the Yeoveney camp, the only 'dwellings' tentatively recognised amongst the copious midden deposits are considered to have been relatively flimsy post and stakehole structures (Needham 1992, 251; Cotton 2004, 25). Another array of pits and possible postholes associated with a midden were found at Lower Mill Farm north from the causewayed camp, and at the base of one of the features a Grooved Ware tub and a scoop fashioned from an aurochs bone had been placed (Jones & Ayres 2004). Another such domestic site may be represented by the knapping debris and sherds from perhaps the earliest excavations of such period remains in the area of study, at Mixnams Farm on another island in the Thames (Grimes 1960).

In addition to the earthwork monuments and the few domestic sites that are known, isolated pits, or loose clusters of them, are typical of the area of study and of the Neolithic period in general across southern Britain, and they seem to have served ritual rather than utilitarian needs. Sometimes no more than shallow scoops, such pits have become typical discoveries in recent years within the study area, including some in excavations large enough to establish that they had been isolated, and seemingly unrelated to other Neolithic activities, even though their digging was sometimes the first of a succession of proximate prehistoric features. Most contained whole, or parts of, pottery vessels, usually decorated bowls of Peterborough Ware, as at Imperial College, Caesars Camp Heathrow, Sipson, Horton, Hengrove (a complete bowl), Petters Sports Field, Egham, and Home Farm, Laleham, or of Grooved Ware 'tubs', as at Perry Oaks and Holloway Lane, Sipson (Cotton & Johnson 2000, 70). They are most often accompanied by a few struck flints. These later Neolithic pits were recently (2010) supplemented by the discovery of several sherds of a plainware bowl with a roll rim and ripple-

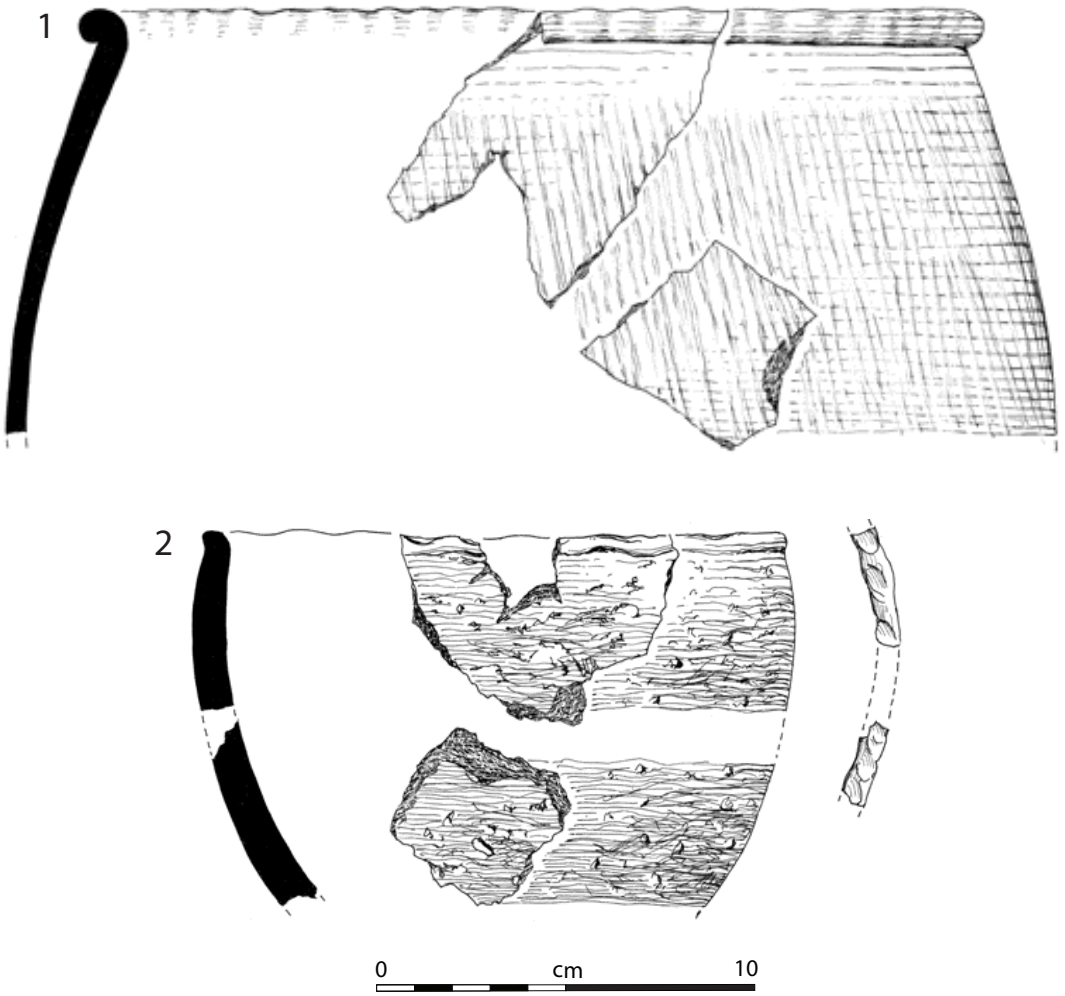


Fig 1.6 Overview: Early Neolithic pottery from a pit at the Matthew Arnold School. A residue on no 1 has been radiocarbon dated to between 3500BC and 3190BC (95% probability: Beta 285582)

burnishing accompanied by parts of a smaller and cruder vessel, in a seemingly isolated example of a pit at the Matthew Arnold School, Laleham (fig 1.6; author's examination). Such earlier Neolithic examples are rare within the London Basin. Several complete or part examples of Peterborough Ware dredged from the Thames, such as the eponymous Mortlake bowl, may have been disturbed from such isolated features, although the preferred explanation for these is that they had been deliberately placed in the river, since they are matched by a relatively large number of polished axes (Field & Cotton 1987, 85). This emplacement of axes in the river might have begun even earlier, since the river gave its name to the so-called 'Thames picks' of Mesolithic manufacture (Field 1989), were it not for a suspicion that these core tools would have been easily distinguished by the dredgers who recovered most of them, whereas more mundane struck flints would probably have been ignored (see part 3 below).

It seems anomalous that, despite the emerging multiplicity of monuments and pits in the area of study, there exists an, as yet, near absence of artefactual remains of the Neolithic period. Apart from the Runnymede midden and the domestic debris at the 'ritual' sites of Yeoveney camp and the Shepperton and Horton ring ditches, few other scatters of debitage have been positively identified, and those of Mesolithic date outnumber recognisably Neolithic and Early Bronze Age examples.

Just as there is a lack of settlement evidence or of knapping spreads of Early Bronze Age date, so also are there relatively few barrow cemeteries in the district, in contrast to the situation in other concentrations of Neolithic monuments further up the Thames at Dorchester, or along its tributary the Kennet at Avebury. One such, however, may be represented by the linear array of at least ten ring ditches marked on aerial photographs straddling the Taplow terrace edge for a distance of 600m through Stanwell (Longley 1976, fig 12 nos

33–5). An apparently isolated example was represented by a ring ditch at Hurst Park, East Molesey, with cremations in a Collared Urn (Andrews 1996), and several others visible on aerial photographs within the study area may also represent round barrows, but could as easily be Neolithic ring ditches or even eaves drip gullies of later prehistoric date. Two Beaker sherds from Oatlands Park may have been disturbed from a barrow site (Gardner 1924, 5), as also two Collared Urns from another location nearby (ibid, 14). Other Early Bronze Age examples, not apparent on aerial photographs, may yet await discovery, however, as shown by a recent example excavated at Coldharbour Lane in Thorpe (Howe et al 2002, 263), which may have been one of a cluster as another ring ditch 600m distant from it is visible on aerial photographs, but was not investigated prior to quarrying in the 1960s (Longley 1976, 15 no 85).

2.3 MIDDLE AND LATE BRONZE AGE (fig 1.7)

It is becoming ever more apparent that the most significant period of change in subsistence strategies and land tenure in southern Britain was during the Middle Bronze Age, and it is then that the single largest extent of coaxial field systems in the Thames valley was laid out across the terraces and floodplain of the area of study (Yates 2001). This only becomes clear when large areas are stripped prior to excavation, and where more limited archaeological interventions have revealed no definitive evidence for such early field systems, there remain doubts about their real absence. Such systems have been identified north of the Thames at Perry Oaks, Bath Road and Home Farm in Harmondsworth, Cranford Lane and Imperial College in Harlington, Mayfield Farm, Bedfont, Stanwell (fig 1.8), and at Church Lammas (fig 1.9) and the Central Trading Estate in Staines (ibid, fig 7.2); and more recently in Ashford at the Hospital (Cowie 2008) and St Michaels Road sites (Randall 2010), and east of Staines at Hengrove (SCAU 2007), forming the greater part of the same system as found at nearby Ashford Prison (Carew et al 2006).

On the south side of the Thames, the only Middle Bronze Age field system positively identified has been at Thorpe Lea Nurseries (this volume), but a similar ditch pattern found immediately to the east at Great Fosters (Leary et al 2010, 40), and other ditches found at Petters Sports Field (O'Connell 1986, 11) and in Egham village (S Ford pers comm) could be part of the same system. In general, however, there have been few large scale stripped excavations in recent years to establish how extensive such coaxial patterns were. One such was Hurst Park, East Molesey, where part of a field system described as being of Late Bronze Age date may have been earlier (Andrew & Crockett 1996), but the soils of the lower terrace floodplain south of the river, being heavily intermixed with Tertiary sands, are, in any case, more acidic than those north of the Thames. It may be that such systems had been less extensive south of the Thames, although part of one has been identified on a spur of Taplow terrace at St Ann's Heath School (Lambert 2010).

At Perry Oaks a developmental sequence was discerned in the field system, with the principal and earliest ditches being the north–south lengths that were often recut, and the subsequent additions of less substantial east–west members. Later additions of parallel north–south lengths created tracks and drove-ways, and waterholes, both timber or wattle-revetted, or with ramped sides for animal access, were often sited on the edges of the fields (Framework Archaeology 2010, chapter 3). Similar waterholes have been found at Hengrove (SCAU 2007), Wey Manor Farm, where one contained a maple wood bowl (Hunt et al 2002, 18), another from Vicarage Road Sunbury with the base of a wooden bucket (Hayman in prep d) and at several other Bronze Age sites in the district. A singular find from an example at Staines Road Farm, Shepperton, where it had been dug next to the Neolithic ring ditch, was the tip of a wooden ard, radiocarbon-dated to around the beginning of the 2nd millennium BC (Bayliss & Jones 2008, 73), the earliest example to have been found in the Thames valley. The Shepperton waterhole had been preceded a few hundred years earlier by the accumulation of a burnt mound of charcoal and calcined flints, the result of food preparation in a boiling pit and adjacent hearth that was found towards its centre. Nearby, a pit row avenue, found below a metre of overbank silts, had probably extended from bank to bank across a bend in the Colne stream and may have had a processional function. It could also have been of Bronze Age date, but might have been earlier or later (Jones 2008, 19).

The ard tip from the Shepperton pit was probably a deliberate emplacement, and signifies the importance of agriculture in the district during the Bronze Age, despite the primary purpose of the field systems probably having been to enable pastoralism. This seems further emphasised by another placed deposit at Hengrove Farm, Staines, that may relate to the preparation of grain. A rubber carefully laid within a saddle quern, both of Lower Greensand, had been set at the base of a

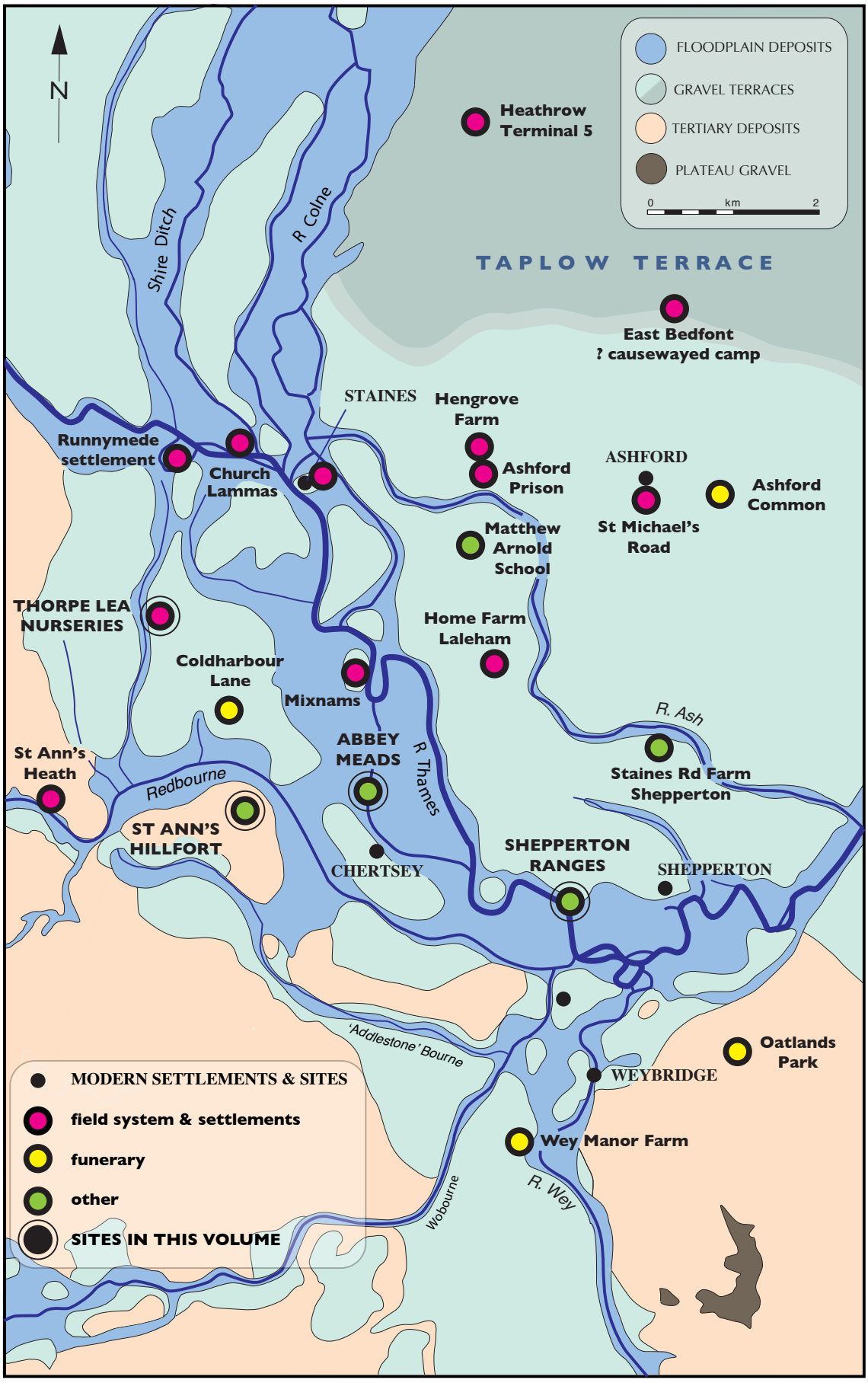


Fig 1.7 Overview: location of the principal Middle and Late Bronze Age discoveries in the study area

Fig 1.8 Overview: a later Bronze Age field system at Stanwell, south of Heathrow airport. The cropmarks seen on earlier aerial photographs are overlaid to a 1999 photograph to show the extent of destruction of this landscape

shallow pit before being covered and sealed (Howe et al 2003, 355 and fig 6).

Of the Middle Bronze Age cemeteries within the area of study, the largest are those of Ashford Common with over 20 urns (Barrett 1973) and Oatlands with perhaps 50 or more (Gardner 1924, 23), and both seem likely to have lacked barrows. This is in contrast to that of Sunningdale, just over the border in Berkshire, where 23 urns lay close to the surface of the south-west side of a large barrow (ibid, 17). There was no apparent primary burial within the mound, and two more cremations were in small stone cists (ibid, 19). An old discovery, now lost, is of two urns from the bank of the Thames at Laleham Burway that are said to have contained fragments of Bronze Age martial equipment. The site lies adjacent to a rectilinear earthwork enclosure of 0.7ha and of unknown age, although it is more likely to have been created under instruction from the Abbot of nearby Chertsey than to be of prehistoric date. Amongst more recent funerary discoveries is a smaller cremation cemetery and a penannular cremation enclosure at the Imperial College site (Crockett 2001), and a small ringwork at Wey Manor Farm that had surrounded a single cremation burial (Cotton 2004, 28).

Settlements of Middle and Late Bronze Age date have been discovered in increasing numbers in recent years, including some within rectilinear enclosures integral to the field systems, such as at Perry Oaks and Hengrove Farm (Howe et al 2000, 192), and others represented by clusters of pit and posthole features within the coaxial patterning, but which do not seem to have been separately enclosed, such as at Thorpe Lea Nurseries (this volume). Rarely do these postholes conform to easily decipherable house plans, but two such were found at Home Farm, Laleham (Cotton 2004, 29 and fig 2.7) and Petters Sports Field (Needham 1990, 115), both comprising ringworks of postholes with elaborate porches. Farmstead sites of later Bronze Age date are very commonly found in the district (Yates 2001, fig 7.2), and the

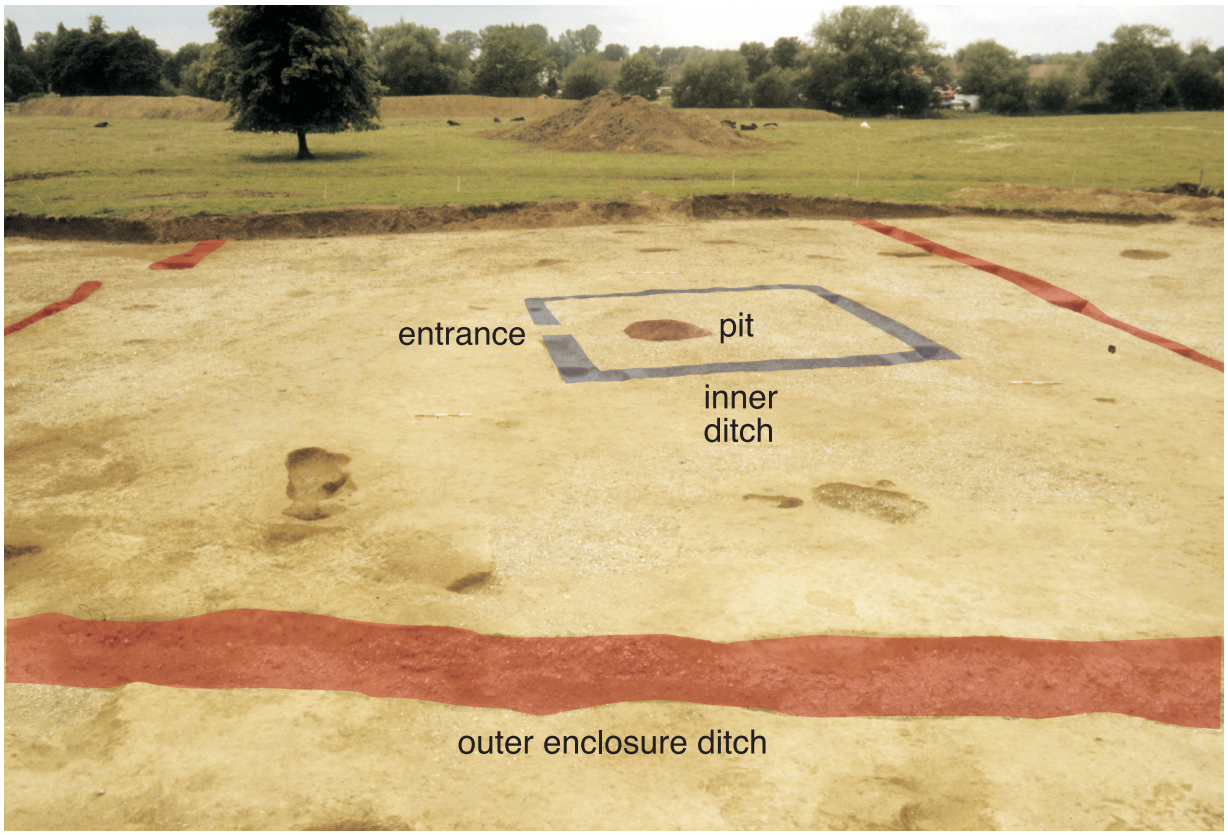


Fig 1.9 Overview: the Middle Bronze Age enclosure at Church Lammas, with its inner square feature

suggestion, based on the evidence from the Imperial College site, that on average, they may lie between 250 and 320m apart (Crockett 2001) seems to be borne out by subsequent work. The Mixnams Farm site, then an island, had also been occupied at this time (Needham 1987, 134), as also Abbey Meads on the next island south (this volume).

During the Middle and Late Bronze Ages the major focus of the area may have been the large settlement in Egham sampled at Runnymede Bridge (Needham 1991), Petters Sports Field (O'Connell 1986) and the High Street (Howe et al 2000, 192; Eddisford et al forthcoming; David Barker pers comm). The Runnymede Bridge site lay furthest east within this complex by the Thames/Colne confluent area of Tinsey island, and may have served as an entrepot for the whole district.

On account of its size, another important focus may have been the large, double-ditched circular enclosure at East Bedfont, perched on the edge of the Taplow terrace and with commanding views over the lower terraces and floodplain of the confluent region between the Rivers Colne, Wey, and Crane. Irrespective of a conjectured earlier usage, it was occupied during the Late Bronze Age, but too little investigative work has yet been done to assess its local significance.

There is also a considerable amount of Bronze Age metalwork found in the district, most often from riverine contexts (see also part 3 below), such as the items noted in chapters 2 and 3, the remarkable collection of Middle Bronze Age weaponry found during the last century close to the old Wey Bridge near its confluence with the Thames (Gardner 1911, 50), and at least seven items of similar age and types recovered after the archaeological excavations at Mixnams Farm, presumably from palaeochannels of the Thames (Tomalin 1982). Not least, however, are the two caches of fragments from bronze weapons, tools and other items found in a Late Bronze Age ditch at Petters Sports Field (Needham 1986).

2.4 IRON AGE (fig 1.10)

The numbers of excavated Iron Age settlements in the area of study have greatly increased in the decades since the enclosure at Heathrow was uncovered in the 1960s (Grimes and Close-Brooks 1983), and whilst there is growing evidence of a continuity of land usage, there is perceived to have been a shift towards larger areas of settlement in some parts of the area of study, such as the Taplow terrace (Framework Archaeology

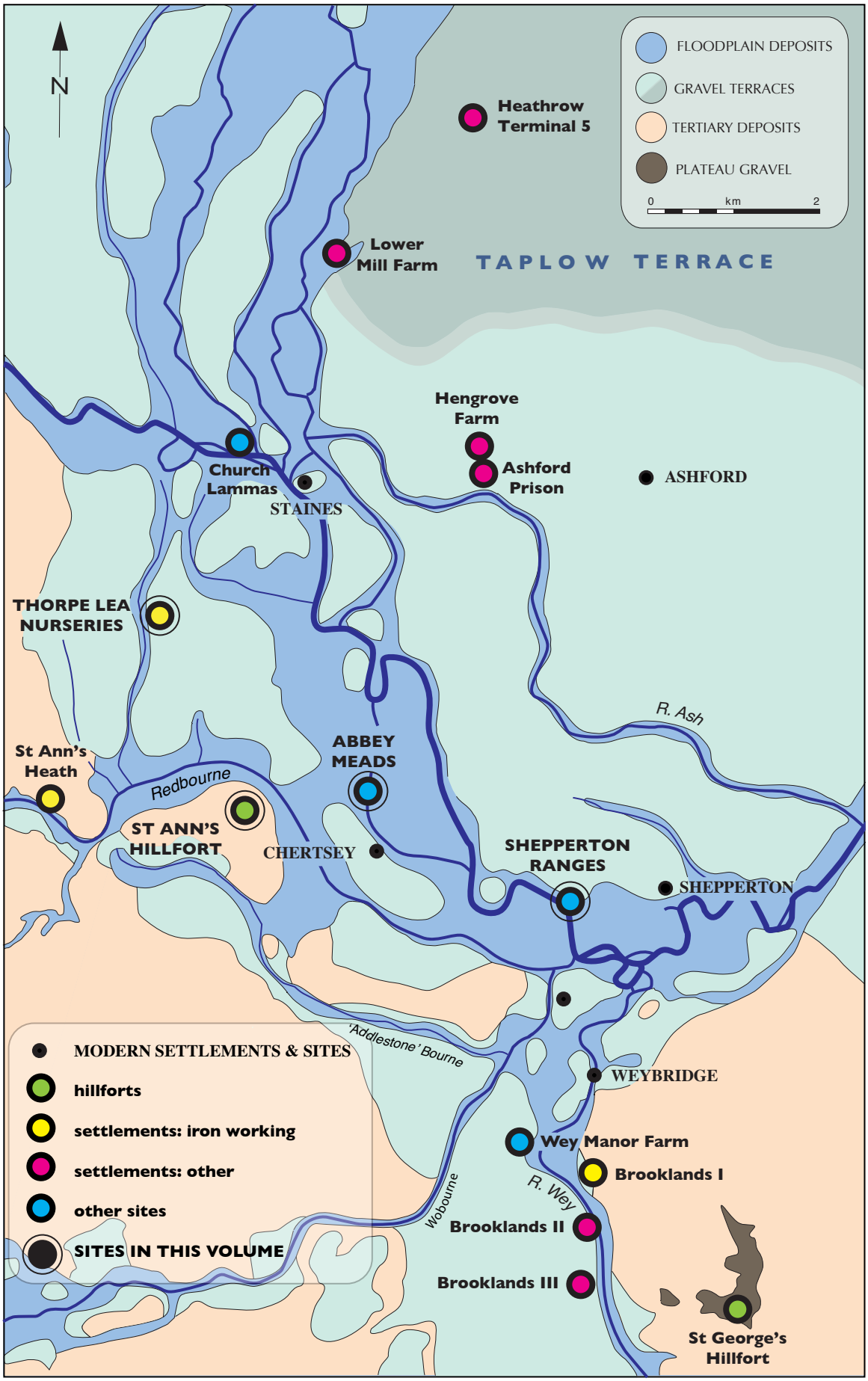


Fig 1.10 Overview: location of the principal Iron Age discoveries in the study area

Fig 1.11 Overview: a 23m diameter Iron Age ring ditch with a concentric palisade ditch (foreground). Features cutting through the ditch are of Roman date. The site lies within the famous Brooklands motor racing circuit

2006, 168). Elsewhere, the pattern of smaller and more dispersed settlements may have continued, such as at Thorpe Lea Nurseries where two clusters of occupation features lay only 0.4km apart, and north of the Thames the Middle Iron Age settlements at Hengrove Farm and Ashford Prison were only 0.3km distant from each other.

Although the Bronze Age landscape of coaxial field systems was probably maintained into the Iron Age, many of the earlier cultural signifiers were abandoned in favour of new ones, most readily exemplified by the adoption of different styles of pottery and the way it was made, as well as by new artefact types. More importantly, however, new specialised activities, triggered by technological innovations in metallurgy, were begun south of the Thames within the study area and may have attracted many others of the local population.

The growing appreciation of the strength and cheapness of iron tools and weapons during the second half of the 1st millennium BC was especially relevant for the area of study and north-west Surrey in general. This is because it came to be recognised that the sands of the Bracklesham and Bagshot Beds contained easily won and workable resources of iron. Over the four decades since smelting first became apparent at Brooklands (Hanworth & Tomalin 1977; Cleere 1972), it has become clear from several other excavations that extraction and ironworking had been important industries in the area from at least as early as the Middle Iron Age, so much so that the location of settlement sites south of the Thames had most likely been dictated by the proximity of such resources.

One focus of such activities had been the lower Wey valley, where sideritic (iron carbonate) nodules were probably extracted from the flank of St George's Hill (Potter 1982) for smelting at Brooklands, and at another Iron Age site found within the Brooklands racing circuit (fig 1.11; Hayman 1991c) a ceramic crucible may be evidence for the preparation of other metals.

Further evidence of iron smelting has been provided from several Iron Age sites along the two Bournes that run through the Tertiary heathlands west of the Wey, the most important of which is St Ann's Heath School. There, several pits within the Middle Iron Age settlement contained large quantities of smelting slag derived from both nodule deposits and bog-iron pans (Lambert 2010). Both could have been extracted from the flanks of the adjacent Redbourne and its valley floor. To the north-east, on the interrupted plain of the lower terrace gravels at Thorpe Lea Nurseries, yet more large quantities of the same types of smelting slag were recovered from pits of similar age (chapter 5, especially part 7.4)

The production sites found so far probably represent a small proportion of those that await discovery, and since it is the only such enterprise that seems to have operated on an industrial scale within the Thames valley, the ironworking district that encompasses north-west Surrey and perhaps the adjoining area of east Berkshire may have been the principal supplier for a far greater region. It must, therefore, have been a source of great wealth for whoever controlled it – perhaps those who offered the votive items of such considerable value to the waters of the Thames.

Fig 1.12 Overview: the hillfort at St Ann's hill overlooks the Thames gravel terraces and floodplain below (now partly showing as water filled quarries)

The two 'hillforts' of the study area may have been associated with this local iron industry and both are perched on the edge of the Tertiary uplands. The multi-vallate enclosure on St George's Hill lies above Brooklands on the Wey valley floor and has linear opencast workings of the nodule-bearing Bracklesham Beds along its western flank as well as evidence of ironworking from within its interior (Lowther 1949, 144). Iron slag was recovered from an Iron Age posthole within the univallate circuit on St Ann's Hill (fig 1.12), which lies 2km east from the St Ann's Heath School site and has a northward vista over the floodplain towards Thorpe Lea Nurseries.

The uses of the two hilltop enclosures seem to have been very different. Many archaeological interventions at St George's Hill in recent years due to garage extensions and the digging of swimming pools have failed to yield a single Iron Age artefact, despite the 20th century claims for ironworking, whereas the palimpsest of Early to Middle Iron Age pits and postholes exposed in the tiny exploratory excavation permitted on the plateau of St Ann's Hill indicated dense settlement activity. Were it not for the growing evidence of Iron Age settlement activity within Egham village it might more easily have been surmised that the earlier focus of local activities at Petters/Runnymede was replaced by St Ann's Hill during the Early Iron Age. This may still be so, however – the hillfort eminence dominates the Colne/Thames deltaic region – but if it had become the new centre, the 'citadel' of the district, it would still have required its river, the Thames, both as the principal means of communication, and for the trading or exchange of its new specialised iron goods and ingots.

On the Taplow terrace in the north, Iron Age settlements on new sites succeeded those of the Bronze Age, as at Perry Oaks, Lower Mill Farm (Jones & Poulton 1987; fig 1.13) and Mayfield Farm, but a more significant site may have been the 'Caesar's Camp' enclosure, containing, as it did, a rectangular structure with an internal room separated by a beamslot from a so-called 'peristyle' of postholes (Grimes & Close-Brooks 1993). This classical allusion may be an overstatement, but its interpretation as a shrine seems likely and it may have served as an important religious focus within the region.

A smaller rectangular ditched structure with a large internal pit within the Bronze Age enclosure at Church Lammas (fig 1.9) might be comparable with similar structures found at Iron Age settlements further north at Stockley Park (Wait & Cotton 2000, 111) and Northolt (pers comm Dan Hounsell) and tentatively interpreted as shrines, but the dating of the Church Lammas structure is uncertain and it may have been contemporary with the enclosure. If it was a shrine, with a pit large enough to have carried a standing timber (totem

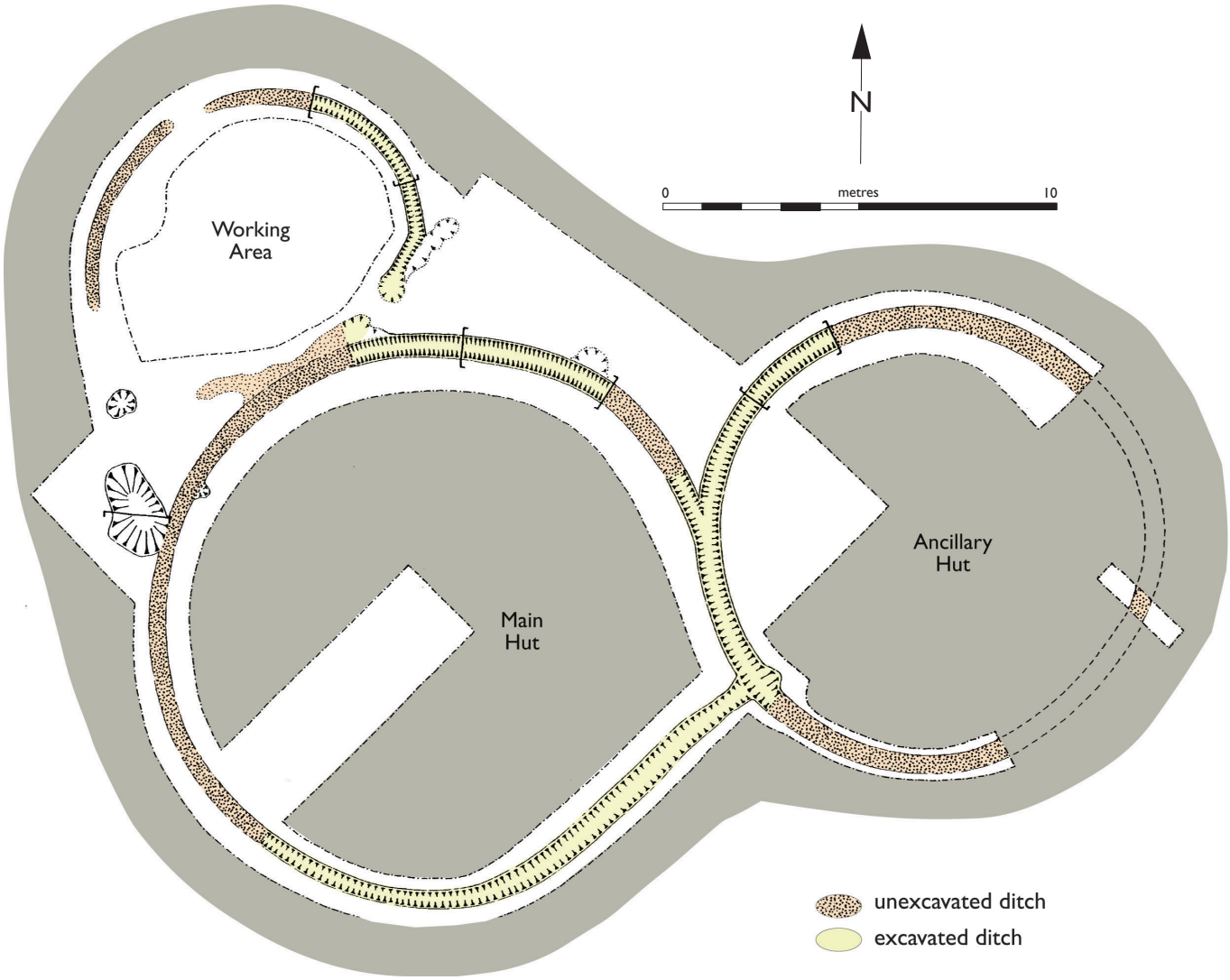


Fig 1.13 Overview: a plan of the small Iron Age farmstead at Lower Mill Farm, Stanwell

pole?), the performance of rituals may have had a riverine focus, sited as it was at the south end of Yeoveney island where the river deities implicit in the names of the Thames and Colne had coalesced.

Votive offerings of metal objects in the Thames that began during the Bronze Age continued into the later prehistoric period (Bradley 1998), with examples in this volume including the only complete bronze shield of Iron Age date to be found in Britain, from a palaeochannel at Abbey Meads, and a buried loop of the river close to the Wey confluence at Shepperton Ranges that yielded a hafted Bronze Age axe and an Iron Age sword and scabbard (see also part 3 below).

The pattern of Late Iron Age activity in the area is, as yet, little known, but, from the evidence of recent excavations there is no evidence of any significant expansion of the population during the century before Roman occupation. There is, however, another marked change in material culture, most clearly seen in pottery and metalwork, that probably reflects changes in the societal relationships of different groups of people across southern Britain. Whereas the saucepan pot and globular jar traditions of glauconitic and flint-tempered Middle Iron Age wares were maintained, with some, at least, of these perhaps traded or exchanged from the south and south-west of the region, new shell and grog-tempered types were introduced and eventually became predominant. The former were almost certainly made in the estuarine district of the Thames, and the latter may derive, or have resulted from influences inspired from, Kent or else the upper reaches of the Colne within Hertfordshire.

What this may mean in terms of the recognised 'tribal' groupings and their shifting spheres of influence is still little understood within the area of study. The current consensus is that the north-eastern part of the territory of the Atrebates probably extended to the Thames, where it met with the southern extent of Catuvellaunian control. In this model

the river served as a barrier between the two, and if true, would have done so to a far greater extent than today, with its then innumerable braided streams long since canalised into a single channel. With the emerging evidence of a major ironworking industry south of the river and extending back in the direction of *Calleva Atrebatum* on the far western side of the Tertiary heathlands, such a physical boundary as the Thames makes sense in terms of resource management, political expediency and the needs of defence. Those in control of access to the sources of the iron would need to defend them, and for that purpose a very significant advantage of St Ann's Hill would have been its commanding views over the valley floor below. Just when such a boundary may have been set in place is uncertain, but it could have been soon after the first exploitation of those iron resources, when the southern people began to realise their natural advantage over those in the north. Current evidence suggests that the industry was in place during the Middle Iron Age, but it may eventually prove to have been earlier, and it certainly continued into the Roman period, as iron-winning and smelting had been the principal activity of the London to Silchester highway settlement at Wickham Bushes just within Berkshire (Mark Corney pers comm).

Set against this supposition of a fixed separation of northern and southern Thames bank peoples (if not necessarily those who considered themselves as either Catavellauni or Atrebatic) is the status of the river as a deity that received votive offerings and probably burials. If the Thames had been adopted as a secular and political boundary, there may still have been mutual recognition of its religious importance, with the groups on both banks perhaps sharing the same ritual practices and festival cycles. Such activities would have required some degree of acquiescence.

2.5 ROMAN (fig 1.14) *by Rob Poulton*

A number of sites in the local area show that small rural Iron Age farmsteads quite commonly continued, apparently undisturbed, across the period of the Roman conquest (Poulton 2004, 60). At Thorpe Lea Nurseries (chapter 5) an Iron Age site may have become formally enclosed for the first time in the (?Early) Roman period but the occupation evidence spreads over exactly the same area in both periods, and the pottery sequence strongly suggests that there is continuous settlement. The numerous pits, ditches and postholes at Brooklands II, near Weybridge, suggest an extensive area of Roman settlement, broadly similar in location to the Middle Iron Age and later occupation (note that this is one of three Iron Age sites at Brooklands, but the other two do not extend into the Roman period) that goes out of use by around AD 100. At Hengrove Farm, Staines (SCAU 2007) a complex system of paddocks or enclosures (fig 1.15) was established in the Late Iron Age/Early Roman period, replacing, but still with the same core area as, the Iron Age settlement. Hengrove appears to become deserted at about the same time as Thorpe Lea Nurseries, in the later 4th century. The sequence at Hengrove Farm has some similarities with that at Heathrow (Framework Archaeology 2006, 202–3), where a new field system was established in the Late Iron Age to Early Roman period but with settlement remaining in the same core area. This field system continued until the 3rd century when it was in turn replaced by a system of 'ladder' enclosures and droveway (ibid, 218–26). It is the latter that is most similar to the paddocks at Hengrove, where the ditches were clearly maintained over a considerable length of time, with individual samples often producing finds assemblages much later in date than the establishment of the system. Repeated cleaning of the ditches at Heathrow is noted, and there is some uncertainty in the chronology (ibid, 225–6), so it remains possible that the two are nearer in date than seems to be the case.

It seems clear from these examples that the Roman conquest did not seriously disrupt the smaller farmsteads, despite the rapidity with which a new administrative framework came into place, secured by a network of roads linking major centres (cf Bird 1987, 166–8; Poulton 2004, 60). In the local area, as elsewhere in the south east (Bird 2004a, 65, and Bird 2004b, 21–6), evidence for military activity is rather thin, represented by part of a helmet cheek piece from Staines (Jones & Poulton 2010, fig 1.3), and the possible military ditch at Petters Sports Field, Egham (fig 1.16; O'Connell 1986, 76–9, Bird 2004b, 25). The peaceful transition implied would have allowed the Iron Age farmsteads to continue in use, although their social and economic context would undoubtedly have been altered, in particular by the development of a small Roman town at Staines (Jones 2010). A fort has previously been claimed there, but no real evidence for it exists, despite the undoubted emergence of the site soon after the Roman conquest, at the crossing point of the Thames for the London to Silchester road (Jones & Poulton 2010, 13–15). It seems certain that this town would have had a strong effect on the local farmsteads, although this is hard to define with precision. Perhaps the estates of which they formed part came to be controlled by people resident in the town, and this might explain the apparent absence of villas in the local

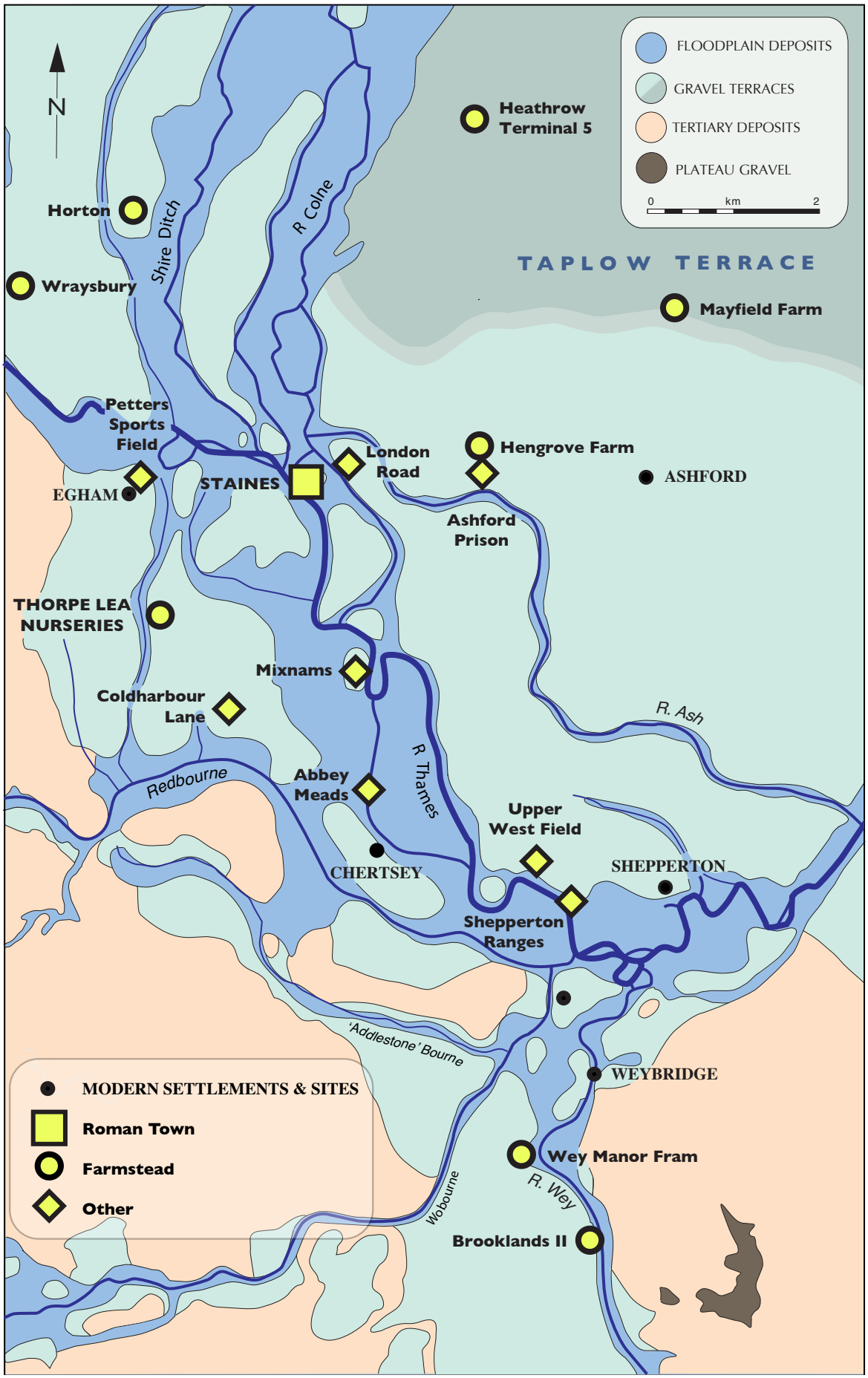


Fig 1.14 Overview: location of the principal Roman discoveries in the study area

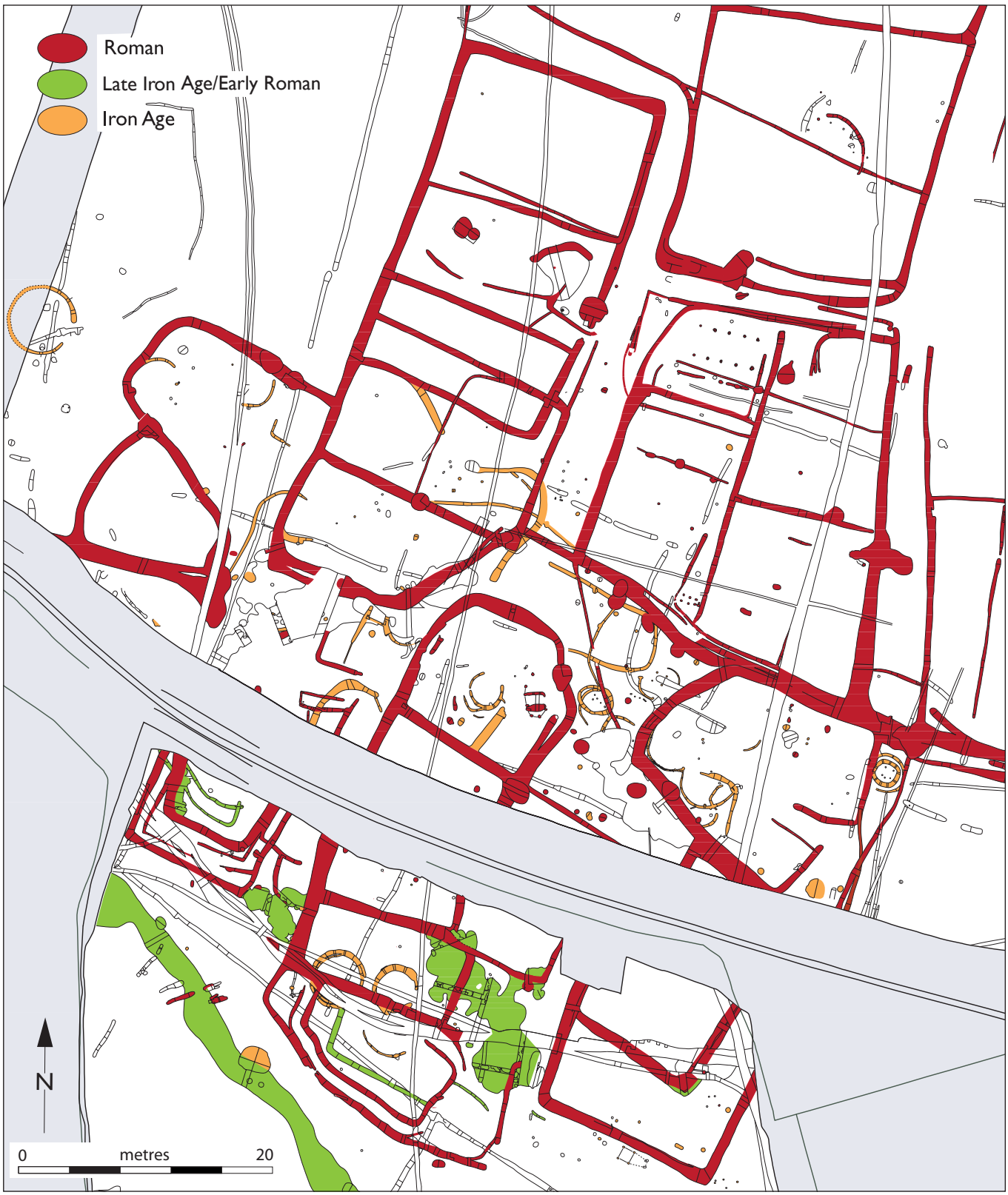


Fig 1.15 Overview: a plan of part of the Iron Age and Roman settlements and enclosures at Hengrove Farm, Staines

area (although there is a written record of 19th century finds of tesselated pavements near the Saxon cemetery at Upper West Field, Shepperton (Longley & Poulton 1982, 184)). The lack of villas on the middle and lower Thames gravels has been widely remarked on, and Bird (2000, 156) has suggested the possibility of an Imperial Estate, while Booth et al (2007, 67–8) argue that the contrast in this respect between the upper and lower Thames terraces may be explained by the greater productivity of the calcareous gravels of the former.

Staines (Jones 2010) was the only significant Roman centre of population within the study area. It is named in the Antonine itinerary as *Pontibus* 'at the bridges', and it undoubtedly grew and flourished on account of its position as a 'posting station' on this major Roman road. It reached a peak of prosperity in the 2nd century, but declined in the 3rd century, perhaps partly due to flooding. It may have changed character and become less intensively occupied from the later 3rd century, when many sites show an accumulation of 'dark earth' deposits. Buildings most frequently seem to have been of timber, but there is plentiful evidence for sophisticated features, such as the use of painted wall plaster, tessellated and mosaic flooring, and window glass.

This is in marked contrast to the rural settlements, almost all of which seem to have been of comparatively humble status. They are generally reluctant to yield convincing building plans of Roman date, or any features that might suggest they belong to the villa type of occupation. Evidence for one aisled barn has been recovered at Hengrove (Booth et al 2007, fig 6.6), but the absence of house plans contrasts strongly with the numerous Iron Age ring gullies. At Thorpe Lea Nurseries the environmental evidence clearly indicates a timber store, but there are no building plans, and there is similar evidence of beetles that infest structural timber at Heathrow (Framework Archaeology 2006, 212), where it is, however, accompanied by beam trenches that are suggested to be for agricultural or industrial buildings. There seems no doubt that the principal Roman buildings at these sites were not built with solid foundations or around a structure of posts set directly in the ground, and the only plausible explanation is that they were timber-framed buildings of sill beam construction which have in most cases left no trace (Bird 2004b, 67), presumably because the beams were not usually dug into the ground to any depth. Evidence is present, however, at number of sites, including Brooklands, Hengrove Farm, Thorpe Lea Nurseries and Waylands Nursery, Wraysbury (Booth et al 2007, 289), for four-post structures. Traditionally these have been interpreted as marking the location of granaries, but there is also evidence to suggest storage of fodder, and an association with pastoralism (Lambrick & Robinson 2009, 271–2). It is, as this indicates, not easy to determine the function of these sites. In large part this is due to a general lack of good animal bone evidence from the acid gravel soils, but also to a shortage of environmental studies (Booth et al 2007, 20–29). Thorpe Lea Nurseries produced a useful, though not comprehensive, range of such evidence, and it is concluded that 'this mixed economy may have continued [from the Iron Age] into the Roman period, but there are also indications, perhaps especially for the Late Roman period, of a shift in emphasis, with waterholes and

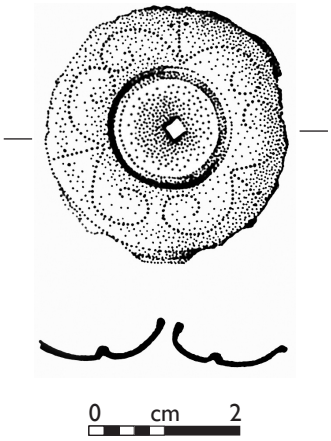


Fig 1.16 Overview: a possible military ditch (infilled AD 65–80), with palisade trench to right, and a bronze military harness mount (dated to mid 1st century AD) from it, at Petters Sports Field, Egham

small enclosures or pens, suggesting an increased dependence on pastoralism'. The paddocks at Hengrove Farm and Heathrow (Framework Archaeology 2006, 224) also suggest ranches and a pastoral economy, as do the enclosures identified (albeit more partially) at Wey Manor Farm (Booth et al 2007, fig 3.4 no 9), where it is interesting to see them overlying Iron Age fields and settlement. Arable farming was, perhaps, less evident in this part of the Thames valley than formerly, but certainly not absent as the discovery of a corn drier at Hurst Park shows (Andrews 1996, 102).

The rural sites, excepting Hurst Park and Heathrow (crop-processing and beekeeping – Framework Archaeology 2006, 211–12), have produced very little evidence of specialist functions. This presumably is due to a combination of the general lack of good quality resources for industry in the area, combined with the more developed Roman economy concentrating such activities in fewer and larger centres. This undoubtedly emphasised the role of Staines as a trading centre, and, as a natural corollary, it has a reasonably diverse range of indications for trade and craft activity (Jones & Poulton 2010, 26–7). Most of these are unexceptional, including grain processing (for which there is widespread evidence), hay storage, butchery, smithing (perhaps on quite a large scale), tanning, and leatherworking. More unusual is the range of evidence that suggests Staines may have been a centre for medical assistance (Bird 2004b, 72). This includes a collyrium stamp for eye remedies, mineralised seeds that suggest medicine production, and a variety of implements associated with medical/surgical activity (fig 1.17).

Staines also has a range of evidence for ritual and religious activity, but nothing to suggest that this was an especially important function of the town (Jones & Poulton 2010, 41). Some aspects of this are, though, of considerable intrinsic interest such as the *bustum* burial from the cemetery area east of the town (Hunt et al 2002, 80). There is at present no indication of either rural cemeteries or temples in the study

Fig 1.17 Overview: a Roman collyrium stamp and surgical instruments from Staines. The items are: **1** stamp used to mark eye remedies (photograph reversed to show retrograde lettering as it would have appeared in use); **2** spoon-probe; **3** scoop-probe; **4** double-ended spatula/probe; **5** a scalpel handle

area, although a single burial of 3rd–4th century date was found at Thorpe Lea Nurseries. There is a range of evidence for ritual activity associated with waterholes and wells, with, again, the best examples coming from Staines, such as the 16 dogs at the base of one well and the two or more whole pots found in others (Jones & Poulton 2010, 23–4). In each case association with a rite of closure seems probable, and a similar explanation is likely for a group of objects, including tweezers, pottery, an iron bar and animal bone, in a Late Roman waterhole at Heathrow (Framework Archaeology 2006, 216). The association of waterholes and wells with such activity is well established, both in the prehistoric period (cf Lambrick & Robinson 2009, 283–7) and the Roman period (eg Poulton and Scott 1993, 115–32), and the objects are often of a comparatively utilitarian character, which may encourage acceptance of a similar explanation for objects in the three Late Roman waterholes at Thorpe Lea Nurseries, where an alternative explanation of dumping of rubbish is equally favoured by the excavator (chapter 5, part 9.2). In contrast the clearly high status Christian lead tank, placed in a waterhole (or possibly purpose-dug pit) in the late 4th or early 5th century at Heathrow, must undoubtedly represent a ritual deposit, even if the weight of symbolism attached to it in the report (inter alia 'a poignant symbol of the ultimate demise of the Roman Empire in Britain') seems overblown (Framework Archaeology 2006, 227–30).

It does, however, represent the latest securely dateable event at the Heathrow site, and occupation at Thorpe Lea Nurseries also came to a close in the later 4th century, as probably at Waylands Nursery, Wraysbury, but most other rural sites seem to have ended at an earlier date. However, at some sites, such as Horton and Wraysbury, there seems to be a resurgence of activity, with new enclosures and field systems, in the later 3rd and 4th centuries (Framework Archaeology 2010, 309–11). In an overall view, the evidence seems to point to change in the foci of settlement activity and, perhaps to increasing emphasis on pastoralism, including hay production (ibid, 297), in the later Roman period, but a similar intensity of farming. Despite this, very few Roman sites in Surrey (Bird 1987, 192) or the region more generally (Booth et al 2007, 80–81) seem to last much beyond *c*400. There was evidently a major change in the pattern of settlement, and early 5th century sites are comparatively rarely identified, although archaeological evidence at Staines (Jones & Poulton 2010, 42–3) is just enough to suggest a continuous presence into the Early Saxon period, and place name and other factors at nearby Chertsey (Poulton 1988, 4) point to sub-Roman activity.

3 RIVERS AND RITUAL DEPOSITION

by Rob Poulton

The present section of this report is intended to provide a wider context for the discoveries of prestige objects in riverine contexts reported on in chapters 2 and 3. That work is frequently mentioned in the following text, but repeated cross references are not given. The immediate focus is the Thames and its tributaries within the study area, but it is necessary to take account of the river both upstream and downstream to understand that. On the other hand, ritual deposition in other watery environments (above, part 2.5) while undoubtedly related in some sense, does not commonly feature obviously prestige objects (at least in this area), and is not considered. The broader spectrum of objects that appear on land in placed deposits (eg Garwood et al 2011, 372–7), however, suggests that studies of riverine deposition may be focussed almost exclusively on what is only a small part of the story. This is inevitable, given the normal circumstances of discovery, but does emphasise the importance of taking any opportunities that may arise for more controlled recovery. Ritual deposition in rivers, especially the Thames, has attracted considerable interest in recent years (eg Ehrenberg 1980; Needham & Burgess 1980; Fitzpatrick 1984; Bradley & Gordon 1988; Bradley 1998; York 2002), although this has primarily related to the later prehistoric period, whereas the phenomenon appears through the whole of the Holocene until the medieval period.

The types of objects involved may be briefly summarised in chronological sequence. The sequence begins in the Mesolithic, when a large number of flint axes/adzes, including the 'Thames picks' to which the river gave its name (Field 1989), were deposited (Garwood et al 2011, 377–81; Ellaby 1987, fig 3.4 which shows a varied distribution), as well as antler spearheads (Ellaby 1987, fig 3.6). Even greater numbers of Neolithic objects have been recovered. They include many flint and stone axes (Holgate 1988), with, for example, (in 1984) 67 stone axes out of 108 from the whole of the historic county of Surrey derived from the Thames, including a number made of jade and nephrite from continental sources (Field & Cotton 1987, 83). Other Neolithic artefact types include antler maceheads and pottery, especially Peterborough Ware bowls, and Garwood et al (2011, 380, figs 14.36 and 14.37) make the interesting point that in the Greater London area such finds occur in the same locations as axes.

Stone battle axes and flint daggers continue the Neolithic tradition into the Early Bronze Age, but it is the Bronze Age metalwork from the river that captures the attention most with its remarkable array of predominantly martial equipment, including rapiers, swords, spearheads, and shields. The objects cover the whole period, but the Middle Bronze Age is especially productive, and Needham (1987, 114 and fig 3.11) suggests that this implies significant metalworking capacity in the area, displaying advanced technological skills. His further suggestion that the scale of ritual disposal relates to the accumulation of surplus through trade (ibid, 99) poses very difficult questions of comparison. Is the scale of deposition greater then than at other periods and/or are the items relatively more valuable? Certainly the Late Bronze Age and Iron Ages sees a continuing high rate of deposition of objects, with, for example, 19 of the 33 Iron Age cavalry swords known in 1984 coming from the Thames (Hanworth 1987, 148). Equipment seemingly associated with warfare continues to be most conspicuous, with many swords, spearheads and daggers, although to what extent these were items actually used in military activity is less clear, with a number of pieces, including the Chertsey shield (fig 2.4), the Battersea shield, the Wandsworth shield bosses and the Waterloo Bridge helmet, being more suitable for parades than conflict. Coins, currency bars and agricultural tools of Late Iron Age date have also been recovered from the river (Booth et al 2007, 208).

A Roman officer's sword with a finely decorated bronze sheath and a legionary helmet, both of the mid 1st century AD or earlier, were found in the Thames near London, and have been generally interpreted as casual losses (Merrifield 1983, 24–6). Their similarity to the other finds discussed here suggests that the possibility of deliberate deposition should be seriously considered, and this fits with a study of the evidence from the whole Empire, with a high proportion of all known military equipment coming from watery contexts, notably the major European rivers (Bishop & Coulston 2006, 30–31). The tradition of depositing martial equipment in the river otherwise ends abruptly with the Roman conquest. This might be read as implying that the focus of high status ritual activity shifted to more formal settings (temples), perhaps necessarily so if the use and display of military equipment was forbidden to those not in the army (Woodward 1992, 66). There is, however, some evidence that ritual deposition continued, but involving non-martial objects only. The Early Roman beaker from Abbey Meads and the Roman chisel from Shepperton Ranges are two such objects, and at the latter they are emphatically supported by the group of pewter plates, for whose deposition a ritual explanation is all but certain. This suggests that more careful consideration should be given to the significance of many other Roman objects recovered from the river. Complete Roman pots have been found on many occasions, such as the Alice Holt pot from the Ferry Lane, Shepperton pit, almost certainly from a buried channel of the Thames (Bird 1999, 107), a samian dish from the river near Shepperton (fig 3.1) and and further examples elsewhere along the Thames (eg Booth et al 2007, 220), and a ritual explanation seems most probable given that whole vessels on land are almost always associated with that type of activity, whether funerary or otherwise. Bird (2004c, 80) suggests that coins and other objects recovered from a stream crossing at Kingston represent a religious site, while a 1st century AD bronze strainer from Mixnam's Pit, Thorpe (Tomalin 1989), was probably recovered from an extinct course of the Thames.

The re-emergence of the river as a site for ritual deposition of weaponry in the post–Roman period is well evidenced, with the recovery of significant numbers of spearheads and swords from the Early Saxon period (Poulton 1987, 201). There seem to be two possible explanations of this. One is that the rite was introduced by Saxon newcomers, the other that it represents a re-emergence of a native tradition, suppressed in the Roman era in its martial form but continuing in other guises. The Shepperton Ranges site appears to offer support for the latter explanation, if the suggestion is accepted that it shows a continuity of veneration of a specific site, including as it does objects of Iron Age, Roman and Saxon date (see also below on the possible association of Early Saxon deposition with burial). Some (eg East et al 1985, 3–6) suggest that this ritual should be more associated with Viking activity (fig 1.18), as there are far more swords of that period than of the earlier one. The totality of martial equipment, which, in the Surrey stretch of the river, at least, shows little change (Poulton 1987, 220), should be regarded as more important than comparisons of specific types, which may reflect no more than availability or fashion. It would also probably be better to use the term Late Saxon rather than Viking for these swords, as there is no certainty as to the ethnic origin of those who owned the swords, since they were freely traded. Indeed, given the suggestion advanced above that this is a continuous British tradition it may be more probable that those involved were the indigenous inhabitants. It does not appear that there is a continuation of the practice beyond the Norman conquest, but some research might be interesting to see whether a parallel change in character occurred to that after

the Roman conquest. As a small pointer to this the recovery of a supposed pewter relic holder from the Thames at Shepperton and a medieval pewter cruet set from the Abbey River near Chertsey (Surrey Historic Environment Record (SHER) nos 2393 and 2839) may be noted.

The vast majority of these objects were dredged from the Thames in the period from the late 19th century up until the 1960s (there do not seem to be any later finds recorded on the SHER, and presumably either all the early deposits had been scoured by then or some change in the way dredging was undertaken means that objects are no longer recovered). This circumstance suggests that there are many obstacles to interpretation of these objects. Small or softer or more easily damaged objects are unlikely to have been available for recovery, and those objects seen will only have been retained to the degree that they were recognised and captured the interest of essentially untrained eyes. In turn, an archaeological record of those that were initially retained may only have been made where an interested private or public collector was available, except where the object was of exceptional character. Dredging will have been carried out with variable frequency and to different depths in different parts of the river, and this means that comparisons between recovery in different stretches may be misleading. The very high incidence of objects of many different types and periods in the Thames between Kingston and London has often been noted, but comparisons (eg the distribution maps in Garwood et al 2011, figs 14.36–14.38) between that area, where a number of avid collectors were operating (notably Thomas Layton whose acquisitions are a core element of the Museum of London collections (Blackmore & Whipp 1977)), and other stretches of the river may not be comparing like with like, especially if there is any merit in Hanworth's (1987, 148) suggestion that objects 'may have been given a spurious provenance to make them more attractive to prospective purchasers'. The variable degree to which the ancient Thames followed its present course, rather than buried or extinct channels will also influence the rate of recovery. Such channels are a secondary source of discoveries, mostly in sand and gravel pits and by operatives and in circumstances where the same issues arise as in dredging (eg Tomalin 1982), but sometimes (see chapters 2 and 3) with a greater archaeological involvement. The ideal, of course, is controlled excavation, but its incidence has been extremely rare, only occurring in connection with the Eton rowing lake project (Lambrick & Robinson 2009, 288–94) along the middle Thames. It is often suggested that the Thames is especially connected with ritual activity. This may well be correct, but its relative eminence as compared to its tributaries may also be exaggerated on account of the very much smaller number of opportunities for discovery in the latter. The association of smaller rivers with ritual is shown by finds such as the 'enormous ceremonial spearhead from Wandle Park…[that] must surely be a votive deposit at the head of the Wandle', (Needham 1987, 114); the Iron Age cavalry sword from a tributary of the river Mole at Charlwood (Hanworth 1987, 148); and the Iron Age wine mixing bucket, from the Wey at Brooklands (ibid, 148–9).

In the past a variety of explanations have been offered for the arrival of these objects in rivers. The suggestion of erosion from riverside settlements seems unlikely to apply very often

Fig 1.18 Overview: Viking sword found near Chertsey. The maker's name 'Ulfberht', between two crosses, was inscribed on the blade

since the types of objects concerned are exceptionally rare discoveries on occupation sites, a fact brought home by their virtual absence from the many large scale excavations that have occurred over the last half century. This type of object may accompany burials at some periods but the occurrence of such in river bank locations seems rare. Causewayed camps, such as that at Yeoveney, can occupy such positions, and do have deposits of this type, so a Neolithic component from such sources in river finds is a minor possibility. The martial character of many of the finds has led to suggestions that they represent losses from battles occurring at river crossings (eg Morris 1959, 132). It is impossible to reject this idea entirely, but the often pristine character of the finds, extending to include the idea that some objects, such as the Chertsey shield (fig 2.4), were parade-ground armour, is against it, as is the deliberate bending ('ritual killing') of many swords. In sum, it seems certain that the great majority of these objects were ritually deposited.

Closer identification of the type of ritual involved is very problematic, and may have varied through time. A useful starting point, however, is Bradley and Gordon's (1988) discussion of the significance of human crania found in the Thames, and the debate that followed (West 1996). West rejects the suggestion of fluvial erosion moving the skulls along the river, citing particularly the good condition of the Walbrook skulls. The Shepperton Ranges crania shared with those a notably fresh, though patinated, condition, without any signs of erosion or significant damage. At the Ranges a number of animal bones were recovered as well as the human crania, but no mandibles or other human bones. This tends to support Bradley and Gordon's (1988) suggestion that only the crania were selected for river deposition, perhaps after excarnation of the whole body elsewhere. Other features also indicate a link with funerary practices. It is a long time since Torbrügge (1972) pointed out that the types of Iron Age weaponry that appear as grave goods in central and eastern Europe are the same as those found in rivers in Holland, Belgium and Britain. That point can now be extended to other periods. Garwood et al (2011, 379) note that a picrite battle axe from the lower Thames is very similar to those accompanying Early Bronze Age burials in the upper Thames, indicating a possible regional dichotomy in burial practise. The Early Saxon weaponry is also interesting as it is very similar to the grave goods in contemporary cemeteries. If the deposition of martial objects in the river represents the revival of a British tradition, as suggested above, then this might also show natives practising a burial rite marking their distinctive character from the newcomers and their followers. An interesting point is that the weaponry could be interpreted as indicating that funerary activity associated with the river was exclusively male at all periods. This seems unlikely to reflect reality, and is more probably a consequence of partial discovery and selective retention, as previously noted.

Bradley and Gordon (1988) have also suggested that the skulls may have been deposited in 'rites of passage'. On the other hand, at least some of the objects, such as the pewter plates at Shepperton Ranges, can hardly be other than votive offerings. Complete pots are at various periods associated with cremation or other funerary activity, but equally their deposition may be connected to other religious activity, such as the rites of termination indicated by the Roman pots in wells and waterholes noted above (part 2.5). Votive deposition is an explanation that could potentially apply to many of the objects from the river, including the crania, since for these last the absence of mandibles argues that they were valued as objects (as in the cult of the severed head) rather than as representative of the whole deceased, for which purpose only the entire skull (even if separated into its component parts) would surely have been appropriate. In truth, it may be asking too much to of such poorly provenanced material to use it to make nice distinctions regarding the type of ritual involved. It seems probable that the reasons for deposition varied through time, and perhaps according to location also, and the distinctions that seem meaningful to us may not have been considered important by those involved.

It has already been noted that there are reasons to doubt the suitability of the recorded distribution of river finds for drawing comparisons between different stretches of it. The degree of variation may, however, be sufficiently established to support the suggestion that ritual deposition in ceremonial activity in the middle and lower Thames in the Neolithic was an alternative to the expression of that through monument building in the upper Thames valley (Garwood et al 2011, 379 and 381). The same authors also consider that the Thames may have had exceptional cosmological significance as a dominant natural feature. In effect, the whole river may have been regarded as sacred, although this does not mean that any location along it was appropriate for ritual activity. The Shepperton Ranges and Abbey Meads discoveries show clearly that this occurred in well defined places. Why a particular place was chosen is very difficult to determine. The thorough investigations at the Eton rowing course (Lambrick & Robinson 2009, 288–94) demonstrate the association of

ritual deposition extending from the Neolithic to the Iron Age with a series of bridges, and the existence of contemporary settlement in the immediate vicinity. There are, however, no major weapons or other metal objects, for which York (2002) has suggested a correlation with fortified enclosures and other high status sites in the Bronze Age. This is not apparent at Shepperton Ranges, where the nearest known high status sites of any date are 3km or more distant (figs 1.1–1.4). There are hints of nearby settlement, but nothing to suggest it was high status. At Abbey Meads, Chertsey, on the other hand, there is good evidence for prehistoric and Roman settlement just offshore from where the prestige metalwork was recovered, and the Iron Age hillfort of St Ann's hill is only 1.2km distant and overlooks it. The choice of a particular place might, then, be due to considerations that are now hard to identify archaeologically. The significance of the main find spot (A) at Shepperton Ranges might, for example, be that it lay at the confluence of the Thames and Wey, and that general idea might have been further refined by practical considerations of accessibility. Most importantly, though, both Abbey Meads and Shepperton Ranges suggest that a particular place, once chosen for whatever reason, may have acquired and retained sanctity over a very long period of time.

CHAPTER 2: ARCHAEOLOGICAL FIELDWORK AT ABBEY MEADS, CHERTSEY

by Phil Jones

SUMMARY

In 1985 the only Iron Age shield in Europe made entirely of bronze was recovered from a gravel quarry in Chertsey. It had probably been a votive offering in a channel of the River Thames, and several other objects of earlier and later date from the same vicinity may derive from similar practices. Archaeological monitoring in the quarry identified areas of Bronze Age, Roman and medieval occupation on an adjacent land surface, as well as a line of early medieval stakes. There was also some success in the recording of the palaeochannel.

1 INTRODUCTION

In 1982 Hall Aggregates (Thames Valley) Ltd of the RMC Group of companies, began extracting gravel and sand in a quarry called Abbey Meads (fig 2.1), in Chertsey within the Borough of Runnymede, Surrey, TQ 041679. It should be noted that Abbey Meads, as known in the 19th century and earlier, lay over 100m south-east of the quarry area, part of which was called Further Park (fig 2.1). Quarrying proceeded on the basis of a planning consent of the 1970s that did not include provision for any archaeological work. The pit eventually destroyed nearly 20 hectares within a strip of land between the Abbey River to the east, the M3 to the south, the Staines/Chertsey Road to the west, and an area reclaimed from earlier quarries to the north. Nothing of archaeological significance was recognised on aerial photographs, or during fieldwalking that was undertaken after the stripping of topsoil in each of three successive phases of extraction in Areas A, B and C (see fig 2.2).

David Barker, a local amateur archaeologist, first drew attention to the existence of a palaeochannel within the quarry area, when it was exposed in Area A during the first phase of mineral extraction in 1982. A section of it was drawn and sampled by Martin O'Connell and Rob Poulton, then of the Archaeology Section of Surrey County Council's Planning Department, with funds provided by the Department of the Environment.

In 1985 the author examined further lengths of the same palaeochannel running across Area B and discovered a medieval occupation site which was also recorded and sampled by the Archaeology Section. Later in the same year and in the week before Christmas, Douglas Blake, the dragline operator, was extracting gravel from beneath the water line when he noticed the Chertsey Shield in his bucket. He found its missing handle the next day in the gravel heap, and only after correctly identifying his find and its importance, did he show it to specialist staff of the British Museum. Soon after, Stuart Needham of that museum identified a row of stakes buried in the alluvium along the north and south edges of Area B, and very close to the find spot of the shield. As a result of these discoveries, English Heritage commissioned the Archaeology Section to monitor the final year of quarrying in Area C, during which part of a Bronze Age settlement with later Roman occupation was identified.

The report that follows describes the geological and topographical circumstances of the site, the archaeological background, the palaeochannel, the finds that came from it, the Late Bronze Age and Roman occupation, the row of stakes, and the medieval occupation. This is followed by a concluding discussion; and an appendix on a human skull from Section K.

2 GEOLOGY AND TOPOGRAPHY

The site lies within the Thames valley floodplain in the broad U-bend of the river between Windsor and Richmond. It is 1km north of Chertsey town in an area of low-lying ground dissected by the Bourne, the Fleet, the Abbey River, and the main stream of the Thames. Sheet 269 of the OS Geological Survey shows all of the site as alluvium, but not all of it was. Along the western side of the pit a remnant of an earlier floodplain, that of the Shepperton Terrace gravels and sands

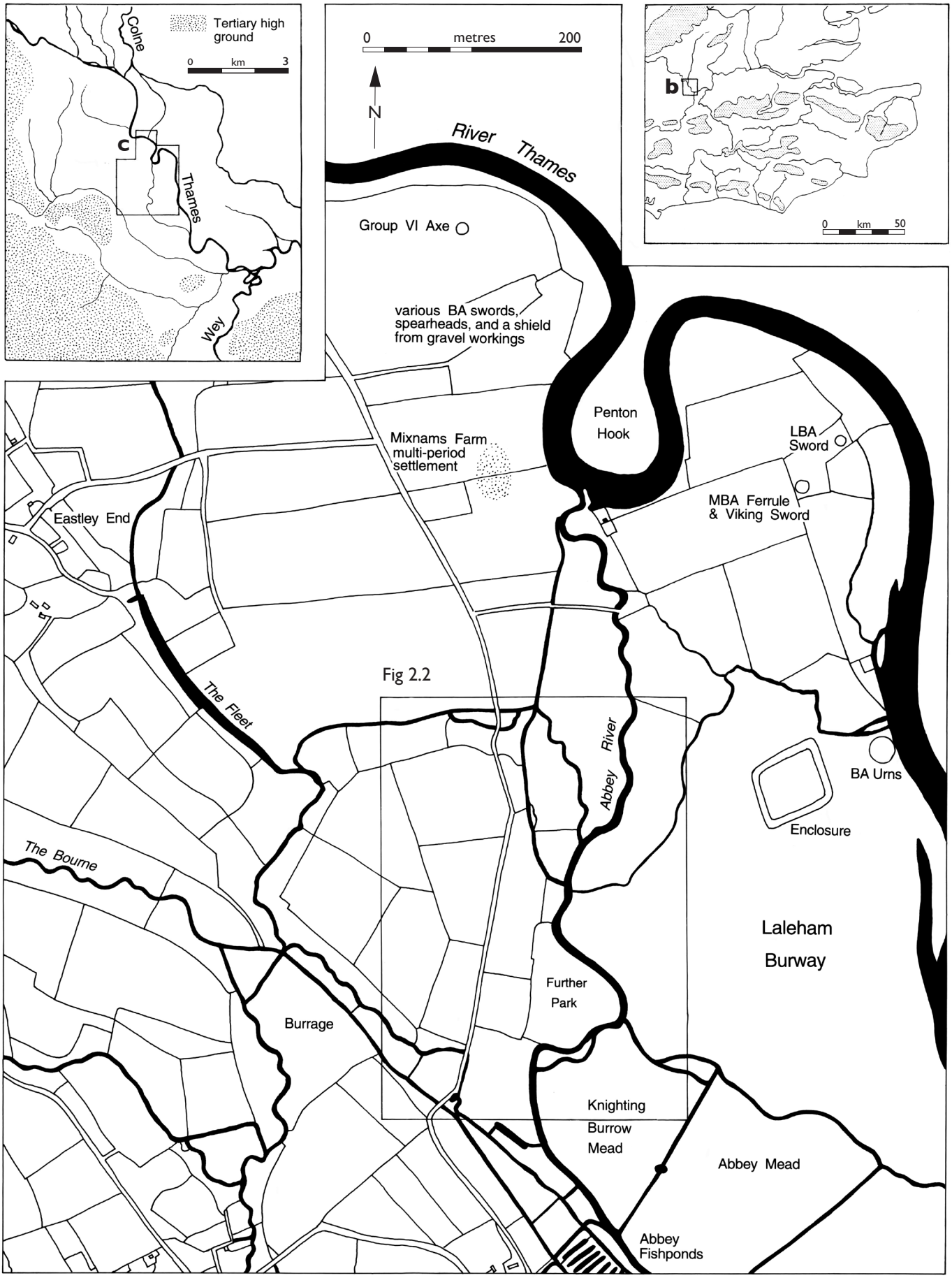


Fig 2.1 Abbey Meads, Chertsey: location plans. 1c is based upon mid 19th century maps of Chertsey and Thorpe. The outlined area is shown on figure 2.2. See also fig 1.1 for the wider location

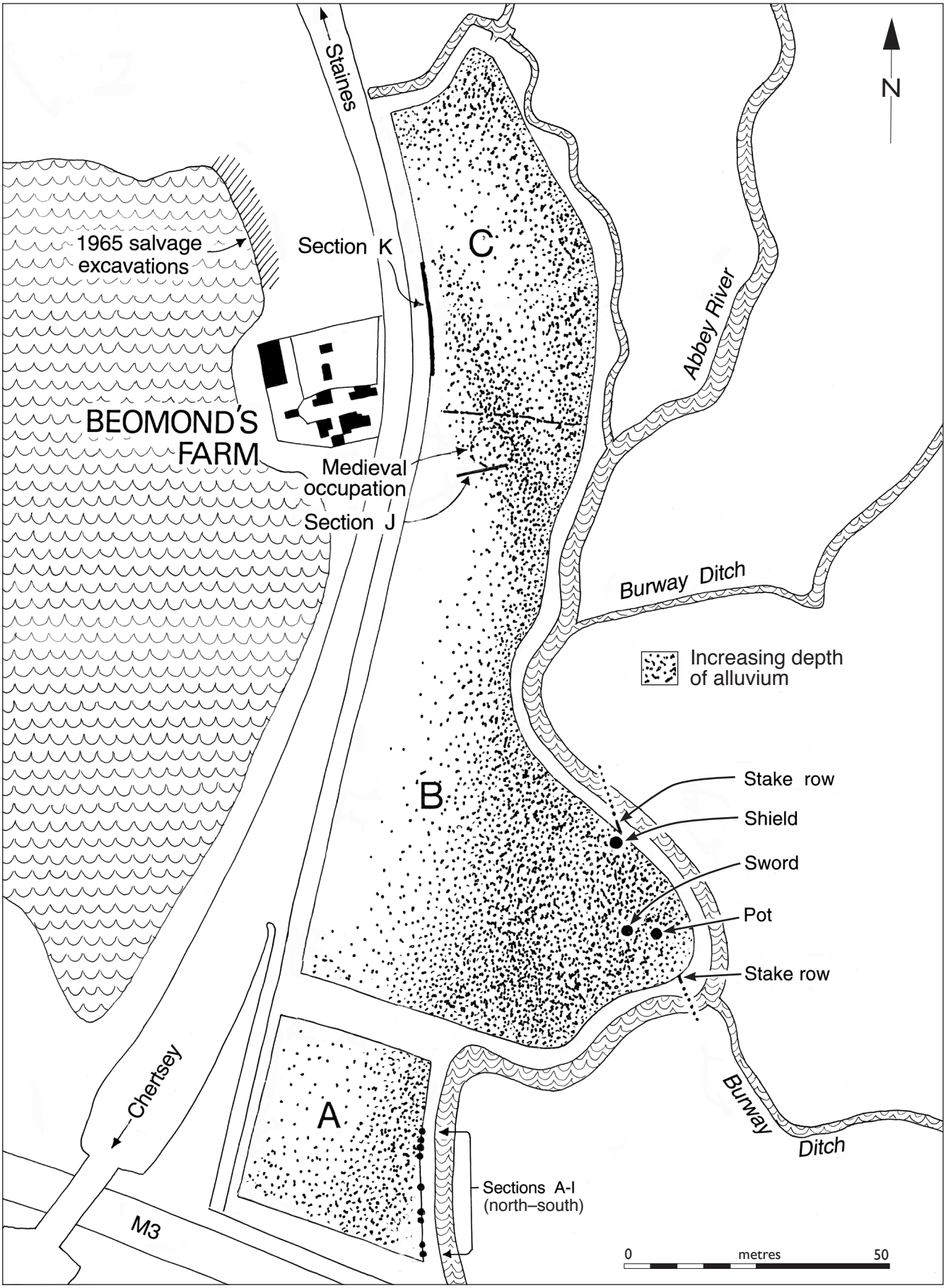


Fig 2.2 Abbey Meads, Chertsey: location of archaeological observations

(Gibbard 1985), outcrops from the modern floodplain. This, almost certainly, represents the eastern edge of a large island, the greater part of which had lain west of the Staines/Chertsey Road before most of that area was quarried without archaeological record. Nevertheless, it may reasonably be suggested that the island occupied the area that was bounded by watercourses on its north, south and western sides until the mid 1960s (see fig 2.1). The north and western watercourses served as the boundary between the Abbey estates of Thorpe and Chertsey for at over 800 years.

Many similar island remnants of the Shepperton Terrace floodplain probably existed between Chertsey and Staines before large-scale gravel extraction in the 20th century. North from Abbey Meads a pit on the land of Mixnams Farm (see fig 2.1), that was worked after the last war, is shown wholly as alluvium in the OS Geological Survey. A Neolithic and Bronze Age settlement discovered there, however, was said to have been on brickearth overlying '1st terrace gravel' (Grimes 1960). This strongly suggests the presence of another island.

East from Abbey Meads quarry and the Abbey River is a large rectilinear earthwork enclosure and the nearby site of a Bronze Age urnfield (Bray 1818, 426–7). Observations of chance exposures by the author and others over the last few years have shown that the enclosure overlies gravel and brickearth, most probably of the Shepperton Terrace, despite it being shown as wholly alluvium in the OS Geological Survey. This is another island, that of the 13th century *Burghege* (Gover et al 1934, 110), now known as Laleham Burway. At one time it was part of the Middlesex parish of Laleham, even though it now lies wholly to the south and west of the modern Thames channel.

The Abbey River is a braided stream of the Thames, which leaves the main channel at the oxbow of Penton Hook, and re-enters it just north of Chertsey Bridge. In the medieval period it supplied a head of water to the Abbey watermill and fishponds near Chertsey Abbey.

3 THE ARCHAEOLOGICAL BACKGROUND

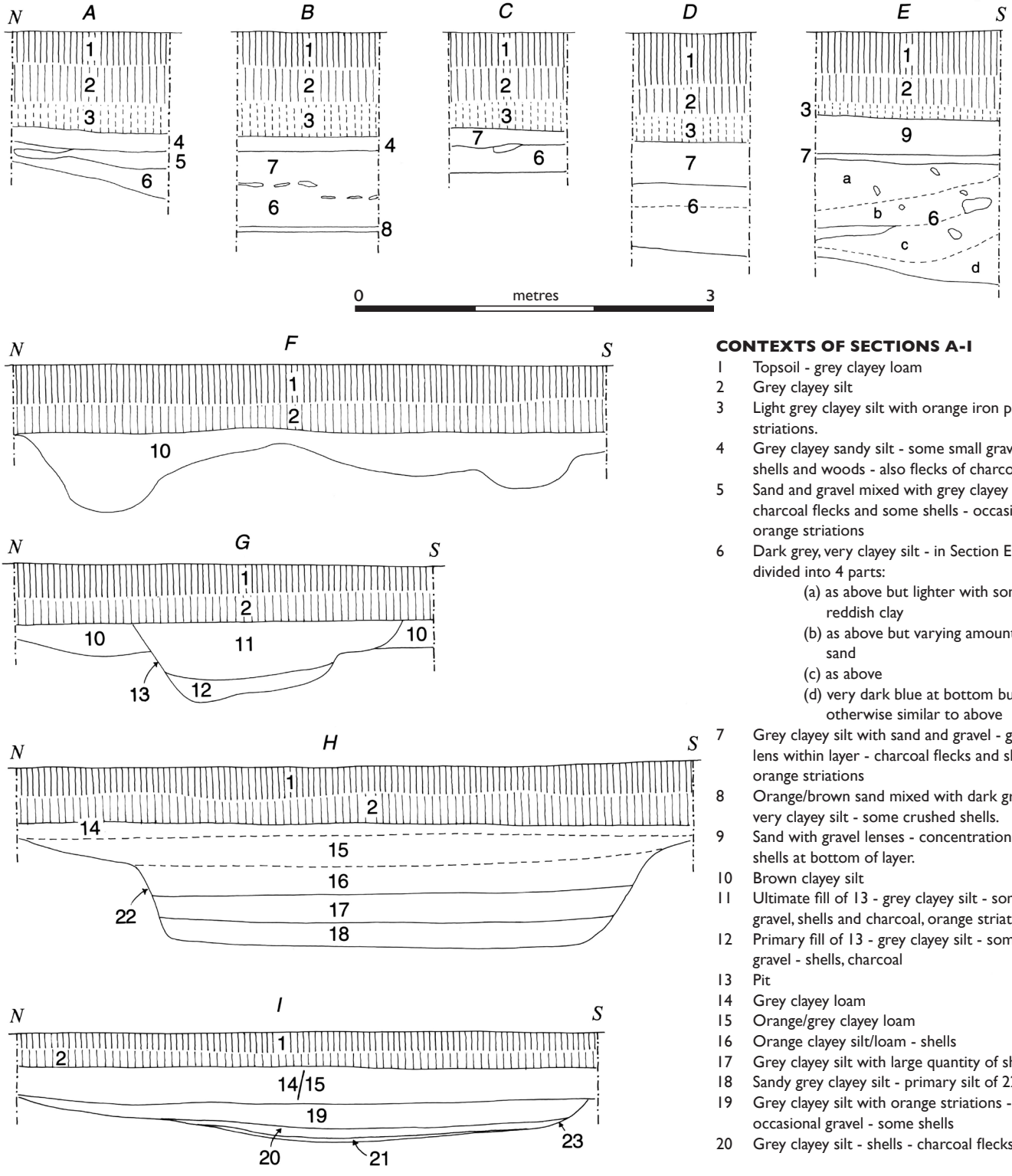
The Thames floodplain of alluvium and first terrace (Shepperton) gravels between the Rivers Colne and Wey is rich in archaeological sites of all periods. In the delta of the Colne, Yeoveney causeway camp may have served as a focal point for the activities of early settlers in the area (Robertson-Mackay 1987) and there is a growing list of nearby settlements and ritual monuments such as the Stanwell cursus (Framework Archaeology 2006, O'Connell 1990), Neolithic ringworks at Horton (Ford & Pine 2003) and Shepperton (Jones 2008), and pit clusters at Lower Mill Farm (Hayman 1991a) and Home Farm Laleham (Hayman 1991b, Hayman 1997 and Hayman 1998). The first Neolithic settlement to be properly excavated in this region was Mixnams Farm (Grimes 1960).

The Mixnams island had also been occupied during the terminal stage of the Late Bronze Age (Needham 1987, 134), and at least seven items of prestigious Bronze Age weaponry were recovered after the archaeological excavations, presumably from palaeochannels of the Thames (Tomalin 1982). During the Middle and Late Bronze Ages the major focus of the area could have been the large settlement in Egham sampled at Runnymede Bridge (Needham 1991), Petters Sports Field (O'Connell 1986) and the High Street (Barker pers comm). Elsewhere, Late Bronze Age occupation sites are very commonly found (Johnson 1975, Cotton 2004, 27–31), and downstream, close to the old Wey Bridge near its confluence with the Thames, a remarkable collection of Middle Bronze Age weaponry was found during the 19th century (Gardner 1911, 50).

The area has two hillforts. St George's Hill to the south-east overlooks the River Wey confluence with the Thames and several Iron Age occupation sites along the tributary valley floor (Hanworth and Tomalin 1977, Hayman 1991c). St Ann's Hill in Chertsey looks out over the floodplain north towards Petters/Runnymede, which it could have replaced as a focus of local activities during the Early Iron Age (Jones, this volume), and east towards Abbey Meads, just over 1km away. The votive offerings of metal objects that began during the Bronze Age continued into the Iron Age, and Abbey Meads is not the only quarry in the area where a palaeochannel has yielded items of both periods. The most recent discoveries are of an Iron Age sword and scabbard and Late Bronze Age hafted axe from a buried loop of the Thames close to the Wey confluence at Shepperton Ranges pit (Poulton, this volume). The pattern of Late Iron Age settlement activity is, as yet, little known, but appears to have been at a lower level of intensity than during the Late Bronze Age and Early to Middle Iron Age.

Some Iron Age farms in the district continued to be used during the Roman period but many did not, and the small town of Staines (*Pontibus*), was a wholly new foundation on another island of Shepperton Terrace gravel in the lower Colne

delta. 1st and 2nd century Roman rural occupation of the alluvium and first terrace floodplains appears to have been intensive, and could have been greater than that which seems to have prevailed for most of the 1st millennium BC. The paucity of finds of Late Iron Age type could indicate that the area then lay on the fringes of other regions of social groupings that had the Thames, and perhaps the Colne, the Wey and the Mole on their boundaries. The area may have served as a buffer zone; a loosely defined no-mans land before a reunification of its geographical integrity under Roman rule.



CONTEXTS OF SECTIONS A-I

1 Topsoil - grey clayey loam
2 Grey clayey silt
3 Light grey clayey silt with orange iron pan striations.
4 Grey clayey sandy silt - some small gravel, shells and woods - also flecks of charcoal.
5 Sand and gravel mixed with grey clayey silt - charcoal flecks and some shells - occasional orange striations
6 Dark grey, very clayey silt - in Section E divided into 4 parts:
  (a) as above but lighter with some reddish clay
  (b) as above but varying amounts of sand
  (c) as above
  (d) very dark blue at bottom but otherwise similar to above
7 Grey clayey silt with sand and gravel - gravel lens within layer - charcoal flecks and shells - orange striations
8 Orange/brown sand mixed with dark grey very clayey silt - some crushed shells.
9 Sand with gravel lenses - concentration of shells at bottom of layer.
10 Brown clayey silt
11 Ultimate fill of 13 - grey clayey silt - some gravel, shells and charcoal, orange striations
12 Primary fill of 13 - grey clayey silt - some gravel - shells, charcoal
13 Pit
14 Grey clayey loam
15 Orange/grey clayey loam
16 Orange clayey silt/loam - shells
17 Grey clayey silt with large quantity of shells
18 Sandy grey clayey silt - primary silt of 22
19 Grey clayey silt with orange striations - occasional gravel - some shells
20 Grey clayey silt - shells - charcoal flecks

Fig 2.3 Abbey Meads, Chertsey: sections A-E through the palaeochannel, and F-I through features exposed on the adjacent land surface

4 THE BURIED RIVER CHANNEL

O'Connell and Poulton's work in 1982 involved the cleaning of the eastern edge of the Area A quarry at nine points along its length so as to clarify the sequence of deposits (see fig 2.2). The quarry edge lay only c14m from the existing Abbey River, and they were able to demonstrate that the buried river channel ran almost parallel with it. Sections A to E (fig 2.3) show the channel deposits along 40m of its length and indicate their variable nature both in depth and composition. Further south in sections F to I (fig 2.3), however, a different sequence was observed, with no deeply lying fluvial deposits. These sections exposed a deposit of brown clayey silt (10), which is 'brickearth' of the Langley Silt Complex, overlying upstanding gravels of the Shepperton Terrace, on the east side of the palaeochannel. Three features were noted here; pit 13 in Section G, pit or ditch 22 in Section H, and shallow hollow 23 in Section I.

The author's own observation of the palaeochannel was after most of the 'overburden' had been removed from the underlying gravel, except for some remnants of larger spreads of alluvia and the deeper parts of the palaeochannel. The exposed quarry edges, however, enabled the stratigraphy to be more generally understood. The alluvial succession through the lowest part of the palaeochannel in the east of Area B began with silts and sands, often partly, and sometimes wholly, comprised of comminuted shell debris. These were usually interleaved with thin seams of clay containing vegetable material. In some parts of the area, rolled nodules of tufa, up to 150mm across, were found immediately above the gravel, but no in situ formation was present.

All of these basal deposits lay exposed across a c150m wide strip through Area B, from where the present Abbey River begins its large eastward-bowing meander, and south to where Poulton and O'Connell had recorded their section in Area A. Several channels rather than one lay within the strip, and these braided stream beds represent the migrations of the watercourse across the valley floor. It is important to note that these streams of the palaeochannel yielded all of the important offshore finds of Area B, and since these include objects of both Neolithic and Iron Age date, they could represent a fluvial succession over several millennia. It is conceivable that there had been a trend of channel migration from west to east, since the latest objects, the shield and coarseware pot, were recovered from furthest east within the channel trough. There is, however, a Late Bronze Age sword from the same vicinity and it cannot be certain that the earlier prehistoric objects had not also come from nearby.

Sealing all the early sands, silts and muds of the stream beds within the palaeochannel was a deposit of dark grey/black peaty clay which had lain deepest in the middle of the channel, where it was up to 1.5m in height. Clearly, the old watercourse had become a backwater that was slowly choked with organic muds. It seems probable that this happened when the present meander of the Abbey River superseded its older course, but the date of this event is uncertain. It remained a vulnerable area of the floodplain, however, since the peaty clay was, in turn, sealed by a deposit of brown silty-clay, which is suspected to represent several events of overbank flooding rather than just one. The row of early medieval piles had been driven through both the brown clay and the peaty clay, but their rotted tops were sealed by yet more brown silty-clay.

Much of the western side of Area B had been destroyed by gravel extraction before inspection, but the quarry edge displayed gravels of the Shepperton terrace with intermittent 'brickearth' cover immediately below the topsoil, and no later fluvial deposits.

Also in 1985, a collection of animal bones from the gravel pit was given to Guildford museum by the quarry staff. Most are stained black and it is very likely that they were retrieved from the palaeochannel.

During inspection of the north of the site in Area C, the central axis of the palaeochannel was absent since it lies roughly below the present line of the Abbey River further east, but the brown clay and the organic clay were present.

Fig 2.4 Abbey Meads, Chertsey: the Chertsey Shield (photograph by courtesy of British Museum)

Fig 2.5 Abbey Meads, Chertsey: Wilburton-type sword (photograph by courtesy of British Museum)

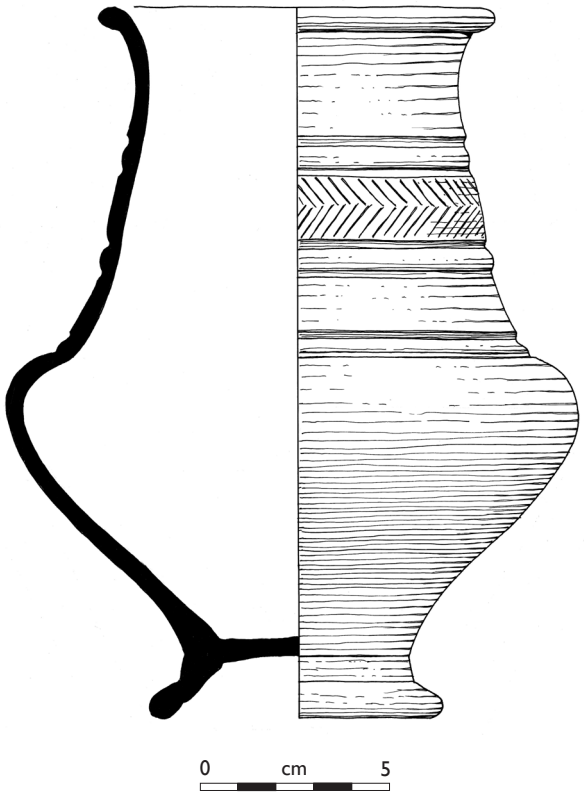


Fig 2.6 Abbey Meads, Chertsey: Late Iron Age or Early Roman pedestalled beaker. scale 1:2

5 THE FINDS FROM THE BURIED RIVER CHANNEL

The most important object from the quarry is the Chertsey Shield (fig 2.4), which is fully described elsewhere (Stead 1987). It is made entirely of bronze except for the wooden core of the handle which provided a radiocarbon date of 2300+ 80BP (OxA-993). Calibrated dates at one sigma level of c400–250 cal BC, and of c750–190 cal BC, at the two sigma level, strongly suggested to Stead that it was 'very probably La Tène 1' in art historical terms (Stead 1993, 22). He also suggested that it had probably been made only for display or ritual purposes (ibid, 23). Although slightly crumpled when recovered, close examination showed that this, and the loss of the handle, had probably occurred during its retrieval in the dragline bucket (ibid, 10), and that when it entered the river it had, almost certainly, been in good condition and complete. Its find spot on fig 2.2 is where its finder, Douglas Blake, indicated it to have been, but remains approximate to within a few metres.

The find spots of two other objects from the same area in the far east of Area B are also approximate, but, almost certainly, within the same shifting palaeochannel. One is a Late Bronze Age sword, and the other, from nearby, is a Late Iron Age or Early Roman coarseware beaker. The sword is of 10th century BC Wilburton type and in good condition (fig 2.5). It is one more to add to the growing list of such swords recovered from the Thames or its palaeochannels (Needham & Burgess 1980, 443–5). The beaker, however, is of an unusual form that has not been identified amongst any local domestic assemblages of Iron Age or Roman pottery (fig 2.6). It is wheelthrown and of a fine sandy greyware fabric with burnished surfaces, and is characterised by a low rounded shoulder below a multiply-cordoned neck and a pedestal base. The cordons and the base may be stylistic borrowings from Gallo-Belgic or Aylesford-Swarling forms but the low shoulder and tall neck of the Chertsey vessel is most unusual. If it pre-dates the Roman occupation then it is the only such vessel of sophisticated manufacture to have been found in the west London region, but since it is wheelthrown it is more likely to date to the Early Roman period, and is more closely related to girth beakers than any other vessel type. It is possible that such an unusual vessel was made (or sold) specifically for ritual purposes such as votive offerings.

Two other objects from Area B were recovered by gravel company staff whilst hand-picking unwanted material from the conveyor belt. These were a polished axe and a 'pestle', both, most probably, of Neolithic date and of non-local rock types (fig 2.7). The axe is from a Cornish source (Group I) and its cutting edge was broken and repolished during its period of use. Its butt end is also broken, but although worn, was not repolished. Very many similar Greenstone axes have been recovered from Surrey, mostly from the Thames or its earlier palaeochannels (Field and Cotton 1987, 83). The 'pestle' rock type has not been identified. Its surviving end is polished, perhaps through use, whereas the shaft, though well-shaped, has been left rough. Its surviving length is 248mm, it is very slightly tapered and also slightly ovoid in section (50 x 49mm

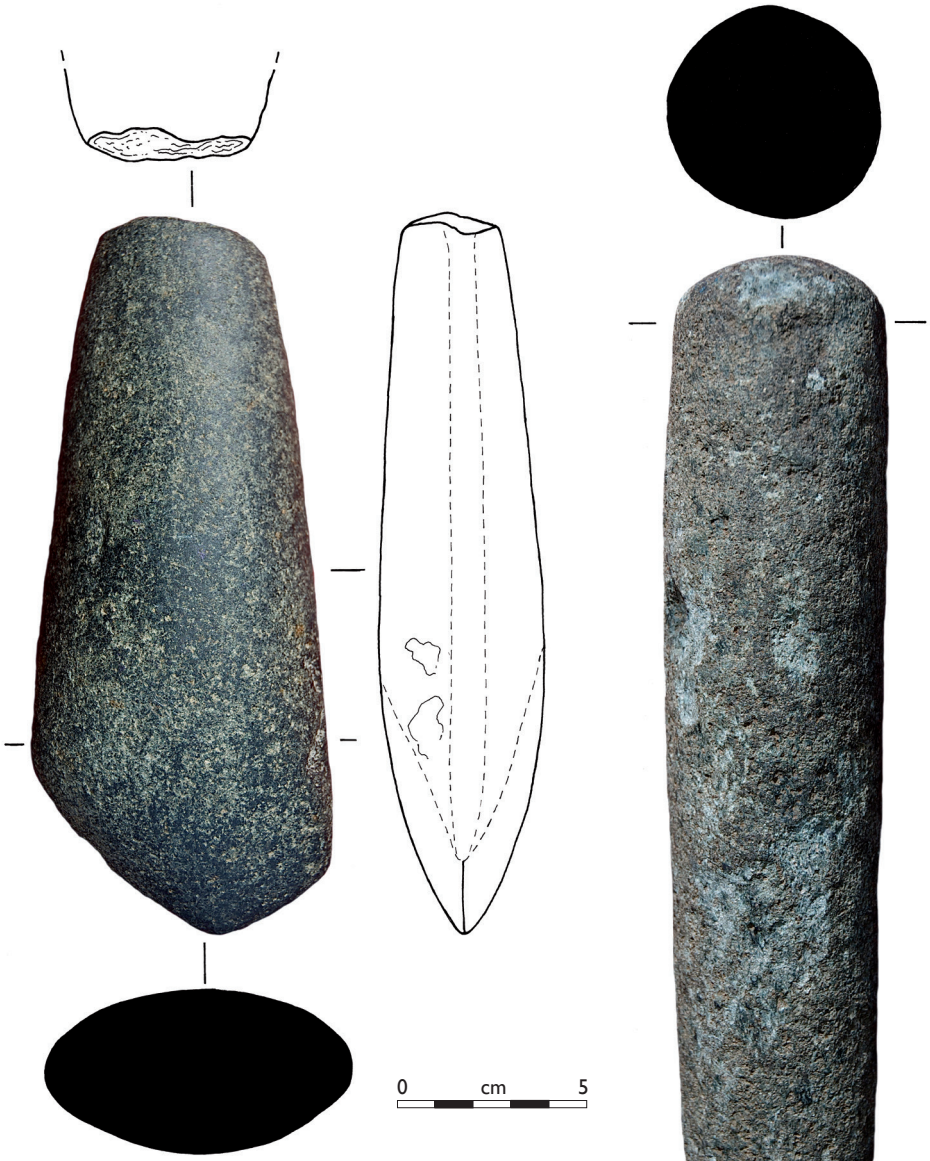


Fig 2.7 Abbey Meads, Chertsey: ground stone axe and pestle

at the broken end, 56x 51mm at the other), and there is a barely perceptible bowing through its length. Three other examples are known from Surrey: two from the Thames, at Kew and Wandsworth (Jon Cotton, Museum of London, pers comm), and another, recently excavated, from Betchworth Sandpit (David Williams, pers comm).

Some bones and antlers collected from the quarry and deposited at Guildford Museum are presumed to have come from the palaeochannels (an archive listing by Dale Serjeantson is available) All the antlers are from red deer, and horses, aurochs and cattle are represented amongst the bones. There is also a human femur which hints at the possibility that some of the votive objects might have been accompanied by the dead, or, at least, parts of them, but since it is unprovenanced, such thoughts remain speculative.

6 LATE BRONZE AGE OCCUPATION

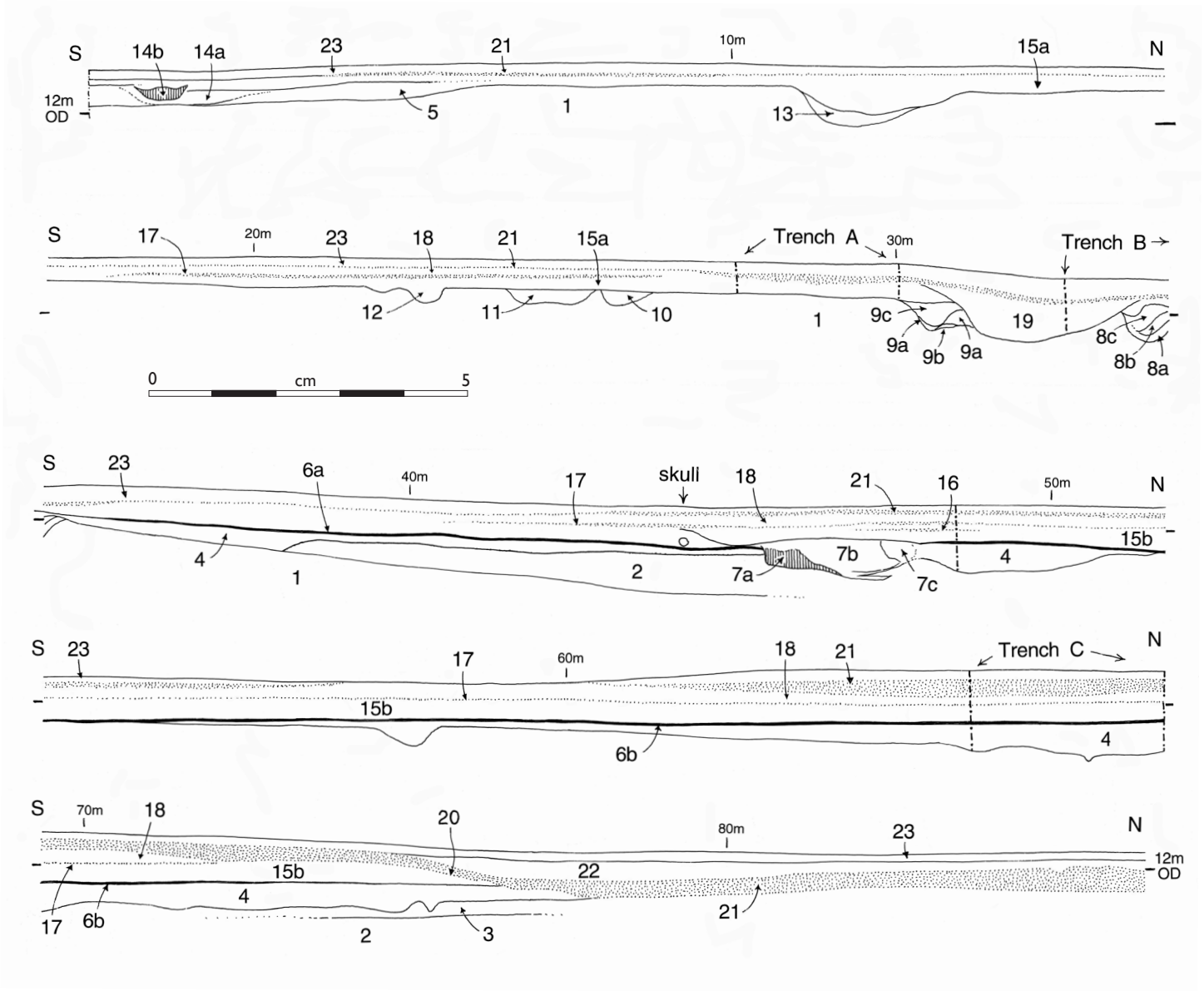
6.1 STRATIGRAPHY

Routine archaeological monitoring of subsoil stripping and gravel extraction only began when Area C was opened up early in 1987 (fig 2.2). This lay on the other side of the Staines/Chertsey road from Beomond's Farm, where salvage excavation in the exposed edges of a gravel quarry in 1965 sampled some Roman pits and recovered earlier prehistoric material (SHER no 597).

The removal of 'overburden' by the gravel company showed much of Area C to be covered by alluvial deposits that deepened towards the east. The eastern edge of the site here was not dictated by the presence of the Abbey River, as further south, but by a smaller braided stream of the Thames (see figs 2.1 and 2.2). In addition to the western fringes of the main palaeochannel, a lesser buried watercourse was observed running north-north-west to south-south-east through Area C, which was narrower than the main channel into which it fed close to where the Burway Ditch feeds into the Abbey River from the east. Both the Late Bronze Age and medieval occupation areas within the quarry were found next to the eastern shore of this smaller stream, which remained visible as a landscape feature until the 19th century.

Area C displayed the same sequence of alluvial deposits as Areas A and B, except along the southern half of its western side by the Staines/Chertsey Road. Here, the level surface of the Shepperton Terrace island was exposed, as well as its shoreline zone further north. The presence of the minor palaeochannel nearby meant that little of the island had extended into the quarry area at this point.

Sherds of prehistoric pottery, calcined flints, and a human skull, were found along the western quarry edge, so 80 metres of its southern end were cleaned by hand and drawn (Section K, see figs 2.2 and 2.9). Three narrow strips only 200mm wide (trenches A, B and C), were then excavated along the quarry edge to provide better data about the density of finds and the date of the occupation.



CONTEXTS OF SECTION K

1 Gravels and Sands (Shepperton Terrace)
2 Orange/brown clay with comminuted chalk
3 Gravelly silts
4 Orange/brown clay
5 Brown clayey silt
6 Dark grey/brown silty clay with ash flecks
  (a) on-shore
  (b) off-shore
7 Feature (a) Black clayey loam with calcined flints
  (b) Dark grey clay with iron staining
  (c) Lump of deposit 2
8 Feature (a) Dirty gravel
  (b) Brown silty clay
  (c) Dirty gravel
9 Feature (a) Dirty gravel
  (b) Brown clay
  (c) Dirty orange/brown clay
10 Feature fill of dirty gravel
11 As above
12 Feature fill of brown clayey loam
13 Feature fill of dirty gravel
14 Feature (a) Dark brown clay
  (b) Black clayey loam with calcined flints
15 Grey to brown fluvial clay with rare saltated pebbles
  (a) on-shore, generally brown
  (b) off-shore, passing into grey
16 Gravel lens
17 Gravel layer
18 Brown/grey clay passing into clayey loam
19 Feature fill of brown/black soil with some pebbles
20 Erosion profile
21 Upper gravel layer
22 Brown fluvial clay
23 Topsoil loam

Fig 2.8 Abbey Meads, Chertsey: Section K through the Bronze Age occupation and the western bank of the lesser palaeochannel

The sequence of deposits that was then visible above the waterline of the quarry in Section K (fig 2.8) began with the sands and gravels of the Shepperton Terrace with an upper surface at between 12.70 and 13.0m OD. At 35m along the section, the terrace is reduced by the erosion profile of a palaeochannel that was later filled with fluvial deposits of a chalk-flecked orange-brown clay (2), gravelly silts (3), and finally, an orange-brown clay (4). Towards the southern end of the section, the terrace surface sinks below a brown clayey silt (5) that is probably the original cover of 'brickearth' over the gravels and an integral part of the earlier floodplain terrace.

All of the above deposits pre-date the occupation of the site, even though some artefactual material was recovered from layer 4 in trenches B and C. Although this could represent debris from an earlier occupation, it is more likely to have belonged to the principal prehistoric horizon of occupation or other usage represented by layer 6 which immediately overlies it. In the offshore zones of trenches B and C, layers 4 and 6 were probably both covered with water at that time.

Layer 6 is the prehistoric artefact horizon which survived in situ because it lies upon the earlier sunken infills 2, 3 and 4 of the palaeochannel. Further south it is not present over the Shepperton Terrace surface, although at least one, and perhaps more, prehistoric features in that zone, could indicate that it may have been present but destroyed by later agriculture. The layer of dark grey clayey loam, which is never more than 100mm thick, is extant within the section for 42m before its truncation by a much later fluvial erosion profile towards the north end. In trench A, on the landward side of the early palaeochannel, very little artefactual debris was recovered from layer 6, which was represented only by a thin smear of the dark grey clay. Trench B was much longer, and sampled a well preserved length of layer 6 over the near-shore zone of the palaeochannel. An excavated strip of 16m produced 86 sherds of Bronze Age pottery, 29 struck flints, 51 fragments of animal bone including two pieces of red deer antler, four fragments of quartzose sandstone (sarsen) including three with smooth surfaces that might be from querns, and innumerable calcined flints that were not collected. This collection, from only c4m2 of a thin layer, suggests a very high density of finds across the rest of the site that probably extends as far west as the 1965 discoveries, over 60m distant.

Trench C was excavated further north where layer 6 lay deepest and where it is suspected of having accumulated underwater through near-shore erosion, although continuous with its onshore equivalents in Strips A and B. A few sherds of Bronze Age pottery were recovered, including one with finger-impressed decoration (fig 2.9: 5), three fragments of bone, and five struck flints including a barbed and tanged arrowhead (fig 2.9: 11).

Three features were in close association with layer 6 but only two were sampled, and none could be resolved as to their nature. Part of feature 8 was excavated within trench B but was less distinctive than it appeared in the original section. This amorphous hollow that extended across the 0.2m width of the strip contained no finds. Feature 9 was not excavated but had a similar mix of fills of dirty gravel and brown clays as feature 8. It was sealed below layer 6 which was only a dark smear at this point. No finds were recovered from it. Further north, a more obviously dug feature, 7, was sampled in Strip B. Its original cut, as visible on its south side, was vertically walled and had a relatively flat base. Its fill was a black clayey loam with very many calcined flints, and it contained eight Bronze Age sherds, a small flint core and flake, six animal bone scraps, two fragments of sarsen, and a small piece from a baked clay loomweight. Through the width of the sample trench its steep southern edge was maintained on a west-north-west to east-south-east alignment, but all of its northern side had been removed by a more amorphous and later feature filled with a dark grey clay with rust coloured mottling due to iron panning, 7b, and with a large detached lump of layer 2 on its northern side, 7c. It contained three bone scraps, a retouched flint flake, and a sherd of Bronze Age pottery.

Another five features were visible further south where layer 6 was absent, but only one contained artefactual material. Feature 14b was a small round based hollow filled with black clayey loam and very many calcined flints. It may have been part of a larger feature if the dark brown clay below and on both sides of it, 14a, does not, instead, belong with the 'brickearth' layer 5. Feature 14 was not excavated. Features 10, 11 and 13 all contain dirty gravel but it is uncertain whether they are natural or manmade, and none were excavated. Likewise, feature 12 could be a natural hollow.

Layer 6 is sealed along the entire section by a fluvial clay, 15. Towards the south this is brown and more loamy, 15a, but it becomes less loamy and mid grey towards the north, 15b. It contains occasional flint pebbles but very rarely any artefactual material except towards its base where layer 6 debris is incorporated. This may include the human skull and mandible and at least five vertebrae that were found within this layer (see fig 2.8). Since the skull was facing upwards it might have been a supine burial, although there was no grave cut and the quarry

edge had been cut through the neck making it impossible to be sure whether there had ever been a complete skeleton (see Appendix).

Above layer 15 were various lenses, and more substantial, but intermittent, layers of dirty gravel, 16 and 17, separated by grey/brown clayey loams, 18. A final layer of gravel, 21, accumulated after the digging and infill of a substantial feature, 19, and the creation of a new fluvial erosion profile in the far north of the section, 20. Feature 19 was partially sampled in trench B, but this did not show whether it was a pit or ditch. Three pieces of post-medieval tile were recovered from its infill of dark brown/black loam with some pebbles, and 26 sherds of Roman pottery were recovered from layers 16, 17, 18, 21 and the topsoil loam 23.

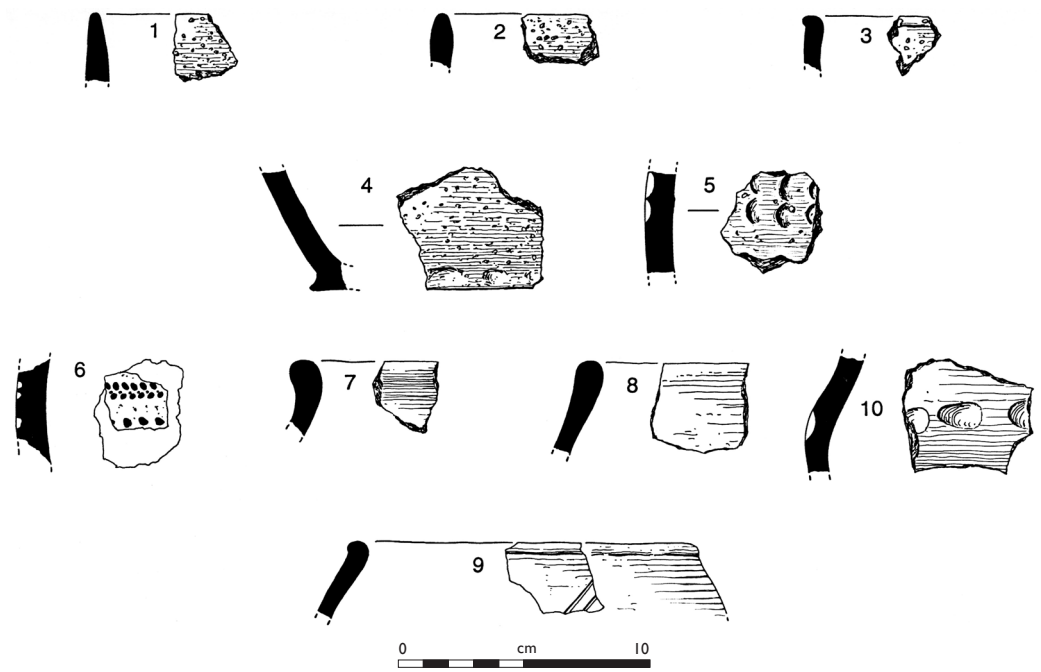
The western quarry edge of Section K still survives and the 4m berm between it and the road has been stabilised and grassed over. In 1996 it was surrounding a lake with standing water at a much higher level than had prevailed in 1986.

6.2 THE FINDS

Prehistoric pottery (fig 2.9 and table 2.1)

126 sherds of prehistoric pottery were recovered, with the majority (91) from the occupation layer, 6. The two features filled with ash and calcined flints which are thought to have been contemporary with the use of the site, 7a and 14b, contained eight and six sherds respectively, and 21 sherds were recovered from later contexts. They are classified according to the system described in chapter 5 part 6.2.

75% of this collection (95 sherds) is tempered only with crushed calcined flint that is ill-sorted and relatively coarse. Featured sherds include three rim fragments, of which two are from simple upright and rounded vessel forms (fig 2.9: 1 and 2), and the other is beaded (no 3). Also present are two base angle sherds, one of which displays hand-forming impressions on the outer wall (no 4). There is only one decorated sherd which is relatively thick and has been gouged by finger pinching (no 5).



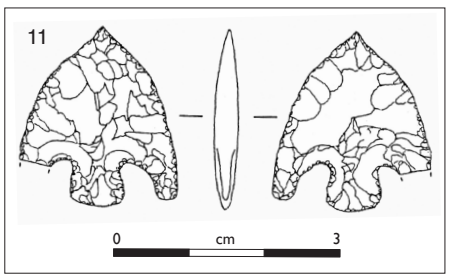


Fig 2.9 Abbey Meads, Chertsey: featured Bronze Age sherds from the sample trenches of Section K, nos 1-5; other prehistoric pottery from the 1965 salvage work at Beomond's Farm, nos 6-10; barbed and tanged arrowhead from trench C of Section K, no 11. Pottery at 1:3, flint at 1:1

Five other fabric types make up the remaining 25%, but most are predominantly tempered with calcined flint. Of these, 14 also contain moderate amounts of quartz sand, seven contains sparse quantities of grog, and two have some sparse tufa and quartz sand grains.

Only 6% (8 sherds) contain no calcined flint. Two from layer 6 contain nothing other than a myriad of very small fragments of grog. The other six are tempered with sand, of which two from occupation layer 6 are from relatively thin-walled vessels. They are grey, with external oxidised surfaces of red/brown, and contain a fine sand temper. A similar sherd was found in feature 7a, and another three came from later contexts.

The predominance of coarse calcined flint-gritted fabrics and the simple rimsherds could indicate that the site had been used during the Middle or Late Bronze Age, but there is a possibility that more than one period is represented. The finds from Section K cannot be discussed in isolation, since, in all probability, they represent only part of a larger area of prehistoric occupation that has previously been sampled on the other side of the Staines/Chertsey Road.

In 1965 Felix Holling salvaged Roman finds from two pits and a ditch in the edge of a gravel quarry by Beomond's Farm in what is now part of the grounds of Thorpe Park. In addition, he recovered several hundred prehistoric sherds and many worked flints from the same vicinity (SHER no 597, and pers comm). He considered the flints to be of Neolithic or Early Bronze Age date, and the sherds to be Iron Age, as did Bishop (1971), who published three rims from the site in a survey of Iron Age pottery from Surrey. All three are from shouldered jars, with one having an out-turned rim (ibid, fig 3: 17), and the other two with inturned necks (ibid, fig 3: 19 and 20). One of the latter is finger-impressed on the rimtop as well as its outer edge. None of these could be found at Guildford Museum when sought, but all could be of Late Bronze Age or Early Iron Age date. Some other sherds in the collection that were not published by Holling or Bishop are illustrated here to demonstrate the chronological range of the Beomond's Farm material. They include a calcined flint-gritted sherd from a Late Neolithic bowl decorated with bird bone impressions (fig 2.9: 6); a sherd from a Late Bronze Age or Early Iron Age shouldered jar with a row of finger impressions that is tempered with calcined flint and moderate quantities of grog (fig 2.9: 10); two rimsherds from Mid to Late Iron Age globular jars, including one with much quartz sand and rare grog (fig 2.9: 7), and the other with a fine sand temper (fig 2.9: 8); and a similar jar with an incipient beading of the rim, burnished surfaces and tooled (burnished groove) decoration, that is tempered with much grog and rare flint (fig 2.9: 9). Globular jars with similar decoration are common at Mid to Late Iron Age sites in Surrey.

Struck flints (fig 2.9 and table 2.2)

Most of the 49 flints are waste, but 12 are retouched, and another 13 had been utilised. All three cores are small and bear scars of flakes, and only four blades are present, of which two are utilised and two retouched. The retouched blades are two of only four flints made from Bullhead Bed pebbles from the Reading Beds, and the others are a retouched flake and a core rejuvenation flake. The closest outcrops of Reading Beds are near Windsor Castle or upstream on the River Colne at Harefield. The greater majority of struck flint is probably made from local gravel pebbles, although some could be from nodules taken from the chalk, which also outcrops at Windsor Castle and Harefield. The barbed and tanged arrowhead from trench C (fig 2.9: 11) is of Sutton B type, normally associated with Beaker or Early Bronze Age assemblages (Green 1980, 118)

Other finds

There were few other finds in layer 6 and features 7 and 14 apart from calcined flints which were not collected. There are 41 animal bone fragments, two of teeth and another from an antler of red deer, but these are generally small and in bad condition. Seven fragments of sarsen (quartzose sandstone) were found, of which three from layer 6 have smooth surfaces and could be from saddle querns. Part of a baked clay loomweight was recovered from feature 7a, which included part of its moulded piercing. The fragment is heavily grog-tempered.

The only other feature with finds, pit or ditch 19, contained two small pieces of post-medieval roof tile and a fragment of brick.

Twenty-six sherds of Roman grey sandy ware were recovered from the layers above the Bronze Age occupation, including a rimsherd from a late 1st or early 2nd century 'Surrey Bowl' (Lyne and Jefferies 1979). An 11th or early 12th century AD poly-tempered body sherd was also recovered from the ploughsoil.

The current work provided an opportunity to re-examine the 1965 Beomond's Farm material, which tended to confirm Hollings' opinion that Roman occupation had been from the 1st to the 4th century AD. A small find of special note is an ovoid slingshot of fired clay, very similar to other examples from Iron Age sites in the district.

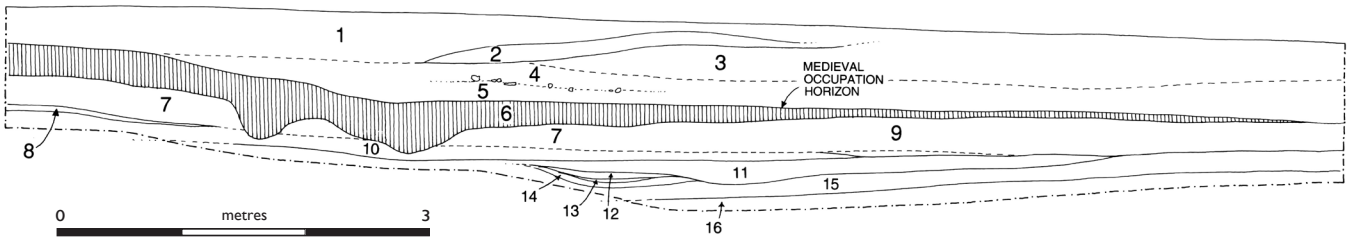
7 THE ROW OF STAKES

Stuart Needham of the British Museum visited the site in early 1986 and discovered a line of wooden stakes. Those within the quarry area had been removed during the stripping of overburden, but some were exposed along the northern edge of the big eastward meander, and others along its southern edge (fig 2.2). The alignment of the row is south-south-east to north-north-west, and observations by the author showed that they had been driven through the thick deposit of overbank orange brown silty-clay that covered most of the earlier alluvium of the site, although their rotted tops were covered by yet more of the same material. Most of the piles examined were immature coppiced trees, with diameters of 120–150mm, and with little modification except towards their tips which were axe-sharpened. The row was of close-set piles between 150–200mm apart. One provided a radiocarbon date of 980+ 50 BP (1000–1150 cal AD at one sigma and 970–1170 cal AD at two sigma, Stuiver & Pearson 1986. Reference No BM-2480, Ambers, Matthews & Bowman 1987. The measurements were calibrated using the maximum intercept method of Stuiver & Reimer, 1986, eg CALIB v2.1, and from Stuiver & Pearson 1986 and Pearson & Stuiver 1986).

8 THE MEDIEVAL OCCUPATION

An area of medieval occupation was discovered c80m from the Bronze Age site during the final stages of gravel quarrying in Area B. A temporary exposure revealed a band of dark grey clay containing sherds and other settlement detritus, as well as two sunken features, all sealed beneath a brown fluvial clay that deepened towards the west. The settlement had lain immediately adjacent to the same minor palaeochannel as the earlier occupation a little further upstream (see fig 2.2). The section was cleaned and drawn (fig 2.10), and a small sampling excavation of the occupation horizon and the flood clay that buried it, was undertaken at the junction of the contemporary shore and the slightly raised ground to the west. Nearly 200 sherds of late 12th or early 13th century pottery were recovered, as well as several fragments from querns, some chalk nodules and burnt daub fragments, a lead fishing weight, and a decorated copper alloy barrel padlock. No more formal archaeological work could be attempted before the area was mechanically stripped of its 'overburden' to expose the gravel.

Fig 2.10 Abbey Meads, Chertsey: section J through the medieval occupation horizon



CONTEXTS OF SECTION J

1 Dark grey/black loam with some pebbles
2 Clean gravel
3 Black clayey loam
4 Buff clay with some pebbles and shells
5 As above
6 Occupation horizon of dirty gravelly loam
7 Buff clay with iron pan discoloration and some shells
8 Gravelly loam
9 As 7 but with some pebbles
10 As 7
11 Mid grey plastic clay
12 Pea gravel
13 Shelly sand
14 Clean buff sand
15 As 7
16 Dark grey/brown peaty clay

9 DISCUSSION

A very important aspect of the prehistoric archaeology of the middle Thames valley through Surrey is the quantity of prestigious objects and human skulls from the river or nearby (Ehrenberg 1980; Bradley and Gordon 1988). During that period the Thames flowed through many streams across the width of the first terrace floodplain of Shepperton gravels, and these, in turn, had migrated across their own floodplains of alluvia. One such stream is the Abbey River, of which a palaeochannel was identified in the gravel pit, and which yielded a range of important objects that seem much more likely to have been placed there rather than being casual losses.

The placing of objects in watery places was commonplace by the Neolithic, and continued throughout prehistory. The latest object from the quarry is the Early Roman beaker, but a Viking sword was found in a nearby palaeochannel (East et al, 1985; see fig 2.1), and many other early medieval swords from similar riverine deposits attest to the continuation of the custom up until the Norman conquest.

The skull from Section K was recovered from another, smaller, palaeochannel. Part of the neck was still attached to the skull, and this makes it likely that it was detached from the remainder of the body in the recent quarrying, rather than deposited on its own in antiquity. This is because skulls seem to have been fully separated from the rest of the body before ritual deposition in rivers (Bradley & Gorden 1988). It is not possible to say whether this mature, perhaps male, person was deliberately buried or was beached up here following drowning. The date of deposition is also uncertain, since it might either be contemporary with the Bronze Age occupation layer, or with the grey muds that overlay it that are of later and possibly Roman date.

The Bronze Age settlement is of considerable local importance because it includes an occupation layer sealed by alluvium, whereas most prehistoric settlements in the area are characterised only by sunken features and disturbed material in plough soil. The occupation also seems to have been fairly intensive, since in a little over 4m2, 126 sherds and 49 struck flints were recovered. The pottery has few diagnostic features but could be of Middle Bronze Age date. Such an interpretation would have to regard the barbed and tanged arrowhead as intrusive or as a curated relic from the Early Bronze Age, although across the road at Beomonds Farm an even earlier period of use is suggested by at least one sherd of Late Neolithic pottery and good quality flintwork. There was also a later use of the Beomonds zone of the greater site, since some of the pottery collected by Hollings is more probably of Late Bronze Age date, and other sherds are definitely of Middle Iron Age types. Since there is also evidence of Roman occupation from both sides of the road, there could have been a continuous use of this north-east part of the island from the Neolithic period until the 4th century AD.

The function of the early medieval row of piles is uncertain but may have been intended to mitigate the erosion of an adjacent river bank, and that is most likely to have been the Abbey River. Since the southern part of the Burway Ditch begins on a similar alignment (fig 2.2) the waters of the River might once have been canalised through that watercourse. By the 15th century the Abbey River followed the same course as today, but south from the gravel pit the modern Abbey river is joined by various streams of the Bourne, and it is possible that the earlier medieval flow of Thames water via the Burway ditch was captured to increase the head of water to the abbot's mill close to the Abbey.

The medieval occupation next to the lesser channel within the quarry area was small and short-lived. Its economy had relied, at least in part, on fishing, as is evident from the fish hook that was recovered, and its abandonment was probably triggered by flooding. There may not have been any later occupation of the old island area until Beomonds Farm was built during the second half of the 19th century.

10 APPENDIX: A HUMAN SKULL AND MANDIBLE FROM ABBEY MEADS, CHERTSEY

by J D Henderson

A skull, mandible and fragments of a minimum of five cervical vertebrae were all that remained of this individual. All were in a fragmentary condition although there was little damage to the actual bone surfaces. Observations were attempted for age, sex, stature, metrics, morphology and pathology.

On the basis of the robustness of the fragments and the measurements of the mandible this individual was tentatively identified as a male. There could not be a more conclusive attribution of sex as only the skull and mandible could be assessed and the reliability of sexing on these bones is limited. The material clearly came from an adult and the degree of wear on the occlusal surfaces of the teeth suggested middle age (35–45 years approximately). It was not possible to make an estimate of stature.

Only the mandible could be measured and examined for morphological traits (see the catalogue below). No findings of any particular note were made.

Evidence for pathological change was observed on the teeth alone. There was a moderate degree of occlusal surface wear. There were various lesions affecting the first right maxillary and mandibular molars but no evidence for abscesses. In the case of the first right mandibular molar this was perhaps surprising given the size of the caries but it was noted that the sockets were not very well preserved which is possibly why no lesions were visible. There was moderate bony recession at the alveolar margins and fairly marked deposits of calculus around the mandibular incisors, both of which might indicate some degree of gingivitis (gum disease) during life. Finally it was noted that there was crowding of the interior mandibular teeth, in particular of the right canine which was slanted forward across the lateral incisor, and that there was congenital absence of the left mandibular third molar.

The apparent finding of a skull and mandible alone led to a number of queries with respect to the burial (whether any neck bones were present, whether there was any evidence for deliberate detachment from the body etc). As fragments of a minimum of five cervical vertebrae could be identified it was clear that both head and neck had been present. Fragments of the atlas and axis could be identified but whether the remainder represented C3-5 or C4-6 or C5-7 or some other combination could not be ascertained although the likeliest grouping, as C1 and C2 were there, would be C3-5. There was no evidence on any of these bones for deliberate decapitation but given their fragmentary nature this cannot be regarded as conclusive. Thus this could have been either deliberate burial of a head and neck alone or alternatively it might represent the remains of a disturbed burial.

HUMAN BONE CATALOGUE

S1: A skull, mandible and five cervical vertebrae in fragmentary condition.
Sex: ?Male, based on the general robustness of the cranial fragments and discriminate function analysis of the mandible (Giles 1970).
Age: 35–45 years, based on dental wear (Brothwell 1981).

DENTAL PATHOLOGY

Teeth are listed according to the FDI system (see, for example, Downer 1975)
Wear: Fairly marked with coalition of exposed islands of dentine.
Caries: 1, 6 mesial surface, located at the level of the cemento-enamel junction, medium size
4, 6 gross lesion affecting both crown and root
Abscess: No evidence for abscess or cyst
Periodontal
Disease: Moderate recession of the alveolar margins.
Calculus: Some large deposits on the anterior mandibular teeth (incisors) on the crowns at the level of the cemento-enamel junction. Suggested lost post mortem elsewhere.
Crowding: Some crowding of the anterior mandibular teeth (3+4, 1-2, 4,3). In particular 4,3 is slanted across the anterior surface of 4,2.
Absence: 3, 8 (information for the mandible only).

MANDIBLE METRICS

No	H1	ML	Gogo	W1	CrH	CyL	RB	ZZ	M2H	M2B
					R/L	R/L	R/L		R/L	R/L
S1	35	97	93	116	-63	22/22	27/27	42	-/29	12/13

Index of abbreviations
Note: All measurements are given in millimetres (mm)
H1 Symphyseal height
ML condyle-symphyseal length
Gogo Bigonial diameter
W1 Bicondylar width
CrH Height of ascending ramus
RB Minimum ramus breadth
M1/2 Body height at M1/2
M2 Body thickness at M2
R/L Right/Left

MANDIBLE MORPHOLOGY

No	1	2	3
	R/L	R/L	R/L
S1	-/1	-/-	1/1

The following are scored on an absent (0), present (1) basis, except where otherwise stated.
1. Mylo-hyoid groove (1 = partial bridge, 2 = complete bridge)
2. Mandibular Torus
3. Gonial Eversion (1**...**x denotes increasing severity)

CHAPTER 3: ARCHAEOLOGICAL DISCOVERIES IN A GRAVEL PIT NEAR SHEPPERTON, SURREY

by Rob Poulton

SUMMARY

During the course of gravel extraction at Shepperton Ranges pit, Shepperton, a number of archaeological discoveries were made. The finds principally resulted from dragline excavation below water, but the information from this was supplemented by regular observation of the quarrying by archaeologists. The finds include, inter alia, a Late Bronze Age axe with wooden haft, two Iron Age swords (one stamped and the other with a decorated scabbard), a nest of five Roman pewter plates, a Late Saxon sword, and two human skulls, and a detailed catalogue is presented. The geology and topography of the site is discussed, and it is shown that the majority of the finds derive from an extinct channel or channels of the Thames. The reasons for their deposition are discussed and it is concluded that for most, the explanation lies in ritual activity, probably of a votive character.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF DISCOVERY

This paper seeks to place on record archaeological discoveries made during the course of gravel extraction from 1986 onwards at the Shepperton Ranges pit (fig 3.1). Full details, so far as they are known, of the circumstances of discovery of each find are given in the catalogue. However, it would seem helpful to an understanding of what follows if the sequence of observations and recovery of artefacts is first outlined here.

The present discoveries are by no means the earliest made during gravel extraction in the parish of Shepperton. That honour should probably go to the remains of the Upper West Field Saxon cemetery, from which a funerary urn was recovered in 1812 and a 'warrior' burial carefully excavated and recorded in 1867 (Longley & Poulton 1982).

Further finds have been made since in other gravel pits but properly recorded ones are few. They include the material from Ferry Lane (Bird 1999) noted on fig 3.1 (no 1), and in view of this it was unfortunate that in the circumstances

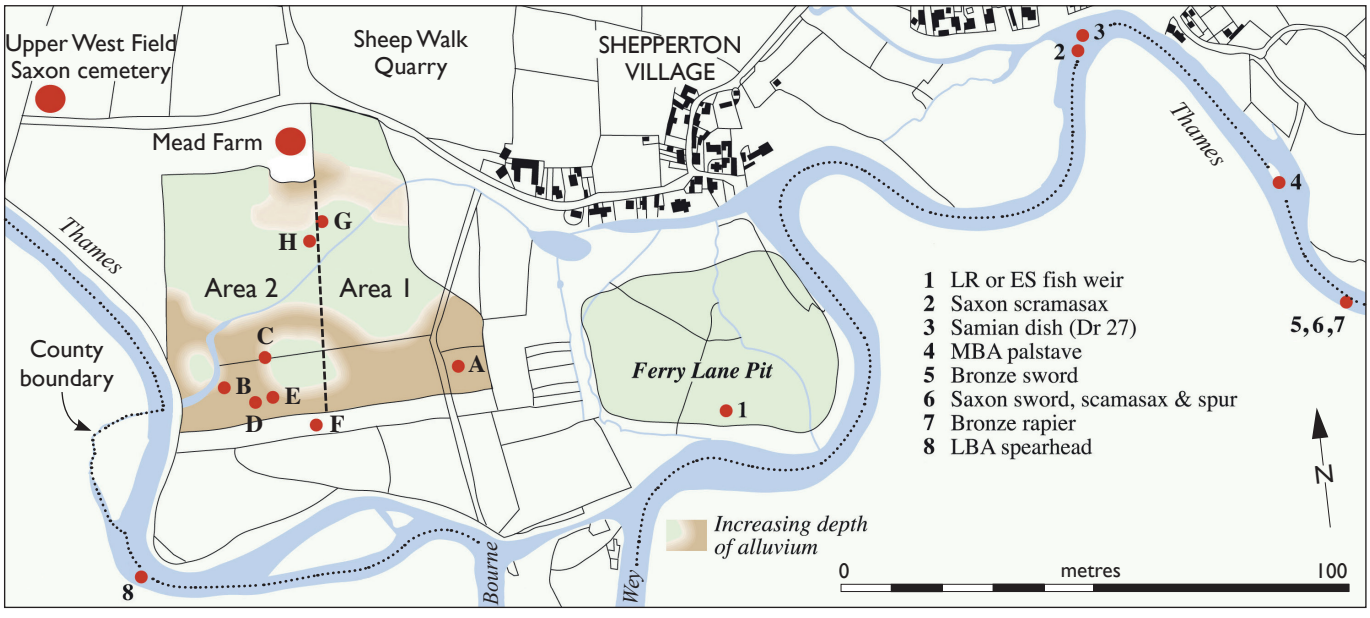


Fig 3.1 Shepperton Ranges: location of the gravel pit and of findspots within it (letter codes). The base map is that of the 1843 Tithe map, see fig 1.1 for the wider location

then prevailing no arrangements were made for regular site watching of Area 1 of the Shepperton Ranges pit when permission for mineral extraction was granted in 1986. Gravel had already been extracted from much of the site before the first finds were made in 1987. A number of objects (from find spot A) were retrieved by Mr Jacubowski while using a dragline below water. These were brought to the attention of Chertsey Museum, and subsequently archaeologists from Surrey County Council and the British Museum visited the site and examined the find spot, insofar as the high water table allowed. Some intermittent observation of the rest of Area 1 was then undertaken, but no further discoveries of significance were made. Later in 1987 planning permission was granted for Area 2 and arrangements were then made for regular monitoring of the whole process of gravel extraction. This resulted in the discoveries from the remaining find spots and enabled a reasonable record of their circumstances and location to be made.

1.2 GEOLOGY AND TOPOGRAPHY OF THE SITE

by Phil Jones

The site lies within a large meander of the Thames that bows to the south, and the River Wey and The Bourne feed in from the south about halfway along the meander. Up until the 19th century Shepperton Range was a large open field that lay south from West Field and was used as a communal pasture by the inhabitants of Shepperton parish. It was periodically flooded until embankment improvements in the late 18th century, but some slightly higher ground may always have existed in the north-west part of the present area, including the area of Mead Farm.

In a reappraisal of middle Thames valley terraces, the type site chosen by Gibbard (1985) as representative of Shepperton Gravels (in large part the previously named Lower Floodplain Terrace of the district) was the Sheep Walk quarry immediately to the north of the Chertsey Road. It is no surprise therefore that current-bedded Shepperton Gravels were found below all the overbank brown clays, alluvial deposits and soils throughout the area of the Ranges pit. In several places, in the northern half of Area 1, a dark blue-black clay was exposed between 8 and 10m below the gravels and this looked like an altered upper zone of London Clay rather than anything from the Bagshot Beds, which has been mapped here as underlying the terrace sequence (OS Geological Survey map, Sheet 269).

Shepperton Gravels in the north survived as a shelf of deposits that had a relatively level upper surface. The terrace edge however lay midway through the site, and beyond to the south several watercourses were found to have cut through the lower and eroded surface of the gravels. These watercourses intercut as a series of braided streams running in roughly the same direction, the main axis of which was west-north-west to east-south-east. Alluvium lay deepest within the channels of these streams but also lay deep over the rest of the site south from the terrace edge. Even on the terrace surface higher ground in the north-west of the site there seems to have been some deposition of overbank brown clays during periods of exceptional flood. Immediately east of Mead Farm once sprang a watercourse that ran east along the south side of the Chertsey Road before it joined with a creek of the Thames by Shepperton village. This watercourse was probably of fairly recent origin, perhaps as late as the early post-medieval period, since in sections along the northern edges of Area 1 it was observed to have cut through all overbank 'brickearths'. Minor topographical changes in the area such as the creation of this stream, may have occurred in the 16th century when there was at least one cataclysmic flood that caused damage to Shepperton village 700m to the east. Land that was more usually above water had extended over the northern part of Area 1 but no monitoring for the presence of archaeological sites was undertaken during quarrying. At least one prehistoric feature was found in the western edge of the quarry by the Mead Farm Lane (G1), so perhaps many others were once present further east before extraction. This is an important point since the shoreline within the quarried-out Area 1 had been the closest to the collection of exceptional archaeological artefacts from find spot A.

The alluvium lying over the gravels and filling the palaeochannels through the southern halves of Areas 1 and 2 has basal 'clean' and current-bedded sands and gravels. Then come shelly sands and clay seams, followed by thicker peaty clays, and the sequence ends with thick deposits of brown or green to brown silty-clays. The brown clays cover all of the earlier alluvium, peaty clays lie only within the breadth of the channels, and the basal channel deposits are variably current-bedded. Surface clasts of the Shepperton gravels at the base of the channels are often coated with tufa, a formation which is intermittently found in other local alluvium exposures either as a precipitated pan, an accumulated deposit around organic material, or as pebbles of these eroded from in situ formations upstream. In the current-bedded lenses of shelly sands and clay seams above, pieces of driftwood and smaller organic debris are

common. A birch branch recovered from them still retained its bark, and had been cut through diagonally with an axe or knife.

None of the alluvial deposits of the site have yet been dated. Although early deposits in some channels may derive from an increase of erosion upstream as a result of deforestation in the Neolithic period or earlier, other channels were probably scoured up until the Late Saxon period or beyond in view of the chronological span of the finds.

The position of the County boundary of historic Surrey is relevant to this discussion. Its position, largely following the present course of the Thames, is marked on fig 3.1 and it is virtually certain that it followed the same course from at least the late 7th century, when the Chertsey Abbey foundation charter of 672–4 records the Thames as the northern boundary of its territory (Poulton 1987, 218; Blair 1989). This means that the area between the present Thames and the extinct channels in the Ranges may have effectively been an island in the Saxon period and for an unknown length of time before (a whole Roman pot dredged from this stretch of the Thames is in Chertsey Museum). Whether such an island would have been sufficiently above the level of regular flooding to be occupiable in antiquity is unknown.

2 CATALOGUE

The finds are grouped together under their find spots, which are arranged in an order with those from extinct river channels first, followed by those in waterlogged positions on the margins of river channels, and by those from dry land. The ordering within find spots is chronological, but the following cross index may assist those looking for material of a particular period:

Prehistoric: (no precise date)	C1 (pot sherd); G1.1 (animal bone); G1.2 (calcined flint); G1.3-G1.5 (worked flint).
Neolithic:	A1 (antler macehead).
Middle Bronze Age:	H1 (base of pot).
Late Bronze Age:	A2 (hafted bronze axe).
Iron Age:	A3 (iron sword); A4 (pot); B1 (iron sword).
Iron Age or Saxon:	B3 (iron sword blade).
Roman:	A5 (iron adze-hammer); E1–E5 (pewter plates).
Late Saxon:	B2 (iron sword).
Undated:	A6 (bronze cauldron); A7 (human skull); A8 (antler object); A9 (wooden object); A10 (animal bones); B4 (human skull); D1 (animal bone); D2 (animal bone); F1 (wooden piles).

2.1 FIND SPOT A

The objects from this place were found during dragline excavation of the gravels after all the alluvial overburden was thought to have been removed. The discoverer of the finds reported that they came from a 'lagoon', an area where the uppermost gravel deposits were at a lower level than usual. This, perhaps, suggests that they came from a deeper hollow along a former watercourse which was indicated by the increasing depths on the gravel company borehole survey (fig 3.1). This interpretation was confirmed by observation of the sections exposed at the edges of the gravel quarry nearest to find spot A, and by subsequent work in Area 2. The borehole survey and the still visible sections of quarry edge show that the channel was aligned roughly east-north-east to west-south-west, and that, at and just beyond the eastern edge of Area 1, it runs into a northward-bowing meander.

The precise stratigraphical details of the artefacts can of course never be known but there is one clue concerning the provenance of the Iron Age sword (item A3). It was possible to examine this before it was submitted for conservation and it was noticed that at one end the scabbard had some gravel/sand cemented to it with iron oxides, and that at the other end there were a few crumbs of shelly sand. Gravels and shelly sands in close association have only been found on-site in the lowest parts of the channel sequence, which suggests that such was the provenance of the sword.

A1 Neolithic antler macehead (fig 3.2)

This implement was made from a section of deer antler 85mm in diameter, with a hole for the haft of 25mm diameter. The material is almost certainly red deer antler. There are no obvious signs of wear in use, and this is characteristic of this class of 'crown' antler maceheads (Simpson 1996, 299). The vast majority of such implements come from riverine contexts, with 41 out of the 58 catalogued (this example was not included) by Simpson (1996) coming from the middle Thames downstream

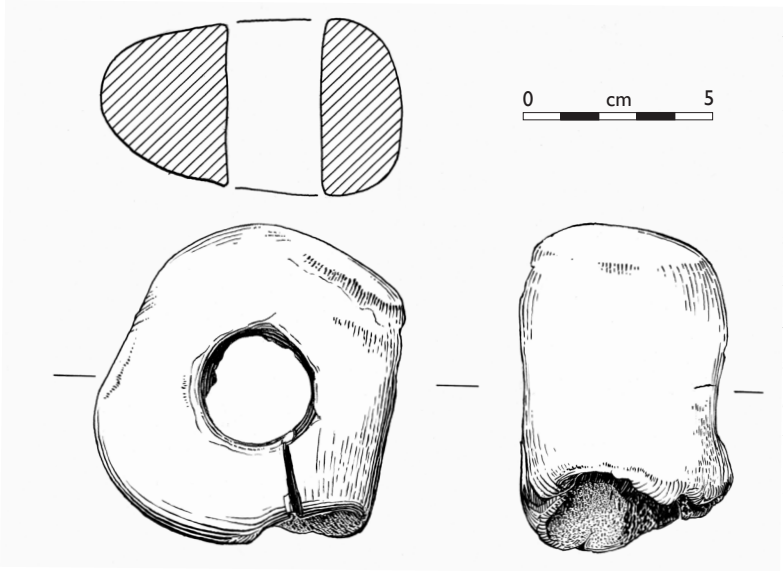


Fig 3.2 Shepperton Ranges: antler macehead, find A1. Scale 1:2

from the Ranges (ibid, fig 3). A few, however, do have archaeological associations, almost all funerary, and show that they are normally of Late Neolithic date (Kinnes 1979, 65, Simpson 1996, 298–300).

A2 The hafted socketed bronze axe-head

(figs 3.3–3.5)

by Stuart Needham

THE HAFT

The surviving wooden hafting is in two parts, a shaft and a cross member, or 'haft-head'. The object has been conserved at the Passmore Edwards Museum through the South-Eastern Area Museums Service. All measurements given relate to the conserved state.

The shaft was retrieved in three fragments totalling 280mm in length. The bottom end is slightly oblique, shows no signs of working and is probably a break; an unknown length of the handle is therefore lacking. The shaft has an elliptical cross-section which penetrates a perforation through the haft-head, fitting tightly and projecting by 24mm. It measures 36 x 28mm immediately above the haft-head, 32 x 24mm just below, and 30 x 23mm at the minimum diameter 70mm lower still. The shaft top bears several chop marks, giving it a slightly domed shape. The shaft utilises the greater part of the cross-section of a rod which was probably only minimally trimmed along its length.

The wooden haft-head is complete, although it has broken across at the mouth of the bronze axe-head; the tip was still firmly lodged inside the socket prior to conservation, but it has subsequently come free. The haft-head is 273mm long and the exposed part has a fusiform shape tapering to both ends, the cross-section being square rather than round. The butt end is slightly convex with facets from the trimming and is approximately rectangular in shape. A number of scalloped

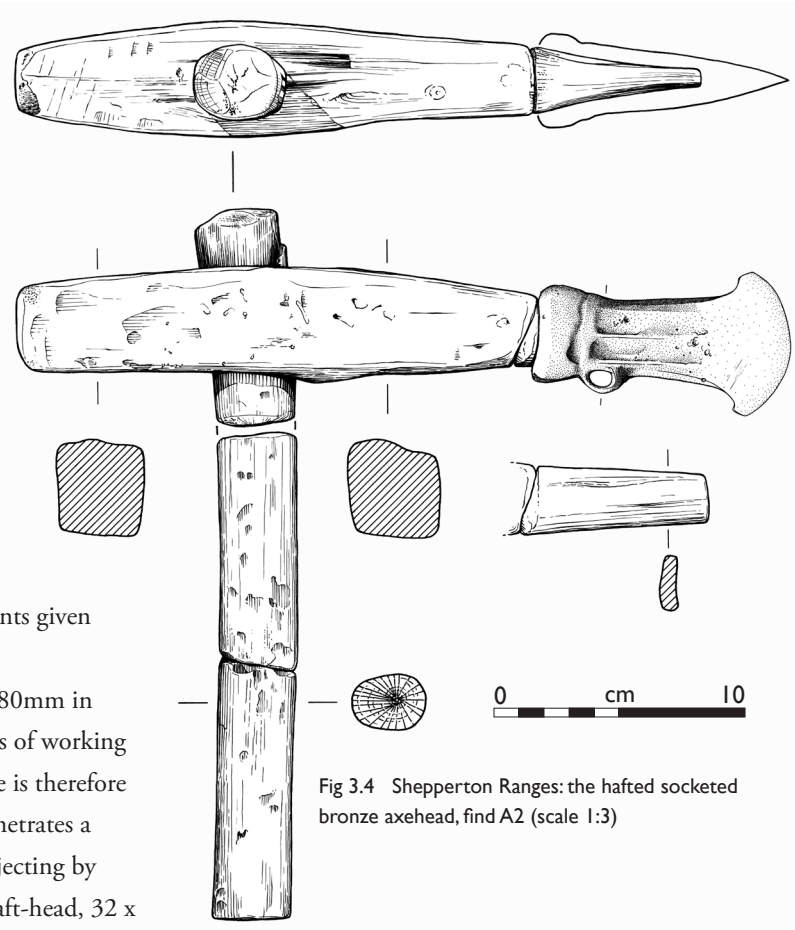


Fig 3.4 Shepperton Ranges: the hafted socketed bronze axehead, find A2 (scale 1:3)

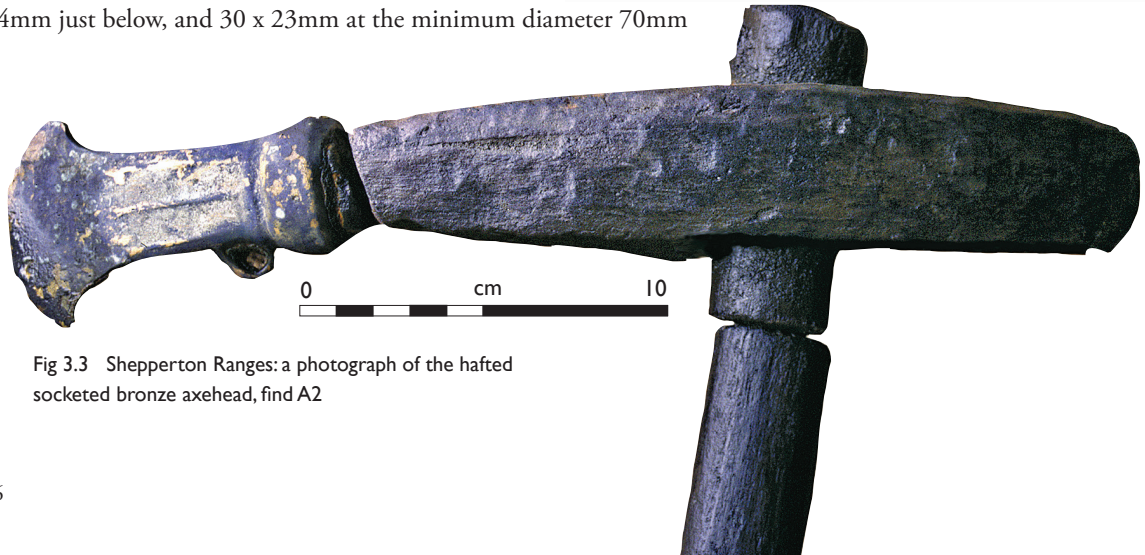


Fig 3.3 Shepperton Ranges: a photograph of the hafted socketed bronze axehead, find A2

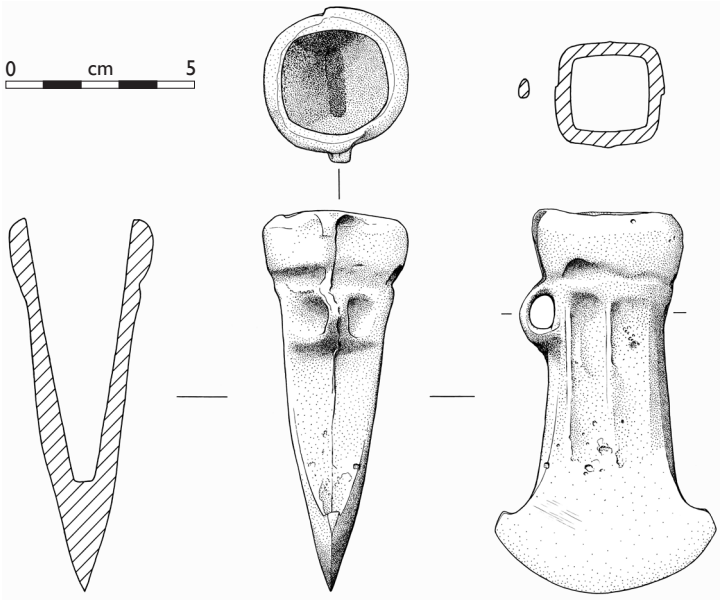


Fig 3.5 Shepperton Ranges: the socketed bronze axehead, part of find A2. Scale 1:2

tool marks can also be seen on the faces of the piece, surviving especially well on the butt half. The thickness is 45.5 x 45mm at the broadest point, 32 x 23mm at the butt end and 27 x 27mm where it enters the axe-head.

About 67mm of the haft end penetrates the socket. It has an approximately rectangular section and a near flat end profile with dimensions 19 x 5.5mm. In side view the haft end continues the steady taper of the haft-head, but in plan view there is a marked waisting to make a close fit with the socket.

No identification of the wood species used for the haft has been possible and sampling for radiocarbon dating was not permitted. The conserved haft weighs approximately 320g.

THE SOCKETED BRONZE AXE-HEAD (fig 3.5)

The axe-head is intact, 100mm long, and weighs approximately 370g. The mouth bears a heavy, bulbous upper moulding. The mouth dimensions are 38.5 x 38mm externally and 28 x 29mm internally (the latter of each pair being perpendicular to the cutting edge). Three plain vertical ribs descend from a lower slighter mouth moulding on both faces. The ribs are not very crisply defined and have some accidentally cast lumps and spurs associated; their ends are truncated by the hammered blade bevel which extends up to 40mm back from the edge. Hammering has caused slight hollows to develop in the sides of the blade tips. The blade expands to a deeply curved cutting edge 58.5mm wide. It is undamaged and sharp, whilst the blunt blade tips were deliberately and neatly squared off by hammering. The loop is relatively lightweight and narrows towards the mouth to a minimum of 5mm, but not obviously as a result of wear from a thong. At its top end the loop expands into the lower mouth moulding, whilst its foot expands into spurs running across the side of the body. The socket is 69mm deep and terminates in a cigar-shaped end.

The casting flash has been crudely reduced to leave ridges or, at the top, steps, which result from a slight mismatch of the mould valves. A hollow between the mouth mouldings is probably a casting defect.

DISCUSSION

The overall form of the axe-head, particularly the heavy upper moulding and the spurred loop foot, places it in the Sompting type (Burgess 1968; Schmidt & Burgess 1981, 241–7). Sompting axes are dated to the Llyn Fawr phase, circa 8–7th century cal BC. The associated composite haft is of a previously unknown form and it is therefore of some interest that it is placed in the final period of bronze tool production and use. However haft remains large enough to reveal constructional details are extremely rare and interpretation of this sparse record must proceed with due caution.

Previous finds of axe-heads with haft remains from Britain and Ireland have been listed by Green (1978, 139) and Coles et al (1978). To these may be added examples from Fen Drayton (Heal 1979), Fengate Power Station site (Pryor pers comm) and Oldtown Kilcashel, Co Roscommon (O'Riordain 1938). Most finds are represented by insubstantial remains: stains in the fill of graves, haft tips in sockets or just traces of wood preserved in corrosion products. It is extremely unusual therefore to have surviving any technological information on haft construction. Past discoveries in the British Isles and Europe have shown the use of 'elbow' hafts (eg Kew Bridge – Lawrence 1929, 81, pl IXB; Edenderry – Evans 1881, 155, fig 186), which has encouraged the view that Bronze Age axe hafts were unsophisticated. Clough (1973) attempted to dispel this notion with a conjectural reconstruction of a jointed haft, but he had no intact finds on which to base the reconstruction. The new Shepperton haft, an even more recent find from Fengate, and the description of the old find from Oldtown Kilcashel, now provide some evidence for the regular use of more sophisticated hafts.

The verbal description of the Oldtown Kilcashel haft, which disintegrated soon after discovery, suggests a different arrangement than found at Shepperton. Instead of being perforated the wooden head was let into a hole or mortise in the shaft, which was appropriately thickened at the top end.

A second hole just above was thought to give the option of a second position for the cross member (O'Riordain 1938, 40).

Strictly speaking the Shepperton tool is a hafted socketed axe, but there is a different way of looking at it. Taking the composite wood and bronze head as a single piece, it becomes instead a shaft-hole axe. Shaft-hole implements of stone and antler were of course standard types in much of Europe down to the end of the Early Bronze Age, but with the demise of those traditions there is little evidence that the shaft-hole principle continued to be employed for tools outside southern and eastern Europe. However, if the tradition of shaft-hole heads had continued in the medium of wood, it would remain obscure given the dearth of surviving organics. That wood and bronze heads may have been more widely known could be suggested by particular finds from south-east Europe, such as from Abauj, Hungary (Hampel 1886, pl XIII fig 10) and Domanesti, Roumania (Vulpe 1970, Tf84, no 34). Here shaft-hole axe-heads all in bronze are clear skeuomorphs of exactly the composite wood/bronze arrangement seen at Shepperton. It is not suggested that there is any direct link between these two instances which are well separated geographically and temporally. Nevertheless, it is becoming clear that there was a tradition of jointed hafts running alongside single piece 'elbow' hafts and that these alternatives may have been employed on the same types of axe-head.

A3 Iron Age sword with parts of scabbard and scabbard mounts (figs 3.6 and 3.7)

Iron sword 705mm long, including a tang of 106mm. The blade is 36mm wide (average) and is double-edged and tapers to a point. The tang is rectangular in cross-section and surmounted by a small rounded cap. The sword was deposited complete with its scabbard. Examination has shown (G Edwards pers comm) that this was composed of calf's leather which had only survived where it was in contact with the decorative metal attachments. These latter were arranged at the hilt and point ends of the blade. Both consist of bronze plates decorated with repoussé work attached to an iron frame; at the upper end this consists of a flat plate to which a loop for attachment is rivetted, while at the lower end it is the chape (two narrow plates folded around the bronze work and linked by a crosspiece) and a decorative chape-end.

The size and pointed end show clearly that this is a thrusting sword of La Tène I type (Stead 1985, 45) dating to the 4th–2nd century BC. The most remarkable feature of the sword is, however, the survival of the scabbard elements

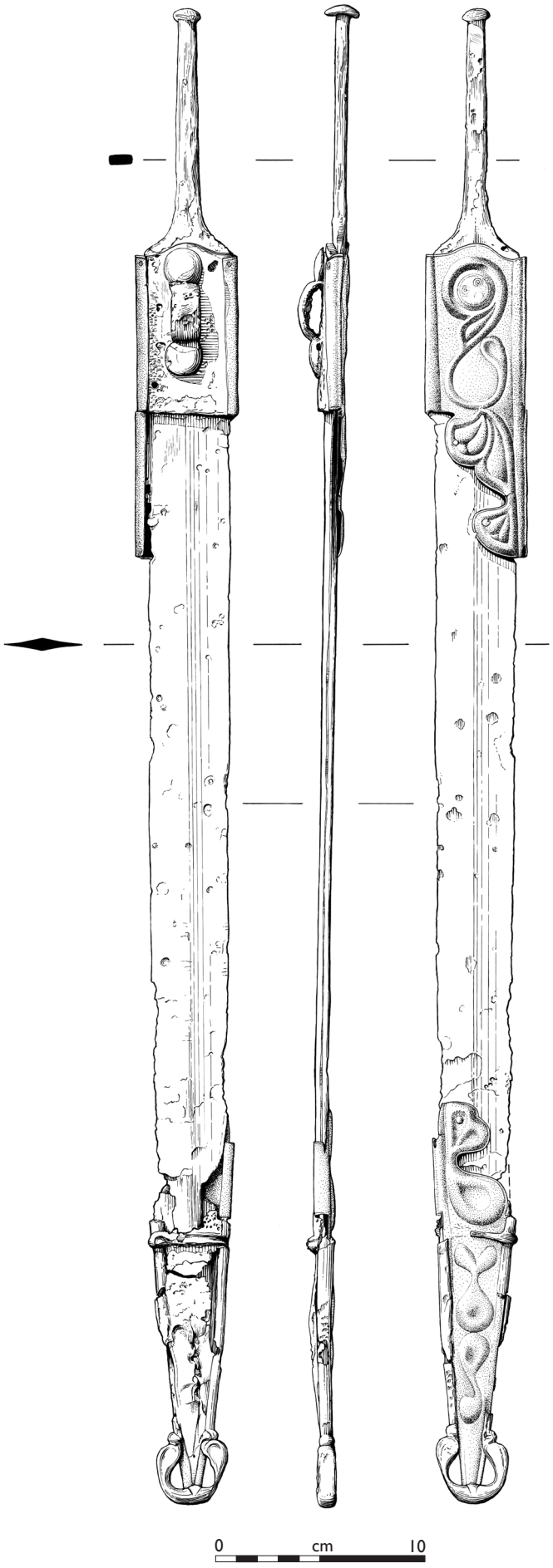


Fig 3.6 Shepperton Ranges: iron sword with bronze scabbard mounts, find A3. Scale 1:2

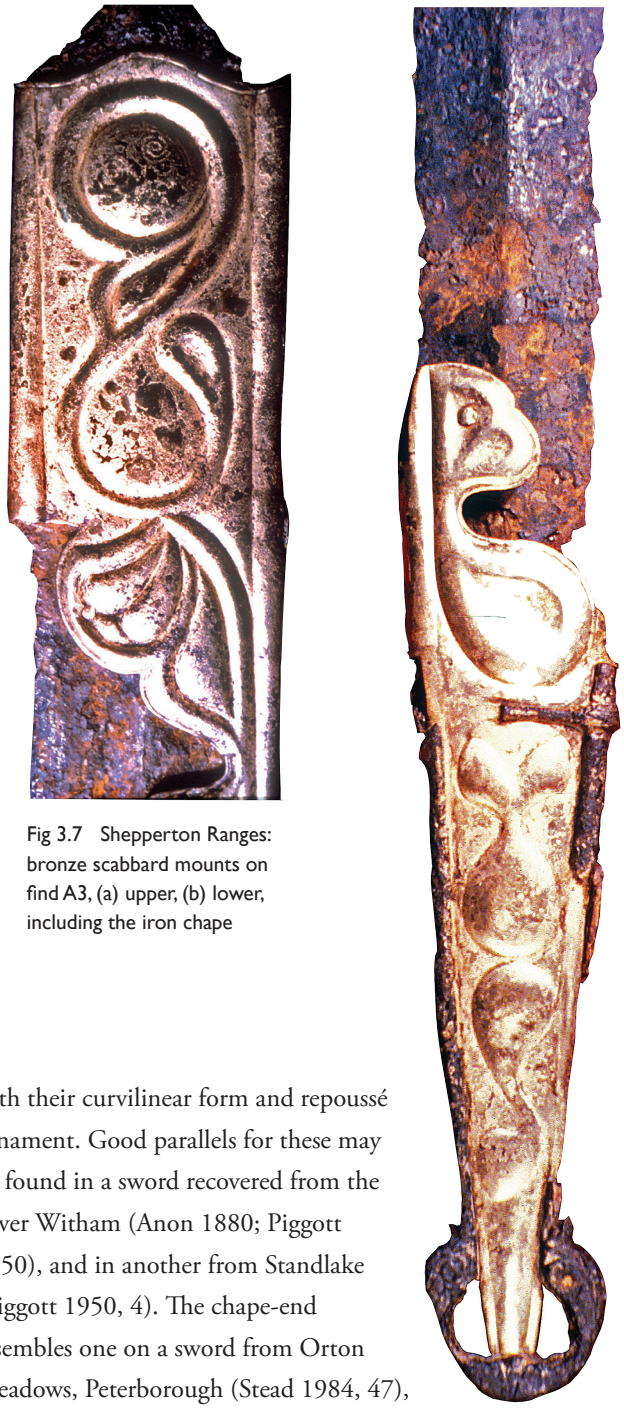


Fig 3.7 Shepperton Ranges: bronze scabbard mounts on find A3, (a) upper, (b) lower, including the iron chape

with their curvilinear form and repoussé ornament. Good parallels for these may be found in a sword recovered from the River Witham (Anon 1880; Piggott 1950), and in another from Standlake (Piggott 1950, 4). The chape-end resembles one on a sword from Orton Meadows, Peterborough (Stead 1984, 47), although the decoration on that scabbard is quite dissimilar to the present example. The Orton Meadows sword was also recovered from an extinct river channel (of the Nene). In sum, the scabbard mounts probably suggest that the Shepperton sword lies in the earlier part of the 'general British tradition of sword scabbard design' which Jope (1961, 320) has identified as beginning in the 4th century BC.

A4 Iron Age pot (fig 3.8) *by Phil Jones*

The vessel is a small, handmade jar, 112mm high and with a rim diameter of 165mm. The form, with its rounded, everted rim, high rounded shoulder and slightly splayed base of smaller diameter than the rim, most closely resembles jars made locally during the Middle to Late Iron Age, and it is probably to this period that the vessel belongs. Nevertheless, its completeness suggests that it may have been deposited as a votive offering into the palaeochannel from which it was retrieved, and is a more prosaic vessel of that period than one might have expected to have been used for such an occasion. It may, however, have been the contents of the jar that were the intended offering.

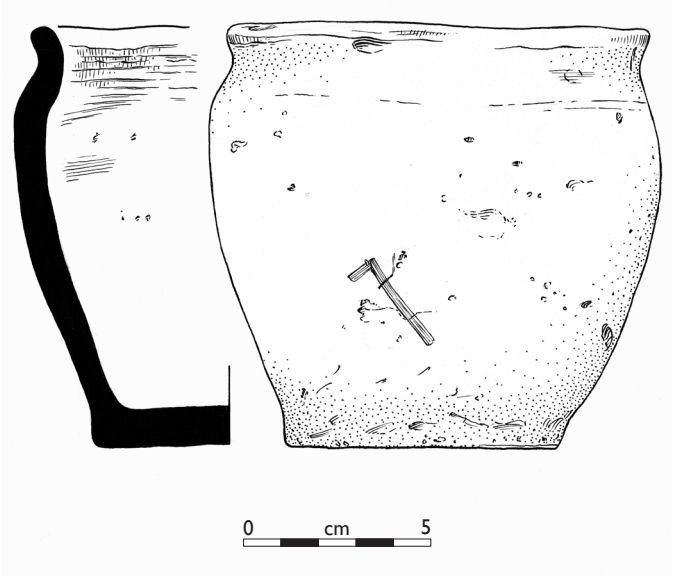


Fig 3.8 Shepperton Ranges: pottery vessel, find A4. Scale 1:2

A5 Iron adze-hammer
(fig 3.9)
This object consists of an iron socket, containing a remnant of a wooden handle, which is made in one piece with an adze on one side and a hammer on the other. This is a typical example of a very standardised Romano-British carpenter's tool (Manning 1985).

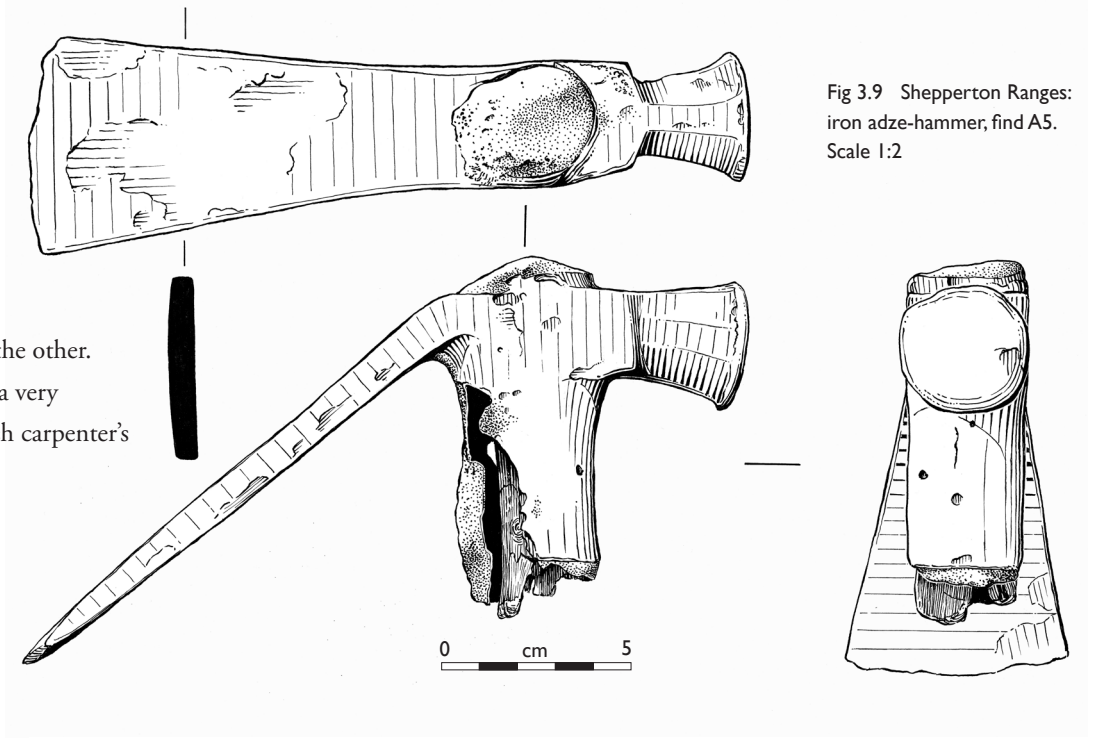


Fig 3.9 Shepperton Ranges: iron adze-hammer, find A5. Scale 1:2

A6 Bronze cauldron (fig 3.10)
The cauldron had been repaired in antiquity: it may also have been further damaged or broken before disposal and/or been damaged and parts lost during recovery. It is difficult therefore to be sure about its original appearance. It consists now of two pieces of thin sheet bronze. The upper piece was originally, presumably, a single circular sheet of bronze hammered out in a wooden former to form a bowl shape. The upper edge which was thus created has a row of rivets at roughly 20mm intervals to which another sheet of bronze must once have been attached, the lower part, which presumably became very thin in beating out, had a neat circle cut out of it. The base was then formed by a second sheet of bronze attached to the first by rivets at roughly 12mm intervals. Only part of this latter survived. The cauldron had evidently been well used and three patches were rivetted on in antiquity. Additional holes visible in the side (elevation C–D) (fig 3.10) and in the base (plan view) might indicate where a handle and a leg (others could have been present in the missing portion) were attached.

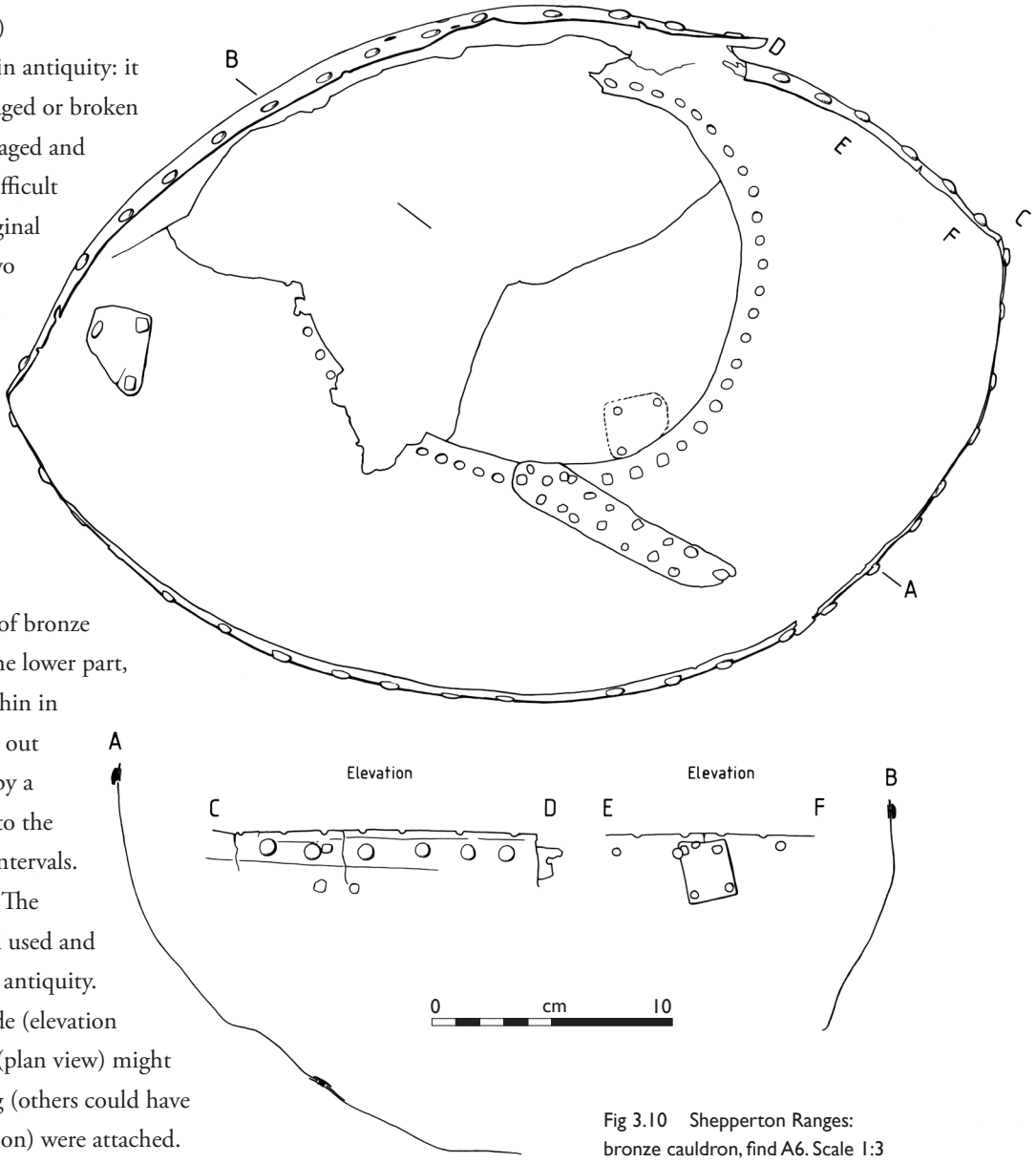


Fig 3.10 Shepperton Ranges: bronze cauldron, find A6. Scale 1:3

The date of this object and its function are very uncertain. No close parallels have been located, although Stuart Needham (pers comm) considers that it is not of Bronze Age date. The frequent association of cauldrons and votive deposits should be noted (cf Manning 1972, 242). An apparently similar example was found in 2010 near Flexford, Surrey, with a hoard of objects of Roman date (David Calow pers comm).

A7 Human skull

Section of human cranium, part of the orbital area of an adult.

A8 Antler object (fig 3.11)

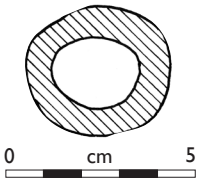


Fig 3.11 Shepperton Ranges: antler object, find A8. Scale 1:2

Made from lower section of red deer antler. 265mm long, with saw marks on the shaft and a slot for a blade in the marrow. The purpose of this haft and its date are quite uncertain.

A9 Wooden object

Piece of wood, now broken into two, originally as found 220mm long and 75mm wide, with some indications of tool marks. Date unknown.

A10 Animal bones

by John Chapman

RED DEER

Antler: one left, one right, two small fragments (one tine). Frontal and part of parietal skull fragments with pair of antlers attached. The attachment of the antlers to the skull indicates that the animal probably died, or was killed, between September and mid February.

One left mandible fragment, all teeth and hinge area are missing.

One right radius, proximal end and shaft only.

One right femur, shaft only, proximal and distal epiphyses missing, cut marks on shaft.

One epistropheus, slight damage.

HORSE

Two near-complete right tibia, one with proximal epiphyses missing and one with proximal epiphyses damaged.

Two pairs of mandibles; the first is mature with the hinge (Ramus) missing on right side and most of the left mandible is missing.

R10 CO PM3 M3

L10 CO PMO Area Missing

The second pair of mandibles has the left side complete. The tooth eruption indicates that the animal was about 4 years old. Most of the right mandible is missing.

C1 PM3 M3

CATTLE

One left metatarsal, near-complete, but immature as the distal epiphysis is unfused and missing.

One left metatarsal, proximal only, damaged with approximately 50% of the shaft being present, mature animal.

One right femur, immature, distal missing, proximal unfused and missing.

One right radius proximal damaged, bone is in poor condition. The size of the bone suggests that the animal was Bos primigenius and therefore Bronze Age or earlier in date.

One large skull fragment with both horn cones and frontale area present.

DOG

One right tibia complete and mature, proximal end has slight damage.

GL 197mm BP–Bd 22.5mm Sd 12.3mm

Cd 38.2mm

PONY

One left distal humerus of a mature pony together with about 70% of the shaft.

ODD BONES

One horse/cattle-size rib fragment.

2.2 FIND SPOT B

The finds from this location were recovered from below water with a dragline. They undoubtedly came from a buried river channel which had been noted during the regular monitoring of Area 2. The channel would seem to have looped away from the present course of the Thames some 200m to the north-west of B, turned towards the south about 100m north of B, before turning sharply westwards again just south of B. It seems likely that where the County boundary departs from the Thames to the west its line marks the former course of this meander. The channel thus enclosed a small island of gravel which was, however, very low-lying and prone to flooding.

B1 Stamped Iron Age sword with bone handle

(figs 3.12 and 3.13)

Iron sword 918mm long, including a tang of 120mm. The blade is 42mm wide (on average), and is double-edged with a rounded point. The blade is rather damaged, with no distinctive features apart from two crescent-shaped stamps set close together towards the hilt, both about 14mm long by 10mm wide, the lower of the two with two smaller depressions, each about 2mm in diameter, within it. The hilt consists of an iron guard 8mm wide attached to the top of the blade, and a bone (material identified by C Cartwright) handle attached to the upper part of the tang. This handle has three decorative grooves around its circumference. The handle was beginning to split when found, and it seems likely that a second element of the handle, on the lower part of the tang, had already split and become detached before the sword was recovered. The tang is clearly broken at the top and it seems likely that a piece of about half the surviving length has been lost. In other words, the surviving piece of handle is one of an original three, probably separated one from the other by washers, a common enough arrangement (Stead 1985, 50).

F A Shearman, of the Department of Conservation, The British Museum, comments that 'the blade appeared to have been straightened after excavation and there was some loss of the upper surface as a result of flaking which may have been connected with the straightening'.

The general form of the sword marks it as a La Tène III type, used exclusively for striking (Stead 1985, 45). The stamps are a relatively unusual feature, and one which has rarely been

Fig 3.12 Shepperton Ranges: iron sword, find B1, (a) detail of hilt with part of the bone handle, (b) the stamps on the blade

Fig 3.15 Shepperton Ranges: iron sword, find B2, showing the curvature of the blade as found

identified on British swords. Stead (1985, 49–50) has described such stamps as armourers' marks and this seems the most probable explanation, although it surely implies that the feature was more common in antiquity than the number of identified examples might otherwise suggest. The form of the blade and the stamps indicate a lst century BC date for the sword.

B2 Late Saxon sword

(figs 3.14 and 3.15)

Iron sword 832mm long, including a handle 140mm long. The blade is double-edged with a rounded point and averages 42mm wide. On both sides a central strip 20mm wide, running from the tang to within 140mm of the point is recessed about 1.5mm below the remainder of the blade, and reveals very obvious traces of pattern-welding. The tang is in one piece with the blade, and has curved iron upper and lower cross guards added as separate pieces: these were loose when discovered due to the loss of the organic handle which would have held them in place. The tang is capped by a cocked-hat pommel, which has a clear trace of where a circular attachment formerly existed on one side, and hints that there may have been others. The blade had been bent in antiquity. It seems highly unlikely that this resulted from a post-depositional event, although East et al (1985, 3) have made this suggestion for the similar bending of the Chertsey sword, which was also almost certainly recovered from an extinct river channel (Poulton 1987, 19). If it occurred before deposition, there are two possible explanations. A deliberate bending before casting it into the river might be taken to represent a ritual 'killing' of the sword, especially if the whole context of deposition is a ritual one (see below). On the other hand, swords were liable to bend in use: Wheeler (1927, 29) quotes the Laxdaela Saga, 'Kjarban bent his sword in fight with the sons of Osvitr and had to straighten it beneath his foot'. The former explanation may be the more likely in view of the pattern-welding of the blade which should have given it sufficient strength to make distortion in use unlikely.

The sword may be classified as a Petersen (1919) type L, which he dates to *c* 840–90. Wilson (1965) publishes a number of swords of this type. Amongst these, his catalogue numbers 3 and 6 are considered to be of possible 10th century date, while nos 4 and 6 have silver discs attached at the point where B2 clearly has a missing element.

B3 Sword blade (?Iron Age) (fig 3.13)

Part of an iron sword blade *c*680mm long and averaging 40mm wide. The upper part of the blade and tang had been broken off in antiquity and the blade itself was slightly bent. One possibility is that the sword had been deliberately bent in antiquity and the upper part had subsequently broken away. The blade is double-edged with a rounded point, but otherwise has no distinguishing features.

The general form of the blade is similar to that of B1, and it may therefore be of Iron Age date, but there is nothing to rule out, for example, an Early Saxon date (although such are comparatively rare as river finds (see East et al 1985, 3, but cf Poulton 1987, n19).

B4 Human skull

This is an almost complete human cranium. Its patina and occasional pieces of tufa attached to it indicate that it came from the deeper alluvium of the river channel.

2.3 FIND SPOT C

A temporary drainage channel had been cut during excavation from the base of the overburden (brickearths and peaty clays) through the basal alluvial silts of a former river channel. The sherd was recovered from the adjacent spoil heap which contained only the silt material.

C1 Sherd of calcined flint-tempered pottery. No diagnostic features, but certainly prehistoric and perhaps Bronze Age.

2.4 FIND SPOT D

Two animal bones were recovered from current bedded basal silts of the buried river channel. Dale Serjeantson has identified these as follows:

D1 Red deer (*Cervus elaphus*) distal humerus. The bone is broken above the articulation, but there is no positive evidence of human interference.

D2 Right mandible of a domestic dog (*Canis canis*) lacking teeth and symphysis. No evidence of butchery or working by humans.

Both bones have some traces of the white calcareous concretion common on bones and other objects which have been in the river. Both species belong to the native British fauna, and there is no reason why the bones should not have become washed into the sediments naturally.

2.5 FIND SPOT E

The finds were recovered by mechanical excavation during removal of overburden. The discovery was almost immediately notified to Surrey County Council archaeologists, who then visited the site. The finds came from a depth of about 2m, but much of this is to be accounted for by post-Roman alluvial deposition, and the heavy pewter would also have sunk down through the soft mud. The discoveries were made in an area which was between the former river channels, but was certainly within the floodplain, in ground which must always have been boggy or under water in antiquity. The digger driver reported no other finds and careful archaeological examination of the area then, as well as before and after, revealed no further artefacts.

Description of the pewter plates (figs. 3.16–3.21)

The plates have been numbered from E1 to E5 in the order (working from top to bottom) in which they are presumed to have been deposited. This can be deduced from the blackening of the whole of the upper surface of E1, the upper rim of E2, the underside of the rim of E4, and the whole of the base of E5 as a result of exposure to the surrounding earth, with the remaining surfaces protected and of bright metal. This does, of course, presume the plates were buried with their obverse uppermost: whatever the other possibilities, their relative position is certain. The condition of the metal was uniformly good, apart from the blackening and some minor areas of corrosion, and quite large areas still retained a distinct polish. The plates have a number of common features, which are not separately noted in the descriptions below. All have a raised flange-rim, with a bead at the edge which is of variable cross-section. Other features result from the technique of pewter manufacture (Brown 1973), in which the vessel was cast in a stone mould, then turned on a lathe, firstly to remove casting irregularities with a chisel (Craddock & Lang 1983), and secondly to polish it. As a result the bottoms of the plates all bear, to varying degrees, characteristic marks. These include: (1) annular chatter marks from the chisel; (2) lathe mounting scars resulting from the filling-in of the holes created for the central nail and three spikes at the edges of the faceplate of the lathe which prevented slippage. The latter were found at 110mm diameter on each of E2, E3 and E4, suggesting that they were finished on the same lathe and presumably at the same time. On E1 they were at 120mm and on E5 at 90mm diameter; (3)

Fig 3.16 Shepperton Ranges: nest of five pewter plates

'compass work' (Brown 1973) used to centre the plate on the lathe. This is very clear on E3 and E5, faintly visible on E2 and E4, but apparently absent on E1. That it need not always have been necessary is apparent from the fact that some stone moulds would allow the central aperture to be cast in (Blagg & Read 1977, 273).

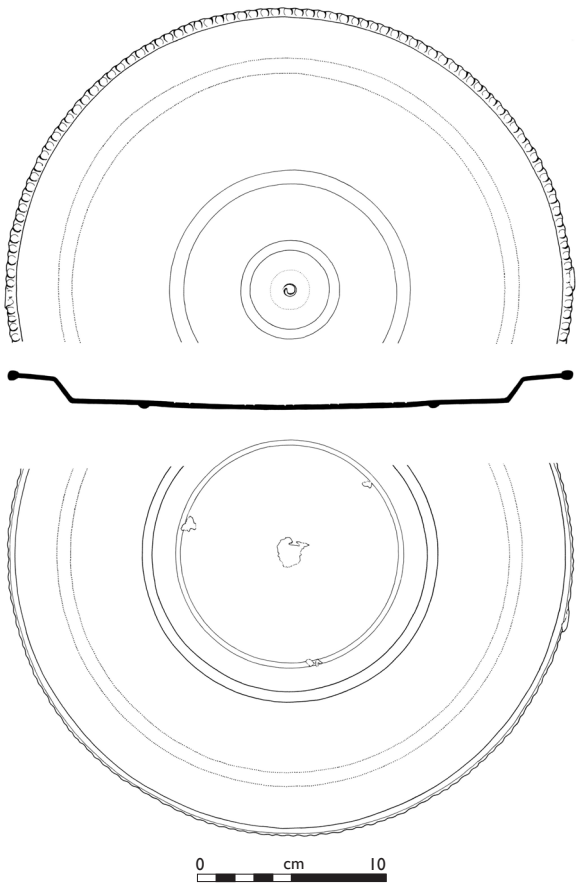


Fig 3.17 Shepperton Ranges: pewter plate E1

E1 Weight 1.240kg. Diameter 295mm. The upper side has concentric incised rings at 41, 51, 111 and 125mm diameter, and the bead has been cut by a series of chisel marks at 6mm intervals, giving it a cogged effect. A slight protuberance in the bead seems to be the remains of a casting riser, and there are much slighter traces of a second such. The base has a low, rounded foot ring at 150mm diameter, and an unpolished diameter of 122mm.

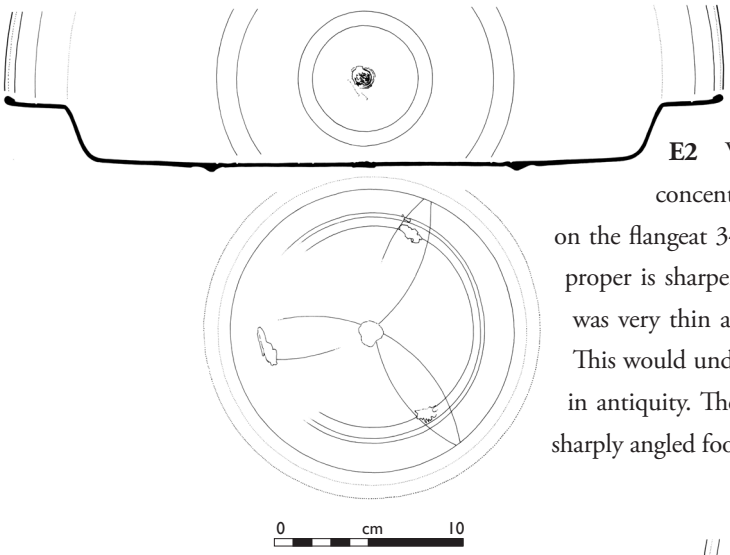


Fig 3.18 Shepperton Ranges: pewter plate E2

E2 Weight 1.660kg. Diameter 378mm. The upper side has concentric incised rings at 54, 69, 134 and 155mm, and another on the flangeat 348mm diameter. The drop from the flange-rim to the plate proper is sharper than in the other examples, and it looks as if the casting was very thin at the junction between the wall of the vessel and the base. This would undoubtedly explain the buckling and cracking which occurred in antiquity. The flange-rim has suffered a recent dent. The base has a low, sharply angled foot ring at 162mm and an unpolished diameter of 110mm.

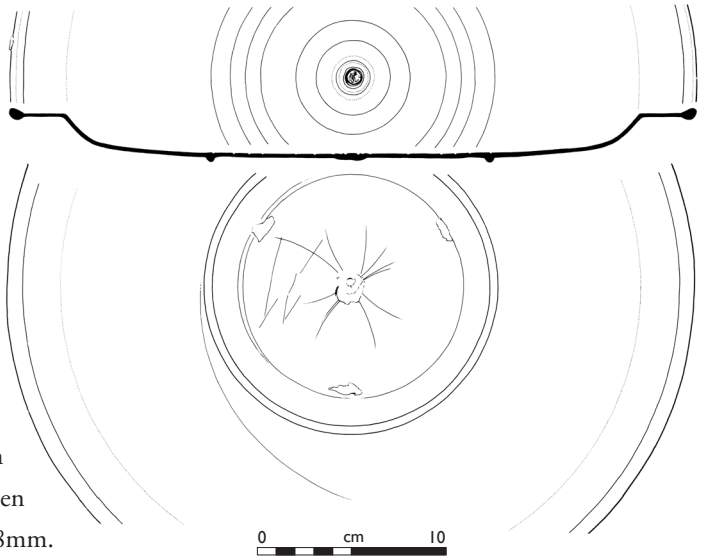


Fig 3.19 Shepperton Ranges: pewter plate E3

E3 Weight 1.729kg. Diameter 360mm. The upper side has concentric incised rings at 18, 38, 59, 98, 113, 129 and 148mm. A slight protuberance on the bead is probably the remnant of a casting riser. The base has a low angular foot ring at 150mm, with a number of shallowly incised rings between it and the unpolished diameter of 118mm.

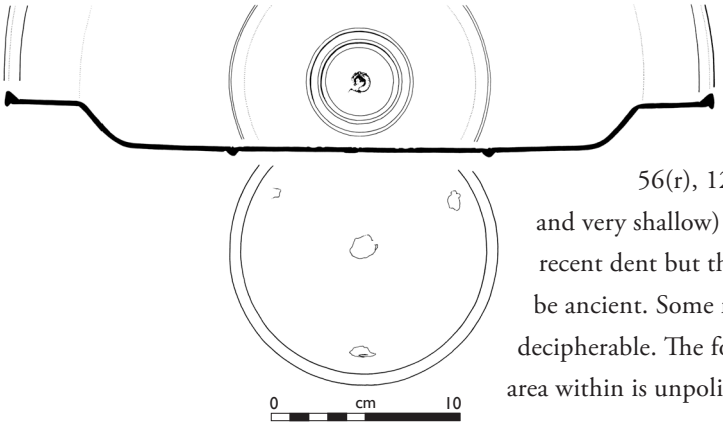


Fig 3.20 Shepperton Ranges: pewter plate E4

E4 Weight 1.712kg. Diameter 373mm. The upper side has a sequence of incised rings (r) and broader grooves (g) at 38(g), 44(r), 50(g), 56(r), 122(r), 134(g) and 136 (r–this last is incomplete and very shallow) mm diameter. The flange-rim has suffered a recent dent but the general unevenness of the beading seems to be ancient. Some marks on the rim may be deliberate but are not decipherable. The foot ring is at 137mm diameter, and the whole area within is unpolished.

E5 Weight 1.200kg. Diameter 307mm. The upper side has concentric incised rings at 27, 44, 78, 93 and 107mm diameter, with two further rings close together on the wall of the plate at *c*252mm. Two protuberances on the bead seem to be the remains of casting risers. There has been slight recent damage to the flange-rim. The base has a low angled foot ring at 122mm, with incised rings at 77 and 87mm diameter, the latter enclosing the unpolished area. A graffito is present on the flange, on which Dr R S O Tomlin comments:

'A graffito has been faintly incised in capitals on the upper surface of the rim flange: MALTOGENI, '(Property) of Maltogenus' (fig 3.17). The surface of the plate is worn, and there are other surface scratches (not drawn), so the reading of some of the letters is not certain. The name is unattested, but Celtic personal names in –genus ('born of') are common. *Mallus* is well attested, but not *Maltus*. Above the graffito, where the flange curves to join the body of the plate there may be traces of a second graffito in cursive letters only 2–3mm high, but they cannot be distinguished from the marks of wear at this exposed angle.'

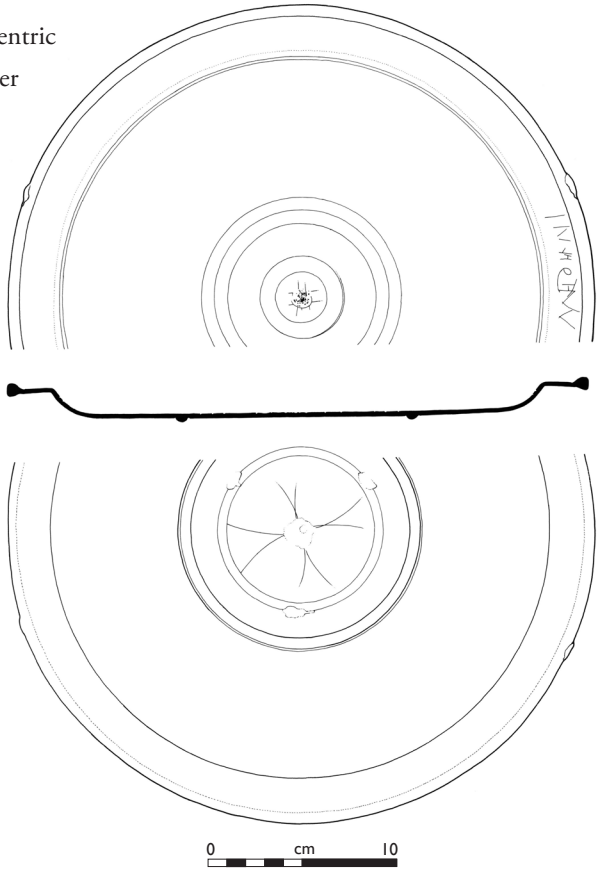


Fig 3.21 Shepperton Ranges: pewter plate E5

Metallurgical analysis

by G McDonnell and D White

The qualitative XRF analysis (by J Bayley AML) of two Late Roman pewter plates showed that there were significant differences in composition. Therefore, small samples were removed from all five dishes for quantitative analysis.

METHODS OF ANALYSIS

Small amounts of the vessels' body were removed by taking shavings from broken surfaces. To analyse the samples a scanning electron microscope with an attached energy dispersive X-ray analytical system was used. This technique is surface sensitive because of the small depth of beam penetration. The careful preparation of high lead alloys is required to avoid smearing a thin layer (angstroms?) of the softer phase across the surface of the specimen which is being analysed, resulting in erroneous analyses. The usual method of preparing metallurgical samples (ie mounting in resin and polishing to a mirror-like finish) would cause smearing to occur. Therefore, care was taken to prepare fresh surfaces by cutting the clippings with a scalpel blade. The samples were mounted on a stub so that a flat area was presented for analysis. A sample of pure lead/tin solder was also analysed at the same time to check the accuracy of the results.

RESULTS

All the examples contained minor levels (<1%) of iron and copper, but no other elements beside tin and lead were detectable. It is estimated that the tin and lead values are reproducible to +/-5%.

	Pb%	Sn%
E1	54	46
E2	31	68
E3	23	77
E4	20	80
E5	24	75

These results show that plates 2, 3, 4 and 5 had a tin content of about 70–80%, but that plate 1 (with a beaded rim) had a tin content of about 45%.

INTERPRETATION OF RESULTS

Pollard (1983) reviewed the published analyses of Late Roman pewter and undertook extensive XRF analyses of a hoard of late Romano-British tableware from Appleford (Berkshire). His work confirmed the occurrence of three compositional ranges with tin values of the order of 35-60%, 70–85% and >95%. The distribution of compositions, both within the Appleford hoard and in the earlier published results, show that vessels with 70–85% tin were more numerous than those with 35–60% tin and that there were few occurrences of the 'pure' tin alloys. The Shepperton results conform to this pattern, but there were no 'pure' tin vessels present. Pollard (1983) argued that the minor concentrations of copper and iron derived from the corrosion products and not from the body of the metal. The SEM results show that there were minor amounts of these metals present in the Shepperton alloys.

The compositions fall either side of the eutectic, this alloy has the lowest liquidus (fully molten) temperature, but more importantly freezes instantaneously at 185°C, rather than over a range as do the other alloys. Plate E1 (46%Sn) is the only one that has a hypo-eutectic composition, ie below the eutectic composition of 62% Sn, and would be fully molten at *c*225°C, and would freeze over a range of 40°C, before it was fully solid at 185°C. Plate E2 (68%Sn) lies closest to the eutectic and would start to freeze from the fully molten state at *c*188°C, hence it would freeze very quickly, being solid at 185°C. Plate E5 would also freeze quickly having a liquidus temperature of *c*190°C. Plates E3 and E4 would freeze over a range of *c*15°C, having liquidus temperatures of *c*200°C. The longer freezing range reduces the risk of the alloy freezing before it has fully filled the mould. It is unlikely, however that in the Roman period a sufficiently accurate method of ensuring an exact composition was available to conclude that these variations were deliberate (Justine Bayley pers comm). It is also noted there is no significant difference in colour to the alloys in a highly polished state of the different compositions and that the natural tarnishing would alter the alloy to the typical 'grey' of tarnished pewter.

Discussion

The present set of pewter plates is one of a large number of hoards of Roman pewter which have been recovered (Beagrie 1989, Peal 1967, Poulton & Scott 1993). It seems clear that most of this pewter was manufactured in the later 3rd and 4th centuries and the characteristics of the Shepperton pewter are consistent with those of well dated Late Roman pewter.

Explanation of how these items came to be where they were found is not straightforward. The nearest Roman finds came from an area *c*250m to the east, though the nature of occupation there is unclear. About 1km north-west of the present finds a Roman pit was excavated (Frere 1943) and the 19th century finds of tesselated pavements near the Saxon

cemetery at Upper West Field, Shepperton (Longley & Poulton 1982, 184) must be similarly located. About 1.5km to the north, there was possibly another Roman site (Poulton 2005), and 19th century records suggest the possibility of Roman occupation in the area of Shepperton village. The evidence is far from detailed, but the general impression is that this area of the Thames valley was well settled and reasonably prosperous in the Roman period, although no villas are known from modern work (see chapter 1, part 2.5).

It might, then, be thought that one of the nearby Roman households had hoarded these items in a period of disorder, as has commonly been suggested (eg Brown 1973), but this explanation does not seem to be satisfactory. What sense could it have made to bury goods with intent to recover in boggy ground so far from the nearest settlement? Accidental loss is a bare possibility, but one needs be highly imaginative to conjure up a satisfactory set of circumstances to account for its occurrence at this location. The explanation that best fits these facts is that the plates were votive offerings, for which a waterlogged site was deemed appropriate. Indeed, it may be argued that ritual deposition is the appropriate explanation for the hoarding of most Roman pewter (cf Manning 1972, 248–9; Beagrie 1989, 179; Poulton & Scott 1993).

2.6 FIND SPOT F

F1 A row of five wooden piles was observed after removal of the alluvial overburden in the area adjacent to the river channel which produced the material from find spot C. They had been driven about 0.5m into clean gravel, but the point from which they had been driven is unclear, as is their date and function.

2.7 FIND SPOT G

After the removal of gravel from Area 1 (largely without regular archaeological observation) a feature was observed in the section of the old working. This was sealed by brickearth deposits, cut into gravel, and filled with brickearth clays, and was about 1m wide and 0.5m deep. It is more likely to have been a pit than a ditch since nothing further was observed when the land to the west was carefully watched during overburden removal.

The position of the feature at the edge of an open waste filled quarry made it impossible to excavate and record formally. A limited amount of the fill was removed and was quite productive of finds. None of the flints is sufficiently diagnostic to allow close dating of the feature, but the indications are that a Neolithic date is most likely, assuming that all are contemporary.

Animal bone *by Claire Ingrem*

G1 Two cattle scapulae and a cervical vertebra were recovered. All the material is in good condition but there is no evidence for gnawing, butchery or burning. Both scapulae have fused epiphyses indicating that they belong to animals that were aged over ten months when they died (Getty 1975).

Some metrical data is available (given below *after von den Driesch 1976*) and are comparable to measurements recorded at contemporary sites held on the Animal Bone Metrical Archive Project (ABMAP) database.

	Measurement type			
Side	**GLP**	**BG**	**LG**	**SLC**
Right		46.3	51.8	
Left	61.7	44.3	52.3	47.2

Flint *by Nick Marples*

G2 Five pieces of calcined flint (pot-boilers)

G3 Squat secondary flake from gravel pebble

G4 'Thumbnail' type end scraper fragment on hard hammer struck tertiary flake (lateral break)

G5 End scraper on hard hammer struck blade, small area of rough cortex suggests better quality raw material than 3 and 7

G6 Distal flake fragment, burnt

G7 Irregular waste piece, fragment of core with smooth, waterworn, cortex, probably from gravel pebble

G5 is likely to be of Early Neolithic, or possibly Mesolithic, date. G4 could also be of Early Neolithic date (comparable examples are illustrated from the Staines causewayed camp (Robertson-McKay 1987, fig 57)), although these types persist into the Early Bronze Age.

2.8 FIND SPOT H

In this area there was only topsoil and a thin (less than 100mm) layer of brickearth over gravel. Find H1 was seen after the removal of this, sitting on top of gravel. It was not *in situ*, but may not have been moved far, and more must have been recently lost as some breaks were fresh.

H1 Large fragment of the base and beginnings of the body angle of a pot with large (up to 5-10mm diameter) and dense flint tempering. This may be the bottom of an urn, the thickness of which suggests a Middle Bronze Age date, rather than anything later. The absence of any settlement evidence in the closely observed area to the west might be taken to indicate that this was part of a cinerary urn, but the pit, G1, could be contemporary, and what may have been lost further east is unknown.

3 DISCUSSION

The principal focus of interest at Shepperton Ranges clearly lies in the discovery of a series of items of exceptional quality from extinct or buried river channels. This is clearly related to the frequent recovery of prestige artefacts from rivers, for which a wider ranging discussion is given in chapter 1, part 3. In the present case the opportunity to make observations in more controlled (but still far from ideal) conditions has yielded some further clues to an understanding of what is happening.

Buried river channels are of common occurrence in the middle to lower Thames valley. Conversations with dragline operators and others in Surrey gravel pits indicate that, in the late 20th century, prior to the more regular archaeological involvement that developed after the publication of Planning Policy Guidance note 16 in 1991, they were generally aware of the significance of linear bands of deeper alluvium as former river courses, and also aware of their 'archaeological' potential. At the Ferry Lane pit (fig 3.1) considerable lengths of a buried river channel were removed in the early 1970s. Some archaeological work was carried out (Bird 1999) but no obviously 'prestige' items were found there. Within the Ranges pit prestige items were found at find spots A and B, but not elsewhere. In view of this, and accepting that the origin of these items lies in ritual activity, the question arises as to whether this means that particular places along the river were chosen, rather than simply that the river as a whole was used. Such a conclusion would only be vitiated if objects once thrown into the river were capable of moving with the flow and only came to rest where there was an impediment to the flow. This is obviously unlikely for a solid metal object such as a sword which would sink almost immediately into the silt at the bottom of the river: thereafter it would be immovable except under violent flood conditions, circumstances which would inevitably produce broken and battered artefacts rather than the complete and little damaged ones actually recovered. These points should apply to nearly all the objects found, so that the point of recovery is effectively the point of deposition. This has the interesting implication that the same places were chosen for, or remained in use as, the locations for ritual activity over a considerable period of time.

Why a particular place was chosen is often difficult to determine. The suggestion by York (2002) that for high status weaponry there is a correlation with fortified enclosures and other high status sites in the Bronze Age does not seem to apply at Shepperton Ranges, where the nearest high status sites of any date are 3km or more distant (figs 1.1–1.4). Only the find spots G and H hint at nearby settlement, but there is nothing to suggest high status. The choice of a particular place might, then, be due to other considerations that are now hard to identify archaeologically. The significance of find spot A might, for example, be that it lay at the confluence of the Thames and Wey (see chapter 1, part 3 for further comment).

It is now generally accepted that most or all of the prestige objects recovered from rivers arrived there as a result of ritual activity. At the Ranges this explanation may be readily accepted for the swords (A3, B1, B2 and probably B3), especially where as for B1, B2 and perhaps B3 they had been deliberately bent ('ritually killed') before deposition, and also for the human crania (A7 and B4). A ritual origin for the pewter plates (E1–E5) is also virtually certain since accidental loss or burial with intent to recover cannot satisfactorily account for their discovery in this location; furthermore the normal explanation for the hoarding of Roman pewter would seem to lie in religious activity (Poulton & Scott 1993; Beagrie 1989, 179).

The remaining finds pose greater problems of explanation. The antler macehead (A1), the adze-hammer (A5) and the hafted axe (A2) are complete or near-complete objects of a type rarely, if ever, found in settlement contexts. They must have either been casual losses or ritual deposits, and the latter explanation is greatly to be preferred for several reasons. Firstly, there is the coincidence of their find spot with the obviously ritual deposits already noted, which, as argued above, means that they also arrived in the river at the same

point. Further, Kinnes (1979, 65) has pointed out with regard to antler maceheads in general that 'the lack of obvious utility, and of any undeniable trace of wear or use, invites a special or prestige explanation', and Simpson (1996, 299) cautiously supports the idea of ritual deposition, while the adze-hammer is a piece of equipment of a type found in a number of Early Roman ironwork hoards which Manning (1972) has argued are votive deposits, and have a strong connection with watery sites. Interestingly, in view of find A6, several of these hoards are associated with bronze cauldrons. With regard to find A1, it should be noted that finds of presumed votive origin are by no means uncommon for the Neolithic period (cf Holgate 1988, tables 11–23). The remaining finds from the river channels are less obviously significant in themselves, but it may be remarked that religious explanations should not be ruled out; the range of items which can be shown to be associated with Roman period ritual activity, for example is very wide (cf Poulton and Scott 1993).

It seems reasonable to conclude that the work at Shepperton Ranges has demonstrated the connection between ritual activity and selected points along a former channel of the Thames over a long period of time. Closer identification of the type of ritual involved is very problematic, but chapter 1, part 3 reviews some of the possibilities, funerary, votive, and other.

4 ACKNOWLEDGEMENTS

The gravel pit was owned and operated by Tarmac PLC, who are to be thanked for their funding of fieldwork and of the initial stages of the preparation of this report. Support for a general appraisal of the finds and, more especially, their geological and topographic content was also given by English Heritage. The fieldwork was carried out by the author and Phil Jones on behalf of the Surrey County Archaeological Unit, part of Surrey County Council.

For advice and assistance thanks are due to the following: Brian Shaw and Bernie Finnegan (Tarmac); Phil Jones, Alison Peckham and David Bird (all then of Surrey County Council); Paul Larkin, Jane Sedge and Kathy Aitken (Chertsey Museum); Ian Stead and Stuart Needham (British Museum); Justine Bayley (Ancient Monuments Laboratory, English Heritage); and particular thanks are due to Mr Joseph Jacubowski who recovered many of the finds and whose prompt action ensured the survival of the wooden haft of the Late Bronze Age axe (item no A2).

CHAPTER 4: ARCHAEOLOGICAL FIELDWORK AT ST ANN'S HILL, CHERTSEY

by Phil Jones

SUMMARY

Concurrent with a ground survey of the hilltop that confirmed the presence of ramparts (McOmish and Field 1994), a trial trench sectioned the earthworks, and another established that at least one area within the enclosure had been densely occupied during the Early Iron Age. Mesolithic flints were also recovered.

1 INTRODUCTION

In 1987 the author began to collect prehistoric sherds and calcined flints that were eroding from the edge of a large quarry, The Dingle, which lies towards the southern end of the hilltop plateau of St Ann's Hill (fig 4.1). When the collection reached 50 sherds, a report was submitted to English Heritage, who have responsibility for the site as a Scheduled Ancient Monument, with a recommendation that areas close to the quarry edge likely to be destroyed by continuing erosion ought to be evaluated by excavation, and that a ground survey of the hilltop ought to be contemplated.

Earthworks that fringe the hill have been readily accepted by some as rampart and ditch defences (Longley 1976, 14; Hogg 1979, 228; Needham 1987, 131), but others have been more circumspect about its identification as a hillfort (eg Hanworth 1987, 139). Such doubts were largely on account of damage wrought by quarrying, the construction of roads, and a regime of landscaping during the 19th century, but also because of a lack of a proper archaeological survey. Previous finds of prehistoric material from the hill include an Iron Age pottery rim sherd from 'St Ann's Pit', an Early Bronze Age Arreton axe-head found in the 19th century and a Late Bronze Age pegged spearhead recovered by a metal detector in more recent times.

In 1989 D Morgan Evans, then an Inspector for English Heritage, visited the site with the author, and after further discussion the Surrey County Archaeological Unit was commissioned to excavate a sampling trench by the quarry edge and another through the supposed ramparts, and to undertake a remote sensing survey of open ground next to the quarry. During negotiations before such work commenced, the Unit received an enquiry from the RCHME about sites in Surrey that ought to be considered as priorities for archaeological ground survey. It was suggested that such work on St Ann's Hill might enhance understanding that could be gained from the excavations and geophysical survey. In April and May 1990 the then RCHME field officers David Field and David McOmish surveyed all of the hilltop (fig 4.1), whilst excavations were directed by the author. Following their completion a limited geophysical survey was undertaken by Steve Dyer, also then of the County Unit.

The primary objective of the three aspects of archaeological work was the enablement of an appropriate management strategy for the site, which is public parkland maintained by Runnymede Borough Council. This was only made possible from a better understanding of the authenticity of the ramparts, and of the archaeological potential and vulnerability of any buried deposits within the interior.

The report that follows is in eight parts that describe the topographical importance of the site (2), the archaeological background (3), the excavations (4), the geophysical survey (5), the finds from trench A (6), some earlier finds from the hill (7), a general discussion (8), and a postscript on the later uses of the hilltop (9).

2 TOPOGRAPHICAL BACKGROUND

St Ann's Hill is a prominent topographical feature within the local landscape, with a height of 66m above sea level and a rise of 53m from the floodplain skirting its northern and eastern sides. It is an isolated hilltop with steep approaches from the

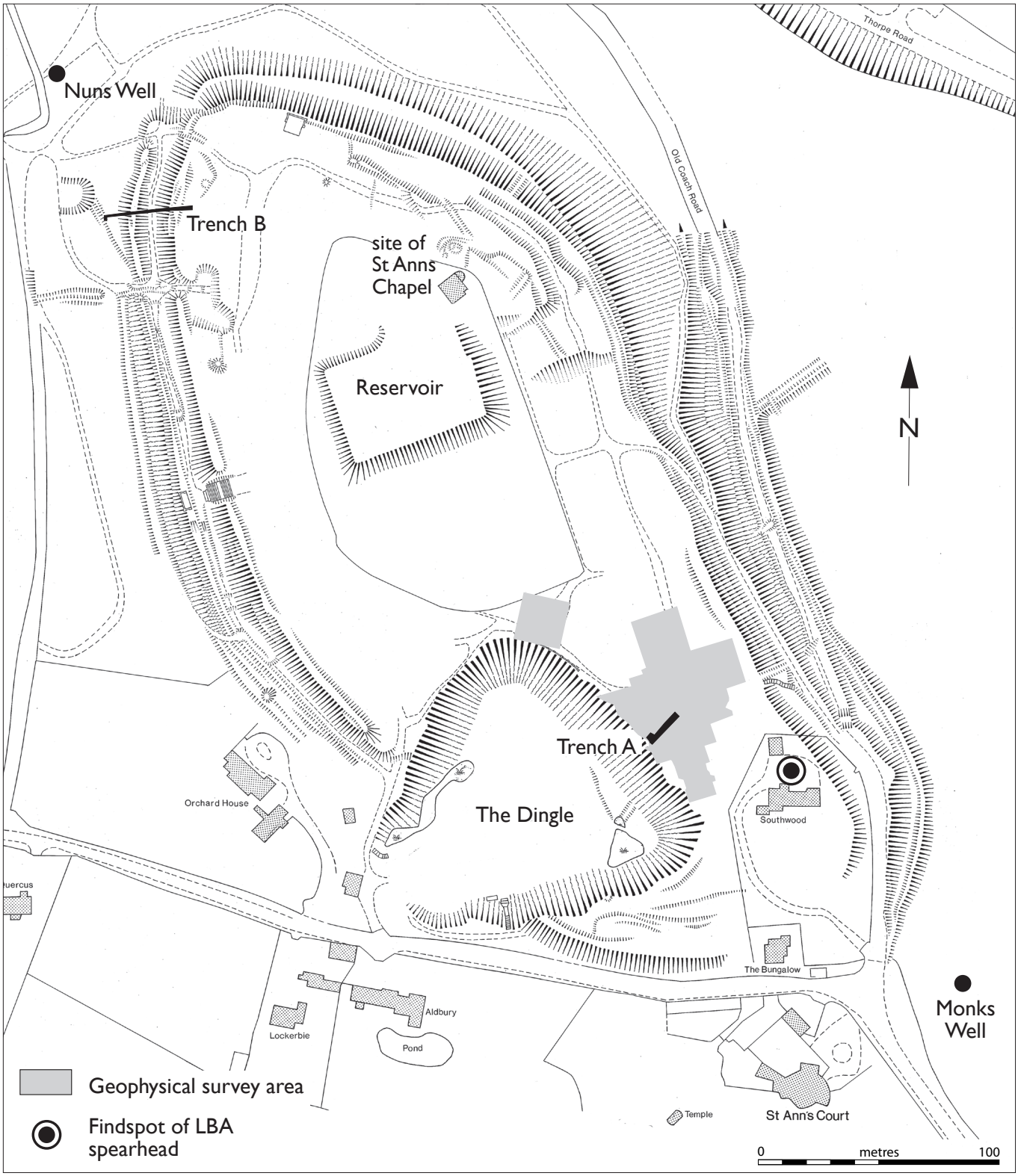


Fig 4.1 St Ann's Hill, Chertsey: location of archaeological work *(survey of earthworks by Royal Commission on Historical Monuments (England)).* See fig 1.1 for the wider location

north, east and west, and has commanding views over the Thames floodplain and gravel terraces from Windsor in the west to Richmond in the east, and as far north as the high ground along the border between Hertfordshire and Middlesex. The slightly north to south inclined surface of the hilltop plateau encompasses an area of almost five hectares.

The hill is an outlier of the vast tract of Tertiary heathland that once extended through north-west Surrey and east Berkshire, but was originally joined to the main body of the Eocene plateau through Barnet Hill and continuously to St Ann's Heath (see fig 4.1). The Bourne Stream, which originally flowed south and west of the hill, has a catchment that extends

to Virginia Water and Windsor Great Park, and terrace deposits of Boyn Hill and Taplow age along its littoral. Some time after the deposition of the Taplow terrace, however, the stream broke through to the Thames floodplain west of the hill, and since then its lower course has flowed along its northern and eastern flanks (Dewey and Bromehead 1915, 88). Its prominence and relatively steep upper slopes in comparison with other hills in the area, that are also largely comprised of Bagshot Beds, is partly due to the loamy nature of the sands locally, and partly because the *c*9m thick Bracklesham Beds above those of the Bagshot Beds is capped by a metre of rounded flint pebbles at the top of the hill. A thin and intermittent layer of Pleistocene plateau gravel is also to be found over the hilltop.

3 ARCHAEOLOGICAL BACKGROUND

St Ann's Hill lies between two contrasting zones of archaeological activity. The acid sandy soils of the dissected uplands plateau that became the great heath were little used for agriculture or settlement in prehistoric and Roman times. Instead, they served as rough pasture and as woodland, heath and fen resources, much as when they later formed part of the medieval Windsor Forest.

There is, however, a strategic advantage to the hill, in that it overlooks the floodplain of the River Thames, and in particular, the confluent region of the River Colne with the Thames to the north and east, where several important prehistoric settlements have been discovered. These include the Neolithic causewayed camp at Yeoveney (Robertson-Mackay 1987), the Neolithic and Late Bronze Age riverside activities at Runnymede Bridge (Needham 1991), and the Bronze Age and Iron Age settlements of Thorpe Lea Nurseries (Hayman, this volume), Petters Sports Field (O'Connell 1986, Needham 1990), Mixnams Farm (Grimes 1960), Home Farm, Laleham (Hayman 1991b, Hayman 1997, and Hayman 1998), Church Lammas, Staines (Hayman in prep b) and Hengrove Farm (SCAU 2007).

The intensity of Late Bronze Age occupation in the area is especially remarkable. Three sites were found along a l.5km stretch of the M25 north of the hill during its construction (Johnson 1975), and archaeological work since then has confirmed the presence of a widespread pattern of settlements and field systems. It may have been towards the end of this period that St Ann's Hill became permanently settled and defended.

4 THE EXCAVATIONS

Two trenches were excavated. Trench A, towards the south end of the hilltop plateau, was intended to determine the nature of the archaeology that would be destroyed if further erosion of the quarry edge continued, and trench B, in the north-west, was cut through the supposed defences to establish their extent and age.

4.1 TRENCH A (fig 4.2)

A 14m x 2m trench was opened up at right angles to the quarry edge, and included the upturned rootplate of a tree blown over in a storm. The total area excavated was 30m^2. The turf and 150mm of topsoil were removed by machine, followed by the hand excavation of the 300 to 400mm deep subsoils that lay over the gently sloping surface of the underlying pebble bed (from 61.6m OD at the south-west, and 61.8m OD at the north-east ends of the trench). During the removal of the subsoils in horizontal spits, three distinct zones were recognised. The highest was a heathland-type podsolised soil between 100 and 140mm deep (context 1). Below that was a thicker, more humic and darker grey sandy loam (context 2), but it was not possible to detect any clear distinction from context 1. It is strongly suspected that they represent a single woodland soil, the upper parts of which were podsolised as a result of changes in the ecological regime of the hilltop. Since the upper parts of the subsoil contained some 17th or 18th century detritus this significant change could have been precipitated by tree clearances during quarrying or landscaping episodes of the later post-medieval period. Alternatively, the late material could have been incorporated long after it has been podsolised.

Immediately above the pebble bed in some parts of the trench was a third, and thinner, layer of dark grey loam (context 52) through which some of the prehistoric features appeared to have been cut, but which could not often be differentiated from the bulk of the formation that had buried them. This could be the remnants of a prehistoric occupation layer, and, if so, its presence would greatly enhance the archaeological potential of this area of the hilltop.

Fifty-one features that cut the underlying pebble bed were excavated in full or in part. Most can be interpreted as postholes, but there was also a ditch and gully, two rectangular features and a bowl-shaped pit (fig 4.2) (see Appendix: catalogue of contexts).

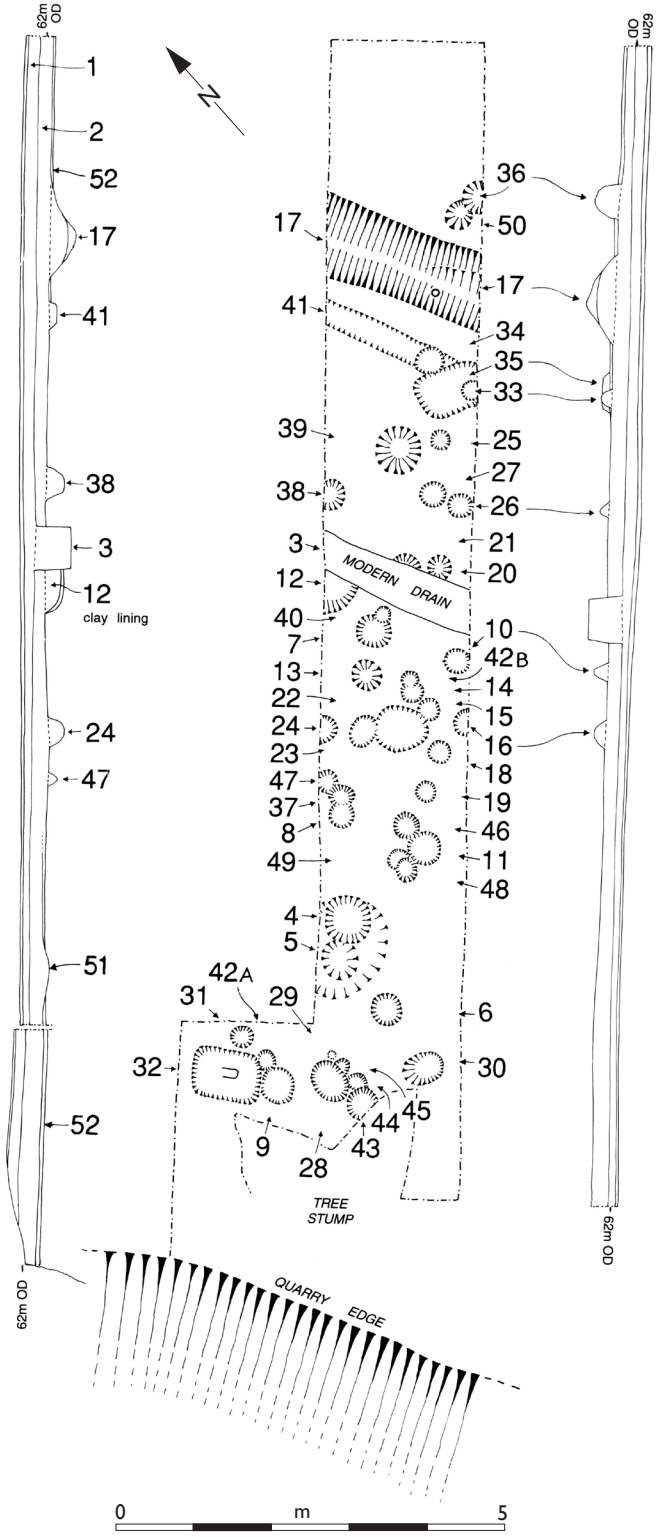


Fig 4.2 St Ann's Hill, Chertsey: plan, and east and west sections of Trench A

Postholes

Forty-six were found, and post-pipe and packing zones of fill were detected in most, whereby a central shaft of humic soil was surrounded by similar material with more pebbles. They varied in size, with some so small as to suggest they may have been for stakes (eg 17c and 29), and others as large as 450–600mm across (4, 9, 22, 28, 30 and 39). The majority, however, were 200–400mm across, with many between *c*250–350mm (8, 10, 14, 15, 16, 18, 19, 20, 23, 24, 25, 26, 27, 33, 34, 37, 46, 47, 48 and 49). Most were circular in plan and only a few were slightly oval, either through intention (23, 28 and 37) or else, perhaps, by having had their posts pulled over to facilitate their removal (30 and 50). Only one posthole had squared corners and that was in the base of feature 32 (see below). Except for a few postholes with shallow sides and rounded profiles (including 5, 16, 39, and 50), most had vertical walls and the greater majority were flat-bottomed. None of the post-packing holes had any central piercing through their base, which suggests that they had been dug out, and the posts set inside, without having been driven further into the pebble bed. There seems to have been a consistency in their size and shape, although it seems unlikely that they had all been dug at the same time (see below). Eighteen postholes were 190–330mm deep from the top of the pebble bed, 15 were between 100–180mm deep (14, 15, 16, 23, 25, 26, 27, 29, 31, 33, 43, 44, 46, 47 and 50), and six were shallower than 100mm (6, 34, 42A, 42B, 48 and 49). This suggests that, whatever remained of the possible prehistoric soil 52, much of its depth, as well as the upper parts of posthole fills, had been truncated or become homogeneously mixed with the darker loam layer 2.

The restricted area of the trench afforded no opportunity to discern patterns in the array of postholes. From several that intersected, however, the replacement of structures during the occupation of the site seems proven, although in most instances their fills were rendered identical by bioturbation, making their stratigraphical sequence impossible to establish. See part 8 for further discussion of this issue.

Other pits and hollows

Two pits were similar in that they were rectangular in plan, with sides of 900mm and 600mm, and had rounded corners (35 and 32). Both had near-vertical, *c*200mm high walls, and flat bases. The more southerly example, 32, was distinguished from the other in having a central rectangular post slot setting that was identified on the floor of the feature after the removal of the fill. A large posthole, 9, immediately abutted the short south-east side of feature 32, and its use may have been contemporary and complementary to its function. A smaller posthole, 39,

also appears to respect the edges of both 9 and 32 and may also have been contemporary although this seems less certain. The northerly square feature, 35, 8.5m distant, cut gully 41, and its fill, in turn, was cut by postholes 33 and 34.

Feature 12, in part below the western baulk and with much else destroyed by a post-medieval drain (3), had a rounded outline, gently sloping sides, and a U-shaped profile. It was the only feature within the trench with a clay lining (see fig 4.2). A shallow hollow, 51, of a little over a square metre in area, may have been associated with postholes 4 and 5, but it is uncertain whether these features were all contemporary. Posthole 5 is relatively shallow and may, alternatively, represent the deepest part of the hollow, the general base of which was only 200mm below that of the surface of the surrounding pebble bed. Its fill was of the same dark humic loam as layer 2.

Ditch 17

Running north-north-west to south-south-east through the east end of the trench was a linear feature up to 1m across and *c*300mm deep, and with a slight fall to the south-east along its base. It had a V-shaped profile, and a very dark humic loam with pebbles along its base (17B) was overlain by a thicker deposit of similar, but slightly less humic and less pebbly, loam (17A). Next to the south-east baulk the upper part of its northern side was much shallower than elsewhere along its exposed length. Close to the base but a little way up its western side was a small and shallow circular post or stakehole (17C).

Gully or beamslot 41

This lay roughly parallel with ditch 17, and was between 230 and 420mm distant from it. It was 320mm wide and 100mm deep, and more closely resembled a beamslot than a gully, in that it had fairly steep sides and an evenly flat base. Its southern end within the trench was cut by feature 35 and posthole 34.

4.2 TRENCH B (fig 4.3)

In deciding where to cut a section through the suspected ramparts, most parts of the hilltop plateau edge seemed compromised. There was the possibility of relatively recent landscaping in the south-west, the north side had been subject to land-slippages, the eastern crest was damaged by access paths and the Old Coach Road, and the Dingle quarry to the south had destroyed 90m of the circuit. Along the north-west crest of the hilltop, however, the suspected outer bank is more pronounced than further south, and this was where Trench B was cut.

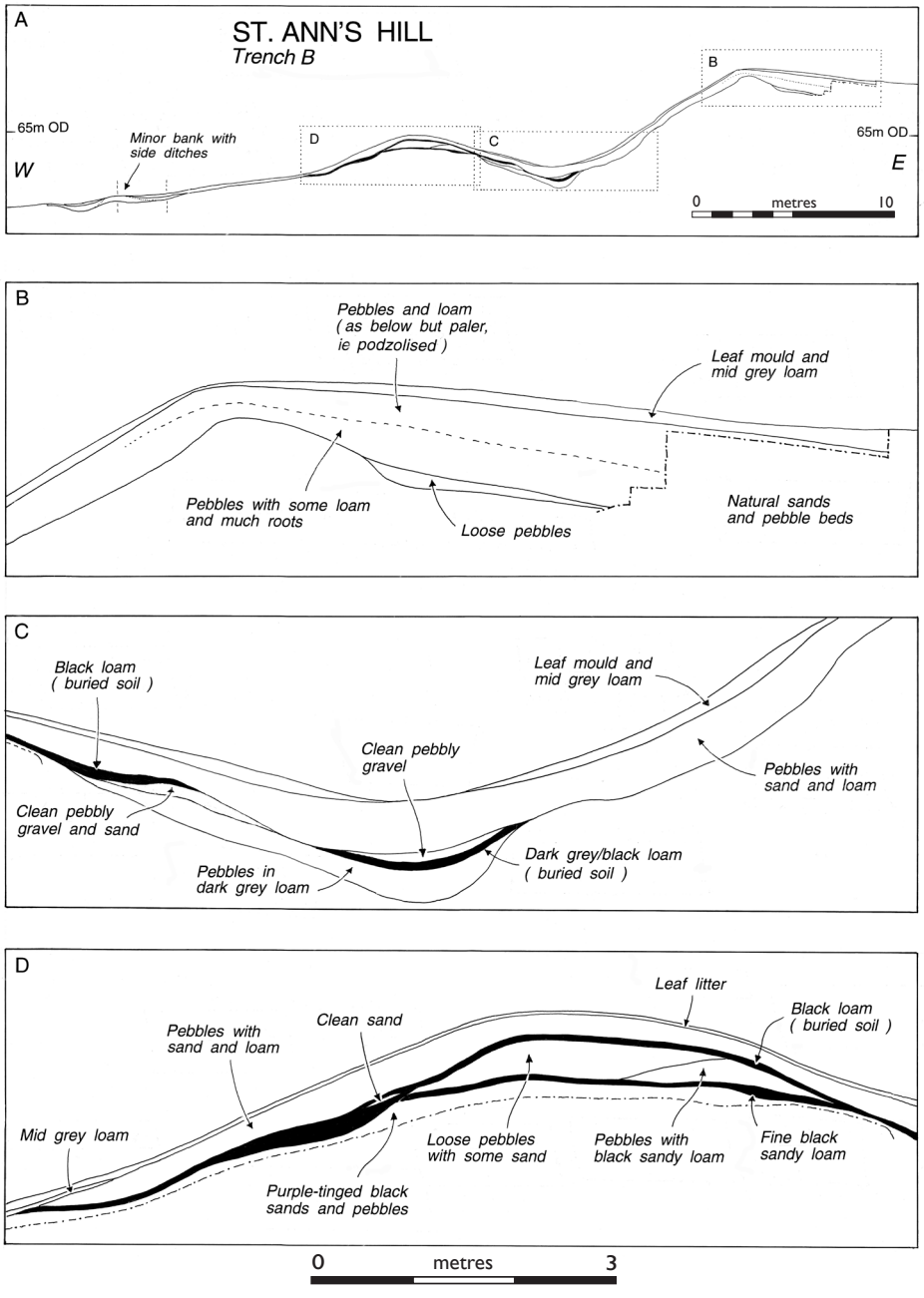


Fig 4.3 St Ann's Hill, Chertsey: section of Trench B through the western ramparts

A 1m wide trench nearly 40m long was opened up from *c*6m inside the hilltop, and extended east through the main ditch and bank, and on for a further 13m down the slope to include a lesser bank and ditch feature (fig 4.3A).

There is a depression on the otherwise plateau surface of the hilltop at this point (see fig 4.1), and the excavation towards the east end of the trench showed this to be a little over a metre or more in depth. Here, there was a primary fill of loose pebbles buried beneath a pebbly loam that became paler, and more podsolised, towards the surface. The depression is, almost certainly, not a natural feature, and its digging had respected the crest of the hilltop edge to leave it upstanding (see fig 4.3B).

The distance between the crest and the top of the main bank (fig 4.3D) is 18m with a fall of 3.5m in height. The 11m fall from the hilltop edge to the original base of the ditch is inclined at 30º, and the difference in height between the ditch base and the top of the main bank is 2.5m.

The main external bank (fig 4.3D) is strengthened with only 0.75m of deposits. A thin layer of purple/black sandy loam overlies the original sloping ground surface on its west side, and extends over the surface created by digging out the ditch on its east side. The primary deposit, on the inner lip of the ditch (fig 4.3C), was a black sandy loam with pebbles, and then a more substantial layer of loose rounded flint pebbles (derived from the Bracklesham Pebble Bed) was dumped along the spine of the bank. A buried soil, represented by a thin layer of black loam, was subsequently allowed to develop over the bank, but the section of the ditch suggests that it had begun to infill before the formation of the soil. It would be surprising if some early erosion of the ditch sides had not taken place, since much of it had been dug through deposits of loose pebbles or sand. Thus, *c*300mm of various lenses of pebbles, gravel and sand had accumulated along the ditch base before a soil began to stabilise its sides. Covering the black loam on the bank, and an interleaving of eroded pebbly gravel over the buried soil in the ditch, was a layer of sandy loam with many pebbles. This lay deepest, at 0.5m, within the ditch, but was only slightly less deep than this up the long slope to the crest of the hill, and over the main bank. It appeared homogeneous, although it may originally have been several deposits that became mixed by worm action. It seemed, essentially, to have been the same deposit as had filled the depression behind the crest of the hilltop, although podzolisation of its upper parts had not been a characteristic anywhere else. Leaf litter with a little loam covered the deposit.

Further down the hill a small bank and external ditch were examined through a double dogleg section of the trench that was made in avoidance of a tree (figs 4.1c and 4.3A). The *c*1m wide bank was comprised of a pebbly loam that overlay a buried soil layer represented by a thin layer of dark grey loam. The bank deposit was only 200mm high, and the fill within the ditch, which was comprised of very similar material, was only slightly deeper, at 300mm. Both the bank and the ditch infill were covered by a thin soil horizon and leaf litter. Neither is likely to have been contemporary with the main earthworks. From the trench area they run fairly straight, and 5m further to the north-north-west lead into, or were cut through by, the oval outline of a relatively modern sand pit. The ditch soon disappears south-south-east from the trench section, and, instead of a bank, there is only a slight change of slope (see fig 4.1).

No finds were recovered from any of the deposits exposed in the trench; not even a single calcined flint.

5 THE MAGNETOMETER SURVEY

Small scale survey work was conducted over small parts of the hilltop close to The Dingle quarry edge, but, the results were difficult to interpret owing to the partial coverage and the occurrence of modern disturbances. No possible archaeological features were noted.

6 THE FINDS

6.1 PREHISTORIC POTTERY (figs 4.4–4.6)

988 prehistoric sherds were recovered, including 130 collected from the quarry edge between 1987 and 1990, 465 from the topsoil and subsoil layers 1 and 2 of trench A and 393 from the buried features beneath them. The largest feature assemblage is of 140 sherds from ditch 17, but the next largest assemblages of postholes 9, 11 and 30, and shallow hollow 5, only contained between 20 and 30 sherds in each. The small size of the context assemblages has made it difficult to discern any changes there may have been in the use of wares and fabrics during the occupation, and this is compounded by the high probability of redeposition of earlier sherds in later context fills. Some of the identifiable forms of vessels, as well as some distinctive traits of

decoration and of form, however, provide a general date for the collection. These suggest a relatively short period of occupation during the Early Iron Age, but with some material that could be a little earlier and later.

The illustrated figures include all rim and base angles, and all other sherds that bear decorative or form elements (figs 4.4–4.6). Rim and body sherds from shouldered jars with finger impressions or slashes are shown on fig 4.4, almost all other rimsherds and most other decorated sherds are shown on fig 4.5, and rim and body sherds from the fine bowls and jars, as well as all other base angle sherds, are shown on fig 4.6.

In addition to the figure number in bold type, the context number is given above that of the fabric code on each illustration. Some illustrations also include reference to surface treatments in which B means burnished, int is internal, and ext is external. Some rimsherd profiles carry a number at their external edge which is the approximate diameter in cm.

Percentage proportions in the text are based on counts (C) and weights (W) in the order in which they are given.

Fabrics and ware types

All sherds were examined at x20 magnification in fresh breaks and separated into 12 fabric types according to their dominant tempering media and the quantities of any accessory inclusions. Such media include calcined flint, quartz sand, iron mineral inclusions and, less commonly, grog, fluvial shell and marine (fossil) shell. The fabric types could be bracketed into four groups predominantly tempered with one of calcined flint, sand, iron minerals or marine shell, and a further group with no significant inclusions, in accordance with the type series for the region summarised in the pottery report for Thorpe Lea Nurseries (chapter 5, part 6.2).

Between 17 and 20% (W&C) of the pottery from Trench A and the quarry exposure is of CALC fabrics, and the greater majority is of CALC 2 that contains sparse amounts of quartz sand. Its 147 sherds (1.2kg) represent *c*14/15% (W&C) of the whole assemblage. Fifty sherds of CALC 1 have no additional inclusions, and there are also two CALC variant sherds in white-firing fabrics. One is from the flaring rim of a fineware bowl and is tempered only with calcined flint (fig 4.5 no 75), and the other is a body sherd with flint and grog inclusions that has a red surface (from A35).

The SAND group accounts for 37–52% (W&C) of the assemblage, and four fabric types are represented. The most common is SAND 2, with 247 sherds (1.4kg) that have additional sparse to moderate amounts of calcined flint, and there are also 184 sherds (1.4kg) of SAND 11, with almost as much calcined flint and iron inclusions as quartz sand. Much less common are sherds of SAND 1, with no additional inclusions, and SAND 12, with moderate amounts of calcined flint and iron minerals and sparse inclusions of fluvial shell.

Most of the IRON group is represented by the 223 sherds (3.9kg) of IRON 2, with sparse quantities of calcined flint and which accounts for between 23 and 42% (C&W) of the whole assemblage. There are also 18 sherds of IRON 3, with sparse to moderate amounts of quartz sand. It is possible that the iron inclusions of some, and perhaps many, vessels of the IRON group may have been inherent within the clay, rather than having been added as an artificial temper.

It should be noted how most of the fabric mixes summarised above are closely similar; indeed the proportions of all sherds containing at least some flint amount to 90–94% (C&W) of the complete assemblage, whereas those that include quartz sand represent 53–69% (W&C) and iron minerals are present in 47–62% (C&W) of the collection.

All but one of the 21 predominantly shell-tempered sherds (0.1kg) are of SHELL 1, with no additional inclusions, and the exception, a body sherd of SHELL 2, contains some additional iron inclusions or grog.

There are also 11 sherds of FINE, which have no deliberately added temper or inherent inclusions.

The quantification of the above fabrics by count and weight within each context is provided on tables 4.1 and 4.2.

Vessel forms

There are rimsherds from up to 30 vessels from trench A, as well as 14 base angles and very many decorated pieces, but because of the small size of most sherds and the uncertain orientation of most rims, only the general vessel class can usually be identified.

SHOULDERED JARS

These represent the dominant vessel type within the collection, with a variety of sizes represented. Most have rounded or more pronounced shoulders and upright or slightly everted rims, and they are often finger-impressed or slashed on the rim and/or shoulder (fig 4.5 nos 31-6). The majority are in fabrics predominantly tempered with calcined flint, or else in combination with iron or sand. The few exceptions are tempered with sand and iron (fig 4.4 no 8), or else have fabrics of mixed tempers that include significant quantities of fluvial shell (fig 4.4 nos 2, 6, 17, 19 and 29). Most have surfaces left rough or else crudely wiped, but some rimsherds are from finer examples with smoothed or burnished surfaces (fig 4.5 nos 30, 41 and 42). Decorative devices range from small fingernail impressions (fig 4.4 nos 4, 21 and 22), and small finger impressions (fig 4.4 nos 3 and 7) through to larger impressed rows (fig 4.4 nos 8 and 9), and impressed rows of ovals (fig 4.4 nos 17 and 26). One of the shoulder sherds has two large finger impressions that squeezed up the clay in between (fig 4.4 no 28), two sherds have multiple rows of impressions, presumably on the shoulder (fig 4.4 nos 23 and 24), and several sherds have slashed rows (eg fig 4.4 nos 25 and 36). On one neck sherd is a raised (not applied) cordon that is finger-impressed (fig 4.4 no 29).

These jars are typical of post Deverel-Rimbury assemblages in the middle and lower Thames valley, and were current from the end of the 2nd millennium BC down to the 6th or 5th century BC, with an increase in decorated types after the 8th century BC. They are usually separated into coarseware Class 1 types and finer Class II types (Barrett 1980, 303–8). Over 50% of the Class 1 rimsherds from trench A are decorated, as are most shoulder sherds from such vessels. This relatively high proportion compares reasonably well with the assemblage of decorated post Deverel-Rimbury ceramics from Petters Sports Field, 5km to the north of St Ann's Hill, which was regarded as being of 8th century date on stylistic grounds and by reason of its association with a Carp's Tongue hoard (O'Connell 1986, 71–2). A re-examination of the same material has distinguished a Late Bronze Age assemblage of 9–8th century date, from those that could date to as late as the Early Iron Age or later (Needham 1990, 129).

Almost all of the varieties of fingernail and fingertip impressions, and slashing on the rims and shoulders of the Class 1 jars from St Ann's Hill, are readily matched with examples from Petters and the 'early land surface' and associated features of the (original) Brooklands site (Hanworth and Tomalin 1977). There may be a significant difference between the collections from Petters and St Ann's Hill, and, perhaps also, between those of Petters and the early contexts of Brooklands, however, in that there seems to be a greater variety of fabric types represented in the assemblages of Brooklands and St Ann's Hill. The Petters assemblage is almost all of flint-tempered pottery that contains more quartz sand, and, quite often, more grog, than the slightly earlier site of Runnymede Bridge (O'Connell 1986, 62), whereas at St Ann's Hill there are Class I jars that are predominantly tempered with quartz sand or grog, and others with mixed tempers that include fluvial shell, in addition to the majority that have flint as their main gritting agent. The Class I jars from the early deposits of Brooklands also appear to be more diversely tempered than those of Petters Sports Field.

All other jars represented in the collection may be of Iron Age types. One example is represented by a thickened rim sherd which is burnished inside and out (fig 4.5 no 44). The form of the vessel may have been globular.

Another vessel might also be an Iron Age type, but only if it was a jar and of globular form, and that remains uncertain (fig 4.5 no 56). The body wall of the sherd extends as far as to suggest that the vessel could have been globular, but it might be argued there is room yet for a carinated or rounded shoulder that would make it a Class I jar or a Class IV bowl. It is highly burnished inside and out, and has three incised grooves around the neck, and another four in a diagonal band below them. Most later decorated jars from the region, such as the globular form, are usually tooled, ie the decoration is of shallow burnished lines rather than the incisions of Late Bronze Age and Early Iron Age finewares. Close parallels for the vessel are few, but there is a Class II jar from Theale, further west in the Thames valley that also has horizontal grooves at the base of a long everted rim, and a diagonal series of incised lines on the shoulder (Barrett 1980, fig 6 no 8), and a jar with the

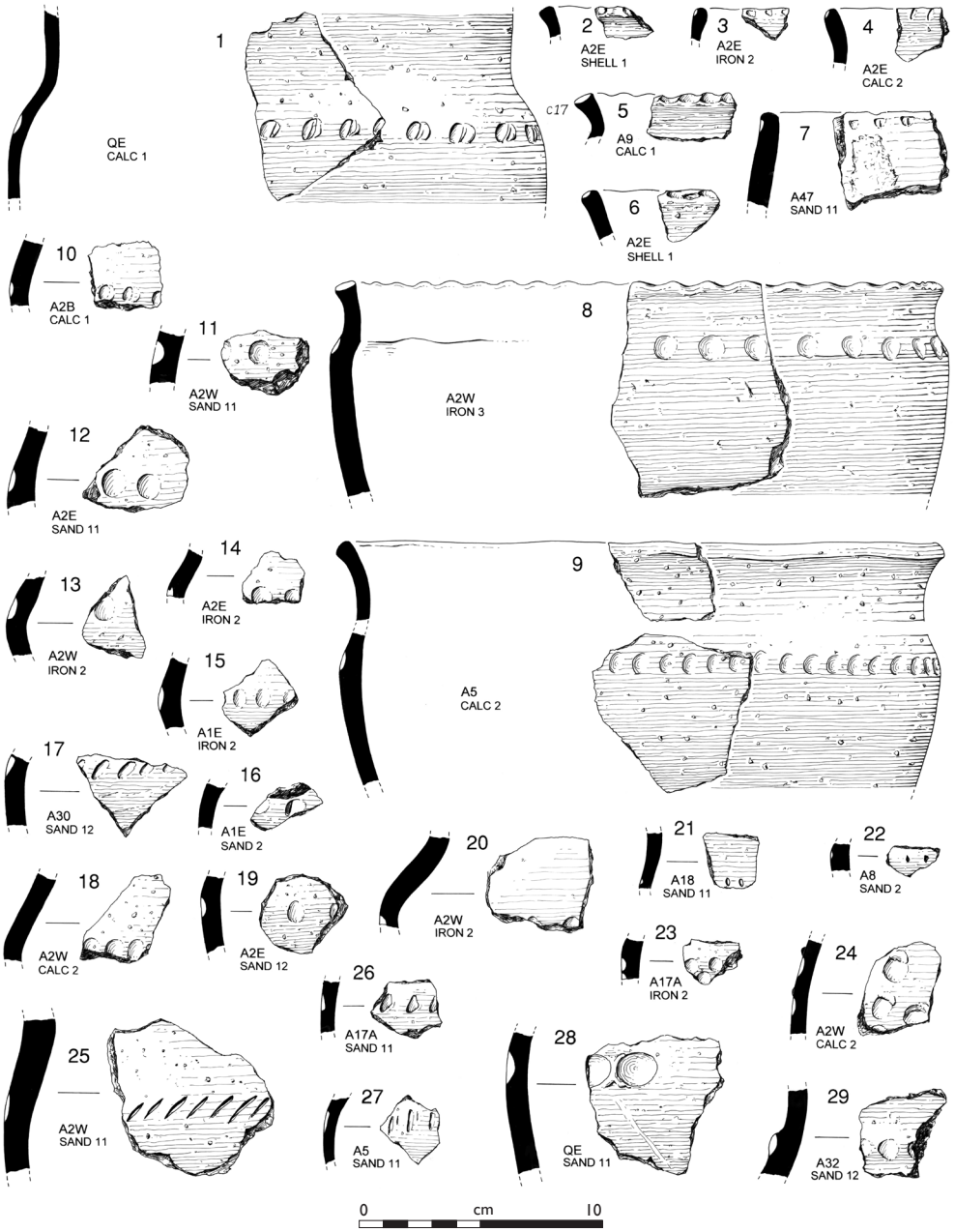


Fig 4.4 St Ann's Hill, Chertsey: Late Bronze Age and Early Iron Age pottery

same characteristics from Knights Farm, Burghfield (Barrett & Bradley 1980, fig 36 no 80), both from 'decorated' assemblages. There is similar decoration on a sherd from St Ann's Hill from which the burnish has eroded, unless this relatively small vessel never had any (fig 4.5 no 57). The orientation of the sherd need not be as shown, and the groups of incised lines might, instead, have been set diagonally on the body as chevrons. Although the vessel may have been a globular jar it could have been an earlier bowl, especially since the decoration is incised rather than burnished, and the sherd is orange buff instead of the drab grey and brown colours of the later jars.

Some of the fragmentary rimsherds with smoothed and burnished surfaces (fig 4.5 nos 46–53) could also be from later globular jars but many may be from Barrett's finer Class II jars. Carinated shoulder sherds of, at least, some of these are illustrated (fig 4.6 nos 76–85), although it is often difficult to distinguish those that are from Class IV bowls because of the uncertainties of orientation of most sherds.

BOWLS

The collection includes several sherds from bowls, although it is difficult to be certain how many. A body sherd from one distinctive bowl displays a profile for which few close parallels have been found, although it belongs to a general class that is typical of post Deverel-Rimbury assemblages. It has a long concave neck above a pronounced rounding of the shoulder, and it is black-burnished inside and out (fig 4.6 no 72). In the angle at the base of the neck is a series of short, slightly diagonal, incisions. The closest similarity is with a vessel from the Thames at Mortlake, which Bishop (1971, fig 6 no 45) published as one of his Form 8 tripartite bowls, and which has a continuous incised groove above its abruptly rounded shoulder. Both the Mortlake vessel, and another such bowl from the Thames at Wandsworth that has a slacker profile (ibid, fig 6 no 44), have pedestal feet, as has a similar bowl from Wisley with a more angular tripartite profile (ibid, fig 6 no 42). There is much variety in the shape of these tripartite bowls, which is well illustrated by three more complete profiles from Wisley (Lowther 1945, fig 1.1 nos 8, 9 and 14) and examples from Hawk's Hill (Cunliffe 1965, fig 12 nos 1–3, 9-10 and fig 14, nos 13 and 14). The use of pedestal bases was a late development in the series of such bowls in the middle and lower reaches of the Thames valley (Barrett 1980, 309), as it might also have been at Chinnor where they are well represented on similar bowls, and elsewhere in the upper Thames region (Harding 1972, pls 56 and 57).

Rimsherds of these tripartite bowls at St Ann's Hill vary from being upright, or almost upright (eg fig 4.5 nos 52 and 53) to strongly everted (fig 4.6 nos 73 and 75). One of the latter is unusual in having an off-white fabric

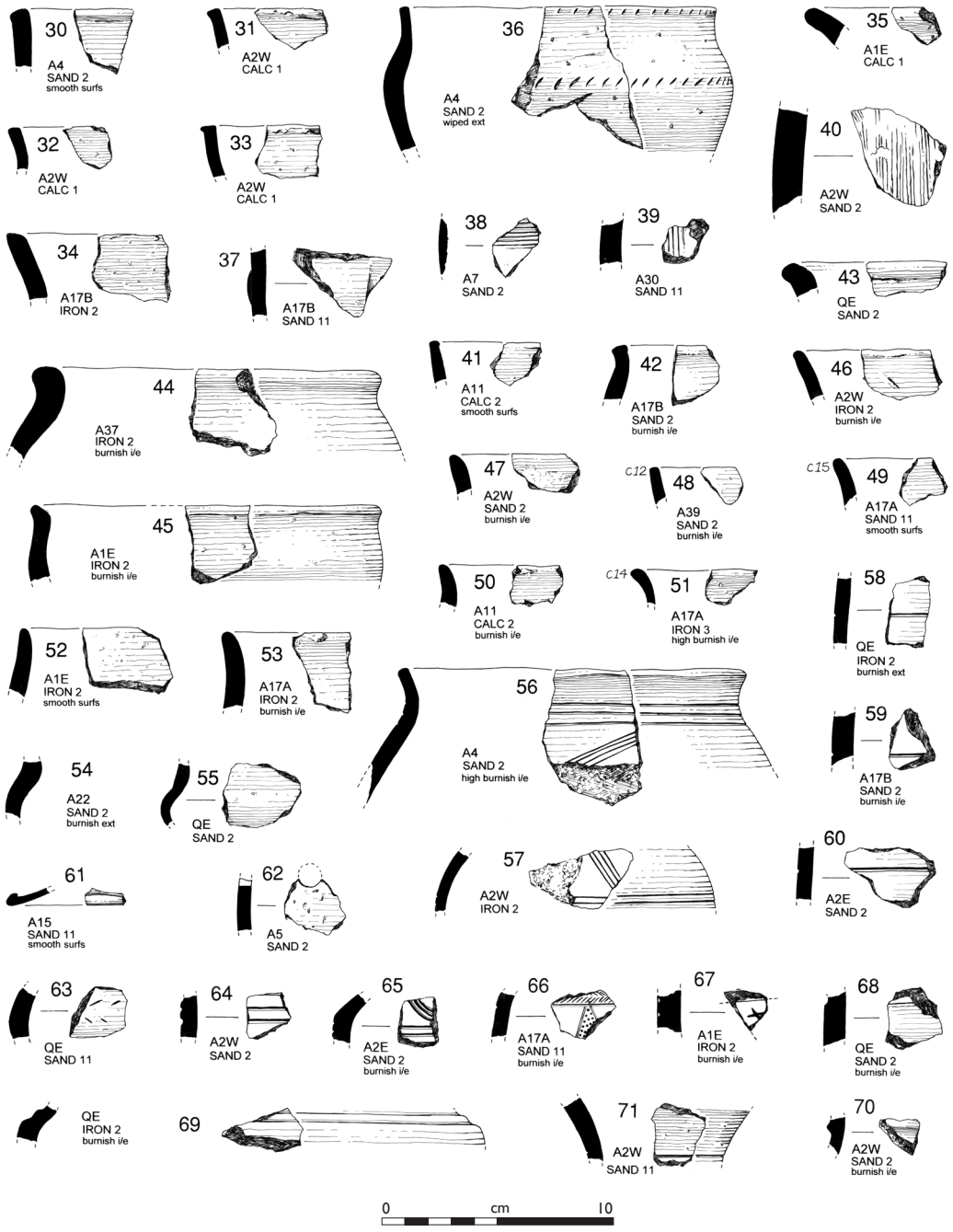


Fig 4.5 St Ann's Hill, Chertsey: Late Bronze Age and Early Iron Age pottery: jars, bowls and decorated sherds. Scale 1:3

with mid grey external, and dark grey internal, surfaces, and a shallow groove running round the inside of the rim (fig 4.6 no 75). The bowl is tempered with fine flint grits and is highly burnished inside and out.

Other sherds from these or similar bowls include one with a groove above the carination (fig 4.6 no 74), like others from the 'early land surface' at Brooklands (Hanworth and Tomalin 1977, fig 16 no 71 and possibly fig 17 no 96), Sandown Park (Burchell & Frere 1947, fig 16 nos 15 and 16 and fig 18 no 32), Petters Sports Field (O'Connell 1986, fig 56 no 259) and Knights Farm, Burghfield (Bradley et al 1980, fig 36 no 76). In addition there is a sherd with at least three incised grooves below the carination, and part of a swag of three others on the shoulder (fig 4.5 no 65); and yet another with three deeply incised linear grooves (fig 4.5 no 64). All three of these bowl sherds are burnished or smoothed inside and out, as are three others that bear parts of single incised lines (fig 4.5 nos 58–60).

Two strongly carinated sherds also bear incised grooves; two in one instance (fig 4.6 no 100), and a single line on the other (fig 4.6 no 99). They are illustrated as base angles and were originally suspected of being from saucepan pots since such grooving has been thought to be characteristic of the local type of that vessel form (Hanworth and Tomalin 1977, 41 and fig 17 nos 107 and 109). Although some base angle sherds with grooves may have belonged to such vessels, as they certainly did at Danebury (Cunliffe 1984), not all need have been. Two from Hawk's Hill could have been (Cunliffe 1962, fig 10 nos 24 and 25), but the body wall of another base angle sherd with a groove might be too everted to have belonged to a saucepan pot (ibid, fig 11 no 39). The two sherds from St Ann's Hill are small, however, and need not necessarily have been from base angles. It has been suggested that they might, instead, have come from shouldered bowls with grooves set above the carination like those of the Darmsden-Linton group (Cunliffe 1991). Similar bowls are also common fineware types in the Thames valley, but rarely have the distinctive horizontal grooved decoration (Brown 1988, 272).

One of the more interesting and chronologically diagnostic sherds from the site may also be from a bowl, in which case it is probably shown upside down (fig 4.5, no 66). The sherd has a horizontal incised line below (or above) a round shoulder decorated with opposing rows of small incisions in

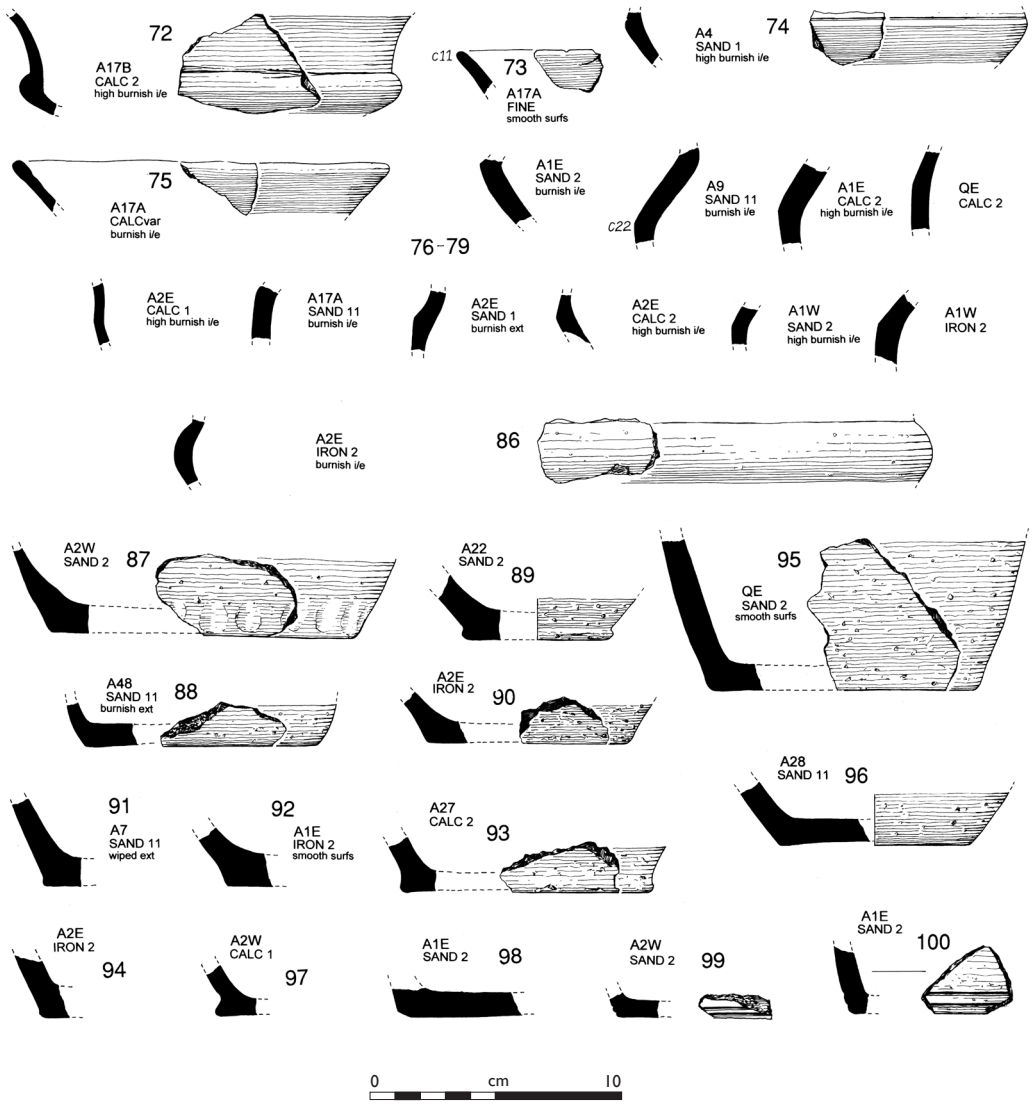


Fig 4.6 St Ann's Hill, Chertsey: Late Bronze Age and Early Iron Age pottery: Fineware bowls and jars; and base angles. Scale 1:3

herringbone fashion. Below (or above) the incised line is a triangular panel defined by other incised lines, which is filled with neatly pierced pin punctures. Some of these still contain traces of a white slip. The sherd is tempered with fine sand, some flint and a little iron, and is burnished inside and out. Many vessels with similar decoration have been found in Late Bronze Age assemblages; most often on Barrett's Class IV bowls, but sometimes on Class II jars as well. Locally, incised triangles enclosing pin punctures have been found on vessels from the 'early land surface' at Brooklands (Hanworth and Tomalin 1977, fig 16 nos 59 and 60), Purberry Shot, Ewell (Lowther 1946/7, fig 14 F14), Wisley (Lowther 1945, fig 2 no 16), and possibly Hawk's Hill, though perhaps not in triangles (Cunliffe 1965, 38 and fig 10 no 21), but their rarity has been noted within Surrey (Bishop 1971, 12). A sherd from Petters Sports Field has such a panel in addition to another device of 'All Cannings Style' (O'Connell 1986, fig 54 no 243; Needham 1990, 129). In the upper Thames region such *pointillé* decoration within incised triangles may be more common and examples in Late Bronze Age and transitional assemblages are known from, amongst others, Knights Farm Burghfield (Bradley et al 1980, fig 35 nos 40, 43 and 45), Rams Hill (Bradley and Ellison 1975, fig 3 no 6), and Chinnor, where several tripartite bowls with such motifs have been found (Harding 1972, pl 56). None of the above examples, however, are associated with herringbone incisions like that of the St Ann's Hill sherd.

Other decorated fragments from the site include a sherd with a deeply incised cross between two longer incised lines (fig 4.5 no 67), a shoulder sherd with two opposed rows of shallow diagonal incisions (fig 4.5 no 63), some rougher sherds, probably from jars, that are combed (fig 4.5 nos 38–40), and a shoulder sherd with a corrugated surface (fig 4.5 no 69). It is possible that the last sherd, which is burnished inside and out, may be related to a series of jars and bowls from Late Bronze Age assemblages that have similar rippling or cordoning of the upper body (Barrett 1980, fig 5 no 11 and fig 6 nos 13–14 and 16), but it may be from a later Iron Age vessel with Aylesford-Swarling affinities. A rimsherd with similar rippling was found at Hawk's Hill (Cunliffe 1962, fig 12 no 26).

OTHER VESSEL FORMS

No cups could be positively identified in the collection, but it is possible that one of the rimsherds is from a lid, despite there being some uncertainty in its orientation (fig 4.5, no 61). It has smoothed surfaces and is sparsely gritted with flint and some sand. No other vessel forms could be identified.

Summary

The assemblage is largely of jars and bowls of the secondary 'decorated' phase of post Deverel-Rimbury pottery. There seem to be some Iron Age jar types present however, although not many, and a greater variety of fabric types than at the nearby sites of Runnymede and Petters. The greater part of the collection is possibly later than that of Petters and more securely of Iron Age date.

6.2 OTHER FINDS

Struck flints

Of 149 struck flints recovered from trench 1, 24 were prepared from the rounded Eocene pebbles that outcrop on the hilltop, including three flake scrapers and three or four other flakes with some retouch. Only three of the crudely chipped pebble flints were recovered from buried features, A30 and A40.

All the rest were made from Pleistocene gravel pebbles or from nodules derived from the chalk outcrops. They are listed in table 3. Amongst the retouched blades is one with steep backing retouch that might have served as a knife (fig 4.7 no 1). Three microliths were found, including two geometric rods (one lost, and fig 4.7 no 3), and a rather large, obliquely blunted point (fig 4.7 no 2). One of the four single platform cores was clearly used to produce blades and is also likely to be of Mesolithic date.

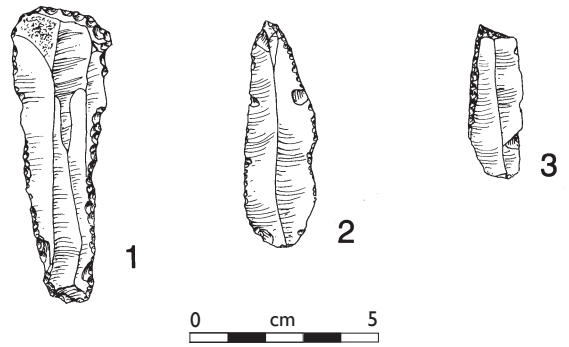


Fig 4.7 St Ann's Hill, Chertsey: worked flints. Scale 1:1

Calcined flints

These were frequent finds in the topsoil and subsoil of the excavation, and, where they could be recognised, were of the pebbles that outcrop at the top of the hill. Other pieces were recovered from the buried features of A8 (one), 9 (two), 10 (one), 11 (six), 12 (one), 17A (one), 17B (one), 18 (three), 24 (one), 29 (one), 30 (13), 32 (16), 35 (six), 36 (two), 37 (three), 38 (seven) and 39 (15).

Other stone

Stone fragments include irregular lumps of quartzose, ferruginous and more fine grained 'sarsen' sandstones derived from the local Eocene deposits, and pieces of Lower Greensand chert that probably derive from the Pleistocene Gravel of the superficial plateau layer. A fragment of such chert from the fill of posthole 30, however, has a ground surface and was probably part of a saddle quern. The greatest number of stone fragments was recovered from posthole 11 which contained three large and six small pieces of quartzose sandstone (668g), which had probably served as post-packing

Baked clay

58 fragments (1001g) were recovered from the topsoil and subsoil layers of A1 and A2, and two bear the impressions of wattles. Single fragments were recovered from features 8, 9, 17c and 30; features 11 and 35 contained two pieces each; and four were recovered from ditch fill 17A. None display evidence that they are from loomweights, although some may be.

Iron

The only iron object from a feature is from the square pit 32, and is either a nail or a stud. Two other nails were recovered from subsoil layer A2.

Iron slag

A small fragment (39g) was recovered from feature 4, and three other pieces (223g) are from subsoil layer A2.

Charcoal

The only sample was a single fragment weighing 3g from posthole 9.

Post-medieval debris from A1 and A2

This includes 30 pieces of roof tile (935g), two fragments of floor tile with chamfered edges and glazed brown, five fragments (547g) of crude handmade bricks, probably of early post-medieval date, two pieces of green bottle glass, and two bowls and nine stem segments from tobacco pipes of early 19th century form where identifiable. In addition, the iron nails and slag mentioned above may also have been introduced to the site in the 18th or early 19th century.

7 SOME EARLIER FINDS FROM THE HILL

Except for some medieval and later material excavated in 1964 from close to St Ann's Chapel (*SyAS Bull*, **9**, 1965), the only other archaeological objects from the hill are stray finds, mostly of metal.

An Iron Age rimsherd from a small neckless jar is said to have been from St Ann's Pit (Bishop 1971, fig 4 no 24), but no further details are known of its provenance. It seems most likely to have been recovered from St Ann's Hill, and the pit was probably The Dingle.

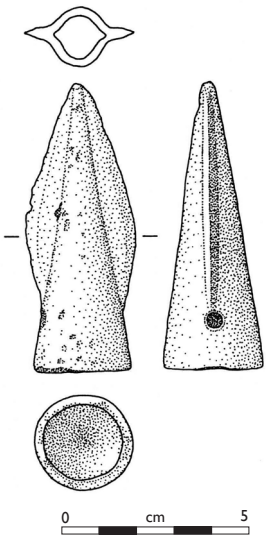


Fig 4.8 St Ann's Hill, Chertsey: Late Bronze Age socketed pegged spearhead. Scale 1:2

Two items of Bronze Age metalwork are known to have been recovered from the hill. One is a Late Bronze Age socketed pegged spearhead found with a metal detector in 1977 less than 40m south-west of trench A (the position is marked on fig 4.1). Stuart Needham was able to draw the spearhead (fig 4.8) before the finder withdrew it from Chertsey Museum and later claimed to have thrown it away.

The other is an Early Bronze Age Arreton flanged axe-head found in the last century, but not on the hilltop. Its discovery was reported in 1871 as a 'bronze celt' found not long before 'in the stump of an aged tree on the flank of that elevated stronghold' (*Arch J*, **28**, 1871, 242), and an earlier sentence in the note makes it clear that this was St Ann's Hill, and that it was then in the possession of the Rev H L Bennett, Vicar of Thorpe. Almost certainly the same axe-head was published 38 years later, but described then as having been found in a gravel pit in Thorpe (Turner 1909). Needham first realised the significance of the fact that Turner was shown the axe by the grandson of the Rev H L Bennett (pers comm). Turner's drawing of the 'Thorpe' axe is identical to one depicted in a 19th century watercolour sketch, probably by Mainwaring Shurlock, which bears the pencilled annotation 'Bronze celt found in the little gravel pit, under St Anne's Hill 1870' (fig 4.9; SyAS Research Material PD1/14/12). Both illustrations even show the same minor nick in the cutting edge, and there can be no doubt that they are of the same object. Its present whereabouts is unknown.

Two more metal objects may have been found on the hilltop. One is a 2nd century Roman trumpet brooch said by a metal detectorist to have been found on the edge of the hilltop plateau a little to the north from where the spearhead was recovered (Chertsey Museum Acc No D879). The finder of that spearhead, who had, as mentioned above, 'thrown it away', also said that a 'gold bracelet' with twisted wire terminals had also been found. If true, it might have been a well known type of later Roman bracelet, but it is less likely to have been of gold.

8 DISCUSSION

At the same time as the ground survey was beginning to confirm that the earthworks round the hilltop were ramparts (McOmish and Field 1994), the excavation of trench A was providing evidence that at least one area within the interior had been occupied during the Early Iron Age. Trench B failed to provide dating evidence for the earthworks, but it remains probable that they are of rampart defences constructed during the 1st millennium BC.

The microliths, however, provide evidence for human usage long before that, and St Ann's Hill joins Sandown Park (Burchell and Frere 1947, 33), Richmond Park and Wimbledon Common (Ellaby 1987, 57) as another site on high ground overlooking the Thames valley with evidence of Mesolithic activities.

Although much of the flint debitage may also be of Mesolithic date, some may be later. The Early Bronze Age Arreton axe from the flank of the hill supports the possibility of occupation during the 2nd millennium BC, and some of the coarser, calcined flint-gritted sherds may well pre-date the Early Iron Age activities. Nevertheless, all features contained sherds more likely to be from vessels of the later period of occupation, indicating an absence of any that could have been earlier.

Unfortunately, it was not possible to distinguish the sequence of features in trench A on the basis of the pottery or stratigraphic relationships, and no feature contained enough sherds with which to be able to date its fill with any degree of reliability. Since, however, many postholes inter-cut with others, more than one phase of building is likely to have been involved, with the probability that this caused the redeposition of sherds into later features. In every instance of inter-cutting, however, worm action has since mixed the fills so that it was not possible to detect the stratigraphic succession.

Fig 4.9 St Ann's Hill, Chertsey: an 1870 watercolour of an Early Bronze Age Arreton flanged axehead (reproduced by courtesy of Surrey Archaeological Society, Research Material PD1/14/12)

Most features of trench A were probably postholes, perhaps also including the rectangular features 32 and 35. Pit 12 was lined with clay, however, and was probably dug to hold liquids or grain.

Ditch 17 and its adjacent gully 41 on the same alignment, may have separated different zones of activity in this area of the hilltop, and the latter feature, unless it had been a beam slot, was superseded by later postholes. There is a possibility, however, that these features were of much more recent date, as a modern drain through the trench, context 3, is on the same alignment, as also the eastern fence of the enclosure surrounding the reservoir and Reservoir Cottage. The fence line has been maintained since at least as early as the late 19th century when the first edition of the OS shows the same demarcation of wooded land to the east and a clearance to the west.

The stratigraphy of the main bank of trench B is convincing as a rampart. Although relatively slight, at less than one metre high, the bank is more substantial, and its accompanying ditch deeper, than some of the excavated sections through the defences of the nearest hill fort to St Ann's, that of St George's Hill, 8km to the south-east (Poulton & O'Connell 1984), which is composed of similar sands and pebble beds. The ditch can never have held standing water on account of the porosity of the geology, and instead of muds and silts, the primary fill is of pebbles eroded from the slopes and mixed with loam. This was followed by the development of a thin soil that was subsequently buried by more eroded material (see fig 4.3C).

Just as St George's Hill commands the confluence of the River Wey with the Thames, St Ann's Hill overlooks the broad floodplain in which various braided streams of the River Colne from the north, and the Bourne Stream from the west, meet with the Thames. It is this same floodplain which provided the economic basis for the establishment of the Late Bronze Age/Early Iron Age settlement and trading complex at Petters/Runnymede, and its abandonment could imply that a new central place had been found within the district. Notwithstanding the possibility that there might, instead, have been a fragmentation into several local centres, the fieldwork at St Ann's Hill provides grounds for supposing that it may have replaced the riverside complex of Petters/Runnymede as the major settlement of the district at an early stage of the Iron Age.

9 POSTSCRIPT ON THE LATER USES OF THE HILLTOP

The use of the hilltop after its occupation in the Iron Age is unclear, but the deep accumulation of soil over the features of trench A is relatively humus-rich in its lower levels, which could imply the regeneration of woodland rather than a reversion to heath. This may have occurred during a later state of the Iron Age or in post-Roman times, since some Roman sherds, at least one coin, and a brooch are recorded as having been found on the hilltop.

The hill upon which St Ann's chapel was built in the 14th century was called *Eldebury*, which implies the presence and understanding of the purpose of visible earthworks and that they were regarded as old (Gover et al 1934, 111). There may also have been an alternative name in Ruxbury, the name of the tithing of Chertsey in which St Ann's Hill stands and which has been the name of the farm 400m to the south-west on the lower slopes of the hill since as early as the 18th century.

Rokesbir is first mentioned in 1203 and the prefix is thought to be a personal name, *Hroc*, or else the bird rook (ibid, 111).

St Ann's Chapel was dedicated in 1334 but was still unfinished in the following year when the Bishop of Winchester granted a further 40 days for its completion (Manning & Bray 1814, 226). Its few standing remains lie towards the north end of the hilltop plateau at its highest point, but it is not known for what purpose the rest of the old enclosure had been used for during the medieval period, except that the Abbot of Chertsey held a fair there annually from 1440 (Gough 1806, 247). It seems most likely, therefore, that the hilltop had been kept clear of trees or undergrowth. Some parts of the hilltop, however, were allowed to revert to heathland, since the upper 100mm of the topsoil loams of trench A are podsolised. Whether this had occurred during the medieval period or later is uncertain.

By the early 18th century St Ann's Hill was of esteem, not just for its fine views and the remains of the chapel, but for a medicinal spring in Monks Grove (Aubrey 1718, 185). There can have been no natural spring within the defensive earthworks of the hilltop since the springs that were used lay outside at Monks Well to the south-east, and at Nuns Well in the north-west (see fig 4.1). The latter is set within an ornamental brickwork structure, as also seems likely for Monks Well since some, mostly buried, stone and brickwork has recently been located by the author. Both may have been constructed at the behest of Lady Holland who lived at St Ann's Court immediately south of the hilltop during the 19th century. She is also reputed to have undertaken landscaping work and to have planted trees and shrubs there, and by the last quarter of the century the hilltop was described as 'all is wild beauty, gorse, ferns, relieved by clumps of rhododendron' (Tucker 1879). Some of the extant conifers and large areas of rhododendron had probably been planted at that time. The full extent of her landscaping activities is not known, but it seems likely to have ended the digging for sand, clay and pebbles on the hilltop in the many small pits as well as in the large quarry, The Dingle, which had destroyed nearly 6000m^2 of its southern part during the 18th and early 19th centuries.

More recently further large scale disturbance occurred when the West Surrey Water company built a reservoir of 3000m^2 towards the northern end of the hilltop in 1927. Although this is a raised structure, permission for spoil from the earthmoving of its construction to be dumped into The Dingle was granted. Any buried archaeological features that may have been present, therefore, were probably destroyed.

Since then there has only been one further episode of major damage this century, and that occurred on the night of the great storm of 1987 which uprooted very many of the trees on the western slopes of the hill and on its top. It was in the roots of one of these trees by the quarry edge that the author saw the first of the collection of prehistoric sherds from the site.

10 APPENDIX:

CATALOGUE OF CONTEXTS

1	Layer	Topsoil and upper subsoil loams. Mid to pale grey, sandy, some rounded pebbles.
2	Layer	Lower subsoil loam, as above but darker, more humic.
3	Drain	550mm across, 450mm deep. Vertical sides, flat based.
4	Posthole or depression	Roughly circular; 600mm across; 350mm deep. Flat-bottomed. base at 61.57m OD.
5	Depression	Roughly circular; 500mm across, 50mm deep, rounded profile. base at 61.88m OD.
6	Posthole	Circular steep-sided; 400mm across, 240mm deep, flat-bottomed. Base at 61.64m OD.
7	Posthole	Slightly oval steep-sided, 400 x 450mm across, 200mm deep, flat-bottomed. Base at 61.70m OD. Cut by 40
8	Posthole	Circular, 320mm across, 190mm deep, flat-bottomed. Base at 61.71m OD. Cuts or cut by 37.
9	Posthole	Circular, 460mm across, 200mm deep, flat-bottomed. Base at 61.69m OD. Abuts 32 and 39, and may be contemporary.
10	Posthole	Circular 320mm across, 200mm deep, flat-bottomed, steep sides. Base at 61.70m OD.
11	Posthole	Circular 430mm across, 250mm deep, flat-bottomed, steep sides. Base at 61.62m OD. Abuts or cut by 46, 48, 49.
12	Pit or posthole	?Circular, 220mm deep flat-bottomed, steep sides. Base at 61.77m OD. Cut by 3. Part remains in west baulk.
13	Posthole	Circular, 390mm across, 250mm deep, rounded profile, steep sides. Base at 61.64m OD
14	Posthole	Circular or oval, 300mm across, 160mm deep, flat-bottomed, steep sides. Base at 61.74m OD, cuts or cut by 42.
15	Posthole	Circular 290mm across, 150mm deep, flat-bottomed, steep sides. Base at 61.73m OD, cuts or cut by 22.
16	Posthole	Circular or oval, 340mm across, 130mm deep, rounded profile. Base at 61.73m OD. Part remains in east baulk.
17	Ditch	Between 880 and 1000mm across, 320mm deep by W baulk, 61.70m OD, 360mm deep by E baulk (61.66m OD). V profile. Upper fill A, and lower fill B of darker, more humic soils.
17C	Posthole	On southern slope of ditch 17. Circular 100mm across, 60mm deep. Below 17B.
18	Posthole	Circular, 300mm across, 210mm deep, steep sides, flat bottom. Base at 61.69m OD.
19	Posthole	Circular, 280mm across, 230mm deep, steep sides, flat bottom. Base at 61.65m OD.
20	Posthole	Circular, 300mm across, 200mm deep, rounded profile. Base at 61.68m OD. Cut by 3
21	? Posthole	Circular or oval, 250mm deep, rounded profile. Base at 61.62m OD. Cut by 3.
22	Depression or shallow feature	Oval. 580x720mm, and 120mm deep. Flat based. Base at 61.77mOD. Cuts or cut by 15 and 23.
23	Posthole	Oval 440x340mm, and 160mm deep. Flat based. Base at 61.73m OD. Cuts or cut by 22.
24	Posthole	Circular, 350mm across, 200mm deep. Steep-sided on N side, shallower on S. Base at 61.69m OD. Part remains in W baulk.

25	Posthole	Circular, 260mm across, 170mm deep. Steep-sided, flat-bottomed. Base at 61.70mOD.
26	Posthole	Circular 300mm across, 100mm deep. Steep-sided, flat-bottomed. Base at 61.77m OD.
27	Posthole	Circular, 310mm across, 14 0mm deep. Steep-sided, flat-bottomed. Base at 61.73m OD.
28	Posthole	Oval, 560x420mm, and 300mm deep. Steep-sided, flat-bottomed. Base at 61.58m OD. Cuts or cut by 29, 45, 44.
29	Post or Stakehole	Circular, 110mm across, 130mm deep. Vertical sides but shallow depression at the top. Base at 61.76m OD.
30	Posthole	Oval upper profile 500x660mm, circular lower profile 380mm across, 330mm deep. Vertical sides on E, shallower on W. Flat based. Base at 61.47m OD.
31	Posthole	Slightly oval, 260x300mm, 150mm deep. Steep sides, flat base. Base at 61.72m OD.
32	Square feature	900x660mm with rounded corners. Steep sides, flat base at 61.58m OD. 200mm deep. See 32A
32A	Posthole	Rectangular with rounded corners, vertical sides. 100x220mm, 50mm deep from base of 32 where placed centrally. Base at 61.53m OD.
33	Posthole	Circular, 260mm across, 130mm deep. Steep sides, rounded profile. Base at 61.74m OD. Cuts fill of 35. Part remains in E baulk.
34	Posthole	Circular, 350mm across, 100mm across, 80mm deep. Steep sides, flat base. Base at 61.77m OD. Cuts 41 and 35.
35	Square	600x900mm with rounded corners, 210mm deep.
36	feature	Shallow sides, flat base at 61.76m OD. Fill is cut by 33. Cuts 41. Part remains in E baulk.
36	Posthole	Circular, 440mm across, 290mm deep. Vertical sides, rounded base. Base at 61.67m OD. Cuts 50. Part remains in E baulk.
37	Posthole	Oval, 350x250mm, 260mm deep. Steep sides, rounded profile. Base at 61.64m OD. Cuts or cut by 8 and 47.
38	Posthole	Circular, 380mm across, 200mm deep. Rounded profile. Base at 61.75m OD. Part remains in W baulk.
39	Posthole	Circular, 200mm across, 120mm deep. Rounded profile. Base at 61.78m OD.
40	Posthole	Circular, 220mm across, 200mm deep. Vertical sides, flat base. Base at 61.70m OD. Cuts or cut by 7.
41	Gully	33m wide, 100mm deep. Steep sides. Flat base at 61.85m OD. Cut by 34 and 35.
42	Posthole	Circular, 200mm across, 200mm deep. Vertical sides, flat base. Cuts or cut by 1A.
42A	Posthole	Circular, 240mm across, 80mm deep. Steep sides, rounded profile. Base at 61.82m OD. Cuts or cut by 14.
43	Posthole	420mm across, 150mm deep. Steep sides, rounded profile. Base at 61.70m OD. Cuts or cut by 44.
44	Posthole	Irregular circle or oval, *c*220mm across, 100mm deep. Steep sides, flat base at 61.75m OD. Cuts or cut by 28 and 43.
45	Posthole or root feature	Irregular oval, at least 200mm wide, shallow sides, rounded profile. Base at 61.81m OD. Cuts or cut by 28.
46	Posthole	Circular, 330mm across, 150mm deep. Steep sides, rounded base. Base at 61.72m OD. Cuts or cut by 11.
47	Posthole	Circular, 300mm across, 120mm deep. Rounded profile. Base at 61.77m OD. Cuts or cut by 37. Part remains in W baulk.
48	Posthole	Slightly oval, 280x320mm, 80mm deep. Rounded profile. Base at 61.79m OD. Cuts or cut by 49.
49	Posthole	Circular, 260mm across, 60mm deep. Rounded profile. Base at 61.81m OD. Cuts or cut by 48.
50	Posthole	Oval, 400x320mm, 100mm deep. Shallow rounded profile. Base at 61.82m OD. Cut by 36.
51	Hollow	Roughly oval, 1.3m across, 140mm deep. Shallow. Base at 61.78m OD. Part remains in W baulk.
52	Layer	Dark grey loam; possible prehistoric occupation layer towards the south-west end of trench A

11 ACKNOWLEDGEMENTS

The project was greatly assisted by the generous efforts of Dai Morgan Evans and Amanda Chadburn of English Heritage, R W Greenland and D J Stanley of Runnymede Borough Council, David Bird, Principal Archaeologist of Surrey County Council Planning Department, Rob Poulton, Unit Manager of SCAU, and Jocelyn Barker of Chertsey Museum. The author also expresses his gratitude to the excavation team of Jane Robertson, Simon Hind and Nick Marples, and to Steve Dyer who undertook the remote sensing survey. An acknowledgement is also due to David Field of RCHME who had previously undertaken some background archive research which indicated to the author some important sources of reference. I am grateful to Stuart Needham of the British Museum, Jocelyn Barker of Chertsey Museum, and Rob Poulton of the Surrey County Archaeological Unit, for providing information about two items of Bronze Age metalwork recovered from the hill.

CHAPTER 5: ARCHAEOLOGICAL EXCAVATION OF BRONZE AGE, IRON AGE AND ROMAN FIELD SYSTEMS, ENCLOSURES, AND SETTLEMENTS AT THORPE LEA NURSERIES, EGHAM, SURREY

by Graham Hayman, with Rob Poulton

SUMMARY

The excavations revealed a variety of features of Bronze Age, Iron Age and Roman date, and produced important pottery assemblages for the Middle Bronze Age, for the little known transitional phases from the Middle to the Late Iron Age and from the Late Iron Age to the Early Roman period, and for the Late Roman period. Residual flintwork indicated that the site had been frequented by man from at least the Late Mesolithic period and beyond this sporadic or semi-continuous use/occupation appears to have taken place until the Middle Iron Age, after which it was continuous until the end of the Roman period.

The features of Middle Bronze Age date consist mostly of ditches which extended beyond the excavation area and form part of a rectilinear field system. This ditch system seems to have continued to influence the organization of the landscape until the end of the Roman occupation. One of the Middle Bronze Age ditches was quite substantial and would have been a prominent feature of the landscape; it may have been part of an earthwork which enclosed a settlement. Two small areas of Late Bronze Age occupation, indicated by a number of pits and postholes, were also discovered, the southernmost of these possibly being slightly later in date than its northern counterpart.

Two principal areas of Iron Age occupation were identified by the excavation, and a small group of dispersed features discovered to the north of these might have been associated with a third occupation area. There may have been some limited activity in these areas during the Early Iron Age, but these settlements were principally of Middle to Late Iron Age date; the smaller, eastern, settlement was probably abandoned during the early 4th century BC, while the western settlement was longer-lived and was not abandoned until the end of the 4th century AD. The Iron Age features consist principally of pits, postholes, ditches and gullies, and two large waterholes; no buildings, other than three small four-posted structures, were positively identified, though it is tentatively suggested that two truncated features might have been the remains of ring gullies encircling round houses.

Roman occupation was largely confined to the western part of the site area and was recognised by the presence of pits, postholes, ditches and gullies, a human inhumation, and various features believed to have been used as wells or waterholes. Most of the features were found within a large enclosure which finally infilled during the 4th century AD but may have had origins in the Early Roman period. Two possible sites of buildings are tentatively suggested for the Roman period. Three Late Roman waterholes provided a wealth of artefactual material which consisted of pottery sherds, animal bone and some small finds. The possibility that some of this material might have been present as a result of ritual deposition is discussed.

Although no furnace structures survived, evidence for the smelting of iron was provided by slag. The evidence appears in contexts spanning the Iron Age and Roman periods, but may be primarily or solely an Iron Age industry. Environmental samples indicate an open landscape, while animal bone combined with the stratigraphic evidence to suggest that the settlements were a series of small farmsteads. A mixed agricultural economy has been suggested for the Iron Age, while a shift towards a greater emphasis on meat production occurred in the Late Roman period.

1 THE EXCAVATIONS: BACKGROUND, HISTORY, METHODOLOGY AND PHASING

by Graham Hayman

1.1 BACKGROUND AND SITE LOCATION

The site is located on Pleistocene gravels in the middle to lower Thames valley, approximately 1km to the south-west of Staines and the River Thames, between the villages of Egham and Thorpe (see figs 1.1 and 5.1). Before its redevelopment as a gravel quarry, the site had been owned since early in the 20th century by the Mason family, and used as a nursery. The 1st Edition Ordnance Survey map (1871) shows the site as a field and earlier maps (the Tithe map of 1841 and John Rocque's map of Surrey published in 1768) indicate the area as within arable fields.

Prior to the archaeological fieldwork the site was thought to be of high archaeological potential because of the evidence provided by two sources. These were discoveries of prehistoric, Roman and medieval remains made during the construction of the M25 motorway immediately to the west (fig 5.2), reported by Johnson (1975), and, the occurrence of cropmarks in the south-eastern corner of the site itself, which had been identified from aerial photographs and noted by Longley (1976: no features corresponding to these were identified in the fieldwork).

1.2 THE FIELDWORK UNDERTAKEN AND ITS OBJECTIVES

The initial intention of the gravel company was to quarry the site in three stages, which corresponded with the south-west, north, and south-east parts of the permission (fig 5.2). These plans were subsequently revised, partly as a result of the archaeological discoveries made, and, following the quarrying of the Stage 1 area, Stage 3 and the southern part of Stage 2 (to just north of trench 2) were worked prior to the remainder of the Stage 2 area. The fieldwork carried out by the Unit consisted of five aspects: fieldwalking, geophysical survey work, trial trenching, the monitoring of overburden stripping by the gravel company, and the full excavation of areas that produced archaeological remains; not all of these aspects were employed for each area as will be explained below.

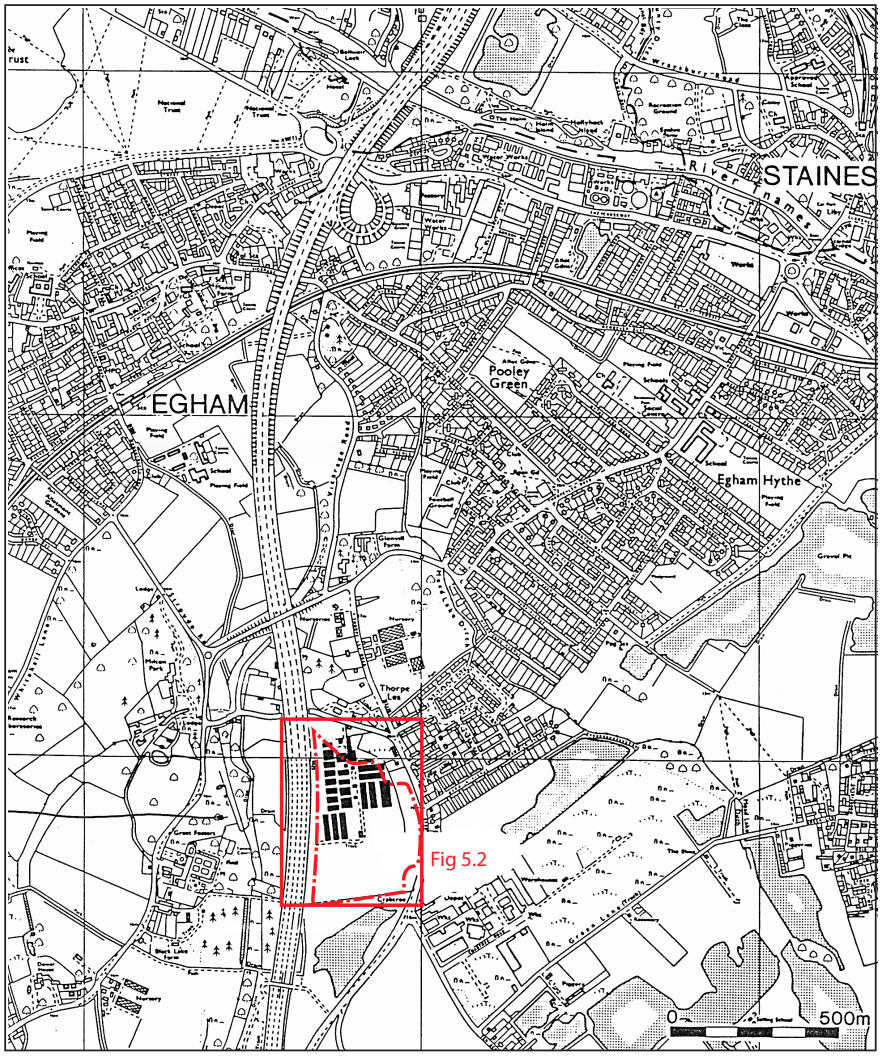


Fig 5.1 Thorpe Lea Nurseries: location of site, showing the Nurseries prior to quarrying. For the wider location see fig 1.1

The stripping of overburden from the Stage 1 area of the gravel permission began in the late summer of 1989. A monitoring presence was maintained during this work but only one ancient feature, a Bronze Age pit, was discovered. This lay close to the eastern edge of the area. In the spring of 1990, a new track was required by the gravel company to run earthmoving equipment along the eastern edge of the Stage 1 quarry. Part of it, lying adjacent to where the Bronze Age pit had been found, was archaeologically excavated (fig 5.2, trench B).

During February and March 1990 some limited fieldwalking and a full resistivity survey took place within the

Stage 3 area, without positive results. Also in March 1990 trial trenches were machined to sample the area immediately to the north of the Stage 1 quarry and between the remaining greenhouses and the M25. The majority of trenches revealed little of interest, but a concentration of features of Iron Age and Roman date was uncovered, close to other greenhouses that remained standing, in trenches 1 and 2 and others that later became incorporated in Area 3 (fig 5.2). A ditch, thought to be of prehistoric date, was also discovered in trenches 15 and 16 to the north. Two areas were machine stripped around the features discovered in trenches 1 and 2 and these were fully excavated during March and April 1990; the work revealing a variety of features, mostly of Iron Age date.

The results of this work suggested that the features discovered in trenches 1 and 2 lay on the periphery of a larger settled area. Following the demolition of another eight greenhouses, Area 3a was opened up during May to reveal numerous features. Also in May, the evaluation of Stage 3 was concluded with trial trenching that sampled *c*10% of its area. An area of *c*0.25 hectare that lay adjacent to the excavated Bronze Age features was not examined as the company agreed to leave it unquarried until much later in their scheme of work (fig 5.2, Area H). The results of the trial trenching and of the resistivity survey here were entirely negative; the known cropmarks did not prove to be of archaeological significance. The excavation of Area 3a took place in difficult drought conditions between May and July. It exposed a highly complex array of features dating from the Middle Iron Age to the end of the Roman period, but could not be completed in the time available. During July some additional trenches were machined to the east of Area 3a (their locations are not shown on fig 5.2, but all lay within the area covered by Area 3b) and revealed many more features running northwards and eastwards; some limited sample excavation of these took place.

No further archaeological work took place at Thorpe Lea for almost two years as it was decided that full consideration of the archaeological requirements for the site could only take place after the evaluation of the remaining area. This occurred between May and June 1992, after the removal of the remaining greenhouses, when another 18 trial trenches (17–34) were excavated (fig 5.2). The ground adjacent to the north and east of Area 3a was also stripped at this time to enable the features present to be planned (Area 3b). To the north of this a small number of Iron Age and Roman features were discovered, while to the north-east and east areas of Bronze Age and Iron Age settlement were identified. Further to the north and east occasional ditches and gullies of prehistoric or Roman date were also discovered.

In summary, the evaluation of the site led to the discovery of a small Bronze Age settlement in the southern part of Stage 3, and to areas of Bronze Age, Iron Age and Roman occupation which occupied the greater part of Stage 2. Additionally, it appeared that the long-term occupation of the site included at least two important transitional phases, namely those between the Middle and Late Iron Age and between the Late Iron Age and the Early Roman period. The Iron Age and Roman occupation seemed to have been principally that of a farming settlement operating at a relatively low level of subsistence. Farms of this type were little known in this part of the Thames valley and the discovery of a large number of linear features outside of and/or linked to what was thought to be the main enclosure increased the interest, as it was thought that the site might provide an opportunity to examine land use patterns around the occupation area. Although farming was thought to have been the main activity of the site, the presence of small quantities of iron slag in Iron Age contexts in one of the trial trenches, and the presence of tile wasters in one of the Late Roman features indicated that a industrial evidence might also be discovered. There was also a possibility that the Iron Age and Roman remains were part of a larger settled area that extended to the north near Wickham Lane (fig 5.2) where a complex of cropmarks are known to be present; the placename (Wickham), possibly (as, for example, at the substantial Roman settlement at Wickham Bushes, Berks) taken from 'vicus-ham', also suggested the presence of a substantial settlement. Post-Roman activity was also hinted at by the presence of a few Saxon sherds, and by the occurrence of a number of features containing rolled 4th century pottery, that might not be of Roman date. In addition to these points, the site was thought to have some potential for environmental sampling, particularly for pollen analysis and also possibly for the recovery of macro fossil remains from some of the larger features.

This potential enabled a number of clear objectives (SCAU 1993) to be established prior to the main season of excavation between 1993 and 1994. The general aim of the work was to excavate an area of Bronze Age, Iron Age and Roman settlement, to elucidate its character at different dates, and to establish the extent to which occupation was continuous throughout this period. Beyond this it was hoped that the project would:

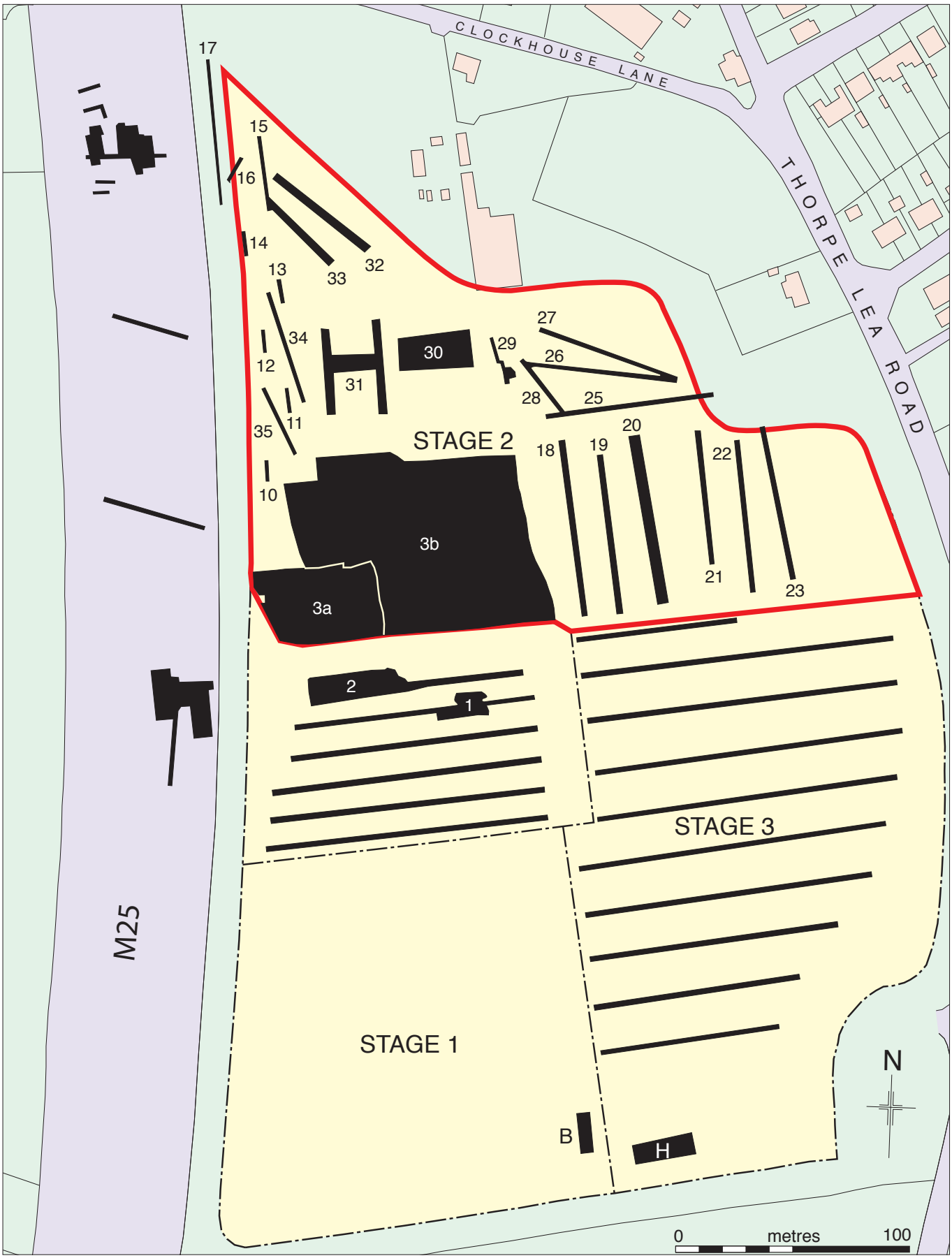


Fig 5.2 Thorpe Lea Nurseries: plan showing the location of all archaeological investigations within the mineral extraction site and by Johnson (1975) prior to construction of the adjacent M25. The mineral extraction stages are also shown

- determine the overall pattern of occupation (within the area available) for each of the major periods of occupation;
- look to define intra-site variation in the type of activity or occupation for each of the major phases or periods of occupation, paying particular attention to the evidence for iron working in the Iron Age and tile production in the Late Roman period. Either could be explained as short term or small scale specialisation within a small settlement, but could be of greater significance if the Thorpe Lea Nurseries site was found to represent the southern part of a far larger settlement extending around Wickham Lane;
- attempt to assess the overall status of the site; specifically, was the site a farm, or, perhaps, part of a small village?
- try to relate the site at each period to the wider development of the landscape.

The 1993–4 work began with the remachining, using a tracked 360º excavator equipped with a 1.8m wide toothless bucket, of Area 3 to remove the weeds and weathered surface resultant from the abandonment of the site in July 1992. This inevitably led to a slight reduction of the surface of the natural and the tops of the archaeological features previously exposed, but was considered necessary as clearance by hand would have been time consuming and a waste of the resources available; approximately 20–50mm of the surface of Area 3 was removed thus. An attempt was also made to machine a hitherto unexamined stretch of ground, formerly used as a haulage road by the gravel company, lying between Area 3 and the northern edge of the quarry at this time (fig 5.2). The ground here had been disturbed to a considerable depth by tyre ruts and the south-eastern corner of the main enclosure of the site was only discovered by machining well below the level at which features were revealed elsewhere; as it was clear that little would have survived along this strip its machining was not completed. The ground remaining beyond Area 3 was later systematically stripped using the same method as before. The topsoil deposit was removed by the gravel company while the subsoil was removed under the control of the archaeological staff; the features exposed were all sampled and recorded before areas were released to the gravel company.

1.3 GENERAL EXCAVATION METHODOLOGY

The features encountered during the various stages of evaluation or excavation work were all sectioned in accordance with usual archaeological practice. Their internal stratigraphy was subdivided, when appropriate, and the different lenses and layers were distinguished using either a different context number or a letter suffix. Many of the features were found to contain an undifferentiated deposit of fill and, where this was the case, a single context number was issued for both cut and fill to avoid unnecessary numbering. Sections were positioned to examine intercutting zones where these occurred, and were drawn to record the profile and internal composition of all features. Photographs were taken of all features, either singly or in groups, and all features were planned and correlated to the Ordnance Datum.

Early work on the site had suggested that the phasing of certain features might be problematic, particularly in areas of overlapping activity where a context containing a limited and/or mixed assemblage of finds could belong to alternative phases depending on the origin of its finds (ie they might be contemporary, residual, or present as a result of contamination). To assist the overall phasing by providing the largest recoverable quantity of archaeological material, the majority of pits and postholes were completely excavated and the linear features were sampled at close intervals. All finds of archaeological material were retained for further examination, with the exception of pieces of calcined flint, most of which were roughly quantified on-site before being discarded.

1.4 ENVIRONMENTAL COMMENT AND SAMPLING

Environmental specialists visited the site during the 1992 evaluation, and during the early stages of the main excavation, to discuss the environmental potential of the site and also to determine which on-site sampling strategies should be employed. The potential was somewhat uncertain, being dependent on the preservation properties of the ground, which appeared to be largely acidic. It was thought to be reasonably good for the survival of pollen, but less so for bone (except for the south-western part of the main area where this was well preserved in features cut through a deposit of calcareous brickearth) and macrofossil remains.

As a result of these discussions, 17 samples, including monoliths of three important features (Bronze Age, Iron Age and Roman) were taken for pollen analysis, and all bone was recovered (as carefully as was possible) from the contexts in which it survived. The best preserved bone was recovered from the south-western part of the site, as expected, and from certain waterlogged features which were also sampled for macrofossil

remains. The clay soils encountered on-site were not suitable for dry sieving, but additional small quantities of bone were recovered along with charcoal and other charred remains from the wet sieving of bulk samples taken from certain features.

1.5 GEOLOGICAL AND MACHINING CONTEXTS

The features of the southern area were sealed beneath *c*0.20m of brown subsoil, which itself lay beneath 0.15–0.20m of topsoil, while the features to the north of this were sealed beneath 0.15–0.25m of grey-brown clay subsoil, which lay beneath 0.25–0.30m of topsoil. The subsoil, which deepened towards the west where closest to a north–south stream that still flows on the other side of the M25 (*c*150m distant), may to some extent have arisen as an overbank deposit, though gravel pebbles within its make-up indicated that it had been a ploughsoil at some stage of its development. This deposit lay above the 'natural' geology, which was cut by the features of archaeological interest, and consisted of either gravel or else of calcareous or orange/brown 'brickearth' (fluvial silty clays) over gravel. Within the Stage 1 area these brickearth deposits were found to have choked a series of north-west to south-east linear watercourses. These channels had probably formed during an interglacial period, and had cut deeply into the underlying Pleistocene gravels. Much of the brickearth may be of similar age or belong to the immediate post-glacial period.

The topsoil and subsoil layers of the southern area were difficult to distinguish due to the dryness of the soil in 1990, and were mostly removed by machine as a single clearance layer, context 9, though later a remnant of the subsoil deposit was removed by hand, context 17; stray finds were recovered from both contexts. The overburden deposits to the north were removed under numbers assigned at various times to different locations.

The depth of features is quoted in the text as measured from the point at which they could be identified cutting 'natural geology'. Their original depth as dug is uncertain, but they will clearly have been truncated by 0.15–0.25m or more, as indicated by the subsoil (ploughsoil) thickness: this fact explains the shallow depth of many features and may suggest that many others will have been completely removed, a fact which, in turn, helps explain the difficulty in identifying meaningful distributions of features.

1.6 CONTEXT AND FEATURE PRESENTATION IN PARTS 2 TO 5

Approximately 1700 context numbers were issued during the project for a variety of features and excavation spits/layers. These identify the stage of evaluation or excavation during which they were issued: numbers 9 to 20, 100 to162, 201 to 206 and 300 to 727 were used for the work carried out in 1990; numbers from 1000 to 1252 were used in 1992; and, numbers 1400 to 1403, 1500 to 2143 and 2200 to 2483 were issued during the 1993–4 season.

On the plans, the overall number assigned to features containing various different elements (a ditch sampled at several locations for example), is shown in bold type, and the various sampling trenches dug through the midden area are identified by numbers within rectangles. To simplify the plans possible features that were sampled and subsequently found to be no more than variations in the natural geology have not been illustrated, and similarly features of modern origin have been omitted except in cases where they cut earlier contexts.

The majority of the vast number of features encountered during the excavation contained homogeneous fills and consequently most of the section drawings that form part of the site archive are of limited interest. The section drawings published as part of this report show some of the more interesting contexts where multiple layers or definite physical relationships were identified, and provide a representative sample of the remainder.

The following should be noted with regard to the presentation of context information in parts 2–5:

- Fills of features are not described unless a specific point is being made
- Stratigraphic relationships are noted only where a specific point is being made
- Associated finds are not generally described (see comment in next section)
- A listing accompanies each phased group of features that provides information for each on
    - Asssociated contexts
    - Location of features on plans
    - Illustrated section drawings
- More general interpretation of the features is reserved for part 9

1.7 PHASES AND DATES

A multiperiod site always presents issues in relation to the dating and phasing of contexts, and this was apparent here from an early stage, leading to the decision to employ high sampling levels. The absence of vertical development, scarcity of useful intercutting relationships, and only a single absolute date, mean that context dating relies almost entirely on that of the associated artefacts. In practice, that means primarily pottery, with some input from worked flint, and little else. Parts 6 and 7 explain in detail the accuracy and reliability of the dating of different classes of find, but the question of concern here is how literally the dates given to their artefactual content can be taken to apply to the contexts. The initial working assumption was that the latest material dates the context, but there are a number of reasons why this has been rejected in particular cases

- Where a large number of finds are of one date, with only a few of later date, it has generally been accepted that the later material is intrusive. The generally homogeneous character of the fills of most features suggests bioturbation and the possibility of the introduction of intrusive material, while erroneous excavation and misnumbering are also potential, if occasional, hazards.
- Where features include finds that are of various dates, but not overwhelmingly of one period, the issues of residuality and intrusion are more difficult. In these circumstances the latest date has only been rejected if a positive reason exists for doing so, by reason of a context's character or association with others, or the nature of the finds themselves (for example latest material appears only in the uppermost part of the feature).
- Where features include very few finds, the possibility that they are residual must always be considered. It has, however, only been accepted where strong reasons exist for associating the context with others of a later date, and/or where the finds themselves are worn in a way that suggests they were already old when they arrived in the feature.

These considerations have only been set out fully in relation to contexts in parts 2–5 where they are of particular importance.

The dated contexts have been grouped into a series of phases, and these are the basis of how the stratigraphic information is presented. The author has tried to assign as many features as possible to the phases, but where the information available has been limited or conflicting this has not always been straightforward. It needs to be acknowledged, however, that, while division into phases is a convenient process that allows coherent presentation of the data in parts 2–5, this should not be allowed to obscure the possibility of continuity of occupation across the phases, a point that is considered more fully in part 9.

2 EARLY PREHISTORIC

2.1 PHASE 1: LATE MESOLITHIC TO EARLY BRONZE AGE

Human activity on, or close to the site in these periods is attested in the finds record by the occurrence of pieces of humanly struck flint which date back to the Late Mesolithic and to the Early Neolithic, and by the presence of a very small number of Neolithic (including one fragment from a Mortlake bowl) and Early Bronze Age pottery sherds: see parts 6 and 7. It is possible to suggest tentatively that four features, 1518, 1765, 1931 and 2429, might belong to this phase, but, even if this is correct, it remains impossible, to identify any specific area of occupation/land use.

Three of the features were small pits which were located some distance apart from one another. The finds from 1518 consist of one waste flake, and one serrated blade which is probably of Late Neolithic origin; 1931 produced five flakes, a blade, and one tool (a utilised flake); and 2429 included two conjoining blades of Late Mesolithic or Early Neolithic date. It is impossible to be certain that 1518, 1931 and 2429 belong to this phase as there is plenty of evidence elsewhere for the residual occurrence of flintwork in later features and this might be the case here, particularly for 1518 which was surrounded by features of Iron Age and Roman date, but it seems less likely for 1931, considering the number of struck flints recovered from this context, and for 2429 given that the blades recovered were conjoining. The fourth feature, 1765, was an irregular linear hollow located to the south of the eastern corner of enclosure ditch 1008. This produced a cutting flake of Mesolithic or Early Neolithic date. The flake had been broken in antiquity into two fragments, and the presence of both parts in the same feature suggests that this is unlikely to be a residual artefact.

CX	TYPE	PLN	AREA	SECT
1518	Pit	5.3	5	
1765	Other	5.3	7a	
1931	Pit	5.3	10	
2429	Pit	5.3	73	

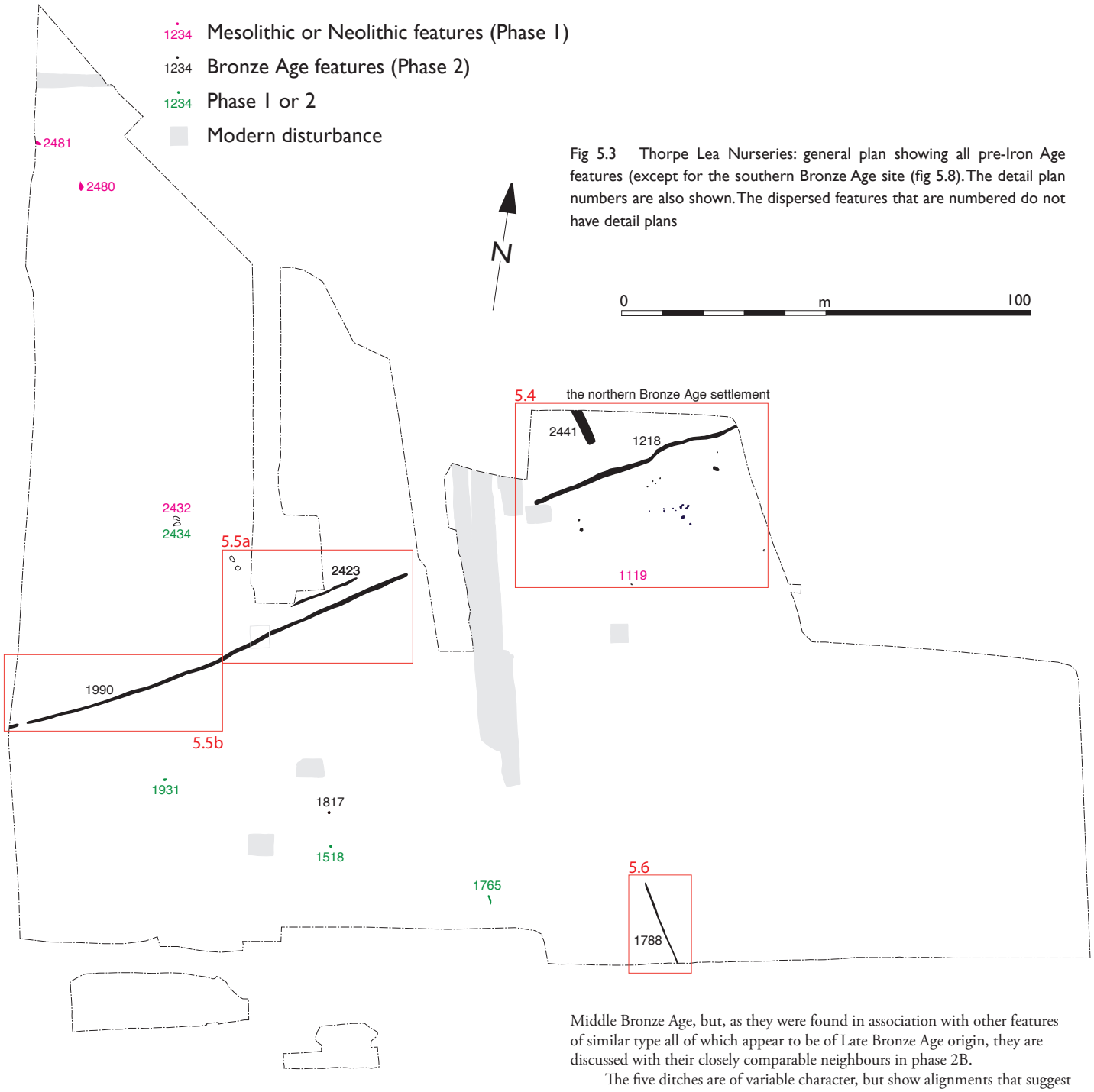


Fig 5.3 Thorpe Lea Nurseries: general plan showing all pre-Iron Age features (except for the southern Bronze Age site (fig 5.8). The detail plan numbers are also shown. The dispersed features that are numbered do not have detail plans

2.2 PHASE 2: MIDDLE AND LATE BRONZE AGE

Areas of Bronze Age activity were found within the Stage 2 division, mainly in the north-eastern part (fig 5.3) and in the southern part of the gravel permission (fig 5.8). The majority of the features discovered were of Middle or Late Bronze Age date, while a smaller number, containing less diagnostic material, were of non-specific or 'possible' Bronze Age origin.

Phase 2A: Middle Bronze Age

The features recorded in this section of the report are ditches 1218, 1778, 1990, 2423 and 2441, and pits 2432 and 2434, all of which were discovered within the mineral extraction Stage 2 area (fig 5.3). In addition to these contexts, posthole 2374 and pit 2381, also found within the Stage 2 area, produced sherds of pottery which suggest that they might belong to the Middle Bronze Age, but, as they were found in association with other features of similar type all of which appear to be of Late Bronze Age origin, they are discussed with their closely comparable neighbours in phase 2B.

The five ditches are of variable character, but show alignments that suggest they may belong to rectilinear system. Ditch 1218 was traced over a distance of approximately 54m which saw one minor kink in its course (possibly around some obstacle present at the time of construction). Nineteen sample segments were excavated from the ditch (see fig 5.7). Segments 2413 and 2416 were linked by the excavation of 2419, and both here and in segment 2409 a bulge on the northern side corresponded with a change in the profile below ground, the stepped basal profiles were indicative of a feature that had at one time been discontinuous or segmented before being recut to link the separate portions, although there was no evidence in the sections of distinctive fills. The profile tended to be V-shaped, with a narrow flat or slightly rounded base, but was more U-shaped in some of the shallower segments towards the east. The width varied between 1.75m (1101) and 0.70m (2415), and the depth between 0.80m (2399) and 0.22m (2416/2419); it was cut by the Roman gully 2232. The majority of the excavated segments contained a single undifferentiated fill, although almost half also showed a thin primary sandy and/or gravelly fill. A total of 435 sherds of pottery were recovered from this feature. The majority of finds were collected from the central or upper regions of the fill, with a lesser proportion coming from the lower or primary fill though this still produced sherds of Middle Bronze Age pottery.

Ditch 1990 was traced over a distance of approximately 106m and was sampled by the excavation of 23 segments (see fig 5.7) which showed its profile

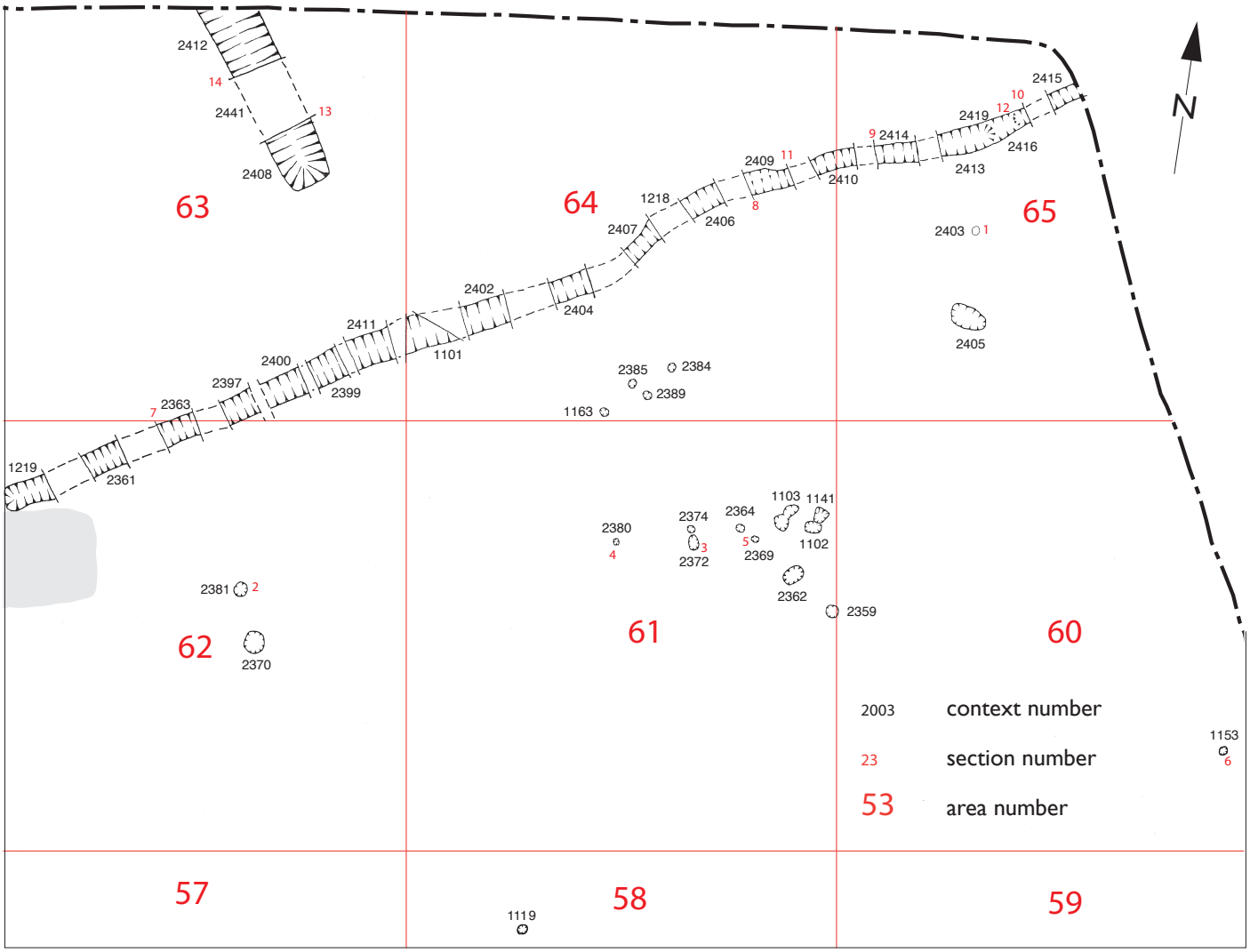


Fig 5.4 Thorpe Lea Nurseries: detail plan of northern Bronze Age settlement area

generally to be V-shaped, with a narrow flat or slightly rounded base, though this became somewhat more U-shaped towards the west. The width of the ditch varied between 1.32m (2482) and 0.68m (2023), and the depth between 0.70m (2452) and 0.36m (1991); segment 2028 was clearly cut by the Roman ditch 1191. Just under half of the segments excavated contained a single undifferentiated fill (1991, 2009, 2022, 2024, 2025, 2028, 2093 and 2482), while the remainder, with the exception of 2115, also showed a thin primary sandy and/or gravelly fill. The ditch is dated by the 37 Bronze Age pottery sherds, including diagnostic material of Middle Bronze Age, one sherd of which came from a primary fill context (2435B).

Gully 2423 ran parallel to the Middle Bronze Age ditch 1990 for a distance of about 18m and varied in width and depth between 0.60–0.94m (2424 and 2425) and 0.18–0.30m (2425 and 2424). Thirteen sherds of pottery were recovered from this feature along with occasional pieces of struck or burnt flint. One of the sherds recovered was of Roman date, but this came from the surface and is assumed to be intrusive. The remainder seem most likely to be Bronze Age, though three sherds from 2418 were difficult to identify and could conceivably be Iron Age. Overall the evidence suggests that this feature belongs to phase 2, but the sherds recovered do not enable a more precise date to be suggested; the alignment of this feature in relation to 1990 suggests that it is most likely to be of Middle Bronze Age date.

The substantial ditch 2441 appeared to run roughly at right angles to 1218, but only about 9.5m of the feature was recorded so this impression might be misleading. 2441 was V-shaped with a rounded base. The feature was widest and deepest in segment 2412, where its width reached 2.5m, and its depth 1.25m. A total of 46 sherds of pottery showed that this feature was infilling during the Middle Bronze Age. It was not possible to draw the deeper, south facing section of segment 2412 because a soil bund, constructed adjacent to the edge of site before the feature could be recorded; was unstable and kept collapsing. This section appeared to show that a thin layer of redeposited gravel and soil, possibly indicative of an eroded bank, might have been present between a reduced subsoil deposit and the natural on the western side. In support of this suggestion it might be significant that the more gravelly fills were also confined to the western side of this segment, as gravel would have constituted the greater part of the construction upcast. In this interpretation 2412E would represent a slumping of the bank into the ditch.

Ditch 1778 was found to the south of 1218 and 2441 on the edge of the existing quarry. The southern extent of the feature was not discovered during the evaluation of mineral extraction Stage 3, which suggests that segment 1699 may have been close to a terminal in this direction. The ditch varied in width between 0.40m (1772) and 0.60m (1790) and in depth between 0.20m (1778) and 0.28m (1771). Segment 1771 was noteworthy because it produced, in many pieces, the greater part of a complete Middle Bronze Age vessel and decorated sherds from a vessel of the same date (fig 5.30, nos 52–3).

The two isolated features 2432 and 2434 lay side by side approximately 37m to the north of segment 2022 of ditch 1990; both appeared to be irregularly shaped, elongated, shallow (0.15m and 0.22m respectively) pits. They were somewhat irregularly shaped and the fill of 2432 was greyer in colour than the mid to dark brown clay loam fill of 2434. The finds from these features were mixed after excavation, but there seems little doubt from their location that they were contemporary, and can both be dated by the diagnostic Middle Bronze Age sherds recovered.

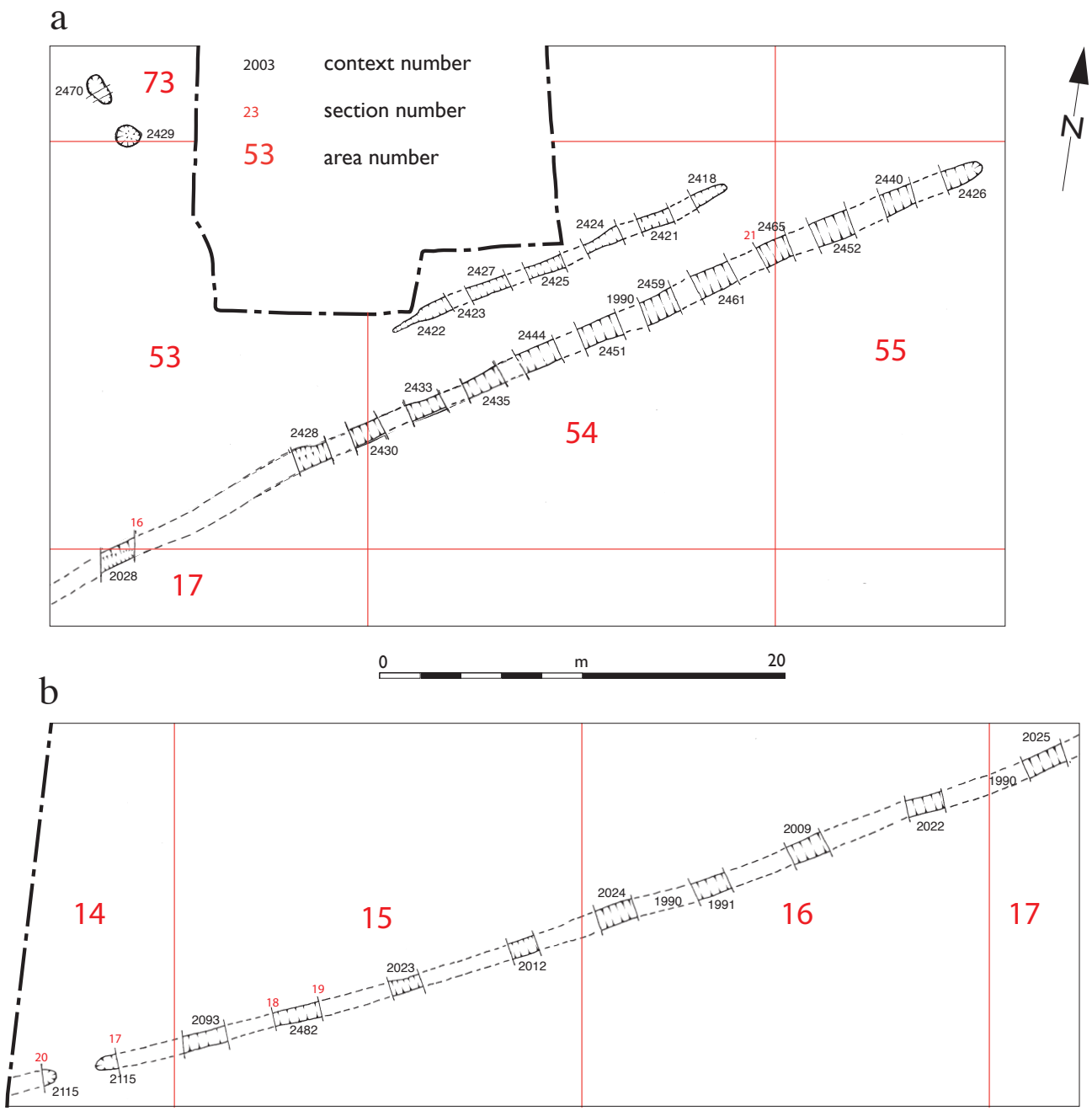


Fig 5.5 Thorpe Lea Nurseries: detail plans of Bronze Age ditches 1990 and 2423 and related features

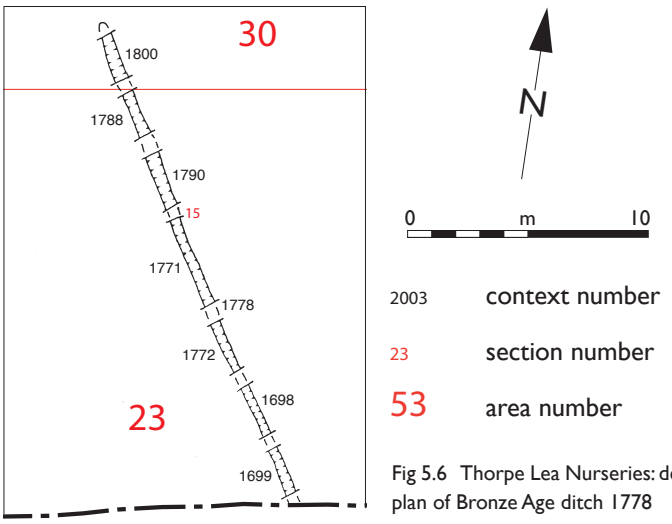


Fig 5.6 Thorpe Lea Nurseries: detail plan of Bronze Age ditch 1778

CX	TYPE	PLN	AREA	SECT
1101	Seg 1218	5.4	64	
1218	Linear	5.4	62,63	
1219	Seg 1218	5.4	62	
1698	Seg 1778	5.6	23	
1699	Seg 1778	5.6	23	
1771	Seg 1778	5.6	23	
1772	Seg 1778	5.6	23	
1778	Linear	5.6	23,30	
1788	Seg 1778	5.6	23	
1790	Seg 1778	5.6	23	
1800	Seg 1778	5.6	30	
1990	Linear	5.5	14,15	
1991	Seg 1990	5.5	16	
2009	Seg 1990	5.5	16	
2012	Seg 1990	5.5	15	
2022	Seg 1990	5.5	16	
2023	Seg 1990	5.5	15	
2024	Seg 1990	5.5	16	
2025	Seg 1990	5.5	17	
2028	Seg 1990	5.5	53	16
2093	Seg 1990	5.5	15	
2115	Seg 1990	5.5	14	17,20

CX	TYPE	PLN	AREA	SECT
2216	Seg 1218	5.4	64	
2361	Seg 1218	5.4	62	
2363	Seg 1218	5.4	63	7
2397	Seg 1218	5.4	63	
2399	Seg 1218	5.4	63	
2400	Seg 1218	5.4	63	
2402	Seg 1218	5.4	64	
2404	Seg 1218	5.4	64	
2406	Seg 1218	5.4	64	
2407	Seg 1218	5.4	64	
2408	Seg 2441	5.4	63	13
2409	Seg 1218	5.4	64	8,11
2410	Seg 1218	5.4	64,65	
2411	Seg 1218	5.4	63	
2412	Seg 2441	5.4	63	14
2413	Seg 1218	5.4	65	
2414	Seg 1218	5.4	65	9
2415	Seg 1218	5.4	65	
2416	Seg 1218	5.4	65	10
2418	Seg 2423	5.5	54	
2419	Other	5.4	65	12
2421	Seg 2423	5.5	54	

CX	TYPE	PLN	AREA	SECT
2422	Seg 2423	5.5	54	
2423	Linear	5.5	54	
2424	Seg 2423	5.5	54	
2425	Seg 2423	5.5	54	
2426	Seg 1990	5.5	55	
2427	Seg 2423	5.5	54	
2428	Seg 1990	5.5	53	19
2430	Seg 1990	5.5	54	
2432	Pit	5.3		
2433	Seg 1990	5.5	54	
2434	Pit	5.3		
2435	Seg 1990	5.5	54	
2440	Seg 1990	5.5	55	
2441	Linear	5.4	63	
2444	Seg 1990	5.5	54	
2451	Seg 1990	5.5	54	
2452	Seg 1990	5.5	55	
2459	Seg 1990	5.5	54	
2461	Seg 1990	5.5	54	
2465	Seg 1990	5.5	55	21
2482	Seg 1990	5.5	15	18

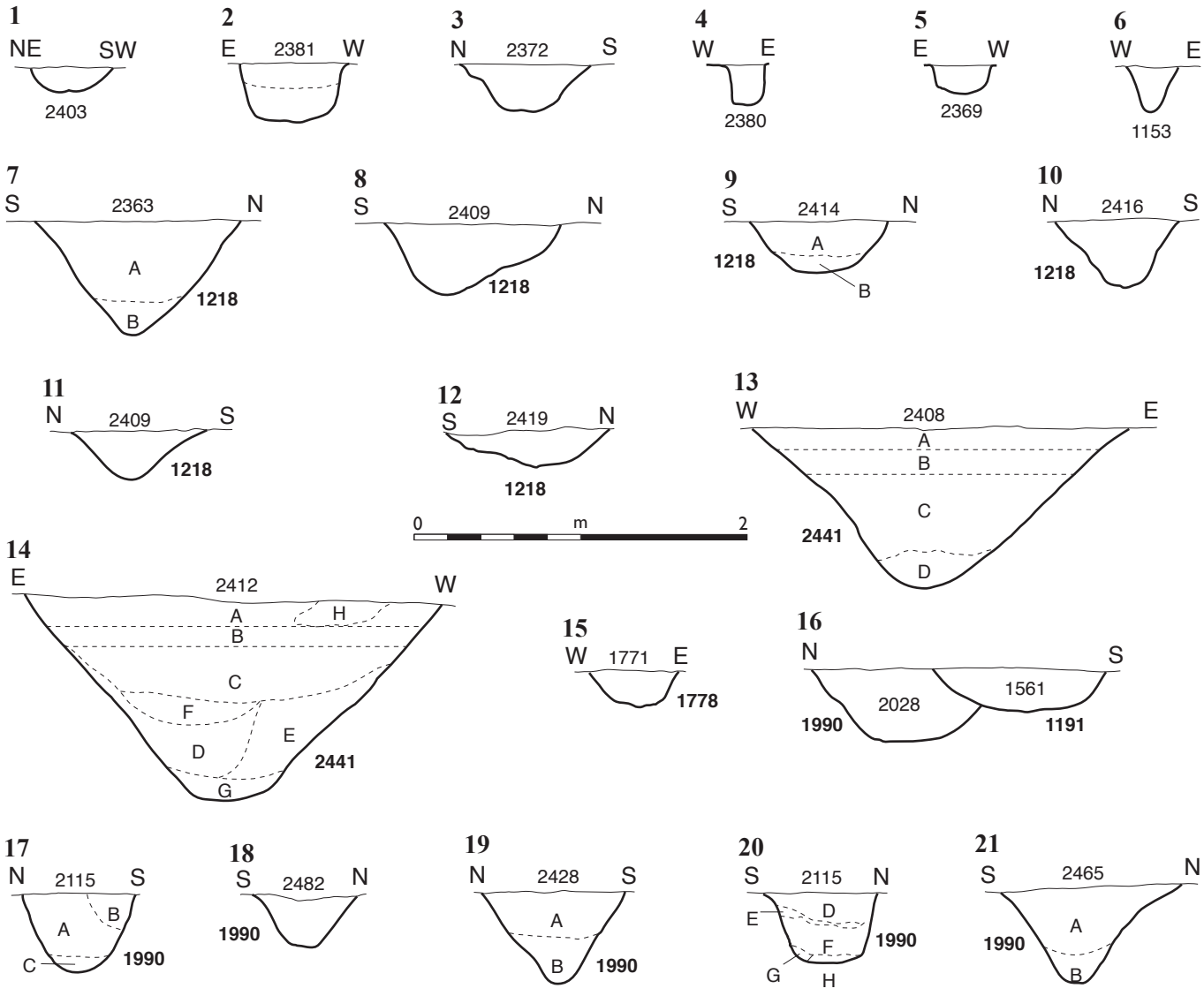


Fig 5.7 Thorpe Lea Nurseries: section drawings of features from the northern Bronze Age site

Phase 2B: Late Bronze Age

Most of the features belonging to this phase were discovered in either the southern or north-eastern part of the gravel permission in two localised groups. The features in each group are assumed to be more or less contemporary with each other (though it has been noted above that 2374 and 2381 might belong to the Middle Bronze Age: see phase 2A) and, therefore, indicate the positions of two settlements. It is suggested in the pottery report that the southern settlement might be later than that to the north, so the latter has been discussed first here.

NORTHERN SITE

The features of the northern settlement were all discovered close to the southern side of the Middle Bronze Age ditch 1218, and were all either small pits or postholes.

These two types of feature were distinguished on the basis of their overall size, shape, and width to depth ratios. The features thought to be postholes (1153, 1163, 2364, 2369, 2374, 2380, 2384, 2385 and 2389) varied between 0.24m (2380) and 0.37m (2369) in width/diameter, and between 0.12m (2374) and 0.27m (1153) in depth, and none contained any evidence of a post-pipe or packing material. The features thought most likely to be pits (1102, 1103, 1141, 2359, 2362, 2370, 2372, 2381, 2403 and 2405) were a minimum of 0.48m in width (2359) and varied in depth between 0.10m (1103) and 0.35m (2381); some of the smaller features, such as 2359 and 2372, might have been postholes. The shape of 1103 suggests that this was, in fact, two intercutting features (similar to 1102 and 1141 between which no relationship could be established), but its fill was uniform throughout and was removed as a single context.

Only pits 2381 and 2403 are worth mentioning individually. The fill of 2403 contained a moderate proportion of charcoal flecks and some tiny fragments of burnt bone that did not survive processing. Bulk soil samples included charcoal that could be a mixture of kindling and fuel from a funeral pyre (see part 8). The feature might have been a cremation pit, but the evidence is weak. 2381 yielded 81 pieces of struck flint (evenly distributed between its two layers), much more than was recovered from any other context discussed here. It also produced 16 sherds of pottery.

The majority of these features contained small quantities of struck flint, burnt flint, and sherds of pottery, suggesting a Late Bronze Age date. No dateable finds were recovered from 2384, 2389 or 2403, but they have been included in this phase because it seems likely that they were contemporary with their near neighbours. It should be noted, however, that 2403 was similar to four features (also possibly cremation pits) discussed in part 5 in connection with the eastern Iron Age settlement, all or any of which could potentially belong to phase 2, or to phase 3, or even to neither of these phases.

CX	TYPE	PLN	AREA	SECT
1102	Pit	5.4	61	
1103	Pit	5.4	61	
1141	Pit	5.4	61	
1153	PH	5.4	60	6
1163	PH	5.4	64	
2359	Pit/PH	5.4	60	
2362	Pit	5.4	61	
2369	PH	5.4	61	5
2370	Pit	5.4	62	
2372	Pit/PH	5.4	61	3
2374	PH	5.4	61	
2380	PH	5.4	61	4
2381	Pit/PH	5.4	62	2
2384	PH	5.4	64	
2385	PH	5.4	64	
2389	PH	5.4	64	
2403	Pit	5.4	65	1
2405	Pit	5.4	65	

SOUTHERN SITE

The features of the southern site were either small pits or postholes.

Using the same criteria as for the northern site, it seems most likely that 10, 11, 13, 15, 18, 19, 1401 and 1403 were postholes, and 12, 14, 16 and 1402 were small pits. The former group varied in width/diameter between 0.25m (15) and 0.50m (10–the steep sides and flat base of this feature indicating that it was probably a posthole), and in depth between 0.12m (12 and 14) and 0.35m (15), while the pits, all elongated features, ranged between 0.33m (16) and 0.54m (1402) wide, and between 0.05m (1402–which was little more than a shallow hollow) and 0.20m (16) deep. All of these features, with the exception of 19 and 1403, produced sherds of pottery and most produced pieces of calcined flint.

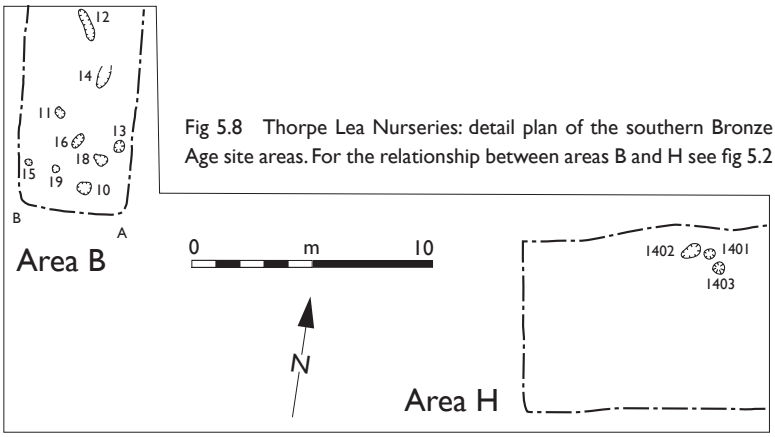


Fig 5.8 Thorpe Lea Nurseries: detail plan of the southern Bronze Age site areas. For the relationship between areas B and H see fig 5.2

CX	TYPE	PLN	AREA	SECT
10	Pit/PH	5.8	B	
11	Pit/PH	5.8	B	
12	Pit	5.8	B	
13	Pit/PH	5.8	B	
14	Pit	5.8	B	
15	PH	5.8	B	
16	Pit	5.8	B	
18	Pit	5.8	B	
19	PH	5.8	B	
1401	Pit/PH	5.8	H	
1402		5.8	H	
1403	Pit/PH	5.8	H	

2.3 PHASE 1 OR PHASE 2

A small number of features cannot be definitely placed in phase 1 or phase 2. These features, except 2481, included finds of non-diagnostic flintwork, and are generally detached from the main concentrations of Bronze Age features. Features 2480 and 2481 lay approximately 14m apart, and were similar in appearance; although no finds were recovered from 2481, 2480 produced 12 pieces of burnt flint along with 11 struck flints and both features seem likely to belong to phase 1 or 2.

CX	TYPE	PLN	AREA	SECT
1119	Pit/PH		73	
1817	PH	5.3	12	
2470	Other	5.3	73	
2480	Other	5.3	86	
2481	Other	5.3	87	

3 IRON AGE (PHASE 3)

Two main areas of Iron Age settlement activity were identified, these being in the eastern and western parts of the Stage 2 extraction division (fig 5.9). In addition a small number of Iron Age features was discovered, mainly in the northern part of the gravel permission. Features dated to the Early, Middle and Late Iron Age were discovered at each settlement, but that to the west appears to have been longer-lived and continued into the Early Roman period.

3.1 THE EASTERN IRON AGE SITE

The eastern Iron Age settlement is recognised by the presence of 59 dateable features and by a further 41 features which contained no diagnostic material but seem most likely to be of Iron Age origin given the virtual absence of comparable features of earlier or later date in the area (the presence of the small pits or postholes 2272, 2312 and 2338, which might be of Roman date, should be noted, however). The dateable features consist of 52 pits and postholes, six ditches or gullies, and one waterhole. Two of the gullies, 1782 and 1787, and the waterhole, 2295, were found some distance away from the main concentration of features, but have been included here because it seems reasonable to suggest that they were associated with this settlement. Likewise five of the undated features, 1791, 2266, 2267, 2284 and 2287, were apart from the others.

Examination of the pottery from these features has suggested that most of the contexts are of Middle to Late or Late Iron Age date, while six contexts might belong to the earlier part of this period and a further eight contexts are of non-specific Iron Age date. The analysis and understanding of the pottery has not been helped by the fact that the

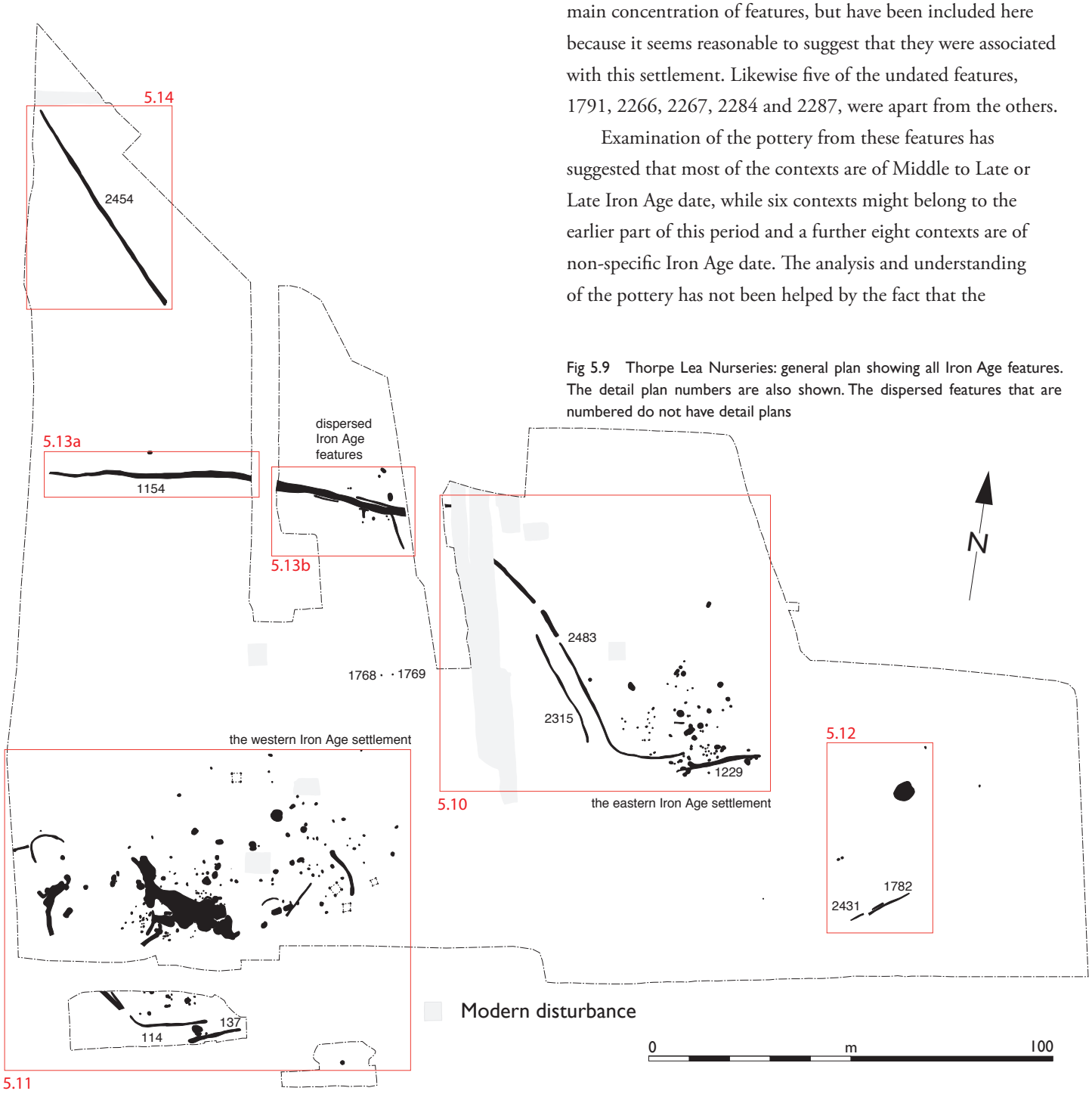


Fig 5.9 Thorpe Lea Nurseries: general plan showing all Iron Age features. The detail plan numbers are also shown. The dispersed features that are numbered do not have detail plans

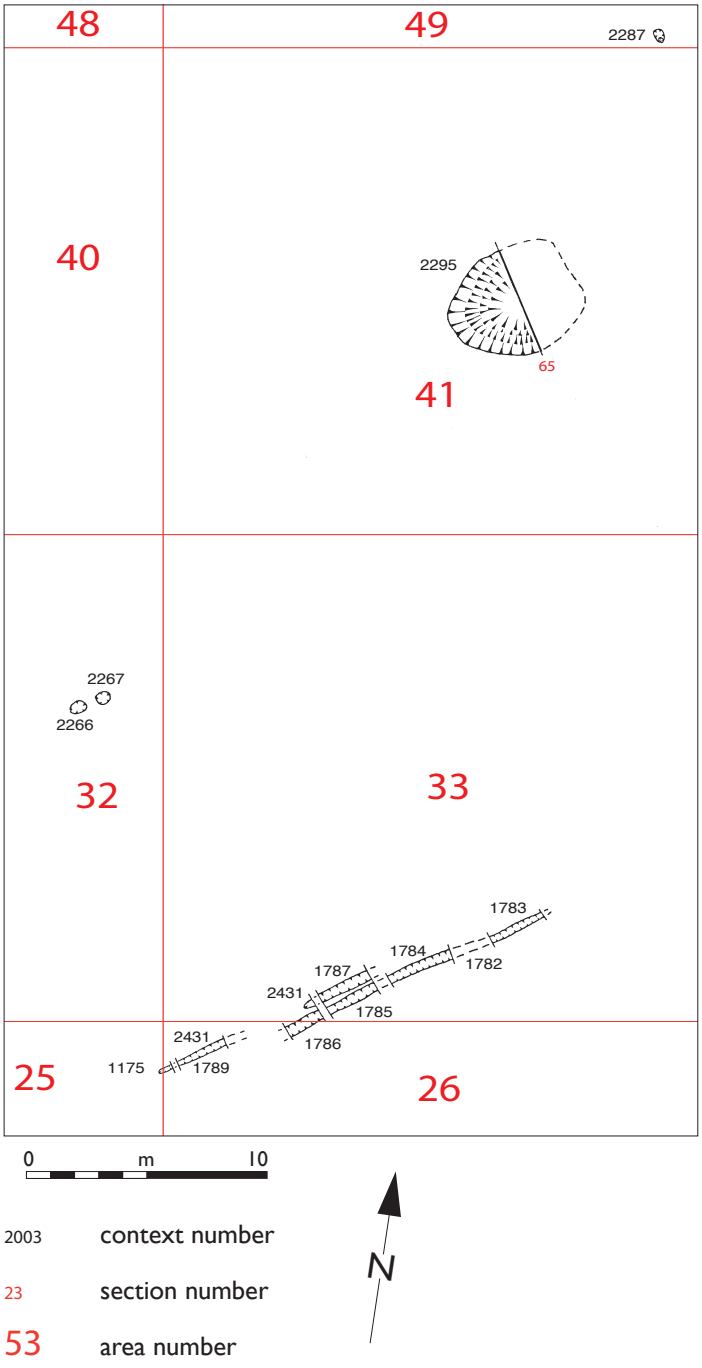


Fig 5.12 Thorpe Lea Nurseries: detail plan of Iron Age ditches 1782 and 2431, and other features

overwhelming majority of these contexts produced five sherds or less. Consequently, the date suggested for a number of contexts (including half of the 16 that might belong to the Late Iron Age) has, by necessity, been qualified by the word 'possibly' or 'probably'. For this reason it has been difficult to decide how best to present the features of the eastern site, but overall, it seems sensible to discuss them by type rather than to subdivide them into chronological phases as the extent to which these are meaningful is debatable.

The ditches and gullies

Six Iron Age ditches or gullies were discovered in, or close to, the eastern site area, though three of these were quite insubstantial.

2483 ran westwards from the main concentration of pits and postholes described above, then curved towards the north-west before being lost in an area of modern disturbance. There were two short, deliberate, breaks in the feature towards the north-west, and it was cut along its course by the Roman ditch 2232 and the modern gully 2255. The ditch was sampled by the excavation of 26 segments which showed it to vary quite considerably in width, depth, and profile; the two north-western elements were wider and deeper than the longer section to the south-east. In segment 2383 the width reached 1.20m, while in the narrowest segment, 2263, it only measured 0.25m. 2263 was also the shallowest segment, measuring just 0.08m, while 2368, the deepest, measured 0.32m. Segments 2244 (most particularly) and 2357 are noteworthy because they produced evidence of metalworking (see part 8). 130 sherds of pottery suggested that it is possibly of Middle Iron Age date, or else it is of Middle to Late Iron Age date.

Gully 2315 varied quite considerably in width from 0.22m to 0.60m wide, while the depth was never more than 0.16m. Neither termination was well pronounced so it is possible that it might originally have been longer and that only this deeper part survived to be discovered by the excavation. Only 12 sherds of pottery were recovered and these suggested that it was of Middle to Late Iron Age origin.

Feature 1229 had a dual basal profile in some segments, with the northern and southern element being separated, or indicated, below ground level by a ridge of natural gravel (fig 5.16). These segments indicated the presence of two gullies, each probably around 0.50m in width, and suggested that the boundary created by the original element had been re-established, at least once, by recutting along much the same course. The overall width varied between 0.60m and 1.15m, though the width of the individual elements suggested above is more relevant to the character of the feature, and the depth varied between 0.08m and 0.26m. The northern end of 1229 may have formed a genuine termination, but the southern end was not distinct, and it is possible that the ditch might once have been longer in that direction. 1229 was cut by the Roman ditch 2232. The finds recovered from 1229 are comparable in type and quantity with those from 2315 and 2483; of specific interest was the evidence of metalworking in the vicinity (see part 7). Around 65 sherds of pottery were recovered, five of which were Roman while the remainder were Iron Age. The Roman material all came from segments 2337 and 2346 and is assumed to be intrusive, some at least probably coming from Roman pit 2338, which cut the ditch, but whose prtesence was not realised initially. It has been suggested that the material might belong to the Middle Iron Age, but, if not, it is of Middle to Late Iron Age date.

Gully 1110, which could only be traced for a distance of just over 2m, lacked distinct terminals suggesting that it was probably the surviving remnant of a once longer feature. It measured approximately 0.32m wide, was never more than 0.08m deep, and had a fill of mid to dark brown clay soil; two sherds of pottery suggest it is of Late Iron Age date.

Gullies 1782 and 2431 were found some 50m to the south-east of the main group of features discussed here and also appeared to be the remnants of once longer features. None of the segments examined were substantial and all measured between 0.30m and 0.48m wide, and between 0.03m and 0.13m deep. It seems likely that the gullies represent the establishment and re-establishment of a single boundary. 26 sherds of Middle to Late Iron Age pottery date both contexts.

CX	TYPE	PLN	AREA	SECT
1107	Seg 2483	5.10	38	
1110	Linear	5.10	46	
1130	Seg 2483	5.10	38	
1131	Seg 2483	5.10	38	
1132	Seg 1229	5.10	39	53
1159	Linear	5.10	38	62
1175	Seg 1782	5.14	33	
1183	Seg 1229	5.10	39	
1184	Seg 1229	5.10	38	
1189	Seg 2483	5.10	57	
1229	Linear	5.10	39	
1244	Seg 2315	5.10	57	
1782	Linear	5.12	26,33	
1783	Seg 1782	5.12	33	
1784	Seg 1782	5.12	33	
1785	Seg 1782	5.12	26,33	
1786	Seg 1782	5.12	26	
1787	Linear	5.12	33	
1789	Seg 1787	5.12	26	
2086	Seg 2483	5.10	45	

CX	TYPE	PLN	AREA	SECT
2242	Seg 2483	5.10	45	
2244	Seg 2483	5.10	38	
2245	Seg 2483	5.10	38	
2247	Seg 2483	5.10	45	
2248	Seg 2483	5.10	45	
2250	Seg 2483	5.10	38	50
2251	Seg 2483	5.10	38	
2252	Seg 2483	5.10	38	
2253	Seg 2483	5.10	46	51
2260	Seg 2483	5.10	45,46	
2263	Seg 2483	5.10	38	
2269	Seg 2483	5.10	45	
2276	Seg 1229	5.10	39	54
2283	Seg 2483	5.10	45	
2291	Seg 2483	5.10	57	
2293	Seg 2483	5.10	57	
2315	Linear	5.10	45,57	
2316	Seg 2315	5.10	45	
2317	Seg 2315	5.10	45	
2324	Seg 2315	5.10	45	

CX	TYPE	PLN	AREA	SECT
2331	Seg 2315	5.10	45	
2332	Seg 2315	5.10	45	63
2333	Seg 2315	5.10	45	
2337	Seg 1229	5.10	39	52
2342	Seg 2315	5.10	45	
2343	Seg 2315	5.10	66	
2346	Seg 1229	5.10	39	
2348	Seg 1229	5.10	39	
2352	Seg 2483	5.10	38	
2354	Seg 2483	5.10	57	
2357	Seg 2483	5.10	56	49
2360	Seg 2483	5.10	57	
2368	Seg 2483	5.10	57	
2371	Seg 2483	5.10	57	
2378	Seg 2483	5.10	57	
2383	Seg 2483	5.10	57	
2386	Seg 2315	5.10	57	
2387	Seg 2315	5.10	57	
2483	Linear	5.10	38,45	

The waterhole

Feature 2295 was discovered some 45m to the south-east of the main concentration of features and is thought to have been a waterhole. It measured between 4.5m and over 5m in width/diameter, and was excavated to a depth of just over 2.35m, which did not reach its bottom. Ground water began to seep in at a depth of approximately 1.5m and excavation had to be stopped once no further progress could be made against the incoming water. All but one of the 115 sherds from 2295 came from the final infill layer 2296. Below this one sherd and one flint flake were recovered from 2297, and two flint flakes were recovered from 2367. The relative abundance of finds in the final infill deposit might, to some extent, result from deliberate dumping or infilling, but beneath this the layers encountered appeared to have infilled naturally. The pottery from 2296 indicates that the final infilling of the waterhole took place in the Late Iron Age; the absence of diagnostic material beneath this prevents certainty, but it seems most likely that it was used during the Middle to Late Iron Age, contemporary with the majority of features lying a short distance to the north-east.

CX	TYPE	PLN	AREA	SECT
2295	WH	5.12	41	65
2296	Fill 2295	5.12	41	65
2297	Fill 2295	5.12	41	65
2365	Fill 2295	5.12	41	65
2366	Fill 2295	5.12	41	65
2367	Fill 2295	5.12	41	65

The pits

Thirty-three features have been classified as pits. These features all measured over 0.44m in width (1120) and varied in depth between 0.09m (2300) and 0.55m (2351); most were either sub-circular or sub-rectangular. Only a few have specific points of interest that merit further comment. Dark (burnt) material in 2350 was bulk sampled, and the specialist report (part 8) suggests that the character of charcoal in it is similar to other features (pits 1508 and 2403) that have been suggested as possible cremation pits (see below). In 2300 the lower fill, which covered most of the sides and base and might have been used as a lining to retain water, consisted of mid grey clay mixed with occasional patches and specks of fired clay permeated by pockets of soil resulting from root or worm activity. Some slag and other metalworking debris was recovered from 1106, 2209, 2211 and the undated features 1104 and 2282, and a baked clay slingshot was recovered from 2301.

There is a possibility that four of the undated pits included in this section might have been cremation pits. These features, 2266, 2267, 2284 and 2287 lay some distance to the east and south-east of the main group discussed here. Each contained a fill of almost black soil; this clearly resulted from the presence of a substantial quantity of burnt organic material in its make-up, but charcoal was in a poor state of preservation and relatively few flecks survived. Occasional small, poorly preserved fragments of burnt bone (not identifiable) were observed within the fills of 2266, 2284 and 2287, but no other finds. Complete fill soil samples were taken from 2266, 2284 and 2287, but these did not provide further evidence. It is impossible to be certain that these features are of Iron Age date, and neither is there proof that they are cremation pits.

It should be noted, however, that a similar undated feature, 2403, which has been included in phase 2B for no better reason than its close proximity to a number of Late Bronze Age pits (none containing fills quite like that of 2403), lay closer to the eastern site than 2284 and could just as easily belong to it, and specialist examination of the soil samples taken from 2403 has suggested that the material is best explained as coming from a funeral pyre. All or any of these features may belong to phase 2, to phase 3, or to neither of these phases.

CX	TYPE	PLN	AREA	SECT
1104	Pit	5.10	47	
1106	Pit	5.10	47	
1111	Pit	5.10	46	
1112	Pit	5.10	46	
1113	Fill 1112	5.10	46	
1118	Pit	5.10	46	
1120	Pit	5.10	46	
1136	Pit	5.10	59	
1137	Fill 1136	5.10	59	
1144	Pit	5.10	38	61
1160	Pit	5.10	38	62
1161	Pit	5.10	38	63
1171	Seg 1172	5.10	38	
1172	Linear	5.10	38	
1212	Other	5.10	39	
1214	Pit/PH	5.10	39	
1225	Pit	5.10	58	
1234	Pit/PH	5.10	46	
1247	PH	5.10	38	
2202	Pit	5.10	47	
2204	Pit	5.10	47	
2209	Pit	5.10	47	
2211	PH	5.10	47	
2215	Pit	5.10	46	
2217	Pit	5.10	47	
2266	Pit	5.9	32	
2267	Pit	5.9	32	
2284	Pit		42	
2287	Other	5.9	41	
2300	Pit	5.10	47	
2301	Pit	5.10	47	
2302	Pit/PH	5.10	39	
2311	Pit/PH	5.10	46	
2336	Pit	5.10	38	
2339	PH	5.10	39	52
2344	Pit	5.10	39	
2347	Pit/PH	5.10	39	
2349	Pit	5.10	45	
2350	Pit	5.10	39	
2351	Pit	5.10	46	64
2353	Pit	5.10	46	

The postholes

The features thought most likely to have been used as postholes were identified on the basis of their small size, shape, and width to depth ratios; none contained any packing material or evidence of a post-pipe. These features varied in width/diameter between 0.50m (2298) and 0.16m (1220), and in depth between 0.40m (2298) and 0.06m (2393). It is possible that not all have been correctly identified and that some (the elongated 2307 for example) might have been small pits; 2322 might have been a natural variation. All of these features contained a single fill of mid dark brown or grey-brown clay soil.

A high proportion of the undated features in this area (31, including the distant 1791, and 2305 and its neighbour 2319 which had a square appearance and might have been modern) are thought to have been postholes; the absence of finds from these contexts is not surprising given that postholes are seldom 'open' for any length of time. Most of the postholes were found in two groups, one immediately to the north of gully 1229, and the other to the north of gully 2483. They have been looked at by size and by date (either as suggested or as if all were contemporary), but it has not been possible to make any meaningful interpretation of their distribution.

CX	TYPE	PLN	AREA	SECT
1116	PH	5.10	46	
1122	PH	5.10	46	
1140	PH	5.10	38	
1143	PH	5.10	38	61
1216	PH	5.10	39	59
1220	PH	5.10	47	59
1791	PH	5.14	31	
2203	PH	5.10	47	
2205	PH	5.10	47	
2206	PH	5.10	47	
2208	PH	5.10	47	
2212	PH	5.10	39	
2213	PH	5.10	39	
2268	PH	5.10	47	
2271	PH	5.10	47	
2286	Pit/PH	5.10	39	
2298	PH	5.10	39	60
2304	PH	5.10	47	
2305	PH	5.10	46	
2306	PH	5.10	46	
2307	PH	5.10	46	
2308	PH	5.10	46	
2310	PH	5.10	47	
2313	PH	5.10	46	
2319	PH	5.10	46	
2322	PH	5.10	38	
2328	PH	5.10	46	
2335	PH	5.10	38	
2391	PH	5.10	46	
2393	PH	5.10	46	

3.2 THE WESTERN IRON AGE SITE

The western Iron Age site is recognised by the presence of numerous features dated by pottery sherds to the Iron Age. In addition a number of undateable features are likely to be Iron Age, but the presence of Roman features throughout this area prevents confident attribution for the majority. For this reason it is also possible, indeed likely, that some of the features included in this section contained only residual finds and are in fact Roman. There is no way of resolving this uncertainty, but it should be remembered that those features containing small quantities of pottery, particularly single sherds, are included here with reservations.

The distribution of Iron Age features is clearly similar to those of Roman date, and, most notably, they fall mostly within the enclosure ditches (1008) of Roman date (figs 5.18 and 5.64). It seems probable either that these ditches were recut in the Roman period but have their origins in the Iron Age, or that they replaced a fence for which evidence did not survive.

The features consist of a variety of pits, postholes (including three four-posted structures), ditches or gullies, and one waterhole. Sub-phases of the Iron Age have been tentatively suggested by the pottery study and are followed below. The sub-phases are not presented as hard and fast divisions and do little to assist any overall interpretation of the site. The pits and postholes have again been distinguished on the basis of their size, shape, and width to depth ratios, but some of the smaller pits or larger postholes could, clearly, belong to either category. With the exception of 512 and, perhaps, 1625, none of the postholes contained any packing material or evidence of a post-pipe.

Phase 3A: Early Iron Age

These features consist of seven pits (1035, 1507, 1508, 1689, 1709, 1813 and 1824) and four postholes (111, 132, 342 and 643). The pottery from each suggests an Early Iron Age date, but the small amounts, and/or the lack of clearly diagnostic elements, and/or the presence of material of other dates, make certainty impossible.

The postholes were widely dispersed around the western site so nothing can be learnt from their spatial distribution. The largest of these features, 342, is thought to be a posthole, rather than a small pit, because of its conical profile. The fills of 111 and 643 were grey-black and rich in charcoal, perhaps suggesting the rotting *in situ* of the post.

The pits were all discovered in the south-eastern part of the western settlement area, which might be significant, though they are too few and too insecurely dated to be certain. 1824 was by far the largest of these pits and measured 1.53m across by 0.68m deep: none of the remainder were over 0.20m deep. Pit 1508 included charred material that may have been derived from a funeral pyre (see part 8). Some small fragments of bone, not in burnt condition, were observed during the excavation of this feature, but these did not survive removal from the ground.

CX	TYPE	PLN	AREA	SECT
111	Pit/PH	5.11	SDP	
132	Pit/PH	5.11	SDP	
342	PH	5.11	3	22
643	PH	5.11	3a	
1035	Pit/PH	5.11	5a	
1507	Pit	5.11	5	
1508	Pit	5.11	4	
1689	Pit	5.11	6	
1709	Pit	5.11	13	
1813	Pit/PH	5.11	5	
1824	Pit	5.11	10	23

Phase 3B: Middle to Late Iron Age

DITCHES AND GULLIES

Only seven of the many ditches and gullies of the western site can be attributed to this phase, most are quite insubstantial features, and for some the dating evidence is inconclusive. These features are 1659, 1664, 1779, 1845, 2107 and 2116. The final site plan (fig 5.9) shows a gap of approximately 2.75m between segments 1661 and 1669 of gully 1659, but when the site was mapped in 1992 the feature was recorded (as a soil mark) as being continuous through this area. The north-eastern and south-western ends were not convincing terminals and there seems little doubt that it was originally longer overall. The most substantial segment, 1660, measured 0.50m across by 0.23m in depth.

Fourteen sherds of pottery were recovered (none from segments 1669 or 1814), 13 of which were Iron Age, while one (a greyware sherd from 1660) was Roman; it seems likely that the latter was intrusive.

Feature 1664 is included here for convenience, but it was really too short to be considered a gully. The feature measured approximately 0.32m across by 0.12m deep. The southern end may have cut pit 1667, though this was not certain; if not so, it is possible that 1664 was in some way associated with 1667. A single sherd of pottery was recovered from 1664, though given the uncertainty of its relationship to 1667, it is possible that this emanated from the pit.

Four segments of feature 1779 were excavated. The basal profile of the southernmost segment, 657, was stepped on the eastern side which suggests that it might have been recut, though there was no evidence of this in section or elsewhere. It varied between 0.63m (1776) and 1.1m (1743) in width, and between 0.22m (1776) and 0.32m (also 1776) in depth. It produced a total of 30 sherds of Iron Age pottery, and one sherd of Roman pottery, which is assumed to be intrusive.

The narrow, shallow, curvilinear gully 1845 measured approximately 0.25m in width and was between 0.04m (to the east) and 0.11m deep. Neither end culminated in a convincing terminal so it seems likely that 1845 was the remnant of a formerly more extensive ring gully. Eight sherds of Iron Age pottery were recovered. The possibility that this feature might indicate the position of a structure is discussed in part 9.

It is possible that gullies 2107 and 2110 were associated, but the occurrence of the deep phase 4 pit 2105 at the junction between them prevented any chance of determining this. 2107 was approximately 0.45m wide by 0.06–0.12m deep; it yielded eight sherds of Iron Age pottery and one fragment of Roman tile. 2110 was extremely difficult to date, and its inclusion in phase 3B is based on rather tenuous evidence. The four segments excavated reached a maximum of 0.58m in width (2111) and were never more than 0.12m in depth. No clearly defined terminal was discovered at any point, which suggested that this feature, possibly the remains of a ring gully, had been truncated. It appeared to have been cut by the phase 4 pits 2096, 2105 and 2136, though the suggested relationship was never seen in section. The pottery recovered consisted of one sherd of Late Iron Age or Early Roman date from 2098, seven Iron Age sherds and eight Roman sherds from 2102, one Roman sherd from 2106, and one Middle to Late Iron Age sherd from 2111. It is possible that the Roman material emanated from the pits that cut this feature, but beyond this, the suggestion that 2110 was Iron Age (and its inclusion in phase 3B) relies heavily upon the tenuous possibility that it might have been contemporary with 2107. A Late Iron Age or Late Iron Age to Early Roman date is also a possibility for this feature.

2116 was also partially excavated with the complex of pits excavated as part of 2099 and 2142 (phase 3C). It measured approximately 1.05m in width, and between 0.46m and 0.24m deep, and it yielded 29 sherds of Iron Age pottery. The extent southwards could not be determined as it ran into an area that had been greatly disturbed by vehicle movements. The course, width, and depth of the feature at the southern end of the sample segment, suggests that it might be associated with ditch 113, identified some 20m to the south east, and discussed in phase 3C.

CX	TYPE	PLN	AREA	SECT
1659	Linear	5.11	5	
1660	Seg 1659	5.11	5,5a	
1661	Seg 1659	5.11	5	
1664	Linear	5.11	5	
1743	Seg 1779	5.11	5	
1776	Seg 1779	5.11	5	
1779	Linear	5.11	4	31
1845	Linear	5.11	4	
2106	Seg 2110	5.11	1	
2107	Linear	5.11	1	
2110	Linear	5.11	1	
2111	Seg 2110	5.11	1	
2116	Seg 2143	5.11	2a	

THE WATERHOLE

1916 was a large sub-circular feature which measured approximately 2.8m across by 1.26m deep. It seems likely that the five Roman sherds from the upper excavation spit were intrusive, and it is probably best dated by the 35 sherds of earlier material, which suggests it is of Middle to Late Iron Age date.

Bulk soil samples and a monolith for pollen analysis were taken from the lower regions of this feature, but these provided no useful information. The evidence is not conclusive, especially if this feature is compared with 2295 from the eastern site which contained distinct layers of fill and was considerably deeper, but it is, perhaps, most probable that this feature served as a waterhole. A number of western site features that are discussed in phase 4 were of similar depth and are believed to have served the same function.

CX	TYPE	PLN	AREA	SECT
1916	WH	5.11	11	

THE PITS

Thirty-five pits containing sherds of Middle to Late Iron Age pottery might belong to this phase. Two of these, 146 and 407, might have been large postholes. These features varied between 0.25m (306) and 1.50m (1063) across, and between 0.10m (306, 1745 and 1823) and 0.66m (119) deep; they were scattered throughout the western settlement area. The majority contained single homogeneous deposits of brown or grey-brown clay or silty-clay soil, and were quite unremarkable, serving no obvious specific function.

More than half of these features produced less than five sherds of pottery, and contexts 146, 644, 684 (pit 701), 1804, 1806 and 1889 are dated by single sherds. 1889 also produced a very small fragment of Roman tile, so it is possible that the Iron Age sherd recovered was residual in a Roman context. Pit 1653 produced one sherd of Roman pottery, but this is thought to be intrusive as 23 sherds of Iron Age pottery were also recovered. Soil mark 689, later defined as pit 2050, produced a Colchester derivative copper alloy brooch which has been dated to *c*AD 50–90; this might date the feature, though given that the precise location of this find is uncertain, and that it was a surface find anyway, the feature is best dated by the ten sherds of pottery which attribute it to this phase. Small quantities of slag or other evidence of ironworking was recovered from 153, 1528, 1602, 1603, 1653 and 1745. Four pieces of Roman tile were recovered from 153 and another small piece was recovered from 1603, but the pottery recovered (six sherds and 18 sherds respectively) was all Iron Age so it seems likely that the tile was intrusive, that from 153 possibly emanating from postholes 154 and 155 which cut it.

CX	TYPE	PLN	AREA	SECT
119	Pit	5.11	SDP	24
139	Pit	5.11	SDP	
146	Pit	5.11	SDP	
153	Pit	5.11	SDP	
306	Linear	5.11	3	
407	Pit	5.11	3	
481	Pit	5.11	4	
544	Pit	5.11	3a	
644	Pit	5.11	2	
645	Pit	5.11	2	
683	Fill 701	5.11	3a	30
684	Fill 701	5.11	3a	30
701	Pit	5.11	3a	30
1006	Pit	5.11	4a	
1063	Pit	5.11	4,4a	25
1509	Pit	5.11	5	
1517	Pit	5.11	4	
1520	Pit	5.11	4	87
1528	Pit	5.11	5	
1602	Pit	5.11	4	
1603	Pit	5.11	4	
1629	Pit	5.11	3a	
1639	PH	5.11	3a	
1650	Pit	5.11	5	
1651	Pit	5.11	5	
1653	Pit	5.11	4	
1667	Pit	5.11	5	
1673	Pit	5.11	4	
1745	Pit	5.11	5	
1804	Pit	5.11	12	
1806	Pit	5.11	12	
1823	Pit	5.11	12	
1889	Pit	5.11	11	
1970	Pit	5.11	3a	
2050	Pit	5.11	2	
2118	Pit	5.11	2a	

THE POSTHOLES (INCLUDING STRUCTURE 1736 AND MENTION OF STRUCTURE 1742)

Thirty probable postholes contained sherds of pottery that indicate they might belong to this phase. These features varied between 0.52m (1799) and 0.18m (652 and 1608) in width/diameter, and between 0.35m (519) and 0.07m (579 and 1613) in depth; with the possible exception of 1625, all contained single deposits of mid to dark brown, grey-brown or grey-black clay soil. The two layers of fill identified in 1625 may show the position of a post, 1625A, within a post pit, backfilled wth 1625B.

Few finds were forthcoming from these features other than occasional sherds of pottery. Only 537, 1617 and 1618 produced five or more sherds, and 136, 157, 347, 356, 397, 404, 568, 579, 1033, 1652, 1589, 1608 and 1732 are dated by single sherds. 488, 490, 575 and 590 and 1589, 1608, 1609, 1613, 1617 and 1618 belong to small groups of postholes which are mostly of Iron Age date, and 1732 was one corner of the four-posted structure 1736. None of the remaining postholes of 1736 (1728, 1729 and 1733) produced any finds so the dating of this structure is insecure. 1736 was probably contemporary with, or else closely preceded or succeeded, a similar structure, 1742, which lay approximately 3.5m to the north-west. The precedence of 1736 is very tentatively suggested in view of the, almost equally tentative, inclusion of 1742 in phase 3C (see below).

CX	TYPE	PLN	AREA	SECT
136	PH	5.11	SDP	
157	PH	5.11	SDP	
347	PH	5.11	3	
356	PH	5.11	3	
397	PH	5.11	3	
404	Pit	5.11	4	
427	PH	5.11	3a	
488	PH	5.11	4	
490	PH	5.11	3	
519	PH	5.11	3	
537	PH	5.11	3a	
552	PH	5.11	3	
568	PH		n/a	
575	PH	5.11	4	
579	PH	5.11	2	
590	PH	5.11	4	
650	PH	5.11	3a	
652	PH	5.11	3a	
1033	PH	5.11	4	
1090	Pit	5.11	46	
1589	PH	5.11	3a	
1608	PH	5.11	3a	
1609	Pit/PH	5.11	3a	
1613	Pit/PH	5.11	3a	
1617	Pit/PH	5.11	3a	
1618	PH	5.11	3a	
1625	Pit	5.11	3a	
1652	Pit	5.11	5	
1728	PH	5.11	5	27
1729	PH	5.11	5	26
1732	PH	5.11	5a	28
1733	PH	5.11	5	29
1736		5.11	5,5a	
1799	Pit	5.11	12	
1886	PH	5.11	11	

Phase 3C: Late Iron Age

DITCHES AND GULLIES

Four ditches, 113, 114, 137 and 1996, and one gully, 612, contained finds which suggested that they most probably belong to this phase. 113 was a substantial ditch measuring up to 1.15m across by between 0.35 and 0.60m deep, being wider and deeper towards the north-west. The south-eastern end of this feature was cut by waterhole 156 (phase 4), while to the north-west vehicle disturbance prevented its course being determined (a possible connection with ditch 2116 has been suggested in phase 3B).

There were two parts to ditch 114, the shorter of which followed a north-west to south-easterly course and was cut by waterhole 156 (phase 4), while the longer part continued to the south-east for a short distance before curving towards the east. It varied between 0.30m and 0.62m in width, and between 0.18m and 0.42m in depth and produced 156 sherds of Iron Age pottery and five small sherds that are of Early Roman origin but these were all surface finds; a small quantity of slag was also recovered.

Ditch 137 varied between 0.72m and 1.33m in width and between 0.19m and 0.32m in depth, and produced 49 sherds of Iron Age pottery and eight sherds that were Early Roman. 137 was similar in appearance to the Late Iron Age ditch 114, though wider, and it is very probable that they were contemporary.

Ditch 1996 varied between 0.75m and 1.35m in width and between 0.22m and 0.35m in depth and appeared to have been cut by ditch 1008 (phase 4)

Little can be said about gully 612 which seemed to curve around pit 628, but beyond this followed an unknown course in areas not excavated. It measured approximately 0.30m across by 0.16m deep. The function of this feature is not known, nor is it clear whether its course deliberately respected the position of 628: if so it may belong to the ensuing transitional phase rather than to phase 3C.

CX	TYPE	PLN	AREA	SECT
113	Linear	5.11	SDP	36
137	Linear	5.11	SDP	68,69
612	Linear	5.11	4	
613	Seg 612	5.11	4	
614	Seg 612	5.11	4	
1996	Linear	5.11	3a	
1997	Seg 1996	5.11	3a	
1998	Seg 1996	5.11	3a	
2004	Seg 1996	5.11	3a	
2005	PH	5.11	3a	
114(A-J)	Linear	5.11	SDP	35,36

THE PITS

A number of pits contained pottery sherds that indicated that they might be of Late Iron Age date and in addition to these, much or all of the irregularly shaped 2143 may belong to this phase. Not surprisingly, the Late Iron Age pits were similar in size and content to the pits previously described in phase 3B, and only 2143 requires further explanation.

2143 was sampled at four locations and was found to consist of various intercutting pits (simplified by the numbers 697, 2094, 2099 and 2142) and elements of ditch 2116; no meaningful distinction could be made between the fills of the various components. Much of the Iron Age pottery from 2143 is probably of Late Iron Age date, although some may be of Middle to Late Iron Age date, and some is of non-specific Iron Age origin. The surface finds collected as context 698 include a wheelthrown sherd and a possible Roman base angle; this assemblage is dated as being Late Iron Age or Early Roman. Four other Roman sherds from 2143 might be intrusive, or else, with the two sherds noted from 698, might indicate that elements of it belong to the transitional period at the end of the Iron Age.

CX	TYPE	PLN	AREA	SECT
124	Pit	5.11	SDP	
144	Pit	5.11	SDP	
145	Pit	5.11	SDP	
473	Linear	5.11	4	
507	Pit	5.11	3a	34
585	Pit	5.11	2	
1041	Pit	5.11	3a	
1747	Pit	5.11	3a	
1968	Pit	5.11	3	
2142	Samp Tr	5.11	2	
2143	Pit	5.11	2	

THE POSTHOLES (INCLUDING THE FOUR-POSTED STRUCTURE 1742)

Eleven postholes are potentially of Late Iron Age date, and, like the pits noted here, all were of similar size and character to their counterparts recorded in phase 3B. 1713, 1723, 1734 and 1735 were corners of the four-posted structure 1742 which measured approximately 2m square. No finds came from 1713, and four sherds of pottery dated Middle to Late Iron Age were recovered from 1734, but there is no doubt that the four features were contemporary, so

the single sherds from each of 1723 and 1735 probably give the best indication of their date overall. The presence of a similar four-posted structure, 1736, located just to the south, has been noted in phase 3B.

CX	TYPE	PLN	AREA	SECT
155	PH	5.11	SDP	
546	PH	5.11	3a	
587	PH	5.11	3	
1610	PH	5.11	3a	
1624	PH	5.11	3a	
1713	PH	5.11	5	37
1723	PH	5.11	5	39
1730	PH	5.11	5	
1734	PH	5.11	5	38
1735	PH	5.11	5	40
1741	PH	5.11	5	
1742	PH	5.11	5	

HEARTH 141

This was one of the southernmost features of the western settlement and was discovered during trial trenching. The area adjacent to this feature on each side of the trial trench was opened up but revealed just two further features, 140 and 142, which were both Roman and date to the 4th century AD. It was a bowl hearth which measured approximately 0.80m in diameter by 0.23m deep, and was infilled with a mid brown clay soil containing occasional flecks of charcoal and a band of red clay. The sides were steep, sometimes slightly overhanging the floor, and there was no evidence that it had had a flue; the walls and base were natural clay that had been oxidised to a depth of up to 0.10m (see fig 5.15). The feature produced no finds, but an archaeomagnetic date of 100 BC–AD 20 was attained at the 95% confidence level (80–1BC at the 68% confidence level)–see the Appendix.

CX	TYPE	PLN	AREA	SECT
141	Other	5.11	SDP	33

Features of non-specific Iron Age date

A small number of features produced pottery that indicated they were of Iron Age origin, but this material was not diagnostic so it was impossible to suggest to which part of this period they might belong (though most, if not all, are presumably of Middle to Late or Late Iron Age date). These features were similar in size and character to those already described for the western settlement and most require no detailed comment here.

THE PITS

Only pit 1926 requires comment as it produced small quantities of metalworking debris.

CX	TYPE	PLN	AREA	SECT
401	Pit	5.11	4	
1521	Pit	5.11	5	
1537	Pit	5.11	5	
1541	Pit	5.11	5	
1750	Pit	5.11	5	
1816	Pit	5.11	5	
1868	Pit	5.11	12	
1900	Pit	5.11	12	
1926	Pit	5.11	10	

THE POSTHOLES (INCLUDING THE FOUR-POSTED STRUCTURE 1945)

These call for little comment. Some metalworking debris, possibly part of a furnace bottom, was recovered from 1703. Structure 1945 measured 2m square and was constructed using postholes 1877, 1887, 1894 and 1897. These features measured between 0.28m and 0.40m in width/diameter and were between 0.13m and 0.18m deep. 1877 produced 28 sherds of pottery but most were small, coming from two or three vessels, and the assemblage was not diagnostic.

CX	TYPE	PLN	AREA	SECT
129	PH	5.11	SDP	
393	PH	5.11	3	
450	PH	5.11	3a	
504	PH	5.11	4	
512	PH	5.11	4	41
513	Fill 512	5.11	4	41
514	Fill 512	5.11	4	41
572	PH	5.11	3	
651	PH	5.11	3a	
659	PH	5.11	2	
1531	PH	5.11	5	
1538	PH	5.11	5	
1604	Pit/PH	5.11	3a	
1612	Pit/PH	5.11	3a	
1682	PH	5.11	5	
1703	PH	5.11	5	
1719	PH	5.11	5	
1811	PH	5.11	5	
1812	PH	5.11	5	
1852	Pit/PH	5.11	12	
1877	PH	5.11	11	45
1887	PH	5.11	11	46
1892	PH	5.11	11	
1894	PH	5.11	11	47
1897	PH	5.11	11	48
1945	PH	5.11	11	

3.3 DISPERSED IRON AGE FEATURES

The features included in this section are a small number of pits, postholes and ditches/gullies located to the north and north-east of the western settlement and to the north-west of the eastern settlement (fig 5.9). These features are presented by type in the same way as those of the eastern settlement, but few merit specific comment.

The ditches and gullies

Various ditches and gullies were found in the northern part of the site. The most substantial of these was 1154, which ran in an east–west direction across the site and beyond the limits of the excavation to the west, and beneath an unexcavated road, probably into an area of much modern disturbance, to the east. Its width and depth were found to be quite variable and a dual basal profile visible at certain locations indicated that it had been recut.

At its widest point it measured approximately 2m across with the northern and southern elements each contributing to about half of this, while at its narrowest point, close to the western boundary, it was only about 0.65m wide. The feature was also shallowest near the western boundary (segments 2448 and 2453 were both less than 0.10m deep), and this, together with the reduced width, suggested that it might have terminated nearby. Elsewhere, it measured between 0.18m and 0.45m deep.

The finds recovered from the various contexts of 1154 included 88 sherds of pottery, a small amount of baked clay, some struck flint, a small quantity of metalworking debris (segments 1155, 2017 and 2448) and a copper alloy brooch from 1167. The pottery consisted of 73 sherds of Iron Age material, and 14 sherds that were Roman (half of which are recorded as being surface finds), and overall suggests that it was infilling during the later Iron Age with the final stages of this possibly taking place during the early part of the Roman

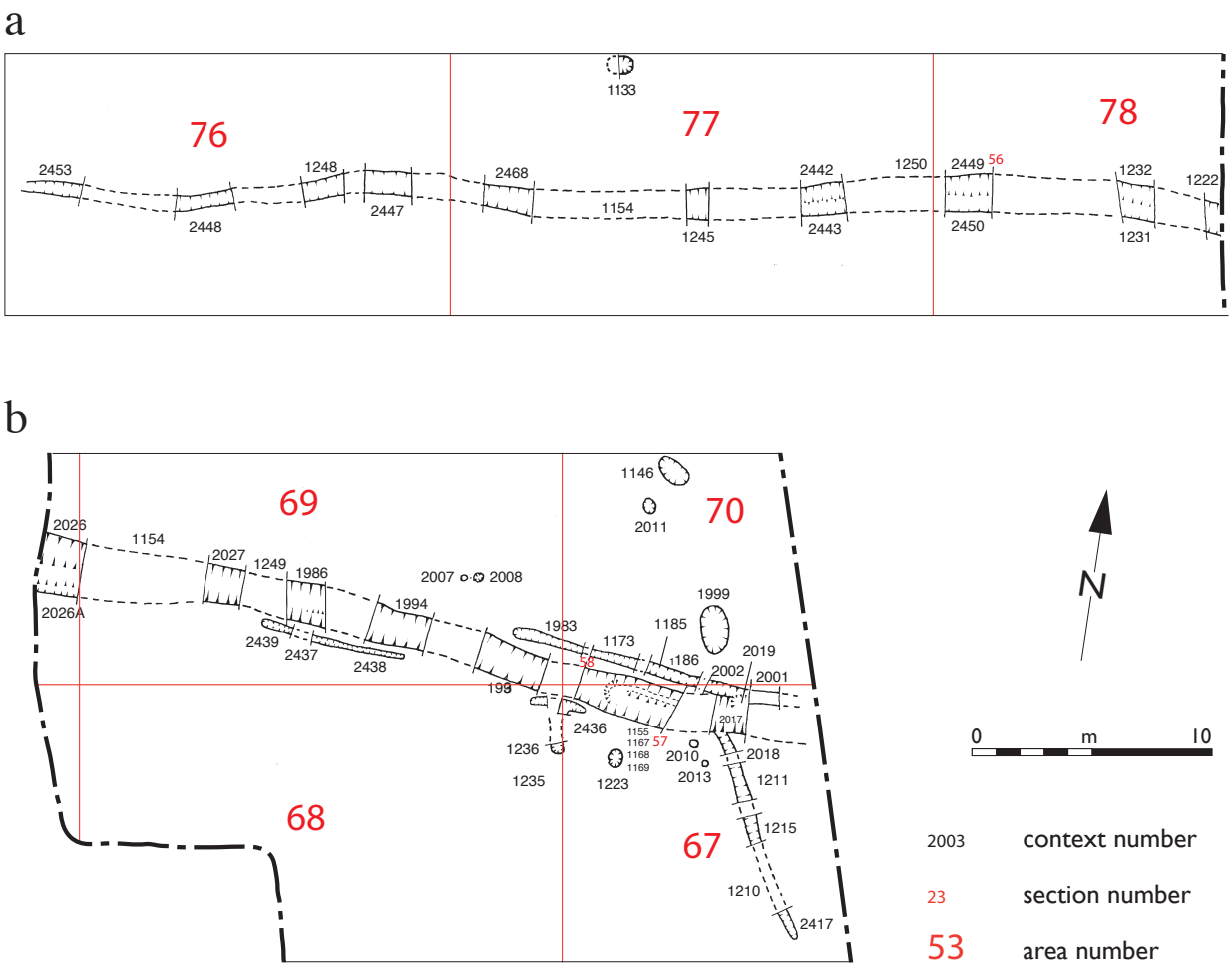


Fig 5.13 Thorpe Lea Nurseries: detail plan of ditch 1154 and dispersed Iron Age features

period. The copper alloy brooch, identified as being a Nauheim derivative type and dated mid 1st century BC to late 1st century AD, complements the chronology suggested by the pottery.

Little can be said about gullies 1185, 1210, 1236 and 2437 found close to the eastern part of 1154. 1185 and 2437 both ran roughly parallel to 1154 and are presumably further examples of the establishment and/or re-establishment of the boundary at this point. Where the fills of 1185 and 2437 overlapped with 1154, no relationship could be established between them. None of the terminals shown for these features on plan were well defined, which suggested that both features were originally longer. 1210 and 1236 both ran into the southern side of 1154 and were not traced on its northern side suggesting a possible association; 1210 may also have been a longer feature at one time. 1210 produced no finds, save for a waste flake from segment 1211 (its inclusion here is based solely on the possible association with 1154), and 1236 produced a single sherd of Iron Age pottery.

Ditch 2454, appeared to have been recut at least once as suggested by the geminate basal profile, which was clearly seen in segment 2472. Each individual ditch probably measured between 0.40m and 0.70m wide, and was between 0.10m and 0.40m deep. The feature is dated by a total of 11 sherds of pottery which suggest that it is of Middle to Late Iron Age origin.

CX	TYPE	PLN	AREA	SECT
1139	Seg 2454	5.9	86	
1152	Seg 2479	5.9	85	
1154	Linear	5.13	69,70	
1155	Seg 1154	5.13	67	57
1164	Seg 1154	5.10	66	
1165	Fill 1164	5.10	66	
1166	Fill 1164	5.10	66	
1167	Fill 1155	5.13	67,70	57
1168	Fill 1155	5.13	67,70	57
1169	Fill 1155	5.13	67,70	58
1173	Seg 1185	5.13	70	
1185	Linear	5.13	70	
1186	Seg 1185	5.13	70	
1210	Linear	5.13	67	
1211	Seg 1210	5.13	67	
1215	Seg 1210	5.13	67	
1222	Seg 1154	5.13	70	
1236	Linear	5.13	68	
1245	Seg 1154	5.12	77	

CX	TYPE	PLN	AREA	SECT
1248	Seg 1154	5.13	76	
1249	Surf	5.13	69	
1250	Surf	5.13	77	
1983	Seg 1185	5.13	69	
1986	Seg 1154	5.13	69	
1993	Seg 1154	5.13	69	
1994	Seg 1154	5.13	69	
2001	Seg 1185	5.13	67	
2002	Seg 1185	5.13	67	
2017	Seg 1154	5.13	67	
2018	Seg 1210	5.13	67	
2026	Seg 1154	5.13	78	
2027	Seg 1154	5.13	69	
2417	Seg 1210	5.13	67	
2436	Linear	5.13	67,68	
2437	Linear	5.13	69	
2438	Seg 2437	5.13	69	
2439	Seg 2437	5.13	69	
2442	Seg 1154	5.13	77	

CX	TYPE	PLN	AREA	SECT
2443	Seg 1154	5.13	77	
2447	Seg 1154	5.13	76	
2448	Seg 1154	5.13	76	
2449	Seg 1154	5.13	78	56
2450	Seg 1154	5.13	78	56
2453	Seg 1154	5.13	76	
2454	Linear	5.14	83,85	
2456	Seg 2454	5.14	87	
2467	Seg 2454	5.14	87	
2468	Seg 1154	5.14	77	
2469	Seg 2454	5.14	87	
2471	Seg 2454	5.14	83	
2472	Seg 2454	5.14	83	43
2473	Seg 2454	5.14	87	
2474	Seg 2454	5.14	83	42
2475	Seg 2454	5.14	83	
2477	Seg 2454	5.14	87	44
2478	Seg 2454	5.14	86	
2479	Seg 2454	5.14	85	

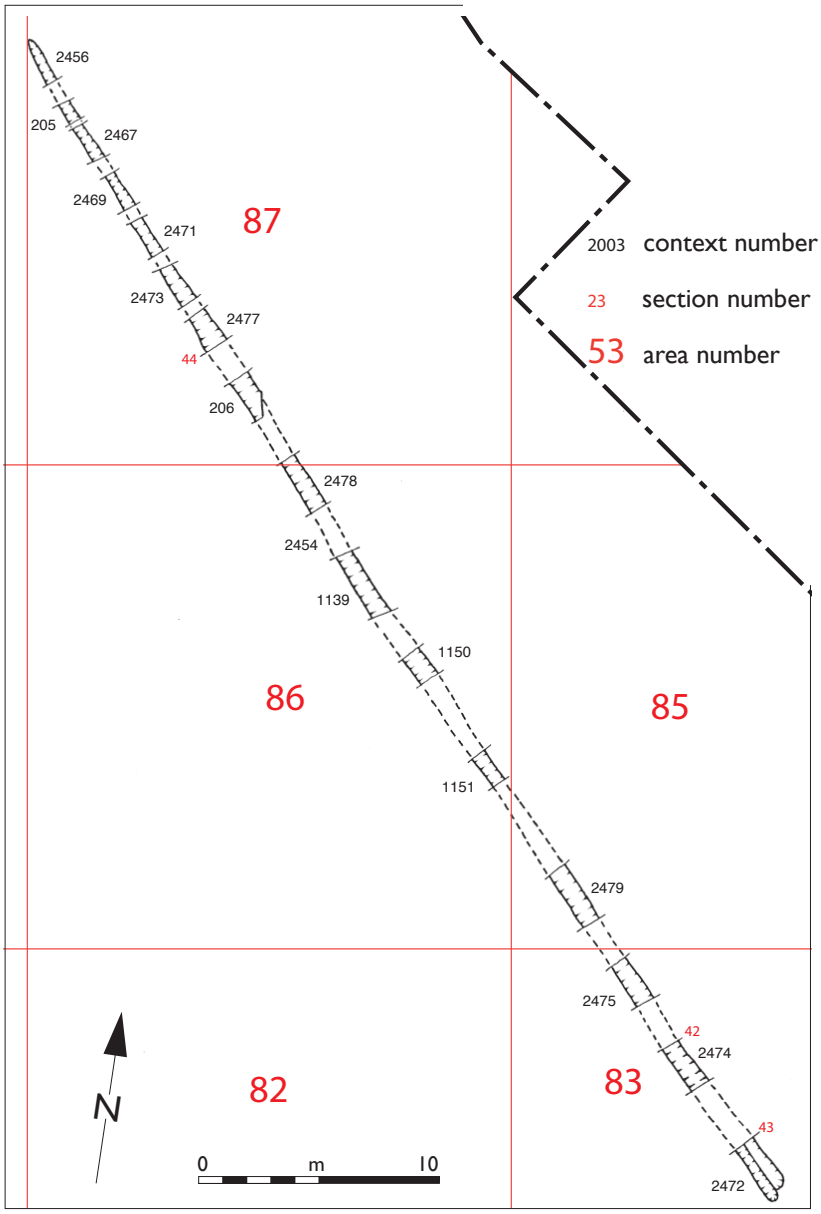


Fig 5.14 Thorpe Lea Nurseries: detail plan of Iron Age ditch 2454

The pits

Most of these features produced five or fewer sherds of pottery, and are tentatively dated. 1180 produced seven sherds of pottery and is possibly of Early Iron Age date, while 1146 produced 38 sherds (along with fragments of baked clay which included part of a pyramid-shaped loomweight) and is probably of Late Iron Age date, and 1999 produced eight sherds and is probably of Late Iron Age or Early Roman origin.

CX	TYPE	PLN	AREA	SECT
1133	Pit	5.13	77	
1146	Pit	5.13	70	
1180	Seg 1154	5.10	70	
1181	Fill 1180	5.10	70	
1223	Pit	5.13	67	
1999	Pit	5.13	70	
2011	Pit	5.13	70	
2019	Other	5.13	67	

The postholes

Six possible postholes were found in the same general area as pits 1146, 1223 and 1999. 1235, 2007 and 2010 were not entirely convincing as manmade features and might simply have been localised variations in the natural. None of these features produced any finds whatsoever, and it is suggested that they may be of Iron Age origin solely because it seems likely that they are contemporary with the pits found nearby.

CX	TYPE	PLN	AREA	SECT
1235	PH	5.13	68	
1995	PH	5.13	70	
2007	PH	5.13	69	
2008	PH	5.13	69	
2010	PH	5.13	67	
2013	PH	5.13	67	

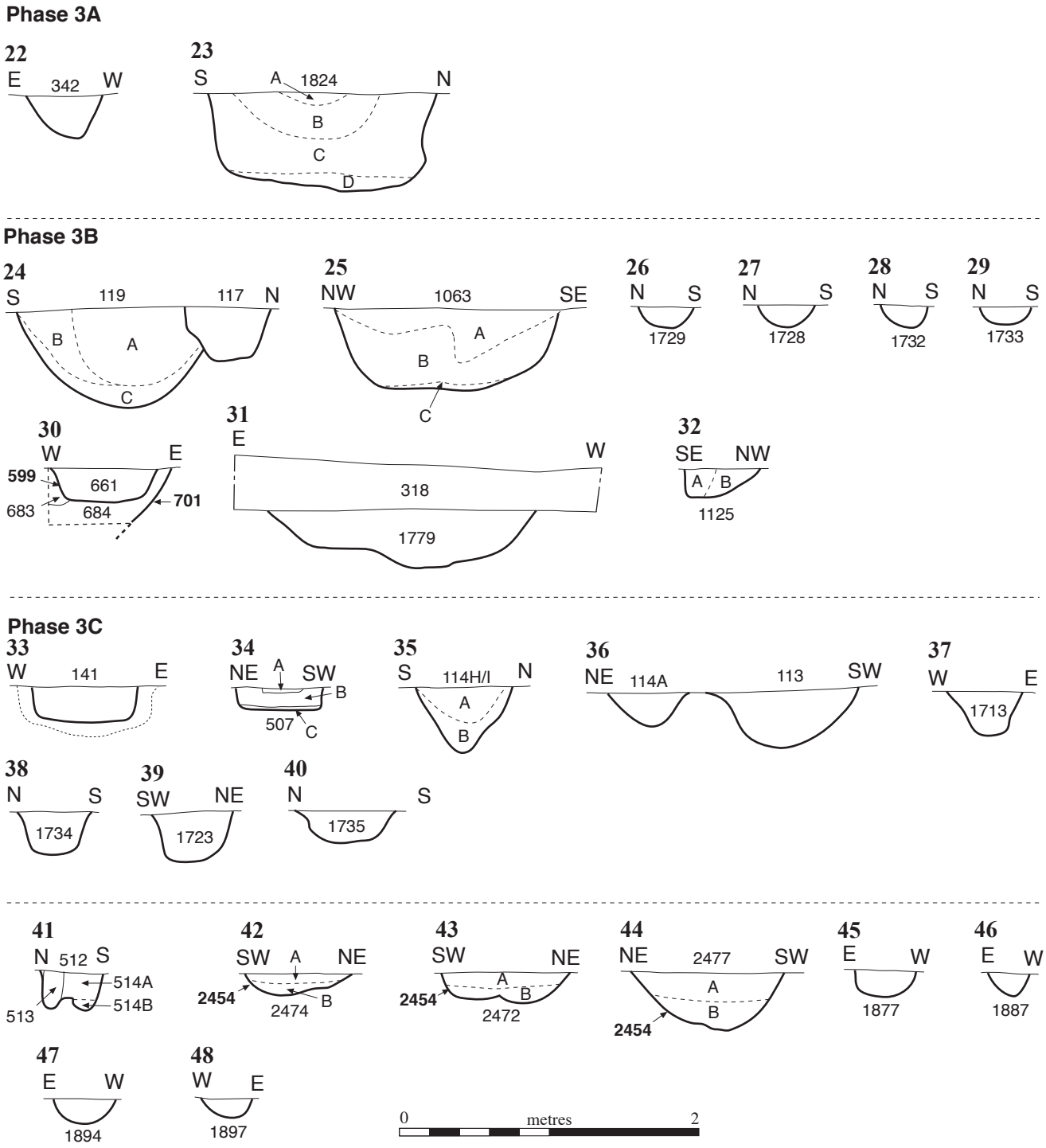


Fig 5.15 Thorpe Lea Nurseries: section drawings of features from the western Iron Age settlement, and the Iron Age ditch 2454

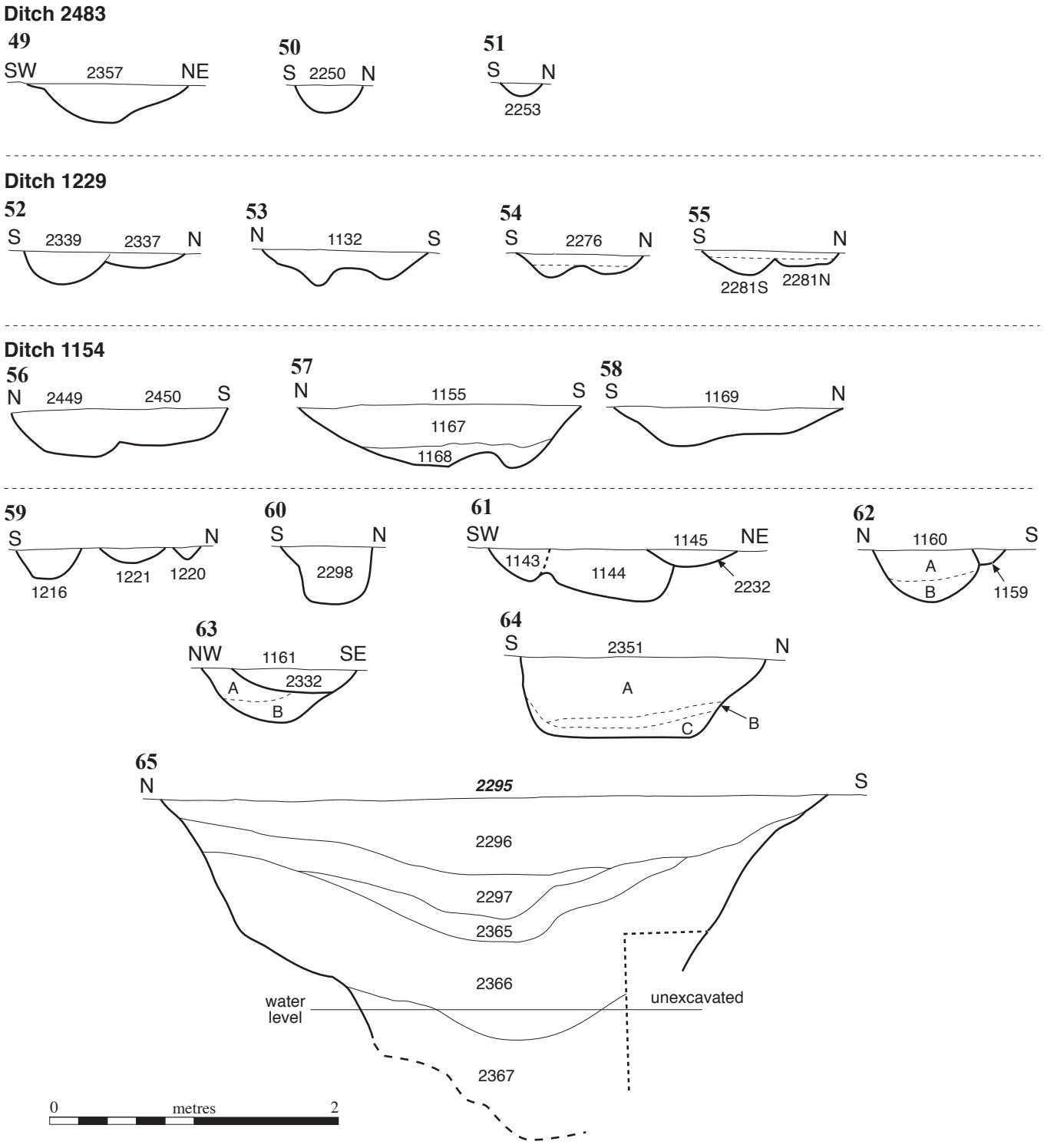


Fig 5.16 Thorpe Lea Nurseries: section drawings of features from the eastern Iron Age settlement and also of the Late Iron Age ditch 1154

4 THE TRANSITIONAL PERIOD BETWEEN PHASE 3 AND PHASE 4

As it would appear that the western settlement probably saw continuous occupation from, at least, the Middle to Late Iron Age until the end of the Roman period, it is not surprising that the transitional period between the two phases is difficult to identify. The integration of the new culture and all that went with it would have been a gradual process, even if new pottery production techniques were quickly adopted. The sub-phase between what may be recognised as distinctively Iron Age and what may be regarded as definitely Romano-British is only identifiable by the presence of pottery assemblages that are best dated as being of Late Iron Age/Early Roman origin because there are insufficient grounds to assign them to phase 3C or to phase 4A. These may contain a mixture of Iron Age and potentially Early Roman material (with a small proportion of the latter), or material with a fabric comparable with those identified as being Late Iron Age but showing romanised form elements. The difficulty of determining which features might belong to this phase is compounded by the recurring and ultimately unanswerable question of residual or intrusive sherd inclusion. A relatively small number of individual features is assigned to this phase, but, in addition, a midden-like complex of many intercutting pits seems likely to be wholly or partially of the transitional period. A similar, though much smaller, pit complex, 2143, might also belong to it, but has been assigned to phase 3C. The features are shown with the Iron Age features on figs 5.9–5.14.

4.1 DITCH 1979

Ditch 1979 varied between 0.70m and 0.85m in width and between 0.18m and 0.27m in depth. It contained an undifferentiated fill of grey-brown clay soil and may have cut the undated posthole 610, the Middle to Late Iron Age pit 1970, and the Late Iron Age pit 1969. The excavated segments produced a total of 13 sherds of Iron Age pottery and seven sherds of Roman greyware.

CX	TYPE	PLN	AREA	SECT
608	Linear	5.11	3a	
609	Fill 608	5.11	3a	
1966	Seg 1979	5.11	3a	
1977	Seg 1979	5.11	3,3a	
1979	Linear	5.11	3a	

4.2 THE MIDDEN AND PIT COMPLEX OF PHASE 3 AND 4

The south-western corner of the enclosure formed by ditch 1008 can be seen to contain a dense concentration of pits, postholes and ditches. Many of the pits were elements of an extensive complex of intercutting features, which were only recognised as pronounced hollows in the natural beneath a largely undifferentiated green-grey or grey-brown deposit derived from the upper fills of various features. Most of these were sealed by an irregularly shaped band of dark grey clay soil (716); see part 5, phase 4B for the further comment on this deposit. This layer did not cover exactly the same area as the features below; it sometimes did not reach all the extremities (particularly to the east) and occasionally extended just beyond. 716 was removed from the central part of the band as two spits, 418 and 543, which clarified certain features and revealed either a green-grey or grey-brown soil, or natural brickearth. The overwhelming majority of finds recovered from 418 and 543 (primarily pottery sherds and fragments of brick/tile) belongs to the 2nd century AD, with some earlier and later material also present. Elsewhere, the dark soil was only removed as context 310 or within trenches sited at various locations to sample this and the underlying stratigraphy; it was numbered separately within each trench. Context 310 represents the northernmost extent of 716. The frequent sherds from 310 again mostly date to the 1st or 2nd century AD, with a few of late 3rd and/or 4th century also being present; in this case some of the Late Roman sherds may emanate from the 4th century ditch, 321, which presumably cut 310, though this relationship was not established at the time.

This extensive area was sampled by the excavation of a number of trenches across it. The majority of features revealed were of Late Iron Age and/or Early Roman date. The information from sampling trenches was very similar in each case. As the individual elements are not of great significance, a representative selection of the sample trenches is described below and these have been illustrated on fig 5.17.

The area covered by sectioning trench 729 was clearly cut by segment 435 of gully 464 which dates to the early 2nd century AD. The dark layer 716 was thin and patchy at this point, exposing the lighter grey-brown soil beneath it. The top 0.10m of this trench was reduced as a clearance spit, 433, which removed all traces of 716 and some of the underlying material; the finds recovered from 433 were mostly either Iron Age, or Roman dating to the 1st century AD, but included one sherd of 4th century date. Beneath this, the homogeneous fill was reduced as a single context, 434, until various basal hollows could be identified and numbered separately (pit hollows 463, 470, 483, 484 and 485). The fill of 485 was darker in colour than the others, all of which were similar to 434. The dateable finds from 434 consist of 32 sherds of Iron Age pottery and one fragment of amphora which, overall, suggests a Late Iron Age or Early Roman date for the context. One sherd of Iron Age pottery

was recovered from 463, two sherds (one Iron Age and one Iron Age or Early Roman) were recovered from 470, five sherds (four probably Late Iron Age and one probably Early Roman) were recovered from 483, 13 sherds (nine Iron Age and four Early Roman) were recovered from 484, and ten sherds probably of Late Iron Age date were recovered from 485.

Sectioning trench 730 was dug in two parts, these lying to the north and south of pit 553, which cut layer 531. This feature was excavated first and found to be of Early Roman date (see part 5, phase 4A). The grey-green clay soil to the north of 553 was then reduced in four spits, spits 1 to 3 later being numbered 521A, and spit 4, which was slightly lighter in colour, being numbered 521B. Pit 539 (phase 4A) and ditch 527 (phase 4B) also cut 521. The pottery from 521 was nearly all of Iron Age date (25 sherds, most of which were probably Late Iron Age), but included one Roman greyware sherd from the uppermost spit. Beneath 521 the remains of seven distinct pits (522, 523, 524, 633, 634, 635 and 636) were discovered. 523, 633, 634 and 635 all produced occasional sherds of Iron Age pottery, but the others produced no dateable finds. To the south of 553, the removal of the shallow grey-brown deposit 545, which was similar to 521, revealed pits 557, 565 and 586. 557 produced 13 sherds of Iron Age pottery, 565 produced two sherds that were Iron Age and two that were Early Roman, and 586 produced 13 sherds of Iron Age pottery and must be at least of Late Iron Age date given its relationship to 565. Feature 622, just to the west of this trench, was probably part of the same cut as 557; it produced two sherds of pottery of Late Iron Age or Early Roman date.

Trench 525 sampled the pit complex and also ditches 367 and 599 which clearly cut it. The area between the two ditches was removed as a single context, 638 and produced a mixture of Iron Age and Early Roman pottery. To the west of 599, the homogeneous fill was removed as context 637 until two pit hollows, 639 and 640 were identified. 637 and 640 produced no finds, but four sherds of Iron Age pottery were recovered from 639.

In sampling trench 732 slight differences in the fill were observed at ground level and an attempt was made to subdivide it into layers attributable to the various basal hollows eventually revealed. This was not entirely successful as many distinctions were not clear, though it did lead to the recognition of the dark grey-brown deposit 666 (which cut layer 665 and probably belonged to a small pit or gully though this was not traced beyond the confines of the trench), and prompted the cautious suggestion that 625 might have been cut by 631. Pottery was recovered from all of these fill contexts, save for 670, and suggested either a Late Iron Age or Early Roman date for each. The finds from the later context 666 belong to the late 1st or early 2nd century AD.

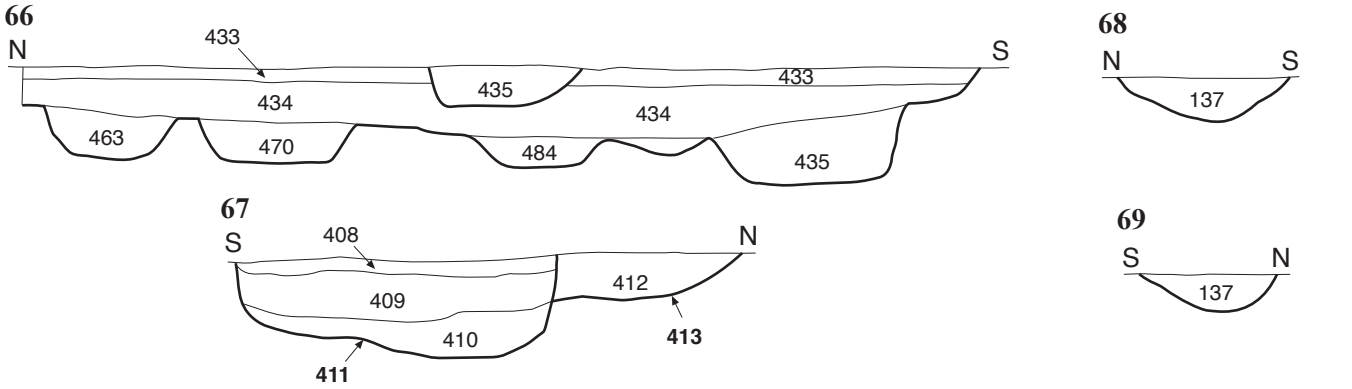
The sampling trenches generally indicated that the pit complex was created in the Late Iron Age or Early Roman period. Trench 1641, at the eastern end, suggests a continuation of this into the full Roman period. It revealed seven more pit hollows; 1642, 1643 and 1644 were separated from 1645, 1646, 1647 and 1648 by a spine of natural brickearth. Most contained the usual green-grey or grey-brown fills, but those of 1642 and 1644 were darker, and 1642 clearly cut 1643. The finds from 1642, 1643 and 1644 could be separated from each other with a reasonable degree of confidence while those from the remaining contexts should be considered a mixed assemblage as the fills here were uniform and the finds were assigned more to an area than to a particular pit hollow. The majority of sherds recovered from these features were Roman. The assemblages from 1643 and 1644 have been dated to the 2nd century AD, while that from 1642 must be at least of this date though was not diagnostic. The remaining pits of 1641 probably date to the 1st century AD.

CX	TYPE	PLN	AREA	SECT
301	Seg 426	5.11	3	
307	Pit	5.11	3	
310	Layer	5.11	3	
350	Fill 307	5.11	3	
379	Fill 426	5.11	3	
380	Fill 307	5.11	3	
389	Fill 307	5.11	3	
390	Fill 307	5.11	3	
417	PH	5.11	3	
418	Other	5.11	3	
419	Fill 307	5.11	3	
425	Fill 439	5.11	2	
426	Linear	5.11	3	
429	Seg 307	5.11	3	
430	Pit	5.11	3	
431	Pit	5.11	3	
432	PH	5.11	3	
434	Fill 433	5.11	3	66
437	PH	5.11	3	
444	Pit	5.11	3	
446	Linear	5.11	3	
463	Pit	5.11	3	66
470	Pit	5.11	3	66
483	Pit	5.11	3	
484	Pit	5.11	3	66
485	Pit	5.11	3a	
494	Pit	5.11	3	
497	PH	5.11	3	
498	PH	5.11	3	
499	Fill 501	5.11	3	
500	Fill 307	5.11	3	
501	Samp Tr	5.11	3	
502	PH	5.11	3	
505	Fill 307	5.11	3	
521	Fill 730	5.11	3	80
522	Pit	5.11	3	80
523	Pit	5.11	3	80

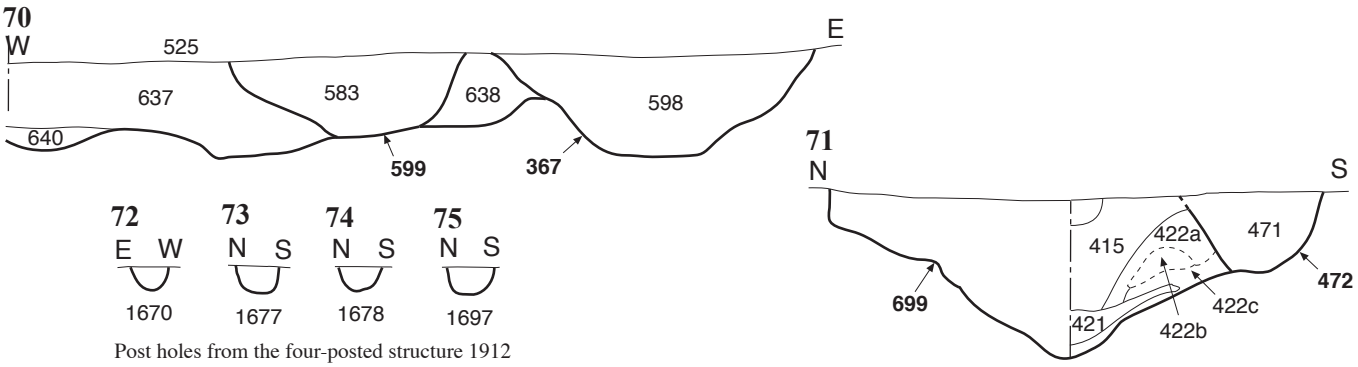
CX	TYPE	PLN	AREA	SECT
524	Pit	5.11	3	
525	Samp Tr	5.11	3	70
530	PH	5.11	3	
531	Other	5.11	3,3a	
539	Pit	5.11	3	80
543	Other	5.11	3	
545	Other	5.11	3,3a	80
557		5.11	3a	80
565	Pit	5.11	3a	80
580	Pit	5.11	3a	
581	Fill 580	5.11	3a	
582	Fill 580	5.11	3a	
586		5.11	3a	80
622	PH	5.11	3a	
623	Fill 625	5.11	4	81
624	Fill 625	5.11	4	81
625	Pit	5.11	4	81
626	Fill 628	5.11	4	
627	Fill 628	5.11	4	
628	Pit	5.11	4	
629	Fill 631	5.11	4	
630	Fill 631	5.11	4	
631	Pit	5.11	4	
633	Pit	5.11	3	
634	Pit	5.11	3	
635	Pit	5.11	3	80
636	Pit	5.11	3	
637	Fill 525	5.11	3	70
638	Fill 525	5.11	3	70
639	Fill 525	5.11	3	
640	Pit	5.11	3	70
658	Surf	5.11	3	
664	Pit	5.11	4a	81
665	Fill 664	5.11	4a	81
666	Fill 664	5.11	4a	81
667	Fill 664	5.11	4a	81
668	Pit	5.11	4a	

CX	TYPE	PLN	AREA	SECT
669	Fill 668	5.11	4a	
670	Pit	5.11	4a	
671	Fill 670	5.11	4a	
672	Fill 674	5.11	4a	81
673	Fill 674	5.11	4a	81
674	Pit	5.11	4a	81
675	Fill 668	5.11	4a	
676	Fill 668	5.11	4a	
687	Layer	5.11	3	
688	Layer	5.11	3	
728	Samp Tr	5.11	3	
729	Samp Tr	5.11	3	
730	Samp Tr	5.11	3	80
731	Samp Tr	5.11	3a	
732	Samp Tr	5.11	4,4a	
734	Linear	5.11	10	
1586	Pit	5.11	4	
1587	Pit	5.11	4	
1588	Samp Tr	5.11	4,4a	
1596	Pit	5.11	4	
1597	Pit	5.11	4	
1598	Pit	5.11	4	
1599	Pit	5.11	4	
1626	Pit	5.11	4a	
1627	Pit	5.11	4a	
1641	Samp Tr	5.11	4,4a	
1642	Pit	5.11	4	
1643	Pit	5.11	4	
1644	Pit	5.11	4a	
1645	Pit	5.11	4a	
1646	Pit	5.11	4a	
1647	Pit	5.11	4a	
1648	Pit	5.11	4a	
1955		5.11	4	
1969	Pit	5.11	3a	

Sample Trench 729



Sample Trench 525

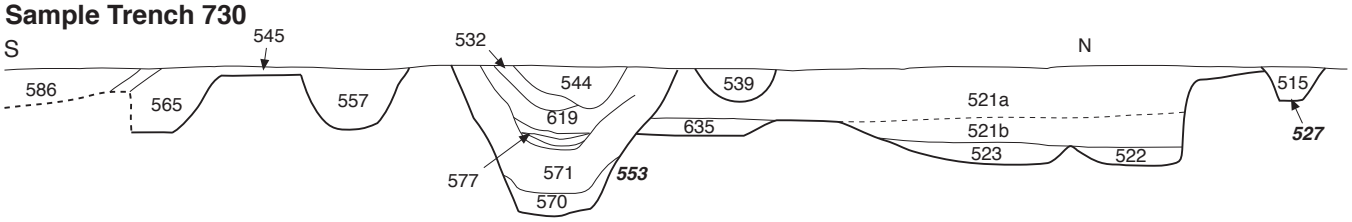


Post holes from the four-posted structure 1912

Post holes from the four-posted structure 131

80

Sample Trench 730



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Sample Trench 732

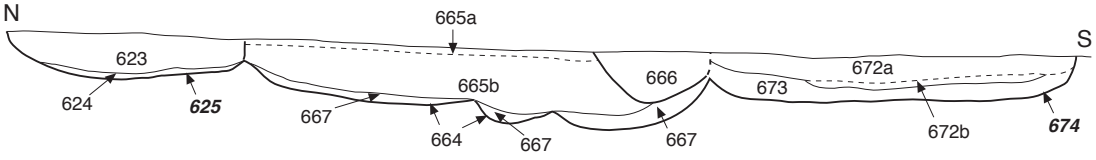

Fig 5.17 Thorpe Lea Nurseries: section drawings of features from the western settlement area that belong to the transitional phase between the Late Iron Age and Early Roman period

4.3 THE PITS

Most of the pits noted here were similar in character to those previously described for the Iron Age and only those that were exceptional are given specific mention. 376, 503 and 529 all produced pottery pointing to a transitional period date, while the remaining pits produced mixed assemblages of pottery. Most often these features produced several sherds of Iron Age pottery along with smaller quantities, usually single sherds, of nondescript Roman greyware.

The fill of pit 1815 was unusual in that its dark brown fill contained frequent small fragments of burnt clay. There was no sign of *in situ* burning, however, and only occasional to moderate quantities of charcoal were present. 2117 was no more than 0.20m deep, but was interesting because it also included the articulated lower hind leg of a horse.

CX	TYPE	PLN	AREA	SECT
138	Pit	5.11	SDP	
354	Pit	5.11	3	
376	Pit	5.11	4	
408	Fill 411	5.11	3	67
409	Fill 411	5.11	3	67
410	Fill 411	5.11	3	67
411	Pit	5.11	3	67
412	Fill 413	5.11	3	67
413	Pit	5.11	3	67
415	Fill 699	5.11	4	71
421	Fill 699	5.11	4	71
422	Fill 699	5.11	4	71
495	Pit	5.11	4	
503	Pit	5.11		
529	Pit	5.11	3	
605	Pit	5.11	3	
699	Pit	5.11	4	71
1726	Pit	5.11	5	
1815	Pit	5.11	5	
1857	Pit	5.11	11	
1974	Pit	5.11	3	
1975	Pit	5.11	3	
1989	Other	5.11	3,10	
2117	Pit	5.11	2	

4.4 THE POSTHOLES (INCLUDING THE FOUR-POSTED STRUCTURES 131 AND 1912) AND STAKEHOLES

Few of the postholes require further comment. 486 had a dark grey-brown central core of fill (487) surrounded by paler material (526), the two probably representing the position of the post and material filled in around it. Two small square four-posted structures, 131 and 1912, were identified. 131 was constructed using postholes 117, 118, 120 and 121. A fifth posthole, 116, positioned centrally to the square, might also have been part of 131, as might 115 just to the south, but it is equally possible that these were unassociated. 117 cut the Late Iron Age pit 119 and produced three sherds of Iron Age pottery and one sherd of Roman greyware, and 121 produced a small fragment of Roman brick or tile; 115, 116, 118 and 120 produced no dateable finds. 1912 was constructed using four small postholes, 1670, 1677, 1678 and 1697; 1678 produced one sherd of Iron Age pottery, and 1697 produced an Iron Age sherd and a sherd of Roman greyware.

A slightly curving line of eight more or less evenly spaced stakeholes was discovered in the central area of the western settlement. These features, numbered 414A-H (from east to west), averaged around 0.10m in diameter and were never more than 0.10m deep. Each had a distinctive fill of dark brown soil which contained flecks of charcoal and small specks of red fired clay or daub. Their profiles were generally rounded (there was no evidence that a stake with a long sharp point had been driven into the ground), though in some the base was somewhat uneven which may have resulted from the initial hole having been formed using a fencing spike. A total of 16 sherds of Iron Age pottery and six sherds of Roman greyware (none coming from 414D or 414H) were recovered from these features which suggests that they either belong here or to the early part of phase 4A.

CX	TYPE	PLN	AREA	SECT
115	PH	5.11	SDP	
116	Pit/PH	5.11	SDP	
117	Pit/PH	5.11	SDP	24,76
118	Pit/PH	5.11	SDP	77
120	PH	5.11	SDP	78
121	Pit/PH	5.11	SDP	79
130	Pit	5.11	SDP	
131	PH	5.11	SDP	
355	Pit/PH	5.11	3	
414	PH	5.11	4,5	
428	PH	5.11	3a	
469	PH	5.11	3a	
486	PH	5.11	4	
487	Fill 486	5.11	4	
508	PH	5.11	3A	
509	PH	5.11	3a	
526	Fill 486	5.11	4	
551	Pit/PH	5.11	3a	
578	PH	5.11	4	
604	Pit	5.11	3	
1620	PH	5.11	3a	
1670	PH	5.11	6	72
1677	PH	5.11	6	73
1678	PH	5.11	6	74
1697	PH	5.11	6	75
1768	PH	5.9	19	
1769	PH	5.9	19	
1912	PH	5.11	6	
1954	PH	5.11	4	

4.5 HOLLOW 496

496 was a shallow hollow that was filled with a green tinged grey-brown silty-clay, flecked with charcoal and tiny fragments of fired clay, and containing many pieces of calcined flint. It was a maximum of 0.10m deep, becoming shallower in each direction away from the centre, and did not appear to have cut edges, which suggests it might have been produced by erosion of the ground surface rather than as the result of a deliberate act; most of the burnt flint was found in the upper part of the fill. The fill produced 12 sherds of Iron Age pottery, three sherds of Roman greyware, and a small quantity of daub, and might have been cut by postholes 486 and pit 495 which are also thought to belong to the transitional period.

CX	TYPE	PLN	AREA	SECT
496	Other	5.11	3	

5 THE ROMAN PERIOD (PHASE 4)

5.1 PHASE 4A: EARLY ROMAN (1ST OR 1ST/2ND CENTURY AD)

Not surprisingly it was difficult to separate Early Roman features from those of the transitional period, and the real value of certain of the distinctions made is likely to be limited considering the implications of settlement continuity. Some of the contexts recorded here produced assemblages that clearly identified them as being of Early Roman origin, while others produced a mixture of Roman material and pottery of earlier date. In contrast to the mixed assemblages of the features assigned to the transitional phase, the Roman sherds were usually more frequent here and this may indicate the more widespread use of new materials at a slightly later date. In addition to these features, a small number of others produced pottery which indicated that they were of 1st or 2nd century date, though it was not possible to be more precise.

The ditches

Ditch 322 appeared to fork at its eastern end, which might indicate that it was recut at some time, although it is possible that the narrower northern fork, 1856, was part of another feature; 1856 was only 0.07m deep while elsewhere it was between 0.25m (1854) and 0.36m (311) deep. The feature is not easy to date, but, ignoring a 4th century sherd and a fragment of medieval or post-medieval tile from segment 333, the pottery suggests that it belongs to the late 1st or early 2nd century AD.

Ditch 472 was a maximum of 0.75m wide and 0.41m deep, being widest and deepest in segment 471 where it cut the Late Iron Age/Early Roman pit 699. The eight Roman sherds from segment 1649 have been dated to the 1st or 2nd century AD, while the remaining Roman pottery belongs to the 1st century. Given the proportion of Iron Age material also present, there seems little doubt that ditch 472 is a 1st century feature.

Gullies 1885 and 1910 were both a similar width (0.30m–0.40m) and depth (0.11m–0.22m) and both contained a similar fill of mid to dark grey-brown clay soil, so it seems likely that these may have been contemporary features though they were separated by a gap of 3–4m.

CX	TYPE	PLN	AREA	SECT
311		5.19	3	
322	Linear	5.19	3,10	
324	Seg 322	5.19	10	
333	Seg 322	5.19	10	
452	Seg 472	5.19	4	
471	Seg 472	5.19	4	71
472	Linear	5.19	4	71
1649	Seg 472	5.19	4	
1717	Seg 1885	5.19	5	
1807	Seg 1910	5.19	12	
1821	Seg 1910	5.19	12	
1822	Seg 1910	5.19	12	
1854			11	
1856			4A	
1867	Seg 1910	5.19	12	
1883	Seg 1885	5.19	5	
1884	Seg 1885	5.19	5	
1885	Linear	5.19	5	
1910	Linear	5.19	5	

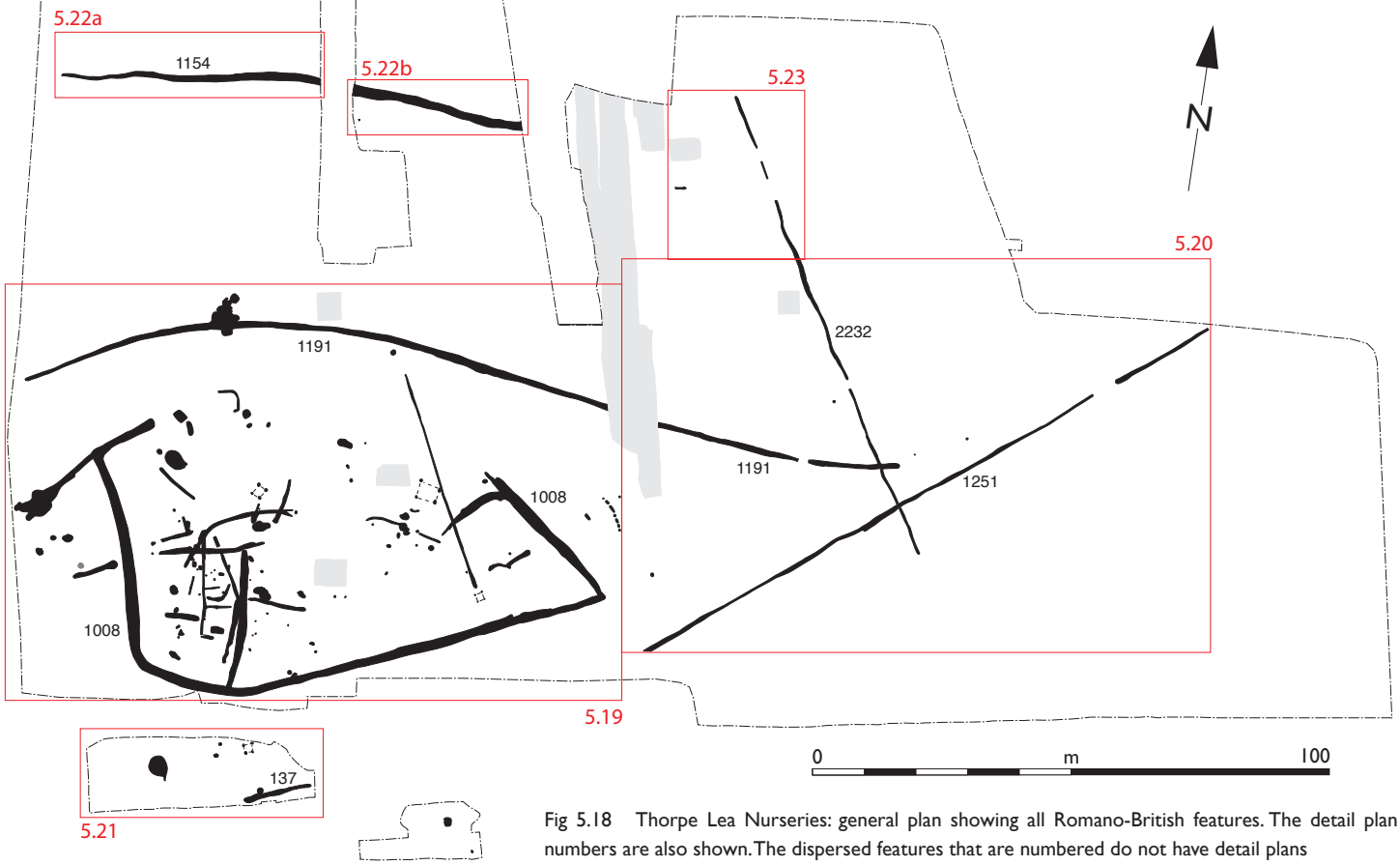

Fig 5.18 Thorpe Lea Nurseries: general plan showing all Romano-British features. The detail plan numbers are also shown. The dispersed features that are numbered do not have detail plans

The waterhole

156 was a substantial feature which measured approximately 4.25m in length by 3.5m in width, and was approximately 1.5m deep. This feature, which seems most likely to have been used as a waterhole, was steep-sided to the north, east, and west, but was less so to the south (the edge here dropping in stages) which presumably indicates the preferred direction of access. There was some slight undercutting of the edge on the eastern side, this probably being the result of subsidence.

The quantity of finds produced by this feature was disappointing considering its size, amounting to 19 sherds of Iron Age pottery and 28 sherds of Roman pottery (all recovered from layers A, C, F and G), two pieces of tegula from 156A, 14 pieces of daub (from layers A, C, E and F), and a small quantity of poorly preserved animal bone which included part of the skull of a cow. The Roman pottery from 156A included one sherd that was of late 3rd or 4th century origin, while the remaining three from this context and the three from 156C belong to the 1st or 2nd century. The Roman material recovered beneath this, four sherds from 156F and 17 (all from the same butt beaker) from 156G, all dates to the 1st century AD. The origin of the feature is best indicated by the material from the lower deposits.

CX	TYPE	PLN	AREA	SECT
156	WH	5.21	SDP	82

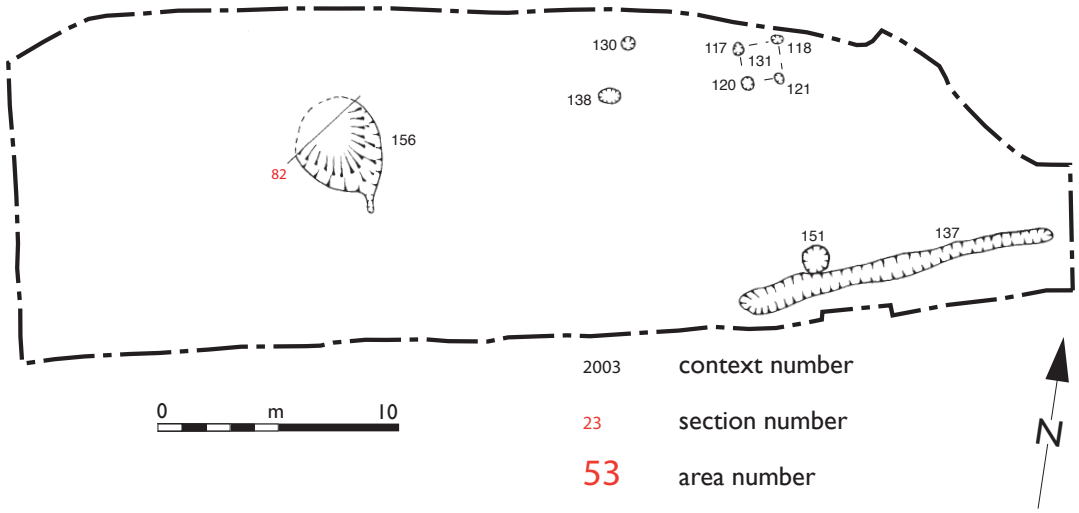

Fig 5.21 Thorpe Lea Nurseries: detail plan of features south of the enclosed Romano-British settlement area

The pits and ditch 2065

Fifteen pits are assigned to this phase, but most call for little comment.

The large sub-rectangular pit 553 cut through the area of many intercutting pits that is described in part 4. It contained six layers of fill and measured approximately 2.65m long by 1.35m across by 0.88m deep. The quantity of gravel within layer 532 and the location of this layer within the upper part of the feature suggest that this was a deliberately dumped deposit; it might originally have been intended to level the ground surface and may have slumped towards the north due to settlement of the layers below. Likewise the final infill deposit, 554, may result from subsidence and might once have been part of 418. A copper alloy brooch dated to the second half of the 1st century AD was also recovered from 554 (see part 7), and it also includes sherds that are of 2nd century origin, but as these were in the final infill and this probably emanated from 418, they are unlikely to date the feature. The Roman material from the layers beneath 554 is all of 1st century origin and includes a large sherd from a flagon recovered from 571. 553 was unlike any of the other pits encountered, but its function was not evident.

Gully 2065 was found to seal pit 2045 at its eastern end. The section at this point revealed four distinct layers of fill, 2046, 2047, 2058 and 2059. The sides of 2045 beneath 2046 were more or less vertical, with a slight undercut possibly caused by subsidence towards the base, and the feature measured between 0.70m and 0.85m across. 2046 measured up to 1.55m across, its gently sloping sides extending well beyond the limits of the vertical shaft. 2045 measured at least 1.34m deep, beneath the surface of the natural, though from a depth of about 1m it began to fill with ground water and most of layer 2059 had to be removed by feel. To the west of 2046, gully 2065 measured between 0.72m (2066) and 0.84m (2100) in width, and varied between 0.19m (2066) and 0.28m (2100) in depth.

The similarity of 2046 to the fill deposits of 2065 and the contrast between this and the deposits beneath it strongly suggested that 2046 belongs to the gully and that this was a later feature. A small quantity of undiagnostic ironworking debris recovered from 2046 might also link this context to 2065 as similar material and quantities of slag were recovered from 2066 and 2100. The latest finds from 2065 suggest an early to middle 2nd century date for the context and, therefore, for 2065. In comparison relatively few sherds were recovered from the fill layers of 2045. These amounted to seven Roman sherds from 2047, eight Roman sherds and two that were Iron Age from 2058, and one Late Iron Age sherd from 2059: overall this material suggests a 1st or possibly 2nd century date.

The suggestion that 2065 was later than and, therefore, cut 2045 implies that the relationship between the two is the result of coincidence. This might also be the case at the terminal end of ditch 1008 where the late 2nd or 3rd century pit 1948 was discovered after the excavation of segment 1934 (see below). It is, perhaps, arguable that it is an unlikely coincidence for two ditches to terminate centrally to, and at more or less the same point as two deep pits. Nevertheless, the relationship given between 2045 and 2065 does seem likely to be correct (that between 1934 and 1938 was less clear), particularly as there seems little doubt that 2046 must have infilled at the same time as the other segments of the gully. It is, perhaps, possible that the position occupied by 2045 was marked by a hollow in the ground surface at the time when 2065 was first dug and influenced its location. The presence of two further pits in the vicinity that are of comparable size and similar date to 2045 is interesting and suggests that, whatever their function, these were more than just random pits of limited importance. These features, 2105 and 2108, are thought to have cut ring gully 2110 (phase 3B) which disassociates them from the visual impression that they too might have been contiguous with an adjoining gully.

2105 and 2108 were more or less vertically sided and measured approximately 1m and 0.80m across in each case, though both were slightly wider than this at ground level. 2105 was 1.15m deep, filling with ground water below 0.85m, and 2108 was 0.70m deep, becoming very moist towards its base.

2105 produced 37 sherds of Iron Age pottery and 21 sherds that were Roman, but of this just eight Iron Age sherds and three Roman sherds were found beneath 2105A. The Roman material in 2105A included sherds that are of 1st or 2nd century origin but given the quantity of Iron Age material that was also present, the earlier part of the suggested range seems most likely to date the feature. 2108 produced just two sherds of Iron Age pottery and three sherds of Roman pottery greyware, all coming from 2108A; this material was not diagnostic but need be no later than any of the pottery recovered from 2105. Interestingly the primary fill deposit of each feature produced fragments from animal skulls (horse and cattle in the case of 2105 and horse in the case of 2108), and that of 2105 also produced the pelvis of a horse. The skull fragments within 2105C lay immediately on top of the basal gravel, while that within 2108C lay approximately 0.10m above this and was inverted. There seems little doubt that these features are of similar date.

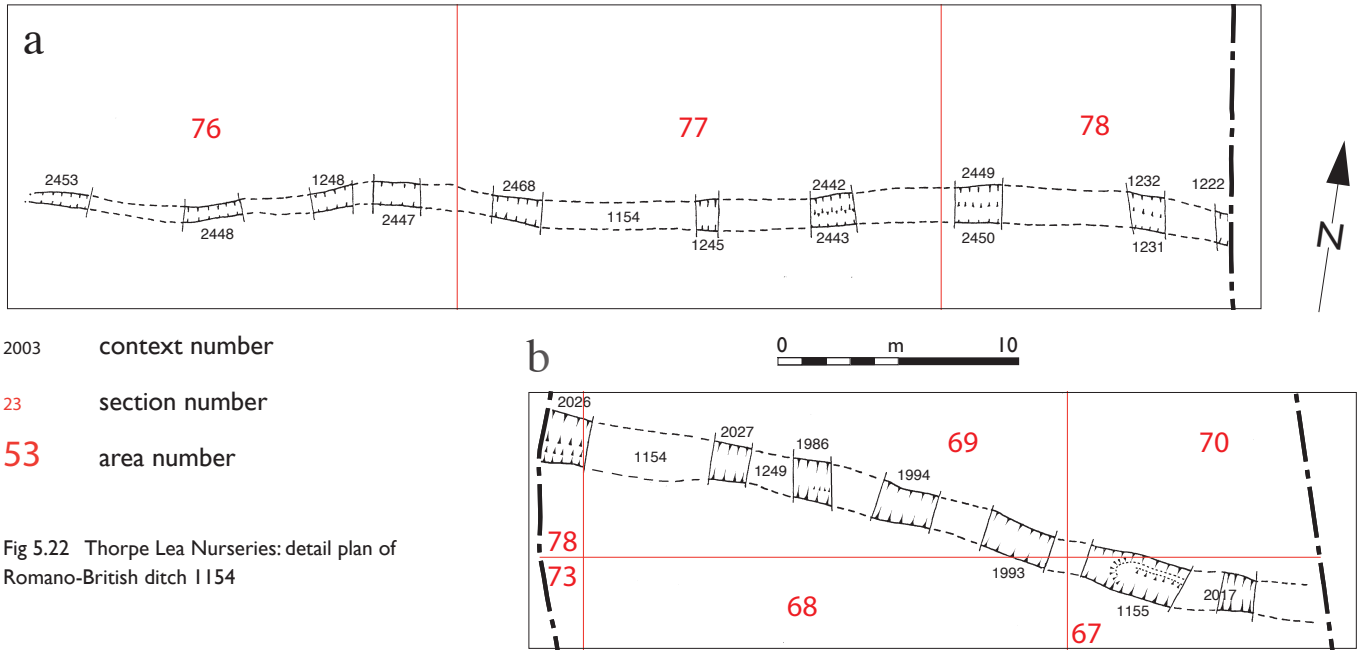

Fig 5.22 Thorpe Lea Nurseries: detail plan of Romano-British ditch 1154

CX	TYPE	PLN	AREA	SECT
151	Pit	5.21	SDP	
323	Pit	5.19	3	
337	Pit	5.19	10	
368	Pit	5.19	3	
402	Pit	5.19	3	
532	Fill 553	5.19	3	80
534	Pit	5.19	3	
553	Pit	5.19	3	80
554	Fill 553	5.19	3	80
570	Fill 553	5.19	3	80
571	Fill 553	5.19	3	80
577	Fill 553	5.19	3	80
619	Fill 553	5.19	3	80
1935	Pit	5.19	4a	
2045	Pit	5.19	2	83
2046	Fill 2045	5.19	2	83
2047	Fill 2045	5.19	2	83
2105	Pit	5.19	1	84
2108	Pit	5.19	2	85
2136	Pit	5.19	2	
2139	Pit	5.19	38	
2140	Pit	5.19	8	
2141	Pit	5.19	2	

The postholes

Postholes 398 and 564 are both thought to have contained more than one posthole, two in the case of 398 and possibly three in the case of 564. Ignoring 398 and 564, these features varied between 0.20m (596) and 0.50m (685) across by 0.11m (686) and 0.45m (550) deep, and all contained a single fill of mid to dark grey-brown clay soil. Most yielded small quantities of pottery, usually a mixture of Iron Age and Roman material.

CX	TYPE	PLN	AREA	SECT
398	PH		3	
477	Pit	5.19	4	
480	PH	5.19	4	
492	PH	5.19	3	
506	PH	5.19	4	
550	Pit	5.19	3a	
564	Pit	5.19	3	
596	PH	5.19	3	
685	PH	5.19	3	
686	PH	5.19	3	
1696	Pit	5.19	6	

5.2 PHASE 4B: 2ND TO MID 3RD CENTURY AD

A comparatively small number of features may belong to this phase and for some of these the dating evidence is limited. It should be remembered that some of the features attributed to phase 4A might belong to this period.

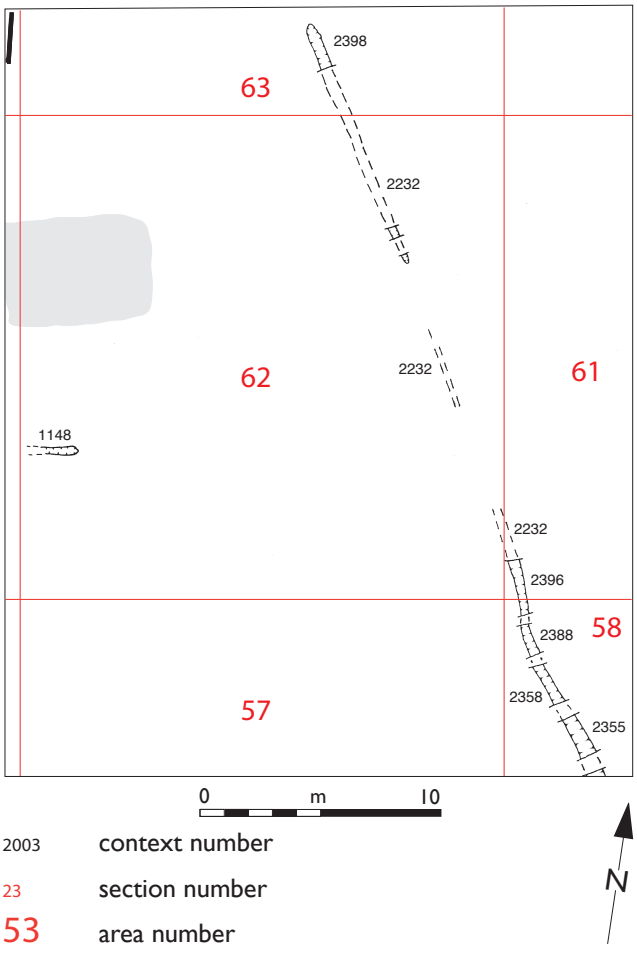

Fig 5.23 Thorpe Lea Nurseries: detail plan of Romano-British ditch 2232 (northern portion)

The ditches and gullies

Eleven ditches or gullies seem likely to belong to this phase, one of which, 2065, has been discussed above because of its relationship to feature 2045 (phase 4A). Ditch 330 measured between 0.36m (607) and 0.72m (320) across, by 0.14m (312) and 0.23m (518) deep. Ditch 527, which was a similar width and depth, appeared to be part of the same cut as 330, and it is possible that ditch 462 was also associated with it at some time though this shallow feature (no more than 0.03m deep) seems unlikely to have been part of the original cut 706. At its northern end 330 probably cut ditch 322 (phase 4A), but the relationship between them could not be determined. Just to the south of this ditch 321 (phase 4C) cut 330. The finds from ditch 330 indicate that it dates to the 1st or 2nd century AD. 462 was probably a 2nd century feature.

Ditch 367 ran in a north–south direction, immediately to the east of ditch 599 (below). The ditch cut pits 454 and 458, neither of which produced any finds. Most of the ditch contexts produced finds, and they included a small amount of slag (366A), and quite frequent pieces of bone, including four human teeth in a very fragmented jaw. The Roman pottery recovered all dates to the 1st or 2nd century AD and suggests that the ditch began infilling in the early–mid 2nd century, and had probably completely infilled by the middle of the 2nd century AD. No direct relationship was established between 367 and the enclosure ditch 1008, though the former was most probably cut by the final phase of 1008 which dates to the late 3rd or 4th century AD (phase 4C). The fact that no trace of 367 was found on the southern side of 1008 shows it was contemporary with an earlier phase of the enclosure (see discussion under phase 4C).

464 was a broad (*c*0.90m), shallow (*c*0.25m) trench-like feature which has been classed as a ditch or gully because of its linear appearance, though it might have served a more specific function. It had steeply sloping sides and a wide flat base. It is most likely that it dates to the first quarter of the 2nd century.

Ditch 599 measured between 0.70m (661) and 1.22m (583) in width, and between 0.22m (661) and 0.40m (583) in depth. Single sherds of late 3rd or 4th century pottery were recovered from segments 583 and 661, but the remaining Roman sherds are of 1st or 2nd century origin and final infilling may have taken place in the early–mid 2nd century.

Ditch 734 measured up to 0.70m across (1928) and was a maximum of 0.22m deep (654). The 61 sherds of Roman pottery suggest that it belongs to the 2nd century AD. One sherd of late 3rd or 4th century pottery was presumably intrusive

When first planned in 1992 it was thought likely that ditch 1072 might be part of a field system linked to the north-western corner of enclosure 1008. The origins of 1008 were not firmly established by the excavation (see phase 4C), but the final phase was in the late 3rd or 4th century, and its corner segment 2119 appeared to cut segment 2120 of 1072. The excavation segments showed 1072 to deepen slightly towards the west where it was probably cut by waterhole 2127. 1957 produced 90 sherds of Roman pottery, 86 of which came from 1957A, and these suggest the final infilling took place in the late 2nd or 3rd century AD.

Ditch 1862 was aroung 0.90m wide and up to 0.25m deep and 23 sherds of Roman pottery indicate it is probably of mid–late 2nd century date.

The shallow curvilinear gully 1988 was barely visible as a soil mark when it was excavated in 1994, but appeared slightly wider and more prominent when planned in 1990 and 1992. The feature was a maximum of 0.10m deep and it seems unlikely that either extremity as defined marked an original terminal. Twenty-four sherds recovered from the surface of the fill indicate it dates to the late 2nd century AD or later, so it could belong to this phase or to 4C. The gully may have formed part of a small rectilinear enclosure, or it may have been the foundation trench of a building.

CX	TYPE	PLN	AREA	SECT
312	Seg 330	5.19	3	
314	Seg 330	5.19	3	
320	Seg 330	5.19	3	
326		5.19	3	
328	Seg 464	5.19	3	
330	Linear	5.19	3	
366	Seg 367	5.19	3	
367	Linear	5.19	3,3a	70,88
373	Seg 330	5.19	3	
435	Seg 464	5.19	3	66
453	Seg 599	5.19	3	88
457	Fill 367	5.19	3	88
458	Pit/PH	5.19	3	88
459	Fill 367	5.19	3	88
460	Fill 367	5.19	3	88

CX	TYPE	PLN	AREA	SECT
462	Linear	5.19	3	
464	Linear	5.19	3	
479	Seg 367	5.19	3	
515	Seg 527	5.19	3	80
518	Seg 330	5.19	3	
520	Seg 330	5.19	3	
527	Linear	5.19	3	80
533	Seg 330	5.19	3	
536	Seg 527	5.19	3	
547	Seg 330	5.19	3	
548	PH	5.19	3	
583	Seg 599	5.19	3	30,70
598	Seg 367	5.19	3	70
599	Linear	5.19	3,3a	
600		5.19	3	30

CX	TYPE	PLN	AREA	SECT
607	Fill 330	5.19	3	
661	Seg 599	5.19	3a	30
663	Seg 367	5.19	3	
679	Seg 599	5.19	3a	30
1072	Linear	5.19	9	
1949	Seg 367	5.19	3a	
1957	Seg 1072	5.19	9	
1988	Linear	5.19	16	
2065	Linear	5.19	2	83
2066	Seg 2065	5.19	2	
2095	Seg 2065	5.19	2	
2100	Seg 2065	5.19	2	
2119	Seg 1072	5.19	9	101

The waterhole 1948

The excavation of ditch segment 1934, the western terminal of enclosure 1008 (see phase 4C), led to the discovery of this waterhole. 1948 was centrally positioned in relation to 1934. The fill of 1934 appeared to be an undifferentiated mid dark grey clay soil, and this was excavated in seven spits (1934A–1934G); the top six each measured approximately 0.10m deep, while the basal spit measured up to 0.20m deep. Close inspection of the section in more favourable weather conditions later identified some lighter coloured inwash deposits on each side of the ditch and a greeny-grey primary fill layer; this was found to be just to the west of the cut for 1948, so no direct relationship between the two was recorded in section. Below the level of the ditch, 1948 was found to contain two layers of fill, 1962, a grey-brown silty-clay, and 1963, a dark grey silty-clay containing much organic material. 1948 measured approximately 1.8m long by 1.25m wide and was 1.8m deep below the surface of the natural. Layer 1962 became increasingly moist with depth, and the bottom 0.50m of the feature was difficult to excavate as water had to be bailed from it almost continuously.

The seven spits of 1934 produced a total of 170 sherds of pottery (four of which were Iron Age while the others were Roman). Each spit, including the lowest, 1934G, which must have mostly consisted of the primary fill subsequently identified, produced pottery that can be dated to the late 3rd or 4th century AD. In contrast to this, 1962 produced 38 Roman sherds, dated to the late 2nd or 3rd century overall, and 1963 produced three (joining) late 2nd or 3rd century sherds; this material probably indicates the origin of the feature. It seems clear, therefore, that 1934 cut 1948 (ditch 1008 is discussed in phase 4C and was probably recut for the final time in the 4th century). In addition to the pottery 1948 produced ten fragments of Roman tile, some bone and a substantial fragment of antler, and a small thin piece of poorly preserved leather. Bulk soil samples were collected from 1962 and 1963, and these proved to be of considerable interest (see part 8.3). They produced wood charcoal and other charred plant remains (which included grains of wheat and barley, and cereal chaff), and 1963 produced numerous waterlogged seeds, other waterlogged plant remains, and numerous beetles and other insects. The presence of these preserved remains suggests that this feature remained 'open' for some time after its original excavation and this, combined with its depth and the inevitability that its lower part would have filled with ground water, suggests that it was a waterhole.

CX	TYPE	PLN	AREA	SECT
1948	WH	5.19	15	86
1962	Fill 1948	5.19	15	86
1963	Fill 1948	5.19	17	86

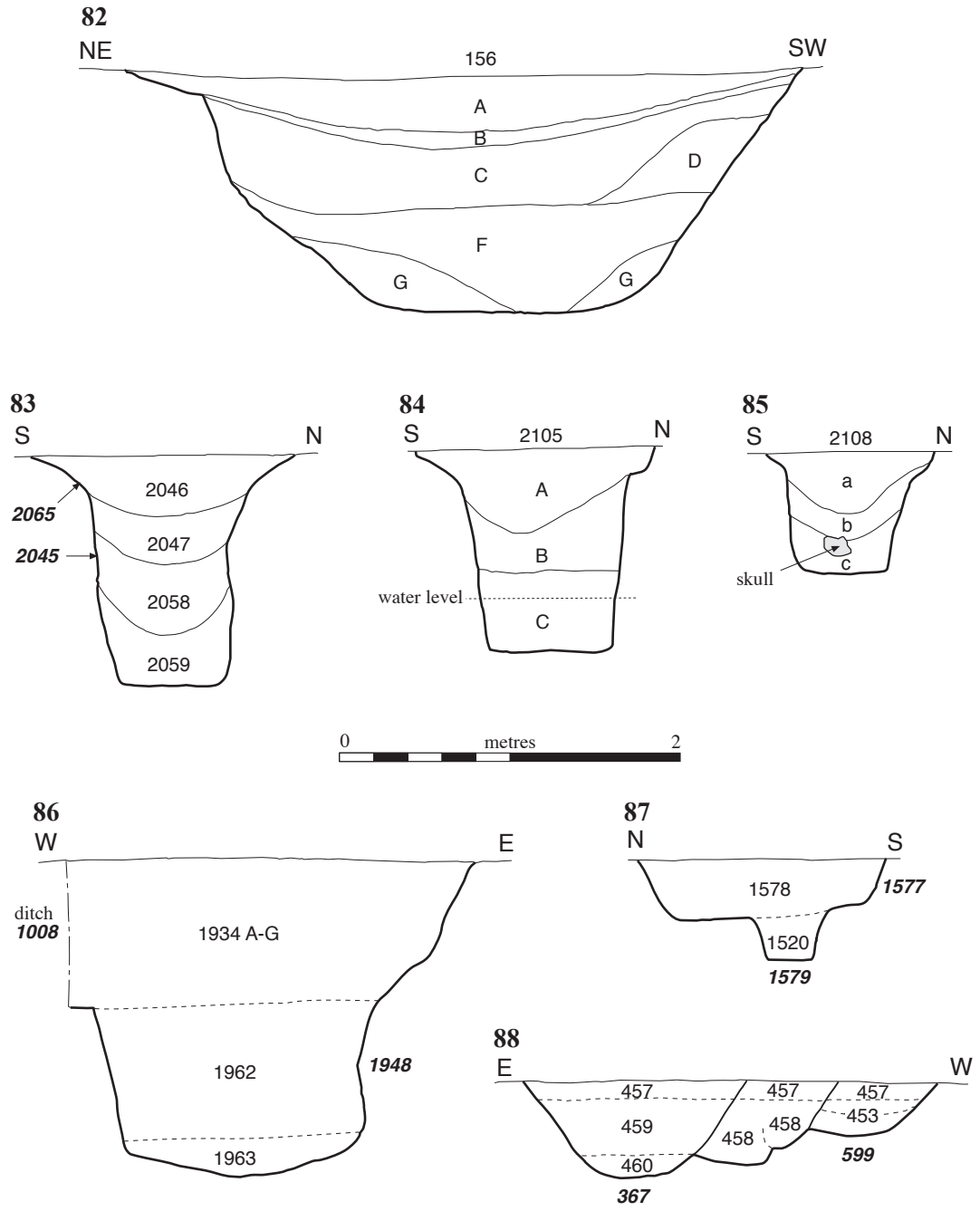

Fig 5.24 Thorpe Lea Nurseries: section drawings of Roman period features of phases 4A and 4B

The pits

Eleven pits are assigned to this phase but only three call for further comment. 338 was almost certainly several intercutting pits, but the fill here was shallow and undifferentiated, and was removed as a single context. This produced just over 100 sherds of Roman pottery, dated to the mid–late 2nd century AD.

The most interesting pit attributed to this phase, 682, is also the largest. This feature measured approximately 1.75m across by 0.40m deep and contained two distinct layers of fill, 649 and 681. 681 was an almost pure deposit of pink-grey-brown clay which contained occasional small stones and flecks of charcoal, and formed a continuous, thick lining around the sides and base of the feature. The internal face of 681 was best preserved towards the south where it was steep-sided and the edges not at right angles, but towards the centre and north it was more rounded. It is possible that 682 was lined with clay to enable it to retain water, but the thickness of the sides seems excessive for this, particularly in view of the nature of the natural geology at this point. At the end of its working life the feature was backfilled with a deposit of dark grey-brown clay soil which produced over 130 pieces of Roman tile, 169 sherds of pottery, some metalworking debris (see part 7.4), and a copper alloy coin. The tile recovered (mainly pieces of tegula or paving tile) included many large pieces, some of which were production wasters. The pottery recovered is mostly thought to belong to the 3rd or late 3rd century AD, and the coin has been identified and dates to AD 253–60 (Valerian I). No finds were recovered from 691 to identify the origin of the feature. The evidence suggests that it is most likely to belong to the mid–late 3rd century AD, bordering the periods covered by phases 4B and 4C. The feature seems likely to have been associated with some industrial activity, though exactly what this may have been remains unclear.

Pit 1577 also requires some further explanation. It measured approximately 1.40m across by 0.35m deep and contained a fill of grey-brown clay soil. The removal of this fill revealed a posthole (1579). This measured approximately 0.35m across by 0.25m deep and was steep-sided with a flat base. The fill of the pit (1578), produced 43 sherds that were Roman and have been dated to the early 2nd century but the posthole (1580) produced an Overwey sherd of 4th century origin. It seems most likely that the latter was accidentally introduced to this context during excavation.

CX	TYPE	PLN	AREA	SECT
338	Pit	5.19	10,11	
353	Pit	5.19	3	
682		5.19	16	89
1003	Other	5.19	4a	
1576	PH	5.19	12	
1577	Pit	5.19	16	87
1578	Fill 1577	5.19	16	87

CX	TYPE	PLN	AREA	SECT
1579	PH	5.19	16	87
1580	Fill 1579	5.19	16	
1640	Pit	5.19	4a	
1751	Pit	5.19	5	
1832	Pit	5.19	12	
1833	Pit	5.19	12	
2096	Pit	5.19	2	

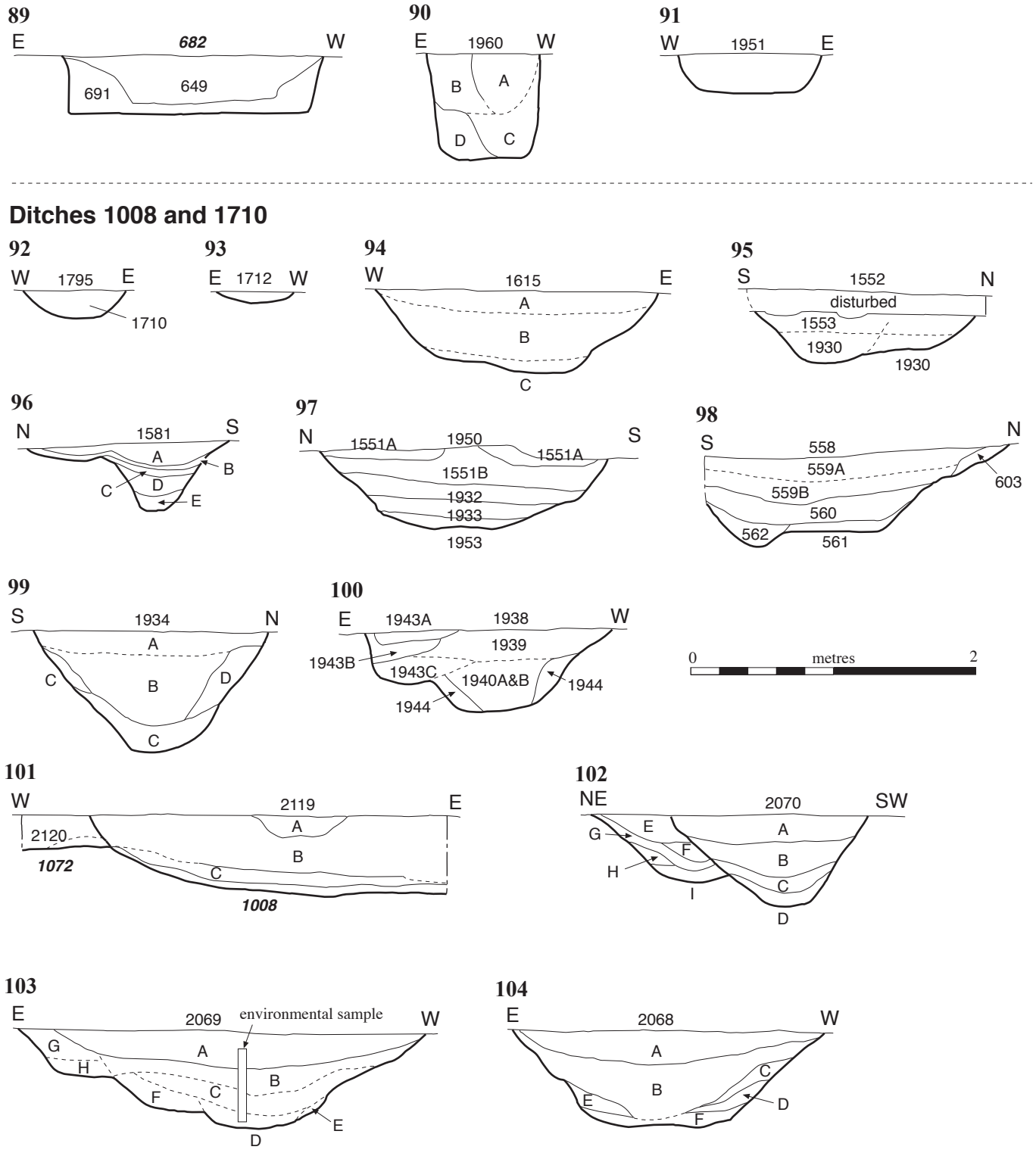

Fig 5.25 Thorpe Lea Nurseries: section drawings of Roman period features of phases 4B and 4C

The posthole
A single posthole may belong to this phase. This feature, 573, was less than 0.10m deep and produced a single sherd of greyware that is of late 2nd century or later date.

CX	TYPE	PLN	AREA	SECT
573	PH	5.19	4	

Possible structural remains
The short, steep-sided, flat-bottomed trench or gully, 308, measured approximately 0.70m wide by a maximum of 0.16m deep (becoming shallower towards the west where it became less clear) and contained a fill of mid to dark grey-brown clay soil with occasional rounded pebbles and flecks of charcoal. The removal of this fill from the eastern end of the feature revealed a slot-like feature, 369, and postholes 370 and 381, which were centrally placed in relation to the trench and had similar fills. Running northwards from the eastern end of the trench, at roughly a right angle to it, was a linear band of tightly packed burnt and unburnt flints in a matrix of grey-brown soil, 378. The western edge of 378 was extremely straight and, despite the fact that the eastern edge was more irregular, its overall width was much the same as that of 308; its northern extent lay beyond the limits of the excavation at the time (1990). The latest pottery from 308 is of 2nd century date, while that from 369 belongs to the late 2nd century.

Constraints of time limited the work in 1990 and no further work was done in this area until 1992 and 1994 when further machining led to the loss of the shallow context 378 and only picked up a trace of 308 for a short distance beyond the previously dug segment. The results are inconclusive, but, if 369, 370 and 381 are contemporary with 308, this feature would be unlike any other gully encountered and it is reasonable to suspect that it may have been used for structural purposes (as a beam trench, perhaps). If so, 378, with its straight western (internal) edge, presumably indicates the position of another wall line. The differences between 308 and 378 may be because the former was important to the framework of the postulated building while the latter was a 'filling' wall.

The obvious problem with this suggestion is the absence of any trace of a northern or western wall, and the absence of indicators of a threshold, internal features (except, perhaps, for 1922 and 1985), and floor surface debris. The lack of significant quantities of daub within 308 might also count against the suggestion. It is possible, however, that such remains had been truncated prior to excavation. Evidence elsewhere, namely the partial survival of ring gullies 1845 and 2110, may provide support for the suggestion of ground surface truncation.

CX	TYPE	PLN	AREA	SECT
308	Linear		3	
369	Other	5.19	3	
370	PH	5.19	3	
378	Other	5.19	10	
381	PH	5.19	3,10	

Midden deposit 716
The dark layer, 716, which overlay an extensive area of intercutting pits has been discussed in association with these in part 4. Where sampled (contexts 350, 418 and 543 in particular) it produced many finds. The pottery assemblage contains frequent sherds that are of Iron Age or Early Roman date, and a small number of sherds that are of late 3rd or 4th century origin, but the majority of later sherds belong to the 2nd century AD. All parts of this century are represented and some of the later material might be of early 3rd century date. The volume of finds recovered indicates that this material must have been deposited deliberately, and it seems most likely that the area occupied by the Late Iron Age/Early Roman pit complex was used as a midden throughout much of the 2nd century and perhaps during the early part of the 3rd century AD.

CX	TYPE	PLN	AREA	SECT
716	Other	5.11	3	

5.3 PHASE 4C: LATE 3RD AND 4TH CENTURY AD

A large number of features area assigned to this phase. In the case of the enclosure ditch 1008 this may be misleading as it almost certainly came into use in the Early Roman period, but was recut on a number of occasions thereafter. Features of partular interest include three waterholes, 1971, 2090 and 2127, that produced important groups of finds, and an inhumation burial, context 1668.

Ditches and gullies
The pottery evidence suggests a late 3rd or 4th century date for these features, unless otherwise indicated below. Ditch 321 showed slight differences in the basal profile within segment 309 and a change in width between segments 331 and 335 that suggested it might have been recut at some time, though evidence for this was not seen in section. The feature measured approximately 1m wide overall, and its depth was never more than 0.26m (309).

The shallow gully 391 was no more than 0.14m deep (372). 46 sherds of Roman pottery with diagnostic material of late 3rd or 4th century date coming from each productive segment establish its date securely.

Very little can be said about the short linear feature 566 which was sampled by the excavation of a single segment 567. It was discovered after the removal of 543 (see layer 716, phase 4B), but may have cut this deposit and been unobserved at a higher level, and produced nine sherds of Iron Age pottery and four sherds that were Roman. No physical relationship was established between 567 and 622 at its eastern end, but it seems likely that 567 was the later feature. Two of the Roman sherds recovered were of 4th century date and may date it, but, given the stratigraphic uncertainties surrounding 567, this is not certain.

Similarly it is difficult to say much about the short curvilinear gully 615, but Roman sherds date it to the late 3rd or 4th century AD.

The most important Roman ditch of the western settlement area was 1008 which enclosed an area of around 3200 square metres (roughly 80m x 40m), with a gap some 65m wide opening to the north. Distinct variations in the basal profile of certain segments (1552, 1615, 1938 and 2069 for example) and the presence of at least three terminals to the eastern end of the ditch, segments 1656, 1712 and 1795 (itself possibly two terminals), indicated that it had been recut more than once, and support for this was seen in a number of sections (fig 5.25). As an example, the broad western side of segment 1938 measured approximately 0.60m deep while the distinct shelf along the eastern side was no more than 0.38m deep. The shelf itself (further evidence of recutting) was divided into two elements, 1942 and 1943. 1943 was marginally deeper than 1942, and the change in depth coincided with a kink in the eastern edge of the feature which, together, indicated that 1942 and 1943 might each have been terminals (perhaps of a segmented ditch) at one time. Initially, segments 1556 and 1559 looked as though they might butt each other, indicating that 1556 had at one time been another terminal, but no evidence to support this was found, except, perhaps, for a visual impression suggested at the point where they meet (the narrowness of the southern end of 1559 and the bulge to the south-east of this which might once have been the end of 1556). The acute angle of the ditch at this point is unlike either of the other 'corners' of the enclosure, which might also indicate that the stretch containing 1559 was a later addition. Alternatively the acute angle of this corner might be the result of erratic digging or deliberate intention for a specific purpose.

Segments 1658, 1711, 1795 and 1803, belonging to a distinct westwards turn at the eastern end of the enclosure, have been given the cut number 1710, while the remaining segments associated with the enclosure are all attributed to 1008. The pottery from 1710 suggests that the feature may date to the late 1st or early 2nd century AD, and was therefore infilled long before the final infilling of 1008.

Most of the segments excavated produced sherds of pottery (none came from 1556, 1559 or 1708), but the assemblages were often small and were usually of mixed origin. Small quantities of Roman brick/tile was also recovered from most, and large quantities of well preserved animal bone (mostly from cattle and sheep), some of which was articulated, were recovered from segments 1552 and 1950 (see specialist report). There is evidence to suggest that the ditch was recut at least twice and that its overall size and appearance varied at different times, but the largely undifferentiated nature of many of the segment fills meant that it was rarely possible to trace or assign finds to the different chronological elements. Consequently many of the finds assemblages must contain material emanating from separate cuts, and few of them produced

diagnostic dating material. The most positive information indicates that the final cut of the enclosure ditch began to infill during the late 3rd or 4th century as material of this date came from the basal fill of segments 1656 and 1934. At some time, perhaps during this final phase, the ditch cut ditch 1072 and waterhole 1948, both of which appear to be of late 2nd or 3rd century origin. Elsewhere pottery of this date was recovered from a number of layers, most of which were final infill contexts. Diagnostic material of 1st and/or 2nd century, or 2nd century or later date was recovered from other layers but most or all of this could be present residually.

The origin of the enclosure ditch is impossible to determine from the finds record, but it is probably not a coincidence that virtually all of the Roman features lie to the north of it, while features of Iron Age origin are found to either side. The visual impression given by the gently curving area occupied by the midden layer 716, and by the transitional period pit complex beneath it, suggests that both may have occupied the corner of the enclosure. It is possible that the enclosure existed in some shape or form from the transitional or Early Roman period onwards, but the evidence of this was largely destroyed by a succession of recuts which culminated in the late 3rd or 4th century.

Ditch 1191 followed a gently curving course and was traced over a distance of approximately 176m from east to west. It encountered few features along its length, but was found to cut ditch 1990 (phase 2), pit 1171 (phase 3), and was probably cut by pit 2021 (phase 4); no relationship was established with ditch 2232. The feature varied between 0.55m (2236) and 1.75m (1566) in width and between 0.08m (1573) and 0.47m (1973) in depth, being generally shallower towards the east, and in most segments contained an undifferentiated fill of mid brown or grey-brown clay soil. Slight variations in its basal profile, observed in segments 1545, 1566, 1571 and 1973, suggested that the feature had been either wholly or partially recut at some time, though there was no evidence for this in any section.

The ditch was sampled by the excavation of 38 segments which produced around 280 sherds of pottery, one of which was Neolithic, one was Bronze Age, 46 were Iron Age (most coming from the segments closest to the eastern Iron Age settlement), and the remainder were Roman; some Roman tile and bone was also recovered, and a number of hobnails were recovered from 1956. Around 100 of the Roman sherds came from segment 1956 (mostly shelly ware pieces probably from a limited number of vessels), and in most segments the number of sherds was small. Unfortunately most of the Roman sherds were undiagnostic and the ditch is difficult to date. Dateable sherds of late 1st or early 2nd century origin were recovered from 1547, while sherds of late 3rd or 4th century date were recovered from 1540 and 1950 (some of these from the latter coming from the lower half of the fill). In addition to these finds a further 11 sherds of Iron Age pottery and 78 sherds of Roman pottery were recovered as surface finds from the western half of the feature, these being attributed to the cut number 1191. The majority of dateable surface finds belong to the late 3rd or 4th century AD. The feature most probably infilled during this period.

The two short gullies 1686 and 1690 were each sampled by the excavation of the two terminal segments but it was impossible to determine their relationship, although their shape suggests that one probably succeeded the other.

Ditch 2232 was traced over a distance of approximately 95m and was sampled at 20 locations, which showed it to contain a fill of mid brown clay soil and to be a maximum of 0.26m deep (2379). At its northern end segment 2398 was a reasonably convincing terminal, but to the south segment 2235 was never more than 0.04m deep and the feature may have extended further in this direction. 2225 and 2299 might also have been terminals (though again both segments were very shallow so it is impossible to be certain), but the gap to the north of 2396 was caused by the feature shallowing out. Along its length 2232 cut the Bronze Age ditch 1218, and Iron Age features 1144 and 2483 (segment 1130), but no relationship was established between it and the Roman ditches 1191 and 1251. The excavated segments produced 29 sherds of Iron Age pottery, 46 sherds of Roman pottery, occasional scraps of Roman brick/tile, and a copper alloy coin. Diagnostic Roman sherds were only recovered from four contexts, but in each case this material was of late 3rd/4th century origin. The copper alloy coin, though illegible has also been dated to this period.

CX	TYPE	PLN	AREA	SECT
309		5.19	3	
315	Seg 321	5.19	3	
316	Seg 391	5.19	3	
321	Linear	5.19	3	
331	Seg 321	5.19	3	
334	Other	5.19	3	
335	Seg 321	5.19	4	
348	Other	5.19	3	
371	Seg 615	5.19	3	
372	Seg 391	5.19	3	
383	Seg 615	5.19	3	
384	Seg 391	5.19	3	
385	Seg 391	5.19	3	
386	Seg 391	5.19	3	
391	Linear	5.19	3	
439	Seg 1008	5.19	3	
445	Linear	5.19	3	
558	Seg 1008	5.19	2a	98
559	Fill 558	5.19	2a	98
560	Fill 558	5.19	2a	98
561	Fill 558	5.19	2a	98
562	Fill 558	5.19	2a	98
566	Linear	5.19	3a	
567	Fill 566	5.19	3a	
591	Fill 558	5.19	2a	
592	Fill 558	5.19	2a	
593	Fill 558	5.19	2a	
594	Fill 558	5.19	2a	
595	Fill 558	5.19	2a	
603	Fill 558	5.19	2a	98
615	Linear	5.19	3	
1008	Linear	5.19	2,2a	
1013		5.19	5a	
1098	Seg 1191	5.20	39	
1099	Seg 1191	5.20	38	

CX	TYPE	PLN	AREA	SECT
1105	Linear	5.20	38	
1121	Seg 1191	5.20	37	
1162	Seg 1191	5.20	38	
1174	Linear	5.20	38	
1191	Linear	5.19	15,19	
1192	Surf		15,19	
1193	Surf		15,19	
1194	Surf		15,19	
1195	Surf		15,19	
1196	Surf		15,19	
1197	Surf		15,19	
1198	Surf		15,19	
1199	Surf		15,19	
1200	Surf		15,19	
1201	Surf		15,19	
1202	Surf		15,19	
1203	Surf		15,19	
1539	Seg 1191	5.19	18	
1540	Seg 1191	5.19	53,17	
1545	Seg 1191	5.19	44	
1547	Seg 1191	5.19	17	
1548	Seg 1191	5.19	19	
1550	Seg 1191	5.19	17	
1551	Fill 1950	5.19	3a	97
1552	Seg 1008	5.19	4a	95
1553	Fill 1552	5.19	4a	95
1554	Seg 1191	5.19	18	
1556	Seg 1008	5.19	7	
1558	Seg 1191	5.19	16	
1559	Seg 1008	5.19	7	
1561	Seg 1191	5.19	17	16
1562	Fill 1561	5.19	17	
1563	Fill 1561	5.19	17	
1564	Seg 1008	5.19	4a	
1565	Fill 1564	5.19	4a	

CX	TYPE	PLN	AREA	SECT
1566	Seg 1564	5.19	19	
1567	Seg 1008	5.19	6,7	
1568	Seg 1008	5.19	6,13	
1569	Fill 1564	5.19	4a	
1571	Seg 1191	5.19	19	
1572	Seg 1191	5.19	19	
1573	Seg 1191	5.19	44	
1575	Fill 1564	5.19	4a	
1581	Seg 1008	5.19	3a	96
1590	Seg 1191	5.19	18	
1615	Seg 1008	5.19	13	94
1655	Seg 1008	5.19	6	
1656	Seg 1008	5.19	13	
1657	Seg 1008	5.19	13	
1658	Seg 1710	5.19	13	
1686	Linear	5.19	6	
1687	Seg 1686	5.19	6	
1688	Seg 1686	5.19	6	
1690	Linear	5.19	6	
1691	Seg 1690	5.19	6	
1694		5.19	6	
1695	Seg 1690	5.19	6	
1708	Seg 1008	5.19	6	
1710	Linear	5.19	13	92
1711	Seg 1710	5.19	13	
1712		5.19	13	93
1731	Seg 1008	5.19	5a	
1795	Seg 1008	5.19	5,12	92
1803	Seg 1008	5.19	12	
1930	Fill 1552	5.19	4a	95
1932	Fill 1950	5.19	3a	97
1933	Fill 1950	5.19	3a	97
1934	Seg 1008	5.19	15	86,99
1936	Seg 1191	5.19	15	
1937	Seg 1191	5.19	15	

CX	TYPE	PLN	AREA	SECT
1938	Seg 1008	5.19	9	100
1939	Fill 1938	5.19	9	100
1940	Fill 1938	5.19	9	100
1941	Seg 1191	5.19	15	
1942	Fill 1938	5.19	9	
1943	Pit	5.19	9	100
1944	Fill 1938	5.19	9	100
1950		5.19	3a	97
1953	Fill 1950	5.19	3a	97
1956	Seg 1191	5.19	16	
1964	Fill 1934	5.19	16	
1965	Other	5.19	15	
1967	Seg 321	5.19	3	
1973	Seg 1191	5.19	16	
1987	Seg 1008	5.19	9	
1992	Seg 1191	5.19	16	
2029	Seg 1191	5.19	16	
2031	Seg 1191	5.19	16	
2068	Seg 1008	5.19	2,9	104

CX	TYPE	PLN	AREA	SECT
2069	Seg 1008	5.19	2	103
2070	Seg 1008	5.19	2a	102
2120	Seg 1008	5.19	9	101
2218	Seg 2232	5.20	46	
2225	Seg 2232	5.20	46	
2230	Seg 1191	5.20	38	
2232	Linear	5.20	31,39	61
2233	Seg 2232	5.20	39	
2234	Seg 2232	5.20	31	
2235	Seg 2232	5.20	31	
2236	Seg 1191	5.20	38	
2237	Seg 1191	5.20	38	
2238	Seg 1191	5.20	37	
2239	Seg 1191	5.20	38	
2240	Seg 1191	5.20	38	
2241	Seg 1191	5.20	37	
2243	Seg 1191	5.20	37	
2246	Seg 1191	5.20	37	
2261	Seg 1191	5.20	37	

CX	TYPE	PLN	AREA	SECT
2262	Seg 1191	5.20	37	
2288	Seg 2232	5.20	46	
2292	Seg 2232	5.20	46	
2294	Seg 2232	5.20	58	
2299	Seg 2232	5.20	46	
2323	Seg 2232	5.20	46	
2325	Seg 2232	5.20	46,58	
2355	Seg 2232	5.23	58	
2356	Seg 2232	5.23	58	
2358	Seg 2232	5.23	58	
2373	Seg 2232	5.23	58	
2379	Seg 2232	5.20	58	
2382	Seg 2232	5.20	58	
2388	Seg 2232	5.20	58	
2396	Seg 2232	5.23	61	
2398	Seg 2232	5.23	63	
2445	Seg 1191	5.19	14	
2446	Seg 1191	5.19	14	

The waterholes (and pit 2138)

The most rewarding Roman features in terms of finds recovery were the three waterholes 1971, 2090 and 2127. 1971 measured approximately 4.5m in length, by 2.9m across, and was a maximum of 1.32m deep, its sides were steep to the north, east, and west, but were stepped towards the south-east presumably to allow access. Most of the layers removed produced finds, but the overwhelming majority of pottery sherds, much of the tile and bone, and 14 of the 16 small finds came from the three final infill layers 1972, 1976 and 2036. The removal of 1976 exposed the remains of a hearth, 2037. This feature measured approximately 0.5m in diameter and consisted of a deposit of orange/yellow clay (up to 30mm deep) overlain by a central core of red clay (up to 1.50mm deep), these being the result of oxidisation *in situ*. It sloped downwards towards the north, presumably due to the settlement of deposits at a lower level. The hearth was discovered approximately 0.5m from the southern end of 1971, lay 0.35m beneath the surface of the natural at its highest point, and had presumably been used within the convenient hollow formed by the partially infilled waterhole.

The feature produced just over 1000 sherds of Roman pottery (and seven sherds that were Iron Age), but less than 150 of these came from the layers beneath 2048. Diagnostic material belonging to the late 3rd or 4th century was recovered from layers 2062, 2056, 2052, 2051 and 2048 (those from 2062 being closest to the origin of the feature), above which the pottery can be dated to the 4th century. Bone and Roman tile was recovered from most contexts with the former being particularly plentiful in layers 1972 1976, 2036 and 2056. The bone recovered is interesting (see part 8.1) and includes 14 skulls (mainly of cattle but including the skull of a horse perhaps no more than a few days old) the majority of which were from layers 2036 and 2056. Most of the small finds recovered were nails, but the feature also produced some more interesting objects which include an illegible 3rd/4th century copper alloy coin (1972), part of an iron chisel (1972), a bracelet fragment (1976), a finger ring fragment (2036), and a copper alloy spoon (2036). Small amounts of daub (some with flat surfaces and traces of plaster which presumably come from the wall of a building), several fragments of quernstone, and small quantities of metalworking debris (including some slag, some undiagnostic ironworking debris and part of a furnace lining) were also recovered from the feature.

There seems little doubt that the feature was originally dug as a waterhole. When this function ceased it was infilled with soils containing a considerable variety of artefactual and ecofactual evidence. Whether this indicates simply

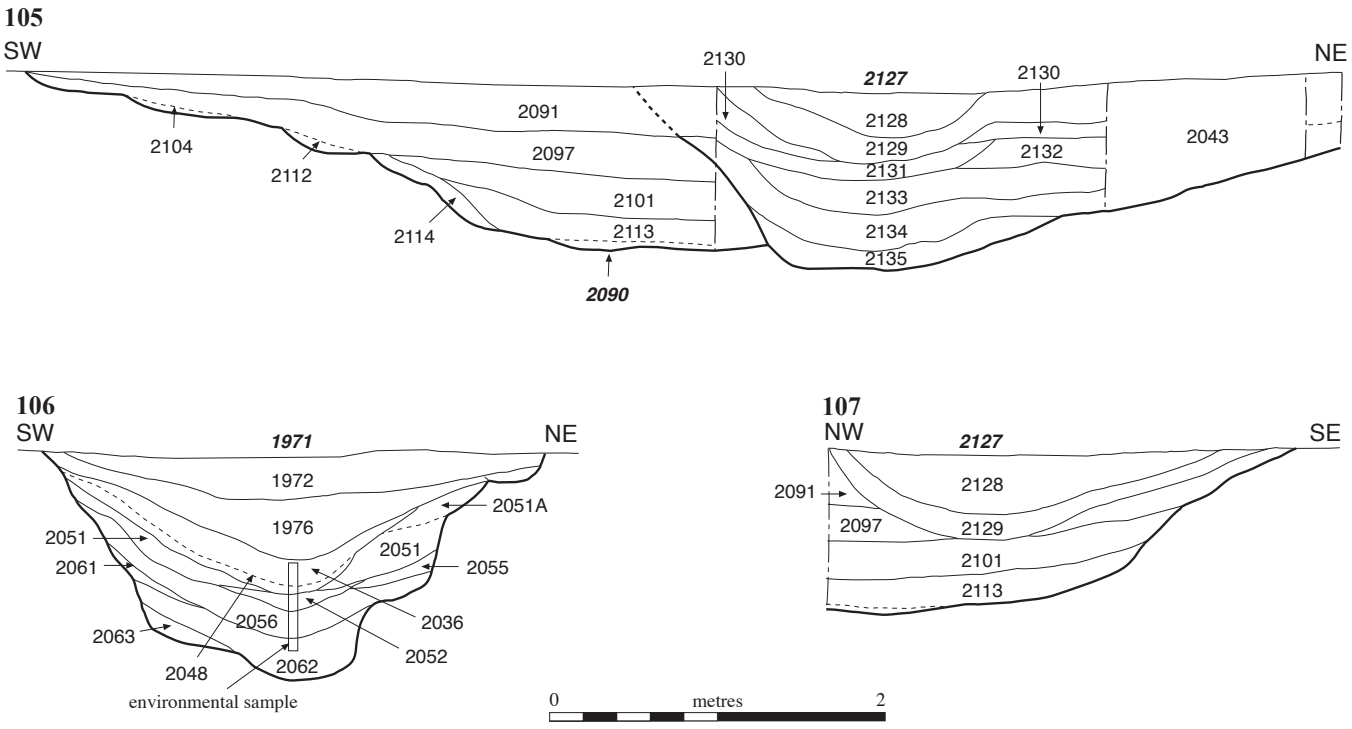

Fig 5.26 Thorpe Lea Nurseries: sections through the Late Roman waterholes 1971, 2090, and 2127

opportunistic use of a convenient hole for rubbish deposition or whether it is part of a more structured deposition is a question discussed more fully in part 9.

2090 and 2127 were similar to 1971 as both contained various layers of fill, most of which were quite distinctive, but these contexts were intercutting, with 2127 being the later feature. Each is thought to have been comparable in overall size to 1971.

The overwhelming majority of the finds recovered from 2090, including 802 of the 912 sherds of Roman pottery, came from final fill layer 2091. Below this the quantity of pottery decreased with each successive layer, but diagnostic material of late 3rd or 4th century origin was recovered throughout. Other finds include quite frequent pieces of bone, some Roman tile, daub and slag, and seven small finds (all from 2091). The small finds include three coins (two illegible and one dated to AD 330–40), and two fragments possibly from the same pair of shears.

The finds recovered from 2127 were similar in type and distribution to those recovered from 2090, with 678 sherds of pottery coming from 2128 and 2129 and 90 sherds coming from the remaining layers. A further 200 sherds from 2043 (excavated in dry conditions that prevented recognition of the stratigraphic divisions) point strongly to a 4th century date for the final infilling. Fourteen small finds were recovered from layers 2128 and 2129, and these include two illegible 3rd or 4th century coins and a bracelet fragment. It seems likely that the early stages of infilling in both 2090 and 2127 were largely the result of natural processes, but there is no doubt that 2091, 2128 and 2129 result from the deliberate dumping of material. Mollusc shells recovered from 2135 indicate that this feature held standing water; this supports the suggestion that 2127, and, by overall comparison, various similar large pits, were used as waterholes.

2090 and 2127 lie at the western end of ditch 1072, which has been dated to phase 4B. It looks as if the location of the waterholes here is purely coincidental, or no more than taking advantage of softer ground.

The site plan also shows a shallow ledge on the southern side of ditch segment 1957 which might have been associated with one of the waterholes, and a pit, 2138, which was only discovered during the later stages of the excavation of 2090 and 2127. 2138 produced three sherds of Roman greyware of 3rd century or later date.

CX	TYPE	PLN	AREA	SECT
1971	WH	5.19	10	106
1972	Fill 1971	5.19	10	106
1976	Fill 1971	5.19	10	106
2036	Fill 1971	5.19	10	106
2037		5.19	10	
2048	Fill 1971	5.19	10	106
2051	Fill 1971	5.19	10	106
2052	Fill 1971	5.19	10	106
2055	Fill 1971	5.19	10	106
2056	Fill 1971	5.19	10	106
2058		5.19	2	83
2059		5.19	2	83
2061	Fill 1971	5.19	10	106
2062	Fill 1971	5.19	10	106
2063	Fill 1971	5.19	10	106
2090	WH	5.19	8	105
2091	Fill 2090	5.19	8	105
2097	Fill 2090	5.19	8	105
2101	Fill 2090	5.19	8	105
2104	Fill 2090	5.19	8	105
2112	Fill 2090	5.19	8	105
2113	Fill 2090	5.19	8	105
2114	Fill 2090	5.19	8	105
2127	WH	5.19	8	105
2128		5.19	8,9	105
2129		5.19	8,9	105
2130	Fill 2127	5.19	8,9	105
2131	Fill 2127	5.19	8,9	105
2132	Fill 2127	5.19	8,9	105
2133	Fill 2127	5.19	8,9	105
2134	Fill 2127	5.19	8,9	105
2135	Fill 2127	5.19	8,9	105
2138	Pit	5.19	8	

The pits

Eighteen or more pits seem likely to belong to this phase. Most of these features are dated as belonging to the late 3rd or 4th century, but 365 and 2071 are of 4th century origin, and 1533 can only be dated to the 3rd century or later and potentially belongs to phase 4b. Further comment is needed for only a few of these features.

Feature 140 was the southernmost feature discovered that was associated with the western settlement. It contained large lumps of oxidised clay, presumably from a disturbed hearth, in a matrix of grey clay soil. There was no evidence of *in situ* burning, however, so the burnt clay must have been redeposited unless the hearth base had been completely disturbed at the end of use.

Feature 142 was some 7m to the north-west of feature 140 and less than 1m to the north-east of the Late Iron Age hearth 141. It was filled with a grey clay soil which contained occasional flecks or small clusters of charcoal. Excavation of the main fill revealed roughly circular patches of similar coloured fill, one (to the north-east) with a heavy surface concentration of charcoal. That to the north-west was found to be little more than a shallow scoop, while those to the south-east and south were distinct postholes approximately 0.15m and 0.28m deep below the base of the feature. Its function is unclear, but if the shallow basal anomaly was also the remains of a posthole (as seems likely) it is possible that it housed some tripodal structurej. If so, the most obvious suggestion is that this might have held a cooking pot, but as there was no sign of *in situ* burning and as the amount of charcoal present was modest this does not seem likely. The neighbouring feature, hearth 141, produced no finds but an archaeomagnetic date indicates that it belongs to the Late Iron Age.

1878 was a shallow feature (no more than 0.13m deep) which contained an undifferentiated fill of dark grey-brown clay soil with occasional to frequent flecks of charcoal. The removal of this fill revealed two postholes, 1879 and 1904, which measured 0.28m and 0.15m deep below the base of 1878. The function of this feature is not known, and it is impossible to be certain whether 1879 and 1904 are contemporary: neither was quite central, and other postholes were present nearby.

At the onset of its excavation it was thought likely that feature 1959 might be a grave because its dimensions as a soil mark were similar to those of feature 1668 (phase 4A) which was found to contain a human skeleton. It contained a fill of grey-brown clay soil with occasional small patches of redeposited natural brickearth and occasional flecks of charcoal. The feature measured approximately 0.30m deep, and midway through this, close to the western side in its southern half, the skeleton of a newborn sheep or goat was discovered. The remains were articulated at the time of burial and mostly remained together, though one or two were a short distance away within the fill. Examination identified no evidence of butchery, and it is thought likely that the animal died naturally shortly after its birth (see part 8). It is unclear if the feature was dug to bury the animal, or whether it was placed in an open hole of unknown purpose. Other finds include four residual sherds of Iron Age pottery, 52 sherds of Roman pottery (dated to the 4th century AD), some Roman tile, and an iron nail.

Feature 1960 measured approximately 0.85m across by 0.78m deep and contained four deposits of fill. These were: 1960A, a dark brown clay soil with frequent flecks of charcoal; 1960B, a medium brown clay soil with less flecks of charcoal than 1960A; 1960C, a yellow-grey sandy clay; and, 1960D, a sizeable 'lump' of redeposited natural brickearth. The relationship of these deposits to each other when seen in section is reminiscent of the stratigraphy sometimes seen (though not otherwise at Thorpe Lea) in postholes. It is possible that 1960A and 1960C indicate the position of a substantial post and that 1960B and 1960D were packing deposits. The variation between 1960A and 1960C might be because the post was, at some time, burnt above ground level (producing the charcoal and dark soil of 1960A) but was left to decompose below it (resulting in 1960C). Settlement of the fill, resulting from decomposition, might have caused some of the charred remains and surrounding soil to subside into the feature. Thirty-one sherds of Roman pottery were from 1960A are of 4th century origin.

Context 2039 refers to an irregularly shaped area of fill lying mostly to the north of ditch 1191 in the vicinity of segments 1973 and 1992. The fill was sampled at several locations and revealed a number of intercutting pits. Few physical relationshps could be established between these due to the similar nature of the fills. Given the isolated location of these features and that most were intercutting, however, it seems likely that all (or most) were contemporary. The diagnostic material recovered consists of one sherd from 1980 which probably belongs to the late 2nd century AD, one sherd from the lower part of 2041 which belongs to the late 3rd or 4th century, and one sherd from 2064 which is of 4th century date. There seems little doubt that at least some, and perhaps all of these features belong to phase 4C. Alternatively, some may belong to phase 4B.

CX	TYPE	PLN	AREA	SECT
140	Other		SDP	
142	Other		SDP	
313	Pit	5.19	3	
319	Pit	5.19	3	
365	Pit	5.19	2	
387	Linear	5.19	3	
563	Pit	5.19	3	
1533	Pit	5.19	17	
1705	Pit	5.19	12	
1759	Pit	5.19	13	
1878	Pit	5.19	11	
1951	Pit	5.19	16	91
1959	Pit	5.19	16	
1960	Pit	5.19	10	90
1980	Pit	5.19	16	
1981	Fill 1980	5.19	16	
1982	Fill 1980	5.19	16	
2039	Pit	5.19	16	
2041	Pit	5.19	16	
2042	Pit	5.19	16	
2057	Pit	5.19	16	
2064	Pit	5.19	16	

The postholes (including the four-posted structure 1925)

Little can be said about four of the postholes recorded here (363, 416, 516 and 1819) as these were scattered amongst features of (apparently) different origin and belong to no recognisable pattern; all are dated by single sherds of pottery. Another four (1525, 1526, 1836 and 1918) belong to structure 1925, the dating of which is equally inconclusive, while the remainder belong to a group located to the east of the main settlement area and are more securely dated. A further posthole which might belong to this phase, 1579, has been discussed in phase 4B in connection with pit 1577.

The postholes belonging to 1925 were all quite substantial, measuring between 0.37m across by 0.20m deep (1525) and 0.48m across by 0.36m deep (1836), and formed an almost exact 2m square. 1918 produced no finds, but 1525 had one sherd of Roman greyware, 1526 an Iron Age sherd and an Overwey sherd belonging to the 4th century AD, and 1836 one sherd of Iron Age pottery. In addition three sherds of Roman greyware came from the surface of 1836 when it was first mapped as soil mark 1044. The inclusion of 1925 in phase 4C is dependent on the reliability as a contemporary artefact of the single diagnostic Roman sherd recovered from 1526. There is no reason why 1925 should not be a 4th century structure, but it is worth noting that the other four-posted structures identified (including 1945 just 8m to the north-east) are all of Iron Age or Late Iron Age/Early Roman date. If the 4th century sherd from 1526 was intrusive in this feature, 1925 might be of considerably earlier origin.

The eastern group of features attributed to this phase consist of five conventional postholes (2073, 2074, 2077, 2078 and 2087), two linear slot-like features (2079 and 2088) which are classified as postholes for convenience as they may well have contained or supported posts, and two features (2075 and 2081) that were either short slots or elongated postholes. Most of these features were positioned close together in a gently curving line, while 2087 and 2088 lay just to the east and west respectively. Excavation produced evidence of a possible stakehole in the base of the central part of 2075, and revealed a slightly wider and deeper area in the central part of 2079 which might have been a post setting. No finds were recovered from 2077 and 2087, but the remainder all produced sherds of Roman pottery and 4th century material was recovered from 2075, 2079, 2081 and 2088 (a small pit of similar date, 2071, was also discovered just to the south–see above). Originally it was thought that these features might indicate the position of a small building, but the absence of any other potential wall line makes this uncertain (though not impossible). It is also worth noting that four of the contexts noted here, 2073, 2074, 2079 and 2081, produced small quantities of slag or undiagnostic ironworking debris, as to find this material within an isolated group of features might be significant. Unfortunately the quantity of material recovered was small (a total of 5gm came from 2073 and 2074) and its presence might be coincidental.

CX	TYPE	PLN	AREA	SECT
363	PH	5.19	2	
416	PH	5.19	3	
516	PH	5.19	3	
1525	PH	5.19	11	
1526	PH	5.19	11	
1819	PH	5.19	12	
1836	PH	5.19	11	
1918	PH	5.19	10	
1925	PH	5.19	10,11	
2071	Pit/PH	5.19	36	
2073	PH	5.19	36	
2074	PH	5.19	36	
2077	PH	5.19	36	
2078	PH	5.19	36	
2079		5.19	36	
2081		5.19	36	
2087	PH	5.19	36	
2088	Pit	5.19	11	

The inhumation burial

A grave (context 1668) containing the skeleton of an adult male was discovered in the south-western corner of the enclosure formed by ditch 1008. The skeleton was supine, with the left hand positioned in the centre of the chest and the right hand placed in the groin area, and the grave was extremely shallow (no more than 0.17m deep) and slightly irregular in shape. The preservation of the bones exposed was fair, but the skeleton was not complete and many of the bones had fragmented since burial.

No finds were discovered in direct association with the skeleton and the backfill of the grave produced both Iron Age and Roman pottery, none of which need be later than the 1st century AD. Radio carbon dating, however, gave a later Roman date of 250–410 (95% confidence limits).

CX	TYPE	PLN	AREA	SECT
1668	Other	5.19	3a	

Surface spreads

1805 in the eastern half of the western settlement area marks the remainder of an irregularly shaped scatter of surface finds in dark soil which was previously planned on two occasions as the slightly more extensive contexts 691 and 1073. Just to the south of this, and probably once continuous with it, a similar spread of material, 1828, was identified. This was sampled by the excavation of a narrow trench and resulted in the discovery of pits 1831, 1832 and 1833; 1828 probably sealed these pits. The pottery from these contexts was mostly of Roman origin, though Iron Age sherds were also quite common, and 1073 produced two sherds that were medieval. The diagnostic Roman material from 1805 was of middle to late 2nd century origin, while that from 691, 1073, 1828 and 1829 was of 4th century date. The reason for the occurrence of these scatters of material was not apparent.

CX	TYPE	PLN	AREA	SECT
649	Fill 682	5.19	16	89
691	Other	5.19	16	89
1073	Linear	5.19	12	
1805	Other	5.19	12	
1828		5.19	12	
1829		5.19	12	

5.4 FEATURES OF NON-SPECIFIC ROMAN DATE

A number of features produced finds which indicated that they were of indeterminate Roman origin. The majority of these features were similar in size and character to others previously described and require no further discussion here.

Ditches and gullies

1148 was a somewhat dubious feature no more than 1.5m long and a maximum of 0.05m deep.

Ditch 1251 ran in a north-east to south westerly direction and was traced over a distance of approximately 125m. It was sampled by the excavation of 26 segments which showed it to measure between 0.05m (2280) and 0.31m (2076) in depth. Segment 2279 was quite deep with a distinct rounded end and appeared to be a genuine terminal, but the other gaps along the length of the feature were due to it shallowing out and failing to leave any impression on the surface of the natural. A shallow shelf on the southern side of 1233 and at the eastern end of 2219 (2220) might also have been a terminal at one time, but this was no more than 0.08m deep and may have been no more than a variation in the natural geology. The feature produced eight sherds of Iron Age pottery, five sherds of Roman pottery, 12 fragments of Roman tile, and four fragments of medieval or post-medieval tile; one of the Roman sherds was of 4th century origin, but the others were not diagnostic. The paucity of finds makes the dating of this feature difficult, but as two of the later tile fragments are recorded as having been surface finds (the others might have been similarly stratified), it seems most likely that it is Roman. Whether it is of 4th century date, as suggested by the single sherd from 2076, is uncertain.

Ditch 1700 was sampled at nine locations and was no more than 0.14m deep. Part of this shallowness was no doubt caused by the remachining of the site, as, when first planned as a soil mark, the northern and southern elements shown on fig 5.18 were more or less continuous and the feature was longer overall (it terminated or shallowed out 1–2m to the south of ditch 1191, and 1–2m to the north of ditch 1008). Segment 1681 appeared to cut the Iron Age feature 1682, and segment 1802 might have cut segment 1803 of ditch 1710 (though given the shallowness of both it was impossible to be certain of this). The feature produced just four sherds of pottery, two of which were Iron Age, and two were Roman but undiagnostic. It also produced occasional pieces of Roman brick/tile, and a fragment of medieval or post-medieval tile which seems most likely to be intrusive.

1853 and 1873 were both very short linear features about which little can be said.

CX	TYPE	PLN	AREA	SECT
1108	Seg 1251	5.20	30	
1117	Seg 1251	5.20	29	
1125	Seg 1251	5.20	49	32
1148	Linear	5.23	62	
1176	Seg 1251	5.20	49	
1178	Seg 1251	5.20	39	
1251	Linear	5.19	7a,22	
1680	Seg 1700	5.19	6	
1681	Seg 1700	5.19	5	
1693	Seg 1700	5.19	12	
1700	Linear	5.19	5,6	
1702	Seg 1700	5.19	5	
1704	Seg 1700	5.19	12	
1767	Seg 1700	5.19	18	
1770	Seg 1700	5.19	18	
1802	Seg 1700	5.19	12	
1809	Seg 1700	5.19	18	
1853	Linear	5.19	10,11	
1873	Linear	5.19	12	
2076	Seg 1251	5.19	7a	
2200	Seg 1251	5.20	40	
2201	Seg 1251	5.20	40	
2219	Seg 1251	5.20	30,38	
2221	Seg 1251	5.20	30	
2222	Seg 1251	5.20	39	
2223	Seg 1251	5.20	39	
2224	Seg 1251	5.20	39	
2227	Seg 1251	5.20	30	
2228	Seg 1251	5.20	29	
2249	Seg 1251	5.20	29	
2254	Seg 1251	5.20	29	
2274	Seg 1251	5.20	61	
2275	Seg 1251	5.20	48	
2277	Seg 1251	5.20	49	
2278	Seg 1251	5.20	49	
2279	Seg 1251	5.20	49	
2280	Seg 1251	5.20	50	
2340	Seg 1251	5.20	39	
2345	Seg 1251	5.20	39	

The pits

The six pits belonging here merit no further comment.

CX	TYPE	PLN	AREA	SECT
1074	Pit/PH	5.19	5	
1544	Pit	5.19	5	
1792	Pit	5.19	5	
1796	Pit	5.19	12	
1831	Pit	5.19	5	
1866			11	

The postholes

The 16 postholes of non-specific Roman date require little further comment. The amorphous feature 349 is listed here as a posthole, but its shape in plan and variations in its basal profile suggested that it may have been as many as three postholes. 1501 and 1922 were shallow with rounded profiles and may have been the remains of small pits.

CX	TYPE	PLN	AREA	SECT
340	PH	5.19	3	
341	PH	5.19	3	
343	PH	5.19	3	
344	PH	5.19	3	
349	Pit/PH	5.19	3	
1501	Pit/PH	5.19	4a	
1685	PH	5.19	4	
1739	PH	5.19	5	
1827	PH	5.19	12	
1837	PH	5.19	11	
1898	Pit/PH	5.19	5,12	
1922	Pit/PH	5.19	10	
1985	PH	5.19	10	
2272	PH	5.20	39	
2312	PH	5.20	46	
2338	PH	5.19	39	

The cobbled area

This refers to a roughly oval area of compact flints in a matrix of grey-brown soil, 403, that was separated into two parts by a shallow flint-free channel, 405. The excavation of 405 produced one sherd of Iron Age pottery and two pieces of daub, but the excavation of 403, found to lie directly on top of the natural and not within a cut, produced no finds. The removal of this deposit did, however, reveal posthole 506 (phase 4A), which suggests that it, and presumably 405, were Roman contexts.

CX	TYPE	PLN	AREA	SECT
403	Other	5.19	40	
405	Linear	5.19	4	

Bonfire 1773

This isolated feature, discovered just to the south of segment 1554 of ditch 1191, contained an upper fill of black/brown charcoal rich soil (1773A), and a more compacted lower fill with areas of reddened soil and charcoal mixed with patches of brown soil. There was no oxidised base to this feature, as had been found beneath the infill of hearth 141, which suggests that the burning which took place here was less intense and/or that it was not used repeatedly. A single sherd of Roman greyware was recovered from 1773A, and an Iron Age sherd was recovered from 1773B, so this feature might belong to phase 3 or to the transitional Late Iron Age/Early Roman period. Bulk soil samples were found to contain substantial quantities of cereal remains (see specialist report), which indicate that this feature was associated with crop-processing.

CX	TYPE	PLN	AREA	SECT
1773	Other	5.19	18	

5.5 FEATURES OF UNKNOWN BUT ANCIENT DATE

A large number of the features discovered were impossible to date either because they produced no finds, or because the material recovered from their fills was limited or contradictory, or because a likely association could not be made with securely dateable contexts. These features were mostly discovered within the western settlement area and, therefore, are most probably of Iron Age or Roman origin. The overwhelming majority of these features were postholes, which is not surprising given that such features seldom remain open for long and, consequently have less chance of accumulating occupation debris.

Fig 5.27 Thorpe Lea Nurseries: features of unknown but ancient date. Their occurrence in large numbers in the area of intensive Iron Age and Roman settlement suggests that most are of similar date. None were identified outside the area shown

6 THE POTTERY

by Phil Jones

6.1 INTRODUCTION

Amongst nearly 14,000 sherds (*c*160kg), the earliest recognised type is Peterborough Ware, of which there are six fragments. By weight, 7% of sherds are from Middle Bronze Age features, and 3% more derive from two clusters of Late Bronze Age pits and postholes towards the north and south ends of the quarry area. Iron Age pottery is better represented, and was sampled from two settlements. By weight and count, the eastern complex of pits yielded between 3 to 4% of all recovered pottery, and the western cluster of features, that contained between 7 or 9% of Iron Age pottery, continued as a settlement into the Roman period, with residual later prehistoric material representing between 13 and 14% of all sherds from the site, by count and weight.

Most pottery is Roman and from the western settlement, and represents 68% of the entire collection, by count. Although some is of late 1st to late 2nd century date, the majority belongs to the later Roman period, with most deriving from three waterholes. Few sherds of later date were recovered.

The sampling of pottery and other finds was mostly from half sections of discrete features, although a relatively high proportion were fully excavated, and from small segments of ditches, unless any proved important enough to warrant further recovery. The collection, therefore, represents a reasonably large sample of the original quantity that had survived within features.

Quantification is by count and weight, and also by estimated vessel equivalents (EVEs) for the Roman material. In the text, percentage proportions are provided in parentheses, and are abbreviated to C for count, W for weight and E for EVEs.

The reports that follow on the prehistoric and Roman pottery refer to type series based on a synthesis of studies of prehistoric pottery from over ten sites in the immediate district (see below), and on the large collection of Roman material from Staines (Jones 2010).

6.2 PREHISTORIC

Prehistoric fabric type series for north-west Surrey

The inclusion of prehistoric pottery from four sites in this monograph provided the opportunity to prepare a common type series of wares and fabrics, although the collections from Abbey Meads and Shepperton Ranges are small in relation to that from St Ann's Hill, and even more so in comparison with the collection from the Bronze Age and Iron Age sites of Thorpe Lea Nurseries. Since, also, the pottery from many more prehistoric sites investigated by the Surrey County Archaeological Unit in north-west Surrey have been studied by the author in recent years, it seemed expedient to rationalise all the separately perceived types into a single series. The creation of such site-based type series, largely independent of others except for their common basis in ware-groupings based on the dominant tempering media, had been followed for two main reasons. The first is practical, in that it was sometimes several years between the preparation of each of them, during which time personal opinions about the constitution of 'fabric types' and perceived differences developed and changed, especially as more collections were examined. The second reason is that the method seemed best to accord with the consensus for such studies, in that, with some exceptions that could become evident from synthetic analyses, most prehistoric pottery was considered likely to be of local manufacture, and sometimes, or more widely, perhaps, made at each site. That this may be true in large part does not detract from the need for a more universal type series for the region to better understand its ceramic sequence and to aid the identification of more local connections, whether these may be interpreted as familial, 'tribal' or some other communal affiliation.

The fabric type series of 14 site assemblages excavated by the Surrey County Archaeological Unit over the last 20 years from the Thames and lower Wey valleys of north-west Surrey, and the Blackwater valley east of Farnham, were revisited to assist in the process. These included the Neolithic and later prehistoric material from the Staines Road Farm ring ditch (Jones 2008), Bronze Age pottery from the enclosure at Church Lammas, Staines (Hayman in prep b), Bronze Age and later settlement material from Home Farm, Laleham (Hayman 1991b, Hayman 1997, and Hayman 1998), Neolithic, Bronze Age and Iron Age pottery from Hengrove Farm, Stanwell (SCAU 2007), the collection from the Bronze Age features and Iron Age settlements at Tongham and Runfold (Hayman in prep c), other Iron Age settlement assemblages from Wey Manor Farm (Hayman 1999), St Ann's Hill (Jones, this volume), St Ann's Heath School (Lambert 2010) and Brooklands II and III sites from within the racing circuit (Hayman 1991c, Hayman in prep a).

All sherds from these collections had been examined at x20 magnification, and separated into 'ware groups' according to their dominant tempering media, or otherwise inherent inclusions, largely following the recommendations of the Prehistoric Ceramics Research Group (PCRG 1992). These are crushed calcined flint (CALC), quartz sand grains (SAND), grog (GROG), amorphous iron minerals (IRON), glauconitic ooids (GLAUC), coarse shell fragments (SHELL), crushed fluvial shell and tufa (TUFA) and organic debris (ORG). Another ware group of sherds have no added, and rare inherent, inclusions (FINE), and a few sherds constitute two minor groups with dominant chalk/other limestone (CHALK) and quartzite inclusions (Q'ZITE).

For each of the site collections the ware group sherds were then subdivided according to the presence and frequency of accessory inclusions, and this would most often result in many 'fabrics' that were subsequently rationalised into a smaller number on several grounds. One was the quantity of sherds in each of them, in that those with few examples could be better amalgamated with a close equivalent. Another was the need to establish a series that was specific enough to be duplicated by others, and, indeed, by the original author of the series at a later date. Nevertheless, for most site assemblages, the list of prehistoric fabrics was long, and each site series differed in emphasis in various ways.

The problems associated with the creation of type series was compounded by the fact that many perceived fabrics are closely similar to others, sometimes even in different ware groups. There is, for example, little difference between sherds predominantly tempered with calcined flint but with moderate amounts of quartz sand from those that are predominantly tempered with quartz sand but have moderate amounts of calcined flint inclusions, especially when the notion of 'quantity' is variously interpreted by pottery researchers, and could be based on surface area rather than the numbers of inclusions, which is the criterion used in the present study.

Another problem that especially besets study of the prehistoric pottery of north-west Surrey is the difficulties in consistently distinguishing iron mineral inclusions from those of grog. It is suspected, however, that this problem is not restricted either to the area involved, or the observations of the author. For some pottery types, such as Late Iron Age wares, the grog-tempering is obvious from the 'blocky' nature of such inclusions, the consequent 'softness' or 'soapiness' of the fabric and, often, smaller grog inclusions that are visible within larger ones. Most clays of Eocene lithology from north-west Surrey, however, contain variable amounts of discrete iron minerals, such as limonite, which can resemble grog, especially after their change to other compounds depending on the heat achieved and duration of the firing process. In addition, there are iron minerals that have migrated into sherds after firing and which differ according to the environment of the soil matrix. There remains, therefore, some ambiguity in the identification of grog and iron minerals in some of the prehistoric pottery from the area, which is a situation that cannot be resolved without an extensive programme of thin section analysis.

One more special problem in the identification of fabric types in north-west Surrey is the result of the acidic nature of most soil environments, and the consequent dissolution of calcareous inclusions. Where these had been the relatively thick, plate-like fragments of oyster shells in the SHELL fabrics, the resultant voids are easy to identify. There are, however, various fabrics of the TUFA group that are sometimes difficult to detect, because of the comminuted nature of the inclusions of tufa and crushed fluvial shell that were probably inherent within a river clay. The resultant honeycomb of voids is often difficult to characterise, and it is often only the relative lightness in weight of such sherds that assists their identification.

These problems notwithstanding, it was possible to establish a universal type series (table 5.1) for the prehistoric pottery of north-west Surrey, and one that will probably serve as the template for the rest of the county and perhaps beyond. It includes 56 principal fabrics amongst the nine major ware groupings, with nine of CALC, 12 of SAND, four of GROG, five of ORG, eight of IRON, five of GLAUC, three of SHELL, five of TUFA and five of FINE. Many of these are represented by relatively few sherds, perhaps only from a single site, and any rare types are classified as variants, thus CALCvar etc. For each site collection, therefore, only some fabrics of some groups are present, such as from Thorpe Lea Nurseries, St Ann's Hill and the two other sites included in this monograph.

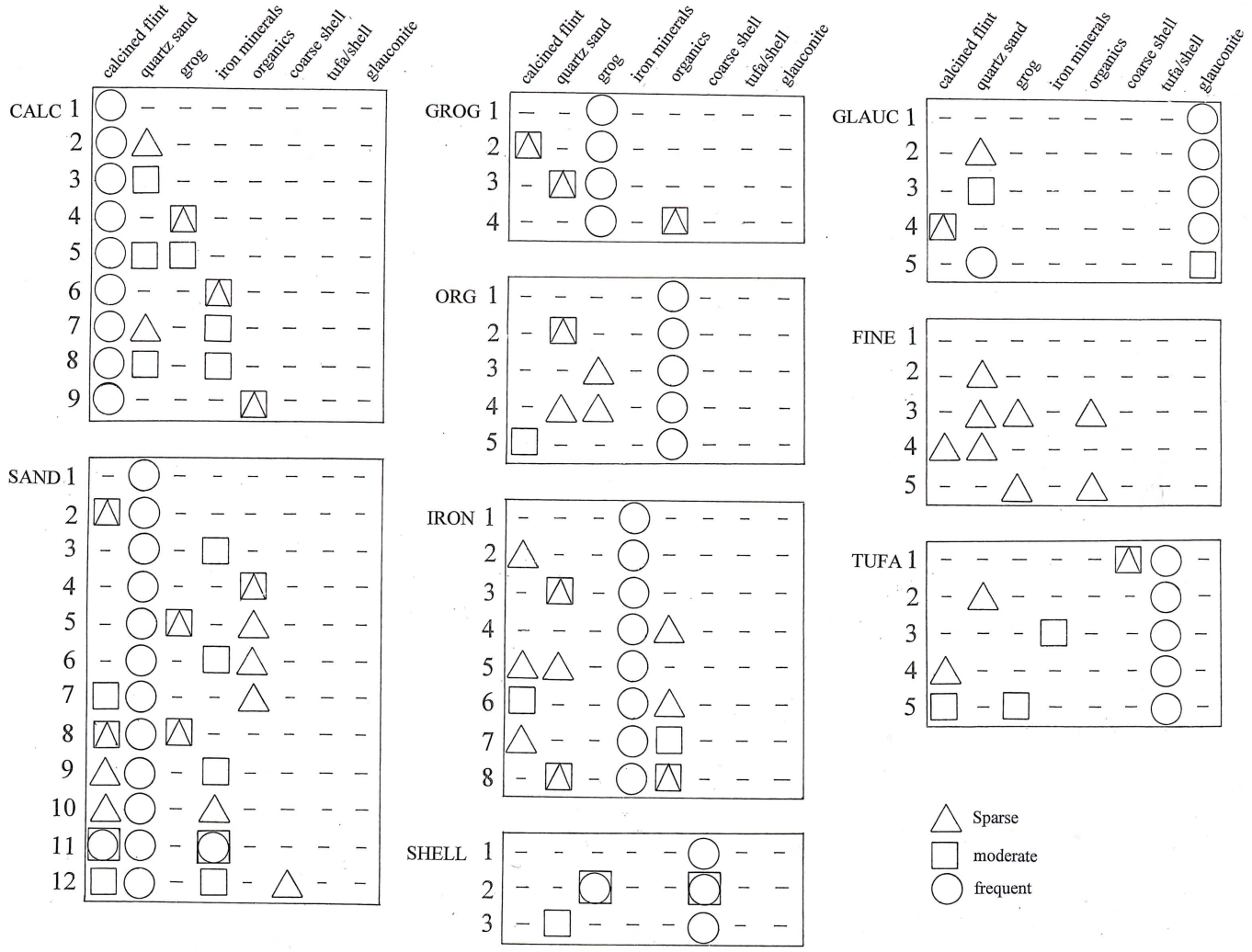

Table 5.1 Thorpe Lea Nurseries: prehistoric fabric type series

The Thorpe Lea Nurseries assemblage

4410 sherds (56kg) were recovered from 267 features and four remnants of layers of prehistoric date, or else were residual in Roman or later deposits. The features include 234 pits and postholes, 27 gullies or ditches, two hollows, two wells and two ring ditches. Most contained only a few sherds, with single pieces from 89 prehistoric features, and five or fewer from 165 more. Only 13 feature assemblages are of more than 30 sherds, of which two are from Middle Bronze Age ditches, two from pits of the northern Bronze Age site, and one from a pit amongst the southern Bronze Age cluster. Iron Age features with 30 or more sherds include a pit and two gullies of the eastern site, and two pits, a well and two ditches of the western settlement.

The report begins with descriptions of the ware and fabric types and their vessel forms and decoration. That is followed by a summary catalogue of the more important feature or area assemblages, and there is a discussion in conclusion.

The reports are accompanied by tables that provide counts and weights of sherds of all fabric types in all features (see below), and 334 illustrations from a much larger archive of drawings that was prepared.

The earliest identified sherds are the six of Neolithic Peterborough Ware, but most of these were residual in a Middle Bronze Age ditch fill, and no contemporary features were identified. The same ditch yielded a Deverel-Rimbury assemblage of coarse and fine vessels, and similar material was recovered from several other ditches and pits. Two of those pits were amongst a cluster that mostly contained Late Bronze Age 'plainware', and *c*300m further south another cluster of pits and postholes provided a smaller collection of similar types and date. There is an absence of examples of the later 'decorated' sub-stage of the local sequence (Barrett 1980) and of the earliest Iron Age, which might suggest a hiatus of occupation, but, thereafter, a continuous sequence of ceramics spans the second half of the 1st millennium BC and continues into the Roman period.

Illustrations (figs 5.28–5.41)

These include pottery from the Middle Bronze Age ditch assemblages of 1218, 2441, 1990 and 1778 (nos 1–53), three Middle Bronze Age postholes (nos 54–9), the Late Bronze assemblage of the northern site (nos 60–77), some other earlier prehistoric material from the north of the site (nos 78–84), the Late Bronze Age assemblage of the southern site (nos 85–91), pit groups 2215, 2217 and 2483 of the eastern Iron Age site (nos 92–109), all other featured sherds from that site (nos 110–128), pit groups 1508, 114, 1996, 1747 and 2295 of the main Iron Age site (nos 129–71), and other best examples from the western site arranged in ware group order (nos 172–334).

Tables

Tables 5.1 and 5.3 are included in the printed report but the remainder are available as part of the digital supplement.

5.1 prehistoric fabric type series
5.2 count and weight of prehistoric sherds in the principal areas of the site
5.3 count and weight of prehistoric ware groups in the principal areas of the site.
5.4 count of prehistoric sherds in the MBA and LBA features of the site.
5.5 weight of prehistoric sherds in the MBA and LBA features of the site.
5.6 count of prehistoric sherds in the eastern Iron Age site.
5.7 weight of prehistoric sherds in the eastern Iron Age site.
5.8 count of prehistoric sherds in the western Iron Age site.
5.9 weight of prehistoric sherds in the western Iron Age site.
5.10 count of prehistoric sherds in disparate features.
5.11 weight of prehistoric sherds in disparate features.
5.12 count of prehistoric sherds in later contexts.
5.13 weight of prehistoric sherds in later contexts.

Fabrics and forms

All sherds were examined in fresh breaks at x20 magnification to aid their classification, and then counted and weighed by fabric type for each context assemblage. The classification of the fabrics accords with the type series of prehistoric pottery of north-west Surrey as explained above.

CALC: PREDOMINANTLY CALCINED FLINT-TEMPERED FABRICS AND WARES

1046 sherds (22.15kg), representing between 24 and 40% (C&W) of all prehistoric pottery. In Bronze Age assemblages it is the predominant ware group, never representing less than 89%, and usually more than 95%, of all pottery. In the eastern Iron Age complex it accounts for 20 to 25% (C&W), whereas in the western settlement it only represents 8%.

The most common fabric is CALC 1, tempered only with calcined flint (0.2–1.5mm but with some larger and smaller), which represents 58 to 79% (C&W) of all the CALC group material, and 14 to 31% (C&W) of all prehistoric pottery. By count, this is the second most common prehistoric fabric type (after 5C), but by weight it is the first.

The second most common fabric of the group is CALC 2, with a mix of calcined flint and some quartz sand. Very few sherds were recovered from the Middle Bronze Age features, and it was notably absent from the relatively large ditch group of 1218. In both the northern and the southern Late Bronze Age assemblages, however, more equal mixes of CALC 1 and 2 fabrics are present. These are also the most common fabrics of the group in the Iron Age settlements, but with increasing proportions of fabrics CALC 4, CALC 5 and of three minor CALC variants.

Nearly all Neolithic and Middle Bronze Age sherds from the site are of CALC 1, and even the 'fineware' globular jars are as coarsely tempered as the contemporary bucket urns, although their burnished surfaces mask their similarity. Some sherds of CALC 1 from Early to Middle Iron Age contexts have a slightly more finely crushed mix of flint than earlier material, but these were not separately quantified during the study although, in hindsight, they ought to have been. As a general rule finer CALC 1 material predominates in Iron Age contexts, and the coarser pottery is mostly of Middle and Late Bronze Age types, except for some of Late Iron Age Silchester Ware type.

Vessel forms of Iron Age pottery of this ware group, which is predominantly of CALC 1 and 2, just as in the Bronze Age, include early and late types. Early Iron Age-type large shouldered jars include two with fingertip impressions on the rim (nos 92 and 110), and another with fingernail impressions across the rim top (no 172). Fingernail impressions also mark the shoulder of another jar (no 173), and a long upright neck sherd without decoration from the Early Iron Age pit 1508 of the western site probably belonged to a similar vessel (no 131). A sherd with a fingertip impressed cordon from Early Iron Age pit 2215 of the eastern settlement is from a contemporary vessel, or a Deverel-Rimbury bucket urn (no 93).

Three saucepan pots have a groove below the upright rim termination (nos 102, 178 and 179), and a base sherd with a similar groove above the angle might be from a similar vessel (no 180). A slightly narrowing rim sherd with a tapering termination might be from a hybrid of saucepan and globular jar styles (no 153). Of two vessels loosely classified as jars with inturned rims, one is more 'closed' (no 104) than the other (no 96), and the latter is burnished inside and out and comes from Early Iron Age feature 2215 of the western site.

Bead-rimmed globular jars include two with small round beads (nos 150 and 185), one with a fat stubby bead (no 183), another with a short flange (no 182), and one with a large bead from a storage jar-sized vessel (no 184). Only one was in a Late Iron Age context (no 150), with the others from Roman contexts, although as clearly recognisable redeposited material, in 4th century deposits, for example. Two cordon-necked jars were represented in Late Iron Age contexts, one of which has a round-beaded rim; and both have rounded shoulders (nos 161 and 186). All such 'transitional' types are externally burnished and often well made. They might belong to a north Hampshire/Berkshire and West Surrey flint-tempering tradition that includes Silchester Ware and similar or related fabrics.

Two fragments of handles in CALC 5, a mixture of flint, grog and sand, were found in pit 1118. They are rough surfaced and relatively large in cross-section, and could belong to handled versions of Early Iron Age-type shouldered jars.

Table 5.3 Thorpe Lea Nurseries: count (C) and weight (W) of prehistoric ware groups in the principal areas of the site

	MIDDLE BRONZE AGE						LATE BRONZE AGE				IRON AGE									
	Ditch 1218		Ditches/2432		Settlement		North Settlement		South Settlement		Eastern Settlement		Western Settlement		disparate		residual		**TOTALS**	
Wares	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W
CALC	199	8331	86	3064	19	430	160	2658	151	1338	99	1125	85	854	20	55	218	1801	1037	19656
SHELL	1	2	-	-	-	-	-	-	-	-	4	14	28	349	-	-	-	-	33	365
TUFA	-	-	-	-	-	-	-	-	-	-	131	1022	206	1762	11	33	192	1346	540	4163
ORG	-	-	-	-	-	-	-	-	-	-	25	154	26	134	1	5	74	629	126	922
IRON	-	-	-	-	-	-	-	-	-	-	7	79	24	139	4	24	15	95	50	337
GLAUC	-	-	-	-	-	-	-	-	-	-	80	530	438	3589	15	672	540	4012	1073	8803
GROG	8	28	7	27	-	-	-	-	2	3	26	117	109	1144	3	12	485	7619	640	8950
SAND	1	3	3	7	-	-	8	133	1	3	103	1366	220	2688	20	77	326	3810	682	8087
FINE	-	-	1	1	-	-	1	6	-	-	19	144	36	286	2	6	83	666	142	1109
	209	**8364**	**97**	**3099**	**19**	**430**	**169**	**2797**	**154**	**1344**	**494**	**4551**	**1172**	**10945**	**76**	**884**	**1933**	**19978**	**4323**	**52392**

One other decorated sherd is unique. It was found in gully 2483 of the eastern site in association with a saucepan pot, and is lightly stamped with a series of flat circular impressions (no 109).

West of London calcined flint-gritted pottery was the dominant ceramic tradition from the Neolithic to the Late Bronze Age, except for rare Grooved Ware vessels, Beakers, and Collared Urns usually with a temper that includes grog. Quartz sand became more popular in the Late Bronze Age, although initially as secondary inclusions in predominantly flint-tempered wares.

Pottery with crushed calcined flint continued to be made during the Iron Age, however, long after the demise of its early shouldered coarseware jars. Globular jars, saucepan pots, bead-rimmed jars and cordon-necked jars, all typical forms of local Middle to Late Iron Age assemblages, are well represented at Thorpe Lea Nurseries. Sherds of such Silchester Ware types (Timby 1985) are occasionally found in pre-Flavian deposits at Staines (Roman *Pontibus*), and some from Thorpe Lea Nurseries might, therefore, be of Early Roman rather than pre-conquest date.

SHELL: COARSE SHELL-TEMPERED FABRICS

63 sherds (0.76kg), of which all are of SHELL 1 fabrics with coarsely crushed *laminae* of the relatively thick valves of oyster or comparable marine species.

The only calcareous-tempered sherd from a Bronze Age feature is the only example of SHELL 2 fabric from the site, and contains moderate amounts of iron inclusions in addition to the coarse shell fragments. It derives from the highest spit of Middle Bronze Age ditch 1218 (segment 1219), so need not necessarily have been contemporary with use of the ditch, except that the fabric is otherwise unrepresented on-site. It may represent a non-local Bronze Age vessel.

Most sherds of SHELL 1 were recovered from Roman contexts of the western settlement, but some came from its Late Iron Age features. The best assemblages are from ditch 114 and pit 1747, both of which also contain a few sherds of possibly wheelthrown grey sandy wares of Iron Age date (see SAND 1 and 2). This shelly ware, which is also well represented in the Late Iron Age assemblages of Hengrove Farm is frequently found in south Essex and west Kent (Pollard 1988, 31), and it is probably from the latter area that these vessels derive. The temper is either from contemporary oysters or fossil material from the Woolwich Beds of north Kent. Their production survived the Roman conquest, and vessels of Flavian and possibly later production are represented in the collection, although in a much more restricted range.

Sherds of SHELL 1 were rare in the eastern settlement (four sherds), and only represent between 2 and 3 % (C&W) of the western assemblage.

Almost all featured sherds belong to neckless jars, some of which were wheelthrown. They include four square-beaded rimsherds from small (no 189), medium (nos 191 and 193) and large storage vessels (no 190). Two others with round-beaded rims are from medium-sized (no 195) and large vessels (no 188), and two more have no rim termination and have been classified as inturned-rim jars (nos 192 and 194). The only other form represented is a storage jar with an everted rim from an Early Roman context (no 187). It is not decorated on the shoulder like those of a similar form found in West Kent. Examples of the above from possible Late Iron Age features include nos 188,189, 191 and 193.

A similar ware with coarse shell inclusions was made in the later Roman period (part 6.3, fabric 2).

TUFA: FLUVIAL SHELL AND TUFA-TEMPERED FABRICS.

543 sherds (4.26kg), with various mixes of comminuted fragments and thin platelets of various freshwater mollusc species, and crushed amorphous fragments or granular ooids of tufa.

In some sherds with larger shell fragments they are identifiable as the temperate freshwater species that remain common today. One such is a sherd from posthole 427 of the western Iron Age settlement, with a fragment of testes that is identifiable as belonging to the species *Lymnaea truncatulata*.

It is interesting to note that the formation of tufa pans by the precipitation of calcium carbonate under suitable weather conditions, rate of flow and interaction of algae, is a continuing phenomenon. Such pans are subject to erosion, with their comminuted fragments being swept away with arenaceous material and becoming mixed with shell debris before settling as a river clay. These media, therefore, are much more likely to have been present in the clay employed to make the pots, rather than being deliberately added. This would suggest that it had probably been dug from a palaeochannel, perhaps locally, as such calcareous grit-charged clays have been observed in early Holocene river deposits of the Thames/Colne deltaic hinterland. Many of the sherds from the site and from others in the area, however, have lost their calcareous content due to the predominantly acid soils that derive from the Tertiary Bagshot plateau. Fortunately, micro-environments in the core of some sherds, as well as the localised presence of chalk-rich overbank 'brickearth' deposits in some parts of the site, ensured the preservation of such inclusions. A characteristic of the vesiculated sherds, however, and one that assists in their identification, is that they are less heavy than is assumed before picking them up.

The most common individual fabric type, TUFA 2, with 438 sherds (3.06kg), has shell fragments and variable amounts of crushed tufa as well as sparse amounts of quartz sand. There are also 90 sherds (0.96kg) of TUFA 4 that contain sparse quantities of calcined flint instead of the sand. TUFA 1, that contains only the calcareous material, is represented by only three sherds, and 12 others are of three other minor variants.

Sherds of the TUFA group represent 8 to 13% (W&C) of all prehistoric pottery from the site. Although in lesser quantity there was proportionately more in the assemblages of the eastern settlement in which it represents 22 to 26% (W&C) of the stratified Iron Age collection, whereas in that of the western collection it amounts to between 17 and 18% (W&C).

There are few featured sherds of the TUFA group, and most seem to be of Early and Middle Iron Age types, such as shouldered coarseware jars and burnished globular jars. Few, if any, examples of Late Iron Age vessel types were recovered.

Shouldered jars include some with finger impressions (nos 204, 205 and 206) or fingernail impressions (no 207) on the outside of the rim edge, and shoulder sherds with finger impressions (nos 208 and 209) or pronounced angularity (no 210). The only such vessel from the eastern site is represented by a rim sherd of TUFA 2 found in one of its earliest features, pit 1508. It is from a large bucket or biconical vessel with finger impressions along the rim and on, what appears to have been, a weak shoulder (no 129). Associated sherds suggest an Early Iron Age date.

The most common form is the same as for most other fabric groups: the globular jar, usually burnished. Ten examples with simple everted rims are represented by rimsherds (including nos 213, 215 and 216, and no 151 that

has a very slightly beaded rim). Another seven rimsherds are from globular jars or, perhaps, more straight-sided saucepans: it is not always possible to be certain (including nos 105, 115, 212 and 214). The last listed, which is, unusually, of a cream-buff colour, and has a possible groove below the rim termination, seems definitely to be inward sloping. Similar is another inward-sloping rim sherd with slight beading (no 15), and another not illustrated.

Clearly recognisable bowl forms are characteristic (excluding other open vessels that represent slightly wider and more splayed versions of the globular jar), with four plain bowls represented by rimsherds (including nos 217 and 218), and a rim sherd from a large, thick-rimmed and mortar-like vessel from gully group 2483 of the eastern site, found in association with a saucepan pot (no 103).

Except for the finger and fingernail impressions of the early type of jars, and the groove round the outside of the inturned rim sherd (see above), only two other decorated sherds were found. One has burnished lines of a haphazard curvilinear scheme as well as a girth line (no 211), which resemble the schemes on the GLAUC group material (see below). The other sherd is from Late Iron Age pit 1747 of the western site and has a scheme of two paired girth grooves and a slightly curving pair of girth grooves above (on the shoulder), with regular punctures visible in the latter, and less clear puncturation in the lower girth groove pair (no 158). A similar scheme, more crudely executed, is on a jar from Hawk's Hill that was employed to demonstrate the Hawk's Hill-West Clandon style (Cunliffe 1974, fig A nos 16–20).

The only featured sherd of TUFA 1 is from a wheelthrown Gallo-Belgic derived platter that may be of pre-conquest or Claudian date since no examples in this fabric have yet been found in nearby Staines (no 203).

ORG: PREDOMINANTLY ORGANIC-TEMPERED FABRICS

Plant material, or dung, as a tempering medium was a later Iron Age innovation at Thorpe Lea Nurseries, although many earlier sherds have rare to sparse charred inclusions representing rootlets that had been present in the clay dug from near-surface deposits. It consists mostly of comminuted angular fragments and stem segments of burnt material in the core, but with many voids on and near the surface where they have disintegrated.

There are 126 sherds (0.9kg) of the ORG group, representing 2 to 3% (W&C) of all prehistoric pottery. None were found in Bronze Age features, and they were slightly more common in the eastern Iron Age settlement at 3 to 5% (W&C) than in that further west where the proportions are *c*2% (C&W). ORG 1, containing only the plant debris, was recovered from both sites, as also ORG 4, with some sand and grog, and various uncommon variants, but ORG 2, with sparse to moderate quartz sand was found only in the western settlement.

Early Roman grog-tempered ware in Staines (see GROG) includes comminuted organic temper and quartz sand in some of its fabric variants, and some sherds only contain the organic component, or have this mixed with some sand, or some sand and grog, just like the Thorpe Lea Nurseries fabrics; sharing, with the majority that are predominantly grog-tempered, striking similarities of vessel forms, form details, and decoration. Much of the Staines material is thought to derive from Highgate in North London where very similar vessels were made in a similar range of fabrics. This may also be the source for much of the Thorpe Lea Nurseries material, except that some examples of, at least, one earlier organically-tempered ware are included. Highgate production is thought to have begun during the early years of the Roman conquest, if not a little before, with a grog and organics-tempered variant that is overwhelmingly predominant in the pre-Flavian deposits of London (Davies et al 1994, 74). Earlier organics-tempered types in the region includes a distinctive tradition commonly found at Coldharbour Lane, Thorpe (Jones forthcoming c), and others from Late Iron Age contexts at Thorpe Lea Nurseries. There is, for example, a jar type with an everted rim that is not represented at Highgate, or in the collection of Highgate A and B ware from the City (no 219), and another neckless form that is unusual in having a hooked semi-cavetto rim, and three grooves on the shoulder (no 222). Four rimsherds are of standard handmade bead-rimmed jars of which one has a single groove on the neck (including nos 220 and 221).

IRON: PREDOMINANTLY IRON MINERAL-TEMPERED FABRICS

There are 50 sherds (0.3kg) in which the predominant temper of sub-angular or sub-rounded, ill-sorted, orange to red/brown inclusions is recognised as being of limonite or some other iron mineral accretion, and they represent about 1% of all prehistoric pottery. Its proportion rises to 2% by weight in the eastern complex, and by count in the western site.

The most common fabric, IRON 1, has no other inclusions, whereas IRON 2-4 have, respectively, some accessory inclusions of calcined flint, quartz sand and organic inclusions. At Brooklands II (Jones in prep a), 9km further east, pottery with similar red/brown granules is second only to sandy wares as the most popular ceramic tradition of Middle to Late Iron Age contexts, and the source is thought to be the hillwash scree of limonitic debris that litters the western flank of nearby St George's Hill (Potter 1977). This, however, seems unlikely to be the source of the iron minerals in the IRON group of Thorpe Lea Nurseries, since production of most pottery in the Iron Age is likely to have been for small scale local use. Iron mineral concretions and agglomerations are ubiquitous within the local Eocene sands and clays, and represent a significant component of the local floodplain gravels of the site. There are no featured sherds.

GLAUC: PREDOMINANTLY GLAUCONITE-TEMPERED FABRICS

1073 sherds (8.8kg) contain the distinctive sub-rounded grains of glauconite, an iron mineral concretion that is common within the Tertiary sands of the high ground to the west of the site (Dewey and Bromehead, 1915, 39 and 52). They represent between 16 and 24% (W&C) of all prehistoric pottery, and it is the second most common prehistoric ware group after the CALC flint-tempered tradition. None were recovered from Bronze Age features, and in the eastern Iron Age settlement it represented the third most important group with between 12 and 16% (C&W) after those of TUFA and SAND. In the western Iron Age complex, however, it was the most common group, representing between 33 and 37% (W&C) of all pottery. Its variants are probably those of a single ware that might have been locally made, and its forms and decoration are similar to vessels of the Hawk's Hill-West Clandon style (Cunliffe 1974, fig A16). Almost all sherds are externally burnished and from globular jars or bowls with everted or, less commonly, beaded rims. These loosely correspond with the globular jars and 'goldfish' bowls of the upper Thames valley series (Harding 1972, 100 and 105), and the JBA, JC1 and JC2 vessel types of the last four centuries of hilltop occupation at Danebury (Cunliffe 1984, 259).

The most common fabric type is GLAUC 3, with 842 sherds (7.29kg) that contain frequent grains of rounded quartz sand and moderate amounts of glauconite. Much less common are sherds of GLAUC 2, with more glauconite grains and only sparse quartz sand; and rare sherds of GLAUC 4 that have as much glauconite, a few fragments of flint, but no sand. A single sherd of another variant is similar to GLAUC 2 but with moderate amounts of fluvial shell debris.

Of 48 rims of globular jars, 20 are illustrated. They include two from the eastern settlement (nos 118 and 119), one of which is unique within the group in having fingernail impressions across the rim top. This is the only decorated sherd of GLAUC from the eastern site, but in the larger collection from the western settlement a small percentage of the globular jars were tooled with burnished linear decoration on the neck and shoulder. Amongst the illustrated material are rims and decorated sherds from ditch 114 (nos 133 and 137–9), ditch 1996 (nos 147–9), pit 1747 (nos 154, 156, 157 and 159), pit 2295 (nos 166–7), a full profile (no 229), other rims (nos 230, 232–5, 237, 242, 243 and 247) and decorated body sherds (nos 248–74). Five more rims are beaded (including nos 160, 168 and 236), and eight could be described as inturned-rim jars (including nos 134, 231 and 241). In addition, at least one rim is from a relatively straight-sided saucepan pot (no 113), and others of the form may be represented. The illustrated examples of globular jars show considerable variation around a common theme. The rim diameters of 36 could be measured with reasonable accuracy, with 17 at between 13 and 16cm. At the extremes of range, seven were between 20 and 22cm, and three between 9 and 11cm, and the full profile (no 229) may be contrasted with two of the smallest examples (nos 242 and 243) to appreciate this diversity. The last two also display form variation since the former may represent a narrow-mouthed jar type, whereas the latter should strictly be called a bowl, like some others (eg no 234). One rim hints at a Late Iron Age style with its long everted rim above a neck cordon, but it is otherwise similar to the other handmade jars of the group (no 232).

Almost all of the globular jars were externally burnished, and quite often inside the rim as well. Where not eroded, most burnishing strokes are horizontal from mid girth upwards, but several lower body wall sherds display vertical or slightly diagonal strokes. Not all jars were burnished, however, and one illustrated rim has a wiped external surface (no 230). Base angles are most often plain (eg nos 229 and 241), but some are splayed, and there are two well burnished foot-ring bases (not illustrated).

The decorated sherds of GLAUC provide a useful corpus to supplement a relatively small regional assemblage. Most have lightly burnished linear schemes involving zones of alternating series of abutting or crossing diagonal lines separated by horizontal lines, or more random cross-hatching (nos 137, 139, 157, 246 and 248–68). Some abutting series of lines are very close-set (eg nos 249, 256 and 265), and on one such sherd there is also a row of round punctures on the neck (no 248), which can be matched with a rim sherd possibly from the same vessel (no 247). Other schemes include a wavy line (no 149), multiple curvilinear lines (nos 269–71), or else are indeterminate (nos

138, 171 and 235). Three sherds that are more substantially grooved include one with a diagonal series (no 147), another with a similar series set within a pair of horizontal grooves (no 272) and a rim sherd with diagonal grooves above a shoulder girth groove (no 237). Lastly, there is another sherd with a cordon like that of no 232 (no 274), and a comb-stabbed piece (no 273).

The collection also includes some odd pieces; all rimsherds, but mostly of uncertain orientation and size. Some are from bowls, or possible bowls (nos 126, 136 and 240), and large jars (nos 106, 239, 244 and 245). If the orientation of some supposed bowls is incorrect, they could alternatively have belonged to misshapen globular jars (nos 236 and 240). One rim sherd is probably from a very large globular jar and has two grooves on the neck (no 239), and another could be from the only shouldered jar represented in the group, since it is finger-impressed along the top of the rim (no 245).

GROG: PREDOMINANTLY GROG-TEMPERED FABRICS

649 sherds (9.1kg), representing 5 and 16% (C&W) of all pottery from the site are predominantly tempered with pre-fired ceramic material. Most were from assemblages that belonged to the second half of the 1st century AD (75 and 84%) and are of Highgate Wood B ware (Davies et al 1994, 74), or of a very similar ware that employed similar vessel types. Production may have begun earlier, but of this there is no certain evidence. Sherds of a ware of a different character were sometimes identified in probable Late Iron Age and transitional features, but they could not be separately quantified with any degree of reliability. The few sherds of grog-tempered ware found in later Roman deposits are redeposited early types, but grog might have been a tempering medium that was occasionally used in earlier phases of the Iron Age. In addition, a small number of sherds came from the Middle Bronze Age ditches, although none were found in the postholes of that phase, or in those of the northern Late Bronze Age features; and only two tiny fragments were recovered from a posthole of the southern Late Bronze Age settlement.

Of the material from Bronze Age features, sherds from the highest spits of ditches 1218 and 2441, and perhaps the three from ditch 1990, could be intrusive, but those from the lower spits of 1218 are more likely to be contemporary with the other Deverel-Rimbury ceramics, or else belong to vessels of the earlier grog-tempered traditions of Grooved Ware, Beakers and Collared Urns. The only sealed provenances of such sherds include a base angle in GROG 3 (soft-bodied; with moderate amounts of grog and quartz sand) from spit 6, close to the base of segment 1219 of ditch 1218 (no 38); and sherds of GROG 2 (with grog and sparse flint) from spits 1–3 of ditch 1218, and from spit C of segment 2412 of another Middle Bronze Age ditch, 2441. Crumbs of GROG 1, tempered only with grog, were found in a spit 5 context of 1218, but, totalling a single gram, they may have been intrusive; as also three other sherds from the upper fills of Middle Bronze Age ditch 1990, two of which two are tiny and rolled, and the other is comb-stabbed (no 51).

There are only two sherds (3g) from the southern Bronze Age settlement and they are of GROG 2 and might be of earlier traditions, and the eastern Iron Age settlement yielded only 23 sherds of the group (less than 5%), including 16 of GROG 4 with grog and some organic inclusions.

The most common fabric of the group in the western settlement is GROG 1, with no additional inclusions, and its 70 sherds (0.84kg) represent between 64 and 73% of GROG. Many, if not most, however, may belong to the Early Roman occupation that superseded the Iron Age settlement. The 23 sherds (0.15kg) of GROG 2 include some flint and sometimes some sand, and the nine of GROG 3 contain significant quantities of quartz sand as well as grog. There are many more sherds of GROG 3 from the disparate features of Iron Age date, and the fabric shares similar vessel forms with SAND 5, that contains sparse to moderate amounts of grog as well as sand. In like manner the forms and characteristics of GROG 4, with some organic temper, are similar to those of the ORG group. This is because some Late Iron Age and most Early Roman sherds of grog-tempered fabrics (nearly all sherds of GROG 1 and 3) are variants, possibly of a single ware, along with some of SAND and some or most sherds of ORG from the western settlement. The range of vessel forms and fabric variants is similar to that of Highgate B, of which these sherds may be more examples.

Some other grog-tempered sherds from Late Iron Age contexts are similar in general terms to the Highgate B-type, but many forms and details differ. The assemblage that best illustrates these pre-Highgate wares is from ditch 114. Of four vessels represented, three are wheelthrown (nos 135, 141 and 142) and the other is not (no 143), but no obvious examples of Highgate-type sherds are present.

Only four of the featured sherds of the group are not of Late Iron Age types, and none are of the most popular fabrics GROG 1 and 3. They include two everted rimsherds of jars in GROG 4 from the eastern settlement that may belong to an earlier grog or organic-tempered tradition (nos 122 and 124), an everted collar of a jar or bowl in a rare variant with sand and flint as well as grog (no 306), and a rusticated sherd in GROG 2 (no 288). The only similar sherd from the site is in a flint and grog-tempered fabric (no 84).

Most other featured sherds are similar to Highgate Wood material and to much of such pottery from the City, but a few have other distinguishing characteristics.

Of 46 other rimsherds of the group, 39 are of GROG 1, three of GROG 3, three of GROG 4 and one of GROG 2. 60% (28) are from bead rim jars, and less common are storage jars with everted rims (ten) and cordon-necked jars (four). Rare types include beakers (two), other jar types (two) and some possible bowls. Most vessels of Highgate Wood type were handmade, with the exception of some of the cordon-necked jars and possible bowls. Burnishing is commonplace; mostly over the upper body and inside the rims of jars, but more extensively over cordon-necked jars and the possible bowls. Vessels suspected of not being of Highgate type are most often wheelthrown and extensively burnished.

Twenty-two rimsherds from bead-rimmed jars could be measured with reasonable accuracy. Fifteen lie between 15 and 19cm, one was larger at 23cm, and six between 12 and 14cm diameter. Eight are illustrated (nos 293–9 and 303). Almost all had weakly defined rounded shoulders except for two with more globular profiles (nos 296 and 297), although the first of these could be of a different form familiar in Staines: the narrow-necked globular jar. Decoration is limited to a horizontal groove on the shoulder of one (no 295), and a burnished wavy line on another (no 303).

The next largest number of rimsherds are from storage jars with everted rims, although it is doubtful whether all ten add up to more than half of a full circumference. At Staines two types have been recognised in Early Roman deposits: those with occasional latticed comb-burnishing on the shoulder, and a less common type with lid-seated rim and more complex schemes of decoration. Both are represented at Thorpe Lea Nurseries. All six rimsherds of the more common type vary (nos 275–8 and 280–81), and there is only one body sherd with the typical lattice decoration (no 286). One cannot ignore the best example of the form, however, even if it is in a SAND variant of the Highgate-type sherds (no 308). Lid-seated storage jars are conspicuously represented by an upper profile (no 282), two other rim fragments (including no 279) and four decorated sherds that are more likely to belong to this form than to any other (nos 283–5 and 287). The half-profile is from late 1st century Roman features 2045 and 2100, and has latticed comb-burnishing above the shoulder. Like other examples from Staines, this was more carefully executed than the slapdash decoration of the more common storage jars. The shoulder also carries a zone of grooved decoration set within girth grooves, another characteristic of the form. On one (no 282), the decoration is a herringbone of slashes, as it may be on another sherd (no 285), but another carries a grooved wavy line (no 284).

There are four rimsherds of cordon-necked jars and three body sherds with parts of the neck cordons of such jars. Two rims from Iron Age contexts include one from a large vessel in ditch 1996 with burnished decoration on the shoulder and multiple grooves on the mid girth (no 152). Such a vessel form has not yet been found in Staines. The other rim sherd is from a smaller vessel in pit 2295 that is undecorated (no 169). It has a round bead like two others from Roman contexts 434 and 543 (not illustrated). All cordon-necked jar sherds are in GROG 1, and burnished.

Of four remaining rims, one is from a small cup in a Late Iron Age context (no 301), another may be from a type of butt beaker with a groove below the neck (no 302), another is from a larger jar with an everted rim and an offset on the neck similar to 'Fig 7'-type jars of Alice Holt/Farnham (Lyne and Jefferies 1979, 29) (no 305); and the last is from a large jar from ditch 114 of the eastern site that is of an unusual form for grog-tempered ware and which was made in GROG 2 (no 143).

In addition, there are some other decorated sherds, including two fairly thin-walled sherds in GROG 2 with burnished wavy lines and girth grooves (nos 289 and 290), sherds with multiple wavy lines (nos 283 and 287), a comb-stabbed sherd in a Middle Bronze Age ditch (no 51), and one from ditch 114 with tooled horizontal lines either side of some eyebrow grooves and a diagonal pair of tooled lines with a row of rectangular indentations (no 141). Lastly, eight sherds were found with corrugations or multiple close-set grooves or rilling (from Iron Age contexts 144 and 145, or else redeposited in Roman deposits), but all are body sherds and their orientation is uncertain. It is presumed to have been horizontal. Two are shown (nos 291 and 292), and the latter incorporates a vertical indentation down its left side. Such decoration of grog-tempered vessels has not been found at Staines.

A series of grog-tempered Early Roman fineware bowls identified at Staines, are either poorly represented at Thorpe Lea Nurseries, or absent. A body sherd with a cordon (no 304), and another similar fragment are from

bowls or beakers. A much larger body sherd with two girth cordons might also have been from a bowl but this remains uncertain (not illustrated).

Coarseware base angles are always plain, and some of the largest vessels occasionally display signs of their manufacture, whereby a separately made base plate had been fixed to the body. Some fineware vessels, however, had more elaborate foot-ring bases (eg nos 135 and 307).

SAND: PREDOMINANTLY QUARTZ SAND-TEMPERED FABRICS

There are 682 sherds (8.0kg) of these fabrics, and although most are of Iron Age date, nine are from Late Bronze Age vessels, three from Middle Bronze Age features are most probably intrusive, and a small proportion are probably of Early Roman date or belong to the final stages of the Late Iron Age. These latter encompass the 68 sherds (1.0kg) of ER3C fabrics (see below) as well as a few others from wheelthrown vessels in SAND 1. Collectively, these SAND types represent *c*15/16% (W&C) of the prehistoric pottery from the site, notwithstanding that a small proportion may have been manufactured in the Early Roman period.

Of those tempered only with quartz sand, SAND 1A, with average-sized sand grains (*c*0.2–0.8mm) was employed for the handmade manufacture of typical Iron Age vessel forms, but the fabric was also used for 'romanised' wheelthrown, well levigated, and moderately thin-walled vessels with grey or grey/brown bodies. The same applies for the fewer sherds of SAND 1B that have slightly coarser quartz sand grains, but not as large as those of ER3C.

The grog, organic, and shell tempered pottery traditions represented in Early Roman assemblages west of London have Iron Age antecedents, and, at least, some fineware was wheelthrown in addition to the handmade majority. It remains uncertain, however, when sandy wares were first wheelthrown or fired in proper kilns, and although such innovation could have been adopted prior to the Roman conquest, Thorpe Lea Nurseries provides no proof. The few wheelthrown sherds of SAND 1 in otherwise large Late Iron Age feature assemblages, such as from ditch 114, for example, may be contemporary, but could be intrusive.

The most common form in SAND 1 is the globular jar with an everted rim, and of 12 rimsherds, all but two came from Iron Age contexts (including nos 121, 132, 146, 155, 223 and 225). One has a more elongated everted rim than is usual (no 146), and all are handmade. Also represented are three simple rimsherds of possible saucepan pots (including nos 116 and 226), and three rimsherds of cordon-necked jars with round-beaded rims (not illustrated). Two of the latter were wheelthrown, and all three are from Roman contexts and very likely to have been Roman and not residual, although a cordon fragment is from probable Iron Age context 634 (not illustrated). There is also a lower spring of a handle (no 228), and a body sherd with a grooved wavy line that is the only featured sherd of the variant SAND 1B (no 224).

Two sherds of SAND 1 from the upper fills of Bronze Age ditch 1990 were in a subsidence hollow or else intrusive, as may also be a tiny rim fragment from pit 12/17 of the southern Bronze Age settlement.

ER3C, together with a closely related fabric, ER3Ccalc that also contains some sparse flint, are elsewhere in Surrey classified within the Roman fabric type series, and represent a storage jar ware with a very coarse temper of quartz sand grains (*c*0.5–2mm). There are two rimsherds from handmade, bead-rimmed storage jars in ER3Ccalc, including one from Late Iron Age pit 1747 (no 162) and the other from a probable Early Roman feature (no 328). The only featured sherd in ER3C is also the rim of a storage jar, but one with a short vertical neck below the bead rim (no 227). It, too, came from a probable Early Roman context. All three examples are burnished externally and inside the rim. Such types are rare in the Early Roman deposits of nearby Staines, but common at Runfold and neighbouring sites that lie close to its almost certain source in the Alice Holt/Farnham pottery manufacturing complex. The occasional association of ER3C sherds in otherwise wholly Late Iron Age-type assemblages at Runfold suggests that the type may have a pre-conquest antecedence (see also p141).

In addition to the sand-only types, many other SAND fabrics contain additional inclusions. In some this is sparse to moderate amounts of calcined flint (SAND 2A and B), sparse amounts of organic material (SAND 4) or sparse amounts of grog and flint (SAND 8). There are also lesser variants with sand and some grog. Some sherds with accessory inclusions of grog and flint probably belong to the predominantly grog-tempered Highgate C Ware, but many other sherds, especially of SAND 2 and some with grog, are from much earlier vessels such as shouldered jars with finger impressions and angular bowls. There are also burnished globular jars and possible saucepan pots, more usually associated with the Middle Iron Age.

Of 12 rimsherds certainly or probably from shouldered coarseware jars, nine have finger impressions along the rim (including nos 92, 99, 112, 130 and 310–13), and one has such impressions on the shoulder (no 311). Two shoulder body sherds also have finger impressions (including no 140). Six of the nine rims are impressed along the external edge, including one with a cabled effect (no 311); and the rest have it along the top. Some vessels were large (eg nos 112, 309 and 311), others smaller (eg no 92), but all were left rough and not burnished. Two three-quarter profiles display a coarse, near-vertical, wiping down the lower body (nos 112 and 309) and there are other sherds with similar coarse wiping. At least one of the shouldered jars (no 130) was in a probable Early Iron Age feature assemblage.

The only early fineware to accompany the shouldered jars is an angular cup and perhaps the rim of another of a different ware group. The cup is biconical and sharply carinated, with a long concave neck and rim and a convex lower body (no 317). It is from a small feature assemblage that could be of Early Iron Age date, and is a unique form in the site assemblage. The other rim is as strongly everted, but it is beaded, has a shorter collar, and is from a Roman feature (no 318). It might be late, rather than early, although its fabric of SAND 8 is shared with the two three-quarter jar profiles (nos 112 and 309), which are otherwise commonly of SAND 2 fabrics, and less commonly of SAND 4 and lesser variants. The angular cup contains more flint inclusions than any of the 'coarseware' since it is of SAND 2B fabric.

Of ten globular jars with everted rims, three rimsherds were in Iron Age contexts (including nos 107 and 321) and seven were redeposited in Roman contexts (including nos 320 and 322). The one example from the eastern site is more delicate than most others of this form (no 107), and one from a western Iron Age context has a scratch-marked exterior (no 321). There are also two bead-rimmed jars from Iron Age contexts, including one that was finished off on a wheel, and has a burnished wavy line round its girth (no 326). The rim of an inturned rim jar from the eastern site is of a related form to the globular jar tradition (no 97).

A few rimsherds might be from saucepan pots, but in most instances their orientation is too uncertain to be sure. All have simple rounded rim terminations except for one with a thick bead which is, perhaps, the only near-certain saucepan pot amongst them (no 117). It is in the eastern site assemblage in which several other simple saucepans may be represented, including another of SAND 2 (no 114). The only other illustrated rim sherd is much thicker, may be incorrectly orientated, and could be from a bowl (no 314).

Another form relatively well represented is the necked storage jar with an everted rim, like many others of GROG. All featured sherds are from Roman deposits, including three rims, one of which carries part of a scheme of burnished combed lattice on its shoulder (nos 308, 327 and 329). Two body sherds show similar schemes (nos 324 and 326).

Less common forms represented include part of the cordon of a cordon-necked jar in SAND 2B (not illustrated, but from an Iron Age context), a cup or small bowl from a probable Early Iron Age context of the eastern site (no 95), an even smaller cup (unless it is actually part of a pedestal base) (no 315), and the lower spring of a strap-like and fluted handle from an Iron Age context (no 316). Other decorated sherds include one with an incised lattice (no 144), three rilled sherds (including nos 164 and 165), and another with incised decoration (no 323).

FINE: UNTEMPERED FABRICS

142 sherds (1.1kg), representing *c*2/3% (W&C) of all prehistoric pottery. Proportionately the same quantities were found in the eastern and western Iron Age settlements (4 and 3% by C&W). One sherd was found in posthole 2380 of the northern Bronze Age settlement. They contain no deliberately added temper and have a relatively fine matrix, although rare inclusions of organic material characterise the most common variant, FINE 2. The organic matter may be burnt out rootlets inherent in clay dug from shallow workings. Other fine-bodied variants include sherds with rare flint, quartz or grog inclusions, and FINE 1 contains no accessory material at all.

Most vessels were burnished and the only positively identified forms include globular jars with everted or beaded rims, or else no termination at all on inward-sloping rims. Most common are those with everted rims, including one with a tapering rim from Late Iron Age pit 1996 (no 145), another from a similar vessel from pit 2483 that has traces of shallow tooling on the body (no 108) and a partly beaded rim sherd (no 127). Another, with barely an eversion, has a scheme of grooves and shallow tooling that encircles the top of the vessel, and a multiple series of vertical linear impressions in the same zone (no 333). Four other decorated sherds, all with shallow tooled lines, include one with cross-hatching (no 332) and three others with multiple parallel lines (including no 331). Of four base angles, two are plain, two are slightly splayed, and another has a pronounced ring (not illustrated).

Summary catalogue of feature assemblages

MIDDLE BRONZE AGE

Ditch 1218

209 sherds (8.3kg), from 19 segments and its western terminus. Some samples were taken from between two and five spits of the fill, and all contained only Deverel-Rimbury type pottery. Parts of, at least, 30 vessels probably represent the domestic assemblage of the nearby occupation site, and includes Bucket Urns, Globular Jars, cups and bowls. It remains uncertain whether their deposition represents casual discard or deliberate burial, and there was no unusual pattern of dispersal of sherds at the terminus.

Redeposited material includes three small fragments from the neck of an Ebbsfleet bowl (no 1), three Neolithic impressed ware sherds (nos 2–4) and a fragment from what might have been a Collared Urn (no 5). The Ebbsfleet sherds include two that show that the external surface incorporates part of a corrugated lower body, a deep cavetto neck with two circular impressions; and the rim has a series of flint blade slashes (nos 1a and 1b). A fragment of the internal surface of the same vessel with part of the rim displays a lattice of flint blade slashes (no 1c). Two different bird bones (or opposing ends of one?) were used to decorate the shoulder of another Peterborough Ware bowl (no 2), 'maggot' whipped cord was employed on another (no 4) and finger impressions on one more (no 3). The last two sherds are of standard CALC 1 fabric, but the first two are of a variant with

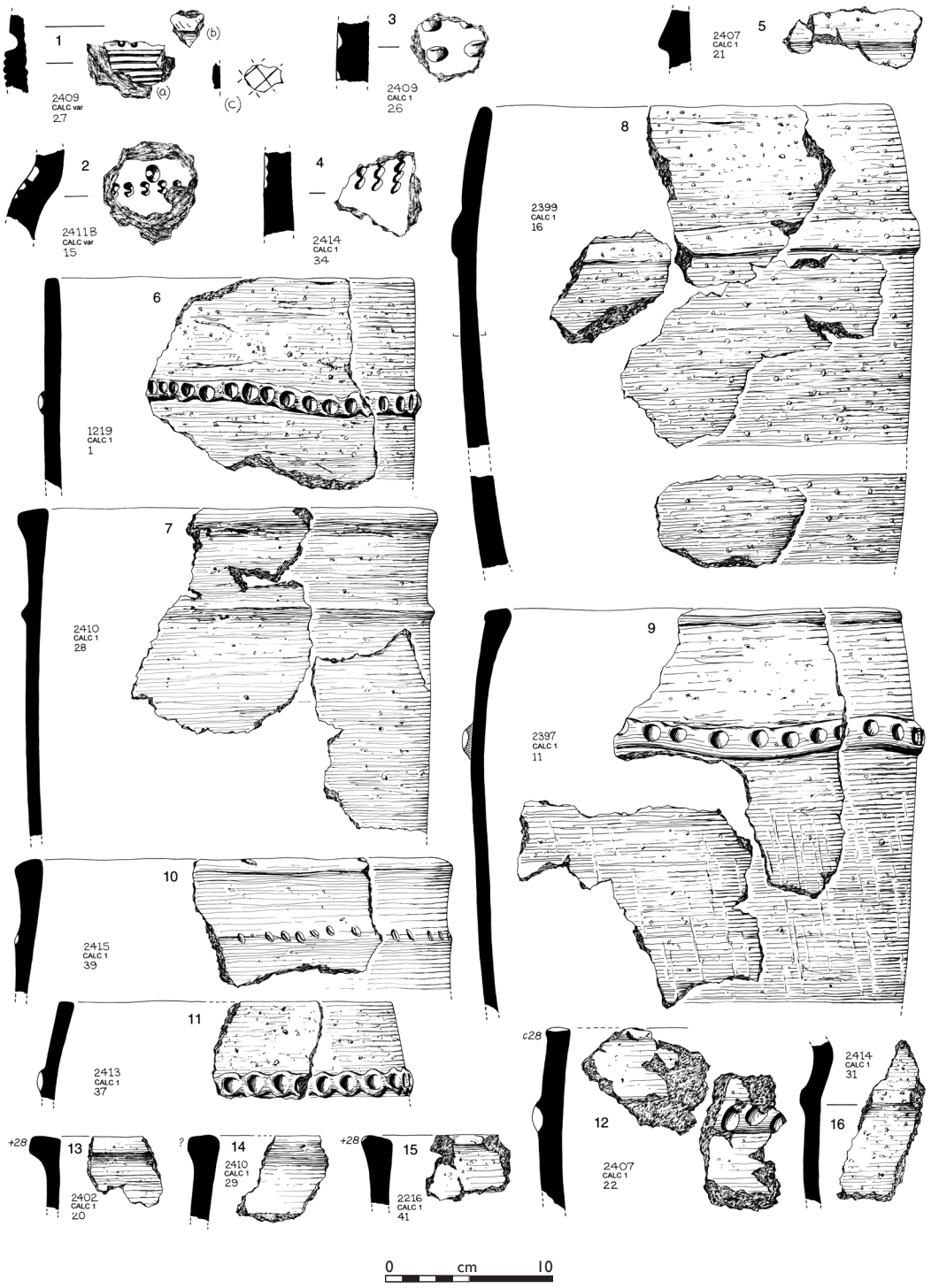

Fig 5.28 Thorpe Lea Nurseries: Neolithic pottery (nos 1–5: scale 1:2) and Middle Bronze Age pottery (nos 6–16: scale 1:4) from ditch 1218

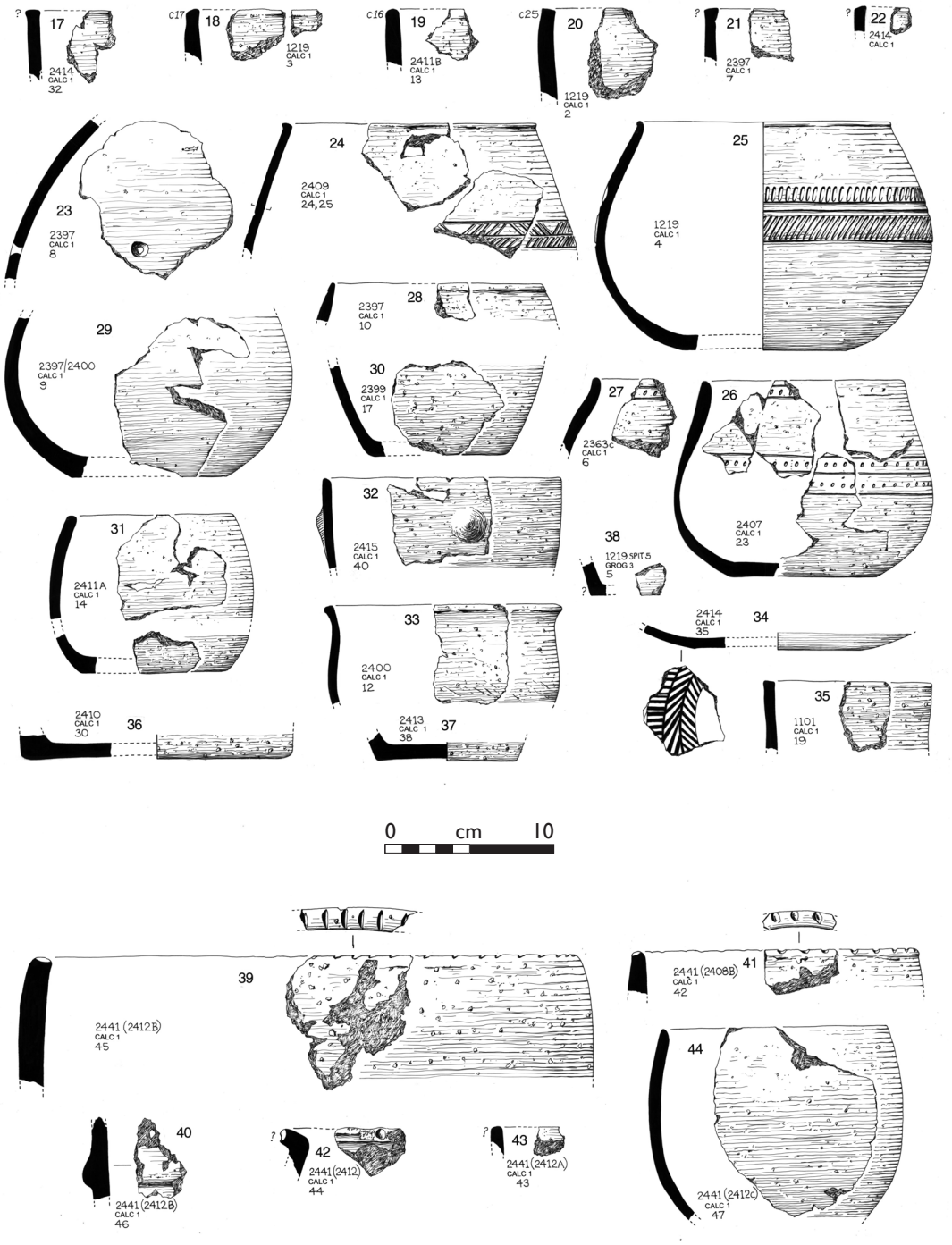

Fig 5.29 Thorpe Lea Nurseries: Middle Bronze Age pottery from ditch 1218 (nos 17–35) and ditch 2441 (nos 39–44). Scale 1:4

as much calcined flint but in a matrix that feels more 'leathery'. Another possible early sherd is a collar fragment (no 5) that might be too asymmetrical and sharply undercut to have belonged to a Bucket Urn cordon, and might, therefore, have belonged to a Collared Urn of the second series (Longworth 1983). It is, however, flint-gritted and not grog-tempered like most Collared Urns from Wessex.

All Middle Bronze Age 'featured' sherds that could be drawn are illustrated. Eight Bucket Urns were distinguished from their different cordons (nos 6–12 and 16), three more from their distinctive rim terminations (nos 13–15), and a few simple rim fragments may represent yet more (nos 17–22). The form is simple, but with variety in its details. Some examples are typical straight-sided bucket-shaped vessels (eg nos 6 and 7), but others lean towards being barrel-shaped (eg nos 8 and 9). Some have simple, flat rimmed terminations (nos 6, 11 and 20), or are also rounded (no 8), or else very slightly expanded (nos 12 and 17–22); whereas others have greatly expanded rims that are sometimes squared or beaded (nos 7, 9, 10 and 13–15). Cordons also vary in that some are plain (nos 7, 8 and 16), some are finger-impressed (nos 6, 9, 11 and 12) and one is fingernail-impressed (no 10). Others were worked up from the body wall (nos 7, 8, 10, 12 and 16), and some applied (nos 6, 9 and 11). Similar decoration of the rim tops is confined to one example that shows a probable finger impression (no 12), and another that has, at least, one, and possibly two, fingernail impressions (no 10). All of the above are in the very coarse flint-gritted CALC 1 fabric. It is to be noted that no base angle sherds could have belonged to the more complete bucket urns. Of only three such sherds from the ditch the largest is of 15cm diameter (no 36), which could only have accommodated a vessel with a rim diameter of *c*16cm (like that of no 19), whereas most of the reconstructable Bucket Urns are between 19 and 25cm in

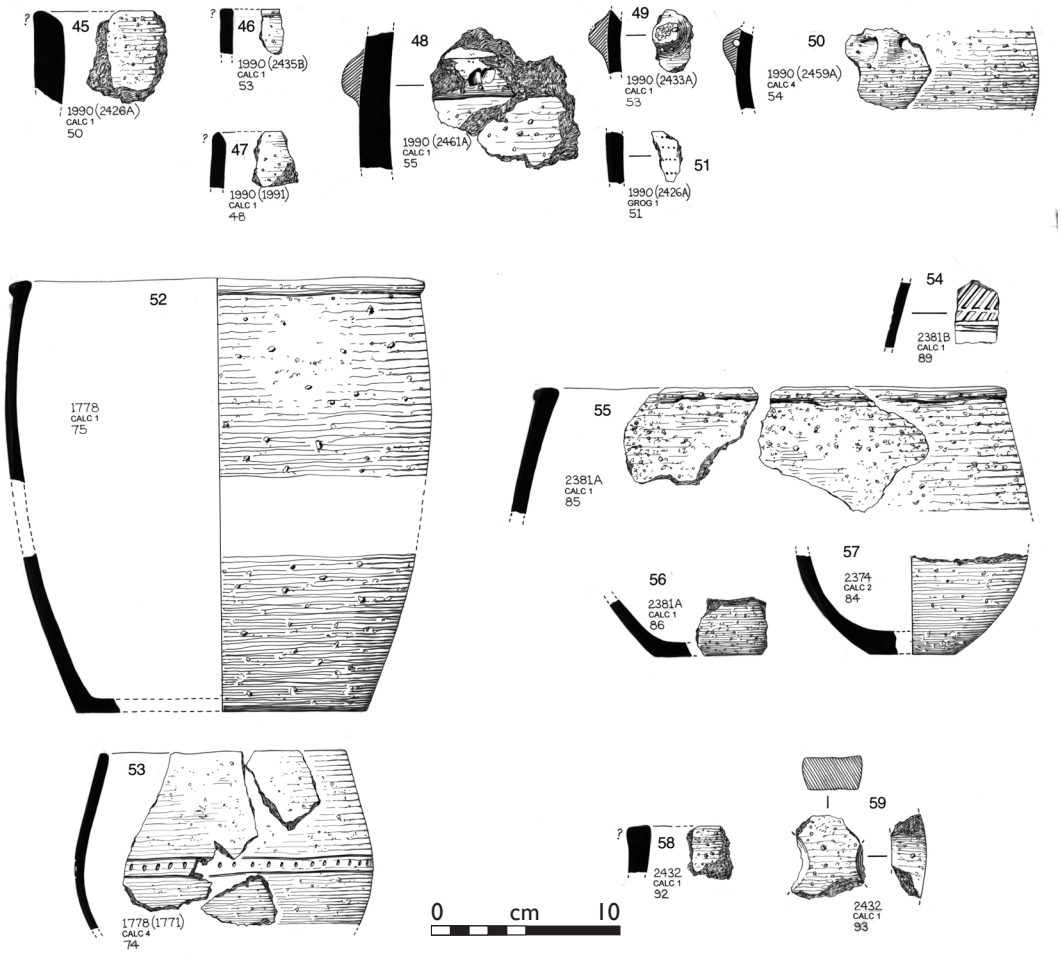

Fig 5.30 Thorpe Lea Nurseries: Middle Bronze Age pottery from ditch 1990 (nos 45–51), ditch 1778 (nos 52–3) and pits 2374, 2381 and 2342 (nos 54–9). Scale 1:4

diameter, with some larger. This is unusual and requires an explanation. Their absence may be a coincidence, but base plates that had been separately made and then fixed to the body walls were consequently more easily detached, and could have been retained for some real or symbolic secondary use.

Another well represented form within the assemblage is the Globular Urn, with up to seven recognised. They were made of the same CALC 1 fabric as the Bucket Urns, and with little apparent diminution of grain size, except that their burnished surfaces mask their coarseness. Of four, or five, Globular Urn rims, two are slightly beaded (nos 24 and 25), and the others left plain except for their decoration–another characteristic of the form. The most complete example has burnished grooved decoration, with a row of vertical strokes above two girth grooves, and then a diagonal row of grooves above another girth groove (no 25). Another has the burnished tooling of two grooves round the mid girth and another two round the top of the neck, with rows of short diagonal impressions in between (nos 26 and 27). These two rimsherds may belong to one vessel, despite differences of thickness and their distance from each other in the ditch. On another rim sherd from this vessel (shown towards the right) the decoration is barely visible even though its surface is uneroded, demonstrating that such shallow decoration can be intermittent. On eroded surfaces all traces can be erased. Another rim sherd is not decorated, but a body sherd from the same vessel carries two burnished girth grooves with alternating series of diagonally burnished strokes between them (no 24). The only other rim sherd has a roughly incised groove (no 28). The forms of these vessels are very similar: maximum girth is below the middle of their height, they are broader than they are high, their upper bodies are relatively straight, rim diameters are slightly larger than those of the bases, and their base angles are weak. Vessel sizes vary, however, from relatively small beaker types (eg nos 26–30) to larger jars (nos 23–5). One burnished sherd, presumably from a large Globular Urn, has a circular hole pierced after firing which is externally countersunk (no 23).

Other forms include two bowls: one straight-sided and with, at least, one circular raised dimple (no 32); the other with a slightly more sinuous profile and a beaded rim (no 33). Both have smooth external surfaces that were probably originally burnished. There is also a cup and perhaps the rim of another. The cup is slightly barrel-shaped, and although shown with an incurving simple rim (no 31), the orientation is only approximate, and the vessel could be more upright, or even more incurving. It is burnished externally. The possible cup is depicted as its curvature dictates, but since its surfaces are left rough it could be a misshapen rim sherd from a much larger vessel (no 35). Another sherd of great interest is drawn as it appears, even though it may not in reality have been a base angle (no 34). It is decorated with concentric rings of burnished grooves (shown black). Some have suggested that it could be part of a lid (Anne Woodward and Stuart Needham pers comm)

Nearly all of the assemblage is of CALC 1, and some of the rare sherds of other fabrics might be intrusive. In segment 1219 spit 2 was a tiny sherd of CALC 4 (1g only), and a larger sherd of this fabric came from spit 1. The only sherd of SHELL 2 in the site collection is from spit 1; there is a tiny, single gram sherd of GROG 1 fabric from spit 4, a base angle of GROG 3 from spit 5 (no 38), and a tiny sherd (2g) from spit 2. No other segment had as many fabrics other than CALC 1; the remaining segments producing only a rolled sherd of a SAND variant from segment 2361 that could be intrusive, and another sherd of GROG 2 from the highest spit A of segment 2411. Most of these are of a size that could have been introduced in the mud on someone's boot.

Ditch 2441

29 sherds (604g), from segments 2408 and 2412, both of which were excavated in layers. CALC 1 predominates, with only a single sherd of a CALC variant in an upper fill, and two sherds of GROG 2 from both a top and basal fill. Featured sherds are of Deverel-Rimbury types including Bucket Urns and

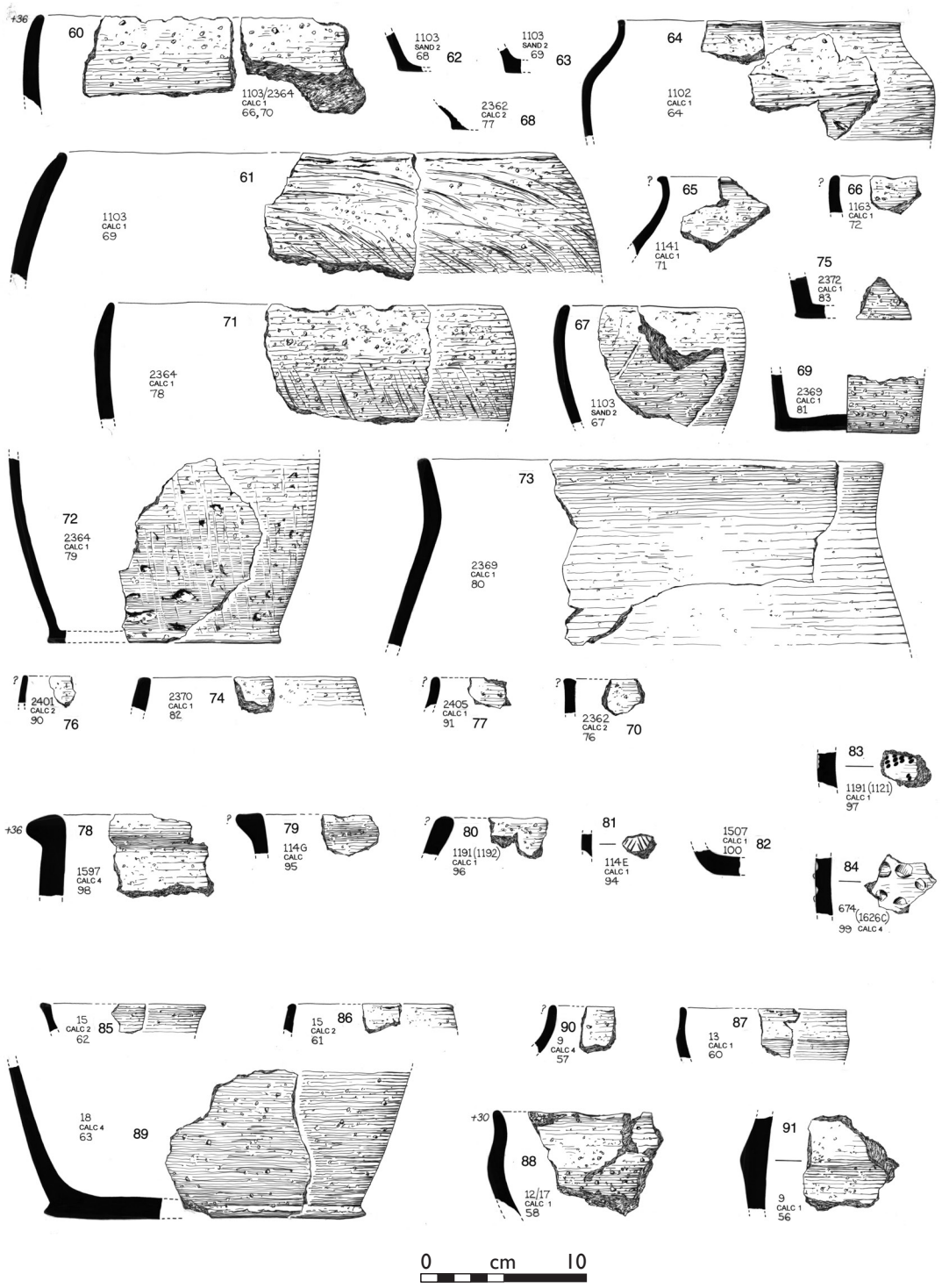

Fig 5.31 Thorpe Lea Nurseries: Late Bronze Age pottery from the northern settlement (nos 60–77), other probable Neolithic and Bronze Age sherds from later contexts of the northern area (nos 78–84), and Late Bronze Age pottery from the southern settlement (nos 85–91). Scale 1:4

Globular Urns. One rim of a Bucket Urn is from a very large vessel, of over 30cm rim diameter, that was fingertipped along the rim edge (no 39). A fragment of cordon from the same spit might be from the same vessel (no 40), and there is another cordon fragment that is not illustrated. Another probable Bucket Urn was much smaller but has similar rim top decoration (no 41), and the other plain rim fragment may be from another such vessel (no 43). A different vessel may be represented by another rim sherd that appears to have an everted termination that is finger-impressed, and an upper wall that is not vertical (no 42), but surviving surfaces are ambiguous and its orientation is a little uncertain. The largest sherd is from an undecorated Globular Urn that is burnished inside and out (no 44).

Ditch 1990

39 sherds (334g), from 17 segments of the ditch. CALC 1 predominates, and only six sherds of other fabrics were found. Two of SAND 1B from the upper fill are probably intrusive Iron Age material. Three sherds of GROG 1 from the upper fill are probably also intrusive, including one with comb-stabbed decoration (no 51). The only sherd of CALC 4, however, is, most probably, contemporary with the other Deverel-Rimbury material of the assemblage. It is a body sherd from a burnished Globular Urn with a pierced lug (no 50). Featured sherds in CALC 1 include another lug, not pierced (no 49); the rims of three probable Bucket Urns; one large and two smaller (nos 45–7); and part of an applied body cordon with a double finger impression (no 48).

Ditch 1778

10 sherds (2.0kg), and all, or nearly all, from a slightly barrel-shaped coarseware jar in CALC 1 (53). Time was not available to reconstruct its full profile for illustration. Four other sherds of CALC 1 include a fragmentary example that is decorated (not illustrated). The other five sherds are of CALC 4, including three from a burnished Globular Urn. Its rim is left plain and flat-topped, but there are two girth grooves with a series of diagonal notches in between (no 52).

THE NORTHERN BRONZE AGE SETTLEMENT

A few metres south of ditch 1218 was a cluster of 17 pits and postholes. From nine came identifiable fragments of Late Bronze Age vessels; in two the only featured sherds are of Deverel-Rimbury types; and the other six are uncertain. The early features are described separately from the rest.

Deverel-Rimbury features:

Pit 2381

Seventeen sherds, including 15 of CALC 1 and two of CALC 2. The feature was excavated in two spits. Spit 2381A contained the beaded rim sherd of a Barrel Urn with rough surfaces (no 55), a splayed base angle, probably of a Globular Urn but not burnished (no 56), and three burnished sherds. Spit 2381B yielded a body sherd of a Globular Urn with horizontal and diagonal burnished decoration (no 54), and two tiny rim fragments.

Pit 2374

The feature contained two joining sherds of CALC 2 from the base of a burnished Globular Jar (no 57).

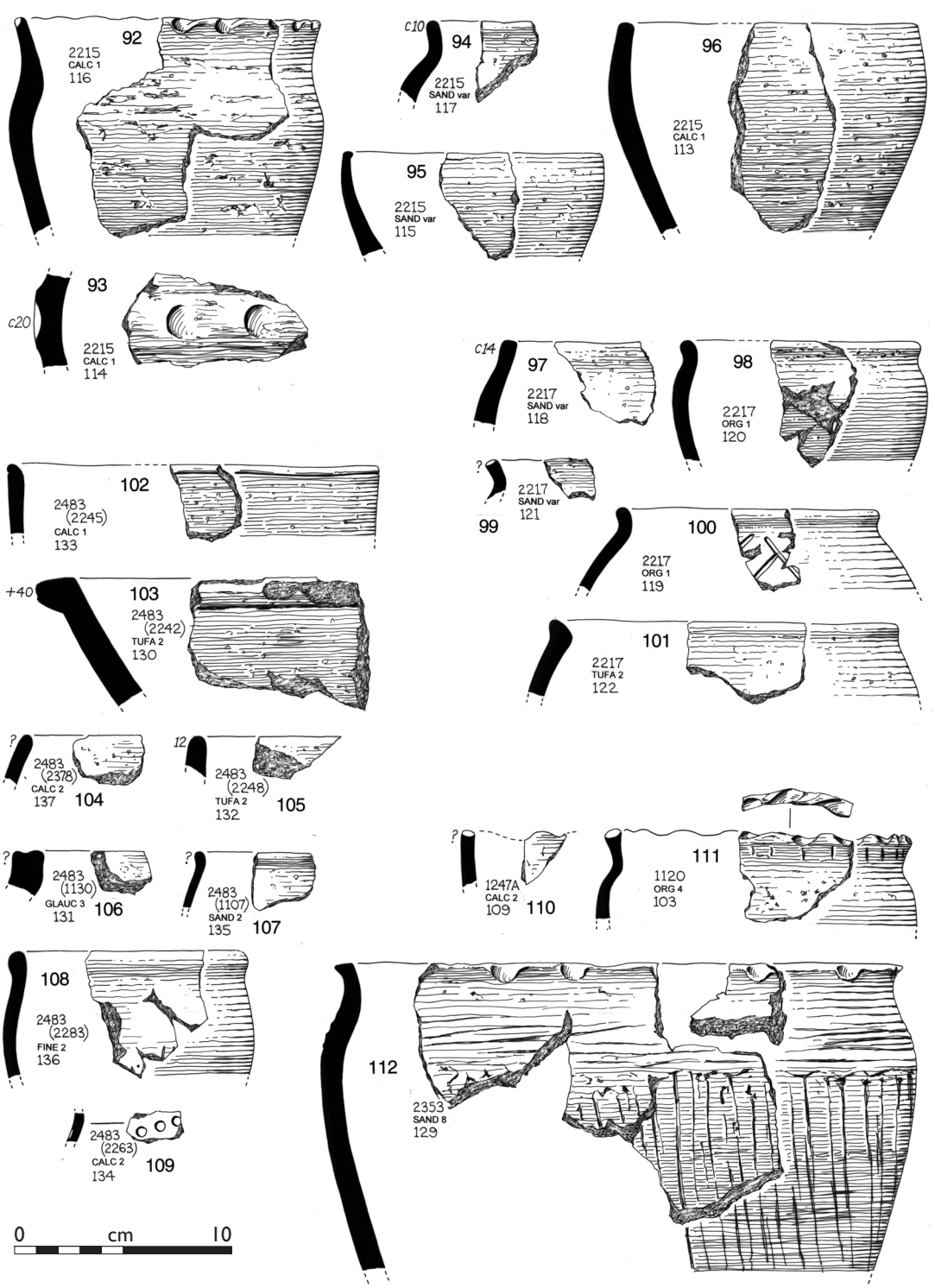

Fig 5.32 Thorpe Lea Nurseries: Iron Age pottery of the eastern settlement. Featured sherds from pit groups 2215 (nos 92–6), and 2217 (nos 97–101), gully group 2483 (nos 102–09), and all other featured sherds from sunken features (nos 110–12). Scale 1:3

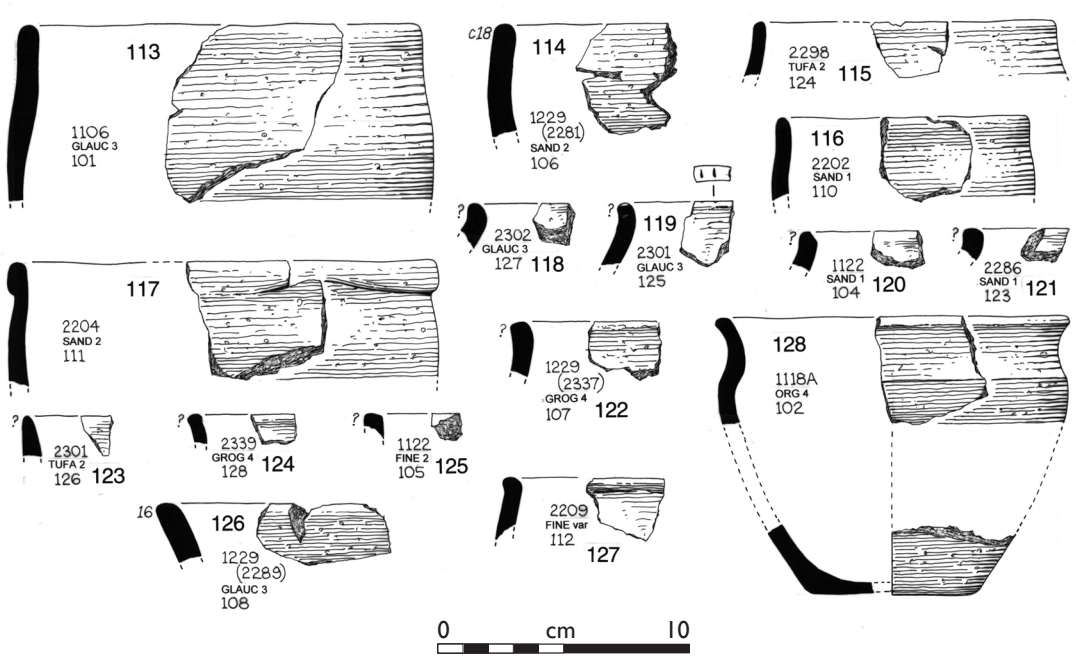

Fig 5.33 Thorpe Lea Nurseries: featured sherds of Iron Age pottery from the eastern settlement. Scale 1:3

Late Bronze Age features

168 sherds (2.8kg), from 15 of the pits and postholes. 52/60% (C&W) are of CALC 1, and 46/39% of CALC 2. Eight sherds of SAND 2 fabrics are most likely contemporary, as is a sherd of CALC 4 and two of a CALC variant. The featured sherds are from a different range of vessel forms to that of the Deverel-Rimbury types, and the increased use of quartz sand in the temper is noticeable.

Most common are large vessels with incurving simple rims that are sometimes more bowl-like than jars (nos 60, 61, 66, 71 and 74). Parts of one, or two, are from pit 1103 (nos 60 and 61). Two rimsherds have very eroded surfaces, but the other does not and displays rough finger wiping over its external surface (no 61). Another such vessel has less marked wiping (no 71). One large jar has a fine external burnish, and was barrel shaped with an everted rim, or else was tripartite in shape (no 73). The most defining vessel form, however, is the shouldered jar, of which up to three examples may be represented by rimsherds. Two are thin-walled and of medium size, but with surfaces left rough or wiped (nos 64 and 65). The first has a high and sharply rounded shoulder, and the latter could belong to the same or a different vessel. There are also three small rimsherds, but it is uncertain to what forms they belonged. They are not burnished (nos 70, 76 and 77).

Various base angles include four with much crushed flint on their undersides (including nos 68, 69 and 75). 'Fineware' includes a sherd burnished inside and out in CALC 1 (from 2359), one of SAND 2 that is externally burnished (from 1103), and another of the same fabric (from 1153). There are also two base angles of SAND 2, and most of the profile of a cup (no 67), but none are burnished.

Summary catalogue of other feature assemblages:

Pit 1102: 28 sherds, all, or nearly all, from a single shouldered jar of CALC 1 (no 64). Time did not allow for complete reconstruction.

Pit 1103 includes parts of five vessels (nos 60–63 and 67). Sherds of one are of the same vessel as found in pit 2364 (no 60).

Pit 2362 a rim and base angle (nos 68 and 70), and 32 sherds from a large vessel with relatively thin walls and vertically wiped surfaces (not illustrated).

Pit 1141 including no 65.

Pit 1163 including no 66.

Pit 2364: includes nos 71 and 72, and a sherd of the same vessel as in feature 1103 (no 60).

Pit 2369 includes nos 69 and 73.

Pit 2370 includes no 74.

Pit 2372 includes no 75, and a base sherd with much crushed flint on the underside (not illustrated)

Pit 2380 includes a probable intrusive FINE sherd.

Pit 2405 includes no 77.

Context 2401 unstratified, but from the same area as the above pits. Includes no 76.

THE SOUTHERN LATE BRONZE AGE SETTLEMENT

154 sherds (1.3kg), from 11 pits and postholes, a hollow, and unstratified in the same general area. *c*35/36% (W&C) are of CALC 1 and *c*50/60% of CALC 2; and there are also eight sherds each of CALC 4 and CALC 5, and two of other CALC variants. Two small fragments of GROG 2 and one of ER3C are probably intrusive, as also a medieval rim sherd. The higher proportion of flint/sand-tempered sherds could suggest a later date than the northern Late Bronze Age site. Featured sherds include a carinated bowl (no 87) and perhaps the rim of another (no 86), which may be the equivalent of the biconical bowls of Runnymede Bridge (Longley 1980, 65; Needham 1991, 162). A shouldered bowl (no 88), a probable shouldered jar (no 91) and perhaps the upright rim of another (no 90), are represented, and the form of another small vessel is uncertain (no 85). The only other featured sherd is the splayed base of a large jar with much calcined flint on its underside (no 89).

OTHER BRONZE AGE FEATURES IN THE NORTH OF THE SITE

Pit 2432

Four CALC 1 sherds, including the upstanding rim of a large jar (no 58) and part of a perforated plaque (no 59), and one of CALC 2. The jar most closely resembles Deverel-Rimbury Bucket Urns, and such perforated ceramic objects are typical of Middle Bronze Age assemblages in southern Britain.

Gully 2437

One small fragment of CALC 1

Gully 2423

Ten sherds from four segments, with seven of CALC fabrics

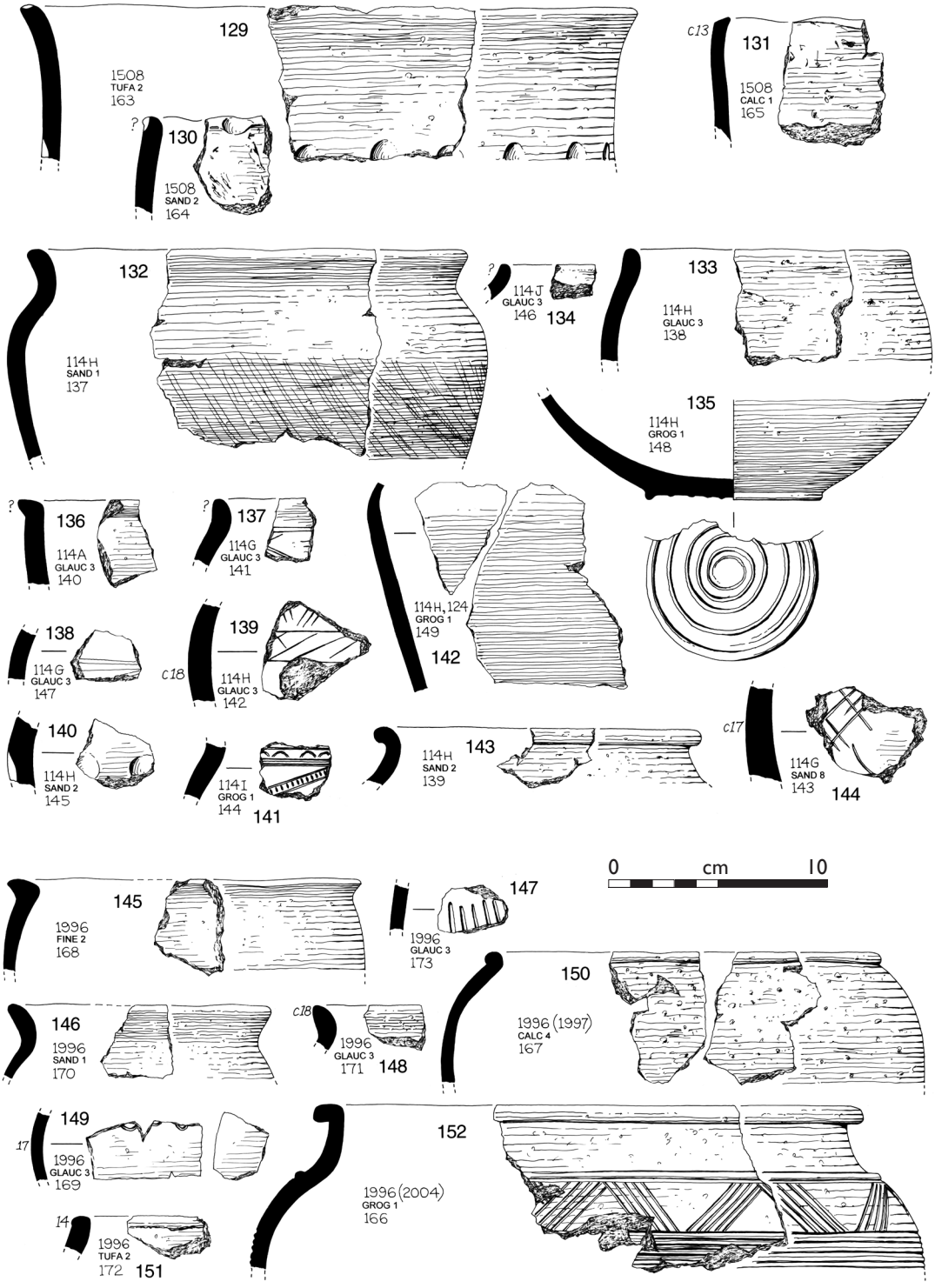

Fig 5.34 Thorpe Lea Nurseries: Iron Age pottery assemblages from the western settlement; Early Iron Age pit group 1508 (nos 129–131), and Late Iron Age ditch groups 114 (nos 132–144) and 1996 (nos 145–152). Scale 1:3

OTHER EARLIER PREHISTORIC SHERDS

A few CALC sherds in later prehistoric and Roman features are obviously of earlier types, or suspected of being so. They include body sherds with maggot cord impressed decoration (no 83), finger pinching (no 84), and a herringbone effect of flint blade slashes (no 81). These complement the residual Later Neolithic and Earlier Bronze Age material in ditch 1218 (nos 1–5). A base angle with a profusion of calcined grits on its underside (not illustrated), a rim sherd from a jar with a simple inturned termination (no 80), and the triangular rim of another jar (no 79) are all more likely to be from Bronze Age vessels than later types. In addition, a rim sherd of a very large vessel with thick walls and a pronounced rim termination could be from a Bucket Urn (no 78). Its orientation is a little uncertain, however, and it has smoother external surfaces than those from ditch 1218. It might, instead, be of Late Iron Age or transitional date since it was recovered from an Early Roman context.

THE EASTERN IRON AGE SETTLEMENT

494 sherds (4.6kg), from 52 pit, post and stakehole features, and six gullies or ditches. The four largest feature assemblages are from gully 2483 (130 sherds), gully 1229 (56), pit 2215 (35) and posthole 1247 (21); and most other feature

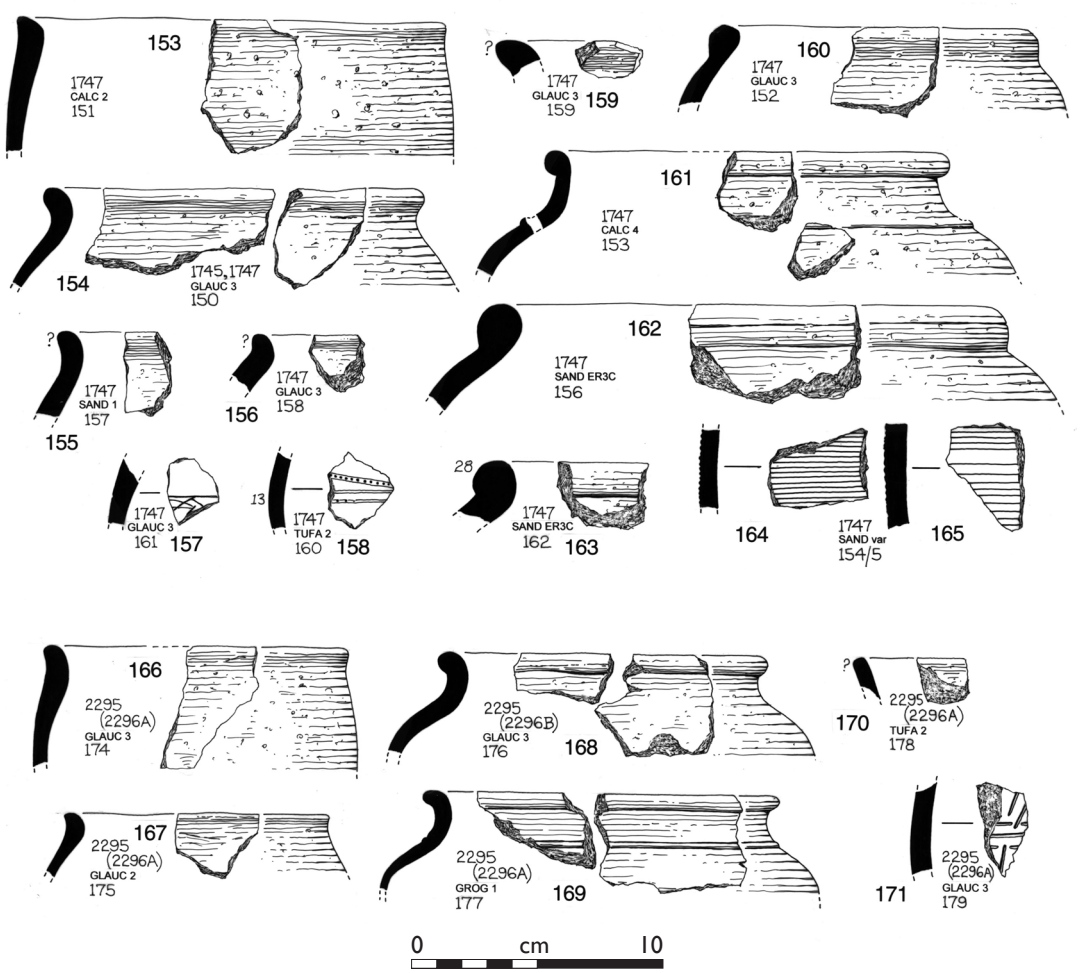

Fig 5.35 Thorpe Lea Nurseries: Iron Age pottery of the western settlement from Late Iron Age pit 1747 (nos 153–165) and from the dispersed pit 2295 (nos 166–171). Scale 1:3

assemblages contain less than five sherds. By count TUFA fabrics represent the most popular ware group (27%) although by weight this would be the GLAUC group (37%). Also common by count are sherds of CALC (20%), GLAUC (16%) and SAND 2–8 (16%). Less common are sherds of ORG, GROG, SAND 1 and FINE, and those of IRON and SHELL are rare. The featured sherds of three individual assemblages are shown separately. These are pits 2215 (nos 32–6) and 2217 (nos 97–101), and gully 2483 (nos 102–9), but all other featured rim and decorated sherds are also illustrated (nos 110–28).

Pit 2215
35 sherds (0.97kg) including 18 of CALC (70% by weight). There are also ten sherds of SAND fabrics. Featured sherds include two, relatively small, shouldered jars (nos 92 and 94), and the finger-impressed shoulder of another (no 93), unless this was from an earlier Bucket Urn. There is also a tall bowl (no 96), a smaller unburnished bowl (no 95), and plain base angles in both CALC 2 and SAND 2B fabrics. Five of six sherds of CALC 1 are burnished inside and out, including the bowl rim (no 96). The preponderance of CALC and SAND fabrics, and the presence of shouldered jars, suggests that the feature may be one of the earliest of the settlement. It could be of Early Iron Age date and may have been sealed during its later phases.

Pit 2217
17 sherds (0.12kg) including the rims of three globular jars (nos 98, 100 and 101), one inturned rim jar (no 97) and a probable shouldered jar with finger impressions (no 99). The last two are in a SAND variant, and their surfaces are rough, whereas the globular jars are burnished. Of two in ORG 1 fabric, one is smaller and has a weaker profile (no 98) and the other is more bulbous and has groove-burnished linear decoration, probably latticed (no 100). The assemblage is probably of Middle Iron Age date.

Gully 2483
130 sherds (0.99kg), the largest assemblage of the settlement, and from 25 excavated segments. 32% is of TUFA, 24% of CALC and 14% of ORG fabrics. In TUFA 2 is the rim of a bowl or saucepan pot (no 105), and of a much larger bowl with a thick flange which is unique within the site collection (no 103). The beaded rim of another saucepan pot or bowl is proof that not all sherds of CALC 1 need be early (no 102), and in CALC 2 is a rim sherd of a jar or bowl with inturned rim (no 104), and a sherd uniquely decorated with circular stamps (no 109). Yet more unique forms are represented by a thick, upright, and burnished rim sherd with a depression along the top in GLAUC 3 (no 106) and a relatively thin-walled and everted rim sherd of a burnished globular jar in SAND 2B. Another small globular jar is in FINE 2 (no 108). The feature was probably of Middle Iron Age date.

Other Contexts
Other significant material from the site include rimsherds from three shouldered jars, about ten saucepan pots, five or six globular jars, and a bowl. There are no obviously later forms such as bead-rimmed jars but some later fabrics are represented by body sherds. The only possible Early Iron Age assemblage, other than that of pit 2215, was from pit 1118. Most features, therefore, could be of Middle–Late Iron Age date, but the site may have been abandoned before the full development of Late Iron Age types. Notes in the digital catalogue of the individual feature assemblages of the settlement serve only to indicate their possible dating and should not be regarded as a full catalogue, which is retained in the paper archive. See tables 5.6 and 5.7 for counts and weights of each fabric and for each feature.

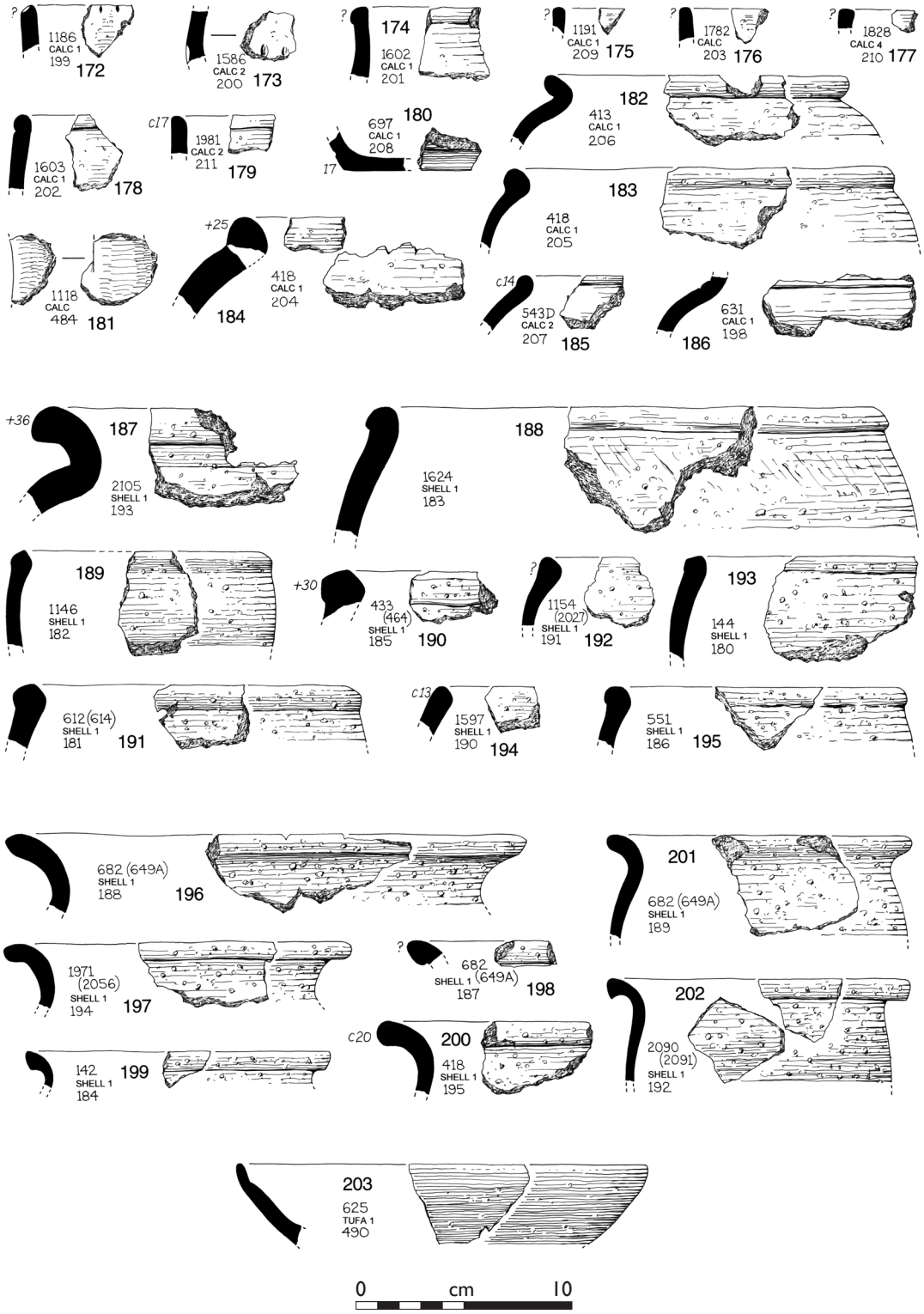

Fig 5.36 Thorpe Lea Nurseries: some other Iron Age and Roman featured sherds from the western settlement: CALC flint-Tempered wares (nos 172-186), SHELL 1 Late Iron Age shelly ware (nos 187–195), SHELL 1 Mid to Late Roman shelly ware (nos 196–202), and TUFA 1 Late Iron Age or Early Roman tufa and sand-tempered ware (no 203) (continued fig 26). Scale 1:3

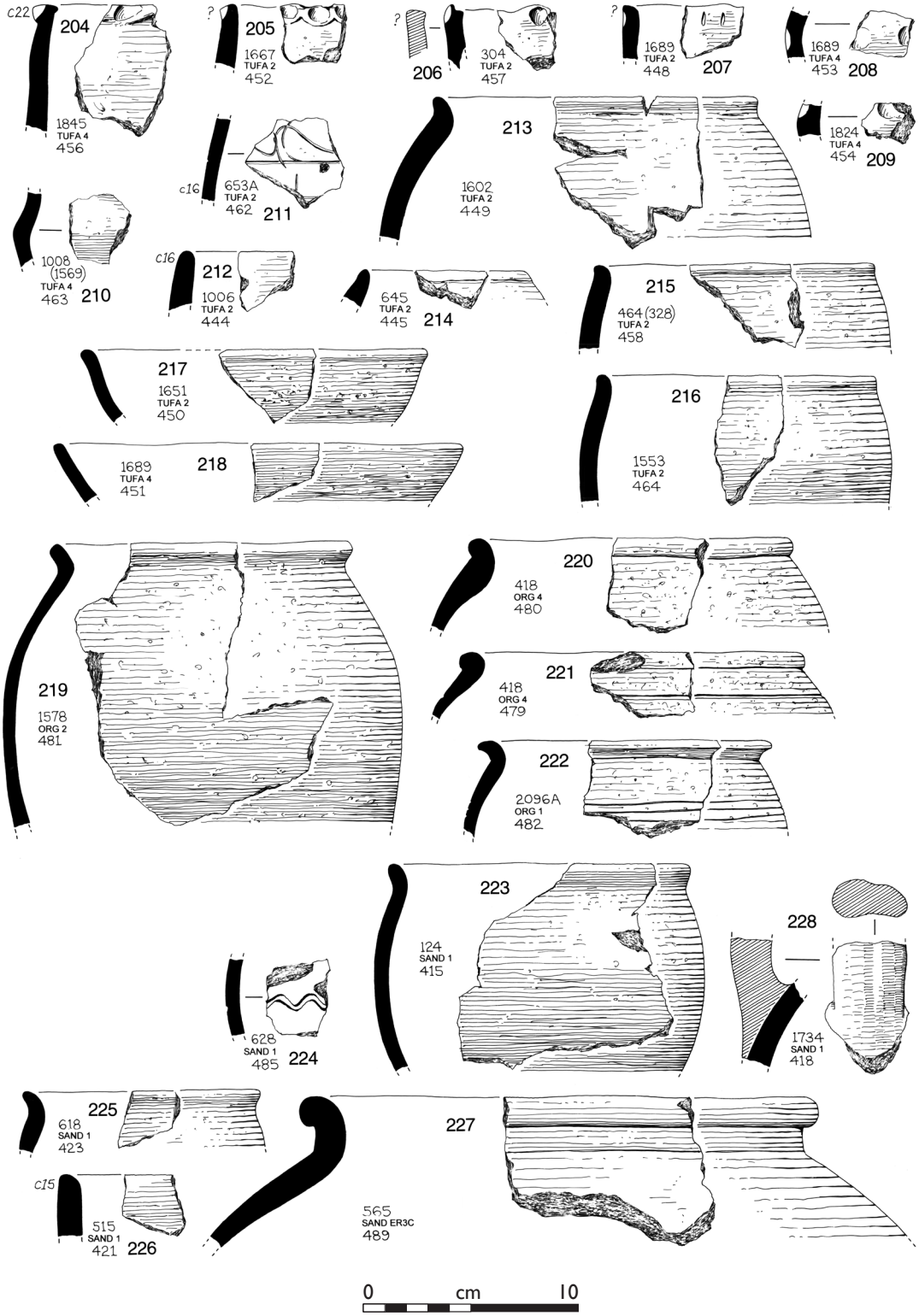

Fig 5.37 Thorpe Lea Nurseries: Iron Age pottery from the western settlement TUFA/SHELL tufa-tempered ware (nos 204–218), ORG organic-tempered ware (nos 219–222), SAND 1 sand-tempered wares (nos 223–227), and Late Iron Age or Early Roman SAND ER3C ware (no 228). Scale 1:3

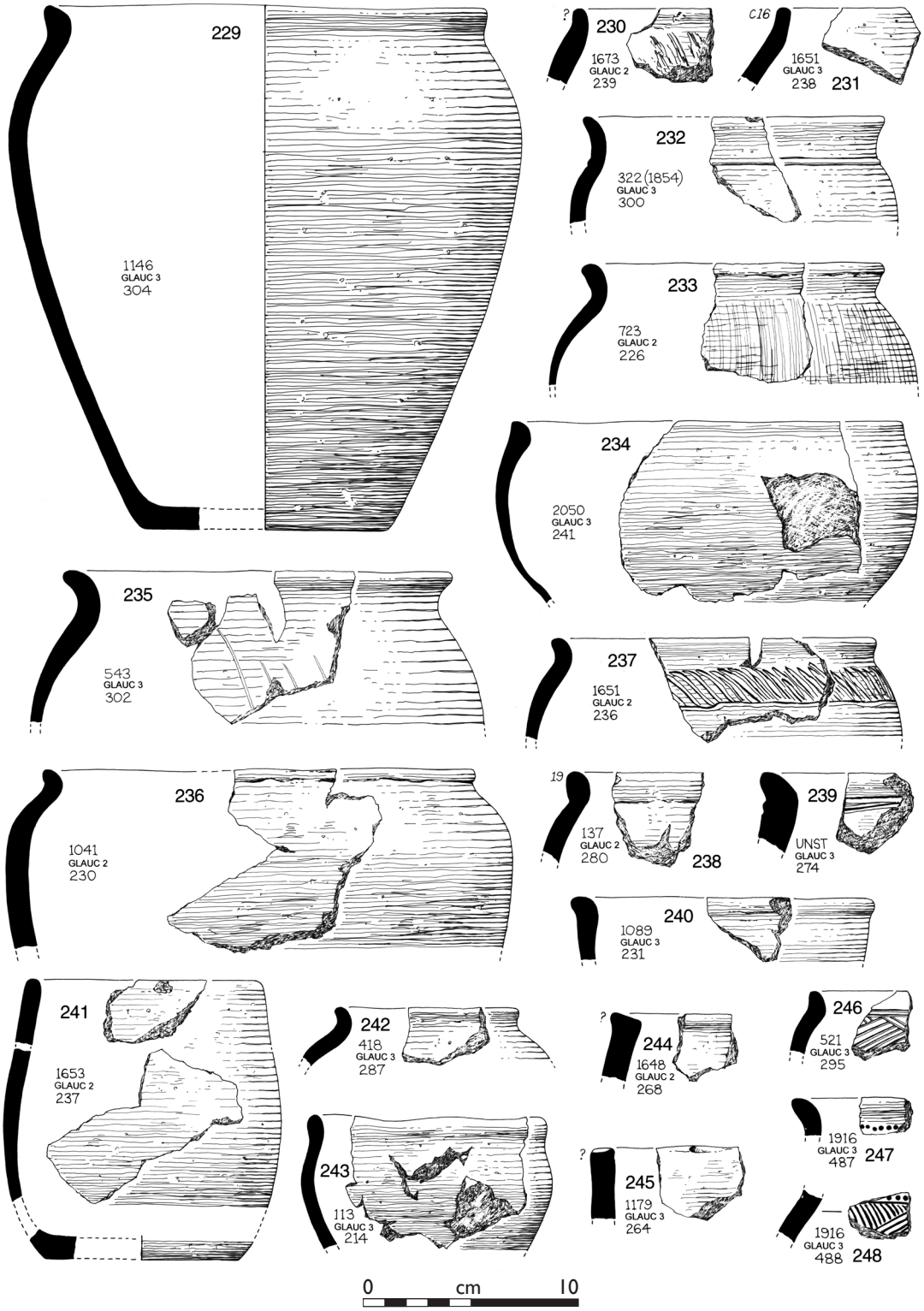

Fig 5.38 Thorpe Lea Nurseries: Iron Age pottery from the western settlement: GLAUC glauconitic sandy ware. Scale 1:3

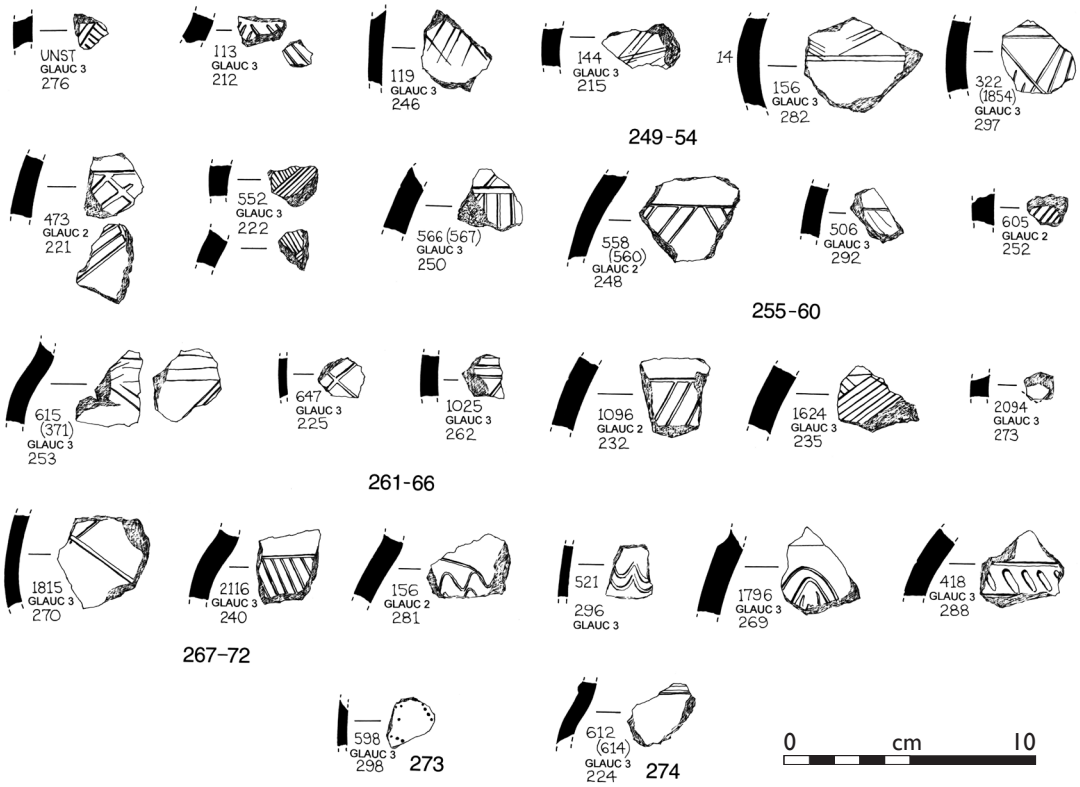

Fig 5.39 Thorpe Lea Nurseries: Iron Age pottery from the western settlement. All other decorated sherds of GLAUC Glauconitic sandy ware. Scale 1:3

THE WESTERN IRON AGE SETTLEMENT

1174 sherds (11.0kg) from 159 pits, postholes and hollows, 16 linear gullies or ditches, two ring gullies and four remnants of layers. There is nine times as much stratified Iron Age pottery as in the eastern site, and most of the 1961 Iron Age sherds (20.3kg) in the Roman and later contexts also belonged to this settlement. The principal fabric groups are those of CALC, TUFA, GLAUC and SAND, although it is remarkable how similar the relative proportions of most groups are to those of the eastern settlement. There is very slightly less of TUFA and GLAUC, and very slightly more of SAND in the western settlement, but such proportional differences need not be statistically significant

Four of the best single feature assemblages are illustrated and described separately. The best of the rest is illustrated as a ware group type series. See tables 5.8 and 5.9 for the counts and weights for each fabric in each feature.

Pit 1508

Ten sherds, including the rims of three probable shouldered jars; one in TUFA 2 with finger-impressed rim and shoulder and a weak profile (no 129), another in SAND 2 with a finger-impressed rim (no 130), and the last not decorated, in CALC 1 (no 131). The feature is possibly of Early Iron Age date.

Ditch 114

95 sherds (0.22kg) from nine segments. 43% are of GLAUC, 22% of GROG including 16% of grog-only GROG 1 fabric, and 14% of SAND 2-8 fabrics. A notable absence is TUFA, but there are three sherds of Late Iron Age SHELL 1 ware. Featured sherds are from globular jars (nos 132–4, 137–9, 141–2 and 144), a jar with rounded rim (no 193), and a shouldered jar (no 190). Some of the globular jars were decorated with cross-hatched tooling in zones, but one, in GROG 1 and from a shoulder, is uniquely decorated (no 141). Also in GROG 1 is a very carefully made foot-ring base from a jar or bowl (no 135). A few sherds look as though they might have been wheelthrown, including a foot-ring base and shoulder sherd (no 192) in GROG 1, and some sherds in GROG 2, but there are also four sherds of fully 'romanised' grey sandy ware in SAND 1A fabric, including the flanged and lid-seated rim of a jar. The ditch may have been dug during the Late Iron Age, but was perhaps not finally levelled until the Roman period.

Ditch 1996

32 sherds (0.4kg), fairly evenly spread through the fabric groups, but with ten sherds of GLAUC. The featured sherds include globular jars with rather elongated everted rims (nos 145–8) and a sherd decorated with a tooled wavy line (no 149). Another rim is from an inturned rim jar (no 151) and there is a sherd decorated with vertical grooves (no 147). There is also a rim sherd in GROG 1 from a large necked jar with a flanged rim and cordon at the neck that is decorated with a burnished scheme above mid girth furrows (no 152). It is possibly wheelthrown, as might be one or two sherds of GROG 3 and SAND 1A. A large bead-rim jar in CALC 4 is also represented, but is not wheelthrown (no 150). The ditch is probably of Late Iron Age date.

Pit 1747

39 sherds (0.44kg), including 12 of SAND 1A that are of handmade Iron Age type, and eight of GLAUC. There are some rimsherds of globular jars (nos 154–6 and 159) and decorated sherds of such vessels, including one with notches set within pairs of incised lines (nos 157 and 158). Also represented are a bead-rimmed jar in GLAUC 3 (no 160), bead-rimmed storage jars in the very coarse sandy fabric ER3Ccalc (nos 162 and 163), a cordon-necked jar in CALC 4 (no 161), and some corrugated body sherds in a SAND variant (nos 164 and 165). The feature probably belonged to the Late Iron Age.

DISPERSED IRON AGE FEATURES

Pit 1133

Includes SAND 8 and SAND 1A sherds. Iron Age.

Pit 1146

Includes three large sherds of GLAUC 3 making the only full profile of a globular jar from the site (no 229). Although it is a relatively large example, it demonstrates the potential inaccuracy of the conventional term 'globular jars' applied to numerous vessels from the site. More accurately it is a jar with a high rounded shoulder, ie. a shouldered jar. If there was only a sherd from rim to maximum girth of this vessel, it would look much like all the other jars described in this report as being globular. The feature also contains the wheelthrown rim of a bead-rimmed jar or saucepan pot in SHELL 1 (no 189), and a wheelthrown sherd of GROG 1. Probably Late Iron Age.

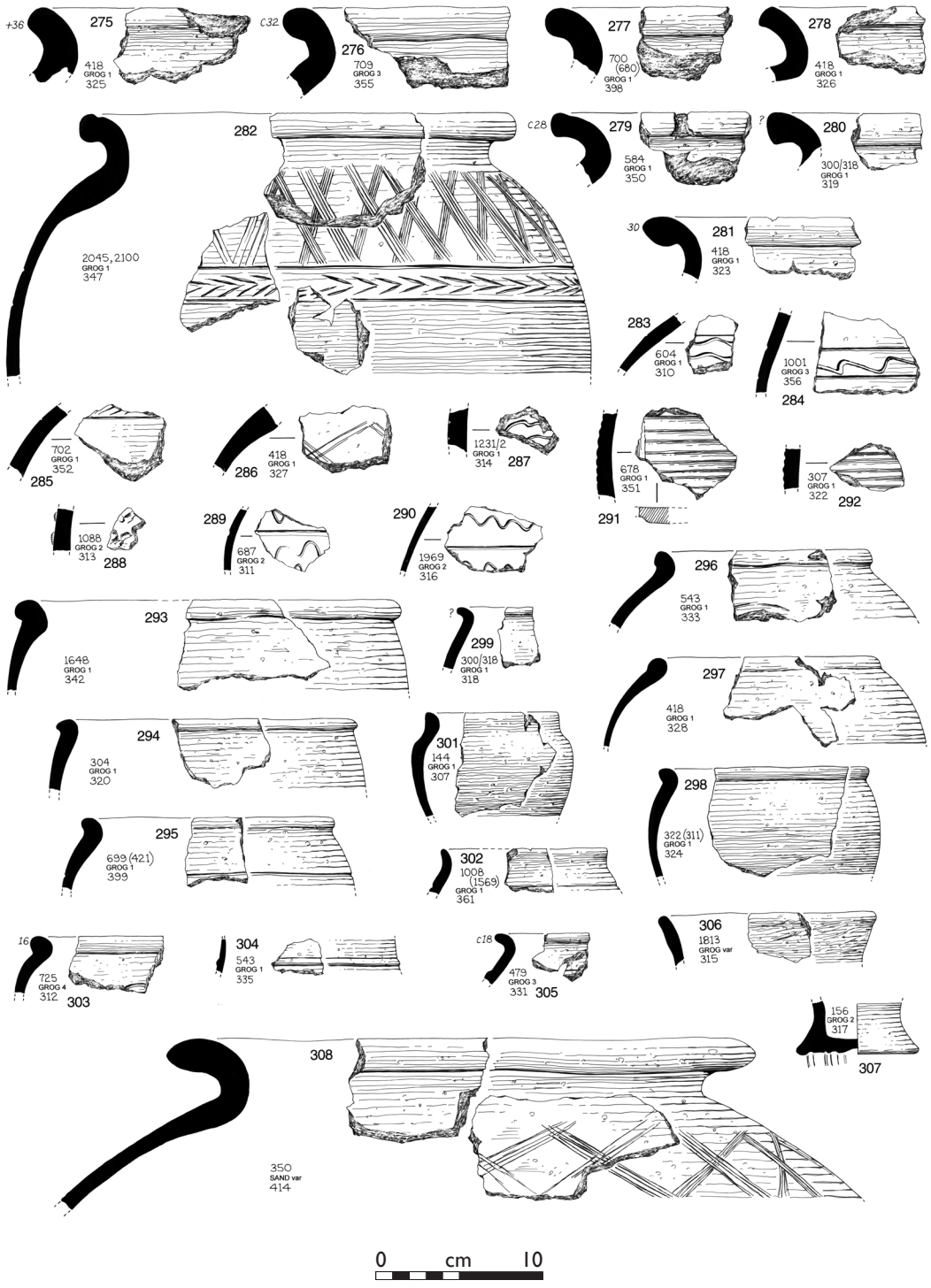

Fig 5.40 Thorpe Lea Nurseries: Iron Age pottery from the western settlement: GROG grog-tempered ware (nos 275–307), and SANDvar sandy ware (no 308). Scale 1:4

Pit 1180
Includes CALC 1, SAND 4 and SAND 8 sherds. Iron Age, possibly early.

Gully 1185
Includes the rim of a probable shouldered jar with fingernail impressions in CALC 1 (no 172), a fragmentary rim sherd of ORG 1, and sherds of GLAUC. Middle–Late Iron Age.

Gully 1782
Includes a plain rim fragment in CALC 5 of uncertain orientation (no 176) and a GLAUC 3 sherd. Middle–Late Iron Age.

Gully 1787 (part of 2431)
Includes GLAUC 3 sherds. Middle–Late Iron Age.

Pit 1999
Includes sherds of CALC 2 and SAND 1A sherds, and a possible amphora sherd. Late Iron Age or Early Roman.

Waterhole 2295
115 sherds, of which 78% are of GLAUC, and 12% of TUFA. Globular jars are represented (nos 166 and 167), and there is a necked jar with a beaded rim (no 168), and another with a cordoned neck that is wheelthrown (no 169). All other sherds are from handmade vessels. There is also another rim fragment (no 170) and a sherd decorated with burnished grooves (no 171). Probably Late Iron Age.

Gully 2454
Includes GLAUC 3 and GROG 1 sherds. Middle–Late Iron Age.

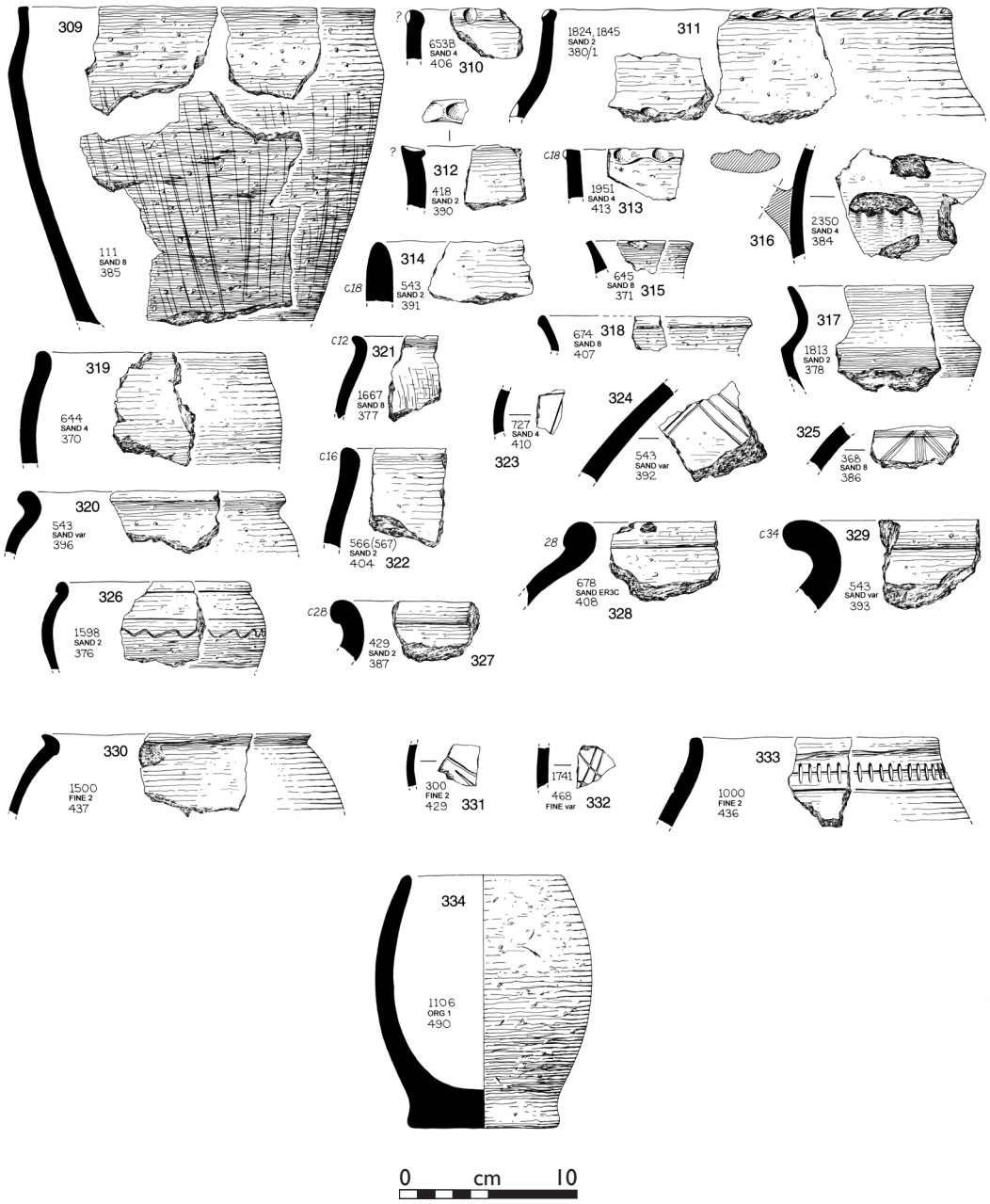

Fig 5.41 Thorpe Lea Nurseries: Iron Age pottery from the western settlement: SAND poly-tempered Sandy wares (nos 309–29), FINE fine untempered ware (nos 330–3), and ORG organic-tempered ware (no 334). Scale 1:4

6.3 ROMAN

Introduction

9222 sherds (104.3kg) of pottery were recovered, although some of 'native-type' wares described above, such as GROG, were also made during the Roman period. Between 28 and 31% (C&W) of the collection came from three Late Roman waterholes, 13 and 16% (W&C) were in the plough soil, and the remainder was sampled from 243 other features. They include 102 pits, 39 postholes, 23 gullies, 25 ditches, eight hollows, five wells or waterholes, a hearth, a burial, a four-post structure, 12 possible remnants of buried soil, and miscellaneous other features. 78% of these (192 features) contained 20 sherds or less, and those with five or fewer represent almost 60% (143 features). Any more precise dating of these within the Roman period, therefore, remains uncertain. The samples from 26 features contain between 21 and 50 sherds, 12 more have up to 100, and 14 contained even more. Many of these feature assemblages, both large and small, contain mixtures of contemporary and redeposited material, however, and very few single feature assemblages, other than those of the later Roman waterholes, were worth studying in detail.

The report is in six parts that include:

- A summary of the ceramic phasing.
- Descriptions of the fabric/ware type series with references to vessels forms and a key to the abbreviations used.
- A summary account of the collection.
- A summary catalogue of the more interesting feature assemblages and individual vessels.
- Descriptions of the Late Roman waterhole assemblages with a type series of Overwey-type ware.
- Summary descriptions of the forms of the other wares represented on-site.

Illustrations (figs 5.42–5.50)

Conventions on the illustrations are the same as for the prehistoric pottery (see above). Only ten feature assemblages are illustrated, and a few other vessels of intrinsic interest. Three late 4th century waterhole assemblages are fully described below. The other seven were chosen, not necessarily on account of their size since many larger assemblages have not been illustrated, but because they represent the range of dateable groups present within the collection. Thus, although there was no real need to show the small assemblage from gully 472, since it could more simply be verbally summarised as two BRJs, a CNJ, an SB and a platter (see p141), the illustrations serve to signify the presence of such Early Roman groups (nos 335–9), and to demonstrate that this is the best of such groups for that period (Roman ceramic phase 1; see below). The assemblages from ditches 599 (nos 340–66) and 464 (nos 367–81) are the best representatives of the early–mid 2nd century period (ceramic phase 2); there are no mid–late 2nd or early 3rd century groups worth illustrating; the assemblage from pit 563 was probably deposited in the 3rd century (ceramic phase 4 or 5); and those of layer 1981 (nos 395–9) and pit 682 (nos 400–421) belong to the late 3rd to 4th century (ceramic phase 6). The waterhole assemblages (nos 422–622) are the latest shown (ceramic phase 7).

Tables

Only table 5.18 is included with the printed text.

5.14 count of Roman sherds from all contexts in numerical order

5.15 weight of Roman sherds from all contexts in numerical order

5.16 count of Roman sherds in order of ceramic phases

5.17 weight of Roman sherds in order of ceramic phases

5.18 count, weight, EVEs and minimum number of vessels in three Late Roman waterholes.

Ceramic phases

It became easier to assign the Roman feature assemblages to one of a series of loosely defined 'phases' than to attempt any more precise dating. There are seven phases, but to accommodate the many features that cannot so easily be determined, composite phasing was necessary. All 241 features or deposits with Roman sherds and none later belong to one or more of the following ceramic phases or composite phases (CPs):

CP		No of features
1	Late 1st century	49
2	Early–mid 2nd century	6
3	Mid–late 2nd century	6
4	Late 2nd or early 3rd century	3
2–4	2nd century	16
5	3rd century	1
6	Late 3rd to mid 4th century	6
7	Mid–late 4th century	10
6–7	4th century	48
1–7	Roman	96

Of 147 features for which dating could be a little more precise than 'Roman', 34% are of late 1st century date, and 44% are of the late 3rd to 4th century, corresponding with CPs 1, 6 and 7. Only 7% of the pottery from better dated Roman features and deposits comes from features belonging to CP 1, however, whereas 73% of such pottery is from CPs 6 and 7. In part, this is because of some very large single features assemblages of later Roman material. Only eight features belong to CP 7, yet they yielded 42% of all the better dated Roman pottery. Another reason could be the nature of the Early Roman settlement in comparison with that of the later Roman period, though few other differences could be detected. Forty-seven pits and postholes are probably of late 1st to early 2nd century date (representing 57% of all identified features), whereas only 29 (47% of identified features) are likely to have belonged to the late 3rd and 4th centuries. Large wells and waterholes were only dug (or last recut) in the later period, however, as were most hollows: or so it seems from the ceramic samples.

Fabrics and forms

The Roman pottery was sorted into the fabrics and ware groups of the type series established at Staines (Jones 2010), which is summarised below:

1 GROG-TEMPERED WARES
1A and **1B** handmade types, of which the former is very similar to Highgate C ware, and the latter includes other variants. The examples from Roman contexts have been studied together with the prehistoric GROG sherds (see above).
1C a wheelthrown greyware variant with cream/white pellets of grog.

2 SHELL AND FLINT-TEMPERED WARES
2A shell-tempered wares. Of three or four Roman shell-tempered wares identified in Staines, at least three were also present at Thorpe Lea Nurseries. Their sherds were also studied together with those of the prehistoric SHELL examples (see above).
2B flint-tempered fabrics.

3 GREY/BROWN SANDY WARES
3A Alice Holt/Farnham fabrics and related local greywares. There are various sub-fabrics, and the body is usually more finely tempered in later Roman vessels, but these have not been separately quantified below.
3B deliberately oxidised variants; brown/orange coarseware types.
3C coarse sand-tempered variants of 3A and 3B.
3D fine oxidised coarseware; a later Roman brown/orange type.

4 VERULAMIUM/LONDON OXIDISED SANDY WARE
Mortaria of this ware are described and quantified separately as 7B1.

5 OVERWEY-TYPE COARSE SANDY WARE
A new type series of this ware is included below.

6 BB1 DORSET BLACK-BURNISHED WARE

7 AMPHORAE AND MORTARIA
7A Amphorae wares: Almost all of 7A1 South Spanish fabric, but one sherd is of 7A2 Catalan type.
7B Mortaria wares:
7B1 Verulamium Region Oxidised Sandy ware
7B2 Oxford white sandy fabric
7B3 Oxford red/brown fineware; red/brown slip (as 10A3; see below)
7B4 Oxford orange/brown sandy fabric; white slip
7B5 NFSE North French/Southern English-type fabric

8 ORANGE FINEWARES

9 LOCAL REGIONAL FINEWARES
Defined as fineware from within a day's journey of the site. The exclusion of Oxford types is arguable (see 10 below).
9A Fine Greywares.
9B Fine Cream/Buff Wares.
9C London Ware and similar types.

10 INTER-REGIONAL AND CONTINENTAL FINEWARES
Redwares (A) and cream-buff wares (B). Most sherds from the site are of Oxford 10A3 (239), followed by samian 10A1 (48) and Nene Valley 10B3 (26). Types represented at Thorpe Lea Nurseries include:
10A1 samian wares: a relatively small sample of mostly Central Gaulish sherds, but with a few from Southern Gaul.
10A3 Oxford red/brown-slipped redware (mortaria classified as 7B3).
10A4 Colchester rough-cast redware (one sherd).
10A7 Rhenish redware with metallic lustrous slip (one sherd).
10A8 miscellaneous redware (one sherd).
10B3 Nene Valley whiteware with brown/black slip.
10B4 miscellaneous whiteware (one sherd).
10B5 Oxford fine whiteware. Parchment ware (three sherds).

Descriptions of greywares in the text often refer to the vessel classes defined by Lyne and Jefferies (1979), and, more rarely, by Millett (1979). Most often these are provided in parentheses after a conventional name. Thus, the very common ERJ 'everted rimmed jar' is followed by (L&J Class 3B), and the typical later Roman 'flanged bowl' by (L&J Class 5B). Elsewhere, only the acronyms of forms are given (see below). References are made to London form type series (Marsh and Tyers 1978; Symonds and Tomber 1991) where no appropriate match is found in the corpora of Lyne and Jefferies and Millet. Other significant sources for comparative purposes have been Young's (1977) catalogue of Oxford wares and the pottery report of the Overwey/Tilford kilns (Clark 1950).

The following summary accounts of vessel forms represented amongst selected ware groups and fabrics do not include those of groups 1A/B Highgate-type and related grog-tempered fabrics or the shell and flint-tempered fabrics of group 2, since, as 'native'-type wares, they are discussed together with the prehistoric pottery. Vessels from the four important Late Roman waterholes are also not included as their assemblages are fully described elsewhere in this report.

GROUP 1C SAVERNAKE-STYLE
GROG-TEMPERED FABRIC
There are only a few sherds of this pale grey, wheelthrown fabric, which resembles some of the variants of the Savernake Roman pottery industry of east Wiltshire, although they could as easily have been made at a closer source. They were mostly recovered from 2nd century assemblages, and include the rims of four necked jars with flanged, and undercut, terminations.

GROUP 3 ALICE HOLT/FARNHAM
GREY/BROWN SANDY WARE
Coarseware from the border district of north-east Hampshire and west Surrey constitutes the greater quantity of Roman pottery from the site. Thorpe Lea Nurseries lies 22km north-east from the closest source of such fabrics, which lie on the other side of the barren wastes of the Bagshot Tertiary plateau. The total of 7140 sherds (72.5kg) may also be supplemented by the 1004 sherds (11.9kg) of group 5 Overwey/Tilford coarseware, since they derive from the same general area, but there are sufficient reasons for separating them for the purposes of this report.

Group 3 fabrics are generally separated and quantified according to four main types, A–D, although it is to be noted that the first of these, which is also the most common, could have been subdivided into many individual fabrics. Group 3A fabrics are dominated by those with standard-sized grains (*c*0.2–0.6mm) of sand, although some are finer, especially in the later Roman period, and some are mixed with varying quantities of grog pellets. Group 3B fabrics are characterised by being more universally oxidised than those of 3A, with orange/brown surface and core colouring, but they are usually associated with the earlier Roman ceramic phases. The group 3C variants are distinguished by a coarser mix of sand grains (*c*0.4–1mm) and are generally oxidised at Thorpe Lea Nurseries, but not necessarily elsewhere. They, too, are typically found in earlier assemblages, most especially of the late 1st century, and are related to, it is thought, the even coarser ER3C and ER3Ccalc variants that are included with the prehistoric fabrics (see p124). Group 3D is very similar to 3B in its generally more oxidised character, but exclusively belongs to the later Roman pottery, and especially to large storage jars.

Many of the principal forms are abbreviated as follows, and references are made to the two principal type series of forms devised by Lyne & Jefferies (L&J) and Millett, both published in 1979.

BICJ biconical jar (L&J and Millett no close equivalents)
BRJ bead-rimmed jar (L&J Class 4; Millett Class 16)
BRSt bead-rimmed storage jar (L&J Class 4.1-6; Millett Class 16)
BUTBk butt beaker (L&J and Millett no close equivalents)
CNJ cordon-necked jar (L&J Class 1.1-23; Millet Classes 17 & 18)
ERJ everted-rimmed jar (L&J Class 3B; Millett Class 25)
ERSt everted-rimmed storage jar (L&J Class 9; Millett no close equivalent)
FIG7J 'Figure 7' jar (L&J Class 3A; Millett Classes 19 & 20)
GB-deriv 'Gallo-Belgic' derivative plate/shallow dish form (L&J class 6; Millett Class 1)
HRJ hook-rimmed jar (L&J Class 3C; Millett Class 26)
RRB reed-rimmed bowl (L&J Class 5E; Millett no close equivalent)
SB Surrey Bowl (L&J Class 5; Millett Class 5)

3A Grey/brown sandy fabrics of Alice Holt/Farnham Type
In the spectrum of Alice Holt/Farnham grey/brown sandy fabrics from the site, 6772 sherds are of these standard types (64.44kg), representing between 57 and 69% (W&C) of all Roman pottery (with the exception of native groups 1 and 2). Based on apparently unique rimsherds, up to 660 vessels are represented in the collection, of which *c*75% are of jar or beaker closed forms and *c*21% are of dish or bowl open forms. The remainder include platters, flagons, flasks, colanders and lids.

Jars and beakers
474 are represented, of which *c*25% are neckless and the rest have everted collars. Neckless jars were much more common in the earlier Roman ceramic phases, and later seem only to have been represented by storage jars. The earliest, with Late Iron Age antecedents, is the bead-rimmed form (BRJ), with 72 vessels representing *c*15% of all 'romanised' jars from the site. These were mostly made during the first 50 years of the occupation, but the form was made again in the Late Roman period for standard-sized jars (five examples) and large cable-rimmed storage jars (two examples) of L&J Class 10. The only other neckless form has a flanged rim instead of a bead, and looks like a figure '7' in section, hence the common naming of the FIG7J. They represent 8% of all jars (36 vessels) and are more common in 2nd and 3rd century assemblages, although they began being produced towards the end of the 1st century.

Jars with everted rims were common throughout the Roman period, and it can often be difficult to be precise about determining sub-forms from rimsherds. For example, by far the most common were cordon-necked jars (CNJs) and everted-rimmed jars (ERJs), each representing *c*30% of all jars (140 vessels of both), but although most late 1st and 2nd century CNJs had beaded or slightly flanged rim terminations, and although most later 2nd century and later Roman ERJs are plain at the neck or have a shoulder offset, some later Roman CNJs have simple everted rims, and some early ERJs had cordons at the neck. Jars with overhanging, 'cavetto' rim terminations represent a variant of the ERJ, of which 27 examples have plain necks, whereas five have cordoned necks. Another variant of the simple-rimmed ERJs are those with a 'hooked' rim termination (HRJs). This is the predominant sub-form of the Overwey-type coarse sandy tradition, but in 3A greyware it only represents 6% (27 vessels) of all jars. The form almost never has a neck cordon. There are also five examples of jars with rim flanges set with twin grooves (RRJ for reed-rimmed jar), which is also a cordon-necked variant.

Another sub-form of the everted types is the biconical jar (BICJ), with either a plain or beaded rim termination. Nine examples of this Early Roman type have been identified, although many examples are more beaker-sized than jars, with the criterion being that they could have been lifted with one hand around their maximum girth. The same, however, can be said for a minority of the BRJs, CNJs and FIG7Js, and others of these latter types at the other end of the spectrum were of storage jar proportions.

A completely different sub-form of jar, but which is also everted and has a cordon at the neck, is narrow-necked relative to the size of its body (NNJs). Some are of late 1st century date in Staines, of which one is represented at Thorpe Lea Nurseries, but several more (11 vessels) are of a Late Roman variant (L&J Class 1A).

Sherds of greyware jars are ubiquitous, as they are at all other local Roman sites, but, except for the earliest phases of the occupation, it remains uncertain how many of the different sub-forms had been in use at any one time. There is, instead, a rough division of those that are more likely to have belonged to the late 1st to late 2nd or early 3rd century and those of the later Roman period. Early BRJs, CNJs, and BICJs represent 48% (221 vessels) of all greyware jars, whereas most ERJs, HRJs, cavetto-types and late BRJs represent 43%.

With the exception of the smaller, hand-sized CNJs and BRJs, there are 21 other beakers that represent 3% of all 3A greyware vessels. Four are Early Roman butt-beakers (BUTBks), another early form is a single tripartite type with burnished decoration, and the remainder are globular beakers with everted rims, that represent the coarser-tempered examples of the poppy-headed form (see group 9A).

Flagons and flasks
Rim sherds from three examples of an Early Roman flagon form with a cordon halfway down its neck (L&J Class 8.1-3) are supplemented by many body sherds from similar vessels. There are, in addition, four rims of narrow aperture from later Roman flasks (L&J Class 1B).

Dishes, bowls and platters
146 of these open forms were identified from rimsherds, representing 21% of all greyware vessels. Dishes are shallower than bowls, but cannot always be differentiated as such, whereas the five platters were readily identified from their approximation to an original Gallo-Belgic form (L&J Class 6). There are 38 examples of the typical Early Roman 'Surrey' or 'Atrebatic' form of the district (L&J Class 5), representing 27% of all dishes and bowls, and another 12 are of various 2nd and 3rd century forms with simple, straight or slightly curving sides, and either clubbed, beaded, flanged or reeded rim terminations. Rather more are of the simple 'dog dish' form with a slightly curving body wall and a rounded rim ending, but the 16 examples include some that are of 2nd century date, and a few of the early 4th century. A later Roman variant, that predominates in the waterhole assemblages of the second half of the 4th century, has one or two grooves just below the rim (L&J Class 6A). Thirty-three examples have been identified, representing 23% of all bowls and dishes.

The remainder, with 36 examples representing 26% of all such open forms, is of the typical later Roman flanged bowl series or else its precursor types that are usually dated to the later 3rd and early 4th century. In essence, they are straight-sided flared bowls with a flange created below the rim termination. Eleven examples are of what is often called the incipient form of such bowls, with only a groove to differentiate the rim from the flange. What these most often resemble is a 'Surrey bowl' with a longer than usual rim ending. There are enough of such bowls from Staines and Thorpe Lea Nurseries assemblages of the later 2nd and 3rd centuries to presume their contemporaneity, and to suggest also that the incipient flanged bowls of Alice Holt/Farnham merely continued the evolution of the same basic form: a lid-seated bowl. Twenty-five examples of the developed types of flanged bowls represent 18% of all such forms, although the virtual absence of 'snub-nosed' types may be of chronological significance.

Other forms
Four rims and a complete profile of a colander were identified, with the former recognisable from their typical beaded shape (L&J Class 5C). In addition, seven rims of lids were identified from the angle of their body walls, and their typical 'hooked' rim ending.

3B Orange/brown variants
There are 169 sherds (2.4kg) of these, more oxidised, variants, and amongst them are 14 rimsherds, of which the most common are five from CNJ jars, followed by three ERJ jars and two SB bowls. The others include an ERSt storage jar, a FIG7J jar, a 5B bowl and a jar with an inturned rim; and up to three strainer/colanders are represented by body sherds.

3C Coarse orange/brown variants
Amongst the 139 sherds (3.14kg) are the rims of nine BRJ jars and BRSt storage jars, and five more with everted rims (ERSt). These are the same forms represented amongst the 68 sherds (1.0kg) of ER3C and ER3Ccalc. It remains unclear whether these, or the 3C types, had begun to be made prior to the Roman conquest, but what is apparent is that the storage jars, as well as, at least, some of the BRJ jars had been handmade.

3D Late Roman orange/brown variant
Nearly all of the 60 sherds (2.47kg) are from bead-rimmed storage jars of L&J Class 10, with cabled-rim decoration, perforations through the base of the beading and internal gouging of the body walls. A rim and several body sherds from these were recovered from general later Roman and unstratified contexts, but the best collection is from the important waterholes (see below).

GROUPS 4, 7B1 AND 8B/C VERULAMIUM/LONDON OXIDISED SANDY FABRICS
Only 126 sherds of the group 4 fabric were recovered from the site, and with the exception of a few that could be from bowls, most are from flagons of which the only rim form is multiply-ringed. It is most probable, however, that most, and perhaps all, of the 118 sherds of 8B and 8C sandy orangewares are from the same source areas, and almost all are white-slipped and also from flagons. The 19 sherds of 7B1 represent a complete monopoly of the Verulamium/London fabric in 1st and 2nd century assemblages.

GROUP 5 OVERWEY/TILFORD COARSE SANDY WARE
A full account of the 1004 sherds of these can be found in the descriptions of the Late Roman waterhole assemblages (below).

GROUP 6 BB1 BLACK BURNISHED WARE
There are only six rims amongst the 57 sherds (0.49kg) of this distinctive ware, and they include two simple bowls of Type 59, another with a beaded rim of Type 38, the everted rim of a small beaker of type 20.1c and two more of the jar type 12 (Holbrook & Bidwell 1991). Only two sherds were recovered from the three principal Late Roman waterholes.

GROUP 7A AMPHORAE
All but one sherd from the site are of 7A1 Dressel 20 types from southern Spain, with the exception being a body sherd of probable Catalan type. No rims are present amongst the 73 sherds (4.2kg) of 7A1, but there is a segment from a handle (context 464) and the stub of another (1008). The largest feature assemblage of *c*20 sherds (2.5kg) is probably from a single vessel (2065).

GROUP 7B MORTARIA
There are 82 sherds of these (4.69kg), and, excepting those from the Late Roman waterholes, which are mostly of 7B2-4 types (see below), there are 18 fragments from the rims of others in the collection. Eleven of these are of 7B1 Verulamium/London types of the late 1st and 2nd centuries, and rim sherds of their major replacement type, that of 7B2 Oxfordshire whiteware, number only three. There are also two rims of 7B3 Oxfordshire red colour-coated fabric and one of 7B4 Oxfordshire coarse red sandy with a white slip. One last rim fragment of note is from the upper part of a mortarium in the 7B5 Kentish fabric.

GROUP 8 ORANGE FINEWARE
The sandier variants of these, 8B and 8C, are discussed above with others thought to derive from the Verulamium/London Oxidised Sandy ware potteries. Most sherds, however, are of the finest type 8A, of which there are 233 sherds (2.06kg). Of special note amongst these are two sherds, both rims, from glazed vessels. One is from a beaker with a short everted rim (context 418), and the other is a flange from a probable bowl (from 1959). There are also 26 sherds from mica-slipped vessels, including 11 rim fragments. Three each are from reed-rimmed bowls, flange- rimmed dishes and simple 'dog bowls' of Marsh types 26, 35 and 24 respectively (1979), and there are also three from corrugated bowls, made in imitation of metal vessels, of Marsh type 44. The last is a copy of a Dr 27 campanulate cup (Marsh type 12). Most of the plain forms in 8A are from beakers with short everted rims, of which there are seven examples, and ring-necked flagons, with five examples represented by rim sherds, of which all but one is white-slipped.

GROUP 9A FINE GREY WARE
Amongst the 31 sherds (0.16kg) of this ware, almost all of the 11 rim sherds are from beakers, of which two have simple beaded terminations, and six others have the flaring collars of the 'poppy head' form. The last rim sherd is from a lid.

GROUP 9B FINE WHITE/BUFF FABRICS
Some of the earliest vessels recognised amongst the 25 sherds (0.13kg) are rouletted butt beakers, including a rim with the typical flattened interior of the Gallo-Belgic copies (from 1008). Few other forms seem to be present, but they include the beaded rim of a flagon (from 464), the base of a possible Gallo-Belgic copy of a platter (418), the everted rim of a beaker (543) and the beaded rim of a bowl (338).

GROUP 9C LONDON WARE AND ALLIED TYPES
Late 1st and early 2nd century London Ware is uncommon in the collection, and is represented by only 12 sherds. Amongst them are body sherds from closed forms such as a CNJ (418) and a body carination from a Dr 37 copy (2065).

10A1 SAMIAN
Most of the 48 sherds are of central Gaulish type, but with a few from Southern Gaul.

10B3 NENE VALLEY 'COLOUR-COATED' FINEWARE
Excepting those within the Late Roman waterholes, sherds of this fineware were otherwise rare and represented by only three sherds. They include the complete base of a bowl (1008), half the base of a beaker (2043) and a body sherd bearing part of an *en barbotine* scheme (2096).

Summary catalogue

Twenty-nine of the largest, or most exemplary, feature assemblages are summarised below, in which sherd counts include romanised and 'native'-type transitional fabrics but exclude those of more obviously residual material. Sherd counts and weights of the wares and fabrics of these and all other features are provided in tables 5.14 to 5.18. Full descriptions of all context and feature assemblages are to be found in the archive.

CERAMIC PHASE 1
Pit 156
Forty-one sherds; of which 13 are grog-tempered and all but one of the others are of 3A greyware. The grog-tempered component includes part of the internal half-rounded bevel of a platter, a cordoned body sherd and parts of two wheelthrown pedestalled bases. The greyware of Alice Holt/Farnham-type includes the flanged rim of a CNJ and other rim sherds from a biconical jar and from a butt beaker.

The highest of four spits with pottery (156A), contained part of the base of a rouletted beaker in 10A3 Oxford ware which is either intrusive or else had lain within a subsidence hollow above the original fills.

Ditch 322
Fifty sherds, including nine that are grog-tempered and 31 of 3A greyware. The former includes the rims of two BRJs, and the latter includes most of the profile of a CNJ (no 643) and sherds from several others, the rim of a BRJ, and the cordoned neck of a flagon (L&J Class 8.1). Amongst the other sherds is a Dr 18 rim sherd in South Gaulish samian ware.

Gully 472
Fifty-nine sherds, of which 18 that are grog-tempered include a BRJ rim. The greyware sherds include rims from a CNJ (no 337), an SB bowl (no 338), a GB-deriv platter (no 339) and two BRJs (nos 335–6). There is also a handle from a Verulamium region group 4 buff sandy flagon.

Midden sample 709
Ninety sherds, of which the five of 1A grog-tempered fabrics includes the everted rim of a storage jar. The 73 sherds of group 3A include 25 from one CNJ jar, but other vessels include a BRJ, two other CNJs, a SB bowl, a biconical jar, and the neck of a flagon. Other sherds of note include the rim of a butt beaker in 8C orangeware, and a 12g sherd of the wheelthrown grog-tempered fabric 1C which is more usually found in later 2nd and 3rd century assemblages. It could be intrusive.

Pit 1646
Twenty-eight sherds, including three of grog-tempered fabrics and one from a southern Spanish amphora. The others are of 3A greyware, including the rims of two BRJs and three CNJ jars.

Ditch 1710
Thirty-eight sherds, of which three of grog-tempered ware includes the rim of a BRJ. The greyware includes the rim of a CNJ and the neck of another. Amongst the fine orangeware are a rimsherd from a ring-necked flagon and the lower handle spring of another, both with external white slip; and the rim of a globular beaker.

CERAMIC PHASE 2
Ditch 308
Forty-eight sherds, including 17 of 1A grog-tempered fabrics. Amongst the 3A greyware are sherds from BRJ jars, FIG7J jars, a probable CNJ jar, and lattice burnished fragments from 2nd century jar types. In addition, there is a reeded rim sherd from a mica-slipped bowl in 8A fabric, a rim sherd from a group 4 Verulamium region ware lid, two scraps of amphorae, one other of Central Gaulish samian, and a fine whiteware sherd of group 9B.

Ditch 464
153 sherds, of which eight are of grog-tempered fabrics including the rim of a BRJ. Greyware includes rims from six CNJs (nos 368–73), a BRJ (no 367), a biconical jar (no 377) and a sherd from another, two bowls with undercut beaded rims (nos 375 and 376), and a heavily flanged bowl or jar (no 374). One of the bowls has burnishing in banded lines around the body, like a similar range of mid–late 2nd century greyware from nearby Staines. Other sherds of note include a large fragment that includes the spout of a mica-slipped *patera* (no 381), and another mica-slipped sherd with part of a raised cordon (no 380), both of group 8A; the rim of a ring-necked flagon in fine whiteware (no 378), a rim fragment of a Verulamium region mortarium (not illustrated); a segment from the handle of a South Spanish amphora; part of a poppy beaker (no 379); and a roughcast sherd from a fine grey beaker with a dull black slip.

Pit 553
Seventy-four sherds, of which six are of grog-tempered fabrics including the rim of a BRJ. The greyware includes the rims of two CNJs, a large part of the shoulder of a cordon-necked flagon (L&J Class 8.1) and two body sherds bearing combed latticework. The excavator prefers an earlier date of phase 4A for the feature as the later sherds were in the final fill.

Ditch 599
300 sherds, mostly of early–mid 2nd century types of CP2, but with some earlier. Group 3A sherds including the rims of two BRJs (nos 340/1), 11 CNJ and related jars (nos 342–53), an ERJ jar (no 354), a biconical jar (no 355), a lid (no 356), a bowl with a flanged rim and shallow grooves on its girth (no 357), and a cordon-necked flagon (no 358). Most of the 17 grog-tempered sherds are from storage jars. Other vessels include a BB1 jar (no 359), an Oxford white mortarium (no 360), several fine greyware poppy-head beakers (including nos 361 and 363), a reed-rimmed and mica-slipped bowl (no 365) and a globular beaker with lid-seated rim (no 362), both in fine orangeware; and a bead-rimmed bowl in a sandier orangeware. A large fragment from an Early Roman samian Dr 15/17 dish might represent an heirloom or redeposited sherd (no 366). On the other hand the Oxford mortarium seems worryingly early, and might, instead, be from a Verulamium region source.

Ditch 2065
Eighty-three sherds, including seven of grog-tempered fabrics. Greyware includes rim sherds from a CNJ and of another jar with an everted rim, and the lower spring of a cordon-necked flagon. Other featured sherds include rim fragments of two or more 7B1 mortaria, a large bead-rimmed beaker (no 653) and the rim of a mica-slipped corrugated bowl, both in orangeware 8A; joining sherds of another mica-slipped corrugated bowl in 8B fabric; the everted rim of a bowl and a carinated sherd in London Ware; and the rim of a samian Dr 18/31 bowl.

CERAMIC PHASE 3
Pit/Midden 338
122 sherds, forming a reasonably consistent assemblage of later 2nd century date. Group 3A greyware includes rim sherds from nine CNJs and the necks of six others, a FIG7J rim and the body sherd of another with a slashed offset on the shoulder, three rims of other jars, and the rim of a devolved SB with vestigial lid-seating and no external cordon. A few sherds of group 3B includes another CNJ rim, and rather more sherds of 3C include many from a BRJ storage jar and the rim of another. Other featured sherds include the rim of a jar in the rare 1C fabric, the base of a small group 4 Verulamium region flagon, a bead-rimmed upright bowl in a fine cream fabric of group 9B, and a rim sherd from a Dr 18/31 bowl in a Central Gaulish samian fabric.

Gully 527
Fifty-nine sherds, including three of grog-tempered fabrics. The greyware includes the rims of two BRJs, a CNJ, and an ERJ jar; as well as the neck of a cordon-necked flagon with burnished decoration of opposing diagonal lines. Other featured sherds include the rim of a simple mica-slipped 'dog-dish' bowl in 8A fineware, a group 9B sherd with part of an en barbotine dotted panel, and a sherd from a group 9C London Ware closed form with a cordon and burnished wavy line.

CERAMIC PHASE 4
Waterhole 1948
Twenty-eight sherds, mostly of 3rd century types, but with some earlier material. Greyware includes an almost complete 'Great Mavins-type' CNJ (L&J Class 1.31) with mid girth grooves (no 382), and rimsherds of a poppy head beaker (no 385), an SB bowl (no 383), a bowl with a long lid-seated flange (no 384), and an ERJ jar (no 387). Other sherds of greyware include three with cross-hatched burnished lines, and another with a panel of such decoration. Other vessels include an everted-rimmed jar in BB1 ware (no 386), and a bead-rimmed bowl in group 1C ware (no 388). There are also two rimsherds from samian Dr 18/31 bowls (not illustrated).

CERAMIC PHASE 6
Hollow 310
130 sherds; including some later Roman types, but with much that is earlier; possibly of the late 3rd or early 4th century. Amongst the greyware, earlier types include rims of CNJs, BRJs, and SB bowls, but later material includes the rim of an ERJ jar (L&J Class 3B) and two from flanged bowls (L&J Class 5B). Of only two sherds of Overwey, one is the squared rim of a jar; and three sherds of the rare 1C fabric includes the rim of a jar with an undercut flange (no 647). Group 3B vessels include a BRJ, a CNJ, and the rim of a curious globular vessel with an inturned rim, another sherd of which was in hollow 534 (no 655). Amongst the 10A3 Oxford ware is a rouletted and beaded rim sherd of a Young's type C55 or C68 bowl, and four sherds of south Midlands shelly ware includes the rim of a bowl and rilled sherds from jars.

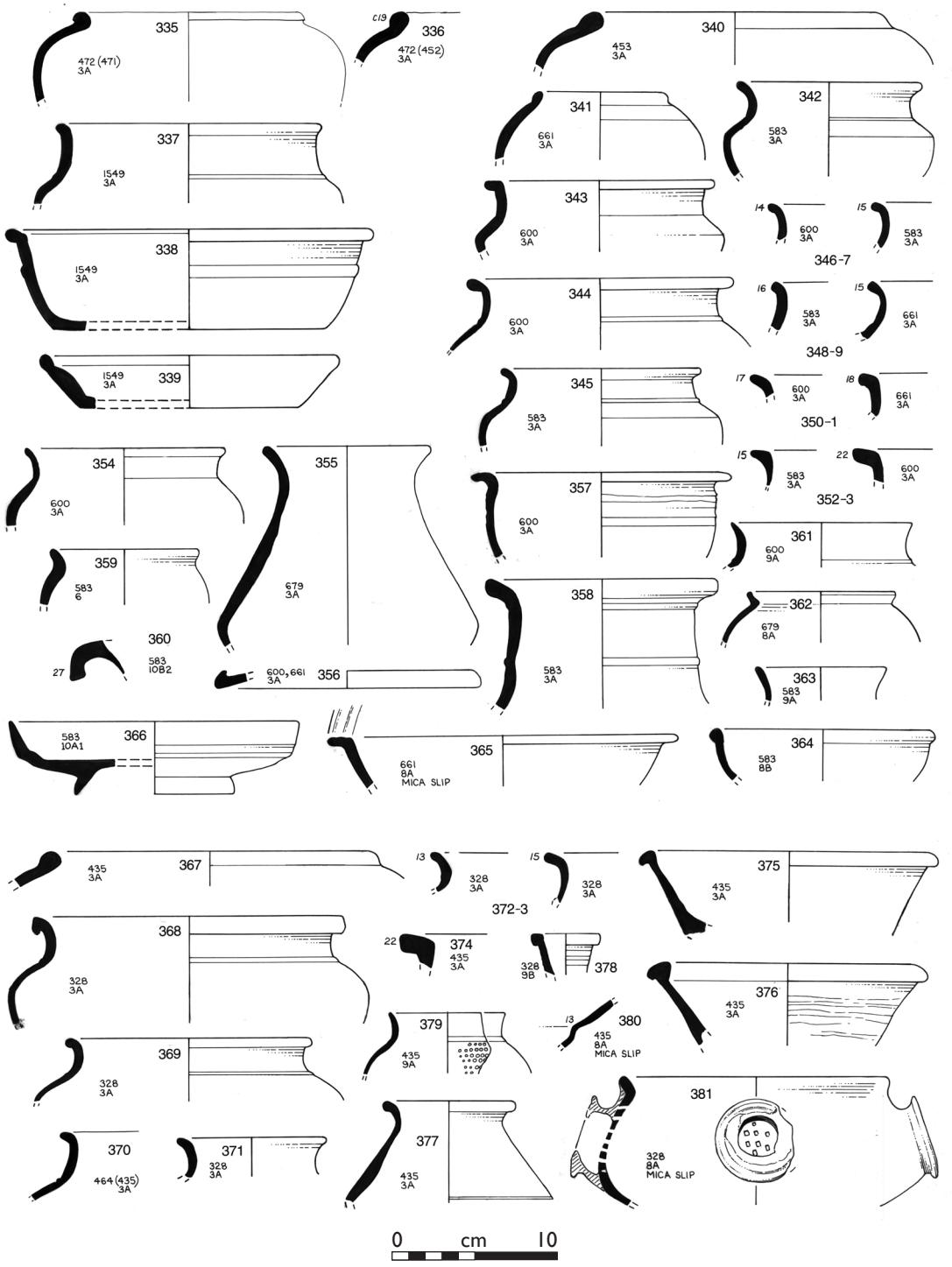

Fig 5.42 Thorpe Lea Nurseries: Roman pottery from gully 472 (nos 335-9), ditch 599 (nos 340–66), and ditch 464 (nos 367–81). Scale 1:4

Pit 682

167 sherds of later Roman pottery, distinguished by an absence of late 4th century forms and fabrics. The group is the only significant feature assemblage of late 3rd or early 4th century pottery from the site. 81% is of group 3A greyware including the rims of three ERJ jars (nos 402, 405 and 407); seven similar, but with cavetto undercutting and, occasionally, cordon necks, more like jars of L&J Class 1.26 (nos 400, 401, 411 and 412); a reeded flange-rimmed jar (no 403); a jar with an everted and bead-terminated rim (no 408) and another with a hooked rim (no 409); and two flanged rims of jars or bowls (nos 406 and 410). There are more important differences in later 4th century assemblages with regard to the bowls and dishes, than in most of the jars. Amongst some simple 'dog-dishes' none are externally grooved like those made towards the end of Roman production (nos 413, 414 and 421), and the flanged bowls have 'incipient' flanges, or else long flanges and only a little lid-seating uppermost projection, much like earlier Surrey bowls (nos 415–6). Neither are full-blown L&J Class 5B bowls. Body sherds in greyware include two with lattices of burnished lines, and two from so-called 'beehive' jars with perforations and internal grooves. Amongst the eight sherds of south Midlands shelly ware are the rims of three jars including two that are simply everted and the last with a 'hooked' termination. Other featured sherds include the everted rim of a BB1 jar (no 419); two sherds of 10B5 whiteware, including the hooked rim of a jar (no 420); the rim of a samian Dr 18/31 bowl (not illustrated); two thick and internally gouged sherds from 'beehive' jars in group 3D; and a footring base of 10A3 Oxford ware. Of note is the complete absence of Overwey material.

Ditch 1191
204 sherds, mostly of later Roman types, but with some earlier material. 90% is of group 3A, including the rims of three BRJs and two CNJs that are probably residual. Other greyware includes the rims of a bowl with an external groove (L&J Class 6A), two flanged bowls (L&J Class 5B), two large reed-rimmed jars, a poppy head beaker, and a lid; and there are three body sherds with hatched combing. Other sherds of note include the everted rim of a jar in shelly ware, the rims of a storage jar and of a large FIG7J jar in group 3C; part of the rim of a 7B1 mortarium; the rims of a flask and of a jar in group 8B; the rim of a samian Dr 18/31 bowl, and a worn decorated sherd of the same ware grouping; and two sherds of 10A3 Oxford ware including a footring sherd of a miniature Dr 38 copy, ie a Young's type C109. Of interest is the absence of Oxford mortaria sherds, and the presence of only one sherd of Overwey-type ware. The date is 4th century, possibly the first half.

Layer 1981
Twenty-seven sherds; probably of later 3rd century date. Group 3A greyware includes the cavetto rim of a large cordon-necked jar (no 398), and the rims of two ERJ jars (nos 396 and 397). Other featured sherds include a simple upright bowl in orangeware (no 399), and most of a rouletted pentice beaker in 10A3 Oxford ware. No Overwey sherds are included.

Pit 1878
Eighty-three sherds; mostly of later Roman types, but with some earlier material. Greyware includes the rims of a FIG7J jar and of a bead-rimmed bowl, and a curiously carinated sherd from a storage jar with burnished decoration. A larger FIG7J jar is represented by a rimsherd in group 3D fabric, and there is a large triangular rim in the same fabric from a storage jar (similar to L&J Class 4.41). Other sherds of note include a rim fragment from a hook-rimmed jar that is the only sherd of Overwey-type ware in the assemblage; and the beaded rimsherd from a bowl of Young's type C81 in 10A3 Oxford ware. Fourth century; possibly of the first half, and of CP6.

CERAMIC PHASE 6/7
Ditch 330
106 sherds of a mixture of Early and Later Roman types. The latter includes a sherd of Overwey fabric, and an ERJ jar in group 3 greyware. The assemblage seems to be of 4th century date (CP6-7), but the excavator prefers an earlier date (phase 4B) and regards the later material as intrusive.

Pit 307
111 sherds; a mixture of 2nd century and later material such as a rim sherd from a typical group 5 rilled jar (context 419), and an L&J Class 6A bowl with external groove (context 716). Except for these, the assemblage is mostly of later 2nd or 3rd century types of CP4 with some even earlier material.

Midden 350
266 sherds; mostly of 2nd century types but with some of 4th century date. Group 3A material includes rims of residual BRJs, CNJs and FIG7J jars; and later types include four ERJ jars, and a flanged bowl (L&J Class 5B). The 3B sherds are also a mixture, and include a flanged rim of a CNJ, an early ERJ jar with a flange (similar to L&J Class 3B.6) as well as the rim of a later one. There are also rimsherds from two BRJ storage jars in group 3C fabric. Other featured sherds include the rims of a Verulamium region group 4 reed-rimmed bowl (London Class 4A7) and of a small neckless jar; the drooping flange of a mortarium from the same source area; the flanged rim of a bowl, the plain rim of another (London Class 4A), both in a mica-slipped 8A fabric; part of a lid in fine greyware; and the rim of a samian Dr 36 or Curle 11 bowl as well as part of a Dr 38 bowl, both in Central Gaulish fabric.

Ditch 367
317 sherds; mostly of 2nd century types but with some later. All identified later material was from context '367 surface' or the upper 'A' spit assemblages of the ditch samples. Later vessels represented in higher fills include four ERJ jars, a simple bowl (L&J Class 6A) and a flanged bowl (L&J Class 5B) in greyware; and a hook-rimmed jar in Overwey-type ware. There might have been a subsidence hollow that developed over earlier infills. Other greyware from these include the rims of seven CNJs, a BRJ, a FIG7J jar, two biconical jars and a biconical beaker, and four SB bowls. In addition there is the rim of a CNJ and the base of a colander in group 3B; fragments of a flagon handle and neck in orange 8B; the rim of a ring-necked flagon and a handle of another in Verulamium region group 4; several sherds from poppy-head beakers in group 9A fineware; part of a flanged bowl and the rim of a mica-slipped corrugated bowl in group 8A; and two rim sherds from samian Dr 18/31 bowls in Central Gaulish fabric. The primary fills are probably of early–mid 2nd century date.

Ditch 1008
692 sherds of a mixed assemblage of later Roman sherds of CP 6-7, and some earlier material. 76% is of greyware, including the residual rimsherds of five BRJs, three SB bowls, a platter, four CNJs and two FIG7J jars. Fourth century material of group 3A includes the rims of 18 ERJ jars, four similar with cavetto rims, seven with hooked rims including two complete profiles, two cable-rimmed 'beehive' jars, two neckless flanged rims from strainers (L&J Class 5C), four plain bowls (L&J Class 6), two others with external grooves, two bowls with long flanged rims, and three that are more typical of the common later Roman type (L&J Class 5B). Other greyware sherds of note include two with linear burnished latticework, three with combed latticework, and one with burnished wavy lines.

Other featured sherds include the rim of a simple upright bowl with external lattice in BB1 ware; part of a Colchester-type roughcast and indented beaker; part of a 10B4 Oxford mortarium; a complete base plate of a 10B3 Nene Valley bowl; part of a 7B3 Oxford mortarium of Young's type C97; and various 10A3 Oxford types, including part of a Young's type C51 bowl, a C52 bowl with painted decoration, and the base of a beaker.

CERAMIC PHASE 7
Pit 319
Fifty-nine sherds of Late Roman types; probably late 4th century of CP7. Few earlier sherds seem to be present. Group 3A greyware includes rim sherds from two flanged bowls (L&J Class 5B), a bead-rimmed colander (L&J Class 5C3), two everted-rimmed beakers, a hook-rimmed jar (L&J Class 3C), an ERJ jar, and a probable CNJ jar. A few body sherds are also lattice burnished. Amongst the Overwey material is the pierced base of a colander (L&J Class 5); and sherds of Oxford 10A3 ware include the rim of a Young's type C49 shallow bowl, the rim of a C8 flagon, and two footring bases, the smaller of which has a central perforation drilled since fired.

Ditch 321
143 sherds; mostly of Late Roman types, with a few that could be earlier; probably late 4th century of CP7. Group 3A greyware includes rimsherds of a BRJ, two CNJs including one with a cavetto termination, two narrow-necked jars (L&J Class 1A), four ERJ jars, and two from simple bowls with an external groove (L&J Class 6A). Amongst group 3B material is the rim of an SB bowl, and there is also the everted rim of a jar in BB1 ware.

Pit 563
Thirty-eight sherds of later Roman types and probably of late 4th century date of CP7. Greyware includes the profile of a simple bowl with external groove (L&J Class 6A) (no 391), and the flanged rim of a dish in the rare group 1C (no 392); and Overwey material includes the rim of a hooked jar (no 393). In addition, there is the rim of a Young's type WC72 mortarium in Oxford redware (no 390); and a complete mortarium of Young's type M22 in Oxford white fabric (no 389). The feature also contained part of a fine Oxford whiteware bowl with the remnants of red slip decoration (no 394), and a sherd of Middle to Late Roman shelly ware.

Ditch 1072
170 sherds, mostly of later Roman types of CP7, but including some earlier material. The greyware includes the rims of three ERJ jars, one of which extends to a mid girth panel of burnished latticework. Other featured sherds include the hooked rim of a jar in Overwey fabric, part of a Young's type C75 necked and rouletted bowl in 10A3 Oxford ware, the worn rim of a samian Dr 15/17 bowl, and the rim of a beaker in fine greyware.

Pit 1959
Fifty-five sherds of later Roman types. Most are of greyware, including the rims of a reed-rimmed jar, two ERJ jars and two variants with cavetto terminations, and the flanged rim of a bowl. Of three Overwey-type sherds, one is from the rim of a hooked rimmed jar. Probably later 4th century, and of CP7.

MISCELLANEOUS VESSELS (fig 5.50 nos 643–59)
643 CNJ in wheelthrown greyware, from an Early Roman feature.
644 FIG7J jar in greyware from a 2nd century pit, probably the second half and of CP3. The form is of L&J Class 3A and approximates to that of Millett Type 19, but both sources are vague about the development of sub-styles of this long-lived form.

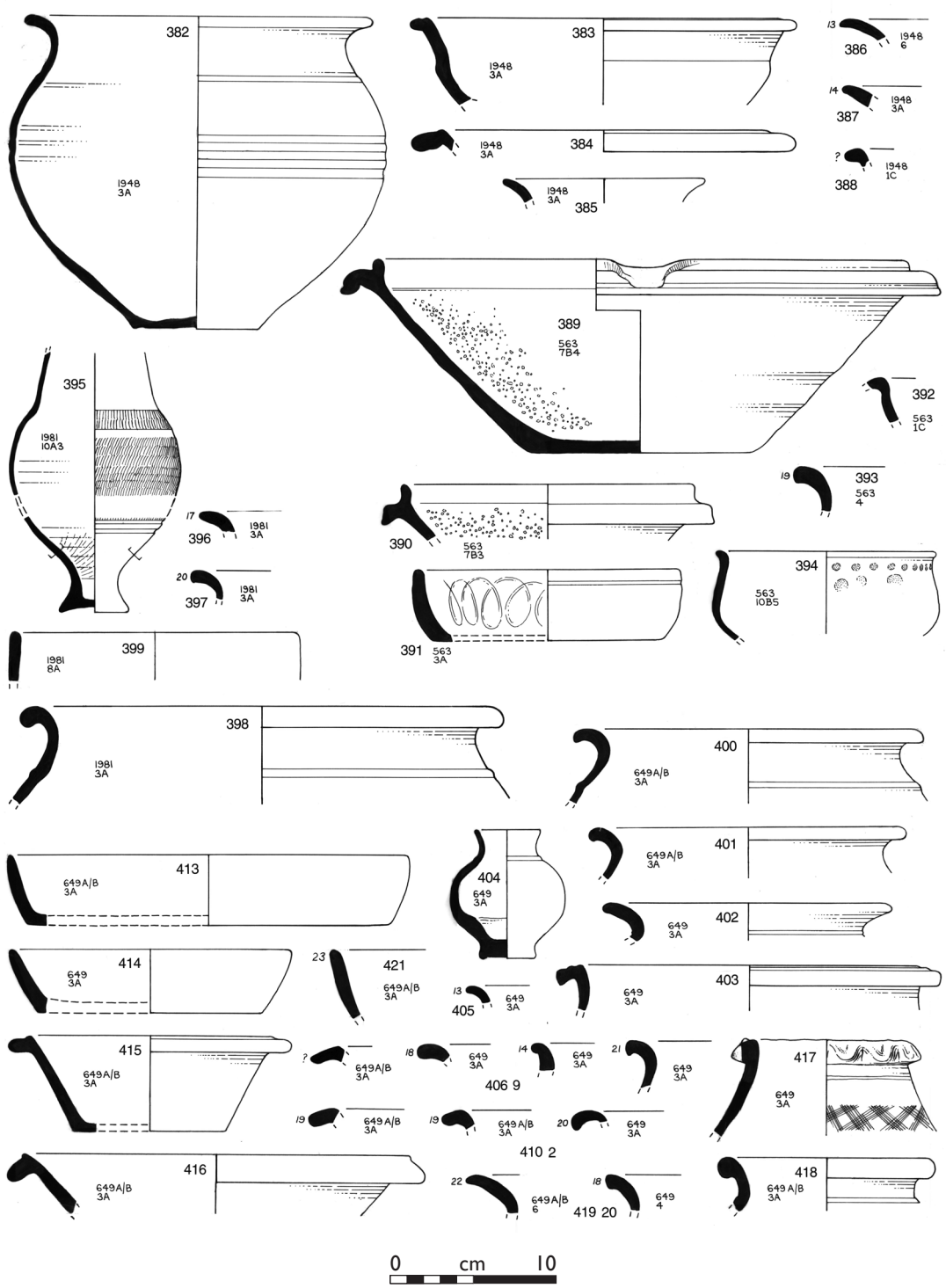

Fig 5.43 Thorpe Lea Nurseries: Roman pottery from waterhole 1948 (nos 382–8), pit 563 (nos 389–94), layer 1981 (nos 395–9), and pit 682 (nos 400–21). Scale 1:4

645 Hook-rimmed jar from the large 4th century assemblage of ditch 1008. A close match of Millet Type 26, and with the earlier examples of L&J Class 3C. Both sources agree on its 3rd and 4th century currency, although Millett dates the earliest examples to the late 2nd century.

646 ERJ jar in greyware, from mid–late 4th century pit 1959. The burnished lattice in the mid girth panel is approximately at right angles. L&J Class 3B and Millett Type 23, of the period from the second half of the 2nd century to the 4th.

647 & 648 Everted and undercut rims of two wheelthrown jars in the uncommon grey coarseware fabric 1C that has buff to white grog inclusions. The first is from late 3rd to mid 4th century hollow 310, and has an offset on the shoulder. The other is from an unstratified context and has a notched neck cordon. Their general form relates to the FIG7J jars of the sandy coarsewares, but these were probably not made at Alice Holt/Farnham.

649 Colander in greyware from the 4th century assemblage of ditch 1008. Both Millett and L&J call these strainers, even though the holes are relatively large. Strainers are for keeping liquids and discarding solids, whereas colanders are for retaining solids and discarding liquids. Most Late Roman colanders from the site have thickly beaded rims (see nos 518, 564 and 565, for example) like those of L&J Class 5C2-4, but examples like no 649 with a flanged rim (similar to L&J Class 5C1; Millett Type 15: the second one shown) need not necessarily have been earlier.

650 Tall tripartite beaker in greyware, with a long neck that has two cordons delineating a zone of burnished decoration, the start of another cordon or the eversion of a rim at the top, and a groove at the top of the shoulder. This is a rare Alice Holt/Farnham form even in the large collections of Early Roman material from Staines. Found in late 1st century spit 712.

651 Beaker with a corrugated body in fine orangeware, from an unstratified context. There are no traces of a slip.

652 Globular beaker with everted rim, groove on the shoulder, and an external patchy yellow glaze. Glazed fineware is rare in 2nd century Staines assemblages although several examples are known. This is the only Roman glazed sherd from the site but is from an unstratified context.

653 Large beaker in fine orangeware, from early–mid 2nd century ditch 2065.

654 Small lid in orange sandy Verulamium region ware (group 4), from mid–late 2nd century hollow 1751.

655 Large globular jar with a steeply inturned rim, in 3B brown sandy ware, and with an external burnished surface. Two joining sherds were found in late 3rd to 4th century hollow 310, and from the less well dated Roman pit 653.

656 Butt beaker in slightly sandy orangeware, from Early Roman spit 709.

657 Flanged bowl from 4th century pit 2071, in Oxford red-slipped redware 10A3.

658 Globular beaker with everted rim and an offset on the shoulder, in a slightly sandy orangeware. From late 2nd or early 3rd century gully 1988.

659 Bowl of Young's type C77**,** with worn white painted decoration, rouletting, and a rivet hole at the neck; from 4th century gully 445.

Three Late Roman waterholes (figs 5.43–5.49)

The collections from waterholes 1971, 2090 and 2127 include 28 and 31% (C&W) of all Roman pottery from the site, and their composition and similarities suggest a broadly similar period of deposition, even though the infilling of 2127 must have been later than the digging of 2090. There is, at least, one cross-match between 1971 and 2090, which might suggest contemporaneity (no 475), and there may be others. Comparisons with assemblages from London and elsewhere suggest that all three were filled during the late 4th century. The absence of so-called 'sub-Roman' forms and fabrics might preclude any later dating, and there are remarkably few sherds of pottery from the earlier Roman occupation on the site.

A unique aspect of these assemblages is the relative abundance of Overwey-type coarse sandy ware, especially in 1971 and 2090. Apart from the standard greywares, few other coarsewares are represented in the three assemblages.

Tableware and mortaria are predominantly from the Oxford region, with only a few bowls and beakers of Nene Valley types and very little else.

Because of their size and importance the three assemblages are fully described and illustrated, and their quantification is provided in table 5.18. In the descriptions, quantities are provided in percentages for EVEs followed by percentages of the minimum number of vessels represented by rims (MNVs).

LATER ROMAN ALICE HOLT/FARNHAM GREYWARE

In London, greyware sherds are seemingly only classified as such if 'silvery', ie with a silver-grey slip (Symonds and Tomber 1991, 94). At Thorpe Lea Nurseries and elsewhere in Surrey, however, the category is broader, since, not all of such greyware, or even individual vessels, are slipped, and other greywares, including so-called BB2 types, were also produced in the Surrey/Hampshire border district. It is possible, therefore, that some, at least, of the 9% of Black-Burnished styles BB2 and BBS from the late 4th century Billingsgate Bath House assemblage might have been from this source area (ibid, 91). The colour of the slip was, in any case, largely determined by the kiln conditions during cooling. A final oxidation made a silvery grey or milky slip, whereas a sealing of the flues reduced the same slip to a dark grey colour. It ought to be remembered that very little is yet known about the range of production in the border district of west Surrey and north-east Hampshire, and that there has been a hiatus in published research since the end of the 1970s (Lyne and Jefferies 1979; Millett 1979).

Most sherds of greyware in all three assemblages are from jars: 53/52% in 1971, 56/48% in 2090 and 68/74% in 2127 (C&W), with lesser quantities of bowls: 28/37% in 1971, 31/33% in 2090 and 15/17% in 2127. There are few examples of other forms such as flagons, flasks, beakers, miniature vessels and colanders.

Table 5.18 Thorpe Lea Nurseries: count, weight, EVEs and minimum number of vessels in three Late Roman waterholes

		2A SHELL	3 SAND		5 OVERWEY	6 BB1	7A AMPH	7B MORTARIA				8 ORANGE	9 FINE		10A REDWARE		10B CREAM	
			A	D			1	1	2	3	4	A	A	B	1	3	3	**TOTALS**
COUNT	1971	5	520	15	376	1	-	-	3	-	7		-	1	1	52	10	998
	2090	16	525	2	251	-	-	-	-	4	14	5	-	-	1	46	4	868
	2127	4	554	-	157	1	3	1	1	1	6	12	1	-	1	31	9	782
	TOTALS	25	1599	17	784	2	3	1	4	5	27	24	1	1	3	129	23	2648
WEIGHT	1971	57	7564	682	5849	8	-	-	131	-	177	27	-	2	44	1120	220	15881
	2090	83	5578	50	2087	-	-	-	-	69	565	21	-	-	1	999	34	9487
	2127	9	4903	-	1212	14	50	21	16	12	282	140	5	-	1	436	61	7162
	TOTALS	149	18045	732	9148	22	50	21	147	81	1024	188	5	2	46	2555	315	32530
EVES	1971	10	625	14	740	-	-	-	7	-	27	8	-	-	-	171	69	1671
	2090	15	237	-	255	-	-	-	-	-	26	-	-	-	-	24	11	568
	2127	-	804	-	176	9	-	-	-	4	44	175	8	-	-	73	11	1304
	TOTALS	25	1666	14	1171	9	-	-	7	4	97	183	8	-	-	268	91	3543
NO OF VESSELS	1971	1	44	3	40	1	-	-	1	-	3	2	-	-	1	14	2	112
	2090	1	21	1	24	-	-	-	-	1	2	-	-	-	1	7	1	59
	2127	1	41	-	9	1	1	-	1	1	2	5	1	-	1	10	2	76
	TOTALS	3	106	4	73	2	1	-	2	2	7	7	1	-	3	31	5	247

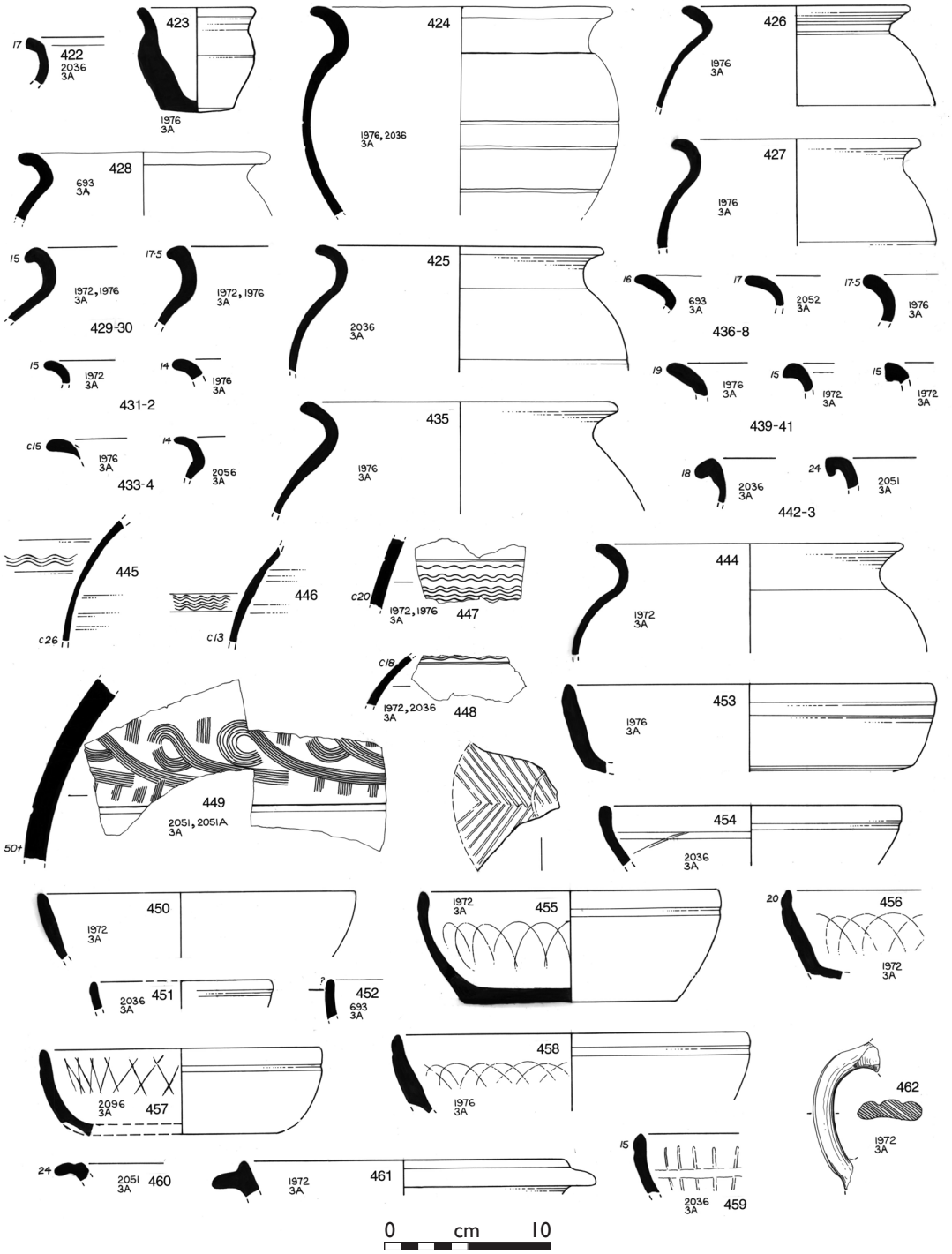

Fig 5.44 Thorpe Lea Nurseries: Roman pottery from waterhole 1971. Group 3A grey sandy wares (continued fig 5.45). Scale 1: 4

The overwhelming majority of jars are of the everted-rimmed type, as in London (Symonds and Tomber 1991, 97), and the border district, where it broadly conforms with L&J Class 3B and Millet Type 23. At least 14 are represented in 1971 (nos 424–27 and 431–9), six in 2090 (nos 528, 531–4 and 536) and 14 in 2127 (nos 573, 575–85 and 587–8); but there are others with rim variations, such as those with cavetto (nos 429 and 442–3; 530; 589–90 and 592), beaded (nos 428 and 430; 529 and 535; and 574), and hooked terminations (nos 440/41; and 586). Some have an offset at the neck (eg nos 424, 425, 444, 573 and 583–5), and the only example with a cordon at the top of the shoulder as well as a cavetto rim (no 589 from 2127) may be a different form corresponding with Millett Type 24 (ibid, 127) or L&J's later type of cordon-necked jars. With rimsherds it can be difficult to distinguish their type 3B from these (L&J 1979, figs 22 and 28), but there is a noticeable rarity of other cordoned sherds in all three assemblages.

One jar rim from 1971 is, almost certainly, a residual sherd from an earlier Roman cordon-necked jar (no 422); but one jar each from 2090 and 2127 represent a Late Roman version of this neckless bead-rimmed jar tradition (nos 537 and 599). A slightly earlier date might apply for the only reed-rimmed large jar, which came from 2127 (no 600). This last is similar to Millett Type 32 and L&J Class 1.34, and both sources claim its hiatus by the middle of the 4th century.

A type of Later Roman jar not represented in 1971 or 2090 has a narrow neck, a heavy clubbed rim grooved along its top, and a neck cordon. The cordon is frequently decorated, as also the shoulder (Millett type 30; L&J Class 1A.14 and 15). Five rimsherds came from 2127 (nos 593–4, 596–8) and one is long enough to include an incised neck cordon. Some decorated sherds from 1971 (nos 445–7) and a few combed and cross-hatched body sherds from all three features are from these or similar jars.

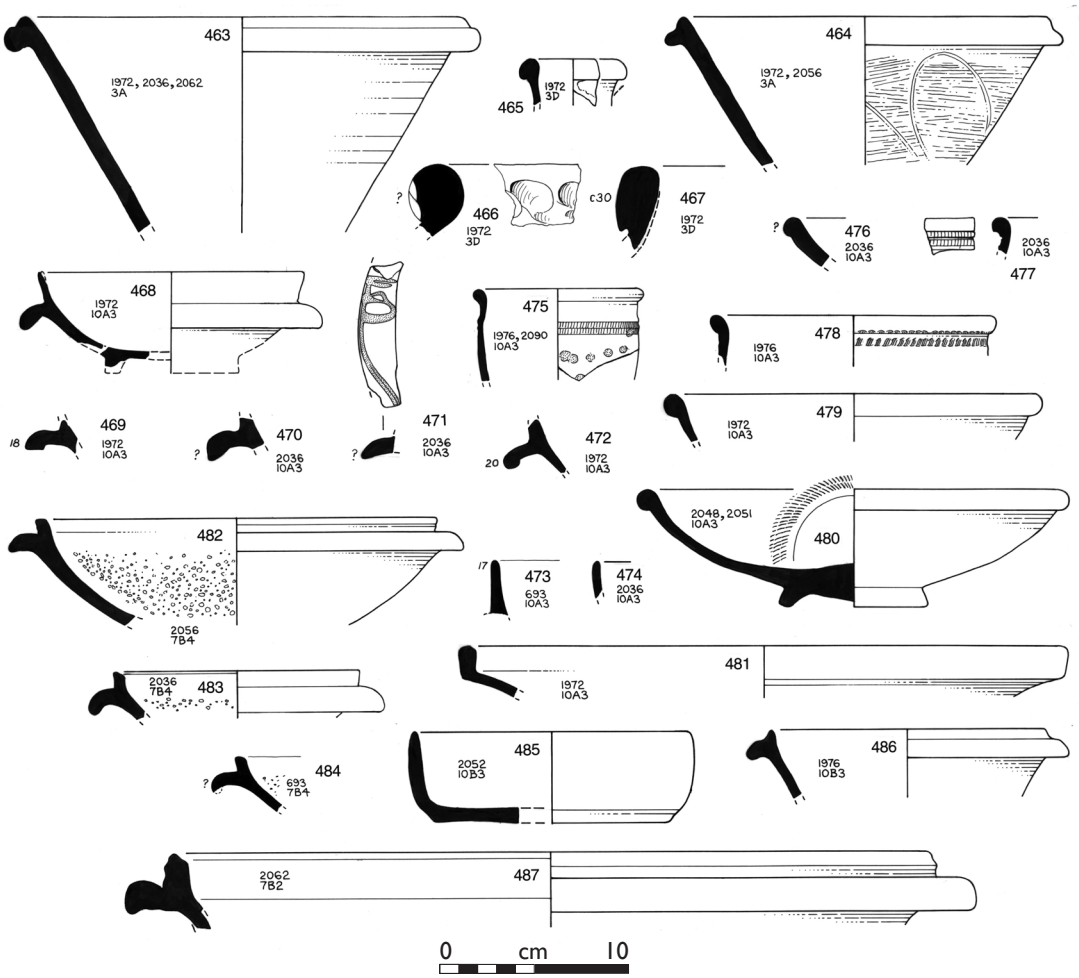

Fig 5.45 Thorpe Lea Nurseries: Roman pottery from waterhole 1971 (continued from fig 5.44). Group 3 grey sandy wares (nos 463–7), Groups 782, 784, and 10A3 Oxford wares (nos 468–84 and 487), and Group 10B3 Nene Valley ware (nos 485 and 486) (continued fig 5.46). Scale 1:4

The most common form of dish has straight or slightly curving sides and an external groove, or grooves, just below the rim edge. The rims of eight were recovered from 1971 (nos 451 and 453–9), four from 2090 (nos 538–41), and eight from 2127 (nos 603–10). Twelve display burnished decoration over both inner walls and bases that are either cross-hatched (nos 457, 603 and 605–7), crossing arcs or 'loop the loop' lines (nos 455, 456, 458, 538 and 541), vertical lines (no 459), or herringbone patterns (no 455). Many smaller rimsherds may be from decorated bowls, but at least two large examples of the type were clearly not decorated at all (nos 453 and 604). Most of these dishes had a diameter of between 15 and 19cm. They correspond with Millett types 7 and 8 and L&J Class 6A.5-10, but, remarkably, neither of those sources describes internal decoration.

Much less common dish and bowl forms include simple straight-sided types found in all three features (nos 450, 542 and 611), as also the ubiquitous Late Roman flanged bowl type (nos 461, 463–4, 543 and 612). A supposedly early variant of the latter, with virtually no top beading was found in 1971 (no 460) (L&J Class 5B.1).

Other vessels in greyware include several flagons, handles of which came from 1971 and 2090 (nos 462, 544 and 545), and rimsherds of two varieties from 2127 (nos 602 and 613). There are also two flasks from 2090 and 2127 (nos 546 and 595); and part of the rim of a beaker from 1971 (not illustrated), and the rims of two others from 2127 (nos 591 and 601). In addition there is a miniature pot from 1971 (no 423), part of a colander from 1971, and from the same feature came a thick internally-gouged sherd from a 'beehive' storage jar (both not illustrated).

OVERWEY-TYPE WARE

This term is used here to describe the buff to pale grey coarse sandy ware elsewhere classified as Portchester D (Fulford 1975; Symonds and Tomber 1991) or Surrey Buff ware (Lyne & Jefferies 1979), and which was made in the same Surrey/Hampshire border district as the more ubiquitous Alice Holt/Farnham greywares of the later Roman period (Clark 1950). In Surrey fewer quantities of darker grey sherds share the same range of vessel forms, forming techniques, texture, temper and fabric. There is negligible use of burnish as a finish, and bases were cut from the wheel-head with a wire. Although the latter technique is not unknown on some Alice Holt/Farnham greywares of this period, in the production of Overwey-type vessels it was standard practice.

The ware represents 44/36% of all pottery in 1971, and 45/41% in 2090, but drops to 13/13% in 2127 (EVEs and MNVs). Such proportions suggest that Overwey has about an equal share as the group 3 greyware in the 1090 assemblage, but this is misleading. There are twice as many sherds of 3A as there are of Overwey, and they weigh twice as much. There is still a significant drop in the quantity of Overwey in 2127, however, and an absence of forms other than the ubiquitous rilled jar.

In all, 1008 sherds (11.9kg) of Overwey-type ware were found on-site, representing nearly 11% of all Roman pottery. 77% of them, however, were from the three large waterhole assemblages, and it is that corpus which forms the basis of the following descriptions of the type series.

Jars

This is the most common form, representing 77, 50 and 100% of Overwey vessels in the 1971, 2090 and 2127 assemblages respectively. The most common rim form is 'hooked' (see nos 494–7, 499–503, 506–9, 511–14, 516,

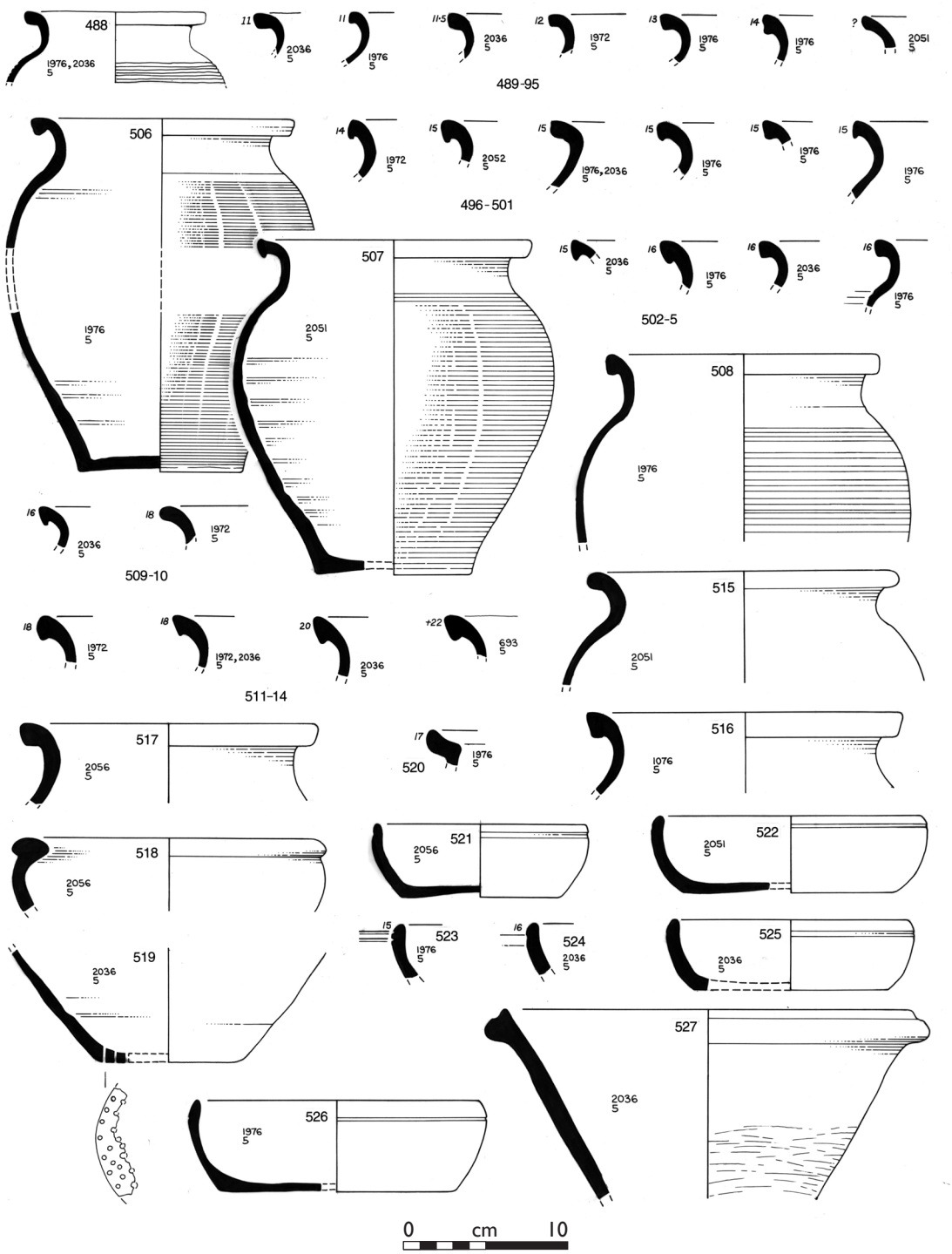

Fig 5.46 Thorpe Lea Nurseries: Roman pottery from waterhole 1971 (continued from fig 5.45). Group 5 Overwey-type sandy ware. Scale 1:4

548–9, 633, 635–7, 639 and 641), although there are less of these in 2090 than of the other main type which has a squared termination (see nos 488–90, 492–3, 498, 504–5, 517, 547, 550–55, 632, 634, 638, 640 and 642). One each from 1971 and 2090 have lid-seated rims (nos 520 and 569). The most common form of the greywares, the everted-rimmed jar, is represented by only one rimsherd in Overwey-type ware (no 510).

Rim diameters vary from 11cm up to 20cm, but with most between 13 and 18cm, and the bodies of most, if not all, jars (except the lid-seated variety for which there is no evidence either way) were rilled from shoulder to base.

Dishes

This is the next most common vessel form, and all but one, perhaps, are of the same form as was most popular in greyware: the plain sided type with external groove or impressed line below the rim (Millett types 7 & 8; L&J Classes 6A.5-10). None of the six from 1971 or the four from 2090 are internally decorated like the greyware examples, however (nos 521-6, 559 and 561-3), but they include one with two grooves instead of one (no 523). Sizes are much the same as for the greyware dishes, at between *c*15 and 19cm rim diameter.

Other forms

Uncommon open forms in the 2090 assemblage include a dish with a beaded rim (no 560), a plain dish or bowl (no 558), the full profile of another that is deep enough to be called a bowl (no 557), a large part of the wall of a typical 4th century flanged bowl that has a snub-nosed flange and a fettled lower body (from 1971; no 527); and a rim fragment of a lid (no 568) that was presumably intended for the lid-seated jars (nos 520 and 569).

Bead-rimmed colanders, another typical Late Roman greyware form, are more commonly found in Overwey-type ware at Thorpe Lea Nurseries,

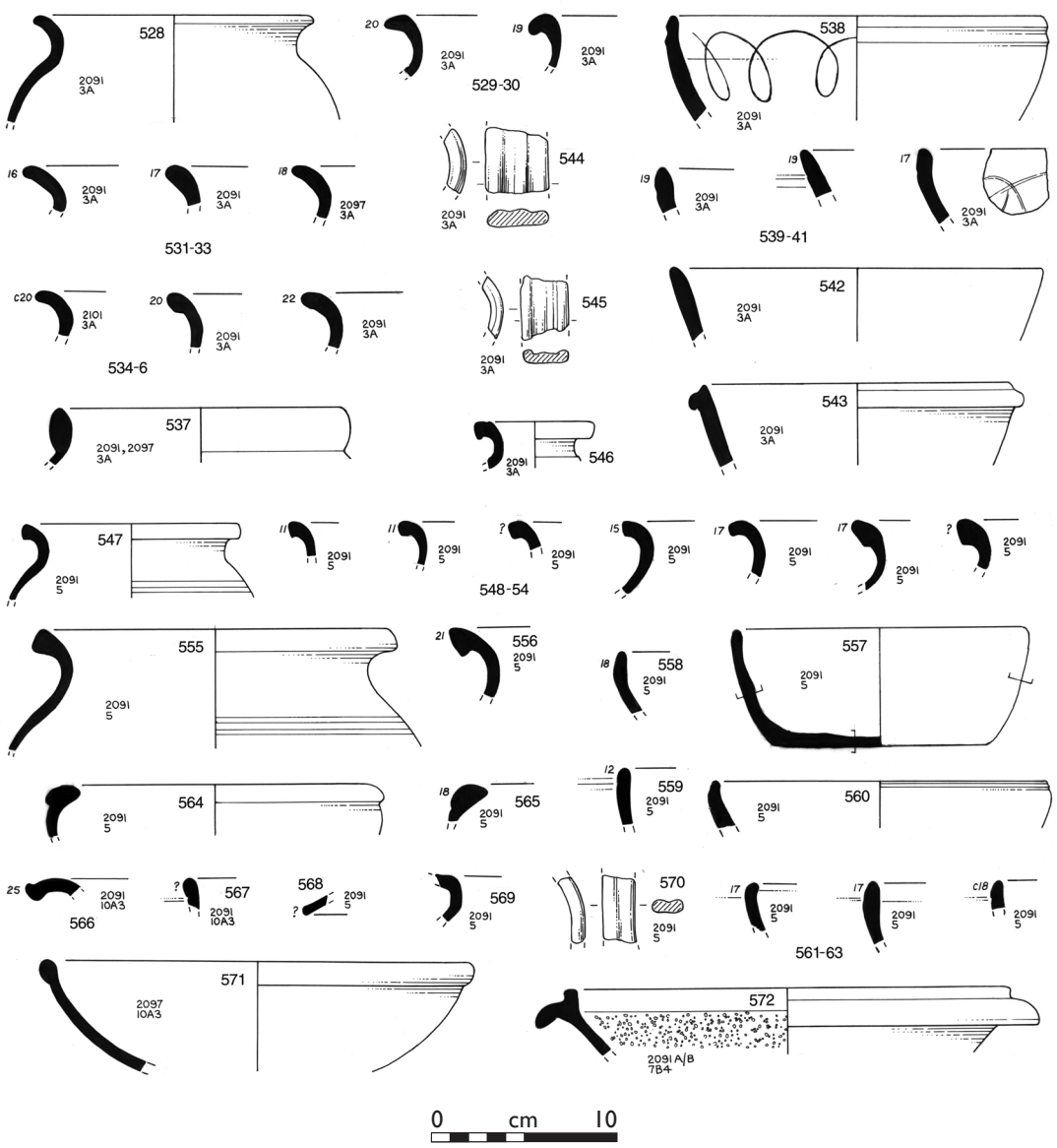

Fig 5.47 Thorpe Lea Nurseries: Roman pottery from waterhole 2090. Group 3A grey wares (nos 528–46), Group 5 sandyware (nos 547–65 and 568–70) and Groups 7B4 and 10A3 Oxford wares (nos 566–7 and 571–2). Scale 1:4

including a rim and a base from 1971 (nos 518–19), and two rims from 2090 (nos 564–5). The only other vessel type represented in the three assemblages is a flagon, identified from a handle found in 2090.

Almost all other featured sherds of group 5 Overwey-type sherds from the site are from the common jar or dish forms, but part of the pierced base of a colander was recovered from pit 319.

Discussion

Lyne and Jefferies first proposed the term 'Surrey Buff ware' to describe the products of, what they perceived to have been, one of several small 4th century pottery production centres south of the Thames making oxidised coarse sandy jars with rilled bodies and wire-cut bases. They thought the source might have been made in central Surrey (1979, 35), because of a relatively high proportion in a Late Roman collection from Woodlands Park, Leatherhead (ibid, 61). Another small production area was thought to have been in south-east Hampshire to supply local garrisons (ibid, 61), although elsewhere it was suggested that such wares as have been found at Fareham and Portchester might have been made by itinerant potters (ibid, 77). The other source, and the only one with some evidence, was considered to have been in West Surrey. The authors were so confident of their belief in two production areas in Surrey, that they were able to distinguish 'buff Alice Holt rilled vessels' from others of 'Surrey Buff ware' in a very Late Roman assemblage from Wroxeter (ibid, 61). The basis for this distinction was not stated at the time, nor has it been since. There is no evidence for a trans-regional production area, and the suggestion of itinerant potters is questionable. One could as easily argue local production by such travelling potters near to Thorpe Lea Nurseries on account of its relatively large collection, or even London, where 'large quantities' were noted in Roman assemblages from the Inner Ward of the Tower of London (ibid, 37). Given the very close similarities of both forms and fabrics of such vessels from the south coast, the Surrey/Hampshire border district, and the Thames valley, there are no valid grounds for supposing any different source area than the border district of Surrey and Hampshire. Millett never thought otherwise, even while noting that it was classed as Portchester 'D' ware (1979, 123), and nor does Tyers in a more recent survey (1996, 194).

Some, at least, of this ware was made in what are now the grounds of a house called 'Overwey' in Tilford (Clark 1950). Its most common product was hook-rimmed cooking pots with rilled bodies and wire-cut bases but, although as sandy as the buff ware and as unburnished, they are, for the most part, light grey. Such vessels represent *c*60% of all pottery found on the production site, which included two other kilns that also made typical Late Roman Alice Holt/Farnham 'fine' greyware (ibid, 46; Lyne and Jefferies 1979, 37). A few of the jars from Kiln 1 are oxidised, however, and Clark acknowledged that there were some dishes made in buff sandy ware (eg Clark 1950 fig 8 no 60), which is the same vessel as Lyne and Jefferies 1979, fig 36 fig 6A.11), as well as storage wares that were exclusively made of a buff ware (Clark 1950, 44). The clay source for Overwey was thought to have been 'pockets of grey clay' from the nearby River Wey valley floor (ibid, 32), but Lyne and Jefferies thought it more likely to have been the Gault which outcrops nearly 4km distant to the west or north

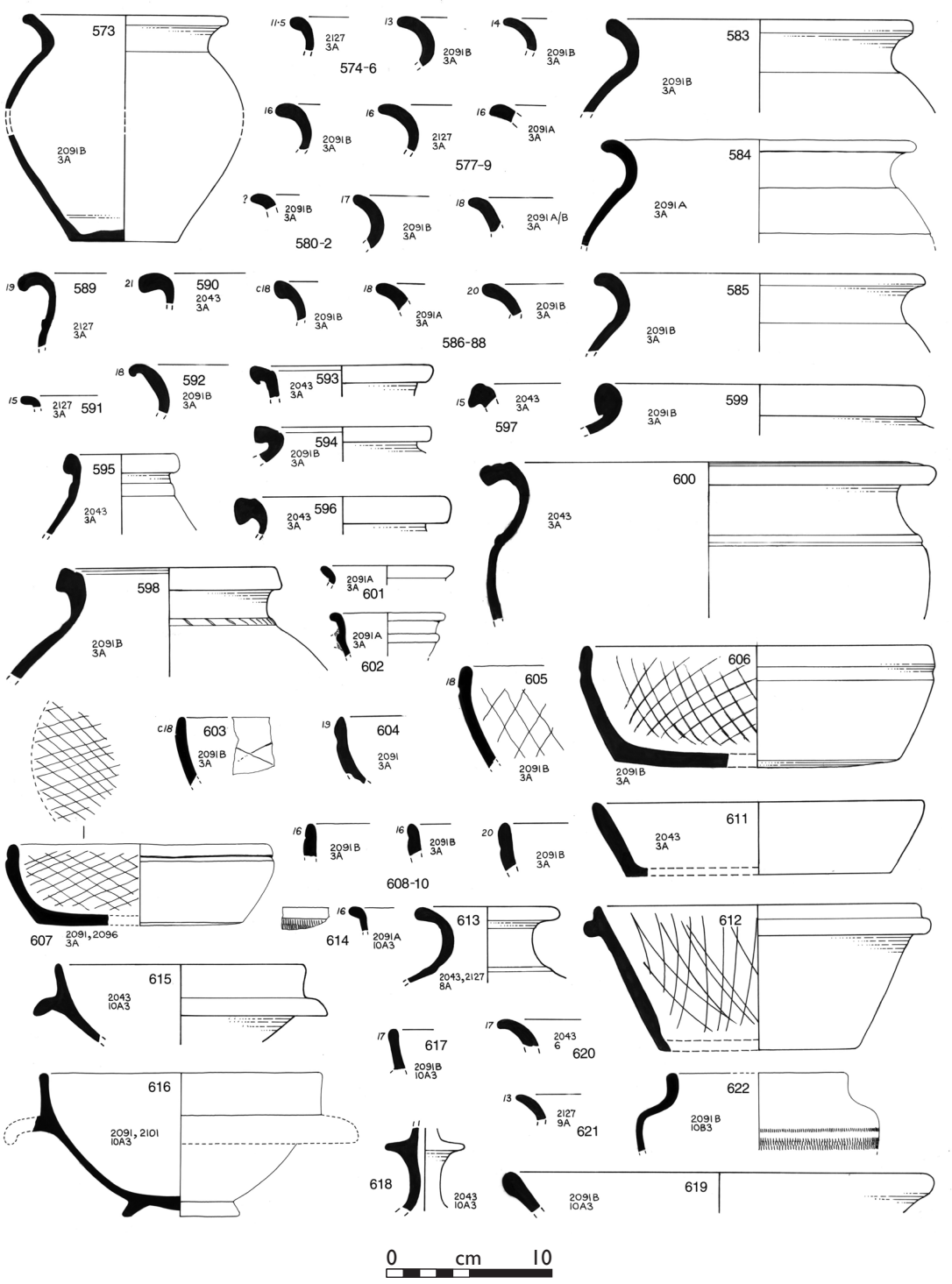

Fig 5.48 Thorpe Lea Nurseries: Roman pottery from waterhole 2127. Group 3A grey wares (nos 573–612), Group 8A orange ware (no 613), Group 10A3 Oxford ware(nos 614–9), Group 6 BB1 ware (no 620), Group 9A fine greyware (no 621) and Group 10B3 Nene Valley ware (no 622) (continued fig 5.49). Scale 1:4

(1979, 12). What cannot have been of Gault or river clay, however, is the white slip employed on the greywares of this site and other Late Roman production sites of the Alice Holt/Farnham complex. As originally suggested by Lyne and Jefferies, this was, almost certainly, obtained from the Reading Beds (ibid, 18) which outcrop a little further north.

It has been considered that the largest sub-centre of production of the Alice Holt/Farnham complex might have been on the gravel terraces east of the historic core of the town, rather than the better-known sub-centres of Alice Holt and Malthouse Farm (ibid, 11). This area could have just as easily used the nearby Reading Beds outcrops in Farnham Park (ibid, 2) and Runfold, as the Gault further west. If the 'pipeclay' found in one of the Farnham Kilns was white or buff, as implied (Anon 1927), it represents tangible evidence of the purposeful exploitation of the white-firing seams of the Reading Bed clays.

Most of the later Roman coarse sandy rilled and hook-rimmed jars from south-east England are buff to off-white and even pale orange or pink in colour, rather than grey, and cannot, therefore have been made of Gault or river clays. Just as during the 1st and 2nd centuries, when the white to buff-firing seams of Reading Beds on the northern side of the Thames basin had been exploited for the production of Verulamium/London oxidised mortaria and finewares, in the Late Roman period the outcrop on the southern side of basin was used for the mass production of such jars, and for far more than local needs.

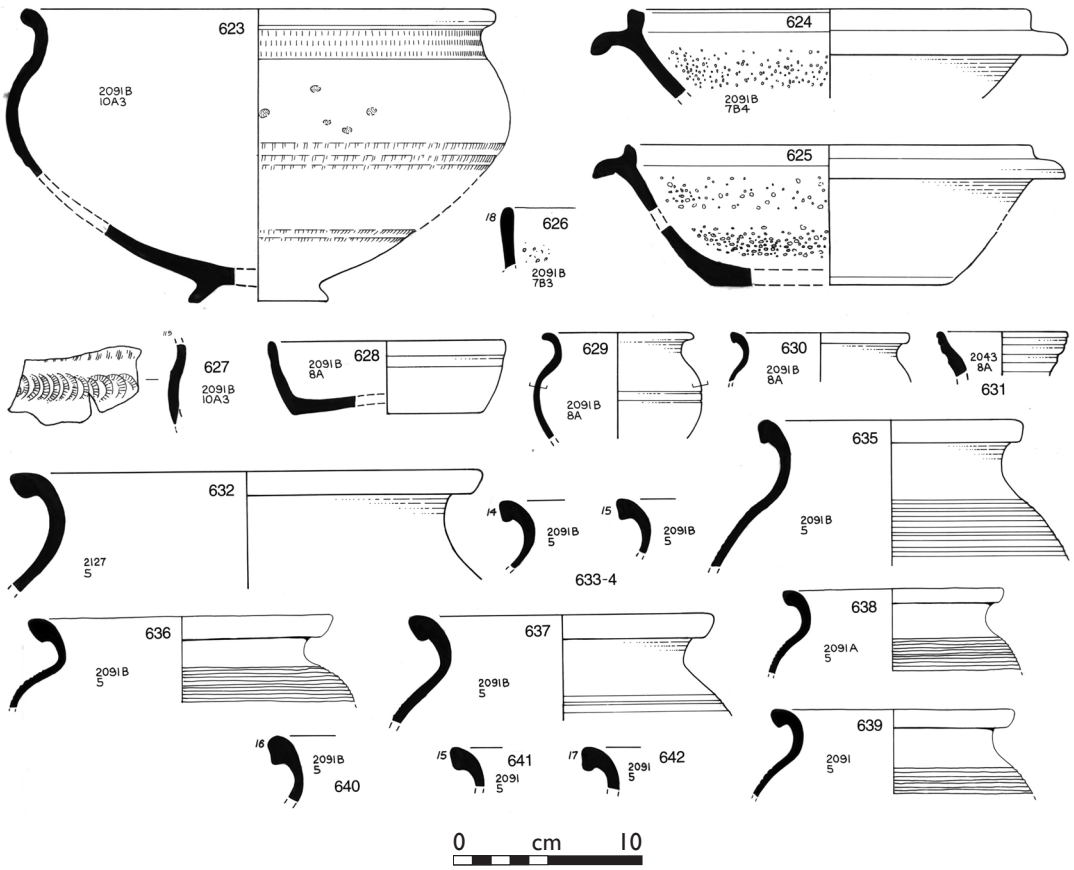

Fig 5.49 Thorpe Lea Nurseries: Roman pottery from waterhole 2127 (continued from fig 5.48). Groups 7B3, 7B4 and 10A3 Oxford wares (nos 623–7), Group 8A orange wares (nos 628–31), and Group 5 Overwey-type sandy ware (nos 632–42). Scale 1:4

OXFORD WARES

Tableware and mortaria in the typical red/brown and whiteware fabrics of the Oxford district potteries together account for 12/15% of 1971, 9/15% of 2090 and 10/17% of 2127, by EVEs and MNVs respectively. By far the greater majority is of the self-slipped orange to brown fineware 10A3, which, with their 7B3 mortaria equivalents, represent as many as 21, 11 and 14 vessels (MNVs) respectively, in 1971, 2090 and 2127 (based on all apparently unique joining or 'belonging' sherds). Of 27 vessels separately identified, there are 18 bowls, three beakers, two mortaria, a flagon, cup, lid and *tatina*. Form types follow the classification of Young (1977).

Bowls from 1971 are represented by seven rimsherds of the flange-rimmed types C51 and C52 (nos 468–74), the latter differing only in the use of white painted decoration (no 471); two rims and a full profile of the C46 copy of Dr 31 (nos 476, 479–80); one of form C77 (no 477); and another of either C70 or C78 (no 478).

Also represented in 1971 is one of two joining rimsherds of a type C61 cup-shaped beaker with eroded white slip decoration (no 475), the base of another beaker (not illustrated), a body sherd from a *tatina* (not illustrated), several joining sherds from a closed form, probably a flagon, four footring base angle sherds, probably from bowls, and a curious form that is either a large lid or dish (no 481).

Of three bowls identified in 2090, one is a flanged C51 type (no 566), another is an imitation Dr 31 C46 type (no 571), and the other is a C70 or C78 type (no 567). In addition there is a rouletted body sherd from an indented beaker (not illustrated), a joining sherd with the C61 type beaker mentioned above in 1971 (no 475), a foot-ring base angle and three other sherds from 7B3 mortaria, two other foot-ring base angles from bowls, and a few other sherds, some rouletted, from, at least, three other vessels (none illustrated).

The same types of bowls are also represented in 2127, with parts of three of the flanged C51 form (nos 615–17), a heavy-rimmed C46 type (no 619), the rim of a C70 or C78 type (no 614), and sherds from a form C78, which is a variant of C77 only on account of its decoration of overlapping rosette stamps (no 623). Also represented are a disc-mouth flagon (no 618), the foot-ring base of a cup (not illustrated), and the rim of a 7B3 mortaria (no 626); and in addition, two more foot-ring base angle sherds, part of another rouletted bowl and a body sherd that bears part of a cordon (none illustrated).

Other Oxford mortaria are represented by a few sherds of 7B4 red sandy ware with a white slip from each of the three features; and rather less of 7B2 whiteware, and only from 1971 and 2127.

The largest mortarium from the site is an M22 type, part of the rim of which was recovered from 1971 (no 487) along with two sherds of the same 7B2 whiteware. The rims of three much smaller mortaria in 7B4 sandy redware with a white slip came from the same feature, with two more like Young's type WC7.3 (nos 483 and 484) and the other similar to the WC7.1 type (no 482).

Another WC7 type rim of 7B4 fabric was recovered from 2090 (no 572); and a rimsherd and near-complete profile of two more came from 2127 (nos 624–5), as well as a rolled sherd from the spout of a 7B2 mortaria (not illustrated).

Most Oxford self-slipped redware vessels from the three assemblages might only have been intended for display, with the bowls, at most, containing fruit, or sweetmeats. So few beakers and flagons are represented that drinking must usually have been with metal or glass vessels (both recyclable and probably greatly under-represented amongst the detritus of the site) or else treen. Some evidence of the value of the bowls is that at least one had been repaired with a rivet (no 659). It can only have been used subsequently to hold solid objects, and with great care. Red-slipped mortaria remain enigmatic on account of their unsuitability for their signalled function, and, in all probability, mostly served as decorative bowls.

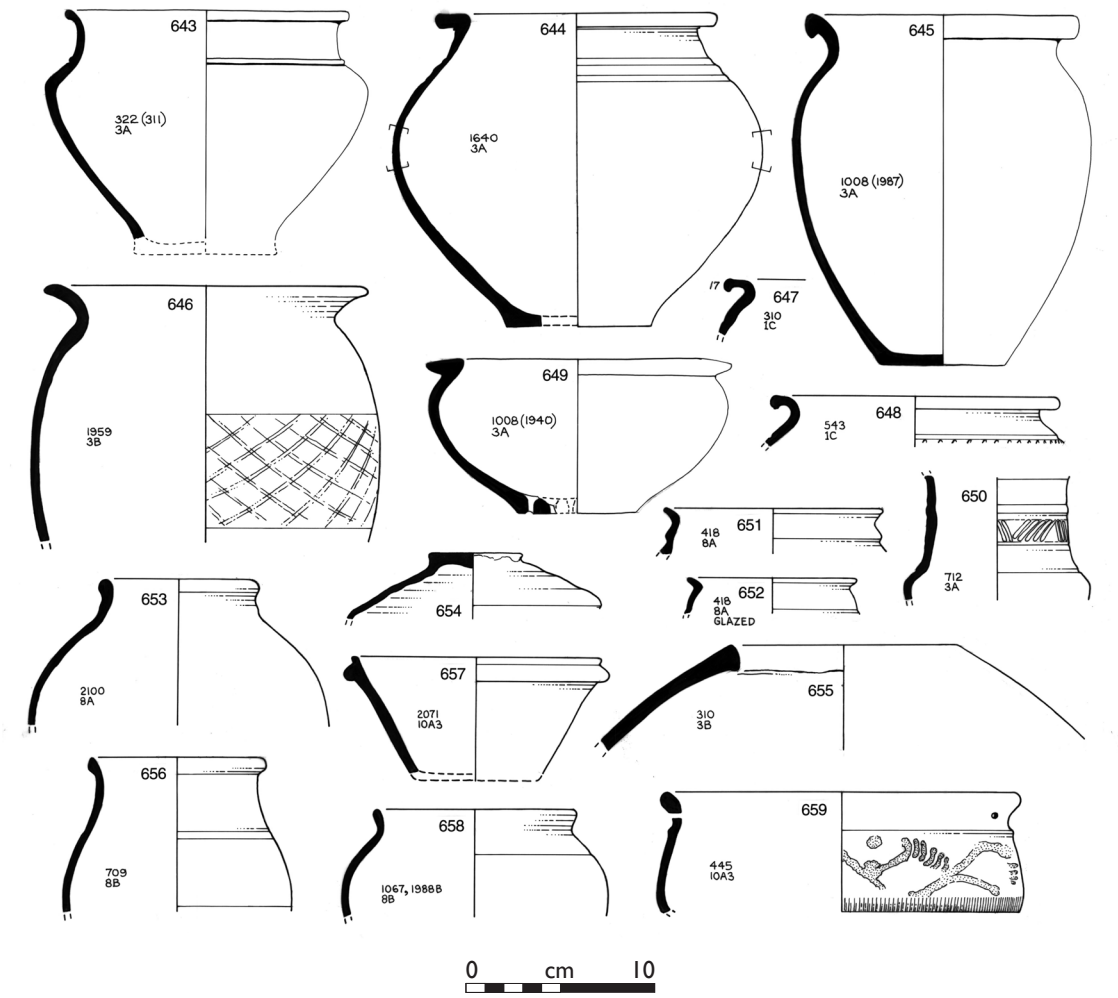

Fig 5.50 Thorpe Lea Nurseries: Roman pottery. Miscellaneous. Scale 1:4

NENE VALLEY 'COLOUR COAT' WARE (10B3)

Twenty-six sherds of this fine whiteware with red/brown to near black slip were recovered from the site, and all but three came from the waterholes.

1971 contained half of a simple upright bowl (no 485), the rim of a small flanged dish (no 486), the complete base of a globular beaker, and other sherds from beakers including three with white painted decoration, and three that are rouletted (none illustrated). 2090 yielded four sherds, including one that is rouletted, but amongst those from 2127 are the rim of a rouletted beaker (no 622), the base of another, and four rouletted body sherds from a bowl form (none illustrated).

The other three sherds from the site include the base of a bowl from ditch 1008, the base of a beaker from hollow 1878, and a beaker sherd with *en barbotine* decoration from pit 2096 (none illustrated).

Unlike, at least, two important assemblages from London, Nene Valley ware was much less common than Oxford red-slipped tableware at Thorpe Lea Nurseries. In the late 3rd–mid 4th century Dowgate assemblage the ware (NVCC) represents 14.6% whereas the proportion of Oxford ware (OXRC) is 1.7% by EVEs (Symonds and Tomber 1991, 89–90); and in the later 4th century Billingsgate group it still represents almost twice as much, with NVCC at 11.3% and OXRC at 5.7% (ibid, 90–92). In the three waterholes of Thorpe Lea Nurseries, and by percentage EVEs, Nene Valley ware is highest in 1971 at 4%, as against 10% of 10A3 Oxford ware; and in 2090 and 2127 these proportions are 2 and 4%, and 1 and 5%.

FINE ORANGE WARE

Twenty-four sherds of group 8 from the three waterholes are of fine fabrics like those of 10A3 Oxford ware and with a similar colour. They are not slipped, however, and some featured sherds do not closely resemble Oxford forms. Seven sherds from 1971 include small fragments from an unidentifiable rim and of another from a reed-rimmed jar or bowl (not illustrated); five body sherds came from 2090; and the 12 sherds from 2127 include parts of two globular beakers with everted rims, one simple (no 629), the other 'hooked' (no 630); the full profile of a dish with an external groove (no 628); the rim of a ring-necked flagon (no 631) and a body sherd from a mica-slipped beaker (not illustrated).

The 'hooked' rim of one of the beakers resembles those of the ubiquitous jars of Overwey-type ware, some of which are more orange than buff. The fabric is quite different, however, and the rim form was in widespread use during the 4th century for many wares. The resemblance of the dish to those commonly made of Overwey-type and grey sandy wares, however, need not be coincidental. We know so little of the pottery production in the borders district, that is seems premature to conclude that no fineware production took place in the later Alice Holt/Farnham/Overwey Industry. Some sherds, like the reeded rim and the one that is mica-slipped, might be residual; some could be eroded Oxford material; but others might represent a previously unknown producer of fineware.

SHELL-TEMPERED WARE (GROUP 2B)

Twenty-five sherds recovered from the waterholes belong to a ware previously identified at Staines (Roman *Pontibus*), and on the opposite bank of the Thames at The Hythe, 2km north-east of Thorpe Lea Nurseries (Jones, in prep b). It can be difficult to distinguish from earlier prehistoric shelly wares when the calcareous inclusions have dissolved away. Whereas the rim form types of the two wares are mutually exclusive, the correct classification of body sherds presents some problems. It is for this reason that they remain together as 2B

in the fabric type series. Where the calcareous material has survived it is clearly identifiable as comminuted Jurassic fossil material and the closest parallels are with vessels from Alcester and other sites in the South Midlands. This later Roman handmade coarseware represents a significant resurgence of indigenous ceramic traditions, and can only have been successful in distant marketing because of the failures and instabilities of production and of markets during the 3rd century. All featured sherds are rimsherds from jars with curving everted rims. One is simple (no 201), two are very large (nos 196 and 200), one is beaded (no 197) and three have hooked rims (nos 198, 199 and 202). The last mentioned vessel is small and has a lightly rilled upper body.

Five sherds from 1971 include the rim of a jar (no 197) and the base angle of another; 2090 contained 16 sherds from jars including another rim (no 202) and base angle; and four body sherds came from 2127.

There is another regionally important Late Roman ware with Jurassic fossil inclusions that is rare in Staines and absent from Thorpe Lea Nurseries. Its vessel forms differ from those of the Middle Roman type, and were wheelthrown. This other South Midlands type is best represented locally in the 4th century dump assemblage from the theatre at Verulamium (Sanders 1973).

OTHER WARES REPRESENTED OR ABSENT

Few sherds of other wares were recovered from the waterholes, and most were residual. They include a body sherd of BB1 from 1971; and a rimsherd from an ERJ jar of the same ware (no 620), three small sherds of South Spanish Dr 20 amphorae, and the rim of a poppy-head beaker in fine greyware (no 621), all from 2127. Tiny slithers of samian were recovered from 2127 and 2090; but a more substantial, yet still residual, foot-ring base sherd came from 1971.

No other wares are represented, except those of a few redeposited Iron Age sherds. None from 1971 was grog-tempered and only three from 2090 and 2127 are of such wares, suggesting that they are unlikely to represent the revival of the grog-tempering tradition that occurs elsewhere in south-east England.

6.4 DISCUSSION

Settlement and cemetery wares from sites along the Thames floodplain and terraces of Surrey and Middlesex helped to inform Barrett's (1980) theory of a succession of plain and decorated styles of Late Bronze Age pottery in the lower Thames valley. Within 2km of Thorpe Lea Nurseries are the important later Bronze Age sites of Runnymede Bridge with its large collection of 'plainware' (Longley 1980; Needham 1992 and 2000) and Petters Sports Field with a slightly later 'decorated' assemblage (O'Connell 1986; Needham 1990). Other sites more recently excavated by the Surrey County Archæological Unit include a Middle Bronze Age hut circle and pit clusters at Home Farm, Laleham (Hayman 1991b; Hayman 1998; Cotton 2004, fig 2.7), a transitional Middle to Late Bronze Age rectilinear enclosure at Church Lammas, Staines (Hayman in prep b), and collections of, mostly Late Bronze Age material from many other pit and posthole clusters in the district. Settlements of the later 2nd and early 1st millennium BC have been more commonly discovered than those of any other period, and the Late Bronze Age material from Thorpe Lea Nurseries adds two more to the growing list. The pottery from both is more comparable to Runnymede than Petters Sports Field, since nearly all is of 'plainware'.

The northern posthole cluster did yield one decorated sherd (discounting surface wiping or scratching), but this belonged to an earlier period of occupation. It is from a Deverel-Rimbury type globular jar (no 54) as is a burnished base angle from the same cluster (no 57). A coarseware barrel jar is also represented (no 55), but this paucity of Middle Bronze Age-type ceramics is in contrast to their profusion in ditch 1218 nearby.

The ditch 1218 collection may better represent the local style of Deveral-Rimbury domestic assemblages than any other collection previously excavated and published from this part of the Thames Basin. The typical coarseware jars; long known from cemeteries, are here accompanied by several fine globular vessels, whose shape and decoration have been compared to similar examples in Sussex such as at Itford Hill (Anne Woodward, pers comm). Neither the sherds, or the vessels to which they belonged, appeared to have been deliberately placed in the ditch, although ritual could have attended its deliberate infilling, which must have occurred whilst the adjacent settlement (outside of the excavation area) continued to be occupied. While the pottery could have been deliberately broken before deposition, it might just as easily have been the detritus of a midden that was used as backfill. It is probable that there had been a more widely spread occupation in the Middle Bronze Age than the few surviving postholes suggest, since the other ditches with Deverel-Rimbury sherds and the isolated pit 2432 are a long way from the cluster of the northern site.

The ceramic sequence might suggest a hiatus of occupation towards the end of the Bronze Age, if it were thought there was an absence of examples of the ultimate 'decorated' style. The desertion of both north and south settlements might support the notion of such a break, but it may only have been brief, and might not have happened at all, if some of the earliest pottery of the new east and west settlements is taken as filling the gap. Two features of the eastern complex (1118 and 2215) and up to seven of the western one (111, 132, 1035, 1507, 1508, 1709 and 1813) yielded 'Early Iron Age' assemblages. There are differences, however, but how pertinent these are remains debatable. The plainware Late Bronze Age assemblages are overwhelmingly calcined flint-gritted, whereas these earliest feature assemblages of the east and west sites are less so although such a difference may only be of the same character as that between Runnymede and Petters Sports Field, with an increase in the use of sand tempering in the latter. Two highly burnished vessels with sharply carinated shoulders and everted rims; a cup from the western site (no 317) and a probable bowl from the eastern site (no 128); are more likely to have belonged

to the Early Iron Age than before, however, and a general impression is of a wider range of fabric variants than at Petters Sports Field.

Work on the Iron Age pottery of north Surrey has largely been in abeyance since the Brooklands report on some Early Iron Age or 'decorated' Late Bronze Age transitional material and a greater bulk which was of Middle to Late Iron Age types (Hanworth and Tomalin 1977). In 1989 another large assemblage of broadly contemporaneous material was recovered from the Brooklands II site nearby (Hayman in prep a), where a circular enclosure more like a rath or round than most other Iron Age enclosures in the district, was accompanied by a myriad of Early to Late Iron Age features. It was superseded by a rectilinear arrangement of Roman gullies. A smaller Middle Iron Age occupation site, Brooklands III, was excavated at the same time between the first and second sites, and all lie on the valley floor of the River Wey below St George's hillfort. More recently the earthworks and interior of St Ann's Hill, which overlooks Runnymede Bridge, Petters Sports Field and Thorpe Lea Nurseries, were sampled by excavation (Jones this vol). A small internal trench yielded nearly a thousand Early Iron Age sherds from very many postholes, and both the other trench and a simultaneous survey by the RCHME (McOmish & Field 1994) confirmed the presence of univallate defences.

The eastern Iron Age site was smaller and was occupied for a shorter period than the western settlement. Its earliest pottery, mentioned previously, can be compared with the sequence found in Danebury, in which finger -impressed coarsewares date to as late as *c*450BC (Cunliffe 1984, 249). Tooled decoration on burnished globular 'goldfish' bowls is characteristic of Middle Iron Age pottery at Danebury, but only from phase 5 onwards, which began sometime between *c*450 and 400BC (ibid, 261), and it occurred more frequently later. Similar vessels at the eastern site include one from pit 2217 (no 100) and another from pit 2483 (no 108), and the latter feature assemblage also has a fragment from a bead-rimmed saucepan pot that best equates with the PB1 Danebury form which post-dates *c*400BC. There are no later forms on the eastern site which suggests its abandonment during the early 4th century BC. Its floruit as a small rural domestic occupation site with an assortment of simple saucepan pots had probably been during the half or full century before.

The western site may also have been first settled during the Early Iron Age, unless the few sherds more likely to be of Bronze Age rather than Iron Age date, represent more than peripheral strays from the older site buried nearby. They include a base angle sherd from pit 1507 in fabric 1A that had been stood on a ground of comminuted calcined flint; a characteristic of later Bronze Age coarsewares.

There are no obvious omissions in the variety of Iron Age vessel forms in the western site collection, and it seems reasonable to suggest that there had been a continuity of occupation up to and beyond the Roman conquest. There are relatively few decorated globular jars or saucepan pots, and most are in the glauconitic ware. Some sherds with diagonally hatched triangles (nos 246, 249, 256 and 265) recall the Southcote/Blewburton style (Cunliffe 1984, 256) but there is little of the Hawk's Hill/West Clandon style unlike some recently excavated assemblages at Tongham, 25km to the south-west on the other side of the Tertiary heathland of north-west Surrey (Jones in prep c).

Several questions that arose during the early stages of processing, however, could not be answered satisfactorily from the subsequent study of the pottery. It remains unclear, for example, whether the settlement had expanded, contracted or stayed roughly the same size during the Iron Age, not least after the abandonment of the eastern site; it is uncertain how long globular jars and saucepan pots continued to be made during the Late Iron Age or if much of such material that accompanies Late Iron Age forms was redeposited; and no proof was fond that any of the wheelthrown pottery pre-dated the conquest, although it may have done. The proof of the last will always need very special stratigraphical and finds-based circumstances; and such were lacking at Thorpe Lea Nurseries. No more than a strong suspicion of there being pre-Roman wheelthrown vessels remains, based largely on comparisons with closely studied large groups of Early Roman pottery from nearby Staines (Jones 2010). Some wheelthrown forms at Thorpe Lea Nurseries (nos 135, 152, 189 and 307) have not been found in Staines and may, therefore, have been made in the Late Iron Age.

Attention has previously been refocused upon two pots associated with a hoard of potin coins that were found at Sunbury in 1947 (Tyers 1996, 139). The find spot lies 6km east of Thorpe Lea Nurseries. Sources to the west and south were suggested, rather than an origin with Kentish Aylesford-Swarling types (ibid, 140), but these pots also owe nothing to the Atrebatic tradition. One is a bead-rimmed jar and the other is a simple cup with slightly inturned and thickened rim, and they, almost certainly, date to the mid 1st century BC. Some later pre-Roman pottery from Thorpe Lea Nurseries did have eastern connections, however, but not with the Aylesford-Swarling tradition. The shell-tempered saucepan-type jars (nos

188–95) are very similar to a group found in a ditch at Park Street, Southwark, in an assemblage suggested to have been earlier than the AD 50s (ibid, fig 17.3 nos 1–10). In Southwark they were in association with a finer grog-tempered ware than that of Highgate, just as occurs in the general assemblage of the western site of Thorpe Lea Nurseries. One difference, however, is that comparisons are possible for the Park Street non-Highgate grog-tempered vessels with several from South Essex sites (ibid, 143), whereas most similarities for the Thorpe Lea Nurseries material are with Atrebatic types to the west and south-west.

Whereas the Iron Age pottery of both settlements includes a variety of fabrics and wares that are probably locally made, the Early Roman pottery of the western site is from further afield. Most is of Alice Holt/Farnham grey coarsewares from the other side of the great heathland tract that makes up north-west Surrey; some is of grog-tempered wares, the majority of which probably came from Highgate; and a little is from the Verulamium region. Another difference that occurred early within the Roman period is the introduction of imported fineware and amphorae. None were recognised in the Late Iron Age assemblages but soon after the Roman conquest a small minority of tableware, most especially samian, is present, alongside occasional sherds of Dressel 20 amphorae.

The function of the Roman settlement is difficult to determine from the ceramics. It was probably a farm, although of what kind is not certain. It seemed possible that any changes in its status through time might be reflected in the relative quantities of its coarseware and fineware. Scope for such study was limited by too few large feature assemblages, but 13 of the largest were studied with this aim. Proportional percentages were calculated for coarse and fineware counts and weights, but excluding mortaria and amphorae whose large sherds can often distort such figures. Since these forms very rarely amount to more than 2% of any assemblage, their exclusion seemed justified. The only exception was 7B3 Oxford colour-slipped mortaria, since they might not always have been used for their signalled function, and are included with fine tableware.

This study tends to confirm a broad impression gained from an examination of all Roman sherds from the site that the proportions of coarse and fineware remain about the same from the 2nd century through to the late 4th century abandonment. Furthermore, although there are no such large feature assemblages of late 1st century material, proportions of coarse and finewares were calculated from the collective whole of the 70 feature assemblages of ceramic phase 1. By count and weight they are much the same as for later, at 92/95% and 8/5%, count and weight respectively, based on a sample of 515 sherds (4.4kg).

Much the same amount of tableware, therefore, had been used during the late 1st century as in the late 4th century: an insight, perhaps, into the conservatism of pottery usage at the 'farm'. Although this could reflect only the individual family's taste through the centuries, it may reflect a more widespread pattern of pottery utilisation outside of urban centres.

Such conservatism seems also to have been maintained despite changes that were required of the site in the Late Roman period; the need for large waterholes, for example. Nevertheless, just as for the tableware, much the same types of coarseware were being used as in the 1st and 2nd centuries AD, and with roughly the same ratio of jars to bowls. The important difference, however, was that almost all later Roman coarsewares came from the Alice Holt/Farnham/Overwey district, 26km to the south-west.

The date of abandonment of the site could not be precisely established from the pottery, but might have been towards the end of the 4th century. This is suggested from the frequency of Overwey-type vessels in the waterholes and in other features, since it has been surmised that their floruit was in the late 4th century and possibly extended into the early 5th century (Lyne & Jefferies 1979). If this were so at Thorpe Lea Nurseries then it would also indicate that the late revival of the grog-tempered tradition which has been noted in some parts of southern England, had not occurred in the Staines area. A preliminary assessment of the pottery from Thorpe Lea Nurseries had tentatively identified one or more Saxon sherds in the collection, but, although there is a superficial similarity between the organic temper of these sherds and that of the local Saxon grass/chaff-tempered tradition, they have been confidently re-assigned to group 3 of the Iron Age wares. There was no Saxon occupation and abandonment was total.

7 ARTEFACTUAL FINDS

7.1 SMALL FINDS *by Suzanne Huson*

The small finds are grouped by material type, and arranged in a single numerical series. Numbers in bold indicate an illustrated item (figs 5.51–5.54). Catalogue entries have bracketed numbers that give (context; phase).

Fired clay

LOOMWEIGHTS (table 5.19)

Fabrics

The division into four fabric types is a general one based on the most noticeable differences. Most of the interiors of the fragments are grey, indicating that the complete objects were of some thickness.

Fabric A: orange-brown sandy. 69 fragments, 2491g heading 6
Orange-brown in colour, usually with a grey core, and some white mica flakes are visible in the clay. Frequent white (occasionally red) quartz inclusions, well sorted and rounded, ranging in size from 0.3–0.5mm, occasionally up to 1mm. There are also occasional red ironstone inclusions up to 0.5mm and occasional calcined flints of up to 2mm.

Fabric B: pale orange/buff, fine micaceous. 21 fragments, 1077g
Pale orange to buff in colour, with frequent white mica and moderate quartz sand inclusions, well sorted and rounded in the size range 0.1–0.3mm. There are also occasional calcined flint and red ironstone inclusions both up to 0.5mm in size.

Fabric C: red grog. 65 fragments, 2761g
A slightly variegated mix of red and buff clay, with frequent red grog particles up to 2mm, and moderate quartz sand inclusions in the range 0.3–0.6mm. There are also moderate quantities of black and red ironstone from 0.5–1mm.

Fabric D: buff, white grog/chalk. one fragment, 80g
A pale, buff clay with moderate amounts of white mica flakes, containing frequent white grog/chalk inclusions of 1mm and moderate amounts up to 3mm. There are also fine, well rounded black ironstone inclusions of c0.1mm.

Discussion

A total of 156 loomweight fragments (6920g) were recovered from 60 features (70 contexts). There was some concentration of the loomweights in the western settlement area and the ditches/gullies bounding it, the main concentrations being in contexts 367, 1008, 1641 and 2295. This may indicate it was the main Iron Age domestic or craft occupation area. The five fragments of a single loomweight from the waterhole 2295, may have some significance other than that of a domestic rubbish deposit. At Tongham Nurseries in the south of the county, deposits of loomweights in a similar waterhole feature appear to have a ritual significance (Huson in prep).

There does not appear to be any correspondence between the fabric type and the phase or feature in which fragments were found, except that in general more weights of fabric type A occur in phase 3 contexts and more of fabric C in phase 4.

Most identifiable fragments appeared to be of triangular type, principally corners with the remains of the perforation groove across one surface. The lack of complete examples means that it is impossible to determine if the weights were perforated across one, two, or all three corners, but the identifiable fragments correspond to Danebury Types 1–4 (Cunliffe 1984, 401–6). This could suggest that a high proportion of the unidentifiable loomweight fragments date to the Iron Age, those occurring in contexts of phases 3–4 and 4 being residual. There is no clear evidence to say if any are of Roman date.

SPINDLEWHORLS

Six spindlewhorls (11 fragments; 101g) were recovered from the site, some in a more complete state than others. Five were formed from fabrics A and B of the loomweight series. Two different types were represented–biconical and disc-shaped (Cunliffe 1984, 401 and fig 7.46), dating them all to the Iron Age. No 2 was recovered from the same context as a loomweight (414, phase 3/4), and both are in the same fabric type. No 6 is of Roman greyware pottery fabric.

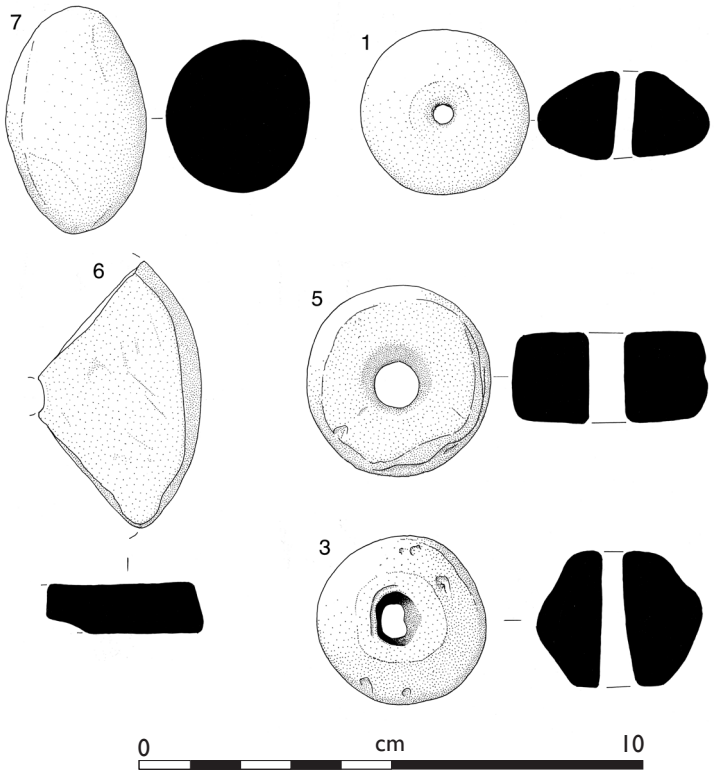

Fig 5.51 Thorpe Lea Nurseries: finds of baked clay, (except no 6). 1, biconical spindlewhorl (119); 3, biconical spindlewhorl (485); 5, disc-shaped spindlewhorl (1972), 6, spindlewhorl made from pottery (135), 7, slingshot, rugby ball shaped (354). Scale 2:3

1 Three fragments of biconical spindlewhorl (119; 3).
Fabric A.
17g Diam of perforation 5mm.

2 Three fragments of a biconical spindlewhorl (414; 3/4).
Fabric A, overfired or burnt.
3g, Diam of perforation 4mm.

3 Biconical spindlewhorl, complete (485; 3).
Fabric B, but overfired or burnt on one side.
31g, Diam 32mm, H 28mm, Diam of perforation 8mm.

4 Two fragments of biconical spindlewhorl (1179; U/S).
Fabric A, overfired or burnt.5g.

5 Disc-shaped, curved spindlewhorl, complete (1972; 4).
Fabric B.
One area around the middle of the spindlewhorl has what appears to be a cordgroove impression.
26g, Diam 37mm, H 17mm, Hourglass perforation has Diam max 13mm, min 8mm.

6 Segment of a spindlewhorl with a flat lower surface and slightly convex upper, which bears traces of several shallow diagonal grooves. The edges are fairly worn. It is of greyware pottery fabric (135; 4).
19g, Diam (from edge of perforation) 29mm, max. Th 11mm.

SLINGSHOTS

7 Slingshot, rugby ball shaped (354; 3/4).
Fabric A
L43mm; Diam (max) 25mm; 27g.

8 Slingshot, rugby ball shaped (2301; 3).
Fabric A, burnt on one side.
L, 45mm; Diam (max) 28mm; 32g

Copper alloy

Copper alloy objects are probably or certainly of Roman date unless otherwise indicated.

COINS *by Peter Guest*

9 Coin (418:4)
Obverse: helmeted, cuirassed bust, left
CONSTAN....

10 Coin, Constantine I (AD 307–37) (559A:4)
Obverse: Diademed bust, right
CONSTANTINVS MAX AVG
Reverse: two soldiers facing, standard between
GLOR.....ITVS
In ex: R*P

11 Coin (642: 4)
Obverse: ?radiate head, right
Reverse: ?standing figure
Very poor detail.

12 Coin, Valerian I (AD 253–60) (649B: 4)
Obverse: radiate draped bust, right
M..C...I.VALERIANVS AVG
Reverse: figure standing left, holding ? and sceptre
IOVICONSERVA

13 *Obverse*: uncertain (1123; 4)
Reverse: uncertain
Illegible copy. 3rd/4th century

14 *Obverse*: uncertain (1972; 4)
Reverse: uncertain
Illegible. 3rd/4th century

15 *Obverse*: uncertain (2091; 4)
Reverse: GLORIA EXERCITVS
Copy. Uncertain if one or 2 standards. AD 330–40

16 *Obverse*: uncertain (2091; 4)
Reverse: uncertain
Illegible copy. 3rd/4th century

17 *Obverse*: uncertain (2091B; 4)
Reverse: uncertain
Illegible copy. 3rd/4th century

18 *Obverse*: uncertain (2091B; 4)
Reverse: uncertain
Illegible copy. 3rd/4th century

19 Fragment, possibly a coin (2091:4).

20 Fragment, possibly a coin (2091B; 4).

BROOCHES

21 Spoon-headed brooch (522; 3/4)
The cupped, spoon-shaped head is decorated with incised lines, following the curvature of the head. The bow is flat with a D-shaped cross-section and the catch plate is damaged. Four turn spring with internal chord, the pin survives but is no longer attached.
L 60mm; W 15mm; Th 3mm (of bow)
1st century BC

22 Nauheim derivative brooch (1167; 3/4)
A one piece brooch with a four-coil spring and internal chord. The flat, gently curved bow tapers to a point at the foot. Decorated with two horizontal grooves on the foot. The catchplate is small, unpierced and slightly damaged. Made of bronze with a small amount of lead present. Regarded as a 'poor man's brooch' (Stead & Rigby 1986, 109 no 26)
L 54mm; W 14mm; Th 1.5mm
mid 1st century BC to late 1st century AD

23 Colchester derivative brooch (554; 4)
A two-piece brooch with a curved bow of D-shaped section, decorated with three grooves and horizontal incisions on the ridges. The wings have a vertical groove at either end and house an eight-coil spring. The external chord passes through a hole at the top of the head, and the axis bar through a lug behind the wings. The pin is broken. The large triangular catchplate has a triangular perforation.
L 65mm; W 26mm; Th 2mm (of bow)
AD 50–70 at Baldock (Stead & Rigby 1986, 112 no 79), generally AD 50–90

24 Colchester derivative brooch (689; 3)
A small two-piece brooch, with gently curved bow of D-shaped section, decorated with two grooves. The catchplate has a small, roughly oval perforation. The undecorated wings house a six-coil spring with external chord which passes through a hole in the head. The axis bar passes through a lug behind the wings. The pin is intact. The body of the brooch is composed of leaded bronze with small amounts of zinc present. It is in poor condition with only traces of a patina left. The spring and pin are in better condition and are made of bronze with a lower lead content and no zinc present, suggesting the present spring and pin are a replacement. The brooch originally had a tin plating.
L 31mm; W 12mm; Th 2mm
*c*AD 50–90

25 Colchester derivative brooch (2140; 3/4)
A two-piece brooch with curved bow of D-shaped section and prominent central ridge which tapers out about halfway down the length. The plain wings housed an eight-coil spring, now distorted, with an external chord which passes through a lug on the top of the head. The axis bar, now missing except for a tiny fragment, was of iron (possibly a repair in antiquity) and would have passed through the lug behind the wings. The pin is broken (point missing). The catchplate appears to have had a large triangular perforation, but is broken and the foot is missing.

The brooch is of leaded bronze, with originally a tin plating, the axis bar was of iron, and the spring and pin of bronze with only a small amount of lead present.
Surviving L 52mm; W 22mm; Th 5mm
Mid 1st century AD

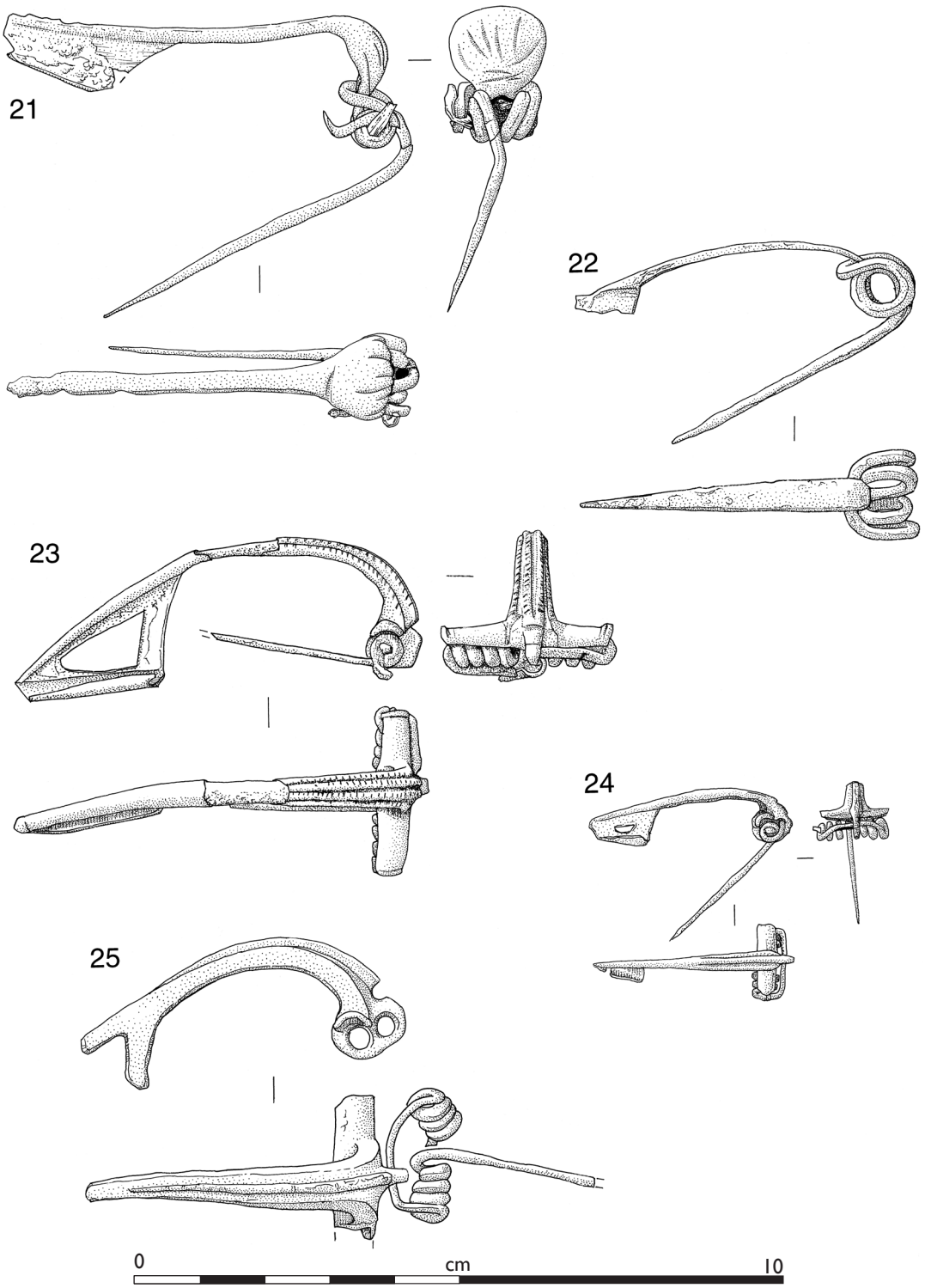

Fig 5.52 Thorpe Lea Nurseries: brooches of copper alloy. 21, spoon-headed brooch (522); 22, Nauheim derivative brooch (1167); 23–5, Colchester derivative brooches (554, 689, 2140). Scale 1:1

BRACELETS

26 Bracelet fragment (585; 3)
Two joining pieces of a decorated bracelet, possibly from near the terminal end as the pieces narrow to one end and the curvature is also rather slight. Strip of D-shaped section decorated with a pattern of transverse notches separating alternate left and right facing semicircles and infilled triangles. Heavily mineralised with a good patina.
Th 6mm
A similar type of bracelet from Colchester is dated *c*AD 320–*c*AD 450 (Crummy 1983, 38 no 1653)

27 Bracelet (693; 4)
Wire bracelet decorated with a spiral design on the outside surface but with a plain interior face, producing a D-shaped cross-section. Good patina on surviving fragment (approximately half) but bent out of shape.
H 3mm
Cf Crummy 1983, 38 no 1602, of 3rd–4th century AD date

28 Bracelet fragment (1832; 4)
Terminal end of a strip bracelet decorated with continuous, deep transverse grooves, which produce a ridged effect.
H 3mm
Cf Crummy 1983, 40 no 1676, dated *c*AD 320–*c*AD450

29 Bracelet fragment (1976; 4)
Plain bracelet of pear-shaped section longitudinally, so that one edge is thin whilst the other is thicker. Possibly from near the terminal end as one end is narrower than the other. Broken both ends.
H 4mm (max)
Cf Crummy 1983, 38 no 1643, dated *c*AD 320–*c*AD 450

30 Bracelet fragment (2091B; 4)
Cable bracelet, formed of three separate, circular section strands, twisted together. Flattened on the interior and top and bottom faces to give a slightly square appearance.
H 3mm
Cf Crummy 1983, 38 no 1628, dated *c*AD 320–*c*AD450, however there is also evidence of this type being in use by 2nd century, if not the 1st (Cool et al 1995, 1540)

OTHER

31 Finger ring fragment (2036; 4)
Undecorated strip of oval section, original diameter approximately 20mm.
Th 3mm
Probably 3rd–4th century AD

32 Spoon (2036; 4)
The pear-shaped bowl appears to be quite crudely finished on the inside with coarse longitudinal polishing/finishing marks and finer more regular transverse ones. These can also be seen on the exterior of the bowl and around the junction of the handle and bowl. The bowl is slightly lopsided at the tip, giving the impression that is has been worn by scraping. There is a notched offset at the handle/bowl junction. Cast in one piece in leaded bronze with a tin plating.

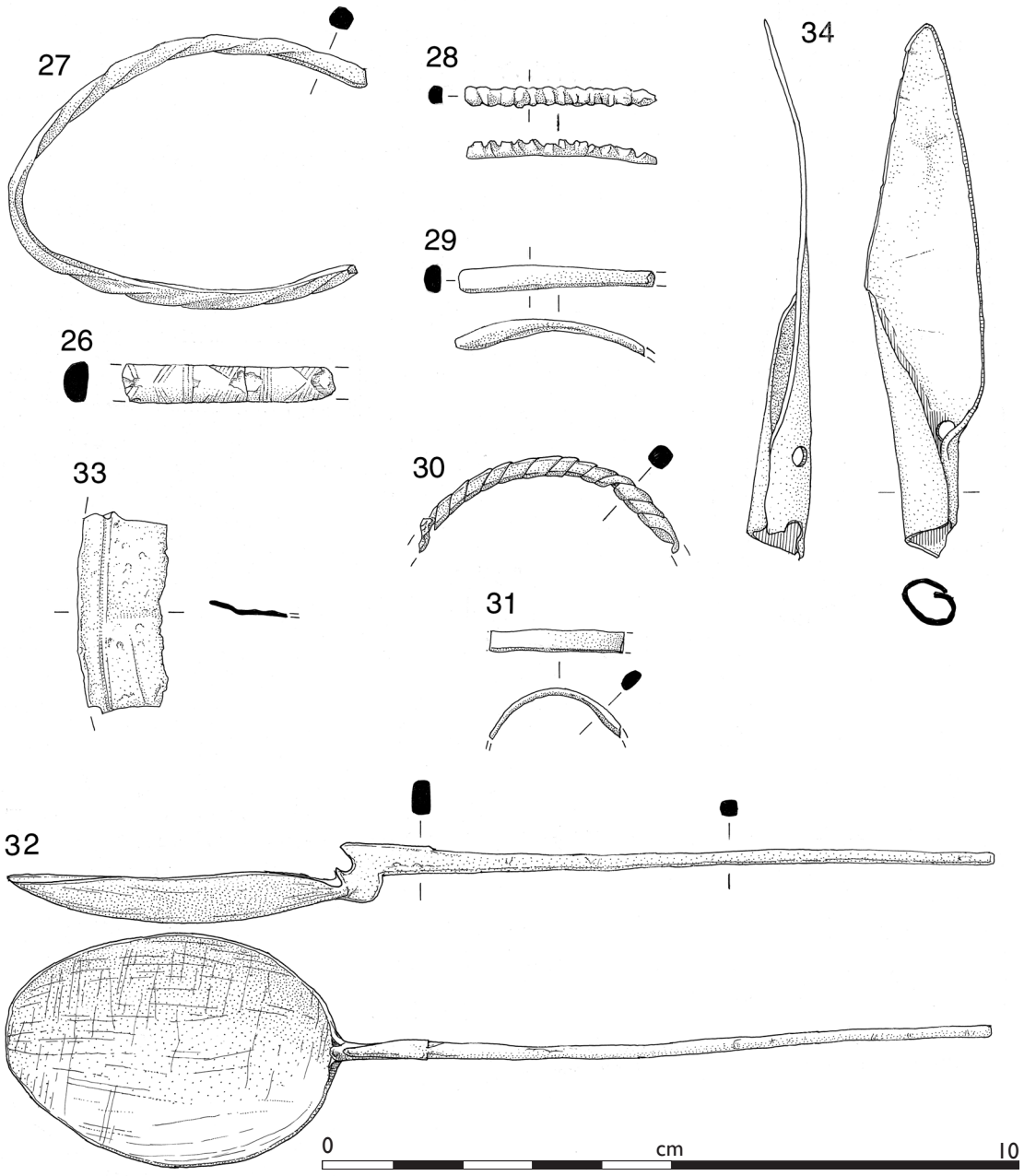

Fig 5.53 Thorpe Lea Nurseries: objects of copper alloy. 26-30, bracelet fragments (585, 693, 1832, 1976, 2091B); 31, finger ring fragment (2036); 32 spoon (1036), 33 possible vessel rim (609); 34 projectile head (592a). Scale 1:1

A similar example with a twisted handle and deeper offset is an heirloom deposited in a grave in the Anglo-Saxon cemetery at King Harry Lane, Verulamium (Ager 1989, 237 no 5 in Grave 21).
L 142mm; W (of bowl) 32mm; Th (of bowl) 1mm
Late 3rd–mid 4th century AD

33 Possible vessel rim (609; 3/4)
Thin, slightly curved strip fragment, with one original edge.
Th 1mm at edge; 0.5mm along break

34 Possible projectile head (598a; ?)
Irregular leaf-shaped blade of rectangular cross-section, folded at one end to form an open socket, with one rivet hole near the blade and another (broken) near the mouth.
L 77mm; W 16mm; Th 1mm
Similar objects in iron are known from Baldock. Although regarded as too small for a spearhead they are thought to be some kind of projectile, possibly an arrowhead. That it is made of copper alloy suggests that it may have had a ritual function. Dated to the 3rd century (Manning and Scott 1986, 147 no 470)

35–6 Two lengths of wire (2036; 4)
Diam 2mm

37 Possible fitting (1627; 3/4)
Three fragments of distorted, thin sheet, one of which appears to bear repoussé decoration in the form of a line of dots.
Th <0.5mm

SHEET FRAGMENTS
Miscellaneous fragments of sheet were recovered from the following contexts;
300; U/S: 319; 4: 1976; 4: 2075; 4: 2091B; 4: 2433; 2
Further details appear in the site archive.

Iron

The great majority of iron objects are from Roman contexts: some may be residual, but most are probably of Roman date.

HOBNAILS
38 Hobnail (119; 3)

39–40 Two hobnails (142; 4)

41 Hobnail (315; 4)

42 Hobnail (318; 4)

43–5 Three hobnails (319; 4)

46 Hobnail (338; 4)

47 Hobnail (372; 4)

48–59 Twelve hobnails (506; 3/4)

60 Hobnail (543D; 4)

61–2 One hobnail and one hobnail fragment (1123; 4)

63–71 Nine hobnails/fragments. Traces of mineral preserved leather were present on six of the nails. There were traces of vivianite on one of the nails, indicating waterlogged conditions. (1193; 4)

72–4 Three hobnails (and four fragments, not numbered) (1937A; 4)

75–101 Twenty-four hobnails and three fragments. Several nails had traces of mineral preserved organic. (1956A; 4)

102 Hobnail (1973; 4)

103–5 Three hobnails (2057; 4)

106 Hobnail (2064; 4)

107 Hobnail (2091; 4)

108–9 Two hobnails (2091B; 4)

TOOLS (DOMESTIC AND/OR INDUSTRIAL)

110 Knife blade fragment (554; 3/4)
Fragment of the tip of a broad blade which has a straight back, the cutting edge curving upwards to meet it.
Surviving L 40mm; W 23mm; Th3.5mm
Manning types 13–15, everyday general purpose knives, cf Q43 of 1st century AD date (Manning 1985, 114–15)

111 Possible reaping hook fragment (309; 4)
Blade of rectangular section which tapers to both edges. At one end the blade constricts and starts to curve and is of rectangular section with blunt edges. Broken at both ends.
(Surviving) L 63mm; W 25mm; Th 2mm
Cf Manning 1985, 53 no F43 of type 3

112 Possible handle fragment (693; 4)
A strip of rectangular section with one rivet hole on the flat section and separating into two strips, one bent, at the opposite end, where it is broken.
L 46mm; W 23mm; Th 2mm

113 Chisel (1972; 4)
Solid stem of square section with a battered and flattened head and a narrow edge.
L 14.3mm; W (stem) 10mm^2; Th (edge) 2mm
Probably a smith's or mason's chisel, of 1st century date.
Cf Manning 1985, 9 no A22

114 Shears (2091; 4)
Fragment of shears blade which has an arched back, broken before the tip of the blade, and the beginning of the square-sectioned arm at the back of the blade.
L 50mm; W 22mm; Th (arm) 4mm^2

115 Shears/knife blade (2091C; 4)
A fragment of a blade with an arched back, from shears or a knife.
Possibly the other blade from the shears in 2091 (see above)
L 32mm; W 21mm; Th 1.5mm

116 Tool, possibly a modelling tool (1972; 4)
Stem of square section, broken at one end. The other has a spatula shaped blade, bent at an angle to the stem and broken.
L 88mm; W 9mm^2
1st or 2nd century (cf Manning 1985, 31 no C9)

STRUCTURAL FASTENINGS AND FITTINGS

117 Latchlifter (311; 4)
Blade of circular section, tapering towards the tip which is missing. The handle is of rectangular section and broken close to the blade.
L 182mm; Diam 5mm; W 13mm (handle)
Manning 1985, O15

118 Object, possible ring-headed staple (2036; 4)
Strip of rectangular section, bent into a ring at one end. The stem is of double thickness, possibly as a result of two strip being joined together, the second of which tapers to a point.
1st century AD (cf Manning and Scott 1986, 159 no 581)

119 Stud (300; U/S)
Slightly domed head, roughly square in shape. The square-sectioned shank is broken part way along.
L 60mm; W (head) 34mm^2

120 Ring fragment (350; ?4)
Estimated Diam 8mm; Th 2mm

121 Possible rove (315; 4)
Semicircular head, with square perforation, a little off-centre. Concave on the underside.
Diam 17mm; Th 4mm
Cf Manning 1985, 134 no 82 of 1st century date

122 Binding strip (1207; 4)
Strip of rectangular section, tapering to one end which has a circular terminal with central (circular) perforation. Also perforated (square) at the other end. Complete except for a small section of the circular terminal.
L 80mm; W 22mm; Th 3mm
Mid 1st century (cf Manning 1985, 142 nos S111–13)

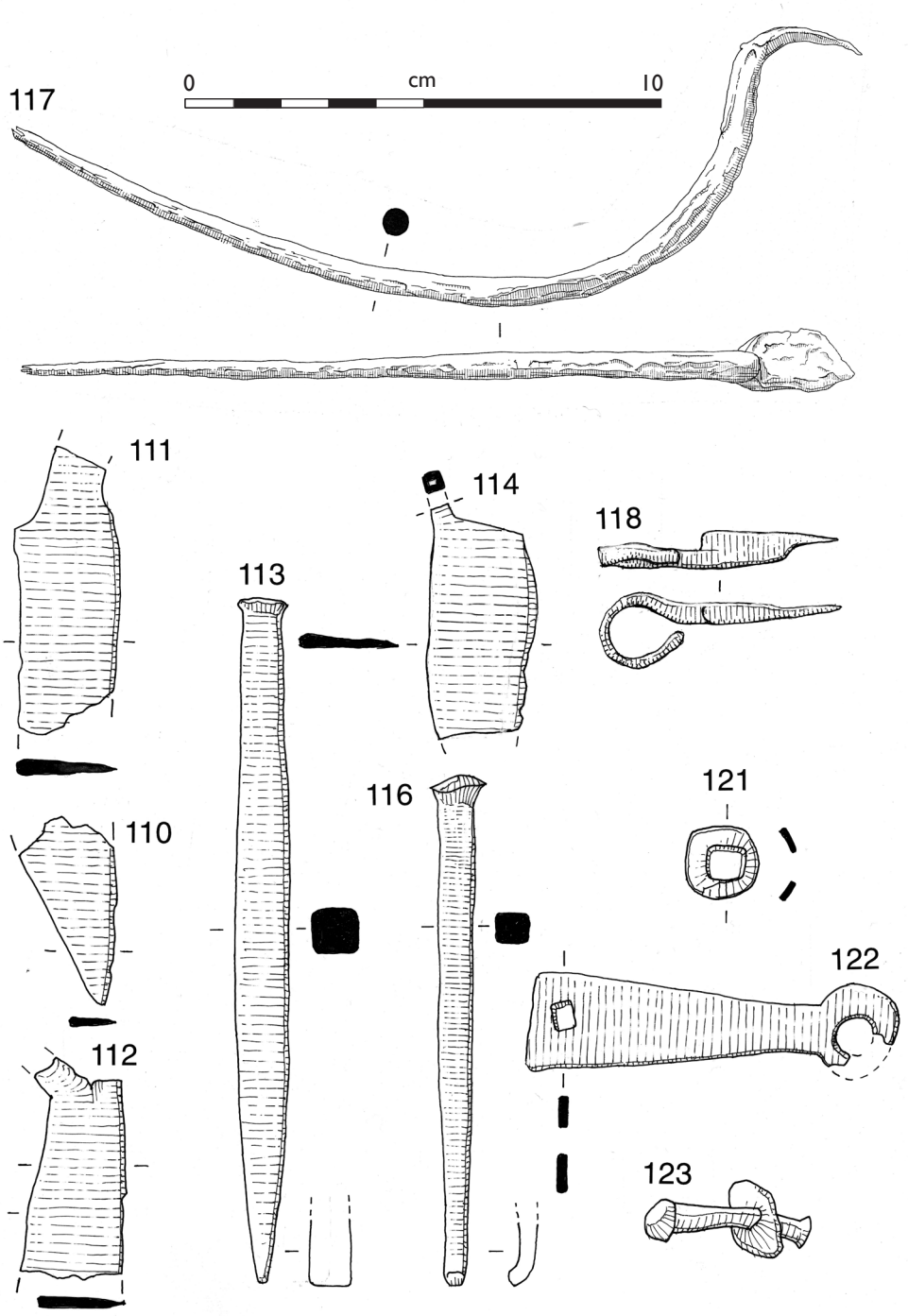

Fig 5.54 Thorpe Lea Nurseries: objects of iron. 110, knife blade fragment; 111, possible reaping tool fragment (309); 112, handle fragment (693); 113, chisel (1972); 114, shears (2091); 116, possible modelling tool (1972), 117, latchlifter (311), 118, object, possible ring-headed staple (2036), 121, possible rove (315), 122, binding strip (1207), 123, holdfast (2036). Scale 2:3

123 Holdfast (2036; 4)
Square-sectioned stem with slightly domed head. The rove has slipped from position and is now part way down the stem.
L 36mm; Th 5mm^2
Cf Manning 1985, 134 nos R74–81

124 Rod/pin shaft (337; 4)
Short fragment of rod, possibly a pin shaft.
L 20mm; Diam 1.5mm

Miscellaneous and unidentifiable strip/plate/corrosion fragments have been recovered from the following contexts:
316; 4: 321; 4: 350A; ?: 366B; 4: 396; ?: 414; 3/4: 418; 4: 627; 3: 1731; 4: 1874; U/S: 1987A; 4: 2043B; 4: 2119A; 4
See the site archive for further details of these items.

NAILS
72 nails were recovered from 45 contexts across the site, 90% of these from phase 4, one is obviously modern. The majority were in a poor condition and either broken or bent, most appear to be of Manning type 1b (Manning 1985, 134), though in many instances, only fragments of shanks survive. However, head types were exclusively of Type 1b, which suggests that no other types occurred on the site. This is a rather small overall quantity of nails from a Roman site, and they were widely scattered across most of the main area. This suggests that there was a lack of substantial timber built structures on the site, this small assemblage possibly representing more temporary structures such as animal stockades. (See table 5.20 for a breakdown of nail types by phase).

Lead

125 Strip fragment (367; 4)
Roughly triangular strip fragment with both ends folded into the centre.
L 29mm (folded); W 24mm; Th 1mm

Calcined flint

37.7kg of calcined flint pebbles were recovered from contexts widely spread across the site, but much was not collected. Only 40g comes from Bronze Age contexts. Some of this material was associated with the deposits of slag and other iron working debris. This includes 2.9kg from 15 contexts of Iron Age date; 1.8kg from transitional contexts; and 1.4kg in Roman contexts.

The remainder is probably indicative of domestic hearths, cooking pits, and corn-drying hollows (Cunliffe 1991, 374).

A full table of the quantities recovered, divided by phase can be found in the site archive.

Quernstones *by Nicola Hembrey* (fig 5.55, table 5.21)

67 quernstones (119 fragments, weighing 30.79kg) came from contexts of which six are Bronze Age, four Iron Age, ten transitional, 43 Roman, and four unstratified.

The querns occur in three main types of stone; Lower Greensand (67%), nephrite (12%), and sarsen (16%). Lower Greensand outcrops in the south of Surrey, in particular in the Alice Holt/Farnham area, thus raising the possibility that the querns were transported to the site along with Alice Holt pottery. Sarsen occurs in the north-west of the county, and the lava querns almost certainly came from the Mayen/Niedermendig region of the Rhine. The last-named only occur in Roman contexts, while both the other types occur in all phases.

Where the fragments retain diagnostic features, the querns seem mainly to be of rotary type. Examples of both upper and lower stones were collected. Several full thicknesses were measured, ranging from 20–30mm to 60–70mm. Two fragments, from contexts 523 and 2133, retain central perforations, and one fragment, from context 1068, displays grooving.

Other pieces of interest include fragments of two possible saddle querns, one from context 2370, of Bronze Age date, and the other from Roman context 324/37/8; and three possible grain rubbers, all of sarsen stone, from contexts 543B, 418 (both of transitional date), and 435, of Roman date.

Discussion

The overall impression of the finds assemblage is of a paucity of objects from a site which covered such a large area and wide date range. This in turn makes it difficult to draw any firm conclusions about the nature of the site from the finds, and about the finds themselves.

The small finds comprised artefacts of metal, fired clay, and a large number of quernstones, but only a single other stone object. Conspicuous by their absence were glass and bone, some trace of which could have been expected despite the acidic soil conditions. The majority of the finds are of Roman date, with some Late Iron Age/Early Roman. A small proportion (9%) are from Bronze Age contexts, but otherwise the substantial Bronze Age and Early Iron Age presence on the site, as indicated by the pottery and flint assemblages, is poorly represented.

The majority of the loomweight and spindlewhorl fragments were recovered from contexts of Iron Age date, although many of the loomweight fragments were also found in contexts of phases 3–4 and 4. It is difficult to tell from such a fragmentary assemblage if all the artefacts are of Iron Age date or include Roman examples. The objects found in Roman contexts may be residual or could represent the continuance of a native tradition. They cannot be differentiated on fabric type and there are no complete examples to tell if there is any difference on grounds of type. Quernstones, on the other hand are more prevalent in Roman contexts, and while some pieces may be residual, this can hardly account for the preponderance.

The prominence of all these objects in areas 4 and 4a may suggest domestic or workshop areas, although, as these areas have the densest concentration of features on the site, a greater number of finds of all types can be expected here. Nevertheless the lack of other small finds of Iron Age date suggests that spinning and weaving played an important role in in this area. The finds may also indicate seasonal occupation of the site, after the sheep have been sheared or flax harvested. It seems that these activities were of much lesser importance in the Roman period.

The slingshots were most probably used for hunting. Only one metal object can be certainly assigned an Iron Age date, the spoon-headed brooch (fig 5.52, no 21), although there are many undiagnostic pieces that might easily be residual in the Roman contexts in which they were found.

The dateable Roman metal finds divide into two groups: ten finds of 1st century date, with only a single one of these being of 1st–2nd century date; and 18 of mid 3rd to 4th century date. The Roman artefacts are also from a limited number of functional categories, namely; coins, objects of dress/adornment, household utensils, tools (mainly agricultural) and structural fastenings and fittings. Some categories, such as the tools and brooches, are predominately 1st century, whereas the coins and the bracelets are Late Roman

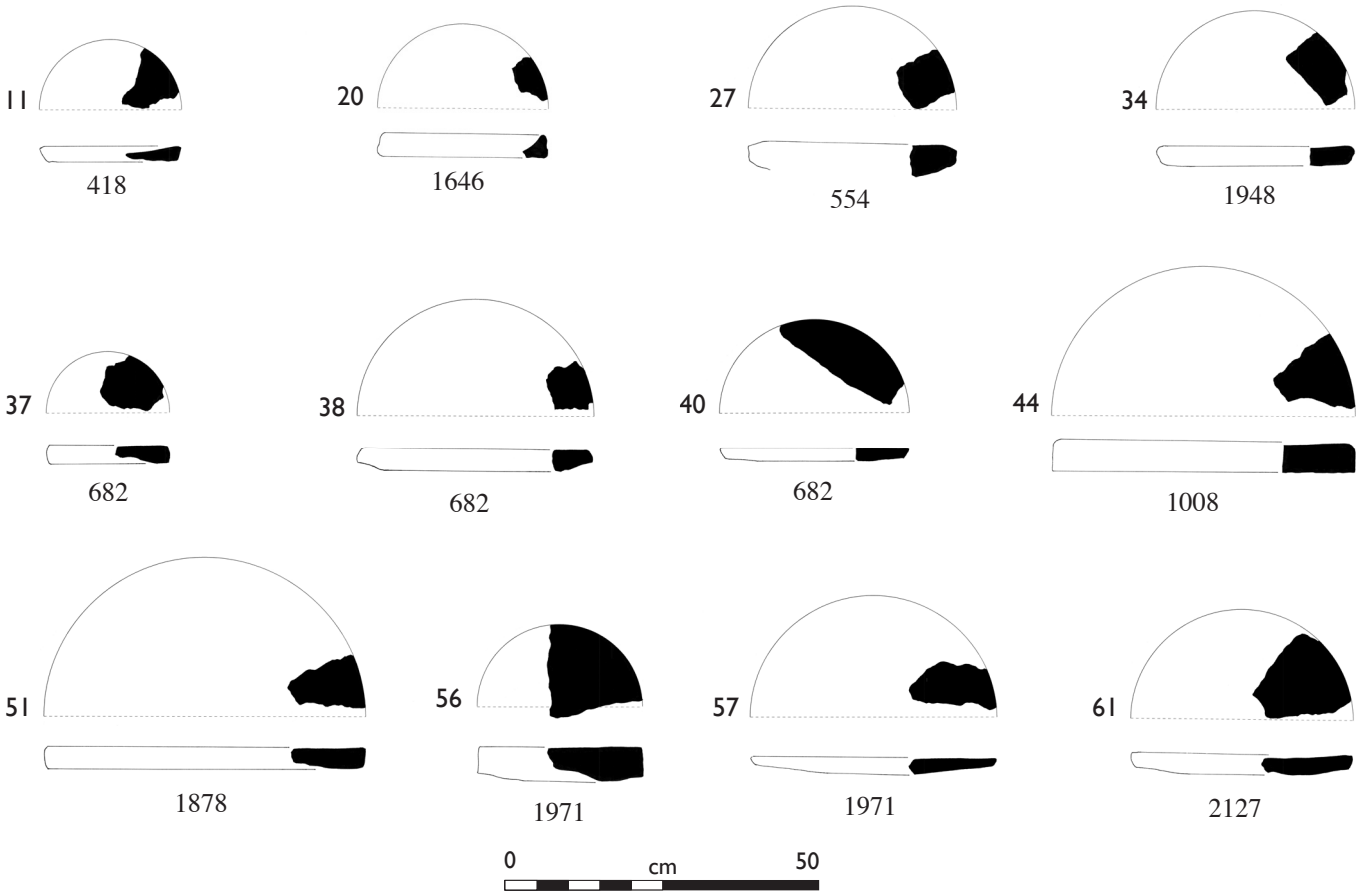

Fig 5.55 Thorpe Lea Nurseries: querns. The numbers refer to table 5.21. All are of Lower Greensand, except no 56 which is of sarsen stone. Context numbers are also indicated

in date. It is difficult to see these characteristics as other than an accident of discovery, as the chronological span of the pottery suggests a continuity of occupation, while the distinctions by period in category types are those common to Roman sites.

The Roman finds come from a limited number of features, most notably from the two waterholes 1971 and 2090, ditch 1191 and pit 2039. Smaller concentrations occur in 321, 367 and 533. These features are mostly on the outskirts of the densest concentration of contexts in the western settlement area, which otherwise yielded few artefacts. Waterhole 1971 contained the chisel, ring-headed staple, and possible modelling tool, which are all of 1st century date, along with a coin, bracelet fragment, finger ring and spoon, of Late Roman date, and the holdfast and some wire. Waterhole 2090 contained six coins of 3rd to 4th century date, a fragment of bracelet, three hobnails, and both pairs of shears. The possible ritual character of deposition in these features is explored further in part 9.

A number of the objects, such as the brooches and spoon, might appear to be high status items, but metallurgical analysis has identified them as copper alloy with tin silver platings. In addition the Nauheim derivative brooch has been called a 'poor man's brooch' (Stead & Rigby 1986, 109, no 26). This perhaps suggests a rural community which cannot quite afford the best but makes use of less expensive imitations.

7.2 BUILDING MATERIALS

by Nicola Hembrey and Suzanne Huson

Ceramic building materials

DAUB

A fairly large quantity of daub, 2145 fragments weighing 24.8kg, was collected from a large number of scattered contexts. However, only a few fragments bore wattle impressions, and these were mainly from transitional Iron Age/Early Roman contexts. A few further fragments displayed flat surfaces, and an interesting fragment with attached plaster came from context 2036B (Late Roman).

ROMAN BRICK AND TILE (table 5.22)

A total of 1192 fragments, over 137kg, of Roman tiles were recovered. All brick and tile fragments were collected on-site, unless very obviously modern in origin, in which case their presence was noted in the site record. 87% of fragments collected were from Roman or transitional Iron Age/Early Roman deposits, the rest of the material being intrusive in earlier Bronze Age or Iron Age features, or residual in later post-Roman, or in undateable features. No detailed study of the fabric of the tiles was undertaken.

The most common Roman tile types are all represented on-site. Just under 68kg of the Roman tile is of *tegula* and *imbrex* types used in roofing, and *c*64kg is of thicker paving tiles which were occasionally used on walls as well as floors. Two possible *tegulae mammatae* tiles were collected. Thirteen pieces of flue tile were retrieved from site, ten of them either combed or incised, indicating a nearby building of some status which included a fairly sophisticated heating system.

A few tiles displayed signs of possible signatures, formed by running fingers in a line or curve over the unfired tile. Two *tegulae* also display a cross-hatch mark on the reverse. Other marks found include a dog print and a hobnail print.

One further point of note is the presence of 80 waster fragments, a possible indication of production on or near the site.

MEDIEVAL AND LATER BRICK AND TILE

A total of 190 fragments, almost 7kg, of medieval/post-medieval brick and tile was recovered. It is important to note that only 27% of this total came from post-Roman or undateable contexts. The site records make clear that in the overwhelming majority of cases, this tile was recovered from the surface or near-surface of features.

The great majority of pieces found were of standard peghole roof tile, and almost all tiles were fragmentary. The only floor tile fragment was glazed.

Stone (table 5.23)

Stone was collected on-site wherever it was thought to be utilised. However, many of the pieces display no clear sign of use, and may be of natural occurrence. The assemblage consists of 103 fragments, a total weight of 11858g. Stone was present in all phases.

Several different types of stone were represented, throughout all phases. The most common types found were Lower Greensand (31% of all stone collected), quartzite, including sarsen stone (29%), and chalk (17%). Several fragments of ferricrete (iron-cemented conglomerates of flints, silts or pebbles) were also found during the excavation, obtained either from the local river gravels or from the Eocene Bracklesham and Bagshot Beds of the north-west Surrey heathlands.

Two fragments are worthy of comment, both from Roman phase 4C, late 3rd or 4th century AD. Context 1971 (2036) contained a smooth amorphous fragment of quartzite, possibly used as a whetstone, and a fossil echinoid was recovered from 1878, possibly originally collected as a curio.

Most fragments are fairly small in size, and were probably post-packing stones, if used, and there is no sign of direct structural use.

7.3 THE WORKED FLINT

by David Underwood

This report was prepared in 1999, and has not been revised apart from the insertion of a few additional references.

Introduction and general interpretative comments

A total of 976 humanly struck flints was recovered and have been classified according to the following major categories:

- waste flakes,
- cutting flakes, defined after Ford (1987, 68) as flakes with long, uniform straight edges with edge angle around 30°,
- blades (removals with breadth/length ratio of 1:2 or less and straight parallel lateral edges),
- smashed pieces,
- cores,
- tools (retouched and/or utilised pieces).

The 343 individual flint-bearing contexts identified were grouped into phases (tables 5.24 and 5.25). This procedure

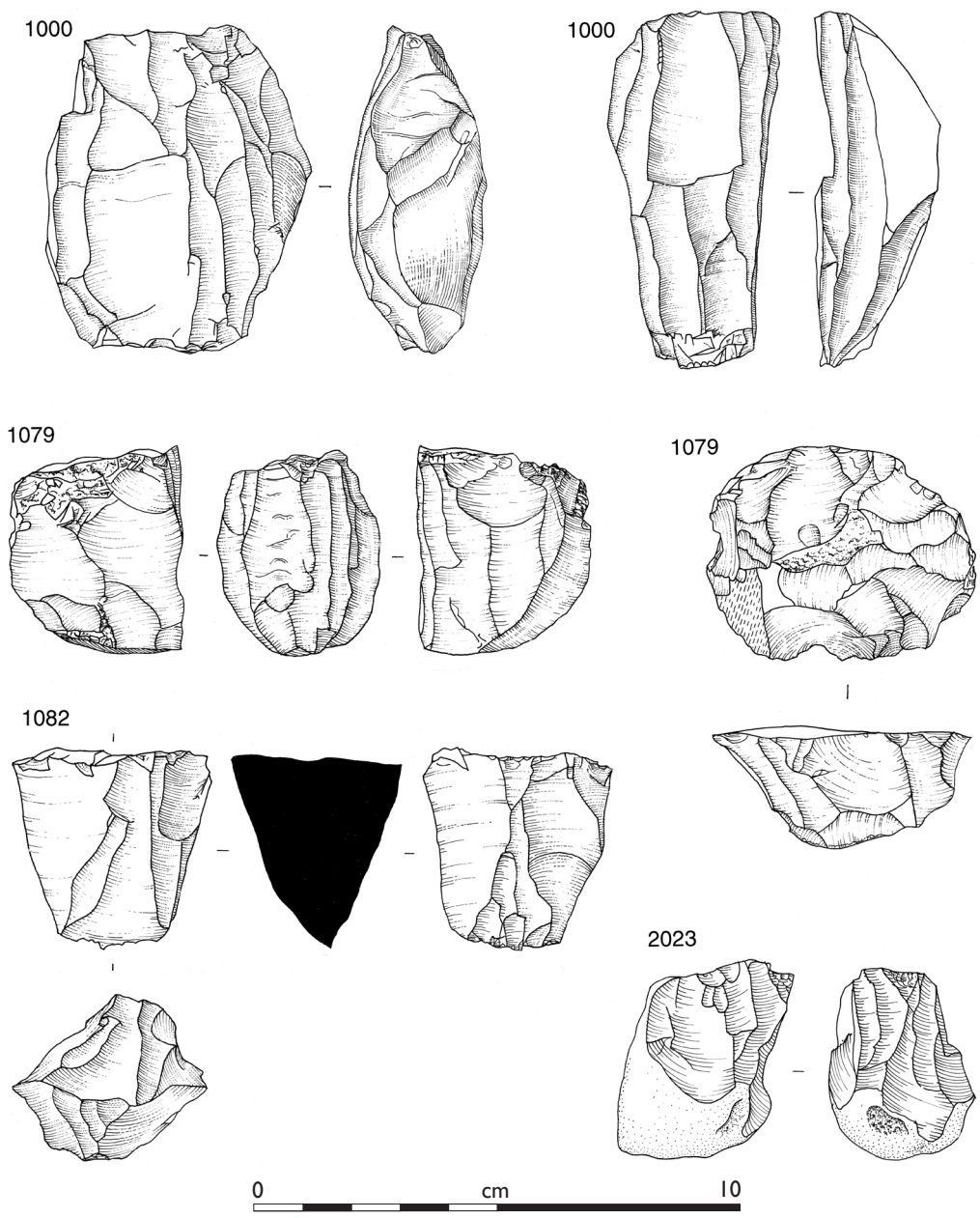

Fig 5.56 Thorpe Lea Nurseries: Late Mesolithic flint cores. The context number is indicated

raised two problems specific to the site. The first was that no features definitely relating to pre-Bronze Age activity had been identified (Hayman 1995, 3); it was therefore decided to highlight groups of contexts of uncertain or possible prehistoric date, as well as those identified as natural features, in the hope that the flintwork might indicate definite pre-Bronze Age dates for them. Secondly, much of the flintwork was clearly residual in Iron Age or Roman period contexts: for the purposes of this report, these have been grouped as one phase. All spot-dated Bronze Age contexts have been grouped together, with the exception of the Bronze Age contexts from Area H, which are treated as a separate group. The archive contains detailed data both at the level of individual contexts and of phases.

There is a statistical over-representation of blades and cutting flakes among the residual material in the Iron Age/Roman contexts, balanced by an over-representation of tools and cores in Bronze Age contexts. The interpretation of this is problematic: the categories overrepresented in the later contexts are precisely those whose abundance might, in an uncontaminated context, be taken as evidence of Neolithic or earlier domestic activity (cf Ford 1987, *passim*). However, the residual nature of this material precludes any more detailed interpretation.

As far as the Bronze Age contexts are concerned, they show an overrepresentation of waste flakes as compared, for example, with the known Bronze Age assemblages at Church Lammas, near Staines (Underwood 1992a, Underwood 1997) This may

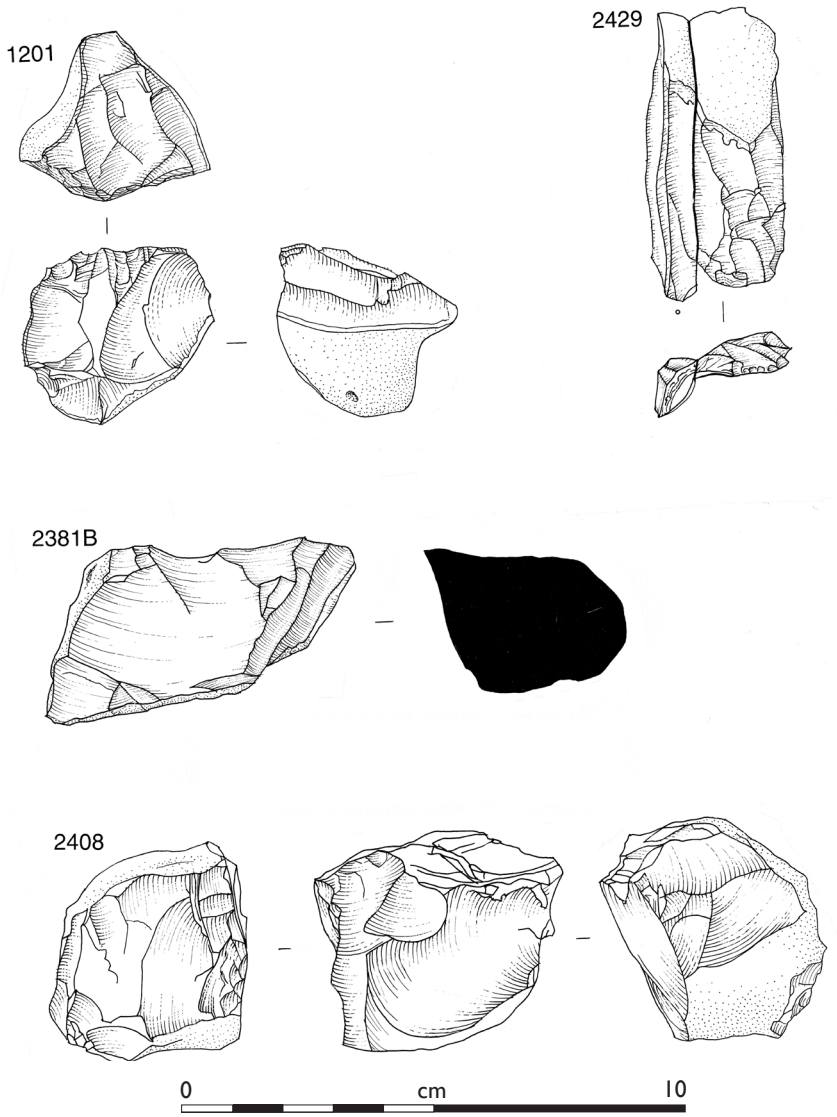

Fig 5.57 Thorpe Lea Nurseries: Early Neolithic flint core (context 1201); Late Mesolithic/Early Neolithic conjoining blades (2429); Late Neolithic/Bronze Age cores (2381B and 2408)

well represent variability between the sites, with more primary knapping taking place at Thorpe Lea. However, the problem of residuality once again limits interpretation at assemblage level: it may be assumed that pre-Bronze Age flint is incorporated into the Bronze Age contexts just as it is into later ones (see 'Technology and typology' below).

The total number of flints from undated, potentially early, contexts is so low that statistical appraisal is not appropriate.

All of these factors combine to limit the potential for chronological interpretation to qualitative, rather than quantitative, analysis. In particular, the identification of individual artefact types or technological attributes which are documented from more secure contexts as being chronologically sensitive seems to offer the best chance of identifying prehistoric activity on the site. Such types and attributes will be discussed further below.

Raw material

As far as could be determined from those pieces with residual cortex, by far the predominant raw material in the assemblage was the locally occurring gravel flint, with markedly rolled natural surfaces and frequent internal flaws. In the absence of cortex, the distinction between gravel and imported flint is not always clear, and cannot be quantified. A number of pieces of Reading Beds flint, characterised by dark grey cortex and pale brown sub-cortical layer, was noted (cf tool archive). This raw material, whose closest natural occurrence is at Windsor (Phil Jones pers comm), was observed in the Late Neolithic assemblage from Lower Mill Farm, Stanwell (Underwood 1992b) and in two Neolithic pits at Ashford Prison (Bishop 2006, 14). A chisel type transverse arrowhead of Reading Beds flint was also recovered from an Early Bronze Age ring ditch at Coldharbour Lane in Thorpe *c*2km east of Thorpe Lea Nurseries (Marples

forthcoming). A small number of pieces bear unabraded cortex, and are therefore presumably derived from primary chalk flint deposits, the nearest of which are in the vicinity of Maidenhead and Denham (Healey and Robertson-Mackay 1987, 95). A number of cores, although bearing no cortex, appear to be made from large nodules of very homogeneous, internally unflawed flint which may well come from primary deposits and in any case represent careful raw material selection (see below). A single flake struck from a polished implement, found in an Iron Age context (2474A) is too heavily patinated to be certain whether it is of the 'axe flint' identified at the Staines causewayed enclosure (ibid) and at Church Lammas (Underwood 1992a). Within the tool assemblage a number of pieces was noted on which the retouch cut the patina of the blank surface, indicating the re-use of old blanks after a considerable interval (cf tool archive).

All in all, the raw material spectrum displays attributes comparable with those documented for assemblages from the Late Mesolithic/Early Neolithic (selection and import of high quality flint: Healey and Robertson-Mackay 1987, Holgate 1988, 51–2) through the Late Neolithic (eclectic raw material selection including Reading Beds flint: Underwood 1992b) to the Bronze Age (local gravel flint; opportunistic re-use of existing blanks: Underwood 1992a, Young & Humphrey 1999).

Technology and typology: waste products

It is in the fields of technology and typology that it becomes possible to identify with confidence pieces or attributes diagnostic of specific periods in prehistory. These may be set out chronologically as follows:

LATE MESOLITHIC (fig 5.56)
The presence of opposed-platform (type B1) blade cores (examples illustrated from contexts 1000 (unstratified finds), 1079 (phase uncertain) and 2023 (Bronze Age)) and a pyramidal blade core (illustrated: context 1082 (Iron Age)) is a strong indication of Late Mesolithic flintworking on the site (Holgate 1988, 54–9. Diagnostic Late Mesolithic flintwork has been identified from two sites in the vicinity of Thorpe Lea Nurseries, at Coldharbour Lane in Thorpe

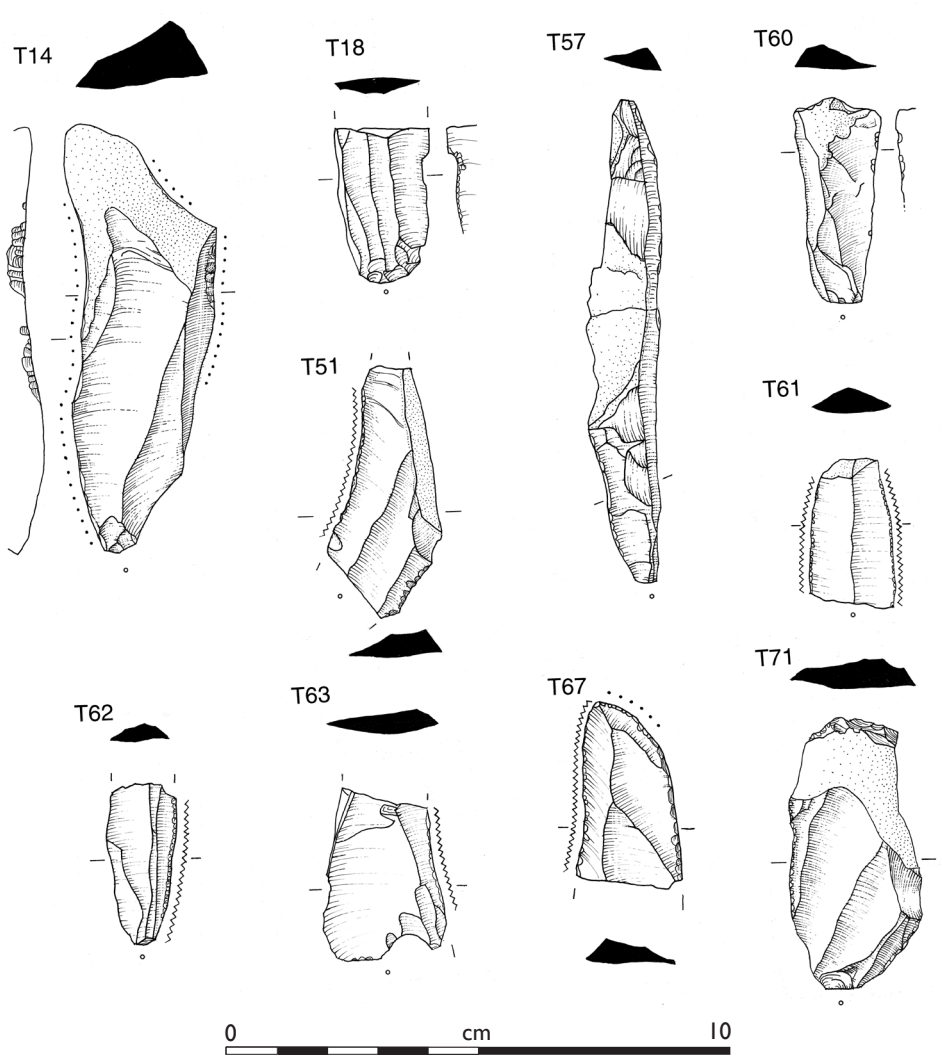

Fig 5.58 Thorpe Lea Nurseries: Flint tools (the number is that used in the catalogue of flint tools). T14, T18, T57, T60 are Mesolithic/Early Neolithic retouched/utilised blades: T51, T61, T62, T63, T67, T71 serrated Early Neolithic blades

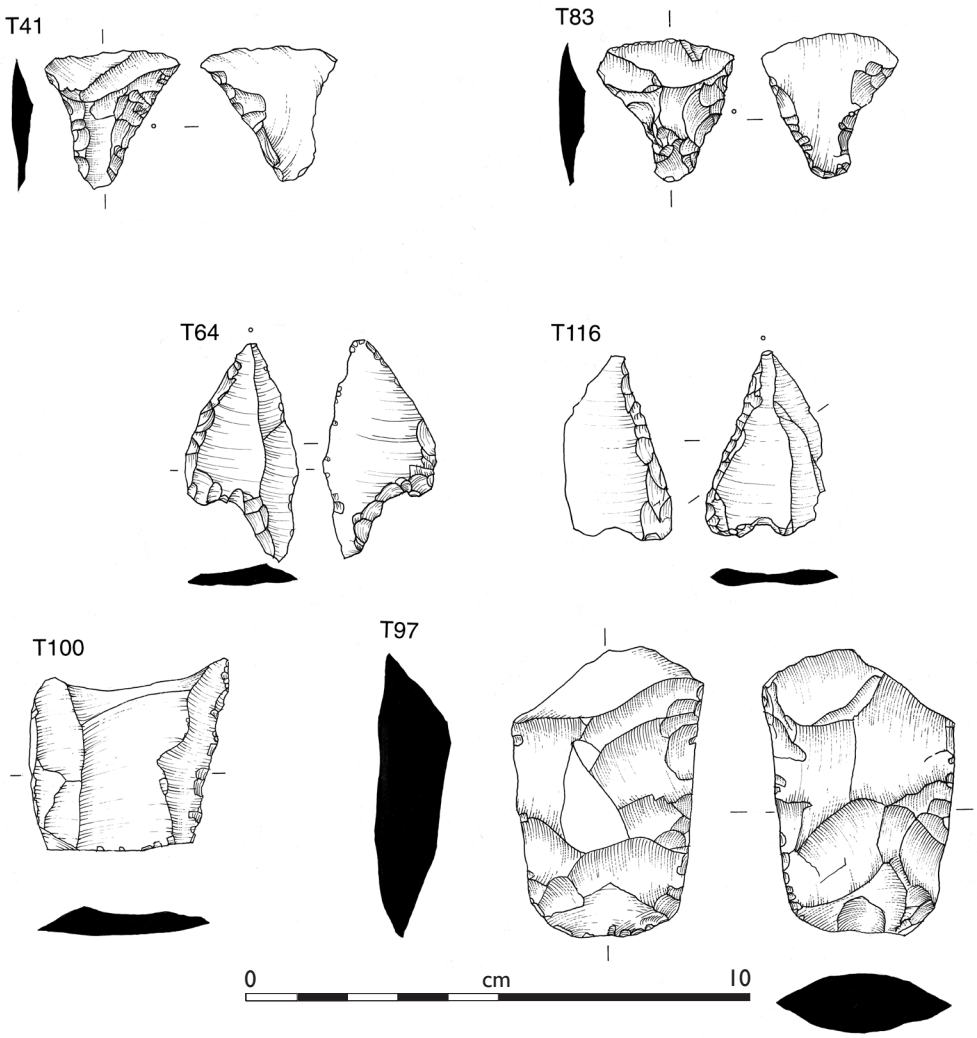

Fig 5.59 Thorpe Lea Nurseries: Late Neolithic flint tools (the number is that used in the catalogue of flint tools). T41, R83, T116 are transverse arrowheads: T64 an oblique transverse arrowhead; T97 is the basal fragment of a flaked axe; T100 is a serrated flake

*c*2km to the east (Marples forthcoming), and St Ann's Heath School in Virginia Water, *c*2km to the south (Marples 2010). Palaeoecological evidence of Late Mesolithic acitivity has also been recovered at Meadlake Place *c*500m north-east of the site (Branch & Green 2004, 12–13).

EARLY NEOLITHIC (fig 5.57)
The type B2 (orthogonal striking platforms) blade core from Roman context 1201 (illustrated) fits with known tendencies in Early Neolithic (pre-2500 bc) flint technology (Holgate 1988, 59–60).

LATE MESOLITHIC/EARLY NEOLITHIC (fig 5.57)
While the core types from these two periods are quite distinct, the resulting blades cannot always be assigned to one period or the other. The presence of two conjoining blades (illustrated) from Bronze Age context 2429 is further evidence of pre-Late Neolithic flintworking on the site. In general, the spread of a small number of blades across all phases is best interpreted as residue of Mesolithic or Early Neolithic activity. The shift away from blades to flakes at the end of the Early Neolithic in the mid 3rd millennium BC is well documented (Pitts 1978a, 26). It may be noted that clear evidence for soft-hammer percussion, which is suggested by Holgate (1988, 60) to be characteristic of these periods, is extremely rare at Thorpe Lea.

LATE NEOLITHIC/BRONZE AGE (fig 5.57)
In terms of waste products these periods are very similar (Pitts 1978b, 192). The majority of flakes from the site fit with the documented trend for unsystematic hard-hammer percussion present from the Late Neolithic onwards. Corresponding cores (illustrated examples from Bronze Age contexts 2381B and 2408) are present, all on local gravel flint, often only partially worked as the small flawed gravel nodules become exhausted after few removals.

Technology and typology: tools

Again, each presumed period of activity may be discussed:

MESOLITHIC/EARLY NEOLITHIC (fig 5.58)
No unambiguously Mesolithic tools were recovered. It is possible that some of the fine retouched or utilised blades may be Mesolithic in date; however, they could as well be Early Neolithic (illustrated examples T57, T60, T18, T14). Serrated pieces (or microdenticulates: Holgate 1988, 40) are characteristic for the whole of the Neolithic; when made on blades (illustrated examples T51, T61, T62, T63, T67 (combination tool), T71) they may be assumed to be Early Neolithic in date.

LATE NEOLITHIC (fig 5.59)
The chisel type (T41, T83, T116) transverse arrowheads are securely dateable to the Late Neolithic, probably to the period 2500–1850 BC (Green 1980, 114). The oblique transverse arrowhead (T64) is characteristic of the second millennium BC (ibid, 115). The basal fragment of a thin-butted flaked axe (T97) may also be assigned with certainty to this period (Holgate 1988, 62).

It is probable that the serrated flakes (T100, T63 [not illustrated]) are Late Neolithic, with their combination of Neolithic serration and Late Neolithic blank type. It may also be noted that serrated pieces are one type which does not survive the Late Neolithic–Bronze Age transition (Ford et al 1984).

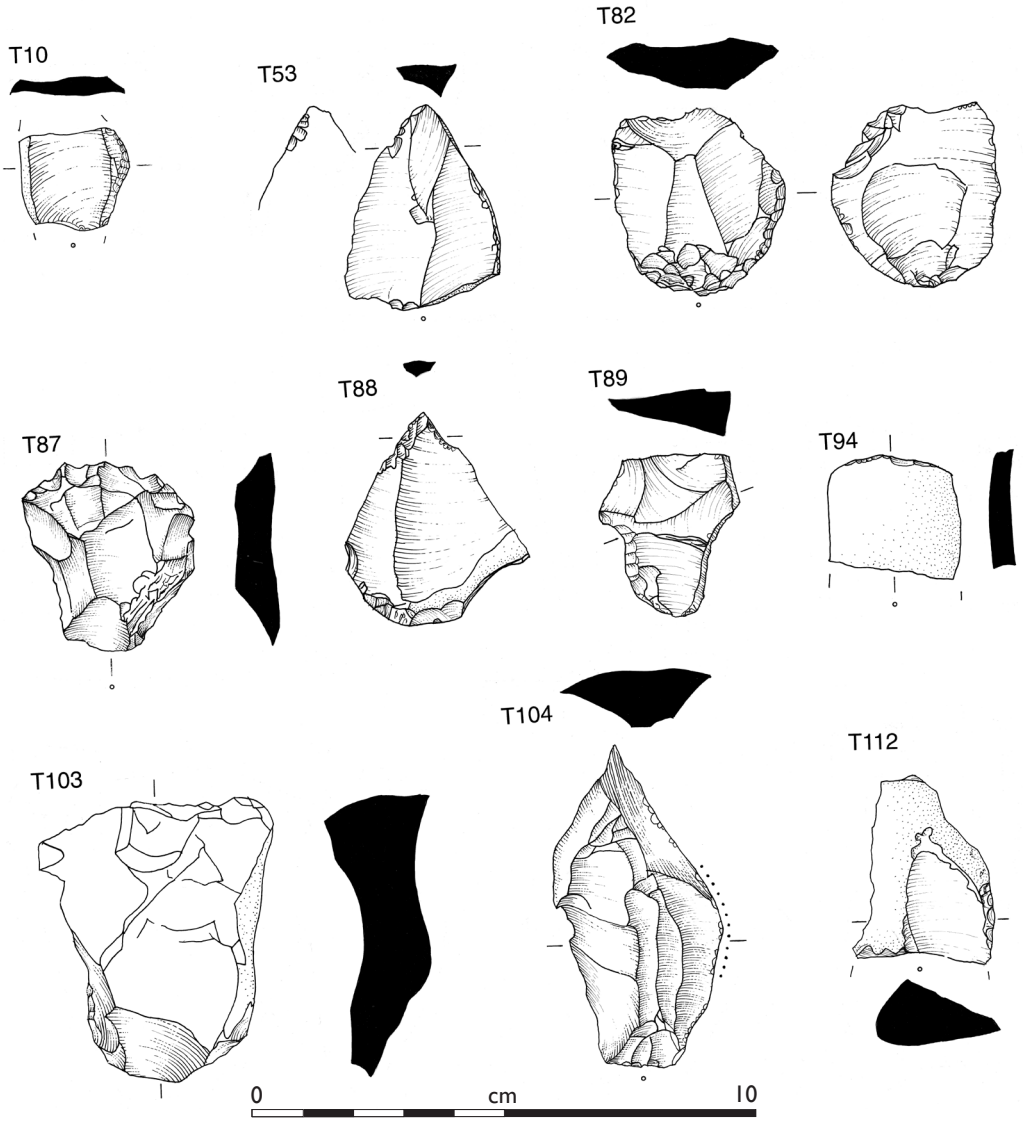

Fig 5.60 Thorpe Lea Nurseries: Late Neolithic/Bronze Age flint tools. T94, T103 are scrapers; T88 is a borer; T89 is a notched flake; T87 is a denticulate; T53, T104, T112, are utilised flakes; T82 is a combination tool; T10 is a retouched patinated blade fragment

LATE NEOLITHIC/BRONZE AGE (fig 5.60)

The majority of tools on flake blanks may be broadly assigned to the Late Neolithic or later (range of illustrated pieces: scrapers T94 and T103; borer T88; notched flake T89; denticulate T87; utilised flakes T53, T104, T112; combination tool T82). The retouching of a patinated blade fragment (T10), and the occasional selection of naturally shattered pieces for retouch show the extreme opportunism of blank selection observed at Church Lammas in a Bronze Age context (Underwood 1992a).

It may be noted that almost all chronologically diagnostic artefacts were residual in the contexts where they were found.

Finally, the fabricator (T32) and hammerstones, while not chronologically sensitive, are further evidence for flintworking on the site.

Tool function

Given the absence of closed tool assemblages on the site, no meaningful assessment of on-site activities on the basis of inferred tool function is possible. Potential functions, inferred on the principles outlined in Underwood (1992a) are listed for record in the archive.

Discussion

Detailed interpretation of the flint assemblage is severely hampered by the redeposition and mixing of flint artefacts in every phase of the site's use. Even the contexts spot-dated to the Bronze Age contain diagnostic earlier artefacts, hindering the quantitative interpretation of the Bronze Age flint assemblage as a whole.

However, the combined qualitative analysis of waste products and tools does provide clear evidence for a sequence of pre-Bronze Age activity on the site. Late Mesolithic and Early Neolithic flintworking may be inferred on the basis of core technology; the Early Neolithic period is also represented in the tool assemblage. As waste products become less distinctive for the Late Neolithic, a number of precisely diagnostic tool types for this period are present. Finally a large proportion of the flintwork is consistent with the Bronze Age date of many of the features.

7.4 THE SLAG

by David Starley

Initial examination

In 1995 four boxes of debris totalling 24kg were examined as part of an assessment of the site (Starley 1995a). This examination showed the slag to be almost entirely iron smelting debris. It also identified an unusual morphology and recommended that a selected range of the material should be examined by optical microscopy and scanning electron microscopy with energy dispersive X-ray analysis, to better understand the processes and allow comparison with other material. This report fulfils these requirements, and incorporates the findings with those of the assessment. In addition a relatively small further quantity of slag, not available during assessment was visually examined and the phase/type classification updated. Full technical details of the analysis may be found in the Digital Supplement.

Results (tables 5. 26 and 5.27)

Visual examination of of all 27.6kg of metalworking debris allowed the material to be classified, quantified and matched against the phasing information (table 5.26), and then categorised on criteria of morphology, density, colour and vesicularity (table 5.27). It should be stressed that many 'classes' of iron working slags form part of a compositional and morphological continuum. Only certain classes of material are strictly diagnostic, and can be unambiguously assigned to a single metalworking process. Others may derive from a restricted range of processes but, when found in association with the diagnostic types may provide support for the identification of these activities. Some forms of debris may originate from a very wide range of high temperature processes and are not helpful in identifying crafts or industries. Class names and the criteria on which they are based may vary between specialists. Those used in this report are defined below.

Explanation of visual classification

Much of the material was of distinctive and unusual form, being very dense, with virtually no porosity and being quite strongly attracted to a magnet. The main mineral component would appear to be fayalite (iron silicate). The morphology of the material varied. The bottoms of some large pieces had clearly been moulded by the shape of a hollow in the ground and these were classed as **furnace bottoms**. Some smaller lumps had the blocky appearance of fragments from a larger mass, whilst others had original surfaces, described as runs and blobs. A common feature of these was the presence of large and clear impressions of wood and charcoal, often in parallel alignment. The distinction between wood and charcoal was determined by the presence of cross-checking, ie cracks perpendicular to the wood grain, in the latter. This material was classified as **dense slag** and was the largest category in the assemblage. Both the furnace bottoms and the dense slag are indicative of iron smelting, ie the primary extraction of iron from the ore. However, it does not resemble either the characteristic slag from tapped furnaces or the rather amorphous material from most untapped furnace types.

The single small, dense, fayalitic fragment classified as **tap slag** appears to show a characteristic 'ropey' flowed morphology. However, even if this sample had not been from an unphased context, a single fragment's shape may be fortuitous. Several pieces of material were identified as **possible ores.** These were generally strongly magnetic and showed signs of severe heating, and it was assumed that they were incompletely reduced ores from the furnace. Physico-chemical analysis was undertaken on these samples (see below) which suggested other explanations of their origins.

Evidence for smithing, ie hot working of iron, is very limited in the assemblage. Normally it is recognised in two main forms; bulk slags and micro slags. Of the bulk slags produced during smithing only the **smithing hearth bottoms** are unlikely to be confused with the waste products of smelting and are therefore considered to be diagnostic of smithing. These hearth bottoms are recognisable by their characteristic plano-convex form, having a rough convex base and a smoother, vitrified upper surface which is flat, or even slightly hollowed as a result of the downwards pressure of the air blast from the tuyère. Compositionally, smithing hearth bottoms are also predominantly fayalitic, and form as a result of high temperature reactions between the iron, iron-scale and silica from either the clay furnace lining or sand used as a flux by the smith.

Only two smithing hearth bottoms were identified. No hammerscale was found with the bulk slags, and soil sample residues had not been examined for these microslags which might have provided better evidence for smithing.

Four categories not normally considered diagnostic are vitrified hearth lining, cinder, iron rich cinder and undiagnostic ironworking slag. However, in the absence of any significant evidence of iron smithing, it is probable that, on the site, all four categories derive from iron smelting. Material listed as **vitrified hearth/furnace lining** results from a high temperature reaction between the clay lining of the hearth/furnace and the alkali fuel ashes or fayalitic slag. The material may show a compositional gradient from unmodified clay on one surface to an irregular cindery material on the other. An associated material, classed as **cinder,** comprises only the lighter portion of this. It is a porous, hard and brittle slag formed as a result of high temperature reactions between the alkali fuel ashes, and either fragments of clay which had spalled away from the hearth/furnace lining. **Iron-rich cinder** is a similar material but contains a significant iron content, making it denser. More dense still are those slags classed as **undiagnostic ironworking slags**. The compositions of these fragments are predominantly fayalitic, but their morphology is irregular and similar materials may be produced by smelting and smithing operations.

Ferruginous concretions form as a result of the redeposition of iron hydroxides, similar to the natural phenomenon of iron panning, although the process is likely to be enhanced by the nature of the surrounding archaeological deposits, particularly iron-rich waste. A small amount of material was classified as **fuel ash slag**, a very lightweight, light coloured (white-grey-brown), highly porous material which results from the reaction between alkaline fuel ash and silicates from soil, sand or clay at elevated temperatures. The reaction is shared by many pyrotechnological processes and the slag is not diagnostic. The origin of the single example of **glassy slag** is not clear. It may be the result of an over-blown smelting furnace or an intrusive piece of modern blast furnace slag. The very small quantity of **fired clay** may derive from some form of metallurgical hearth/forge, but could equally come from a domestic hearth or other pyrotechnic process. The category of **iron objects** incuded material containing iron in the metallic state, but which lacked any characteristics of artefacts in the normal sense. These often amorphous fragments may relate to iron production. More interesting, are a number of slags which gave an exceptionally high response to a magnet, yet gave a typically fayalitic streak. These may contain small fragments of iron from the smelt which did not become incorporated in the bloom.

Optical examination and SEM-based microanalysis of debris *(tables 5.28 and 5.29)*

Because the morphology of the debris suggested an unusual smelting technology, the assessment of the Thorpe Lee Nurseries assemblage recommended optical microscopy and scanning electron microscope (SEM)-based energy dispersive X-ray (EDX) microanalysis, to help understand the processes that had been carried out on the site. Eight samples were selected including three possible ores, one smithing hearth bottom, two dense slags and two furnace bottoms, one of which had the unusual split wood fragment impressions. Freshly broken sections from the interior of the pieces were mounted in thermosetting, conductive phenolic resin and the samples were ground and polished using standard techniques.

POSSIBLE ORES
Context 354 Late Iron Age Early Roman pit, AML sample 970028
The analysis of 970028 most closely resembles that of clay based furnace lining, which had been heated to the point where it was difficult to identify visually, but individual grains had not been entirely fluxed by contact with slag.

Context 504 Iron Age posthole, AML sample 970030
Compositionally this sample closely resembles the known smelting slags from the site and it is therefore considered to be slag rather than ore.

Context 586 Iron Age pit fill, AML sample 970032
A small fragment of approximately 10g, with a slightly glazed surface and rounded edges, was assumed to be a piece of rock ore that had not been fully smelted. The analysis suggested, however, that this material is glassy in nature.

DENSE SLAGS
Context 444 Iron Age pit, AML sample 970029
The composition of this dense slag with wood impressions was fayalitic, typical of most bloomery smelting technology but showed a significant MnO content (2.3%) which would have originated in the ore.

Context 504 Iron Age posthole, AML sample 970031
The bulk composition of this dense blocky slag was basically fayalitic, but with high phosphorus pentoxide (5%) and modest lime (3%) and alumina (2%) contents. Probably smelting slag.

SMITHING HEARTH BOTTOM
Context 1131 Iron Age gully segment, AML sample 970033
This small smithing hearth bottom weighed 105g and measured 50x45mm with a depth of 25mm**.**

FURNACE BOTTOMS
Context 1703 Iron Age, AML sample 970034
The overall analysis of this small (27g), dense fragment, with imprints from wood, indicated an unusually high iron oxide content for smelting slag which would have tended to result in a poor return of iron from the ore.

Context 1878E late 3rd or 4th century hollow, AML sample No 970035
The size (933g), uniformity and blocky appearance of this piece of a furnace bottom contrasted strongly with the furnace bottoms and dense slags showing wood impressions. With a mean P_2O_5 content of almost 6%, this slag would appear to derive from the smelting of a very high phosphorus ore.

Summary of physico-chemical analysis
Analysis provided evidence of considerable variation in the composition of the eight samples. For an iron-bearing mineral to be a potential source of metallic iron, it must have a silica content below that of the slag produced as a waste product. Analysis of the 'possible ore' samples showed them to contain too much silica to be viable ores. 970028 may well be a piece of highly vitrified hearth lining, and 970030 smelting slag. 970032 does not easily fit into any of the normal categories of iron smelting debris. It may derive from more advanced reaction of slag with furnace lining or from the partial transformation of silica (and phosphorus) rich material which had been charged with the ore. Either way, the presence of magnetite suggests a relatively oxidising regime.

Compositionally all the furnace bottoms and dense slags approximate to fayalite (iron silicate, $2FeO.SiO_2$). Such a composition might be expected to achieve the high fluidity necessary to retain details of wood impressions and to give rise to pore-free dense structures. The variation in minor elements probably results from differences in raw materials and possibly smelting practice. P_2O_5 levels of 4 to 6% are remarkably high for smelting slags, and are certainly a factor in producing some of the unusual slag phases. Bog ores, ie limonites which form in lakes or swampy ground, are generally very rich in phosphorus and are therefore the most probable source of the iron ore. Smithing hearth bottoms are of notoriously variable composition, and the high iron content (greater than fayalite) is not untypical. The low sulphur level in the analysed smithing hearth bottom suggests charcoal was used as a fuel.

Quantification of the material by phase
Visual examination of the remaining debris suggested no significant differences in the distribution of the different categories of material to that indicated by the assessment. No metalworking debris was recovered from phase 1 (Early Bronze Age or earlier), and the minimal quantities from phase 2 (Middle and Late Bronze Age) are likely to intrusive. Dividing the bulk of the material into phase 3 (Iron Age), 3/4 (Iron Age/Roman transition) and 4 (Roman) only shows the remarkable continuity of the material through from Iron Age to Roman contexts. The unphased material also includes large proportions of the same major categories of furnace bottom, dense slag and undiagnostic slag. The use of coal in Roman industrial activities, including iron smithing, but not smelting, has been recognised from a number of sites (Dearne & Branigan 1995) and the presence of coke in phase 4 should not be dismissed as necessarily intrusive.

Conclusions

The diagnostic components of the slag and debris, were almost exclusively associated with iron smelting, ie the primary production of iron from its ore. Only one fragment of slag characteristic of iron smithing was identified in a phased (Iron Age) context. In the absence of clear evidence of smithing or non-ferrous metalworking, most of the 'undiagnostic slags' can also be assumed to derive from iron smelting. It should be emphasised that by itself, 27.6kg of slag does not equate to large scale or long-term production of iron, even considering that many of the features of the site were only sampled at intervals. The excavated site may have been peripheral to the focus of the iron smelting activity. It is very unfortunate that no trace of any furnace was found in the vicinity as it would have provided much greater evidence for the technique used. Despite the lack of furnace and the low quantities of slag recovered, the ironworking debris is important for two reasons:

- Pre-Roman ironworking sites and debris have only rarely been recognised and recorded in Britain.
- The slag is of a type (to the best of the specialist's knowledge) not previously recorded in this country, although published for Iron Age Norway (Espelund & Stenvik 1993). This is a variation of a pit furnace in which the slag flows down through the base of a furnace into a pit which has been packed with chopped wood in such a way that impressions of the wood are preserved in the slag.

Physico-chemical analysis of the debris did not identify any viable ore that would allow the source of the material to be identified or the yield of the process to be calculated. However, the very high levels of phosphorus in the slag suggest that bog ores, rich in that element, had been exploited. The tendency for slags to be high in iron oxide, low in silica, points to a not particularly efficient smelting process.

8 ENVIRONMENTAL EVIDENCE

8.1 THE ANIMAL BONE

by Mary Iles and Kate Clark

This report was finalised in 1999, and has not been updated since then.

Introduction

This report examines animal bone recovered from Iron Age and Roman contexts (the amount of bone from Bronze Age features was very small and no worthwhile comment can be made about it). Most of the phase 3 (Iron Age) assemblage is from pits, ditches and gullies, and the phase 4 (Roman) material from pits, ditches and waterholes. The site provides an excellent opportunity to examine attitudes toward the disposal of animal remains and husbandry in an area where there is a paucity of faunal evidence recovered from these periods. Phase 3 includes material dated generally to the period as well as Late Iron Age and probable Iron Age material. Phase 4 contains material from the 1st to 4th centuries, and has been divided into three groups: 1st–2nd century which also contains a small quantity of 1st–3rd century, 3rd–4th century, and general Roman material. Material from phase 3/4, Iron Age/Roman has not been examined with the exception of an almost complete horse skull.

Methodology

The assemblage consisted solely of hand retrieved material, and was recorded at the Department of Archaeology, University of Southampton with reference to the comparative collections held there. All bone was recorded, and from this the number of identifiable specimens (NISP) calculated. Articulated remains were excluded from the fragment counts, but were included in the calculation of the minimum number of elements (MNE).

The assemblage was recorded using the zoning system of Serjeantson (1991). Skull fragments were recorded according to the part of the skull from which they were derived, with the exception of the partially intact skulls recovered from the settlement which were recorded by species and as 'skull'.

In addition to NISP, the minimum number of elements calculated for cattle, sheep/goat, pig and horse was derived by summing the most frequent zone for each element without regard to duplication where equivalent bones exist for the left and right sides of the body. The minimum number of individuals (MNI) was calculated either by taking the highest MNE for the limb bone fragments taking side into account, or a count of mandibles including ageable tooth rows, loose deciduous and permanent lower 4th premolars and lower 3rd molars whilst excluding possible pairs. Where it was not possible to identify bones to species these were identified as either cattle or sheep sized, and fragments not identifiable at any level were recorded as unidentifiable.

Grant's wear stages (1982) were used for recording toothwear on cattle, sheep/goat and pig and were related to age or stage using Legge (1992) for cattle; Moran & O'Connor (1994) for sheep/goat; and Maltby (1979) for pig. Dental ageing is derived from mandibles, loose 4th premolars and third molars. Epiphysial fusion was also recorded, and the approximate age of fusion for cattle, sheep/goat, pig and horse is taken from Getty (1975). Fusion age for articulated remains was estimated on the basis of all the available evidence and categorised accordingly.

Where possible sheep and goat were separated using the criteria of Boessneck (1969) and Prummel and Frisch (1986) for the limb bones, and Payne (1985) for the lower deciduous 4th premolars.

Measurements where applicable were taken according von den Driesch (1976) and compared to contemporary sites from the databank held in the Animal Bone Metrical Archive Project (ABMAP; Centre for Human Ecology 1995). If necessary, bones were reconstructed, including the skulls, to enable measurements to be taken.

Species representation

IRON AGE

A total of 460 fragments of bone was examined from this phase, including 23 from articulated remains (tables 5.30 and 5.31). Cattle are the dominant species present on fragment counts, but the minimum number of individuals (MNI) indicates that both cattle and sheep/goat remains are present in similar proportions. Pig remains are high at 12.5% of the identified bone and 20.8% on MNI. The proportion of horse remains (9.8%) is also high, and does not vary significantly when the MNI is calculated. Only two fragments were identified from wild species, a single lower incisor of red deer and a proximal shaft fragment from a right tibia identified as wild boar (*Sus scrofa*). No measurements were possible on this shaft fragment but it was observed to be considerably larger than the female modern wild boar held in the comparative collections at the Department of Archaeology, University of Southampton. Wild animals constituted only 1% of the identified bone and their contribution to the diet may have been negligible.

Articulating remains from both the left and right upper fore limbs of sheep/goat were recovered from pit 1653 (table 5.31), and probably represent one individual of between 1 and 3½ years. An articulating metacarpal and first phalanx from an individual of between 1 and 2½ years was also recovered from the same context.

A partial hind limb of horse was recovered from pit 2117. No evidence of butchery was found, but the proximal articulation of tibia was absent and the calcaneum was gnawed proximally. Epiphysial fusion indicates that the limb is derived from an animal greater than 2 years in age.

ROMAN

1st–2nd/Early 3rd century

424 fragments including five from articulating groups are summarised in tables 5.30 and 5.32. The proportion of cattle from NISP and MNI increases, and

there is a concomitant decrease in both sheep/goat and pig. The percentage of horse fragments still remains high at 9%, and estimation of the minimum numbers suggests that horse was slightly better represented than previously. Remains of wild animals are again scarce representing under 2% of the identified bone. Red deer (*Cervus elaphus*) is represented by the left side of a frontal bone; the antler has been sawn off presumably for bone working. Roe deer (*Capreolus capreolus*) is represented by a single fragment of distal tibia. No butchery or carnivore damage was noted. A wild boar maxilla was recovered from pit 1644 and is dated to the 2nd century (table 5.33).

All of the articulated bone is from cattle. A right humerus, radius and ulna come from an animal between 1 and 3½ years. The humerus has cut marks medially on the trochlea and anteriorly on the shaft suggesting that it was disarticulated from the radius and that the meat was removed. A right astragalus and calcaneum of indeterminate age were recovered from ditch 367 (context 366), but there is no evidence of butchery. However, it would seem likely that these are butchery waste and the result of the hind leg being dismembered just above or below the hock.

3rd–4th century

The sample of bone recovered from 3rd–4th century contexts is larger than for previous periods. A total of 1,308 fragments was retrieved including 116 from articulating groups of bone (tables 5.30 and 5.34). Cattle, sheep/goat and dog remains are present in similar proportions to those found in the 1st–3rd century material. The proportion of horse bone fragments is greater than in the previous periods, and represents a minimum of 4 individuals, again a higher proportion of the domesticates than in the previous two periods. However, in both the 1st–2nd/early 3rd century material and the 3rd–4th century material horse outnumbers pig on fragment counts and MNI.

Red and roe deer are present in small quantities; roe deer is represented by a fused proximal tibia fragment indicating that it is from a mature animal. Of the six fragments of red deer bone recovered one is from a metacarpal and four from metatarsals; the remaining fragment is from a distal radius. One possible explanation for the bias towards metapodials is that they were not separated from animal skins during the skinning process and were brought to the site with the hide. A complete metatarsal had cut marks on the distal part of its shaft indicative of skinning. If indeed metapodials were brought to the site in this way the phalanges would also be expected, but in this instance are absent. However, because of their small size, phalanges are easy to miss during excavation.

Of note is the near-complete neonatal sheep/goat skeleton from pit 1959 (table 5.34). Most parts of the skeleton are present and it is likely that those which are absent, have either not survived or not been recovered because of their small size. No evidence of butchery was found and it is probable that the skeleton is the remains of a lamb that died naturally in the first few days of life

Also worthy of comment is the number of articulated remains from the late 3rd/4th century waterhole (1971). In this feature articulating vertebrae constitute the most frequently occurring group of bone. Also associated with the waterhole are 14 of the 27 skulls recovered. Overall, however, most of the groups of articulated bone are from the extremities and in a number of cases the phalanges have cut marks suggestive of skinning.

The skulls

IRON AGE

No complete skulls of cattle or horse were found in this period. However, a horse skull was recovered from pit 2108 and, although dated as Late Iron Age/Early Roman, measurements were taken where possible because of it completeness and are summarised in table 5.35.

ROMAN

1st–2nd/early 3rd century

A total of five skulls, four cattle and one horse were recovered from this period, but only two, including the horse skull were complete enough to measure (table 5.35). In one case, from pit 2058, the right maxilla had cut marks that were probably the result of skinning.

3rd to 4th century

Eighteen skulls in varying states of preservation were recovered from late 3rd/4th and 4th century contexts, and of these 14 were retrieved from waterhole 1971. Three specimens, all from the waterhole, provide evidence of the sagittal profile and allow comparison with work done by Grigson (1976) on skull morphology. The skulls had a slight boss, and a high double intercornual ridge with a profile falling between rounded and Type 1 pointed.

The ratio of the least and greatest basal diameter of horn core is plotted in fig 5.61. Four specimens from Thorpe Lea are compared to Early and Late Roman horn cores extracted from the ABMAP database. These clearly divide into two groups, one possible explanation for which is the sex of the animal. Three of the horn cores fall at the lower end of the range and the other falls at the upper limit. One interpretation therefore is that this specimen is male and that the three smaller horn cores are female. There was no evidence for naturally polled cattle from any of the skulls.

One skull is of particular interest. An oval disc had been cut from the centre of the frontal bone. The skull is from a mature animal and the frontal suture is fully closed. There is no evidence of sawing around the edge of the hole and parts of it are highly polished. Above the hole are two depressions which one of us (KC) considers to be the result of pressure on the skull soon after death, and perhaps occurring whilst the disc of bone was being removed. Whilst bone is soft its surface can be depressed relatively easily without the bone breaking. This and the process of diagenesis, that is to say the chemical and mechanical alteration of the bone after burial can lead to a bone having the appearance of a partially healed fracture when in fact the damage was done post mortem (Lyman 1994). None of the other skulls had evidence of bone working. In one instance the basal section of both horn cores survived but there was no evidence to suggest that they had been deliberately removed.

Ageing

CATTLE

Although the samples are small there are some differences between the Iron Age and Roman dental ageing data (table 5.36). In contrast to both Roman samples there is no evidence from the Iron Age material for cattle being killed or dying before 6 months. Neither was any bone identified as coming from

Table 5.30 Thorpe Lea Nurseries: summary of species present by period, NISP and MNI

	Iron Age			1st-3rd century			3rd/4th century			Roman	
Species	NISP	%	MNI	NISP	%	MNI	NISP	%	MNI	NISP	%
Cattle	96	44	9	113	63	10	224	58	18	100	68
Sheep/goat	61	28	8	34	19	3	83	22	8	27	18
Pig	27	13	5	9	5	1	10	3	2	4	3
Horse	21	10	2	16	9	2	51	13	4	8	5
Red deer	1	<1		1	<1		6	2			
Roe deer				1	<1		1	<1			
Dog	10	5		4	2		9	2		8	5
Cat										1	<1
Bird							2	<1			
Total identified to species	216			178			386			148	
Cattle size	63			81			260			114	
Sheep size	78			38			144			24	
Unidentified	80			122			402			215	
Total	437			419			1192			501	

juvenile or younger animals, that is those of less than 6 months. Indeed no limb bone fragments from Iron Age contexts were in an unfused state (table 5.37). The limited dental ageing data available suggest that cattle were being killed younger in the Roman period than the Iron Age. Epiphyseal fusion for the Roman material is summarised in tables 5.38 and 5.39. No limb bone fragments were unfused for any category in the 1st–2nd/early 3rd century. However, in the 3rd–4th century material a newborn calf and an individual less than 6 months were represented. In addition there is unfused bone from early, mid and late fusing categories.

SHEEP/GOAT

Both dental ageing and fusion data are limited for sheep/goat in all three periods (tables 5.40 to 5.43). Four of the eight Iron Age mandibles or loose teeth are from animals killed during their third year. One specimen comes from an individual aged between 6 and 12 months, and two limb bones are from neonatal animals. Ageing data are very limited for Early Roman material, but fusion for the 3rd–4th century material is more interesting. Six of the ten limb bone fragments in the late fusing category are fused indicating animals older than 3 to 3½ years and only one is unfused. The remaining fragments are fusing and therefore probably indicate animals that died during their third year. In addition four of the five mandibles come from animals killed either in their 2nd or 3rd years. The partial skeleton of a newborn lamb from pit 1959 has been discussed above.

PIG

Very little ageing evidence either from the dentition or from epiphyseal fusion, is available for pig (table 5.44). From the dental ageing it would seem that pigs were being killed in their 1st, 2nd and 3rd years during the Iron Age, and the small quantity of epiphyseal fusion data available does not contradict this. In the Iron Age material a single bone fragment is unfused and represents an animal less than 24 months; two fused fragments represent animals greater than 12 months. A single limb bone fragment dating to the 1st–2nd/early 3rd century was fused and represents an animal older than one year. Two limb bone fragments with fusion evidence from 3rd–4th century contexts are unfused and two mandibles represent individuals between 7 and 16 months old.

HORSE

All bones with fusion evidence preserved were adult, with the exception of a nearly complete scapula from the 3rd /4th century material only slightly larger in size than the neonatal Przewalski horse held in the Department of Archaeology Comparative Collection (Southampton University), and therefore probably from an animal that died in the first few weeks of life. A humerus shaft and a frontal bone from the same feature have the porous and flaky texture indicative of bone from young animals.

Dogs

A group of dogs, from both phases 3 and 4, was recovered which yielded a useful series of measurements, particularly of mandibles (tables 5.45 and 5.46).

A mandible from context 1998 in phase 3 had a cut mark below the first molar on the buccal side, and further butchery was evident in the same context on a fragment of ilium and the distal end, fused, of an ulna. The pelvic fragment had heavy cut or chop marks which clearly indicate rather coarse disarticulation, and the distal ulna showed transverse cut marks suggesting a rather neater disarticulation at the 'wrist' or possibly skinning.

Context 119 contained the mandible of a large-headed dog, equivalent in length to a modern greyhound but with a far more robust jaw as reflected in the lateral thickness of the mandible. Again, this specimen exhibited butchery in a series of vertical cut marks below the first molar on the buccal side.

A specimen from context 723 had a series of fine parallel cut marks running down the shaft: this is unlikely to be meat-stripping in an animal of this size and so is probably a result of skinning.

Measurements

Measurements are comparatively rare, particularly on Iron Age material. Selected measurements for cattle, sheep/goat and horse are presented in tables 5.47 to 5.49. Only three measurements were possible for pig (table 5.33).

Comparison of the greatest length of the upper molar with data for wild boar from other sites (Payne & Bull 1988) indicates that it is in fact from wild boar. Measurements of the scapulae suggest that both are from domestic animals.

Despite the small number of measurements for horse, these seem to fit the pattern of smaller animals in the Iron Age with size increasing during the Roman period. Fig 5.62 plots the distal breadth of tibia against distal depth and compares these to Iron Age and Roman specimens in the ABMAP database (Centre for Human Ecology 1995).

Pathology

The majority of pathological manifestations are from phase 4, only two instances being observed in phase 3. These were a case of abnormal wear in a cattle molar from context 481, and evidence of infection in a horse molar from 452; this latter tooth also exhibited small root nodules, which are normally considered to be minor examples of aberrant tooth development (Miles & Grigson 1990).

Phase 4 produced a range of pathological conditions, the majority in cattle. Dental abnormalities occurred in this species in contexts 1960 (a malalignment of the lower second and third premolars), 303 (abnormal wear on a lower molar probably caused by malocclusion with the maxillary tooth surface), and in 1648 where a very clear example was recovered of retained deciduous premolar consequent upon retarded eruption of the permanent 3rd premolar beneath. It is clear that this permanent tooth is in fact malpositioned, being slightly rotated, and this has prevented the normal process of deciduous tooth replacement.

Only two age-related manifestations were seen, both in cattle, in contexts 2101 and 2052. In the first an acetabulum showed eburnation of the margin, and in the second a cattle femur also had marginal eburnation.

An interesting arthropathic case was recovered from context 591, a cattle mandibular hinge with clear indications of *osteochondritis dissecans*. This is a condition which veterinary sources consider to have a traumatic origin, particularly that invoked by a shearing stress; however, in the case of *O dissecans* veterinary opinion does not distinguish between a discrete incidence of articular stress and a clinical response to repeated pressures (Jubb & Kennedy 1970). In the case of a mandibular hinge it seems likely that it is the result of repeated stresses, and in a ruminant this may well suggest advanced age. The condition is characterised by the isolation and detachment of a portion of subchondral bone, and in this case the osseous islet is well demarcated and beginning to exhibit some detachment.

Three species each exhibited an infective lesion. A cattle metatarsal from context 1960A showed classic signs of septic arthritis, with gross proliferation of bone around the epiphysis and considerable pitting of the subchondral surface. Although this specimen was in poor condition it was clear that this represented an advanced stage of this disease.

A fragment of pig scapula, context 326, had indications of an infective lesion at the neck, characterised primarily by a proliferation of disorganised bone. A sheep/goat maxilla (context 2036) also exhibited infection, this time by the resorption of bone around the first molar on the buccal side. The tooth itself was infected at the root, and was rotated with consequent abnormal wear.

Traumatic lesions were few. A cattle metacarpal from 1648 had a small ossified haematoma on the proximal portion of the shaft entero-medially, and this would almost certainly be the result of a blow to this vulnerable area, and a cattle horn core from 2036 may also result from an earlier trauma. This remarkable specimen is bifurcated over the final third of its curvature towards the tip and this may be a consequence of injury during horn core development.

Worked bone and antler

Seven pieces of red deer antler and a horse metatarsal showed evidence of bone working. Five of the antler fragments are waste material and all have been chopped through. An almost complete antler tine from waterhole 1971 has been chopped from the beam close to its base. Although the tip is slightly polished there is no evidence of use wear. There is no evidence in any of these pieces as to whether the antler comes from shed or unshed antler. The final piece of antler is shed from a deer in its third summer. The brow tine is very highly polished and the beam has been chopped above the trez tine which is poorly developed. The beam is polished at this point but to a lesser extent than the brow tine. Under microscopic examination of the tine some very fine scratches were evident in a longitudinal direction. Some shorter scratches were also apparent in a transverse plane. The scratches and high polish are probably the result of use wear; the function of the antler is not obvious but is unlikely that it was used as a pick.

The metatarsal has been sawn around the shaft approximately two thirds of the way down its length and snapped. Only the distal portion remains. The fragment probably represents waste from the preparation of a knife handle or something similar. No other fragments of worked bone were identified.

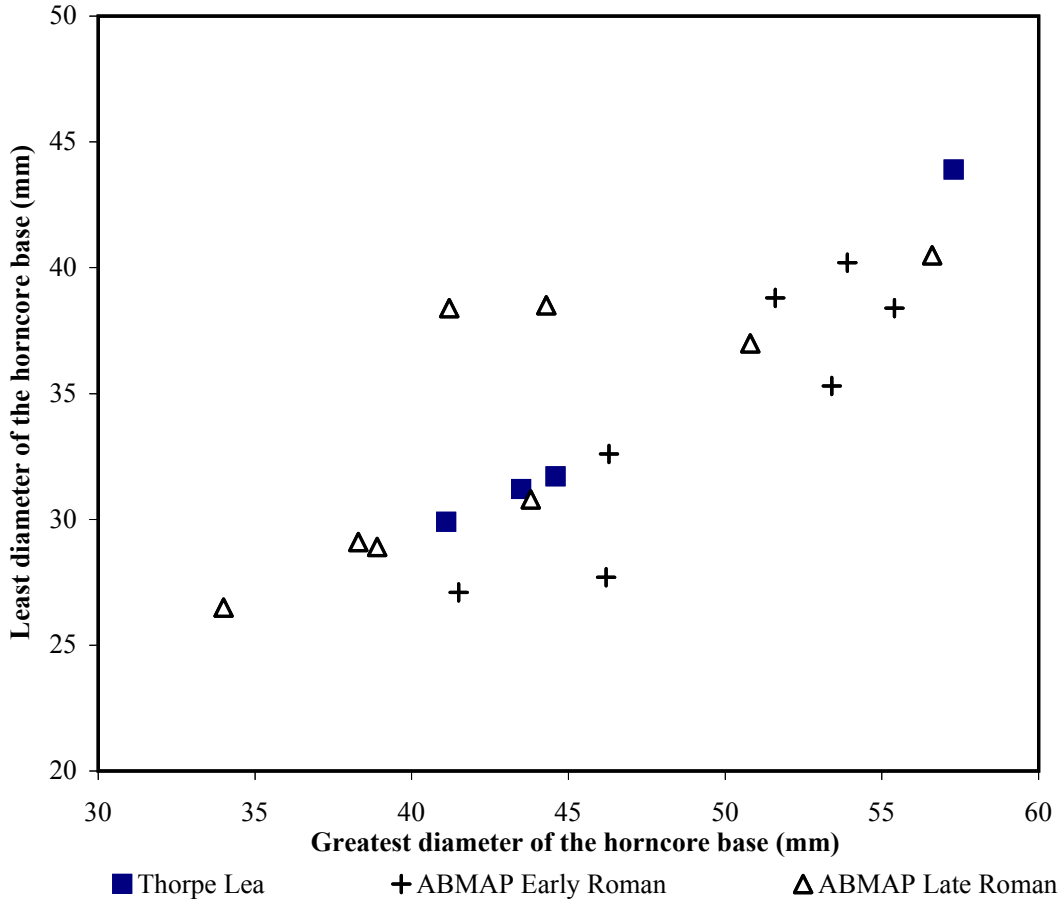

Fig 5.61 Thorpe Lea Nurseries: cattle horncore

Animal husbandry

The estimation of the minimum number of individuals suggests that cattle and sheep/goat are present in similar quantities during the Iron Age, and that pig is also well utilised. Wild resources played an extremely minor role, although the presence of wild boar at the settlement during the Iron Age is attested by an upper 3rd molar and a fragment of tibia shaft.

Cattle would have been the major contributor of meat in all periods. All parts of the skeleton are represented for each of the domesticates, apart from pig where the foot bones are absent. This is probably due to the small number of fragments of bone from pig and to the small size of pig foot bones. The presence of all parts of the skeleton indicates that the carcases were probably processed at the settlement.

A greater proportion of cattle lived longer during the Iron Age than the Roman period, and there is no evidence for juvenile animals being killed. During the Roman period the large number of animals killed between 1 and 3 years suggests a greater emphasis on meat production.

The small quantity of ageing data available for sheep means that interpretation of the husbandry practices for this species is more problematic. No goat remains were identified in any period, however the possibility that goats were present in small numbers cannot be ruled out. The little ageing evidence that is available is suggestive of a mixed farming regime in all periods.

Pigs have no secondary products apart from manure and hide and therefore the main reason for keeping these animals is for their meat and fat. However, their importance lies in the fact that pigs can be kept in a variety of regimes and eat a wide range of foodstuffs; they can efficiently convert proteins unsuitable for human consumption into an edible form. Where ageing data are available for pig it indicates that the animals were generally being killed by about 2 years.

Horse seems to have a significant role in the economy in all periods, and in the Roman periods outnumbers pig both on fragment counts and minimum numbers. Most of the bone fragments from horse represent mature animals. The only exception to this is a scapula, frontal bone and humerus shaft fragment from waterhole 1971, which possibly represent one animal perhaps less than a few weeks old. Cut marks on a distal femur and proximal humerus shaft, from 4th century and Roman contexts respectively, may indicate that horse meat was consumed as the cut marks are situated in an area unlikely to be the result of skinning.

Wild species

Few wild animal remains were present in any period and it seems likely that they were killed on an incidental basis rather than as a deliberate attempt to utilise this resource, and they were probably not an important aspect of the economy.

Discussion (table 5.50)

In spite of the small size of the samples for both the Iron Age and Early Roman periods, some interesting trends are apparent, particularly when compared to the Iron Age and Roman sites of Runfold and Tongham in the Blackwater valley to the south of Thorpe Lea. Minimum number counts suggest that cattle and sheep/goat are present in similar proportions at both Runfold and Tongham (Powell & Clark 1995), and Thorpe Lea. Horse remains comprise a relatively high proportion of the domesticates at Thorpe Lea but they are less frequent than at Runfold and Tongham, especially during the Iron Age, and are outnumbered by pig remains. The high proportion of pig during this period is interesting because it suggests the presence of woodland nearby, as well as a deliberate choice to manage pigs, which have few other benefits than the production of meat.

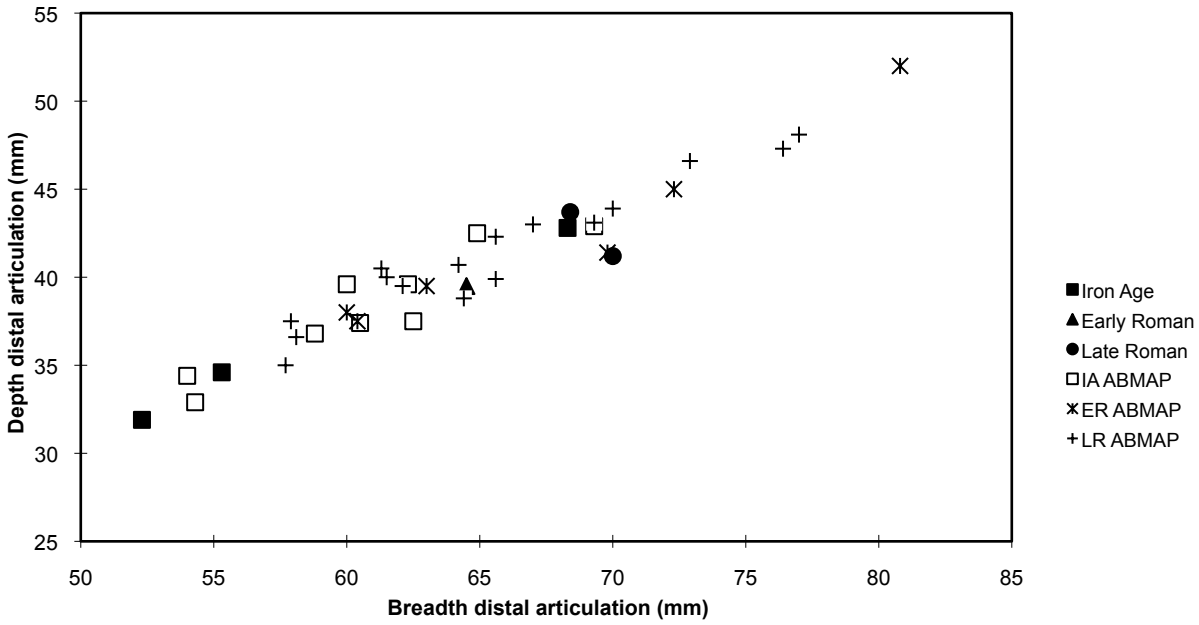

Fig 5.62 Thorpe Lea Nurseries: horse tibia

Evidence from many Late Iron Age and Roman settlements has suggested that there is an increase in the importance of cattle at Roman sites, and that sheep became proportionally less important than in the Iron Age. Pig also increased their representation especially on romanised settlements such as villas (King 1978). The increase in pig remains is not however restricted to the post conquest period as certain Late Iron Age sites, all of which are considered to be high status, usually oppida, suggest (King 1991). A number of possible reasons for the increase in frequency of pig remains have been put forward. Firstly that pork was considered a delicacy by the Gaulish elite in the Late Iron Age and that this preference was emulated in Britain in areas where contact with the Continent was strongest (King 1991). Secondly, Grant (1989) has suggested that the apparent importance of pork in the diet at villas can be viewed as evidence for the adoption of Roman dietary habits and certainly pork played an important role in the Roman diet (Flower & Rosenbaum 1958). However, increased pig production during the Roman period may also have been a response to the need for a greater surplus of food both for the Roman military and to supply the proto-urban settlements that were emerging during the Late Iron Age and Early Roman periods. The growth of both a military and civilian consumer class would have necessitated intensification in the production of both cereals and meat. This and expansion on to heavier soils would also lead to the need for a greater number of cattle for traction

As with many Roman sites, cattle remains do increase in importance in the Roman period, and there is a concomitant decrease in sheep/goat remains, but the increase in pig remains that King (1978) comments on is not apparent. The implication of this is that even though husbandry practices changed from the Iron Age to the Roman period, and romanised techniques of butchery were adopted as well as there being a greater emphasis on meat production particularly with cattle, the people of this area did not adopt all aspects of animal husbandry typical of many Roman settlements. The decline in the importance of pig remains may also be a consequence of continuing forest clearance in the river valleys.

The picture at Thorpe Lea is one of mixed husbandry in both the Iron Age and Roman periods. During the Roman period pig appears to decline in importance and cattle become the dominant species and there seems to be a much greater emphasis on the production of meat, although ageing data suggest that sheep/goat were being killed at all ages and therefore wool was probably also important. The increase in remains of juvenile animals implies that milk may also have been utilised in this period.

The waterhole (1971) dated to the late 3rd/4th century is particularly interesting. Fourteen of the skulls were deposited within its fill including the skull of a horse perhaps no more than a few days old. Also deposited in the waterhole were two groups of articulating cervical vertebrae. Neither atlas nor axis of cattle or horse was recovered from the waterhole in spite

	Runfold & Tongham (Powell and Clark 1995)				Ashville Trading Estate (Wilson et al 1978)				Appleford (Wilson 1980)				Farmoor (Wilson 1979)			
	Iron Age		Roman		Iron Age		Roman		Iron Age		Roman		Mid Iron Age		Roman	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Cattle	420	50	293	61	1072	31	64	34	198	49	189	67	70	41	204	56
Sheep/goat	201	24	99	21	1841	54	91	48	99	25	53	19	51	30	106	29
Pig	47	6	22	5	326	10	18	10	43	11	12	4	13	8	16	4
Horse	150	18	54	11	144	4	10	5	53	13	18	6	33	19	31	9
Red deer	6	<1	4	<1	2	<1					1	<1			4	1
Roe deer	1	<1	4	<1												
Dog	10	1	2	<1	22	<1	6	3	10	2	8	3	5	3	2	<1
Total identified to species	835		478		3407		189		403		281		172		363	
Total	2951		2682													

Table 5.50 Thorpe Lea Nurseries: species distribution from a selection of settlements with Iron Age and Romano-British occupation

of the presence of sections of vertebral column and the skulls. This suggests that the skulls were deposited after disarticulation from the vertebral column between atlas and the occipital condyles. However, none of the skulls showed any signs of dismemberment at this point. The absence of the atlas and axis means that it is unlikely that the articulated cervical vertebrae relate to the skulls, and as such they probably represent butchery waste.

The presence of domestic rubbish deposited with the skulls suggests that they held no ritual connotations, particularly as one shows evidence of bone working, and the skulls represent an early stage of the butchery process.

Comparison with other Iron Age and Romano-British settlements (table 5.46) indicates that King's picture of the Iron Age–Romano-British transition is not as simple as at first might be expected. At Ashville Trading Estate there is little variation in the distribution of domesticates on fragment counts between the two periods (Wilson et al 1978), and at Appleford and Farmoor although cattle remains increase pig remains decrease in importance (Wilson 1979, 1980). Horse is also important at both sites during the Iron Age and declines during the Roman period.

Husbandry practices at this time therefore appear to be varied and probably reflect the local needs of the population.

8.2 THE HUMAN SKELETON *(Context 1668)*

The bone *by Simon Mays*

Material: bones well preserved but very fragmented, skeleton 80% complete

Age: 20–30 years (dental wear–Brothwell 1981; epiphysial fusion–Flecker 1942, Webb & Suchey 1985)

Sex: male (Brothwell 1981)

Stature: approximately 1.76m (Trotter & Gleser 1952, 1958, reproduced in Brothwell 1981).

Radiocarbon dating *by John Meadows*

The sample consisted of a fragment of a single bone, and was dated by Gas Proportional Counting at the Centre for Isotope Research, Groningen University, The Netherlands. Laboratory methods are given by Mook and Streurman (1983). Internal quality assurance procedures and international inter-comparisons (Scott 2003) indicate no laboratory offsets, and validate the measurement precision given.

The result is a conventional radiocarbon age (Stuiver and Polach 1977), quoted according to the format known as the Trondheim convention (Stuiver and Kra 1986). The calibrated date range has been calculated by the maximum intercept method (Stuiver and Reimer 1986), using the program OxCal v4.0.5 (Bronk Ramsey 1995; 1998; 2001; 2008) and

Laboratory code	Sample	Identification	$\delta^{15}N$ (‰)	$\delta^{13}C$ (‰)	Radiocarbon age (BP)	Calibrated date (95% confidence)
GrN-32070	1668	bone, human left femur, proximal half	11.5	-20.0	1710 ± 25	cal AD 250–410

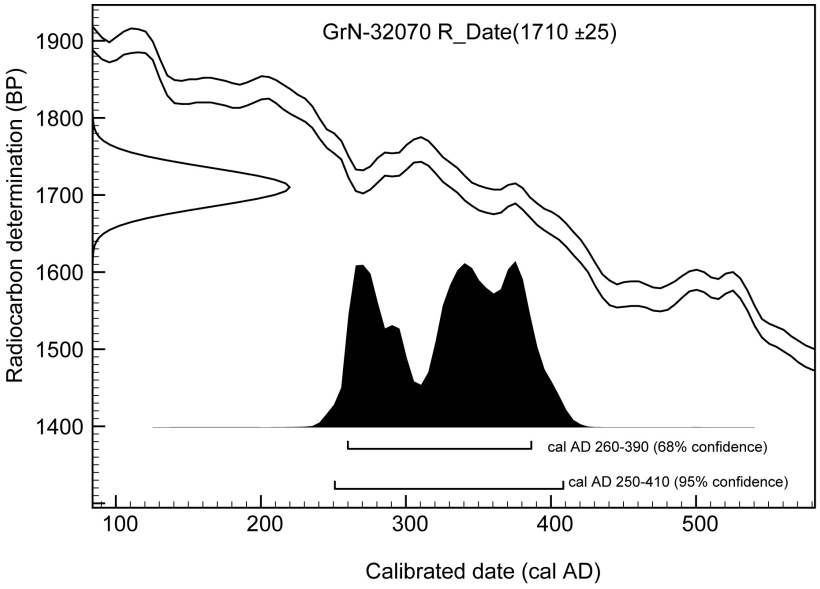

Fig 5.63 Thorpe Lea Nurseries: calibration of the Thorpe Lea Nursery radiocarbon result by the probability method (Stuiver and Reimer 1993). The calibrated date ranges shown are those obtained by the maximum intercept method (Stuiver and Reimer 1986)

the IntCal04 data set (Reimer et al 2004), and is quoted in the form recommended by Mook (1986), rounded outwards to decadal endpoints.

The table also shows the stable isotope measurements, $\delta^{13}C$ and $\delta^{15}N$. The stable isotope measurements are used to identify any individuals whose diet may have been rich in protein from fish. Unlike terrestrial animals, fish and other aquatic animals can have large apparent radiocarbon ages, called reservoir effects (because their carbon content is not sourced from the contemporary atmosphere, but from other reservoirs), and a diet rich in fish can produce a reservoir effect in humans, giving artificially old radiocarbon dates. As fish protein is more enriched in ^{13}C and ^{15}N than protein from terrestrial sources, however, a high fish diet may be detected using the stable isotope ratios in human bone collagen. The values obtained are within the range of values expected for humans with fully terrestrial diets (Schoeninger et al 1982; Mays 2000), and it therefore appears that the radiocarbon age is not subject to reservoir effects, and should provide an accurate date for the death of this individual, when calibrated.

Fig 5.63 shows the calibration of the radiocarbon results by the probability method (Stuiver and Reimer 1993), again using OxCal 4.0.5 and the IntCal04 calibration data. The probability that a sample dates to a particular calendar date corresponds to the height of its probability distribution at that date.

The result clearly dates this inhumation to the later 3rd or 4th century cal AD, in which the calibration curve is not particularly helpful in giving a precise date. Nevertheless, the calibrated date range obtained is narrow enough to assign the burial to the Late Roman period.

8.3 MACROSCOPIC PLANT AND INVERTEBRATE REMAINS

by Mark Robinson

Introduction

Extensive sampling for charred plant remains was undertaken by the excavators during the excavation, samples being floated on to a 0.5mm mesh and dried. One waterlogged deposit was encountered at the bottom of a Middle-Roman waterhole and unfortunately the only sample was floated, although the flot was not dried. Spot samples were taken from features in the south-west corner of the site (in an area of calcareous brickearth) for molluscs.

The 83 dried flots were scanned for assessment purposes. On the basis of this, eight flots were selected for analysis for the full range of charred plant remains and another nine for charcoal identification. Sub-samples of 0.5kg from the molluscan samples were sieved over a 0.5mm mesh and scanned for shells. Although the results did not justify full analysis, use has been made of the assessment. The waterlogged sample was found to contain well preserved macroscopic plant and insect remains, so they were analysed in detail.

Methods and results

The flots to be analysed for charred plant remains other than charcoal were sub-sampled as appropriate, sorted and the remains identified under a binocular microscope at magnifications of up to x50. The results are listed in table 5.51. The flots from which charcoal was to be identified were sieved over a 2mm mesh and charcoal was selected under a binocular microscope. Pieces were broken in three planes and examined by high-power incident microscopy at magnifications of up to x400. It was not thought that the results would justify full identifications of all the charcoal fragments. Therefore an attempt was made to identify the full range of taxa present in each sample and to estimate their abundance. The results are given in table 5.52. A sub-sample equivalent to 2 litres of the flot from the Roman waterhole was sorted for waterlogged macroscopic plant remains, which were identified under a binocular microscope at magnifications of up to x50. The results are listed in tables 5.53 and 5.54. Some charred plant remains were also present. These have been noted in tables 5.51 and 5.52. A sub-sample equivalent to 7 litres from the waterhole was subjected to paraffin flotation to recover insect remains which were identified under a binocular microscope at magnifications of up to x100. The results are listed in tables 5.55–5.56. Some of the Coleoptera have been assigned to habitat-related species groups following Robinson (1991, 278–91) as an aid to interpretation (table 5.57). The members of the groups are shown in table 5.5. Not all the Coleoptera have been classified into one of these groups. The nomenclature for the plant remains follows Clapham et al (1987) and for the Coleoptera follows Kloet and Hincks (1977).

The charred plant remains

Charred plant remains other than charcoal were entirely absent from the five flots of certain Bronze Age date. A little *Quercus* sp (oak) charcoal was however recovered from a Bronze Age ditch (sample 72).

The charred plant remains other than charcoal from two Late Bronze Age or Early Iron Age samples (72, 73) and three possible Iron Age samples (11, 12, 62) displayed a similar character. All were dominated by weed seeds. They contained very few cereal grains and even less chaff. The cereals represented were *Triticum dicoccum* (emmer wheat), *T spelta* (spelt wheat), *Hordeum vulgare* (six-row hulled barley) and, interestingly, *Secale cereale* (rye). The first three cereals were very much what would be expected from charred cereal processing assemblages of the Late Bronze Age transitional to the Early Iron Age. All three were identified from the Late Bronze Age waterfront site at Runnymede Bridge 2km to the north of the site (Greig 1991, 254). Rye, however, is a much less usual find. Rye was present in Britain back to the Late Bronze Age but until the Roman period was perhaps a cereal weed rather than a crop in its own right (Chambers and Jones 1984). It does not seem to have become a major crop until the Saxon period. The rye was only represented by a single rachis node from sample 12, but rye was absent from all the other flots and there were no Saxon or medieval features on the site.

The charred assemblages from samples 72, 73, 11, 12 and 62 present some problems with their interpretation. Later prehistoric British charred plant assemblages, (excluding charcoal), usually comprise, if crop-processing waste, either chaff with smaller amounts of weed seeds cleaned from the grain following the de-husking of hulled cereals, and a little grain, or 'tail corn', a mixture of grain, chaff and weed seeds removed by a final sieving of the cleaned grain. If they represent accidentally burnt grain, they either comprise fully cleaned grain or hulled grain that was charred before being de-husked. Sometimes, material from these different sources becomes mixed. These five samples did not fall into any of the categories because the proportion of cereal remains is too low. Some of the weed seeds were from potential grassland plants such as *Rumex* sp (dock) and *Plantago media* or *lanceolata* (plantain). However, the majority of the seeds were of annuals which readily grow as arable weeds, for example *Chenopodium album* (fat hen), *Atriplex* sp (orache), *Polygonum aviculare* agg (knotgrass) and *Fallopia convolvulus* (black bindweed). Other possible arable weeds included *Vicia* or *Lathyrus* sp (vetch or tare). Such material could have been derived from the removal of weeds from amongst a cereal crop immediately following harvest or could have come from weeds growing on recently abandoned arable land. However, the absence of seeds of various ruderal species would suggest that the seeds had not come from the harvest cutting of 'coarse herbage' or fodder.

These samples also contained material of non-arable origin. Oak charcoal was present in all the samples, with the addition of much Pomoideae (hawthorn-type) charcoal in sample 53. A few stones of *Crataegus* sp (hawthorn) in this sample were perhaps introduced with the wood that was burnt. A single fragment of *Corylus avellana* (hazel) nut in sample 12 might have been food waste.

Samples 72 and 73 were from a possible cremation pit. The charred material in them could have been a mixture of kindling and fuel from the funeral pyre. Samples 11 and 12 were from a second pit. Although burnt bone was not found

in these samples, the flots contained much charred material which had a liquid origin and they too were perhaps related to the cremation process. Sample 62 was from a third pit but aspects of the similarity of the charred cereal and weed seed assemblages would suggest that this material could also have been related to cremation.

The only other rich Iron Age flot of charred plant remains other than charcoal, sample 26, was also from a pit. It contained a few cereal grains, mostly indeterminate, but including *Hordeum* sp (hulled barley), some glumes of *Triticum spelta* (spelt wheat) and a few cereal seeds, mostly *Chenopodium album* (fat hen). The material had presumably been derived from crop-processing but the remains were too few to attribute them to a more precise activity. Although 30 samples from Iron Age contexts, mostly pits, were floated for charred plant remains, samples 26 and 62 were the only ones to contain more than nine non-charcoal items and such material was absent from 70% of the samples. The majority of the Iron Age samples, did, however, contain small quantities of charcoal, especially *Quercus* sp (oak).

A much higher concentration of cereal remains was recovered from sample 8, from an Early Roman burnt spread interpreted as a bonfire. It contained large quantities of *Triticum spelta* (spelt wheat) and *Hordeum vulgare* (six-row hulled barley) grain with a little *T spelta* chaff. There was also a significant presence of arable weed seeds, especially *Polygonum persicaria* (redshank) and *Anthemis cotula* (stinking mayweed). The occurrence of *A cotula* in this sample would make a post-conquest date seem more likely for the context. Four other Late Iron Age or Early Roman samples were investigated but they only yielded very low concentrations of charred material.

Crop remains were similarly sparse in most of the 37 Roman samples floated for charred material. They were entirely absent from three quarters of them and only one, sample 30, contained more than ten items. This sample, which was from the upper fill of the waterhole, contained glumes from the de-husking of spelt wheat, with smaller quantities of grain and arable weed seeds. The weed seeds included both *Anthemis cotula* (stinking mayweed) and *Tripleurospermum inodorum* (scentless mayweed). Similar charred material, with the addition of a rachis fragment of *Hordeum* sp (barley) was found in the waterlogged sample from the waterhole (sample 31).

Charcoal, particularly of *Quercus* sp (oak) but also Pomoideae (hawthorn, apple etc) was present in most of the Roman flots. Sample 41, from one of the pits, provided very large quantities of both of these types. The ratio of charcoal to charred cereal in the Roman pits was high and it is possible that not all of it was derived from domestic activities. The soils on the gravel would have been suitable for arable cultivation and it had been anticipated that rather more charred cereal processing remains would have been found for the Iron Age and Roman phases of the site.

The waterlogged plant and insect remains from waterhole 1963

The waterlogged macroscopic plant remains did not include any from aquatic species and the few water beetles such as *Agabus* sp could just have flown in rather than being species which bred in the waterhole. The plant remains comprised both material which had apparently been dumped in the waterhole and also remains which had been derived from the site environs through various natural agencies. Likewise, some of the insects were probably incorporated with the plant refuse and others just fell in from the surrounding landscape.

The main dumped materials were prickly shoots of *Ulex* sp (gorse) and threshing debris of *Triticum spelta* (spelt wheat). There were also a few frond fragments of *Pteridium aquilinum* (bracken). The source of the gorse and bracken is uncertain because the soil of parts of the site is sufficiently acidic for them to colonise. Gorse and bracken were both perhaps cut as litter for domestic animals. However, gorse has various other uses. The young shoots can be used as fodder and dried gorse is a particularly good fuel for bread ovens, although no charred fragments were found.

The waterlogged crop-processing remains were mostly glumes of *Triticum spelta* (spelt wheat) which had probably been derived from the de-husking of the grain. Some seeds of *Agrostemma githago* (corn cockle), a weed that is very much dependent on arable cultivation for its occurrence as far north as Britain, could have come from crop cleaning. Many of the other weed seeds were from annuals which readily grow as arable weeds, such as *Papaver argemone* (poppy), *Stellaria media* gp (chickweed), *Chenopodium album* (fat hen), *Atriplex* sp (orache) and *Anthemis cotula* (stinking mayweed). Some, for example *A cotula*, were also found charred along with charred cereal remains, so it is very plausible that these waterlogged seeds were also from crop cleaning. The others could just have been from plants growing on the site. It is uncertain whether the crop-processing waste had been discarded directly into the waterhole or whether it had been amongst the gorse and bracken, perhaps having originally been given to animals as fodder or amongst their bedding.

There were a very few seeds from plants characteristic of hay meadows including *Filipendula ulmaria* (meadow sweet) and *Leucanthemum vulgare* (ox-eye daisy). These too could either have been from hay amongst the vegetation dumped in the waterhole or come from the plants growing on waste ground on the site.

The abundance of beetles which live in dung and very foul organic material (Species Group 7) such as *Cercyon* spp and *Megasternum obscurum* was, at 7.9% of the terrestrial Coleoptera, typical for a rural archaeological site and need not imply any particular concentration of organic refuse in this state. There was, however, a strong presence of beetles which are characteristic of old damp hay, straw or other plant material, often with white moulds, including the Lathridiidae of Species Group 8 (*Lathridius minutus* gp, *Enicmus transversus*, *Corticaria punctulata* and Corticariinae), *Phyllodrepa floralis*, *Xylodromus concinnus*, *Mycetophagus quadriguttatus*, *Typhaea stercorea*, *Anthicus floralis* and *A formicarius*. Another beetle which was well represented was *Ptinus fur*, which feeds on a wide range of partly dried plant or animal matter, including stable debris and old hay. *P fur*, along with *T stercorea* and *M quadriguttatus*, most usually occurs inside buildings in Britain and belong to the synanthropic beetles of Species Group 9. This fauna suggested that the plant debris had accumulated on the damp floor of a stable or barn before being dumped in the waterhole.

Further evidence that the material had been derived from inside a building was given by *Anobium punctatum* (woodworm beetle), which was the most numerous beetle from the deposit. *Lyctus linearis*, (powder post beetle) was also present. These two beetles comprise Species Group 10, species suggestive of structural timbers because they readily infest such material and are much less often found in naturally occurring dead wood.

Overall, the abundance of beetles from Species Groups 8, 9 and 10 (table 5.53) was very much appropriate to a Roman settlement with timber buildings (Robinson 1991, 280–81).

The majority of waterlogged seeds were from weeds of waste and disturbed ground as might be expected around a Roman settlement, with seeds of *Urtica dioica* (stinging nettle) being by far the most abundant. Seeds of *Hyoscyamus niger* (henbane), a plant formerly characteristic of the nutrient enriched ground of settlements, (although now rather rare), was also well represented. Other seeds of waste ground plants included *Malva sylvestris* (common mallow), *Rumex obtusifolius* (broad-leaved dock) and *Ballota nigra* (black horehound). These would presumably have grown in company with some of the annual weeds already mentioned where the ground was more frequently disturbed. Seeds of the acid grassland plants *Potentilla* cf *erecta* (tormentil) and *Rumex acetosella* agg (sheep's sorrel) suggest that there were also grassy areas around the settlement.

The Carabid beetles (ground beetles) very much comprise a fauna of dry weedy to grassy ground. Species of *Bembidion* and *Pterostichus* were almost absent apart from *B obtusum* and *P madidus*, two species able to tolerate drier conditions than most of the members of these large genera. The two groups of ground beetles that tend to be favoured by disturbed weedy ground or arable were well represented, with *Agonum dorsale* and *Harpalus rufipes* from Species Group 6a and *Amara bifrons* from Species Group 6b. It is difficult to differentiate the coleopterous fauna of arable from that of other categories of disturbed ground. While it seems highly likely on the basis of the botanical evidence that there was cultivated ground in the vicinity of the settlement, these beetles could all have been derived from areas with bare and weedy ground in the settlement.

Two of the Carabidae were of particular interest. These were three individuals of *Zabrus tenebrioides*, a beetle of cultivated fields and meadows which is now very rare in Britain. In Continental Europe it is a pest of cereals, the larvae devouring the young shoots and the adults climbing the plants to feed on the grains (Lindroth 1976, 97). *Brachinus crepitans* (bombardier beetle) was also present. This remarkable beetle, which defends itself with explosive discharges, occurs in dry open habitats (Lindroth 1976, 134).

The phytophagous Coleoptera confirmed the abundance of *Urtica dioica* on the site with the nettle-feeding beetles *Brachypterus urticae*, *Apion urticarium*, *Cidnorhinus quadrimaculatus* and *Ceutorhynchus pollinarius* all present along with the nettle-feeding bug *Heterogaster urticae*. Other phytophagous Coleoptera that feed on plants also represented by seeds included *Podagrica fuscicornis* and *Apion rufirostre*, which feed on Malvaceae (mallows) and the Polygonaceae (docks, knotgrass etc)-feeding *Chaetocnema concinna*. Vetches or clovers were suggested by a couple of species of *Sitona* and a grassy element to the site vegetation was indicated by several species of the bug *Aphrodes*, the most numerous being *A bicinctus*, represented by 14 individuals.

Although there was some evidence from the plant debris in the waterhole for the bedding of domestic animals, the Coleoptera did not give any strong indication for the proximity of pastureland. Scarabaeoid dung beetles, such as *Aphodius contaminatus*, were present but they (Species Group 2) only comprised 4.5% of the terrestrial Coleoptera, a rather low value. Beetles which are dependent on wood and trees (Species

Group 4) made up 1.2% of the terrestrial Coleoptera. Some of these, such as *Phymatodes testaceus*, could have emerged from wood brought to the site rather than being from nearby dead trees. The waterlogged macroscopic plant remains gave little indication of trees or shrubs apart from the gorse that has already been mentioned. There were only a few seeds of *Rubus fruticosus* agg (blackberry) and *Sambucus nigra* (elder), and a twig of *Quercus* sp (oak).

Two waterlogged items stand out as of particular interest. There was a single seed of *Coriandrum sativum* (coriander), a culinary spice introduced by the Romans. Its occurrence would suggest the occupants of the site enjoyed a romanised diet. There was also a head of a worker of *Apion mellifera* (honey bee). There are now several examples of honey bees from Roman Britain but this find raises the possibility of beekeeping on the site.

9 DISCUSSION

by Graham Hayman and Rob Poulton

A comprehensive discussion of the local and regional prehistoric and Roman context of the Thorpe Lea Nurseries site can be found in chapter 1. This discussion is more concerned with site specific issues, although some more general comment is inevitably included.

9.1 THE DEVELOPMENT OF THE HOLOCENE LANDSCAPE (fig 5.64)

The site occupies an area of flat, low-lying ground. The archaeological features were sealed beneath *c*0.20m of subsoil, which itself lay beneath 0.15–0.30m of topsoil. The subsoil, which deepened towards the west, where closest to a north–south stream that lies *c*150m distant, may have arisen as an overbank deposit, though gravel pebbles within its make-up indicated that it had been a ploughsoil at some stage of its development. The 'natural' geology consisted either of gravel or of calcareous or orange/brown 'brickearth' (fluvial silty clays) over gravel. It is unclear whether flooding in the post-Roman period occurred, but it seems unlikely that ground level in antiquity was significantly lower than at the present day, suggesting that all features are likely to have been truncated by 0.3m or more, and this is confirmed by the shallow depth of many features. A number of linear features were clearly of greater extent than survived, and this makes clear that many others features had been completely removed. Understanding of the landscape development, and even more so of settlement morphology, has been considerably hindered by this.

Four features, and a small quantity of flintwork and pottery, indicate that the area was visited and used in the Mesolithic, Neolithic and Early Bronze Age periods, but provide no basis for characterising the landscape. A significant development occurs in the Middle Bronze Age, when five ditches can be identified whose alignments suggest they belong, or relate, to a rectilinear system, despite the fact that there are significant gaps between them. In the case of features 1778 and 2423 it seems certain that stretches of ditch were removed by subsequent truncation, the possibility that other ditches were entirely removed cannot be ruled out, but other gaps seem real. All, except 2441, appear to have infilled by natural silting, sometimes with an indication of initial side slumping. 1218 and 1990 must be two parts of the same ditch as both follow a similar north-east to south-west course, which was traced over a combined distance of nearly 200m within the site area (with a 34m gap between the two, most of which is accounted for by areas of modern disturbance or non-excavation). These features are relatively substantial and must be seen as marking a significant boundary, perhaps a primary axis in the laying out of a field system, as suggested for similar features at Perry Oaks (Framework Archaeology 2006, part 3). Ditch 2423 is a much slighter feature that runs parallel with it for a short distance, but may originally have been longer. Lambrick & Robinson (2009, 73) have suggested that such features might point either to the existence of a trackway or a hedgebank between the features. The probability that one of these extended along the length of 1218/1990 is increased by the observation that the gap between the latter and ditch 2441 at right angles to it makes far more sense if partially closed by such a feature, leaving an entrance gap of more suitable size. Feature 2441 is clearly far more substantial than required for a field boundary, and it seems probable that is part of an enclosure, possibly with a bank on its western side. 1778 is of a size that suggests it is a field boundary, but although theoretically secondary to 1218/1990, it is important to note that both ditches (and 2441 as well) produced plentiful Deverel-Rimbury pottery to confirm that they had silted up in the Middle Bronze Age. As discussed below, this rectilinear system continued to influence the layout of boundaries down to the end of the Roman period, and it seems certain, therefore, that the ditches were simply the means to the end

of creating the hedged and banked boundaries that were the enduring legacy.

The location of the small northern Bronze Age settlement strongly suggests that it respects the major boundary to its north. The evidence for the earlier Iron Age is limited and hard to interpret (see below), but there is no doubt that the emergence of the western and eastern Iron Age settlements involved reorganisation of the landscape. This is particularly obvious in respect of the long, curvilinear boundary ditch, seemingly recut on a number of occasions, represented by ditch 1154/2483. This gives the impression, taken with the ditched elements 2315 and 1229, that it was one side of a trackway leading to the eastern Iron Age settlement. Where 2483 and 2315 run roughly parallel, they are also at right angles to the Middle Bronze Age boundary 1218, and 2315 continues the projected alignment of Middle Bronze Age ditch 1778. Ditch 2454, at the north-west of the excavated area, is also at right angles to 1154/2483. A further ditch, 1210, runs south from Iron Age ditch 1154, but stops in a gap for the projected alignment of Middle Bronze Age ditch 1990, and is at a right angle to the latter. Iron Age ditches 2431 and 1782 run parallel to Bronze Age boundary 1218/1990, about 120m distant from it. These relationships strongly suggest the continuing influence of the Bronze Age field system, although the exact mechanism is uncertain. Each of the ditches is clearly Iron Age as excavated, and they are generally very shallow and probably originally of greater length than could be traced. They could either represent a recutting of Bronze Age ditches of which no detectable trace survived, or the creation of new divisions in the broader framework.

The ditches of the western Iron Age settlement show no clear association with the rectilinear field system, and nor do those belonging to its Roman successor in a similar location. Indeed, the curvilinear Roman ditch 1191 clearly ignores the Bronze Age alignment, running across the site to finish at a location just south of the ditches associated with the eastern Iron Age settlement. This is a curious coincidence given the absence of significant Roman activity in this location. If, as suggested for the Iron Age 1154/2483, it represents one side of a trackway, 1191 might have linked with another trackside ditch, heading east, for which the evidence does not survive, unless it is argued that it might have followed the line of ditch 1251. This last aligns with the earlier field system, as do two further ditches, 1700 and 2232 (as well as the undated 2103**),** that are of similar character, of variable but shallow depth, with gaps where they were so shallow as to leave no trace. These ditches were clearly later than a number of Iron Age and Roman features, and it seems most likely, given the position of 1700 in relation to the enclosed Roman settlement, that they represent a reorganisation of the area following the end of the principal use of the settlement. The finds evidence suggests a Roman date for 1251 and 1700, the former including a 4th century sherd, while 2232 produced a more convincing assemblage of late 3rd–4th century pottery. 1251 also included pieces of medieval tile, that are argued as intrusive (above), but the possibility that this is a post-Roman field system, with almost all the finds residual, cannot be entirely rejected. In either event, it seems unlikely that the relationship to the Bronze Age field system is purely coincidental, although 2232 and 1700 must be new divisions in the broader framework, while 2232 could be either that or an earlier ditch entirely recut.

A characteristic feature of Middle and Late Bronze Age field systems, and their continuing use in later periods, is the presence of dispersed waterholes (Lambrick & Robinson 2009, 73–90). For this and other reasons (Yates 2001) it is generally argued that the primary reason for their creation is the development of more intense systems of animal pasturing. Waterholes are absent at Thorpe Lea Nurseries until the Late Iron Age and then found in close association with the main settlement (apart from 2295 that is 40m distant from the eastern Iron Age settlement, and could relate to it), and one interpretation of that would be that arable farming was more important (it seems unlikely that flooding would have been a regular enough event to support meadowland). Further consideration of this depends largely on the information arising from the studies concerning the macroscopic plant and invertebrate remains, and the animal bone. There is insufficient evidence to promote any meaningful discussion of the Bronze Age, and the information available for the Iron Age and Roman periods is limited, particularly as some of the more interesting contexts are insecurely dated.

Carbonised plant remains, other than charcoal, were only present in a small number of the 30 Iron Age contexts that were sampled and in only two instances (samples 26 and 62 from features 1926 and 2350) were more than nine non-charcoal remains identified. The total was similarly low for the 37 Roman samples. Most of the samples did contain charcoal, however, and oak (the only wood identified for the Bronze Age) was found to be well represented in both periods with hawthorn-type charcoal also occurring frequently in the Roman contexts. The majority of charred cereal remains came from the insecurely dated feature 'bonfire' 1773 which is catalogued above as being of non-specific Roman date though it could

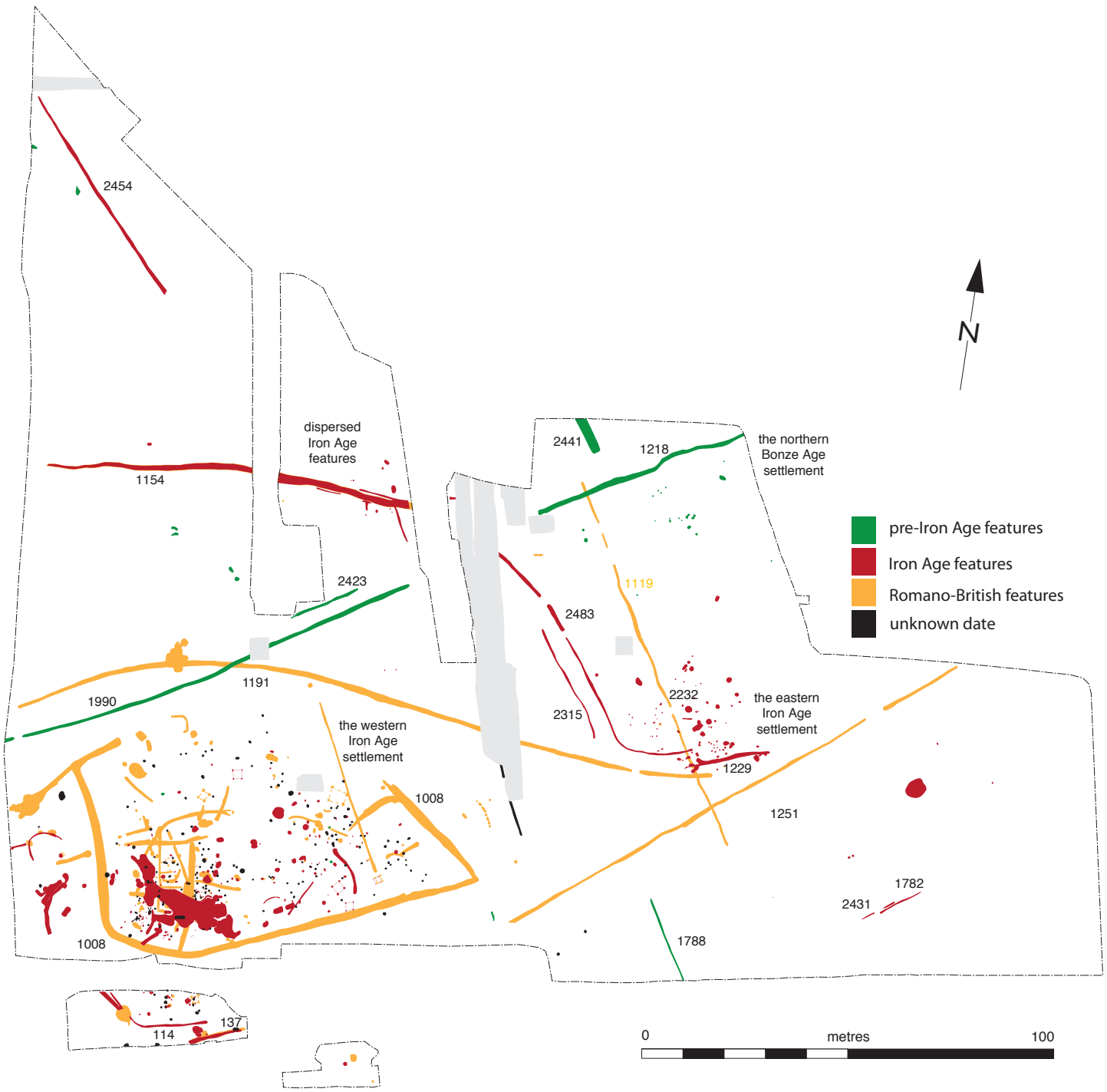

Fig 5.64 Thorpe Lea Nurseries: plan showing all features of Bronze Age, Iron Age, Roman and unknown date

equally well be of Iron Age or Iron Age/Early Roman origin. The only other features to contain significant quantities of this material were the probable cremations 2403 (attributed to phase 2B but not securely dated), 1508 (attributed to phase 3A but possibly of later Iron Age origin) and 2350 (phase 3, eastern site), the otherwise uninteresting pit 1926 (non-specific phase 3), and the Roman waterhole 1948 (phase 4B).

Waterhole 1948 produced many waterlogged seeds, some other waterlogged plant remains, numerous beetles and some other insects, although it was impossible to be certain what proportion of this material had been deliberately dumped in the feature and what proportion had entered as a result of natural processes. The floral remains were largely indicative of open conditions with very few trees and shrubs being present with the exception of gorse, which could have been brought to the site as litter for domestic animals, as fodder or as fuel. The majority of the waterlogged seeds came from plants, such as stinging nettles, which thrive on waste or disturbed ground

as might be expected around a Roman settlement. Other seeds suggested that there were grassy areas around the settlement. Debris from the threshing of spelt wheat, and seeds from species dependent on arable cultivation and/or from species that grow as arable weeds were discovered, but very few seeds from plants characteristic of hay meadows were found and these could have been from plants growing on-site. Beetles that favour dry weedy to grassy ground, or disturbed weedy or arable ground were also well represented but most could have come from areas of bare or weedy ground around the settlement. The beetles did not give a strong indication of pastureland, and there were few beetles dependent on wood and trees.

The evidence from the study of the macroscopic plant and invertebrate remains indicates that the landscape around the site area in the Iron Age and Roman periods was an open one. This, taken together with the feature evidence, strongly suggests that this was a cleared landscape throughout the period from the Middle Bronze Age to the end of the Roman period.

The use to which the fields were put is difficult to elucidate from the evidence available. The low quantity of remains from cereal processing suggests that this activity might not have taken place on a large scale during the Iron Age and Roman periods. Support for this suggestion comes from the relatively small amount of quernstone fragments recovered from the site, and from the absence of features such as corndriers. Some interesting comparisons can be made between Thorpe Lea and the upper Thames valley site at Farmoor, located some 7km to the west of Oxford, where Iron Age and Roman settlements were discovered; and environmental and archaeological information indicated an essentially pastoral economy during both periods (Lambrick and Robinson 1979). The crop remains discovered at Farmoor were low, quernstone fragments were also an infrequent find, but, in contrast to Thorpe Lea, two Roman corndriers were discovered. Robinson (ibid, 127) notes that cereals would have provided man with his main source of carbohydrates during the Roman period, and also that, as far as spelt wheat is concerned, threshing is not an activity which could have been carried out in the fields because this crop requires parching over a corndrier to release the grains. The paucity of crop remains recovered at Thorpe Lea and the absence of features such as corndriers suggests that arable farming was not the main economic activity of either the Iron Age or the Roman period. Some cereal growing might have taken place during the Iron Age and the amount may have increased during the Roman period, but it is also possible that crops were simply imported to the site for processing and may not have been cultivated there by the inhabitants.

Approximately three fifths of the animal bone recovered came from contexts dating to the 3rd or 4th century AD. Examination of the material has suggested that cattle and sheep may have been present in similar proportions during the Iron Age, and that pig and horse were well represented and must have been well utilised. Cattle increase in numbers from the end of the Iron Age, and there might also have been a slight increase in the number of horses, (the presence of the neo-natal horse skull in waterhole 1971 (phase 4C) might indicate that horses were bred close to the site), while there is a slight decrease in the number of sheep and pig. Cattle appear to have been the major contributor of meat in both eras. The evidence for the lifespan of sheep/goats, pigs and horses is limited which makes it difficult to determine their value to the economy. It appears that sheep/goat were being killed at all ages, while pigs, during the Iron Age at least, appear to have been killed between their 1st and 3rd years, and most horses were mature at the time of death. This indicates that the sheep/goat were probably important for wool (and possibly milk) as well as for meat, pigs were maintained as a source of meat, lard and, perhaps, leather, and horses may have been valuable for a number of reasons (though perhaps not primarily so as a source of meat). Cattle appear to have been slaughtered at a younger age during the Roman period which suggests an increase in meat production.

The paucity of crop remains and relative abundance of skeletal remains at Thorpe Lea (a quantity which would undoubtably have been greater if it were not for the acidic ground conditions of the gravel areas of the site) demonstrates the importance of animals. The site does not appear to have sustained an economy that was principally dependent on arable farming, but whether this means it was essentially pastoral is difficult to say. Given the fairly small size of the Iron Age settlements a mixed economy which at least made some use of the light soils of the gravel areas for crop growing may be likely, and is perhaps supported by the absence of waterholes. The same may also be true for the Roman period, though the suggested increase in meat production, and the appearance of waterholes, indicates that pastoralism may have become more important (see below for further comment). The development of nearby Staines (Jones 2010, chapter 1) as an important Roman town might have been a factor that led to pastoral specialisation at the expense of arable farming.

This interpretation sees fields around the settlements develop from a primarily arable or mixed farming economy in the Iron Age to something resembling a ranch by the end of the Roman period, but other interpretations are also possible.

9.2 SETTLEMENT HISTORY

In reviewing the settlement history it is important to note the location of the site, on the Shepperton Gravels of the middle to lower Thames valley, and sited right at the edge of the floodplain, perhaps even subject to occasional flooding, though there was no unequivocal evidence for that during the defined periods of occupation. Its immediate hinterland, though, is the area of Bagshot Beds geology, which may have become heathland even before the Bronze Age (Poulton 2004, 54). It is almost certainly bereft of permanent occupation sites (SCAU rapid identification survey for RCHM(E)) and its resources must have been exploited by communities settled at its margins. This is, inevitably, difficult to demonstrate directly, but should be kept in mind in relation to the function and status of the sites at Thorpe Lea.

The excavations produced evidence of human activity dating from the Late Mesolithic to the end of the Roman period. Four widely separated features are earlier than the Middle Bronze Age, but this period is best represented in the finds record, principally by the presence of struck flint of Late Mesolithic and later date, and by occasional sherds of Late Neolithic and Early Bronze Age pottery. Such evidence is consistent with the scattered evidence for Mesolithic hunter-gatherers and Neolithic nomadic farmers that is generally found in large scale excavations on the Thames gravels (see chapter 1).

The development of a rectilinear field system in the Middle Bronze Age has already been discussed, and the relationship of settlement evidence to it is of some interest. During the excavation it seemed probable that ditch 1218 was associated with the pits and postholes of the northern Bronze Age settlement, particularly as this ditch produced quite frequent sherds of Middle Bronze Age pottery (much more pottery than 1990) and, therefore, seemed likely to be close to an area of concentrated activity. However, the pottery shows that the northern settlement, like its southern counterpart, was of Late Bronze Age date, and hence that it was not related (directly, at least) to ditch 1218. The second part of the assumption remains valid, however, as the quantity of pottery recovered from 1218 (mostly in unabraded condition) was part of a typically domestic assemblage that must have emanated from the area lying just beyond the limits of the excavation, most probably to the north, within an area enclosed (at least partially) by Middle Bronze Age ditch 2441 to the west, the size of the latter suggesting an important settlement. Ditch 1778 produced occasional pottery sherds of similar date from most excavated segments, and the greater part of a single vessel from segment 1771, suggesting that it also may not have been too distant from a settlement, and it is possible that this lay to the south or south-east of 1778 and to the east of the northernmost trial trench of the stage 3 area (fig 5.2). The isolated features 2432 and 2434, located some 120m to the west of the northern settlement, might be the only non-linear features of Middle Bronze Age origin discovered by the excavation: the position of these features suggests that sherds recovered are not likely to have been present residually. The irregular shape of these features and others in the general vicinity which might belong to phase 1 or 2 (part 4) suggests that some or all might have been land clearance features. The evidence allows the inference that at least three Middle Bronze Age occupation areas lay in or adjacent to the excavated area. It seems unlikely that they were all in use at the same time.

The two definite Bronze Age settlements both belonged to the Late Bronze Age and, as the southern of these might post-date the northern site; this might reflect the shifting of settlement across the area. The features attesting the presence of each site, all either pits or postholes, were relatively few which indicates that they were part of a short-lived occupation. It is difficult to make a meaningful interpretation of the features of either area. At the northern site it is possible that postholes 2369, 2364, 2374, 2380, 1163, 2385, 2389 and 2384 (reading clockwise) indicate the position of a small structure, and feature 2381, which produced frequent waste flakes and ten flint cores, was clearly connected with tool making.

Despite the difficulties in identification and categorization, the discovery of up to five activity areas of Bronze Age date across the site points to a shifting and/or seasonal pattern of occupation, of the type discussed by Lambrick & Robinson (2009, 91–3), although within a field system, in a similar fashion to a number of other Thames valley sites (Lambrick & Robinson 2009, 101–5, and chapter 1, this volume). It is possible that similar lifestyles carried on for some time after that, and that would be one interpretation of the dispersed Iron Age features (few of which produced diagnostic finds, but those that did appear to be of Late Iron Age origin) that are grouped together close to the central part of the northern limit to the excavation area, although they might equally be outliers of another settlement, much of which might lie beyond the limits of excavation. If the latter is correct, however, it would point to an unusually dense concentration of settlement at that period, since significant evidence was located in two other areas.

The features of the eastern Iron Age site are difficult to discuss as the pits and postholes are without discernible pattern

and the majority served no obvious specific function. Their consideration is made more difficult by the dates suggested for these features, which in many cases are somewhat ambiguous. Ignoring the finds, the first impression given by this area was of a small area of occupation indicated by a relatively small number of features partially enclosed by ditches 1229 and 2483. As such, it seemed likely that the features would be broadly contemporary, though the presence of some intercutting features and evidence to suggest that ditch 1229 had been recut indicated that the site would have been used over a number of years. The date range suggested for these features was, therefore, something of a surprise as, taken at face value, it implies that the site was used specifically during the Early, Middle and Late parts of the Iron Age. While this might have been the case, particularly as evidence from the western site also indicates activity during the Early Iron Age, there is some reason for doubt, given the small number of features involved.

The evidence for the Early and Middle Iron Age comes from just five dateable features (two postholes and three pits) which are scattered amongst the rest. Even though two of the pits (1118 and 2215) are discussed in some detail in the pottery report (part 6) their dates have been suggested with a sensible degree of caution. With so few features belonging to these two periods it seems unlikely that occupation could have been continuous throughout the Iron Age. None of the ditches nearby have been dated to the Early Iron Age, and, although it has been suggested that 1229 and 2483 might be of Middle Iron Age date, they could equally be of Middle to Late Iron Age date. If this is so, these features of potentially earlier date do not appear to have had an association with any contemporary boundary, and, while that is not mandatory, it does seem slightly unlikely. One possibility is that the Early Iron Age occupation is an example of the kind of short-lived seasonal occupation discussed above, with the later activity sited only coincidentally.

The principal occupation of the eastern site was during the Middle to Late Iron Age (the site was probably abandoned in the early 4th century BC) but it is difficult to say much more. The area is partially enclosed by ditches 2483 and 1229, and the distance between the eastern end of ditch 2483 and the western terminal of ditch 1229 is comparable with the gap between ditches 2483 and 2315, so it seems possible that the settlement might have been approached and entered via this suggested corridor. Features present within the postulated entrance indicate that this is unlikely to have been the case for the duration of the settlement, however. Other than the postholes, which might somehow relate to indiscernible structures, none of the features appeared to be associated with buildings (no eaves drip gullies were discovered for example). It is tempting to suggest that the curve of ditch 2483 might have been a suitable location for such a building (there were few features here other than postholes some of which might have belonged to the building), but this is simply conjecture.

Apart from the possibly clay lined feature, 2300, and the undated feature 1104, which contained quite frequent pieces of calcined flint, none of the pits showed any signs of being used themselves for a specific industrial purpose. There was, however, evidence to suggest that iron smelting had taken place on or close to the site. This was indicated by the presence of dense slag (1131/2244, 2289, 2282, 1132, 1183, 1106, 2211), supported by quantities of other debris such as vitrified hearth lining (1131/2244), cinder and undiagnostic ironworking debris (2290, 1106, 2209) and also possibly by the presence of fragments of fired clay in a number of contexts. A possible smithing hearth bottom, may also show that iron smithing was carried out here. The contexts containing ironworking debris centre around the groups of postholes lying just to the north of 1229 which might be significant (the ditch may have delimited a hedge used to provide shelter). The quantity of material is small, but may nevertheless point to a specialised activity area, an issue further explored below in relation to the western settlement

The features of the western Iron Age settlement are more numerous and cover a much greater area than their eastern counterparts, but are equally difficult to interpret. The main problem facing the consideration of these features is the uncertainty surrounding the dating of the numerous contexts which produced little or no finds, or else mixed assemblages, and which may be of Roman origin. The majority of features belonging to the western settlement are of Middle to Late Iron Age date, while 11 have been tentatively dated to the Early Iron Age (most with limited evidence to support such a date). As the few potentially Early Iron Age features are scattered throughout the western settlement area amongst features of later date and were not concentrated at any particular location, it is perhaps less likely that they represent a distinct phase as such, and more probable that they are either the earliest features of the Middle to Late Iron Age phase, or else that they were exceptions to this phase (perhaps for reasons akin to those suggested for the eastern settlement). There is certainly insufficient evidence to support any suggestion that occupation was continuous throughout the Iron Age, though

it may have been largely so from the Middle to Late Iron Age to the end of the Roman period.

The excavations failed to produce clear evidence of building remains, for any period, save for a number of four-posted structures. Consequently it is difficult to distinguish the domestic areas of the site from those used for other purposes. Postholes were discovered frequently throughout the site area, occurring either individually or within groups, but none can be attributed to definite structures, apart from the four-posters. The only Iron Age features which seem likely to indicate the position of substantial buildings are the two partial ring gullies 1845 and 2110. Little can be said about these beyond what has been noted above under their context descriptions, but they are closely comparable in size and appearance to a large number of complete or near-complete ring gullies found in the Blackwater valley, near Runfold, close to the border between Surrey and Hampshire (Poulton, 2004, 58–60 and fig 4.8). The Tongham Nurseries ring gullies (Bird et al 1996, 189, figs 1–3; Hunt et al 2002, 24) are particularly significant as they show that these are eaves drip gullies surrounding round houses, as they contained internal rings of closely spaced stakeholes, The gullies themselves were rarely more than 0.10–0.20m deep and some were incomplete having been truncated by ploughing, and the internal rings were even shallower, sometimes not surviving at all, with internal features such as hearths or floor surface debris absent. There seems little doubt that the ring gullies at Thorpe Lea Nurseries are the remnants of similar structures. How many more might have been totally destroyed by ploughing is a matter of conjecture. The presence of various four-posted structures, including at least three, 1736, 1742 and 1945, that date to the Iron Age, is interesting as it indicates that had the major buildings been so constructed the ground plan of these would also have survived. This is supported by the fact that no Iron Age structures in this part of the Thames valley, or Surrey more widely, have produced a ground plan which has suggested construction around a framework of substantial vertically set wall posts (Poulton 2004) and this would suggest a tradition within the region for construction by other means. The use of turf walls (or other mass walling) might be one method by which this was achieved as these would be strong, insulating, and could support timbers for a roof without the need for postholes as demonstrated at Butser by experiment (Reynolds 1979, 42–4; cf Lambrick & Robinson 2009, 135), and such a building will, by its nature, be almost impossible to detect archaeologically unless preservation conditions are exceptional; the same would apply if timber sill beams were used and not dug into the ground. An example of this may have been found at the County Sports site, Staines (Jones & Poulton 2010, 176–7) where the circular clay floor of an Early Roman building was preserved but no evidence of features related to walls or roof support was discovered.

There was no evidence to indicate the purpose of the four-posted structures found at Thorpe Lea, though traditionally such features have been interpreted as marking the location of granaries. Nearby, at St Ann's Heath school, Virginia Water, direct evidence for this has been found (Lambert in prep), but other associations suggest storage of fodder, and an association with pastoralism (Lambrick & Robinson 2009, 271–2). With regard to the majority of postholes discovered it was generally impossible to determine which were contemporary with which, and which were used singly, in pairs, or in small groups. The function of these remains unknown though no doubt many were used in the construction of what may be assumed to be typical settlement features, such as haystacks, tethering rails, and short fence lines, for example.

The majority of the Iron Age pits of the western settlement area were uninteresting and provide no insight into their function, though the largest, 1916, seems most likely to have been used as a waterhole. Some pits might have been used for the disposal of 'domestic rubbish' –a term used to imply a multitude of possibilities for which little or no unequivocal evidence survives, but this may only have been a secondary use, with the original purpose of the pits unknown. Much of the domestic rubbish generated by a typical rural settlement, could have been, and perhaps was, scattered on the surrounding fields if the community was concerned with arable farming.

Ditches and gullies of Iron Age date were relatively scarce within and in the immediate vicinity of the western settlement area and in this respect the site was similar to the eastern settlement. The main ditches 113, 114, 137 and 2143 appear to form a partial segmented enclosure as very few features were found to the south or west of these. Assuming this to have been the case, it seems likely that other segments existed towards the east where no excavation took place, and possible, therefore, that 114 might have been mirrored in this direction with a further element or elements running towards 1779 which may have been the eastern arm. This implies that an enclosure with a wide opening towards the north, not unlike the Roman ditch 1008, may have existed. Although visually pleasing, this suggestion can only be speculative as it ignores the possible chronological differences between the ditches (part 6), and also the fact that the features were of different width and profiles, and that 113 and the north-western part

of 114 are, perhaps, unlikely to have been contemporary. It remains probable, however, that these features formed partial enclosures, at least, and there is, perhaps, enough flexibility within the date ranges suggested for the possibility of some overall association not to be completely ruled out. It is also worth noting that there is a visual similarity between the appearance of ditches 1229 and 2483 of the eastern Iron Age settlement, suggested above as possibly forming an entrance to the settlement, and ditches 114 and 137; this might be of significance, but could also be a coincidence.

Looking at the overall distribution of Iron Age features within the western settlement area it can be seen that a narrow gap occupied by relatively few features exists between the eastern and western part of this area (a north–south line drawn between the Roman features 1103 and 1837 roughly marks the centre of this). The significance of this is impossible to determine, particularly as the very absence of features might simply indicate a specific use for this ground (possibly even that it was occupied by buildings no trace of which have survived in the archaeological record) that made the digging of pits here inappropriate, but it is possible that it might be chronological. The majority of dateable Iron Age features on each side of the gap are of Middle to Late Iron Age date, but the remainder (of potentially earlier or later date) are too few to bring any meaning to the question. It was initially thought to be of possible significance that all of the seven pits tentatively dated to the Early Iron Age were found to the east of the gap, but as the only other features (four postholes) that were similarly dated lie to the west little can be made of this; the validity of the dating of these few features has, in any case, already been questioned above. If the gap is not of chronological significance, it seems most likely to be due to the organization and utilization of space within the settlement area. This might also be reflected by the distribution of pits and postholes, these being more scattered to the north and east (where several four-posted structures were identified), and more densely concentrated with a greater proportion of pits to the west.

An attempt has been made in part 4 to identify features which might belong to the transitional period between the Late Iron Age and the Early Roman era. Since occupation was clearly continuous, a transitional phase is a rather artificial concept, and it is not surprising that features belonging to it are particularly difficult to identify. All the features attributed to this phase lie within the western settlement area, though the dispersed Late Iron Age ditch 1154 might arguably be contemporary with these, and most were pits or postholes. There is no evidence that the pits served any change in function from those that preceded them, though there may have been a change in land use at this time as most were part of a complex of intercutting features and very few were found away from the south-western part of this area, which indicates that this ground might have been specifically designated for pit digging. Unless there was a considerable increase in the number of pits dug at this time, the number attributed to this phase seems proportionally too high for its duration, compared with those of earlier origin, if all of those that were intercutting are included. Although consideration of the finds from the pit complex suggests a Late Iron Age or Early Roman date for it overall, it is perhaps more realistic to assume that its origins would have been in the Late Iron Age and not to think of it as wholly belonging to the transition. No structures could be attributed to this phase, save, perhaps, for the insecurely dated four-posted structures 131 and 1912.

The majority of Roman features were also found within the western settlement area, though three postholes of non-specific Roman origin (not all were securely dated and one might not have been a manmade feature) and some ditches were identified amongst the features of the eastern Iron Age settlement, and a small group of Late Roman features were discovered between the two areas to the east of ditch 1008. Approximately 100 features (mainly pits and ditches or gullies) were attributed to phases within the Roman period, and roughly half of these appear to be of late 3rd or 4th century origin. The total number of features is not large, even if those of non-specific date are included in this, so it seems likely that occupation was not intense during this period. As none of the phases are particularly well represented, there seems little value in attempting to discuss each individually, especially as the features do not appear to be grouped in meaningful concentrations, and also, because some of the points to be made apply to each phase.

As was the case with the Iron Age, the Roman period failed to produce the ground plan of any major buildings, though 308/378 and 1988 (phase 4B) may have been of structural significance, and one four-posted structure (1925, phase 4) was discovered. Less than ten dateable postholes were attributed to any of the three Roman phases, and, using the same argument presented for the Iron Age, there seems little doubt that the principal Roman buildings at Thorpe Lea were not built around a structure of posts set directly in the ground. Assuming that buildings were present within the site area, their plan, methods of construction (part 8.3 strongly suggests the

presence of timber buildings), and distribution within the site area remain unknown. The only plausible explanation is that they were timber-framed buildings of sill beam construction which have left no trace (Bird 2004b, 67**).** An alternative explanation that the principal structural features associated with the settlement, may lie to the west of the excavation area seems unjustified considering the decrease in the number of features towards the far west, and the fact that most are contained with ditch 1008.

The size and shape of the enclosure formed by 1008 appears to have altered slightly through time, the evidence for this being most clear towards the east where at least three terminals can be seen. Ditch 1710 may have been used to sub-enclose the eastern corner of the overall enclosure, and may be of late 1st or early 2nd century date. It is unfortunate, however, that the excavation could do little more than date the final recutting of 1008, this being in the late 3rd or 4th century AD. Its origins, though, may be as early as the Transitional period, given the manner in which the dense pitting of that date fits in to the south-west corner of the enclosure. It is possible that the late 3rd or 4th century ditch 1191 may have been contemporary with the final phase of 1008 as visually it appears to flank the opening of the enclosure, being roughly equidistant from its two terminals, despite the fact that it continues well beyond it to the east; if so this unbroken feature would have excluded access to the site from the north, but would have allowed this from the east or west. The remaining Roman ditches were mostly short, straight or curvilinear features, and it is unclear what function they may have served beyond, perhaps, acting as minor enclosures, such as animal pens, barriers or land divisions. Ditch 330 with its offshoots towards the east, 462 and 527, might indicate the position of working areas, the ditches perhaps acting as both drainage gullies and barriers.

Approximately 50 pits were attributed to the three phases of the Roman period, and these were the most frequent feature type of each phase. The numbers belonging to each phase were small, and the majority provided no indication of their possible function so nothing further can be said about them. Four of the Roman pits, 2045, 2105, 2108 and 2138, were noteworthy because of their quite substantial depths. All of these features might belong to phase 4A, though 2138 is discussed in phase 4C in association with waterholes 2090 and 2127. It is noteworthy that the skull of a horse was found on or close to the bottom of both 2105 and 2108 and the skull of a cow was discovered close to the bottom of 2045 in layer 2058 (other animal bone was also recovered from these features and included the pelvis of a horse from 2105C). The unusual morphology of these features and the presence of skulls in all but the partially surviving 2138, could be significant and might indicate that they were used for ritual purposes.

The question of possible ritual usage/deposition must also be considered in the case of the waterholes which produced finds of exceptional calibre (within the assemblage for the site), and/or in exceptional quantity. If the finds assemblages for the various waterholes are compared, a distinct contrast can be seen between the Iron Age features 1916 and 2295 and the earlier Roman waterholes 156 (phase 4A) and 1948 (phase 4B) which produced few finds, and the Late Roman features 1971, 2090 and 2127 which produced many. Whereas the material recovered from the former most probably found its way into these features accidentally, there can be no doubt, because of the quantity of material involved, that material in the latter arrived there as a result of deliberate deposition. Two explanations for this seem possible, one being that the waterholes were seen as convenient places to dump rubbish once they were no longer suitable for their suggested primary function, and the other being that material was deposited in them as part of a rite of closure. The association of waterholes and wells with such activity is well established, both in the prehistoric period (cf Lambrick & Robinson 2009, 283–7) and the Roman period (eg Poulton and Scott 1993, 115–32)

The finds recovered from 1971, 2127 and 2090 included numerous sherds of pottery, frequent pieces of bone (particularly from 1971 which produced 14 animal skulls amongst its large total), items of metalwork, some quernstone fragments, some tile and some daub. Most of this material came from a limited number of layers within the upper part of the fill, and, although significant quantities of bone were recovered from 2036 and 2056 in the central/lower region of 1971, none of the primary contexts produced many finds. This supports the contention that deposition was a secondary function of these features, which followed their abandonment as waterholes. The specialist report on the animal bone concludes that the skulls (and other bone) present within 1971 are butchery waste.

On this basis the ritual character of these deposits might be inferred from the fact that: 1) recurring combinations of materials are present; 2) materials which would normally be recycled are included (the metalwork); 3) there is evidence of selectivity in the deposition (the animal bone might largely result from butchery waste, but probably not all of it, and why include the neo natal horse skull?).

These similarities are not necessarily conclusive. While it is true that materials which would normally be recycled are included, and that some (most obviously the spoon from 1971 and the small number of coins from the three features) could be considered prestige items, the number of metalwork small finds is not particularly large (though it does represent a significant proportion of the assemblage of such artefacts from the site as a whole), and consists mostly of nails, small coins (some of which may have been lost), and incomplete items; metalwork items of this sort are found frequently enough on Roman sites to enable it to be suggested that not every redundant item was carefully stored for recycling and, therefore, much that was found might simply have been discarded when no longer useful. With regard to the animal bone it is not difficult to see why a disused waterhole might be seen as a convenient place to dump odious butchery waste. It is true that a large number of skulls were recovered from 1971, but their number does not seem out of proportion with the quantity of other bone recovered from the relevant contexts. Therefore, if the occurrence of this material was due to ritual deposition rather than practical disposal, the presence of the skulls (as opposed to the less visually glamorous skeletal remains) seems unlikely to be of particular significance. The answer to the question 'why include the neo natal horse skull' might simply be 'why not' – it is as good a place as any if practical disposal was required. In sum, the arguments are finely balanced, and either or a combination of these interpretations might apply. If ritual activity is implied in relation to these Late Roman features it might be linked to the burial (1668), which is of similar 3rd–4th century date, and a rather surprising occurrence if the enclosure remained in normal domestic use.

An important feature of the western settlement, as of the eastern Iron Age settlement area, is the evidence for association with iron smelting. This is widely distributed in a variety of features, but no *in situ* evidence for furnaces was discovered. It seems improbable that such material would have been moved far from its original place of deposition, and unlikely, therefore that the furnaces lay outside, to any significant extent, the areas of excavation. It follows that slag must have been removed from the pits below the furnaces after use, although why is unclear, and/or that the pits must have been comparatively shallow, so that all trace of the furnace and associated burning was lost to subsequent truncation. This observation opens the possibility that, although smelting slag is spread across Iron Age, transitional and Roman contexts, the later material is residual, a possibility that may be supported by the 'remarkable continuity' noted by Starley (part 7.3) in the character of the material. In support of this it may be noted that the unusual smelting technique identified here was also used at St Ann's Heath, nearby at Virginia Water, where it is definitely of Iron Age date. Starley (part 7.3) observes that 'it should be emphasised that by itself, 27.6kg of slag does not equate to large scale or long-term production of iron, even considering that many of the features of the site were only sampled at intervals'. In a more general review, Lambrick & Robinson (2009, 218–9) applies such a conclusion to Brooklands I (Hanworth & Tomalin 1977) and the other known iron smelting sites in the Thames valley. In contrast, Jones (chapter 1, this vol) sees these as part of an important industry, with the sites in north-west Surrey forming major centres. The latter seems more plausible given the many Iron Age sites excavated in the Thames valley lacking such evidence, and the likelihood, suggested by the distribution of the Thorpe Lea Nurseries material, that the recovered amounts of slag form only a small fraction of that originally produced.

In an overall view the western settlement area was used, probably continuously, from at least the Middle Iron Age through to the Late Roman period. This extended time frame of up to a millenium suggests that it was always used by a small community, perhaps no more than an extended family, even allowing for the fact that many features have been lost to truncation. At first glance, the variety and intensity of Iron Age evidence, including the eastern and dispersed settlement evidence, suggests an intensification of settlement as compared to the Bronze Age. It seems more probable, though, that the number of people involved was little different, but rather that there was a shift to permanent, longer-lived, settlements. Iron smelting was an major element of the Iron Age settlements, but especially for the western settlement area, with its four-posters, agriculture must also have been of importance. This mixed economy may have continued into the Roman period, but there are also indications, perhaps especially for the Late Roman period, of a shift in emphasis, with waterholes and small enclosures or pens, suggesting an increased emphasis on pastoralism.

Occupation came to a close in the later 4th century, and evidence for settlement is absent for the Saxon or any subsequent period.

10 APPENDIX:

ARCHAEOMAGNETIC DATING

by A J Clark

Clay hearth 141 and burnt clay patch 150 were sampled on 22nd March 1990 and reported on 7th November 1991.

Heath 141: Measurement ref.: AJC-95. This was a bowl hearth, the physical stability of which was ensured by its good condition and firm foundation on undisturbed natural ground. It had apparently been made by shaping and firing natural *in situ* brickearth.

Fifteen samples were taken by the disc method, all from the eastern half, so that the hearth could be subsequently cut away on this side for sectioning. Orientation was by direct sun compass measurements and by magnetic compass. The samples were magnetised and showed good stability. The measurements formed an exceptionally coherent grouping, which could not be improved by partial AF demagnetisation.

Mean direction of thermoremanent magnetisation
DEC =5.86 degrees W; INC = 62.62 degrees; alpha - 95 = 0.70 degrees

Date of last heating
80-1 cal BC at 68% confidence level
100cal BC-cal AD 20 at 95% confidence level

Despite the good quality of the measurement, the date span could not be estimated more precisely because of an overlap in this part of the calibration curve. The most probable alternative dates are in the early or late parts of the 1st century BC, rather than the middle. Magnetic refraction in this strongly magnetised material is assumed to have caused a shallowing of the inclination by about 5 degrees.

11 ACKNOWLEDGEMENTS

Between the late summer of 1989 and the late spring of 1994 staff of the Surrey County Archaeological Unit undertook a programme of evaluation and excavation work. The Thorpe Lea Nurseries project was funded jointly by English Heritage and Hall Aggregates (part of the RMC Group); the latter body also provided much of the machinery required to remove overburden deposits from the site.

The Surrey County Archaeological Unit is most grateful to English Heritage and Hall Aggregates for the financial backing of the project and for their cooperation during its running. The Unit is also grateful to the following specialists for their contributions on-site and/or to this report: Simon Mays (Ancient Monuments Laboratory (AML)) for his paper on the human bone; Mark Robinson (Oxford University Museum) for his work on the macroscopic plant and invertebrate remains; Pippa Smith and Dale Serjeantson (Faunal Remains Unit, Southampton) for their initial assessment on the animal bone; the final report was produced by Mary Iles and Kate Clark of the Centre for Human Ecology, Southampton University; Justine Bayley (AML) and David Starley (AML) for their work on the slag and other metalworking debris; Adrian Tribe (English Heritage Contract Conservator, South and East England Institute of Archaeology, University College London) for the conservation report; David Underwood for his report on the struck flint; Tony Clarke for his work in connection with the archaeomagnetic dating of several features; and, Patricia Wiltshire for assessing the palynological potential of the site and for liaising with many of these specialists on behalf of the archaeological team.

In addition, the author would like to thank the following SCAU staff: Phil Jones for the pottery report and he and David Williams for the accompanying illustrations; Suzanne Huson for the report concerning small finds and building materials; Giles Pattison for the illustrations; Rob Poulton for coordinating the project and for his assistance with the production of this report; and Tony Champion (thanks for 'minding the store' so efficiently when I could not be on-site), Mark Dover, Steve Dyer, Andrea Farminer, Simon Greenslade, Simon Hind, Suzanne Huson, Nick Marples, Gregor Morrison, Giles Pattison, Jan Pauliny-Toth, Jane Robertson and Alex Thorne, who, at different times, were involved with the fieldwork and/or post-excavation processing of material.

BIBLIOGRAPHY

Abbreviations

CBA Council for British Archaeology

BAR British Archaeological Reports

SCAU Surrey County Archaeological Unit

SyAC Surrey Archaeological Collections

SyAS Surrey Archaeological Society

Place of publication given where outside Britain

ABMAP http://ads.ahds.ac.uk/catalogue/resources/html

Ager, B M, 1989 The Anglo-Saxon cemetery, in Stead and Rigby 1989, 219–21

Ambers, J, Matthews, K, and Bowman, S, 1987 British Museum natural radiocarbon measurements, *Radiocarbon*, **29**, 177–96

Andrews, P, 1996 Hurst Park, East Molesey, Surrey: riverside settlement and burial from the Neolithic to the Early Saxon periods, in P Andrews & A Crockett, *Three excavations along the Thames and its tributaries*, Wessex Archaeol Rep, **10**, 51–104

Anon, 1880 *Alnwick Castle Museum of Antiquities catalogue*

Anon, 1927 Roman kiln at Farnham, *SyAC,* **37 (2)**, 243–4

Aubrey, J, 1718 *The natural history and antiquities of the county of Surrey*

Bachmann, H G, 1982 *The identification of slags from archaeological sites*, Institute of Archaeology Occasional Publication

Barrett, J C, 1973 The pottery of the Later Bronze Age in lowland England, *Trans London Middlesex Archaeol Soc*, **24**, 111–34

Barrett, J C, 1980 Four Bronze Age cremation cemeteries from Middlesex, *Proc Prehist Soc*, **46**, 297–320

Barrett, J C, & Bradley, R (eds), 1980 *Settlement and society in the British Later Bronze Age*, BAR Brit Ser, **83**

Bayliss, A, & Jones, P, 2008 Radiocarbon dating, in Jones 2008, 73

Beagrie, N, 1989 *The Romano-British pewter industry*, Britannia, **20**, 169–91

Bird, D G, 1987 The Romano-British period in Surrey, in Bird & Bird 1987, 165–96

Bird, D G, 1999 Possible Late Roman or Early Saxon fish weirs at Ferry Lane, Shepperton, *SyAC*, **86**, 105–23

Bird, D G, 2000 The environs of Londinium: roads, roadside settlements and the countryside, in *London underground: the archaeology of a city* (eds I Haynes, H Sheldon, & L Hannigan), 9–34

Bird, D G, 2004a Surrey in the Roman period: a survey of recent discoveries, in Cotton et al 2004, 65–76

Bird, D G, 2004b *Roman Surrey*

Bird, D G, 2004c Roman religious sites in the landscape, in Cotton et al 2004, 77–90

Bird, D G, Crocker, G, Maloney, C & Saich, D, 1996, Archaeology in Surrey 1992–3, *SyAC*, **83**, 187–228

Bird, J, & Bird, D G (eds) 1987 *The Archaeology of Surrey to 1540*, SyAS

Bishop, B, 2006 The later prehistoric flint and chert artefacts, in Carew et al 2006, 34–6

Bishop, M C, & Coulston, J C N, 2006 *Roman military equipment from the Punic Wars to the fall of Rome,* 2nd edition

Bishop, M W, 1971, The non-Belgic Iron Age in Surrey, *SyAC,* **68**, 1–30

Blackmore, L, and Whipp, D, 1977 Thomas Layton, FSA (1819–1911) 'A misguided antiquary', *London Archaeol*, **3 no 4,** 90–6

Blagg, T F C, and Read, S, 1977 The Roman pewter moulds from Silchester, *Antiq J*, **57**, 270–76

Blair, J, 1989 Frithuwold's kingdom and the origins of Surrey, in, *The origins of Anglo-Saxon kingdoms* (ed S Bassett), 97–107

Booth P, Dodd, A, Robinson, M, & Smith, A, 2007 *The Thames through time, the archaeology of the gravel terraces of the upper and middle Thames, the early historical period, AD 1–1000*, Oxford Archaeology, Thames Valley Landscapes Monogr, **27**

Bradley, R, 1998 *The passage of arms: an archaeological analysis of prehistoric hoards and votive deposits*

Bradley, R, & Gordon, K, 1988 Human skulls from the River Thames and their significance, *Antiquity*, **62**, 503–9

Bradley, R, & Ellison, A, 1975 *Rams Hill: a Bronze Age defended enclosure and its landscape*, BAR Brit Ser, **19**

Bradley, R, Lobb, S, Richards, J, & Robinson, M, 1980 Two Late Bronze Age settlements on the Kennet gravels, excavations at Aldermaston Wharf and Knight's Farm, Burghfield, Berkshire, *Proc Prehist Soc*, **46**, 217–96

Branch, N P, & Green, C P, 2004 Environmental history of Surrey, in Cotton et al 2004, 1–18

Bray, W (ed), 1818 *Memoirs illustrative of the life and writings of John Evelyn: comprising his diary from the year 1641 to 1705–6 and a selection of his familiar letters*

Bronk Ramsey, C, 1995 Radiocarbon calibration and analysis of stratigraphy, *Radiocarbon*, **36**, 425–30

Bronk Ramsey, C, 1998 Probability and dating, *Radiocarbon*, **40**, 461–74

Bronk Ramsey, C, 2001 Development of the radiocarbon calibration program, *Radiocarbon*, **43**, 355–63

Bronk Ramsey, C, 2008 Deposition models for chronological records, *Quaternary Science Reviews*, **27**, 42–60

Brothwell, D R, 1981 *Digging up bones* (3rd edn)

Brown, N, 1988 A Late Bronze Age enclosure at Lofts Farm, Essex, *Proc Prehist Soc,* **54**, 249–302

Brown, P D G, 1973 A Roman pewter hoard from Appleford, Berkshire, *Oxoniensia*, **38**, 184-206

Burchell, J P T, and Frere, S, 1947 The occupation of Sandown Park, Esher, during the Stone Age, the Early Iron Age, and the Anglo-Saxon period, *Antiq J*, **27**, 24–46

Burgess, C B, 1968 Some decorated socketed axes in Canon Greenwell's collection (Studies in commemoration of William Greenwell, 1820–1918), *Yorkshire Archaeol*, **42**, 267–71

Canham, R, 1978 Excavations at Heathrow Airport, 1969, *Trans London Middlesex Archaeol Soc,* 29, 1–44

Carew, T, Bishop, B, Meddens, F, & Ridgeway, V, 2006 *Unlocking the Landscape, Archaeological Excavations at Ashford Prison, Middlesex*, Pre-Construct Archaeol Monogr, **5**

Centre for Human Ecology, 1995 *Animal bone metrical archive project (ABMAP). Draft report on the project phase for English Heritage,* Centre for Human Ecology, Department of Archaeology, University of Southampton

Chambers, F M, & Jones, M K, 1984 Antiquity of rye in Britain, *Antiquity,* **58**, 219–24

Clapham, A R, Tutin, T G, & Moore, D M, 1987 *Flora of the British Isles*

Clark, A J, 1950 The fourth-century Romano-British pottery kilns at Overwey, Tilford, *SyAC*, **51**, 29–56

Cleere, H F, 1972 Comments on the ironworking activities, in Hanworth & Tomalin 1977, 19–22

Clough, T H McK, 1973 A Late Bronze Age socketed axe from Horsford, Norfolk, *Norfolk Archaeol*, **35**, 491–3

Coles, J M, Heal, S V E, & Orme, B J, 1978 The use and character of wood in prehistoric Britain and Ireland, *Proc Prehist Soc*, **44**, 1–46

Cool, H, Lloyd-Morgan, G, & Hooley, A D, 1995 Finds from the fortress: the small finds, *Archaeology of York*, **17.10**, York Archaeological Trust

Cotton, J, 2004 Surrey's early past: a survey of recent work, in Cotton et al 2004, 19–38

Cotton, J, Crocker, G, & Graham, A (eds), 2004 *Aspects of archaeology and history in Surrey: towards a research framework for the county*, 2004, SyAS

Cotton, J, & Field, D, 2004 *Towards a New Stone Age: aspects of the Neolithic in south-east England,* CBA Res Rep, **137**

Cotton J, & Johnson, R, 2000 *Archaeological discoveries at Sipson Quarry*, limited circulation pamphlet

Cowie, R, 2008 Evidence for Neolithic and Bronze Age activity at Ashford Hospital, *SyAC,* **94**, 71–90

Craddock, D T, & Lang, J, 1983 Spinning, turning, polishing, *Hist Metallurgy*, **17.2**, 79–81

Crockett, A, 2001 The archaeological landscape of Imperial College Sports Ground: part 1, prehistoric, *London Archaeol,* **9 no 11**, 295–9

Crummy, N, 1983 *The Roman small finds from excavations in Colchester 1971–9*, Colchester Archaeol Rep, **2**

Cunliffe, B, 1965 The pottery, in Hastings, F A, Excavation of an Iron Age farmstead at Hawk's Hill, Leatherhead, *SyAC*, **62**, 13–37

Cunliffe, B, 1974 *Iron Age communities in Britain*, (1st edn)

Cunliffe, B, 1984 *Danebury, an Iron Age hillfort in Hampshire*, CBA Res Rep, **52**

Cunliffe, B, 1991 *Iron Age communities in Britain*, (2nd edn)

Davies, B, Richardson, B, & Tomber, R, 1994 *A dated corpus of Early Roman pottery from the City of London*

Dearne, M J, & Branigan, K, 1995 The use of coal in Roman Britain, *Antiq J,* **75**, 71–105

Dewey, H, & Bromhead, C E N, 1915 *The geology of the country around Windsor and Chertsey* (Mem Geol Survey)

Downer, G C, 1975 *Dental morphology: an illustrated guide*

East, K, Larkin, P, & Winsor, P, 1985 A Viking sword found at Chertsey, *SyAC*, **76**, 1–9

Eddisford, D, Jones, P, and Preston, S, forthcoming Chapter 6: Multiperiod occupation including an early medieval pottery production site at Oliver Court, Egham, in *Prehistoric and later sites in Surrey, excavations 1997–2009,* Thames Valley Archaeol Services Monograph, **11**

Ehrenberg, M, 1980 The occurrence of Bronze Age metalwork in the Thames: an investigation, *Trans London Middlesex Archaeol Soc,* **31**, 1–15

Ekwall, E, 1960 *The concise Oxford dictionary of English place-names*, 4th edn

Ellaby, R, 1987 The Upper Palaeolithic and Mesolithic in Surrey, in Bird & Bird 1987, 53–70

Espelund, A & Stenvik, L F, 1993 The bloomery site Storbekken I, in *Bloomery ironmaking during 2000 years. Volume III, International contributions. Smelting and excavation in Budalen* (ed A Espelund), Seminar in Budalen 1991, Trondheim, 123–47

Evans, J, 1881 *The ancient bronze implements, weapons and ornaments of Great Britain and Ireland*

Field, D, 1989 Tranchet axes and Thames Picks: Mesolithic core tools from the west London Thames, *Trans London Middlesex Archaeol Soc,* **40**, 1–26

Field, D, & Cotton, J, 1987 Neolithic Surrey: a survey of the evidence, in Bird & Bird 1987, 71–96

Fitzpatrick, A, 1984 The deposition of La Tène Iron Age metalwork in watery contexts in Southern England, in *Aspects of the Iron Age in central southern Britain* (eds B W Cunliffe & D Miles),, Oxford University Comm Archaeol Monogr, **2**, 178–90

Flecker, H, 1942 Time of appearance and fusion of ossification centres as observed by Roentgenographic methods, *Amer J Roentgenology,* **47**

Flower, B, & Rosenbaum, F, 1958 *The Roman cookery book: a critical translation of* The Art of Cooking *by Apicius, for use in the study and the kitchen*

Ford, S, 1987 Chronological and functional aspects of flint assemblages, in *Lithic analysis and later British Prehistory* (eds A G Brown & M R Edmonds), BAR Brit Ser, **162**, 67–86

Ford, S, Bradley, R, Hawkes, J, & Fisher, F, 1984 Flint-working in the Metal Age, *Oxford J Archaeol,* **3**, 157–73

Ford, S, & Pine, J, 2003 Neolithic ring ditches and Roman landscape features at Horton (1989–1996), in *Prehistoric, Roman and Saxon sites in eastern Berkshire: excavations 1989–1997* (ed S Preston), Thames Valley Archaeol Serv Monogr, **2**, 12–85

Framework Archaeology, 2006 *Landscape evolution in the middle Thames valley: Heathrow Terminal 5 excavations Volume 1, Perry Oaks*, Framework Archaeology Monogr, **1**

Framework Archaeology, 2010 *Landscape evolution in the middle Thames valley: Heathrow Terminal 5 excavations Volume 2*, Framework Archaeology Monogr, **3**

Frere, S S, 1943 Romano-British finds at Littleton, *Trans London Middlesex Archaeol Soc*, **9**, 203-4

Fulford, M G, 1975, The pottery, in *Excavations at Portchester Castle. Volume 1: Roman* (ed B W Cunliffe), Rep Res Comm Soc Antiq Lond, **32**

Gardner, E, 1911 The British stronghold of St George's Hill, Weybridge, *SyAC*, **24,** 40–55

Gardner, E, 1924 Bronze Age urns of Surrey, *SyAC*, 35, 1–29

Garwood, P, Hey, G, & Barclay, A, 2011 Chapter 14 Ritual, ceremony and cosmology, in *TtT* 2011**,** 372–7

Getty R, 1975 *Sisson and Grossman's The anatomy of the domestic animals*

Gibbard, P L, 1985 *The pleistocene history of the middle Thames valley*

Giles, E, 1970 Discriminant function sexing of the human skeleton, in *Personal identification in mass disasters* (ed T D Stewart), Smithsonian Institution, Washington, 99–109

Gough, R, (ed) 1806 *Britannia (by W Camden)*

Gover, J E B, Mawer, A, & Stenton, F M, 1934 *The place-names of Surrey*, English Place-Name Soc, **11**

Grant, A, 1982 The use of tooth wear as a guide to the age of domestic ungulates, in *Ageing and sexing animal bones from archaeological sites* (eds R Wilson, C Grigson & S Oayne)*,* BAR Brit Ser, **109**, 91–108

Grant, A, 1989 Animals in Roman Britain, in *Research on Roman Britain 1960–89* (ed M Todd)*,* Britannia Monogr Ser, **11**, 135–46

Green, H S, 1978 Late Bronze Age wooden hafts from Llyn Fawr and Penwyllt, *Bull Board Celtic Studies*, **28**, 136–41

Green, H S, 1980 *The flint arrowheads of the British Isles,* BAR Brit Ser, **75**

Greig, J R A, 1991 The botanical remains, in Needham 1991, 234–61

Grigson, C, 1969 The uses and limitation of differences in absolute size between the bones of aurochs (*Bos primigenius*) and domestic cattle (*Bos taurus*), in Ucko & Dimbleby 1969, 277–94

Grigson, C, 1976 The craniology and relationships of four species of *Bos*, *J Archaeol Sci,* **3**, 115–36

Grimes, W F, 1960 *Excavations on defence sites 1939–45 part 1: mainly Neolithic–Bronze Age,* Ministry Works Archaeol Rep, **3**

Grimes, W F, and Close-Brooks, J, 1993 The excavation of Caesar's Camp, Heathrow, Harmondsworth, Middlesex, 1944, *Proc Prehist Soc,* 59, 303–60

Hampel, J, 1886 *Trouvailles de l'Age de Bronze en Hongrie: compte-rendue de la huitieme session a Budapest, 1876,* **2**, Congres International d'Anthropologie et d'Archeologie Prehistorique

Hanworth, R, 1987 The Iron Age in Surrey, in Bird & Bird 1987, 139–64

Hanworth, R, & Tomalin, D J, 1977 *Brooklands, Weybridge: the excavation of an Iron Age and medieval site,* SyAS Res Vol **4**

Harding, D W 1972 *The Iron Age in the upper Thames basin*

Hayman, G, 1991a A later Neolithic to Early Bronze Age farmstead at Lower Mill Farm, Stanwell, *SyAS Bull*, **261**

Hayman, G, 1991b Bronze Age settlement evidence at Home Farm, Laleham, *SyAS Bull*, **262**

Hayman, G, 1991c Recent excavations at the former Brooklands race-track, *SyAS Bull*, **258**

Hayman, G, 1995 An interim report on the final phase of archaeological excavation at Thorpe Lea Nurseries, near Egham, Surrey, 1993–4, in *assessment reports relating to the excavation of a Bronze Age, Iron Age and Roman site at Thorpe Lea Nurseries, Egham, Surrey,* SCAU client report

Hayman, G, 1997 Further archaeological work at Home Farm, Laleham (TQ 059 691), *SyAS Bull* **311**, 4–5

Hayman, G, 1998 Excavations at Home Farm, Laleham in 1997, *SyAS Bull* **320**, 1–3

Hayman, G, 1999 A Bronze Age enclosure and roundhouse at Wey Manor Farm, Addlestone (TQ 058 634), *SyAS Bull*, **326**, 10

Hayman, G 2001 *An archaeological excavation on the site of the Old Police Station and 10–16 London Road, Staines*, SCAU client report

Hayman, G, in prep a [Excavations at Brooklands, Weybridge]

Hayman, G, in prep b [Excavations at Church Lammas, Staines]

Hayman, G, in prep c [Excavations at Tongham Nurseries]

Hayman, G, in prep d [Excavations at Vicarage Road, Sunbury]

Heal, V, 1979 A Late Bronze Age socketed axe with part of its wooden haft, from Fen Drayton, Cambridgeshire, *Proc Cambridgeshire Antiq Soc*, **69,** 37–40

Healey, E, & Robertson-Mackay, R, 1987 The flint industry, in Robertson-Mackay 1987, 23–128

Hogg, A H A, 1979 *British hillforts: an index,* BAR Brit Ser, **62**

Holbrook, N, & Bidwell, P T, 1991 *Roman finds from Exeter*, Exeter Arch Reps, **4**, Exeter City Council and the University of Exeter

Holgate, R D C, 1988 *The Neolithic Settlement of the Thames Basin,* BAR Brit Ser, **194**

Holling, F W, & Harrison, E E, 1965 Three polished flint axes from West Surrey*, SyAC,* **62,** 122

Howe, T, Jackson, G, & Maloney, C, 2002 Archaeology in Surrey 2001, *SyAC,* **89**, 257–81

Howe, T, Jackson, G, & Maloney, C, 2003 Archaeology in Surrey 2001, *SyAC,* **91**, 315–35

Howe, T, Jackson, G, Maloney, C, & Saich, D, 2000 Archaeology in Surrey 1997–9, *SyAC,* **87**, 188–218

Hunt, R, Graham, D, Pattison, G, & Poulton, R 2002 *Hidden Depths: an archaeological exploration of Surrey's past*, SyAS

Huson, S, in prep The loomweights, in Hayman in prep c

Jackson G, Maloney, C, & Saich, D, 1997 Archaeology in Surrey 1994–5, *SyAC,* **84**, 195–243

Johnson, B, 1975 *Archaeology and the M25, 1971–5,* SyAS

Jones, P, 2008 *A Neolithic ring ditch and later prehistoric discoveries at Staines Road Farm, Shepperton*, SpoilHeap Publications Monogr, **1**

Jones, P, 2010 *The Roman and medieval town of Staines*, SpoilHeap Publications Monogr, **2**

Jones, P, forthcoming a A Creswellian encampment at Wey Manor Farm, Weybridge, Surrey, in *Excavations of Upper Palaeolithic sites in the lower courses of the rivers Colne and Wey,* SpoilHeap Publications Monogr

Jones, P, forthcoming b Two Late Glacial Hunting Camps at Church Lammas, Staines, Surrey, in *Excavations of Upper Palaeolithic sites in the lower courses of the rivers Colne and Wey,* SpoilHeap Publications Monogr

Jones, P, forthcoming c The pottery, in Robertson forthcoming

Jones, P, in prep a The prehistoric pottery, in Hayman in prep a

Jones, P, in prep b Excavations at The Hythe, near Staines

Jones, P, in prep c The pottery, in Hayman in prep c

Jones, P, & Ayres, K, 2004 A bone 'scoop' and Grooved Ware vessel from a pit in the lower Colne valley, Surrey, in Cotton & Field 2004, 148–53

Jones, P, & Poulton, R, 1987 Iron Age hut circles discovered near Lower Mill Farm, Stanwell (TQ 0357 7418) *Trans London Middlesex Archaeol Soc*, **38**, 1–10

Jones, P, & Poulton, R, 2010 Chapter 1 Staines, the archaeology of the High St island, in Jones 2010, 1–51

Jope, E M, 1961 Daggers of the Early Iron Age in Britain, *Proc Prehist Soc*, **27**, 307–43

Jubb K V F, & Kennedy, P C, 1970 *Pathology of domestic animals*

King, A, 1978 A comparative survey of bone assemblages from Roman sites in Britain, *Bull Institute Archaeol London,* **15**, 207–32

King, A 1991 Food production and consumption–meat, in *Roman Britain: recent trends* (ed R F J Jones), 15–20

Kinnes, I, 1979 Round barrows and ring ditches in the British Neolithic, *Brit Mus Occ Paper*, **7**

Kloet, G S, & Hincks, W D, 1977 *A check list of British insects,: Coleoptera and Strepsiptera,* Royal Entomological Society of London: handbook for the identification of British insects, **11.3,** 2nd edn (revised)

Lambert, R M 2010 *An assessment of the results of an archaeological excavation on the site of a new residential development at St Ann's Heath School, Sandhills Lane, Virginia Water, Surrey*, SCAU client report

Lambrick, G H, & Robinson, M A, 1979 *Iron Age and Roman riverside settlements at Farmoor, Oxfordshire*, CBA Res Rep, **32,** and Oxford Archaeol Unit Rep, **2**

Lambrick, G H, & Robinson, M A, 2009 *The Thames through time, the archaeology of the gravel terraces of the upper and middle Thames, the Thames valley in late prehistory 1500 BC –AD 50*, Oxford Archaeology, Thames Valley Landscapes Monogr, **29**

Lawrence, G F, 1929 Antiquities from the middle Thames, *Archaeol J*, **86**, 69–98

Leary, J, Lythe, R, & Brown, J, 2010 Excavations at Great Fosters Hotel, Egham, *SyAC*, **95**, 35–55

Legge, A J, 1992 Animals, environment and the Bronze Age economy, *Excavations at Grimes Graves Norfolk 1972–1976, Fascicule 4*, Appendix 1, 72

Lewis, J S C, and Welsh, K, 2004 Perry Oaks–Neolithic inhabitation of a west London landscape, in Cotton & Field 2004, 105–9

Lindroth, C H, 1976 *Coleoptera: Carabidae,* Royal Entomological Society of London: handbook for the identification of British insects, **4.2**

Longley, D, 1976 The archaeological implications of gravel extraction in north-west Surrey, *SyAS Res Vol*, **3**, 1–35

Longley, D, 1980 *Runnymede Bridge: excavations on the site of a Late Bronze Age settlement,* SyAS Res Vol, **6**

Longley, D, & Poulton, R, 1982 The Saxon cemetery at Upper West Field, Shepperton, *Trans London Middlesex Archaeol Soc*, **33**, 177–85

Longworth, I H, 1983 *Collared urns of the Bronze Age in Great Britain and Ireland*

Lowther, A W G, 1945 Iron Age Pottery from Wisley, Surrey, *Proc Prehist Soc*, **11**, 32–8

Lowther, A W G, 1946/7 Excavations at Purberry Shot, Ewell, Surrey, *SyAC*, **50**, 9–46

Lowther, A W G, 1949 Iron Age pottery from St George's Hill camp, Weybridge, *SyAC*, **51**, 144–7

Lyman, R L, 1994 *Vertebrate taphonomy*, Cambridge University Press

Lyne, M A B, & Jefferies, R S, 1979 *The Alice Holt/Farnham Roman pottery industry* , Counc Brit Archaeol Res Rep, **30**

Maltby M, 1979 *Faunal Studies on urban sites: the animal bones from Exeter, 1971–5*, Exeter Archaeol Rep, **2**

Manning, O, & Bray, W, 1814 *The history and antiquities of Surrey,* 3 vols

Manning, W H, 1972 Ironwork hoards in Iron Age and Roman Britain, *Britannia*, **3**, 224–50

Manning, W H, 1985 *Catalogue of the Romano-British iron tools, fittings and weapons in the British Museum*

Manning, W H, & Scott, I R, 1986 Iron objects, in Stead & Rigby 1986, 145–62

Marples, N, 2010 *St Ann's Heath SAHS 07 residential site draft flint report*, in Lambert 2010

Marples, N, forthcoming *The worked flint*, in Robertson forthcoming

Marsh, G, & Tyers, P, 1978 The Roman pottery from Southwark, in *Southwark Excavations 1972–74* (eds J Bird, H Sheldon, & P Townend), London Middlesex Archaeol Soc and SyAS Joint Pub, **1**, 533–82

Mays, S, 2000 Stable isotope analysis in ancient human skeletal remains, in *Human osteology in archaeology and forensic science* (eds M Cox & S Mays), 425–38

McOmish, D S, & Field D J, 1994 A survey of the earthworks at St Ann's Hill, Chertsey, *SyAC*, **82**, 223–5

Merrifield, R, 1983 *London: city of the Romans*

Miles A E W & Grigson C, 1990 *Colyer's variations and diseases of the teeth of animals*

Millett, M, 1979 The dating of Farnham (Alice Holt) pottery, *Britannia*, **10**, 121–37

Mills, A, & McDonnell, J G, (1992) *The identification and analysis of the hammerscale from Burton Dassett, Warwickshire,* Ancient Monuments Lab Rep, **47/92**

Mook, W G, 1986 Business meeting: recommendations/resolutions adopted by the twelfth International Radiocarbon Conference, *Radiocarbon*, **28**, 799

Mook, W G, & Streurman, H J, 1983 Physical and chemical aspects of radiocarbon dating, in *Proceedings of the First International Symposium ^{14}C and Archaeology* (eds W G Mook & H T Waterbolk), *PACT,* **8**, 31–55

Moore, J, 2003 Enculturation through fire: beyond hazelnuts and into the forest, in *Mesolithic on the move* (ed L Larsson), 139–44

Moran, N C, & O'Connor, T, 1994 Age attribution in domestic sheep by skeletal and dental maturation: a pilot study of available sources, *Internat J Osteoarchaeol,* **4**, 267–85

Morris, J, 1959 Anglo-Saxon Surrey, *SyAC*, **56**, 132–58

Munnery, T, 2010 *A report of an archaeological excavation of the new build at TASIS (The American School in Switzerland, England), Thorpe, Surrey*, SCAU client report

Needham, S, 1986 The metalwork, in O'Connell 1986, 22–60

Needham, S, 1987 *The Bronze Age*, in Bird & Bird 1987, 97–138

Needham, S, 1990 *The Petters Late Bronze Age Metalwork: an analytical study of Thames valley metalworking in a settlement context*, British Museum Occasional Paper, **70**

Needham, S, 1991, *Excavation and salvage at Runnymede Bridge 1978: the Late Bronze Age waterfront site*

Needham, S, 1992 Holocene alleviation and interstratified settlement evidence in the Thames valley at Runnymede Bridge, in *Alluvial archaeology in Britain* (eds S P Needham & M G Macklin), 249–60

Needham, S, 2000 *The passage of the Thames: Holocene environment and settlement at Runnymede,* Runnymede Bridge Research Excavations*,* **1**

Needham, S, & Burgess, C, 1980 The Later Bronze Age in the lower Thames valley: the metalwork evidence, in Barrett & Bradley 1980, 437–69

O'Connell, M, 1986 *Petters Sports Field, Egham, excavation of a Late Bronze Age/Early Iron Age site*, SyAS Res Vol **10**

O'Connell, M, 1990 Excavations during 1979–1985 of a multiperiod site at Stanwell, *SyAC*, **80**, 1–62

O'Riordan, S P, 1938 A Bronze find from Oldtown Kilcashel, Co Roscommon, *J Galway Archaeol Hist Soc*, **18**, 40–42

Payne, S, 1969 A metrical distinction between sheep and goat metacarpals, in *Domestication and Exploitation of Plants and Animals* (eds P J Ucko & G W Dimbleby), 295–305

Payne, S, 1985 Morphological distinction between the mandibular teeth of young sheep, *Ovis*, and goats, *Capra, J Archaeol Sci,* **12**, 139–47

Payne, S, & Bull, G, 1988 Components of variation in measurements of pig bones and teeth, and the use of measurements to distinguish wild from domestic pig remains, *Archaeozoologia,* **2**, 27–66

Peal, C A, 1967 Romano-British pewter plates and dishes, *Proc Cambridge Antiq Soc*, **60**, 19–37

Pearson, G W, & Stuiver, M, 1986 High-precision calibration of the radiocarbon time scale, 500–2500 BC, *Radiocarbon*, **28**, 839–62

Petersen, J, 1919 *De Norske Vikingesverd*

Piggott, S, 1950 Swords and scabbards of the British Early Iron Age, *Proc Prehist Soc*, **16**, 1–28

Pitts, M W, 1978a On the shape of waste flakes as an indicator of chronological change in lithic industries, *J Archaeol Sci,* **5**, 17–37

Pitts, M W, 1978b Towards an understanding of flint industries in post-glacial England, *Bull Institute Archaeol London,* **15**, 179–97

Pollard, A M, 1983 XRF analysis of the Appleford hoard of Romano-British pewter, *Hist Metallurgy*, **17.2**, 83–90

Pollard, R J, 1988 *The Roman pottery of Kent*, Kent Arch Soc Monogr, **5**

Potter, K J, 1977 Geological observations on the use of iron and clay at the site, in Hanworth & Tomalin 1977, 22–3

Potter, J F, 1982 Iron working in the vicinity of Weybridge, *Ind Archaeol Review,* **5** no 3, Autumn 1982, 211–23

Poulton, R, 1987 Saxon Surrey, in Bird & Bird 1987, 197–222

Poulton, R, 1988 *Archaeological investigations on the site of Chertsey Abbey,* SyAS Res Vol*,* **11**

Poulton, R, 2004, Iron Age Surrey, in Cotton et al 2004, 51–64

Poulton, R, 2005 Excavations at Saxon County School, Shepperton in 1986, *Trans London Middlesex Archaeol Soc,* **56**, 45–75

Poulton, R, & O'Connell, M, 1984 St George's Hill fort: excavations in 1981, *SyAC*, **75**, 275–80

Poulton, R, & Scott, E, 1993 The hoarding, deposition and use of pewter in Roman Britain, in *Theoretical Roman archaeology, first conference proceedings* (ed E Scott), 115–32

Powell, A, & Clark, K M, 1995 *Animal bone from Iron Age and Romano-British sites along the Blackwater Valley route at Runfold and Tongham Nurseries and Springfield Cottages, Surrey,* Report submitted to SCAU

PCRG 1992 *The study of later Prehistoric pottery: guidelines for analysis and publication*, The Prehistoric Ceramics Research Group

Prummel, W, & 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

Randall, N, 2010 *A controlled archaeological watching brief at St Michaels Road, Ashford*, SCAU client report

Reimer, P J, Baillie, M G L, Bard, E, Bayliss, A, Beck, J W, Bertrand, C J H, Blackwell, P G, Buck, C E, Burr, G S, Cutler, K B, Damon, P E, Edwards, R L, Fairbanks, R G, Friedrich, M, Guilderson, T P, Hogg, A G, Hughen, K A, Kromer, B, McCormac, 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**, 1029–58

Reynolds, P J, 1979 *Iron Age farm, the Butser experiment*

Robertson, J, 2002 A round barrow discovered at Thorpe, *SyAS Bull*, **355**, 1–3

Robertson, J, forthcoming *A round barrow discovered at Coldharbour Lane, Thorpe*, SCAU client report

Robertson-Mackay, R, 1987 A Neolithic causewayed enclosure at Staines, Surrey: excavations 1961–1963, *Proc Prehist Soc*, **53**, 23–128

Robinson, M A, 1991 The Neolithic and Late Bronze Age insect assemblages, in Needham 1991, 277–326

Sanders, J, 1973 *Late Roman shell-gritted ware in southern Britain*, BA Dissertation, Institute of Archaology, University of London

SCAU 1993 *A project design for the excavation of a Bronze age, Iron Age and Roman site at Thorpe Lea Nurseries, Egham, Surrey (December 1993 Revision)*, SCAU client report

SCAU 2007 *Hengrove Farm, Staines: Archaeological work 1997–2006, overall assessment report,* SCAU client report

Schmidt, P K, & Burgess, C, 1981 *The axes of Scotland and northern England*, Prähistorische Bronzefunde, **9.7**

Schoeninger, M, DeNiro, M, & Tauber, H, 1983 Stable nitrogen isotope ratios of bone collagen reflect marine and terrestrial components of prehistoric human diet, *Science*, **220**, 1381–3

Schreve, D, Morigi, A, & White, M, 2011 Chapter 2 The diversion of the Thames, the Hoxnian interglacial, and adjacent cold stages (MIS 12-11-10), in *TtT* 2011, 41–62

Scott, E M, 2003 The third international radiocarbon intercomparison (TIRI) and the fourth international radiocarbon intercomparison (FIRI) 1990–2002: results, analyses, and conclusions, *Radiocarbon*, **45**, 135–408

Serjeantson, D, 1991 'Rid Grasse of Bones': a taphonomic study of the bones from midden deposits at the Neolithic and Bronze Age site of Runnymede, Surrey, England, *Internat J Osteoarchael,* **1**, 73–9

Simpson, D D A, 1996 Crown antler maceheads and the later Neolithic in Britain, *Proc Prehist Soc*, **62**, 293–309

Starley, D, 1995a The assessment of slag and other metalworking debris from Thorpe Lea Nurseries, near Egham, Surrey 1990–1994, Ancient Monuments Lab Rep, **42/95**

Starley, D, 1995b *Hammerscale*, Archaeological Datasheet No 10, Historical Metallurgy Society, London

Stead, I M, 1984 Some notes on imported metalwork in Iron Age Britain, in *Cross-channel trade between Britain and Gaul in the pre-Roman Iron Age* (eds F Thompson & S Macready), 43–66

Stead, I M, 1985 *Celtic Art*

Stead, I M, 1987 The Chertsey shield, *SyAC*, **78**, 181–3

Stead, I M, 1993 Many more Iron Age shields, *Antiq J*, **71**, 1–35

Stead, I M, & Rigby, V, 1986 *Baldock. The excavation of a Roman and pre-Roman settlement, 1968–72*, Britannia Monogr Ser, **7**

Stead, I M, & Rigby, V, 1989 *Verulamium: the King Harry Lane site*, English Heritage Archaeol Rep, **12**

Stuiver, M, & Kra, R S, 1986 Editorial comment, *Radiocarbon*, **28 (2B)**, ii

Stuiver, M, & Pearson, G, W, 1986 High-precision calibration of the radiocarbon time scale, AD 1950–500 BC, *Radiocarbon*, **28**, 805–38

Stuiver, M, & Polach, H A, 1977 Reporting of ^{14}C data, *Radiocarbon*, **19**, 355–63

Stuiver, M, & Reimer, P J, 1986 A computer program for radiocarbon age calculation, *Radiocarbon*, **28**, 1022–30

Stuiver, M, & Reimer, P J, 1993 Extended ^{14}C data base and revised CALIB 3.0 ^{14}C age calibration program, *Radiocarbon*, **35**, 215–30

Symonds, R P, & Tomber, R S, 1991 Roman London: an assessment of the ceramic evidence from the City of London, *Trans London Middlesex Archaeol Soc*, **42**, 58–99

Timby, J, 1985 The pottery, in M Fulford *Guide to the Silchester excavations–the forum basilica 1982–4*

Tomalin, D, 1982 Bronze Age swords of the Ballintober type found at Mixnams Pit, Thorpe, Surrey, *SyAC*, **73,** 163–7

Tomalin, D, 1989 A Roman symmetrical flanged bronze strainer found in Surrey and its counterparts in Highland Britain, *SyAC*, **79,** 53–65

Torbrügge, W, 1972 Vor-und frühgeschichtliche Flüssfunde zur ordnung und bestimmung einer Denkmalergruppe, *Bericht Römisch-German Komm,* **51–2**, 1–46

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

TtT 2011 *The Thames through time, the archaeology of the gravel terraces of the upper and middle Thames, early Prehistory: to 11500BC*, Oxford Archaeology, Thames Valley Landscapes Monogr, **32**

Tucker, H, 1879 *The visitors handbook and guide to St Ann's Hill, Chertsey*

Turner, F, 1909 Bronze implement from Thorpe, *SyAC*, **22**, 198

Tyers, P, 1996 Late Iron Age and Early Roman pottery traditions of the London Region, in *Interpreting Roman London, Papers in memory of Hugh Chapman* (eds J Bird, M Hassall & H Sheldon), Oxbow Monogr, **58**, 139–45

Underwood, D R, 1992a *Church Lammas: the worked flint,* Report submitted to SCAU

Underwood, D R, 1992b *Lower Mill Farm: the worked flint,* Report submitted to SCAU

Underwood 1997 *Report on the late prehistoric flint assemblage recovered at Church Lammas, 1992–1995*, in P Jones *Church Lammas, Staines, Surrey: a project design for post-excavation work on two Late Glacial flint and bone scatters and related environmental work*, SCAU client report

von den Driesch, A, 1976 *A guide to the measurement of animal bones from archaeological sites*

Vulpe, A, 1970 *Äxte unde Beile in Rumanien I,* Prähistorische Bronzefunde, **9.2**

Wait, G, & Cotton, J, 2000 The Iron Age, in *The archaeology of Greater London, An assessment of archaeological evidence for human presence in the area now covered by Greater London*, Museum of London 2000, 102–17

Webb, P A O, & Suchey, J M, 1985 Epiphyseal union of the anterior iliac crest and the medial clavicle in a modern multiracial sample of American males and females, *American J Physical Anthropol,* **68**, 457–66

West, B, 1996 Ritual or fluvial? A further comment on the Thames skulls, *Antiquity*, **70**, 189–90

Wheeler, R E M, 1927 *London and the Vikings*, London Mus Cat no **6**

Wilson, D M, 1965 Some neglected Late Anglo-Saxon swords, *Med Archaeol*, **9**, 32–5

Wilson, R, 1979, The vertebrates, in Lambrick & Robinson 1979, 128–33

Wilson R, 1980, Bone and shell report, in J Hinchliffe & R Thomas, Archaeological Investigations at Appleford, *Oxoniensia,* **45**, 84–90

Wilson, R, Hamilton, J Bramwell, D, & Armitage, P, 1978 The animal bones, in *The excavation of an Iron Age Settlement, Bronze Age ring ditches and Roman features at Ashville Trading Estate, Abingdon (Oxon) 1974–6* (ed M Parrington), Oxford Archaeol Unit Rep, **1** and CBA Res Rep, **28**, 110–39

Woodward, A 1992 *Shrines and sacrifice*

Yates, D, 2001 Bronze Age agricultural intensification in the Thames valley and estuary, in *Bronze Age Landscapes Tradition and Transformation* (ed J Bruck), 65–82

York, J, 2002 The life cycle of Bronze Age metalwork from the Thames, *Oxford J Archaeol*, **21 (1)**, 77–92

Young, C J, 1977 *The Roman pottery industry of the Oxford region*, BAR Brit Ser, **43**

Young, R, & Humphrey, J, 1999 Flint use in England after the Bronze Age: time for a re-evaluation?, *Proc Prehist Soc*, **65**, 231–42

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SETTLEMENT SITES AND SACRED OFFERINGS
Prehistoric and later archaeology in the Thames Valley, near Chertsey

By

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DIGITAL SUPPLEMENT TEXT AND TABLES

SECTION NUMBERS FOR THE TEXT FOLLOW THOSE OF THE PRINTED REPORT
THE TABLES ARE EXCLUSIVE OF THOSE IN THE PRINTED REPORT

Monograph 4
SpoilHeap Publications
A joint venture of Archaeology South-East (part of University College, London) and Surrey County Archaeological Unit (part of Surrey County Council)
2012

CHAPTER 2 ARCHAEOLOGICAL FIELDWORK AT ABBEY MEADS, CHERTSEY *by Phil Jones*

Table 2.1 Abbey Meads, Chertsey: Section K - quantities of sherds in prehistoric and later features

Contexts	*Calc Flint*	*Calc Flint/Q*	*Calc Flint/Grog*	*Calc Flint/ Tufa & Q*	*Grog*	*Quartz Sand*	*Totals*
6	70	10	7	-	2	2	*91*
7a	4	3	-	-	-	1	*8*
14b	3	1	-	2	-	-	*6*
Unstr	18	-	-	-	-	3	*21*
Totals	*95*	*14*	*7*	*2*	*2*	*6*	*126*

Table 2.2 Abbey Meads, Chertsey: Section K - quantities of struck flint in prehistoric and later features

Contexts	*6*	*7A*	*14B*	*Unstratified*	*Totals*
Cores	2	1	-	-	*3*
Core Rejuv. Flakes	1	-	-	-	*1*
Flakes	14	-	1	5	*20*
Util. Flakes	11	-	-	-	*11*
Retouch Flakes	2	1	-	3	*6*
Util. Blades	2	-	-	-	*2*
Retouch Blades	1	-	1	1	*3*
Flake Scraper	1	-	-	-	*1*
Notched Scraper	1	-	-	-	*1*
B&T Arrowhead	1	-	-	-	*1*
Totals	*36*	*2*	*2*	*9*	*49*

CHAPTER 4 ARCHAEOLOGICAL FIELDWORK AT ST ANN'S HILL, CHERTSEY *by Phil Jones*

Table 4.1 St Ann's Hill, Chertsey: pottery sherd count by ware type

Pottery count	CALC 1	CALC 2	CALCvar	SAND 1	SAND 2	SAND 11	SAND 12	IRON 2	IRON 3	SHELL 1	SHELL 2	FINE	TOTALS
contexts													
1E	7	7	-	8	19	11	3	21	2	4	-	1	*83*
1W	5	12	-		4	5	-	4	-	-	-	-	*30*
2W	22	31	-	8	37	36	10	29	3	4	-	1	*181*
2E	6	19	-	7	37	36	8	47	6	4	-	1	*171*
sub-totals	***40***	***69***	***0***	***23***	***97***	***88***	***21***	***101***	***11***	***12***	***0***	***3***	***465***
4	-	2	-	3	5	2	-	-	-	-	-	-	*12*
5	1	5	-	-	7	3	-	5	-	-	-	-	*21*
6	-	1	-	-	3	2	-	2	-	-	-	-	*8*
7	1	-	-	-	1	1	-	-	-	-	-	-	*3*
8	-	1	-	-	3	-	-	1	-	-	1	-	*6*
9	1	11	-	1	-	2	-	6	-	-	-	-	*21*
10	1	-	-	-	1	2	-	-	-	-	-	-	*4*
11	-	4	-	-	7	2	2	7	1	-	-	1	*24*
12	-	-	-	-	4	-	-	-	-	-	-	-	*4*
12A	1	-	-	-	4	-	-	-	-	-	-	-	*5*
13	-	-	-	-	3	1	-	1	-	-	-	1	*6*
14	-	1	-	-	-	-	-	-	-	-	-	-	*1*
15	-	-	-	-	2	2	1	1	-	-	-	-	*6*
16	-	1	-	-	1	-	-	-	-	-	-	-	*2*
17A	1	6	1	12	33	25	3	25	3	-	-	4	*113*
17B	-	2	-	1	7	7	-	7	1	2	-	-	*27*
17C	-	-	-	-	1	-	-	-	-	-	-	-	*1*
18	-	-	-	-	2	3	1	-	-	-	-	-	*6*
19	-	-	-	-	1	-	1	-	-	-	-	-	*2*
20	-	2	-	-	-	-	-	1	-	-	-	-	*3*
21	-	1	-	-	-	-	-	-	-	-	-	-	*1*
22	-	1	-	-	2	-	-	2	-	-	-	-	*5*
23	-	1	-	-	-	-	-	-	-	-	-	-	*1*
25	-	1	-	-	3	1	1	2	-	-	-	-	*8*
26	-	-	-	-	1	-	-	1	-	-	-	-	*2*
27	-	2	-	-	-	-	-	1	-	-	-	-	*3*
28	-	2	-	-	2	1	-	4	-	-	-	-	*9*
29	-	-	-	-	-	-	-	1	-	-	-	-	*1*
30	-	1	-	1	7	3	3	4	-	2	-	-	*21*
30A	-	3	-	-	-	-	-	-	-	-	-	-	*3*
31	-	1	-	-	-	-	-	1	-	-	-	-	*2*
32	-	1	-	1	3	3	1	4	-	-	-	-	*13*
35	-	1	1	-	2	1	-	2	1	-	-	-	*8*
36	1	-	-	-	2	-	-	2	-	-	-	-	*5*
37	-	-	-	1	3	-	-	2	-	-	-	-	*6*
38	-	1	-	-	1	-	-	-	-	-	-	-	*2*
39	-	-	-	-	1	1	1	2	-	-	-	-	*5*
40	-	-	-	-	-	2	1	-	-	-	-	-	*3*
43	-	-	-	-	1	-	-	1	-	-	-	-	*2*
46	-	1	-	-	-	-	-	1	-	1	-	-	*3*
47	-	-	-	-	3	2	1	5	-	-	-	-	*11*
48	-	-	-	-	-	3	-	1	-	-	-	-	*4*
sub-totals	***7***	***53***	***2***	***20***	***116***	***69***	***16***	***92***	***6***	***5***	***1***	***6***	***393***
Quarry Edge	**3**	**25**		**2**	**34**	**27**	**3**	**30**	**1**	**3**		**2**	***130***
TOTAL	**50**	**147**	**2**	**45**	**247**	**184**	**40**	**223**	**18**	**20**	**1**	**11**	***988***
%	**5.0**	**15.0**	**0.2**	**4.6**	**25.0**	**18.6**	**4.0**	**22.6**	**2.0**	**2.0**	**0.1**	**1.0**	***100***

Table 4.2 St Ann's Hill, Chertsey: pottery weight (gm) by ware type

Pottery weight	CALC 1	CALC 2	CALCvar	SAND 1	SAND 2	SAND 11	SAND 12	IRON 2	IRON 3	SHELL 1	SHELL 2	FINE	TOTALS
contexts													
1E	77	69	-	37	117	75	18	125	15	35	-	7	575
1W	39	65	-	-	29	22	-	39	-	-	-	-	194
2W	143	316	-	28	236	314	67	263	90	15	-	5	1477
2E	32	127	-	28	207	231	47	2834	42	13	-	12	3573
sub-totals	***291***	***577***	***0***	***93***	***589***	***642***	***132***	***3261***	***147***	***63***	***0***	***24***	**5819**
4	-	5	-	33	41	19	-	-	-	-	-	-	98
5	4	75	-	-	43	23	-	19	-	-	-	-	164
6	-	2	-	-	5	34	-	11	-	-	-	-	52
7	2	-	-	-	2	18	-	-	-	-	-	-	22
8	-	3	-	-	47	-	-	2	-	-	15	-	67
9	8	281	-	2	-	30	-	37	-	-	-	-	358
10	3	-	-	-	7	16	-	-	-	-	-	-	26
11	-	12	-	-	35	7	46	54	2	-	-	2	158
12	-	-	-	-	59	-	-	-	-	-	-	-	59
12A	5	-	-	-	10	-	-	-	-	-	-	-	15
13	-	-	-	-	4	2	-	7	-	-	-	1	14
14	-	2	-	-	-	-	-	-	-	-	-	-	2
15	-	-	-	-	5	3	2	10	-	-	-	-	20
16	-	2	-	-	1	-	-	-	-	-	-	-	3
17A	3	14	3	91	227	164	21	120	8	-	-	13	664
17B	-	21	-	7	31	48	-	42	3	8	-	-	160
17C	-	-	-	-	3	-	-	-	-	-	-	-	3
18	-	-	-	-	15	12	2	-	-	-	-	-	29
19	-	-	-	-	2	-	2	-	-	-	-	-	4
20	-	2	-	-	-	-	-	2	-	-	-	-	4
21	-	1	-	-	-	-	-	-	-	-	-	-	
22	-	5	-	-	21	-	-	17	-	-	-	-	43
23	-	3	-	-	-	-	-	-	-	-	-	-	3
25	-	1	-	-	13	1	2	3	-	-	-	-	20
26	-	-	-	-	3	-	-	3	-	-	-	-	6
27	-	21	-	-	-	-	-	9	-	-	-	-	30
28	-	65	-	-	8	55	-	31	-	-	-	-	159
29	-	-	-	-	-	-	-	2	-	-	-	-	2
30	-	2	-	2	27	6	21	23	-	8	-	-	89
30A	-	10	-	-	-	-	-	-	-	-	-	-	10
31	-	4	-	-	-	-	-	5	-	-	-	-	9
32	-	4	-	4	11	9	14	16	-	-	-	-	58
35	-	3	3	-	3	2	-	10	1	-	-	-	22
36	10	-	-	-	10	-	-	3	-	-	-	-	23
37	-	-	-	1	9	-	-	21	-	-	-	-	31
38	-	1	-	-	2	-	-	-	-	-	-	-	3
39	-	-	-	-	2	14	2	9	-	-	-	-	27
40	-	-	-	-	-	8	18	-	-	-	-	-	26
43	-	-	-	-	24	-	-	2	-	-	-	-	26
46	-	18	-	-	-	-	-	15	-	15	-	-	48
47	-	-	-	-	34	42	4	24	-	-	-	-	104
48	-	-	-	-	-	29	-	3	-	-	-	-	32
sub-totals	***35***	***557***	***6***	***140***	***704***	***542***	***134***	***500***	***14***	***31***	***15***	***16***	***2693***
Quarry Edge	***42***	***147***		***11***	***195***	***278***	***42***	***185***	***12***	***17***		***4***	***933***
TOTALS	**368**	**1281**	**6**	**244**	**1488**	**1462**	**308**	**3946**	**173**	**111**	**15**	**44**	**9445**
%	**3.9**	**13.6**	**0.1**	**2.6**	**15.8**	**15.5**	**3.3**	**41.8**	**1.8**	**1.2**	**0.2**	**0.5**	**100**

Table 4.3 St Ann's Hill, Chertsey: quantities of flints from excavated contexts of trench A

Context	SINGLE PLATFORM CORE	DOUBLE PLATFORM CORE	CORE REJUV FLAKE	FLAKE	BLADE	RETOUCHED FLAKE	RETOUCHED BLADE	SCRAPER	AWL	BURIN	MICROLITH	*TOTALS*
1/2	4	1	3	53	4	14	6	8	4	2	3	*102*
5	-	-	-	3	-	1	1	-	-	-	-	*5*
8	-	-	1	-	-	-	-	-	-	-	-	*1*
9	-	-	-	-	1	-	-	-	-	-	-	*1*
17	-	-	-	1	2	2	-	-	-	-	-	*5*
21	-	-	-	1	1	-	-	-	-	-	-	*2*
24	-	-	1	-	-	-	-	-	-	-	-	*1*
32	-	-	-	-	-	-	-	1	-	-	-	*1*
35	-	-	-	-	1	-	-	-	-	-	-	*1*
36	-	-	-	-	-	-	-	1	-	-	-	*1*
39	-	-	-	-	-	1	-	-	-	-	-	
42	-	-	-	-	-	1	-	-	-	-	-	*1*
47	-	-	-	-	1	-	-	-	-	-	-	*1*
TOTALS	**4**	**1**	**5**	**58**	**10**	**19**	**7**	**10**	**4**	**2**	**3**	***123***

CHAPTER 5 ARCHAEOLOGICAL EXCAVATION OF BRONZE AGE, IRON AGE AND ROMAN FIELD SYSTEMS, ENCLOSURES, AND SETTLEMENTS AT THORPE LEA NURSERIES, EGHAM, SURREY

by Graham Hayman, with Rob Poulton

6 **THE POTTERY** *by Phil Jones*

6.2 PREHISTORIC

DIGITAL CATALOGUE OF OTHER OF THE EASTERN IRON AGE SETTLEMENT FEATURE ASSEMBLAGES

Ditch 1100: contains a SAND 1 sherd. Probably LIA

Pit 1106: contains a saucepan pot rim in GLAUC 3 (no 113), a rim fragment of SAND 2B (not illustrated), and an ORG 1 base angle (not illustrated). M-LIA

Gully 1110: includes a thin GROG 1 sherd. Probably LIA.

Pit 1113: includes a SAND 1 sherd. Probably LIA

PH 1116: contains two ORG sherds. Possibly LIA

Pit 1118: includes a handle fragment in CALC 5 (not illustrated), a sherd of SAND 1A, and rim and base angle sherds in ORG 4 of a small shouldered bowl with a distinct carination that is burnished inside and out (no 128). Were it not for the SAND 1A sherd, this could be an Early Iron Age feature, with the handle probably belonging to a coarseware shouldered jar, and the bowl representing one of few 'fineware' vessels from this settlement, or the western one, with an angular profile.

Pit 1120: one sherd only: the rim of a small shouldered jar in ORG 4 with cabled finger impressions along the rim and fingernail impressions below, on the outside (no 111). Possibly EIA.

PH 1122: includes two rim fragments in CALC 2 and TUFA 2 (nos 104, 105). M-LIA.

PH 1140: includes a coarse sandy ER3Ccalc sherd burnished both sides, and a thick CALC 2 sherd with a wiped surface. Probably LIA.

PH 1143: includes sherds of ORG 4 and TUFA 4. Probably LIA.

Pit 1144: includes GLAUC 2, TUFA 2 and GROG 2 sherds. M-LIA.

Gully 1159/1248: three sherds only; one of CALC 2 and two of GROG 2, M-LIA.

Pit 1160: includes a GLAUC 3 sherd: M-LIA.

Pit 1212: includes an Iron Age-type everted rim sherd in SAND 1A, and some sherds of GLAUC 3, M-LIA.

Pit 1214: includes a GLAUC 3 sherd: M-LIA.

Pit 1216: only one sherd; of GROG 4. Probably LIA.

SH 1220: only one sherd; of SAND 1A. Probably LIA.

Pit 1225: two sherds; of a CALC variant and GROG 4. Probably LIA.

Gully 1229: includes the rim of a saucepan pot in SAND 2A (no 114), and bowl and jar rims in GLAUC 3 (nos 122 and 126). There are many other sherds of GLAUC 3 and TUFA 2. Possibly MIA.

Pit 1247: 21 sherds including the rim of a probable shouldered jar in CALC 2 with finger impressions (no 110), but also with some sherds of GLAUC 3 and FINE 2. Probably M-LIA.

Pit 2202: includes the rim of a saucepan pot in SAND 1A Fabric, burnished inside and out (no 116). Probably LIA.

PH 2203: includes SAND 1A and TUFA 2 sherds. Probably LIA.

Pit 2204: Only one sherd; of a bead-rimmed saucepan pot in SAND 2A fabric (no 117). M-LIA.

Pit 2205: includes SAND 2 and GLAUC 3 sherds. M-LIA.

PH 2206: includes GLAUC 3 and SAND 1A sherds. LIA.

PH 2208: two sherds; of CALC 4 and SAND 2B, both quite thick. Possibly E1A.

Pit 2209: 17 sherds, including a globular jar in FINE (no 127), a GLAUC 3 base angle and two TUFA 2 bases. M-LIA
Pit 2211: only one sherd; of FINE 2, but orange. M-LIA.
PH 2212: includes SHELL 2 and TUFA 2 sherds. 1A.
PH 2213: includes a rim fragment of GLAUC 3 (not illustrated). M-LIA.
PH 2268: only one sherd; of CALC 1 with rough surfaces. Possibly E1A or BA.
PH 2271: only one sherd; of TUFA 2. IA.
Pit 2286: includes a rimsherd in SAND 1A (no 121) and a GLAUC 3 sherd. M-LIA.
PH 2298: includes a rimsherd in TUFA 2 (no 115). LIA.
Pit 2300: includes an ORG 4 sherd. LIA.
Pit 2301: includes a barely everted rim sherd of a globular jar in GLAUC 3 fabric and with a slashed rimtop (no 119). Also includes a rim (no 123) and base angle in TUFA 2. M-LIA.
Pit 2302: includes the rim of a burnished globular jar in GLAUC 3 fabric (no 118), and a GLAUC 2 sherd. M-LIA.
PH 2304: only one sherd; of SAND 4. M-LIA.
PH 2307: only one sherd; of GLAUC 3. M-LIA.
PH 2308: only one sherd; of GLAUC 3. M-LIA.
PH 2310: only one sherd; of SAND 2A. IA.
PH 2313: includes a SAND 1A sherd. LIA.
Gully 2315: 12 sherds from two excavated segments. Includes GLAUC 3, CALC 1 and ER3C sherds. LIA.
PH 2328: only one sherd; of GLAUC 3. M-LIA.
PH 2335: includes a GROG 4 sherd. M-LIA.
Pit 2336: includes an ORG 1 sherd. LIA.
Pit 2339: includes a GROG 4 rim sherd (no 124) and an ORG 1 sherd. LIA.
Pit 2347: only one sherd; of SAND 1A. LIA.
Pit 2349: includes CALC 1 and SAND 1A sherds. Probably LIA.
Pit 2350: includes a SAND 4 handle spring (not illustrated), and GLAUC 4 and SHELL 1 sherds. M-LIA.
Pit 2351: includes GROG 3 and SAND 4 sherds. M-LIA.
Pit 2353: includes a three-quarter profile of a shouldered jar rim in SAND 8 fabric, with horizontal irregular grooving above the rounded shoulder, near-vertical coarse striations down the body, and a finger-impressed rim (no 112). There are also four sherds of TUFA 2, including one that is very thick. Possibly E-MIA.
PH 2391: only one sherd; of GLAUC 3. M-LIA.

DIGITAL CATALOGUE OF OTHER OF THE WESTERN IRON AGE SETTLEMENT CONTEXT ASSEMBLAGES

PH 111: only seventeen joining sherds of a shouldered jar in SAND 8 with striations down the body (no 309). Possibly EIA.
Ditch 113: includes the rim of a globular jar in GLAUC 2 (not illustrated), another in GLAUC 3 (no 143), and two decorated sherds of the same fabric (no 250). There is also a base angle in CALC 2 and another in GROG 2, and two possibly wheel-thrown GROG 3 sherds. Probably LIA.
Pit 119: includes a GLAUC 3 decorated sherd (no 251), and one of GROG 1. M-LIA.

Pit 124: includes a three-quarter profile of a globular jar in SAND 1A, but hand-made not wheel-thrown; and part of the same GROG 1 shoulder as found in ditch 114 (no 192). Probably LIA.
PH 129: only two sherds; of IRON 1 including a base sherd. IA.
PH 132: only one sherd; a much eroded CALC1 base angle. LBA or IA.
PH 136: only one sherd; of GLAUC 3. M-LIA
Pit 139: includes GLAUC 3 and GROG 1 sherds. M-LIA.
Pit 144: 42 sherds, including sixteen of GLAUC 3, and eight of SAND. Includes a fairly thick sherd of CALC 4 that might be Bronze Age, a bead rimmed jar in SHELL 1 (no 193), a cup in GROG 1 (no 301), and two probable wheel-thrown base angles in SAND 1A. Probably LIA.
Pit 145: includes a FINE 2 base angle, probably from a globular jar (not illustrated), and a wheeled sherd in GROG 1 that is rilled. Probably LIA.
Pit 146: only one sherd; of FINE 2. Probably M-LIA.
Pit 153: includes a GLAUC 3 rim fragment of an inturned rim jar (not illustrated), and a fettled lower wall sherd in a SAND variant. M-LIA.
PH 155: only one sherd; of GROG 2. Probably LIA.
PH 157: only one sherd; of GLAUC 3. M-LIA.
Pit 306: only two sherds of GLAUC 3, including a rim sherd of a globular jar (not illustrated). M-LIA.
PH 342: only one sherd; of GROG 2 with rough surfaces. IA, possibly early.
PH 347: only two sherds; of GLAUC 3, including one with a horizontal groove (not illustrated).
PH 356: only one sherd; of GLAUC 3. M-LIA.
Pit 376: only one sherd; of GROG 1 and wheel-thrown. LIA or ER.
PH 393: only one sherd; of SAND 2A, burnished inside and out. IA.
PH 397: only one sherd; of GLAUC 3. M-LIA.
PH 404: only one sherd; of GROG 1. M-LIA
Pit 407: includes a GLAUC 3 sherd. M-LIA
PH 427: includes a GLAUC 2 sherd and one of TUFA 2 that displays a large intact fragment of shell in one of the breaks. The species can be identified as *Lymnaea truncatulata*, which still lives in local streams today.
Pit 430: includes a GLAUC 2 sherd. M-LIA.
Pit 444: only one sherd; a GROG 1 rim sherd of a bead-rimmed jar (not illustrated). LIA or ER.
PH 450: only one sherd; of TUFA 2. IA.
PH 469: only one sherd; of SAND 1A. LIA or ER.
Pit 473: includes two decorated sherds of GLAUC 2 (no 255), and a SHELL 1 sherd. Probably LIA.
Pit 481: includes an 8B sherd. M-LIA.
Pit 483: includes a SAND 1B sherd that is wheel-thrown and possibly Roman. LIA or ER.
Pit 485: ten sherds including a rim fragment of a jar in TUFA 2 (not illustrated), part of a wheel-thrown cordon of a cordon necked jar in SAND 1B (not illustrated), GLAUC 3 and SAND 1B plain base angle sherds, and a burnished foot-ring base of 8cm diameter in GROG 2. Probably LIA.
PH 488: includes GLAUC 3 and GROG 1 sherds. M-LIA.
PH 489: includes wheel-thrown sherds of GROG 3 and SAND 1A. LIA or ER.
PH 490: includes an everted rim sherd of a globular jar in GLAUC 2 (not illustrated). M-LIA.

Pit 503: includes a SAND variant shoulder sherd with grooved decoration (no 324), and a SAND 2 orange-coloured sherd that might be Roman. Also includes GLAUC sherds. LIA or ER.

PH 504: only one sherd; of TUFA 2. IA.

Pit 507: includes a rim sherd fragment of SAND 2A (not illustrated) and a SHELL 1 sherd. Probably LIA.

PH 508: only one sherd; of ER3C. LIA or ER.

PH 509: only one sherd; of GROG 4. LIA or ER.

PH 514: two sherds; of CALC 4 and TUFA 2. IA.

PH 517: only three sherds; of GLAUC 3. M-LIA.

PH 519: includes a GLAUC 3 sherd. M-LIA.

Layer 521: 27 sherds, including some of GLAUC and a GROG 3 'Romanised' greyware sherd that could be intrusive. M-LIA or later.

Layer 521A (721): includes a GLAUC 3 sherd and a wheel-thrown pedestal base in GROG 3 that joins with another from 723.

Layer 521A (723): includes the rim of a globular jar with everted rim in GLAUC 2 (no 233), and a base sherd in GROG 3 that joins with another in 721. LIA.

Pit 523: includes a GLAUC 3 sherd. M-LIA.

Pit 529: includes a neck sherd in a rare CALC variant, and a wheel-thrown SAND 1A sherd. LIA or ER.

Layer 531(713): includes GLAUC and FINE sherds. M-LIA.

PH 537: includes a GLAUC 2 sherd. M-LIA.

Pit 544: includes a GLAUC 3 base angle sherd that is roughly combed on the exterior body wall and has many seed impressions. The angle is rounded. M-LIA.

PH 546: includes GLAUC 3 and SHELL 1 sherds. LIA.

Pit 552: three sherds, all of GLAUC 3 including two decorated (no 256). M-LIA.

Pit 557: includes part of the cordon of a wheel-thrown cordon-necked jar in SAND 2B. Probably LIA.

PH 568: only one sherd; of GLAUC 2. M-LIA.

PH 575: only one sherd; of GLAUC 2. M-LIA.

PH 579: only one sherd; of GLAUC 3. M-LIA.

Pit 580: includes the everted rim of a globular jar in GLAUC 2 (not illustrated). M-LIA.

PH 585: only one sherd; of GROG 4. Probably LIA.

PH 587: only one sherd; of SAND 1A. Probably LIA.

PH 590: includes a GLAUC 3 sherd. M-LIA.

PH 604: includes a sherd of GROG 3 with grooved decoration (no 283), and an ER3Ccalc sherd. LIA or ER.

Gully 612: 27 sherds, all but two of GLAUC, including a beaded rimsherd from a cordon-necked jar, a cordon fragment from another, and two base angles (none illustrated). There is also the rim of a bead rimmed jar in SHELL 1 (no 191). Probably LIA.

PH 622: includes a GLAUC 3 and an ER3Ccalc sherd. LIA or ER.

Pit 625: only one sherd; of CALC 5. IA.

Pit 631: includes a cordon from a cordon-necked jar in CALC 1(no 186), and a SAND 1A sherd. LIA.

Pit 633: only one sherd; of GLAUC 3. M-LIA.

Pit 634: includes a cordon from a cordon-necked jar in SAND 1A, and a wheel-thrown footring base in GROG 1. LIA or ER.

Pit 635: only one sherd; of GROG 1. LIA or ER.

PH 643: only one sherd; of CALC 4 and thick. BA or IA.

Pit 644: includes a globular jar with an everted rim and external burnish in SAND 4 (no 319), and a GLAUC 3 sherd. M-LIA.

Pit 645: includes the rim of a small vessel in SAND 8, unless it is part of a pedestal base (no 315). Also a rim sherd with an external groove in TUFA 2 (no 645), a SHELL 1 base plate and GLAUC 3 sherds. M-LIA.

PH 647/1620: three sherds, including two of GLAUC 3 of which one is decorated (no 262), and another of SAND 1A. LIA or ER.

PH 650: includes the rim of a jar with everted rim in GLAUC 3. M-LIA.

PH 651: only two sherds; of ORG 1. IA.

PH 652: includes a GLAUC 3 sherd. M-LIA.

PH 659: only one sherd; of TUFA 2. IA.

Pit 668: includes a GLAUC 3 sherd. M-LIA.

Layer 687: includes a decorated and wheel-thrown GROG 2 sherd (no 289), a rim sherd of a globular jar with everted rim in SAND 1A (not illustrated), and some ORG sherds. LIA.

Layer 697: 29 sherds, including fifteen of GLAUC, part of the cordon of a wheel-thrown cordon-necked jar in GROG 1, and a possible Roman base angle in SAND 1A. LIA or ER.

Pit 701: Only one sherd; of FINE. M-LIA.

Pit 1006: 28 sherds of which twelve are of TUFA 2, including the rim of a saucepan or inturned rim jar (no 212), and a base angle. A sherd of SAND 2A has a finger impression that is probably accidental, and one of IRON 1 is thick and over-fired. There are also some GLAUC 3 sherds. M-LIA.

PH 1033: only one sherd; of FINE 2. M-LIA.

Pit 1035: includes a large sherd of CALC 1, and one of IRON 2 with rough vertical striations. Possibly EIA.

Pit 1041: the only sherd is the rim of a beaded globular jar in GLAUC 3, with burnished exterior and inside the rim. Probably LIA.

Pit 1042/1517: includes GLAUC 3 sherds. M-LIA.

Pit 1063: 26 sherds including a base angle and rim fragment in GLAUC 3. M-LIA.

Pit 1090: only one sherd; of GROG 1. M-LIA. (later re-numbered 1652 and so marked on plan)

Pit 1223: includes CALC 5, SAND 8 and GROG 2 sherds. Probably LIA.

Ditch 1231/2: includes a GLAUC 3 sherd and a decorated GROG 1 sherd (no 287). Probably LIA.

Ditch 1232: includes a small GLAUC 3 rim fragment and a thin sherd of GROG 1. Probably LIA.

Ditch 1236: includes a CALC 1 sherd burnished inside and out, and one of SHELL 1. Probably LIA.

Ditch 1245: includes a 5C sherd and one of 8C of Iron Age type. Probably LIA.

Pit 1507: includes a CALC 1 base angle with much calcined flint on the underside (no 82), and one of SAND 4. BA or EIA.

Pit 1509: includes a GLAUC 3 sherd. M-LIA.

Pit 1520: includes an everted rimsherd in TUFA 2 (not illustrated). M-LIA.

Pit 1521: includes CALC 1, TUFA 2 and SAND 2A sherds. IA.

Pit 1528: includes a GLAUC 3 sherd. M-LIA.

PH 1531: only one sherd; of TUFA 2. IA.

Pit 1537: only one sherd; of TUFA 2. IA.

PH 1538: only one sherd; of TUFA 2. IA.

Pit 1541: only one sherd; of SAND 8. IA.
Pit 1586: 21 sherds, including a diagonally wiped shoulder sherd in a SAND variant, a GLAUC 3 base angle, a CALC 2 shoulder sherd with fingernail decoration, and two possible Roman sherds of SAND 1A. LIA or ER.
Pit 1587: only two sherds; of GLAUC 3. M-LIA.
PH 1589: only one sherd; og GLAUC 2. M-LIA.
Pit 1598: includes a handmade bead-rimmed jar with burnished decoration in SAND 2A (no 326), and a GLAUC 3 sherd. LIA.
Pit 1602: includes the rim of a possible shouldered jar in CALC 1 (no 174), and the rim of an everted globular jar in TUFA 2 (no 213). M-LIA.
Pit 1603: includes the beaded rim of a saucepan pot in CALC 1 (no 178), and a GLAUC 2 sherd. M-LIA.
PH 1604: only one thin sherd of CALC 1 fabric. IA.
PH 1608: only one sherd; of GLAUC 3. M-LIA.
PH 1609: includes a GLAUC 2 sherd. M-LIA.
PH 1610: one sherd only; SAND 1A of Iron Age type. LIA.
PH 1612: only one sherd; of SAND 2A. IA.
PH 1613: only one sherd; of GLAUC 3. M-LIA.
PH 1617: includes GLAUC 2 sherds. M-LIA.
PH 1618: includes GLAUC 2 sherds. M-LIA.
PH 1624: includes a GLAUC 3 decorated sherd (no 265), and the beaded rim of large storage jar in SHELL 1 (no 188). LIA.
PH 1625: only one sherd; 5C. M-LIA.
Pit 1628: only one sherd; of TUFA 2. IA.
Pit 1629: two sherds only; of FINE 2. M-LIA.
Pit 1639: only one sherd; of GLAUC 2. M-LIA.
Pit 1650: includes GLAUC 2 and GLAUC 3 sherds. M-LIA.
Pit 1651: 21 sherds, including the rim of a globular jar with an everted rim and grooved decoration in GLAUC 2 (no 237), the rim of another globular jar or of one with an inturned rim in GLAUC 3 (no 231), the rim of an inturned rim jar in TUFA 2 (not illustrated), and the rim of an open bowl in TUFA 2 (no 217). The rim sherd of a bowl or misshapen jar in GLAUC 3 (no 240) from context 1089 is also from this feature. M-LIA.
Pit 1653: includes most of the profile of a small saucepan in GLAUC 2 burnished inside and out (no 241), and a GROG 1 base fragment. M-LIA.
Gully 1659: includes an IRON 2 rim fragment (not illustrated). M-LIA.
Gully 1664: only one sherd; of CALC 4. IA.
Pit 1667: includes a finger-impressed rimsherd in TUFA 2 (no 205), an everted rim of a globular jar in SAND 8 (no 321), and some GLAUC 3 sherds. M-LIA.
Pit 1673: includes the everted rim of a globular jar in GLAUC 2, with a wiped external surface and internal black residue encrustation (no 230), and other GLAUC sherds. M-LIA.
PH 1682: only one sherd; of TUFA 4. IA.
Pit 1689: only five sherds of TUFA, including a finger-impressed shoulder of a jar (no 208).
Pit 1709: three sherds from one vessel with wiped surfaces in CALC 4. BA or EIA.
PH 1719: includes CALC 4, TUFA 4 and SAND 2B sherds. IA.
Four-Poster (PH 1723): includes a TUFA wheel-thrown sherd. LIA.
(PH 1734): includes part of a SAND 1A handle (no 228) and a GLAUC 3 sherd. M-LIA.

(PH 1735): single sherd of an ORG variant.
Other PH has no sherds.

PH 1730: includes an ORG 1 sherd and a SAND 1A Iron Age-type base angle. LIA.

Four-Poster (PH 1732): only one sherd; of GLAUC 3. M-LIA. (No sherds from the other three post-hole fills).

PH 1741: includes a FINE decorated sherd (no 332), and a GROG 2 sherd. Probably LIA.

Pit 1745: includes an everted rim sherd of a globular jar in GLAUC 3 that joins with sherds in 1747 (no 154). M-LIA.

Pit 1750: only two sherds; of TUFA 2. IA.

PH 1768: only one sherd; of GROG 1 and rolled. LIA or ER.

PH 1769: only one sherd; of SAND 8. IA.

Ditch 1779: includes several GLAUC 3 sherds, and an everted rim sherd of a jar in a SAND variant. M-LIA.

PH 1799: only one sherd; of GLAUC 3. M-LIA.

Pit 1804: single sherd of GLAUC 4. M-LIA.

Pit 1806: only one sherd; of GLAUC 3. M-LIA

PH 1811: only one sherd; of TUFA 2. IA.

PH 1812: only one sherd; of SAND 8 with coarse wiped surfaces. IA.

Pit 1813: includes the rim of an angular cup in SAND 2B (no 317), and a curious everted rim sherd in a GROG variant with burnished exterior (no 306). EIA.

Pit 1816: includes sherds of SAND 2A and TUFA 2. IA.

PH 1818: includes a SAND 2A rim sherd fragment that is possibly finger-impressed (not illustrated). Possibly EIA.

Pit 1823: only one sherd; a GLAUC 3 base angle. M-LIA.

PH 1836: only one sherd; of GROG 1. M-LIA.

Ring Gully 1845: includes the rim of a shouldered jar with finger-impressed rim and shoulder in SAND 2A (no 311), which is part of the same vessel found in 1824, the rim of a similar vessel in TUFA 4 (no 204), and sherds of GLAUC 3 and GROG 3. M-LIA.

Pit 1852: only one sherd; of TUFA 2. IA.

Pit 1868: includes the neck of a shouldered jar in GLAUC 3. IA.

1867/68: only one sherd; of TUFA 4. IA.

Four-Poster: PH 1877: includes twenty-seven sherds of TUFA 2 from two or three vessels, and sherds of ER3C and SAND 1A. LIA.
PH 1894: only two sherds; of SAND 2A.
PH 1897: only one sherd; of TUFA 2.
Other posthole contained no sherds

PH 1886: only two sherds; of GLAUC 3. M-LIA.

Pit 1889: only one sherd; of GLAUC 3. M-LIA.

PH 1892: only one sherd; of TUFA 2. IA.

Well 1916: primary spits 4 and 5: only six sherds; some of GLAUC 3, including a rim sherd and shoulder sherd from a globular jar with burnished linear tooling and impressed decoration (nos 247 and 248). M-LIA.

Pit 1926: includes TUFA 2 and SAND 2A sherds. IA.

PH 1954: only two wheel-thrown sherds of GROG 1. LIA or ER.

Pit 1968: includes an ER3C sherd. LIA or ER.

Pit 1969: includes the rim of an open bowl in TUFA 2 (not illustrated), and a decorated wheel-thrown sherd in GROG 2 (no 290). Probably LIA.

Pit 1970: only one sherd; of GLAUC 3. M-LIA.
Pit 2050: includes a globular bowl in GLAUC 3 (no 234). M-LIA.
Gully 2098: includes a GROG 4 sherd. LIA or ER.
Pits 2099: includes a beaded rimsherd in TUFA 2 (not illustrated), an everted rim sherd of a globular jar in GROG 4, some GLAUC 3 sherds, and a possible wheel-thrown sherd in IRON 1. Probably LIA.
Gully 2107: includes GLAUC 3 sherds and one of GROG 1. M-LIA.
Ring Gully 2110: only one sherd; of GLAUC 3. M-LIA.
Ditch 2116: includes a decorated sherd of GLAUC 3 (no 268) and a burnished foot-ring base. M-LIA.
Pit 2118: includes GLAUC 3 sherds and a TUFA 2 base angle. M-LIA.
Pits 2143: includes the rim of a bead-rimmed jar in a SAND variant (not illustrated), a similar rim in a GLAUC variant, and a GLAUC 3 sherd. M-LIA.
Gully 2423: ten sherds, none particularly diagnostic of date. Possibly EIA on account of the presence/absence of fabrics (ie much CALC, no GLAUC), but a small sherd of GROG 1 may be LIA.

7.4 THE SLAG *by David Starley*

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EXPLANATION OF CLASSIFICATION

Much of the material from Thorpe Lea Nurseries was of distinctive and unusual form, being very dense, with virtually no porosity and being quite strongly attracted to a magnet. From its typically grey streak on a unglazed porcelain tile, the main mineral component would appear to be fayalite (iron silicate). The morphology of the material varied. The bottom of some large pieces had clearly been moulded by the shape of a hollow in the ground and these were classed as **furnace bottoms**. Some smaller lumps had the blocky appearance of fragments from a larger mass, whilst others had original surfaces, described as runs and blobs, (not to be confused with the smooth, ropey flow-lines of tap slag). A common feature of these runs and blobs was the presence of large and clear impressions of wood and charcoal, often in parallel alignment. The distinction between wood and charcoal was determined by the presence of cross-checking, *i.e.* cracks perpendicular to the wood grain, in the latter. This material was classified as **dense** slag and was the largest category in the Thorpe Lea Nurseries assemblage. Both the furnace bottoms and the dense slag are indicative of iron smelting, *i.e.* the primary extraction of iron from the ore. However, it does not resemble either the characteristic slag from tapped furnaces or the rather amorphous material from most untapped furnace types.

The single small, dense, fayalitic fragment classified as **tap slag** appears to show a characteristic "ropey" flowed morphology. However, even if this sample had not been from an unphased context, a single fragment's shape may be fortuitous. Several pieces of material were identified as **possible ores.** These were generally strongly magnetic and showed signs of severe heating, and it was assumed that they were incompletely reduced ores from the furnace. Physico-chemical analysis was undertaken on these samples (see below) which suggested other explanations of their origins

Evidence for smithing, *i.e.* hot working of iron, is very limited in the Thorpe Lea Nurseries assemblage. Normally it is recognised in two main forms; bulk slags and micro slags. Of the bulk slags produced during smithing only the **smithing hearth bottoms** are unlikely to be confused with the waste products of smelting and are therefore considered to be diagnostic of smithing. These hearth bottoms are recognisable by their characteristic plano-convex form, having a rough convex base and a smoother, vitrified upper surface which is flat, or even slightly hollowed as a result of the downwards pressure of the air blast from the tuyère. Compositionally, smithing hearth bottoms are also predominantly fayalitic, and form as a result of high temperature reactions between the iron, iron-scale and silica from either the clay furnace lining or sand used as a flux by the smith.

In addition to bulk slags, iron smithing also produces micro slags of two types. **Flake hammerscale** consists of fish-scale like fragments of the oxide/silicate skin of the iron dislodged during working. **Spheroidal hammerscale** results from the solidification of small droplets of liquid slag expelled during working, particularly when two components are being fire welded together, or when a slag-rich bloom of iron is first worked into a billet or bar. Hammerscale is considered important in interpreting a site not only because it is highly diagnostic of smithing, but as it is often allowed to build up in the immediate vicinity of the

smithing hearth and anvil, it may give a more precise location of the activity than the bulk slags, which may be transported elsewhere for disposal (Mills & McDonnell 1992)

Of the above two categories only two smithing hearth bottoms were identified and these were from unphased contexts. No hammerscale was found with the bulk slags. However, as this component is normally only recognised when soil samples, or soil retained in unwashed samples, is examined (Starley 1995b), the cleaned Thorpe Lea Nurseries material, provided for this assessment, could not provide this evidence. Soil samples were taken to float for macro fossil remains, but the sieve residues were not checked for hammerscale before disposal.

Four categories not normally considered diagnostic are vitrified hearth lining, cinder, iron rich cinder and undiagnostic ironworking slag. However, in the absence of any significant evidence of iron smithing, it is probable that, on the site, all four categories derive from iron smelting. Material listed as **vitrified hearth/furnace lining** forms during either iron smelting, iron smithing or non-ferrous metal working. It results from a high temperature reaction between the clay lining of the hearth/furnace and the alkali fuel ashes or fayalitic slag. The material may show a compositional gradient from unmodified clay on one surface to an irregular cindery material on the other. An associated material, classed as **cinder,** comprises only the lighter portion of this. It is a porous, hard and brittle slag formed as a result of high temperature reactions between the alkali fuel ashes, and either fragments of clay which had spalled away from the hearth/furnace lining, or another source of silica, such as the sand used as a flux during smithing. **Iron-rich cinder** is a similar material but contains a significant iron content, making it denser. More dense still are those slags classed as **undiagnostic ironworking slags**. The compositions of these fragments are predominantly fayalitic, but their morphology is irregular and similar materials may be produced by smelting and smithing operations.

Ferruginous concretions form as a result of the redeposition of iron hydroxides, similar to the natural phenomenon of iron panning, although the process is likely to be enhanced by the nature of the surrounding archaeological deposits, particularly iron-rich waste. A small amount of material was classified as **fuel ash slag**, a very lightweight, light coloured (white-grey-brown), highly porous material which results from the reaction between alkaline fuel ash and silicates from soil, sand or clay at elevated temperatures. The reaction is shared by many pyrotechnological processes and the slag is not diagnostic. The origin of the single example of **glassy slag** is not clear. It may be the result of an over-blown smelting furnace, an intrusive piece of modern blast furnace slag or even an accidentally produced glass. There is no reason to suppose that it derives from glass production or working. The very small quantity of **fired clay** may derive from some form of metallurgical hearth/forge, but could equally come from a domestic hearth or other pyrotechnic process. The category of **iron objects** incuded material containing iron in the metallic state, but which lacked any characteristics of artefacts in the normal sense. These often amorphous fragments may relate to iron production. More interesting, are a number of slags which gave an exceptionally high response to a magnet, yet gave a typically fayalitic streak. These may contain small fragments of iron from the smelt which did not become incorporated in the bloom.

OPTICAL EXAMINATION AND SEM-BASED MICROANALYSIS OF DEBRIS

Because the morphology of the debris suggested an unusual smelting technology, the assessment of the Thorpe Lee Nurseries assemblage recommended optical microscopy and scanning electron microscope (SEM)-based energy dispersive X-ray (EDX) microanalysis, to help understand the processes that had been carried out on the site. Eight samples were selected including three possible ores, one smithing hearth bottom, two dense slags and two furnace bottoms, one of which had the unusual split wood fragment impressions. Freshly broken sections from the interior of the pieces were mounted in thermosetting, conductive phenolic resin and the samples were ground and polished using standard techniques.

The advantages of SEM based EDX analysis lie in the ability of the technique to undertake analysis at high magnifications on selected small areas such as specific phases or mixtures of phases. The method is therefore highly suitable for heterogeneous archaeological materials. The sample may be viewed in back-scattered mode prior to analysis. This mode enhances atomic number contrast, rather than topography, allowing phases in the flat, polished specimen to be differentiated. The technique can only be used to detect elements. The quoted figures, which refer to the weight percentage of oxide, are derived from assumptions about the stoichiometry (i.e. the combining tendency) of each element. Minimum detectable levels vary from element to element: for oxides of magnesium (Mg), aluminium (Al), silicon (Si), phosphorus (P), potassium (K), calcium (Ca), titanium (Ti) and vanadium (V) these are approximately 0.1wt%. For manganese (Mn) and sulphur (S) the limits are about 0.2wt% and for sodium (Na) it is approximately 0.4wt%. Below these limits, individual analyses (not means) are given as not detected. The mean sample values in Table 24 derive from three separate analyses, at low magnification of different areas of the samples. Individual analyses are given in Table 25.

Possible Ore. Context 354 late Iron Age early Roman pit, AML sample No. 970028

A 26g fragment was selected. Its colour was dark grey with liverish red tints but there was no gradation of colour or structure across the sample. The fractured surface gave a gritty but friable grey streak on an unglazed porcelain tile. Density was reasonably high (greater than fired clay, less than fayalite). It was also reasonably strongly attracted to a magnet.

On the optical microscope (Plate 1), the structure comprised a mass of (darker) granules partly fused into a grey matrix. At higher magnification, small white particles were shown to be of sub-angular form and it was not visually apparent whether this phase was wüstite (FeO) or magnetite (Fe_3O_4) although the sample's attraction to a magnet would suggests the latter was a major component. Analysis by SEM (Table 3) gave a mean silica content of 66% with 22% iron indicating that the sample could not have been a viable ore. The impurity grains ranged from nearly pure silica to iron-rich silicates. High levels of alumina in the slag might derive from a clay component. The analysis of 970028 most closely resembles that of clay based furnace lining, which had been heated to the point where it was difficult to identify visually, but individual grains had not been entirely fluxed by contact with slag.

Possible ore. Context 504 Iron Age post hole, AML sample No. 970030
Externally this 24g piece of debris looked very much like fire shattered rock, but when fractured it showed a black and orange/brown (iron hydroxide) surface with occasional porosity (10%). The streak was grey/brown, the density reasonably high and the sample was fairly strongly attracted to a magnet. Optical microscopy (Plate 3) and SEM examination found the debris to be mainly fayalite with some wüstite and occasional iron prills. A darker phase infilling the angular voids between the fayalite was very rich (33%) in phosphorus pentoxide and this contributed the high phosphorus content of the bulk sample, in an otherwise fayalitic composition. Compositionally this sample closely resembles the known smelting slags from the site and it is therefore considered to be slag rather than ore.

POSSIBLE ORE. CONTEXT 586 IRON AGE PIT FILL, AML SAMPLE NO. 970032
A small fragment of approximately 10g, with a slightly glazed surface and rounded edges, was assumed to be a piece of rock ore that had not been fully smelted. The sample was strongly magnetic with a light grey streak. The matrix of the sample (Plate 5) was fayalitic but the sample also contained a high proportion of cuboid skeletons of magnetite and a dark globular phase, with a composition close to that of a potassium feldspar (or possibly mellite). Bachmann (Bachmann, 1982) notes that "due to the low alkali content of most slags, alkali feldspars have only rarely been observed in metallurgical materials. Plagioclase feldspars of the anorthite type, $CaO.Al_2O_3.2SiO_2$ or $CaAl_2Si_2O_8$, are sometimes present in iron, etc. slags". X-ray diffraction (XRD) was carried out on another sample from the same lump in an attempt to positively identify the mineral(s) present in this phase. This confirmed the presence of fayalite and magnetite but no high calcium or high potassium minerals were identified. It is therefore probable that The Analysis suggested, however, that this material is glassy in nature. The SEM showed phosphorus and calcium to be concentrated in a minor dark grey phase.

Dense slag with wood impressions. Context 444 Iron Age pit, AML sample No. 970029
The 60g lump fragmented to show a black crystalline surface and gave a dark grey streak, suggesting that a fayalitic component (iron silicate, $2FeO.SiO_2$) was present. Density was typical for fayalite and the sample was only weakly attracted to a magnet.

Optical microscopy (Plate 2) showed the sample to be made up largely of fayalitic laths with occasional wüstite dendrites. A two phase structure between the fayalite laths comprised a dark feathery phase in a fayalitic matrix. SEM microanalysis found this dark phase to be glassy containing high levels of alumina (10%), phosphorus pentoxide (23%) potash (10%) and lime (24%). A finer white precipitate was found to be wüstite. Overall the sample composition was fayalitic, typical of most bloomery smelting technology but showed a significant MnO content (2.3%) which would have originated in the ore.

Dense blocky slag. Context 504 Iron Age post hole, AML sample No. 970031
Although superficially a liverish red colour, the fracture surface of this 23g fragment was almost black and without pores. The streak on a porcelain tile was dark grey and the sample was weakly magnetic. Optical microscopy (Plate 4) showed most of the sample to be fayalitic laths, with a limited quantity of wüstite

dendrites, and single and multiple phases between the fayalitic laths. Microanalysis showed the latter to comprise a range of glassy phases, some with up to 41% phosphorus pentoxide. The bulk composition of the sample was basically fayalitic, but with high phosphorus pentoxide (5%) and modest lime (3%) and alumina (2%) contents. Probably smelting slag.

Smithing hearth bottom. Context 1131 Iron Age gulley segment, AML sample No. 970033

This small smithing hearth bottom weighed 105g and measured 50x45mm with a depth of 25mm**.** Its outer surface was covered by iron hydroxide concretion but internally the section was largely black with occasional areas of iron hydroxides. The black area gave a dark grey streak and the slag was strongly attracted to a magnet. Optical microscopy (Plate 6) showed dendrites of wüstite against a background of fayalite. SEM microanalysis found the dark angular particles to be oxides containing nearly equal parts of iron and aluminium**.** A mottled phase was very rich in phosphorus.

Furnace bottom with wood impressions. Context 1703 Iron Age, AML sample No. 970034

A small (27g), dense fragment with imprints from wood. The outer surface was black/liverish red and the inside black, granular with slight porosity. The streak was grey but scratchy and the sample was only weakly attracted to a magnet. The microstructure (Plate 7) comprised a fayalitic matrix with a high proportion of wüstite dendrites. Large heterogeneous particles trapped within the slag were largely iron oxide (92%) but with a significant (3.6%) phosphorus pentoxide content, which may be the remains of trapped, and partially transformed ore particles. Other dark angular particles had a similar high aluminium, high iron composition to sample 970035. The overall analysis indicated an unusually high iron oxide content for smelting slag which would have tended to result in a poor return of iron from the ore.

Furnace bottom (dense blocky). Context 1878E late third or fourth century hollow, AML sample No. 970035

The size (933g), uniformity and blocky appearance of this piece of a furnace bottom contrasted strongly with the furnace bottoms and dense slags showing wood impressions. The fracture surface was black with coarse grains and the streak colour was mid grey. The slag was only weakly attracted to a magnet. Examination of the polished section by optical microscopy (Plate 8) showed fayalite to predominate (90%) in the microstructure, with only occasional delicate dendrites of wüstite. The SEM allowed visual resolution and microanalysis of material between the fayalite grains. The matrix of this was a phosphorus-rich (33%) phase within which had formed small grains of wüstite, high alumina/high potash glasses and a distinctive diamond-shaped phase of 76% FeO, 18% Al_2O_3 and 3.7% TiO_2. With a mean P_2O_5 content of almost 6% this slag would appear to derive from the smelting of a very high phosphorus ore.

7.4 THE SLAG *by David Starley*

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EXPLANATION OF CLASSIFICATION

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The single small, dense, fayalitic fragment classified as **tap slag** appears to show a characteristic "ropey" flowed morphology. However, even if this sample had not been from an unphased context, a single fragment's shape may be fortuitous. Several pieces of material were identified as **possible ores.** These were generally strongly magnetic and showed signs of severe heating, and it was assumed that they were incompletely reduced ores from the furnace. Physico-chemical analysis was undertaken on these samples (see below) which suggested other explanations of their origins

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In addition to bulk slags, iron smithing also produces micro slags of two types. **Flake hammerscale** consists of fish-scale like fragments of the oxide/silicate skin of the iron dislodged during working. **Spheroidal hammerscale** results from the solidification of small droplets of liquid slag expelled during working, particularly when two components are being fire welded together, or when a slag-rich bloom of iron is first worked into a billet or bar. Hammerscale is considered important in interpreting a site not only because it is highly diagnostic of smithing, but as it is often allowed to build up in the immediate vicinity of the

smithing hearth and anvil, it may give a more precise location of the activity than the bulk slags, which may be transported elsewhere for disposal (Mills, 1992)

Of the above two categories only two smithing hearth bottoms were identified and these were from unphased contexts. No hammerscale was found with the bulk slags. However, as this component is normally only recognised when soil samples, or soil retained in unwashed samples, is examined (Starley, 1995), the cleaned Thorpe Lea Nurseries material, provided for this assessment, could not provide this evidence. Soil samples were taken to float for macro fossil remains, but the sieve residues were not checked for hammerscale before disposal.

Four categories not normally considered diagnostic are vitrified hearth lining, cinder, iron rich cinder and undiagnostic ironworking slag. However, in the absence of any significant evidence of iron smithing, it is probable that, on the site, all four categories derive from iron smelting. Material listed as **vitrified hearth/furnace lining** forms during either iron smelting, iron smithing or non-ferrous metal working. It results from a high temperature reaction between the clay lining of the hearth/furnace and the alkali fuel ashes or fayalitic slag. The material may show a compositional gradient from unmodified clay on one surface to an irregular cindery material on the other. An associated material, classed as **cinder,** comprises only the lighter portion of this. It is a porous, hard and brittle slag formed as a result of high temperature reactions between the alkali fuel ashes, and either fragments of clay which had spalled away from the hearth/furnace lining, or another source of silica, such as the sand used as a flux during smithing. **Iron-rich cinder** is a similar material but contains a significant iron content, making it denser. More dense still are those slags classed as **undiagnostic ironworking slags**. The compositions of these fragments are predominantly fayalitic, but their morphology is irregular and similar materials may be produced by smelting and smithing operations.

Ferruginous concretions form as a result of the redeposition of iron hydroxides, similar to the natural phenomenon of iron panning, although the process is likely to be enhanced by the nature of the surrounding archaeological deposits, particularly iron-rich waste. A small amount of material was classified as **fuel ash slag**, a very lightweight, light coloured (white-grey-brown), highly porous material which results from the reaction between alkaline fuel ash and silicates from soil, sand or clay at elevated temperatures. The reaction is shared by many pyrotechnological processes and the slag is not diagnostic. The origin of the single example of **glassy slag** is not clear. It may be the result of an over-blown smelting furnace, an intrusive piece of modern blast furnace slag or even an accidentally produced glass. There is no reason to suppose that it derives from glass production or working. The very small quantity of **fired clay** may derive from some form of metallurgical hearth/forge, but could equally come from a domestic hearth or other pyrotechnic process. The category of **iron objects** incuded material containing iron in the metallic state, but which lacked any characteristics of artefacts in the normal sense. These often amorphous fragments may relate to iron production. More interesting, are a number of slags which gave an exceptionally high response to a magnet, yet gave a typically fayalitic streak. These may contain small fragments of iron from the smelt which did not become incorporated in the bloom.

OPTICAL EXAMINATION AND SEM-BASED MICROANALYSIS OF DEBRIS

Because the morphology of the debris suggested an unusual smelting technology, the assessment of the Thorpe Lee Nurseries assemblage recommended optical microscopy and scanning electron microscope (SEM)-based energy dispersive X-ray (EDX) microanalysis, to help understand the processes that had been carried out on the site. Eight samples were selected including three possible ores, one smithing hearth bottom, two dense slags and two furnace bottoms, one of which had the unusual split wood fragment impressions. Freshly broken sections from the interior of the pieces were mounted in thermosetting, conductive phenolic resin and the samples were ground and polished using standard techniques.

The advantages of SEM based EDX analysis lie in the ability of the technique to undertake analysis at high magnifications on selected small areas such as specific phases or mixtures of phases. The method is therefore highly suitable for heterogeneous archaeological materials. The sample may be viewed in back-scattered mode prior to analysis. This mode enhances atomic number contrast, rather than topography, allowing phases in the flat, polished specimen to be differentiated. The technique can only be used to detect elements. The quoted figures, which refer to the weight percentage of oxide, are derived from assumptions about the stoichiometry (i.e. the combining tendency) of each element. Minimum detectable levels vary from element to element: for oxides of magnesium (Mg), aluminium (Al), silicon (Si), phosphorus (P), potassium (K), calcium (Ca), titanium (Ti) and vanadium (V) these are approximately 0.1wt%. For manganese (Mn) and sulphur (S) the limits are about 0.2wt% and for sodium (Na) it is approximately 0.4wt%. Below these limits, individual analyses (not means) are given as not detected. The mean sample values in Table 24 derive from three separate analyses, at low magnification of different areas of the samples. Individual analyses are given in Table 25.

Possible Ore. Context 354 late Iron Age early Roman pit, AML sample No. 970028

A 26g fragment was selected. Its colour was dark grey with liverish red tints but there was no gradation of colour or structure across the sample. The fractured surface gave a gritty but friable grey streak on an unglazed porcelain tile. Density was reasonably high (greater than fired clay, less than fayalite). It was also reasonably strongly attracted to a magnet.

On the optical microscope (Plate 1), the structure comprised a mass of (darker) granules partly fused into a grey matrix. At higher magnification, small white particles were shown to be of sub-angular form and it was not visually apparent whether this phase was wüstite (FeO) or magnetite (Fe_3O_4) although the sample's attraction to a magnet would suggests the latter was a major component. Analysis by SEM (Table 3) gave a mean silica content of 66% with 22% iron indicating that the sample could not have been a viable ore. The impurity grains ranged from nearly pure silica to iron-rich silicates. High levels of alumina in the slag might derive from a clay component. The analysis of 970028 most closely resembles that of clay based furnace lining, which had been heated to the point where it was difficult to identify visually, but individual grains had not been entirely fluxed by contact with slag.

Possible ore. Context 504 Iron Age post hole, AML sample No. 970030

Externally this 24g piece of debris looked very much like fire shattered rock, but when fractured it showed a black and orange/brown (iron hydroxide) surface with

occasional porosity (10%). The streak was grey/brown, the density reasonably high and the sample was fairly strongly attracted to a magnet. Optical microscopy (Plate 3) and SEM examination found the debris to be mainly fayalite with some wüstite and occasional iron prills. A darker phase infilling the angular voids between the fayalite was very rich (33%) in phosphorus pentoxide and this contributed the high phosphorus content of the bulk sample, in an otherwise fayalitic composition. Compositionally this sample closely resembles the known smelting slags from the site and it is therefore considered to be slag rather than ore.

POSSIBLE ORE. CONTEXT 586 IRON AGE PIT FILL, AML SAMPLE NO. 970032

A small fragment of approximately 10g, with a slightly glazed surface and rounded edges, was assumed to be a piece of rock ore that had not been fully smelted. The sample was strongly magnetic with a light grey streak. The matrix of the sample (Plate 5) was fayalitic but the sample also contained a high proportion of cuboid skeletons of magnetite and a dark globular phase, with a composition close to that of a potassium feldspar (or possibly mellite). Bachmann (Bachmann, 1982) notes that "due to the low alkali content of most slags, alkali feldspars have only rarely been observed in metallurgical materials. Plagioclase feldspars of the anorthite type, $CaO.Al_2O_3.2SiO_2$ or $CaAl_2Si_2O_8$, are sometimes present in iron, etc. slags". X-ray diffraction (XRD) was carried out on another sample from the same lump in an attempt to positively identify the mineral(s) present in this phase. This confirmed the presence of fayalite and magnetite but no high calcium or high potassium minerals were identified. It is therefore probable that The Analysis suggested, however, that this material is glassy in nature. The SEM showed phosphorus and calcium to be concentrated in a minor dark grey phase.

Dense slag with wood impressions. Context 444 Iron Age pit, AML sample No. 970029

The 60g lump fragmented to show a black crystalline surface and gave a dark grey streak, suggesting that a fayalitic component (iron silicate, $2FeO.SiO_2$) was present. Density was typical for fayalite and the sample was only weakly attracted to a magnet.

Optical microscopy (Plate 2) showed the sample to be made up largely of fayalitic laths with occasional wüstite dendrites. A two phase structure between the fayalite laths comprised a dark feathery phase in a fayalitic matrix. SEM microanalysis found this dark phase to be glassy containing high levels of alumina (10%), phosphorus pentoxide (23%) potash (10%) and lime (24%). A finer white precipitate was found to be wüstite. Overall the sample composition was fayalitic, typical of most bloomery smelting technology but showed a significant MnO content (2.3%) which would have originated in the ore.

Dense blocky slag. Context 504 Iron Age post hole, AML sample No. 970031

Although superficially a liverish red colour, the fracture surface of this 23g fragment was almost black and without pores. The streak on a porcelain tile was dark grey and the sample was weakly magnetic. Optical microscopy (Plate 4) showed most of the sample to be fayalitic laths, with a limited quantity of wüstite dendrites, and single and multiple phases between the fayalitic laths. Microanalysis showed the latter to comprise a range of glassy phases, some with up to 41% phosphorus pentoxide. The bulk composition of the sample was basically fayalitic,

but with high phosphorus pentoxide (5%) and modest lime (3%) and alumina (2%) contents. Probably smelting slag.

Smithing hearth bottom. Context 1131 Iron Age gulley segment, AML sample No. 970033

This small smithing hearth bottom weighed 105g and measured 50x45mm with a depth of 25mm**.** Its outer surface was covered by iron hydroxide concretion but internally the section was largely black with occasional areas of iron hydroxides. The black area gave a dark grey streak and the slag was strongly attracted to a magnet. Optical microscopy (Plate 6) showed dendrites of wüstite against a background of fayalite. SEM microanalysis found the dark angular particles to be oxides containing nearly equal parts of iron and aluminium**.** A mottled phase was very rich in phosphorus.

Furnace bottom with wood impressions. Context 1703 Iron Age, AML sample No. 970034

A small (27g), dense fragment with imprints from wood. The outer surface was black/liverish red and the inside black, granular with slight porosity. The streak was grey but scratchy and the sample was only weakly attracted to a magnet. The microstructure (Plate 7) comprised a fayalitic matrix with a high proportion of wüstite dendrites. Large heterogeneous particles trapped within the slag were largely iron oxide (92%) but with a significant (3.6%) phosphorus pentoxide content, which may be the remains of trapped, and partially transformed ore particles. Other dark angular particles had a similar high aluminium, high iron composition to sample 970035. The overall analysis indicated an unusually high iron oxide content for smelting slag which would have tended to result in a poor return of iron from the ore.

Furnace bottom (dense blocky). Context 1878E late third or fourth century hollow, AML sample No. 970035

The size (933g), uniformity and blocky appearance of this piece of a furnace bottom contrasted strongly with the furnace bottoms and dense slags showing wood impressions. The fracture surface was black with coarse grains and the streak colour was mid grey. The slag was only weakly attracted to a magnet. Examination of the polished section by optical microscopy (Plate 8) showed fayalite to predominate (90%) in the microstructure, with only occasional delicate dendrites of wüstite. The SEM allowed visual resolution and microanalysis of material between the fayalite grains. The matrix of this was a phosphorus-rich (33%) phase within which had formed small grains of wüstite, high alumina/high potash glasses and a distinctive diamond-shaped phase of 76% FeO, 18% Al_2O_3 and 3.7% TiO_2. With a mean P_2O_5 content of almost 6% this slag would appear to derive from the smelting of a very high phosphorus ore.

THORPE LEA NURSERIES
Table 5.2
WARE GROUPS & FABRICS

		MIDDLE BRONZE AGE						LATE BRONZE AGE				IRON AGE								TOTALS	
		Ditch 1218		Ditches/2432		Settlement		N Settlement		S Settlement		Eastern		Western		Disparate		Residual			
		count	weight	count	weight	count	weight	count	weight	count	weight	count	weight	count	weight	count	weight	count	weight	count	weight
CALC	**1**	193	8303	74	2913	15	339	84	1613	56	476	46	375	40	321	10	25	88	673	**606**	**15038**
	2 & 3	-	-	3	25	4	91	73	1033	77	754	35	627	10	223	3	8	83	775	**288**	**3536**
	4	2	17	8	119	-	-	1	2	8	47	12	80	24	233	-	-	42	310	**97**	**808**
	5	-	-	-	-	-	-	-	-	8	54	3	30	7	53	7	22	5	43	**30**	**202**
	variants (3)	4	11	1	7	-	-	2	10	2	7	3	13	4	24	-	-	-	-	**16**	**72**
	Totals	***199***	***8331***	***86***	***3064***	***19***	***430***	***160***	***2658***	***151***	***1338***	***99***	***1125***	***85***	***854***	***20***	***55***	***218***	***1801***	***1037***	***19656***
COARSE SHELL	**1**	-	-	-	-	-	-	-	-	-	-	4	14	28	349	2	16	28	388	**62**	**767**
	2	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**2**
	Totals	***1***	***2***	-	-	-	-	-	-	-	-	***4***	***14***	***28***	***349***	***2***	***16***	***28***	***388***	***63***	***769***
TUFA/ SHELL	**1**	-	-	-	-	-	-	-	-	-	-	-	-	2	45	-	-	1	19	**3**	**64**
	2	-	-	-	-	-	-	-	-	-	-	122	951	156	999	6	12	154	1104	**438**	**3066**
	4	-	-	-	-	-	-	-	-	-	-	9	71	44	698	5	21	32	177	**90**	**967**
	variants (3)	-	-	-	-	-	-	-	-	-	-	-	-	6	105	-	-	6	65	**12**	**170**
	Totals	-	-	-	-	-	-	-	-	-	-	***131***	***1022***	***208***	***1847***	***11***	***33***	***193***	***1365***	***543***	***4267***
ORG	**1**	-	-	-	-	-	-	-	-	-	-	8	51	7	32	1	5	24	217	**40**	**305**
	2	-	-	-	-	-	-	-	-	-	-	-	-	4	23	-	-	18	109	**22**	**132**
	4	-	-	-	-	-	-	-	-	-	-	13	97	9	57	-	-	19	187	**41**	**341**
	variants (3)	-	-	-	-	-	-	-	-	-	-	4	6	6	22	-	-	13	116	**23**	**144**
	Totals	-	-	-	-	-	-	-	-	-	-	***25***	***154***	***26***	***134***	***1***	***5***	***74***	***629***	***126***	***922***
IRON	**1**	-	-	-	-	-	-	-	-	-	-	3	39	15	75	1	5	13	78	**32**	**197**
	2	-	-	-	-	-	-	-	-	-	-	1	3	4	39	3	19	1	5	**9**	**66**
	3	-	-	-	-	-	-	-	-	-	-	2	6	4	23	-	-	1	12	**7**	**41**
	4	-	-	-	-	-	-	-	-	-	-	1	31	1	2	-	-	-	-	**2**	**33**
	Totals	-	-	-	-	-	-	-	-	-	-	***7***	***79***	***24***	***139***	***4***	***24***	***15***	***95***	***50***	***337***
GLAUC	**2**	-	-	-	-	-	-	-	-	-	-	7	61	120	705	1	1	85	643	**213**	**1410**
	3	-	-	-	-	-	-	-	-	-	-	72	466	310	2838	14	671	446	3318	**842**	**7293**
	4	-	-	-	-	-	-	-	-	-	-	1	3	7	37	-	-	9	51	**17**	**91**
	variant	-	-	-	-	-	-	-	-	-	-	-	-	1	9	-	-	-	-	**1**	**9**
	Totals	-	-	-	-	-	-	-	-	-	-	***80***	***530***	***438***	***3589***	***15***	***672***	***540***	***4012***	***1073***	***8803***
GROG	**1**	1	1	4	9	-	-	-	-	-	-	4	30	70	840	2	11	353	5462	**434**	**6353**
	2A	6	23	3	18	-	-	-	-	-	-	2	16	10	47	-	-	6	74	**27**	**178**
	2B	-	-	-	-	-	-	-	-	2	3	3	16	13	110	-	-	6	172	**24**	**301**
	3A	-	-	-	-	-	-	-	-	-	-	1	2	9	114	-	-	93	1438	**103**	**1554**
	3B	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**4**
	4	-	-	-	-	-	-	-	-	-	-	16	53	6	23	1	1	25	363	**48**	**440**
	variant	-	-	-	-	-	-	-	-	-	-	-	-	1	10	-	-	2	110	**3**	**120**
	Totals	***8***	***28***	***7***	***27***	-	-	-	-	***2***	***3***	***26***	***117***	***109***	***1144***	***3***	***12***	***485***	***7619***	***640***	***8950***
SAND	**1A**	-	-	2	2	-	-	-	-	-	-	25	137	65	691	4	12	63	499	**159**	**1341**
	1B	-	-	-	-	-	-	-	-	-	-	1	5	5	37	-	-	11	257	**17**	**299**
	2A	-	-	-	-	-	-	7	127	-	-	15	153	36	302	1	7	84	739	**143**	**1328**
	2B	-	-	-	-	-	-	1	6	-	-	13	148	15	73	2	3	19	240	**50**	**470**
	4	-	-	1	5	-	-	-	-	-	-	20	138	23	219	8	26	41	302	**93**	**690**
	8	-	-	-	-	-	-	-	-	-	-	11	515	39	253	3	18	22	179	**75**	**965**
	variants (2)	1	3	-	-	-	-	-	-	-	-	15	239	20	764	2	11	39	971	**77**	**1988**
	ER 3C calc	-	-	-	-	-	-	-	-	-	-	2	24	5	35	-	-	7	133	**14**	**192**
	ER 3C	-	-	-	-	-	-	-	-	1	3	1	7	12	314	-	-	40	490	**54**	**814**
	Totals	***1***	***3***	***3***	***7***	-	-	***8***	***133***	***1***	***3***	***103***	***1366***	***220***	***2688***	***20***	***77***	***326***	***3810***	***682***	***8087***
FINE	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	24	**4**	**24**
	2	-	-	1	1	-	-	-	-	-	-	15	124	30	269	1	5	68	540	**115**	**939**
	variants (4)	-	-	-	-	-	-	1	6	-	-	4	20	6	17	1	1	11	102	**23**	**146**
	Totals	-	-	***1***	***1***	-	-	***1***	***6***	-	-	***19***	***144***	***36***	***286***	***2***	***6***	***83***	***666***	***142***	***1109***
	TOTALS	**209**	**8364**	**97**	**3099**	**19**	**430**	**169**	**2797**	**154**	**1344**	**494**	**4551**	**1174**	**11030**	**78**	**900**	**1962**	**20385**	**4356**	**52900**

THORPE LEA NURSERIES
Table 5.4
BA Sites & Features: count

			CALC					SHELI	GROG			SAND					FINE		
			1	2	4	5	var	2	1	2	3	1	2	4	var	ER3C	2	var	*Totals*
MBA	PH	2374	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	PH	2381	15	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
	DITCH	1218	193	-	2	-	4	1	1	6	1	-	-	-	1	-	-	-	209
	DITCH	2441	25	-	-	-	1	-	-	3	-	-	-	-	-	-	-	-	29
	DITCH	2423	5	2	-	-	-	-	1	-	-	-	-	1	-	-	1	-	10
	DITCH	1990	33	-	1	-	-	-	3	-	-	2	-	-	-	-	-	-	39
	DITCH	1778	5	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	10
	PIT	2432	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	GULLY	2437	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		Total	***282***	***7***	***8***	***-***	***5***	***1***	***5***	***9***	***1***	***2***	***-***	***1***	***1***	***-***	***1***	***-***	***323***
LBA SITE (NORTH)	UNST	2401	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
	PIT	1102	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
	PIT	1103	9	20	-	-	-	-	-	-	-	-	7	-	-	-	-	-	36
	PIT	1136	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PIT	1141	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PH	1153	-	-	1	-	1	-	-	-	-	-	1	-	-	-	-	-	3
	PH	1163	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PIT	2359	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PIT	2362	7	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39
	PH	2364	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
	PH	2369	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	PIT	2370	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	PIT	2372	2	7	-	-	1	-	-	-	-	-	-	-	-	-	-	-	10
	PH	2380	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9
	PH	2385	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PIT	2405	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
		Total	***84***	***73***	***1***	***-***	***2***	***-***	***-***	***-***	***-***	***-***	***8***	***-***	***-***	***-***	***-***	***1***	***169***
LBA SITE (SOUTH)	UNST		10	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
	UNST	1400	1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	7
	UNST	9	11	4	4	4	2	-	-	-	-	-	-	-	-	-	-	-	25
	PH	10	3	1	1	-	-	-	-	2	-	-	-	-	-	-	-	-	7
	PH	11	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	PIT	12	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	PIT	12/17	15	3	-	2	-	-	-	-	-	-	-	-	-	1	-	-	21
	PH	13	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	PIT	14	4	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	7
	PH	15	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	PIT	16	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
	PIT	18	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49
	PIT	1401	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	HOLLOW	1402	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
		Total	***56***	***77***	***8***	***8***	***2***	***-***	***-***	***2***	***-***	***-***	***-***	***-***	***-***	***1***	***-***	***-***	***154***
		TOTALS	***422***	***157***	***17***	***8***	***9***	***1***	***5***	***11***	***1***	***2***	***8***	***1***	***1***	***1***	***1***	***1***	***646***

THORPE LEA NURSERIES

Table 5.5

BA Sites & Features: weight

			CALC					SHELL	GROG			SAND					FINE		
			1	**2**	**4**	**5**	**var**	**2**	**1**	**3**	**2**	**1**	**2**	**4**	**var**	**ER3c**	**2**	**var**	***Totals***
MBA	PH	2374	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***87***
	PH	2381	339	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***343***
	DITCH	1218	8303	-	17	-	11	2	1	4	23	-	-	-	3	-	-	-	***8364***
	DITCH	2441	579	-	-	-	7	-	-	-	18	-	-	-	-	-	-	-	***604***
	DITCH	2423	19	19	-	-	-	-	1	-	-	-	-	5	-	-	1	-	***45***
	DITCH	1990	306	-	18	-	-	-	8	-	-	2	-	-	-	-	-	-	***334***
	DITCH	1778	1948	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-	***2049***
	PIT	2432	60	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***66***
	GULLY	2437	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
		Total	***11555***	***116***	***136***	***-***	***18***	***2***	***10***	***4***	***41***	***2***	***-***	***5***	***3***	***-***	***1***	***-***	***11893***
LBA SITE (NORTH)	UNST	2401	38	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***65***
	PIT	1102	274	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***274***
	PIT	1103	316	320	-	-	-	-	-	-	-	-	127	-	-	-	-	-	***763***
	PIT	1136	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
	PIT	1141	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***14***
	PH	1153	6	-	2	-	2	-	-	-	-	-	6	-	-	-	-	-	***16***
	PH	1163	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
	PIT	2359	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
	PIT	2362	55	536	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***591***
	PH	2364	385	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***397***
	PH	2369	405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***405***
	PIT	2370	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***41***
	PIT	2372	27	91	-	-	8	-	-	-	-	-	-	-	-	-	-	-	***126***
	PH	2380	17	47	-	-	-	-	-	-	-	-	-	-	-	-	-	6	***70***
	PH	2385	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
	PIT	2405	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
		Total	***1613***	***1033***	***2***	***-***	***10***	***-***	***-***	***-***	***-***	***-***	***133***	***-***	***-***	***-***	***-***	***6***	***2797***
LBA SITE (SOUTH)	UNST		16	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***25***
	UNST	1400	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	***16***
	UNST	9	138	12	23	28	7	-	-	-	-	-	-	-	-	-	-	-	***208***
	PH	10	5	18	15	-	-	-	-	-	3	-	-	-	-	-	-	-	***41***
	PH	11	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
	PIT	12	4	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***19***
	PIT	12/17	137	25	-	10	-	-	-	-	-	-	-	-	-	3	-	-	***175***
	PH	13	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***20***
	PIT	14	16	15	-	16	-	-	-	-	-	-	-	-	-	-	-	-	***47***
	PH	15	58	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***76***
	PH	16	70	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***74***
	PIT	18	-	621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***621***
	PIT	1401	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
	HOLLOW	1402	3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
		Total	***476***	***754***	***47***	***54***	***7***	***-***	***-***	***-***	***3***	***-***	***-***	***-***	***-***	***3***	***-***	***-***	***1344***
		TOTALS	***13644***	***1903***	***185***	***54***	***35***	***2***	***10***	***4***	***44***	***2***	***133***	***5***	***3***	***3***	***1***	***6***	***16034***

THORPE LEA NURSERIES
Table 5.6
Eastern IA site: count

		CALC					SHELL	TUFA		ORG			IRON				GLAUC			GROG				SAND						FINE		
		1	2	4	5	var	1	2	4	1	4	var	1	2	3	4	2	3	4	1	2	3	4	1	2	4	8	var	ER3C	2	var	*Totals*
DITCH	1100	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
PIT	1106	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	7	-	-	-	-	-	-	3	-	-	-	-	1	-	***12***
GULLY	1110	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	***2***
PH	1116	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PIT	1118	1	1	1	2	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	***10***
PIT	1120	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	***3***
PH	1140	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	***5***
PH	1143	-	-	-	-	-	-	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	1144	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	***6***
GULLY	1159	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	***3***
PIT	1160	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	***4***
UNST	1179	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
	1212	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	***4***
PH	1214	1	1	-	-	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	1216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***1***
SH	1220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PIT	1225	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***2***
GULLY	1229	2	3	-	-	-	-	18	2	-	-	-	-	-	-	-	3	10	-	1	-	-	7	-	5	1	-	-	1	1	1	***55***
PH	1247	2	6	-	-	-	-	6	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	2	-	-	-	-	1	-	***21***
PIT	2202	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-	***4***
PH	2203	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	***3***
PIT	2204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PH	2205	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	-	-	***5***
PH	2206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	***2***
PH	2208	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***2***
PIT	2209	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	2	***17***
PH	2211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***1***
PH	2212	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2213	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	***4***
PIT	2215	6	10	2	-	-	-	2	-	-	1	-	1	-	-	-	-	-	-	-	2	-	-	-	2	-	1	7	-	1	-	***35***
PIT	2217	-	-	1	1	-	-	2	-	2	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	5	-	2	-	-	-	***17***
PH	2268	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2271	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2286	-	-	-	-	1	-	5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-	1	1	-	-	-	-	***11***
PH	2298	-	1	1	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	***12***
PIT	2300	-	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PIT	2301	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	***10***
PIT	2302	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
PH	2304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	***1***
PH	2307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PH	2313	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***2***
GULLY	2315	5	-	2	-	-	-	1	-	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	***12***
PH	2328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	2335	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***3***
PIT	2336	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	***5***
PH	2339	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***2***
PH	2347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PIT	2349	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***4***
PIT	2350	1	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	1	-	-	-	-	-	***8***
PIT	2351	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3	1	2	-	-	-	***13***
PIT	2353	3	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	4	-	-	-	-	***12***
PH	2391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
GULLY	2483	19	11	1	-	-	-	40	2	1	-	2	1	1	-	-	-	18	-	2	-	-	1	9	12	3	1	-	-	6	-	***130***
TOTALS		***46***	***35***	***12***	***3***	***3***	***4***	***122***	***9***	***8***	***13***	***4***	***3***	***1***	***2***	***1***	***7***	***72***	***1***	***4***	***5***	***1***	***16***	***26***	***28***	***20***	***11***	***15***	***3***	***15***	***4***	***494***

THORPE LEA NURSERIES
Table 5.7
Eastern IA site: weight

		CALC					SHELL	TUFA		ORG			IRON				GLAUC			GROG				SAND						FINE		
		1	2	4	5	var	1	2	4	1	4	var	1	2	3	4	2	3	4	1	2	3	4	1	2	4	8	var	ER3C	2	var	*Totals*
DITCH	1100	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	***8***
PIT	1106	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	62	-	-	-	-	-	-	5	-	-	-	-	17	-	***101***
GULLY	1110	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	1113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	***4***
PH	1116	-	-	-	-	-	-	-	8	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
PIT	1118	29	12	2	26	-	-	-	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	3	5	-	-	-	-	-	-	***128***
PIT	1120	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***17***
PH	1122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	2	-	-	2	-	***7***
PH	1140	-	20	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	20	-	-	***49***
PH	1143	-	-	-	-	-	-	1	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
PIT	1144	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	9	-	-	-	3	-	-	-	-	-	-	-	-	-	-	***21***
GULLY	1159	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	***18***
PIT	1160	-	-	2	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	***9***
UNST	1179	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	***45***
	1212	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6	-	-	-	-	-	-	-	***13***
PH	1214	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PH	1216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***1***
SH	1220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PIT	1225	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	***9***
GULLY	1229	2	2	-	-	-	-	55	12	-	-	-	1	-	-	-	11	91	-	3	-	-	30	3	46	3	-	-	4	-	5	***268***
PH	1247	3	20	-	-	-	-	40	-	-	-	-	-	-	6	-	-	2	-	-	-	-	-	-	7	-	-	-	-	1	-	***79***
PIT	2202	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	30	-	***58***
PH	2203	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	***10***
PIT	2204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	***26***
PH	2205	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	19	-	-	-	-	-	-	-	***46***
PH	2206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	7	-	-	-	-	-	-	-	***15***
PH	2208	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	***11***
PIT	2209	-	-	-	-	-	-	227	-	-	-	-	-	-	-	-	-	23	-	-	-	-	7	-	-	-	-	-	-	-	13	***270***
PH	2211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	***5***
PH	2212	-	-	-	-	-	-	1	-	7	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
PH	2213	-	-	-	-	-	-	3	-	8	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	5	-	-	-	-	***19***
PIT	2215	183	448	47	-	-	-	13	-	-	10	-	25	-	-	-	-	-	-	-	13	-	-	-	60	-	8	151	-	18	-	***976***
PIT	2217	-	-	4	4	-	-	18	-	30	-	-	-	-	-	-	-	13	3	-	-	-	-	-	-	37	-	19	-	-	-	***128***
PH	2268	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	2271	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	2286	-	-	-	-	4	-	47	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	13	-	5	148	-	-	-	-	***233***
PH	2298	-	4	7	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	***46***
PIT	2300	-	-	1	-	-	-	7	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***10***
PIT	2301	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	10	-	***34***
PIT	2302	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	39	24	-	-	-	-	-	-	-	-	-	-	-	-	-	***65***
PH	2304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	***9***
PH	2307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PH	2308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	***42***
PH	2310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PH	2313	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
GULLY	2315	51	-	7	-	-	-	1	-	-	2	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	7	-	-	***71***
PH	2328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	***10***
PH	2335	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	***8***
PIT	2336	-	-	-	-	-	-	-	-	2	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	69	-	-	-	***102***
PH	2339	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	***4***
PH	2347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	***14***
PIT	2349	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***7***
PIT	2350	9	-	-	-	-	2	16	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	8	-	70	-	-	-	-	-	***114***
PIT	2351	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	4	-	11	3	-	-	-	-	***29***
PIT	2353	-	-	-	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	341	-	-	-	-	***386***
PH	2391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
GULLY	2483	76	118	2	-	-	-	442	7	2	-	2	6	3	-	-	-	81	-	20	-	-	4	29	147	3	7	-	-	41	-	***990***
TOTALS		***375***	***627***	***80***	***30***	***13***	***14***	***951***	***71***	***68***	***97***	***6***	***39***	***3***	***6***	***31***	***61***	***466***	***3***	***30***	***32***	***2***	***53***	***142***	***301***	***153***	***515***	***239***	***31***	***124***	***20***	***4583***

THORPE LEA NURSERIES

Table 5.8

Western IA site: count

		CALC					SHEL	TUFA				ORG				IRON				GLAUC				GROG					SAND						FINE		Totals
		1	2	4	5	var	1	1	2	4	var	1	2	4	var	1	2	3	4	2	3	4	var	1	2	3	4	var	1	2	4	8	var	ER3C	2	var	
PH	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	***17***
DITCH	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	***14***
DITCH	114	3	-	2	4	-	3	-	-	-	-	-	-	-	-	1	-	-	-	2	37	-	-	15	4	1	-	-	5	1	1	6	4	1	1	-	***91***
PIT	119	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	124	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	6	-	-	-	-	8	-	-	-	-	-	-	-	***25***
PIT	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	***4***
PIT	144	1	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1	-	-	16	-	-	5	1	-	-	-	5	4	1	-	-	4	2	-	***42***
PIT	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-	***6***
PIT	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***1***
PIT	153	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	***6***
PH	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
LIN F	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	342	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PH	397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	407	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	427	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	450	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PIT/PH	473	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***5***
PIT	481	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	***3***
PIT	485	-	-	-	-	-	1	-	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	2	-	1	-	-	-	-	-	***10***
PH	488	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	***4***
PIT	503	-	-	-	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1	-	1	-	-	-	***8***
PH	504	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	507	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	***6***
PH	508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	***1***
PH	509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	***1***
PH	514	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	519	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
LAYER	A (721)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	***6***
PIT	523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	***4***
PIT	529	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***2***
LAYER	31 (713)	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	537	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	***4***
PIT	544	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	546	-	-	-	-	-	1	-	-	-	-	-	-	2	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	552	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PIT/GULLY	557	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1	2	-	-	-	-	1	-	-	-	3	-	-	-	-	-	1	***11***
PH	568	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	580	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
PIT	585	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	***1***
PH	587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PH	590	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	604	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-	2	-	-	***5***
GULLY	612	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	13	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***27***
PH	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	***2***
PIT	625	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	631	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	***8***
PIT	633	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	634	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	***4***
HOLLOW	635	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	643	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	644	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	***2***
PIT	645	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	***8***
PH	647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
PH	650	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	651	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	652	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	659	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	668	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3	5	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	***14***
LAYER	687	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	***11***
PIT	697	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2	7	4	-	2	-	-	-	-	-	-	-	2	1	-	1	-	***22***
LAYER	698	1	3	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	11	4	-	-	3	-	-	-	-	1	2	-	-	-	-	-	-	***29***
PIT	701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***1***
PIT	1006	-	-	-	-	-	-	-	12	-	-	-	-	-	-	4	-	-	-	-	2	-	-	-	-	-	-	-	-	7	-	-	-	-	3	-	***28***
PH	1033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***1***
PH	1035	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PIT	1041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	42/1517	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	1063	-	-	1	-	-	-	-	7	-	-	-	-	3	-	3	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***27***
PIT	1090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1223	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	***3***
DITCH	1231/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***2***
DITCH	1232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***4***
?	1236	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
DITCH	1245	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
PIT	1507	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	***3***
PIT	1508	1	-	-	1	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	-	-	-	***10***
PIT	1509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1520	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1521	1	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***7***
PIT	1528	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	***4***
PH	1531	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1537	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1538	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1541	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	***1***
PIT	1586	1	1	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	3	4	-	-	2	-	-	-	-	7	-	-	-	1	1	1	-	***23***
PIT	1587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***

THORPE LEA NURSERIES

Table 5.8

Western IA site: count

		CALC					SHEL	TUFA				ORG				IRON				GLAUC				GROG					SAND						FINE		
		1	2	4	5	var	1	1	2	4	var	1	2	4	var	1	2	3	4	2	3	4	var	1	2	3	4	var	1	2	4	8	var	ER3C	2	var	*Totals*
PH	1589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	***3***
PIT	1602	4	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	***8***
PIT	1603	1	-	-	-	-	-	-	8	2	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***14***
PH	1604	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1608	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	***2***
PH	1610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***1***
PH	1612	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PH	1613	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1617	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PH	1618	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***6***
PH	1624	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
PIT	1625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1628	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	***2***
PH	1639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1650	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	1651	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	4	8	1	-	-	-	-	-	-	-	1	1	-	-	-	2	-	***23***
PIT	1653	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	1	-	-	-	-	-	-	-	1	-	-	2	-	***16***
GULLY	1659	-	-	1	-	-	-	-	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	***6***
GULLY	1664	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1667	-	1	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	3	-	-	2	1	***17***
PIT	1673	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	1682	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1689	-	-	-	-	-	-	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	1709	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	1719	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***3***
4 POSTER	1723	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
4 POSTER	1732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
4 POSTER	1734	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***3***
4 POSTER	1735	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1730	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***3***
PH	1741	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	***2***
PIT	1745	-	-	-	-	-	-	-	-	2	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	1747	-	1	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1	7	-	-	2	1	-	1	-	12	-	-	-	4	3	2	-	***38***
PIT	1750	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	1768	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1769	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	***1***
DITCH	1779	3	-	1	-	2	-	-	3	7	-	-	-	-	-	-	-	-	-	-	4	-	-	-	3	-	-	-	-	-	2	-	2	-	-	-	***27***
PH	1799	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
HOLLOW	1804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1806	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1811	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	***1***
PIT	1813	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	3	-	-	-	-	-	1	***7***
PIT	1816	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***3***
PH	1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
PIT	1823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1836	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
RING GULL'	1845	-	-	1	-	-	-	-	-	3	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	***8***
PIT	1852	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1868	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	***2***
MIX	1867/68	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
4 POSTER	1877	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	***29***
4 POSTER	1894	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***1***
4 POSTER	1897	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1892	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
WELL sp4&5	1916	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PIT	1926	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	***3***
PH	1954	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1968	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	***5***
PIT	1969	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	3	-	-	-	-	-	***7***
PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
GULLY	1988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
DITCH	1996	1	-	1	-	-	-	-	5	-	-	1	-	1	-	-	-	-	-	2	8	-	-	2	-	1	-	-	4	2	-	-	-	-	2	1	***31***
PIT	2050	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***3***
GULLY	2098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	***1***
PIT	2099	-	1	-	-	-	-	-	4	1	-	-	-	-	-	1	-	-	-	-	4	-	-	-	-	-	1	-	2	3	-	-	-	-	-	-	***17***
GULLY	2107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-	2	1	-	-	-	***7***
RING GULL'	2110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
DITCH	2116	3	-	-	-	-	-	-	8	1	-	-	2	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	3	2	-	-	2	-	-	-	***25***
PIT	2118	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	3	3	2	-	-	-	-	-	***17***
PITS	2143	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-	***6***
WELL	2295	1	-	3	-	-	-	-	11	3	-	-	-	-	2	-	-	2	-	31	59	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	***115***
GULLY	2423	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	1	-	***10***
TOTALS		***40***	***10***	***24***	***7***	***4***	***28***	***2***	***156***	***44***	***4***	***7***	***4***	***9***	***6***	***15***	***4***	***4***	***1***	***120***	***310***	***7***	***1***	***70***	***23***	***9***	***6***	***1***	***70***	***51***	***23***	***39***	***20***	***17***	***30***	***6***	***1172***

THORPE LEA NURSERIES

Table 5.9

Western IA site: weight

		CALC					SHELL	TUFA				ORG				IRON				GLAUC				GROG					SAND						FINE		
		1	2	4	5	var	1	1	2	4	var	1	2	4	var	1	2	3	4	2	3	4	var	1	2	3	4	var	1	2	4	8	var	ER3C	2	var	*Totals*
PH	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	590	-	-	-	***590***
DITCH	113	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	140	-	-	-	48	54	-	-	-	-	-	-	-	-	-	-	***289***
DITCH	114	10	-	7	35	-	16	-	-	-	-	-	-	-	-	2	-	-	-	4	630	-	-	248	22	9	-	-	146	8	3	81	30	8	2	-	***1261***
PIT	119	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	25	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	***50***
PIT	124	-	-	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-	4	19	-	-	30	-	-	-	-	118	-	-	-	-	-	-	-	***233***
PIT	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***24***
PIT	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***16***
PIT	ix	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	8	-	-	1	-	-	-	-	-	-	4	-	-	-	-	-	***15***
PIT	144	5	-	-	-	-	49	-	2	-	-	-	-	-	-	-	-	2	-	-	46	-	-	62	4	-	-	-	56	9	2	-	-	23	20	-	***280***
PIT	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	7	-	-	-	-	-	-	-	-	-	-	83	-	***108***
PIT	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	***5***
PIT	153	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	42	-	1	-	***76***
PH	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***17***
LIN F	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
PH	342	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	***6***
PH	347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
PH	356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	***12***
PH	393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	***6***
PH	397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	***10***
PIT	407	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***38***
PH	427	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
PIT	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	***19***
PIT	444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	***12***
PH	450	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
PH	469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	***3***
PIT/PH	473	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	***18***
PIT	481	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	5	-	-	***16***
PIT	485	-	-	-	-	-	3	-	96	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	9	-	-	-	21	-	2	-	-	-	-	-	***139***
PH	488	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PH	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	***20***
PIT	503	-	-	-	-	13	2	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	11	-	2	-	5	-	-	-	***37***
PH	504	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PIT	507	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	-	***8***
PH	508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	***3***
PH	509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	***1***
PH	514	-	-	6	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***15***
PH	517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***10***
PH	519	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
LAYER	21A (721)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	2	-	-	51	-	18	-	-	-	-	-	-	-	-	-	-	***108***
PIT	523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	4	-	-	-	-	-	-	-	-	-	103	-	-	***109***
PIT	529	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	***12***
LAYER	531 (713)	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***24***
PH	537	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	***21***
PIT	544	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***95***
PH	546	-	-	-	-	-	1	-	-	-	-	-	-	2	4	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	552	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
PIT/GULLY	557	-	-	-	12	-	-	-	-	-	5	-	-	-	-	5	-	-	-	5	12	-	-	-	-	2	-	-	9	11	-	-	-	-	-	-	***61***
PH	568	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PH	579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	580	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	***23***
PIT	585	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	***4***
PH	587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	***9***
PH	590	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PH	604	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	6	-	-	-	-	5	-	-	***24***
GULLY	612	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	73	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***162***
PH	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	***5***
PIT	625	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***31***
PIT	631	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	19	-	-	-	-	3	-	-	-	-	36	-	-	***91***
PIT	633	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
PIT	634	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	11	-	-	-	-	5	-	-	-	-	-	-	-	***24***
PIT	635	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	***13***
PH	643	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PIT	644	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	51	-	-	-	-	-	***55***
PIT	645	-	-	-	-	-	63	-	10	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	***98***
PH	647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	***7***
PH	650	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PH	651	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
PH	652	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	659	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	668	-	-	?	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	?	10	-	-	-	?	-	-	-	?	-	-	-	-	6	-	-	***40***
LAYER	687	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	7	-	-	-	12	-	-	-	6	-	-	-	-	-	-	-	***53***
PIT	697	11	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	12	42	29	-	6	-	-	-	-	-	-	-	41	2	-	6	-	***151***
LAYER	698	1	116	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	64	21	-	-	32	-	-	-	-	33	10	-	-	-	-	-	-	***286***
PIT	701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	***6***
PIT	1006	-	-	-	-	-	-	-	142	-	-	-	-	-	-	23	-	-	-	-	12	-	-	-	-	-	-	-	-	55	-	-	-	-	3	-	***235***
PH	1033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	***1***
PH	1035	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***101***
PIT	1041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***92***
PIT	042/1517	-	-	-	-	-	-	14	-	7	-	-	-	-	-	-	-	-	-	-	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***62***
PIT	1063	-	-	2	-	-	-	-	33	-	-	-	-	31	-	6	-	-	-	-	109	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	***183***
PIT	1090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1223	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	***6***
DITCH	1231/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	***14***
DITCH	1232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	***13***
?	1236	6	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
DITCH	1245	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	***8***
PIT	1507	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	***16***
PIT	1508	28	-	-	5	-	-	-	8	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	5	-	-	-	-	***225***
PIT	1509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	***6***
PIT	1520	-	-	-	-	-	-	-	15	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***35***
PIT	1521	1	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	***15***
PIT	1528	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	***5***
PH	1531	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1537	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
PH	1538	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1541	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	***14***
PIT	1586	6	6	-	-	-	-	-	-	-	-	-	12	-	-	-	9	-	-	28	25	-	-	14	-	-	-	-	28	-	-	-	16	3	28	-	***175***
PIT	1587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***11***

THORPE LEA NURSERIES

Table 5.9

Western IA site: weight		CALC					SHELL	TUFA				ORG				IRON				GLAUC				GROG					SAND						FINE		
		1	2	4	5	var	1	1	2	4	var	1	2	4	var	1	2	3	4	2	3	4	var	1	2	3	4	var	1	2	4	8	var	ER3C	2	var	*Totals*
PH	1589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	***30***
PIT	1602	30	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	***84***
PIT	1603	9	-	-	-	-	-	-	60	24	-	-	-	-	-	-	-	3	-	12	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	***118***
PH	1604	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1608	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	1609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	***12***
PH	1610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	***5***
PH	1612	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	***6***
PH	1613	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1617	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***25***
PH	1618	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	***23***
PH	1624	-	-	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	1	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***117***
PIT	1625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1628	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	***8***
PH	1639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
PIT	1650	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	10	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***29***
PIT	1651	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-	-	-	57	84	3	-	-	-	-	-	-	-	3	4	-	-	-	3	-	***190***
PIT	1653	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	81	-	-	-	20	-	-	-	-	-	-	-	4	-	-	12	-	***138***
GULLY	1659	-	-	7	-	-	-	-	1	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	***24***
GULLY	1664	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PIT	1667	-	6	-	-	-	-	-	-	28	-	-	-	-	-	-	-	5	-	-	93	2	-	-	-	-	-	-	-	-	-	46	-	-	40	-	***220***
PIT	1673	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	20	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***71***
PH	1682	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1689	-	-	-	-	-	-	-	12	311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***323***
PIT	1709	-	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***57***
PH	1719	-	-	5	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	***16***
4 POSTER	1723	-	-	-	-	-	-	-	-	-	5	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
4 POSTER	1732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
4 POSTER	1734	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	55	-	-	-	-	-	-	-	***91***
4 POSTER	1735	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
PH	1730	-	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-	***29***
PH	1741	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	4	***5***
PIT	1745	-	-	-	-	-	-	-	-	17	-	-	-	-	9	7	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***54***
PIT	1747	-	30	17	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	4	77	-	-	9	4	-	3	-	94	-	-	-	41	148	17	-	***448***
PIT	1750	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***23***
PH	1768	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PH	1769	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	***2***
DITCH	1779	11	-	17	-	9	-	-	17	37	-	-	-	-	-	-	-	-	-	-	56	-	-	-	23	-	-	-	-	-	19	-	16	-	-	-	***205***
PH	1799	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
HOLLOW	1804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
PIT	1806	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***19***
PH	1811	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
PH	1812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	***17***
PIT	1813	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	10	-	37	-	-	-	-	-	4	***60***
PIT	1816	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	***30***
PH	1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	***5***
PIT	1823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***37***
PH	1836	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	***5***
RING GULI	1845	-	-	3	-	-	-	-	-	62	-	-	-	8	-	-	-	-	-	-	7	-	-	-	-	4	-	-	-	56	-	-	-	-	-	-	***140***
PIT	1852	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
PIT	1868	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-	-	-	-	-	***54***
MIX	1867/68	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
4 POSTER	1877	-	-	-	-	-	-	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	6	-	-	***110***
4 POSTER	1894	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	***2***
4 POSTER	1897	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
PH	1886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
PIT	1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
PH	1892	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
WELL sp4&	1916	3	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
PIT	1926	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	5	-	***15***
PH	1954	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	***33***
PIT	1968	-	-	7	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	11	-	-	***22***
PIT	1969	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	14	-	-	-	-	6	21	-	-	-	-	-	***55***
PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
GULLY	1988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
DITCH	1996	6	-	67	-	-	-	-	31	-	-	1	-	9	-	-	-	-	-	18	71	-	-	147	-	9	-	-	21	15	-	-	-	-	16	3	***414***
PIT	2050	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	103	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	***137***
GULLY	2098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	***6***
PIT	2099	-	5	-	-	-	-	-	10	11	-	-	-	-	-	5	-	-	-	-	94	-	-	-	-	-	7	-	18	6	-	-	-	-	-	-	***156***
GULLY	2107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	3	-	-	-	-	-	-	-	30	2	-	-	-	***41***
RING GULI	2110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
DITCH	2116	33	-	-	-	-	-	-	45	22	-	-	10	-	-	-	-	-	-	-	61	-	-	-	-	-	-	-	18	10	-	-	3	-	-	-	***202***
PIT	2118	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	17	19	26	-	-	-	-	-	***124***
PITS	2143	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	5	3	-	9	-	-	-	-	-	-	-	3	-	8	-	-	-	***33***
WELL	2295	10	-	8	-	-	-	-	34	11	-	-	-	-	6	-	-	13	-	111	274	-	-	44	-	-	-	-	-	-	-	-	8	-	-	-	***519***
GULLY	2423	13	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***32***
TOTALS		***321***	***223***	***233***	***53***	***22***	***349***	***45***	***999***	***698***	***20***	***32***	***23***	***57***	***22***	***75***	***39***	***23***	***2***	***705***	***2838***	***37***	***9***	***840***	***157***	***114***	***23***	***10***	***728***	***375***	***219***	***253***	***764***	***349***	***269***	***17***	***10943***

THORPE LEA NURSERIES

Table 5.10

Disparate Prehistoric features count

			CALC			SHELL	TUFA		ORG	IRON		GLAUC		GROG		SAND					FINE		AMPH	
			1	2	5	1	2	4	1	1	2	2	3	1	4	1	2	4	8	var	2	var		*Totals*
North-West	PIT	1133	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	***2***
	PIT	1146	-	-	-	1	-	-	-	-	-	-	3	1	-	-	2	6	-	-	-	-	-	***13***
	DITCH/PIT	1180	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	***3***
	DITCH	1185	3	-	-	-	2	-	1	1	1	1	1	-	-	2	1	1	1	1	1	-	-	***17***
	PIT	1999	-	-	-	1	2	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	***7***
	GULLY	2454	6	3	-	-	-	-	-	-	1	-	1	1	1	-	-	-	-	-	-	1	-	***14***
		Totals	***10***	***3***	***-***	***2***	***4***	***1***	***1***	***1***	***3***	***1***	***5***	***2***	***1***	***4***	***3***	***8***	***3***	***1***	***1***	***1***	***1***	***56***
East	GULLY	1782	-	-	6	-	1	4	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	***13***
	GULLY	1787	-	-	1	-	1	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	***10***
		Totals	***-***	***-***	***7***	***-***	***2***	***4***	***-***	***-***	***-***	***-***	***9***	***-***	***-***	***-***	***-***	***-***	***-***	***1***	***-***	***-***	***-***	***23***
		TOTALS	**10**	**3**	**7**	**2**	**6**	**5**	**1**	**1**	**3**	**1**	**14**	**2**	**1**	**4**	**3**	**8**	**3**	**2**	**1**	**1**	**1**	**79**

THORPE LEA NURSERIES

Table 5.11

Disparate prehistoric features weight

			CALC			SHELL	TUFA		ORG	IRON		GLAUC		GROG		SAND					FINE		AMPH	
			1	2	5	1	2	4	1	1	2	2	3	1	4	1	2	4	8	var	2	var		*Totals*
North-West	PIT	1133	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	***2***
	PIT	1146	-	-	-	14	-	-	-	-	-	-	608	8	-	-	3	22	-	-	-	-	-	***655***
	DITCH/PIT	1180	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	-	***13***
	DITCH	1185	9	-	-	-	2	-	5	5	5	1	1	-	-	6	7	2	13	5	5	-	-	***66***
	PIT	1999	-	-	-	2	8	1	-	-	12	-	-	-	-	5	-	-	-	-	-	-	6	***34***
	GULLY	2454	9	8	-	-	-	-	-	-	2	-	1	3	1	-	-	-	-	-	-	1	-	***25***
		Totals	***25***	***8***	***-***	***16***	***10***	***1***	***5***	***5***	***19***	***1***	***610***	***11***	***1***	***12***	***10***	***26***	***18***	***5***	***5***	***1***	***6***	***795***
East	GULLY	1782	-	-	18	-	1	20	-	-	-	-	1	-	-	-	-	-	-	6	-	-	-	***46***
	GULLY	1787	-	-	4	-	1	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	***65***
		Totals	***-***	***-***	***22***	***-***	***2***	***20***	***-***	***-***	***-***	***-***	***61***	***-***	***-***	***-***	***-***	***-***	***-***	***6***	***-***	***-***	***-***	***111***
		TOTALS	**25**	**8**	**22**	**16**	**12**	**21**	**5**	**5**	**19**	**1**	**671**	**11**	**1**	**12**	**10**	**26**	**18**	**11**	**5**	**1**	**6**	***906***

Residual Prehistoric: ***Table 5.12*** **THORPE LEA NURSERIES**

count

	CALC				SHELL	TUFA				ORG				IRON			GLAUC			SAND						FINE			
	1	2	4	5	1	1	2	4	var	1	2	4	var	1	2	3	2	3	4	1	2	4	8	var	ER3C	1	2	var	Totals
104	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	**4**
109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	**2**
117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	-	-	**3**
130	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**2**
134	-	4	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	10	-	-	2	-	-	-	2	-	1	-	**21**
137	1	3	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3	18	-	7	5	-	-	-	-	-	2	-	**40**
138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	**3**
140	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	**4**
142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	**2**
152	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	**3**
156	-	1	-	-	-	-	1	-	-	2	-	-	-	1	-	-	2	5	-	-	-	-	-	-	-	-	1	-	**13**
160	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	**4**
307	1	1	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	9	-	-	5	-	-	2	3	-	1	-	**27**
310	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4	8	-	1	1	-	1	-	-	-	1	-	**17**
311/350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	**2**
319	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
321	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	5	-	-	-	-	-	1	1	-	-	-	**9**
322	2	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	6	2	-	-	-	-	1	-	-	-	-	**14**
321/322	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
321/330	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
322/330	1	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	**5**
330//527	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-	-	**4**
330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	-	1	-	-	-	**4**
337	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	**4**
350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**1**
354	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	2	1	1	2	-	-	-	-	-	-	-	**10**
355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	**1**
367	-	-	1	-	-	-	2	-	-	-	2	-	-	-	-	-	1	13	1	5	3	-	1	-	2	-	1	-	**32**
368	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**
369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-	1	-	**4**
381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
391	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	1	-	-	-	-	-	**6**
398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**
401	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
406	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	**6**
411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
413	1	2	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	1	**10**
428	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	1	-	-	-	**8**
431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	**1**
433	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	**7**
434	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	3	8	-	3	1	2	-	-	-	2	1	1	**31**
464	-	1	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	1	-	-	-	-	**8**
472	1	2	-	-	1	-	-	-	-	-	1	-	-	1	-	-	1	7	-	1	1	-	-	-	-	-	2	-	**18**
472/1025	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	1	**6**
480	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
484	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	**3**
490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	**1**
495	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
496	-	1	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	1	-	1	3	-	-	-	-	-	-	-	**10**
506	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
521	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	3	18	1	2	1	-	-	-	1	-	5	1	**34**
527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	-	-	-	-	-	-	**4**
534	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	3	3	-	-	1	-	-	-	1	**11**
539	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
553	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	2	-	-	-	-	-	-	-	**6**
558	-	1	-	-	-	-	1	-	1	-	2	-	-	-	-	-	2	1	-	-	-	2	-	1	-	-	1	-	**12**
563	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	**3**
564	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	**8**
565	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1	-	-	-	**3**
566	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	1	1	-	-	-	-	-	-	1	**6**
572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	**1**
586	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	**4**
600	1	-	1	-	-	-	1	-	-	-	-	-	6	-	-	-	2	6	-	1	-	1	-	-	1	-	-	-	**20**
605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	**1**
615	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
625	2	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	6	-	1	1	-	-	-	-	-	2	-	**15**
628	-	-	-	-	2	-	1	-	1	-	-	-	1	-	-	-	1	3	-	2	-	-	-	-	-	-	-	-	**11**
638	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	**5**
653	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	2	-	1	-	1	1	-	-	-	-	-	**7**
658	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	**3**
664	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	**5**
674	-	-	1	-	-	-	2	-	-	-	-	-	1	-	-	-	1	8	-	2	2	1	1	-	-	-	2	-	**21**
674	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
682	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	**3**
685	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
692	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	**4**
697	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2	7	4	-	-	-	2	1	-	-	1	-	**20**
699	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	**1**
709	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	2	-	**7**
711	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	1	-	-	-	**5**
734	-	-	-	1	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**5**
1008	7	6	7	-	-	-	14	2	-	-	-	4	-	-	-	-	4	32	-	17	20	2	3	1	9	-	5	1	**134**
1072	-	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	**5**
1093	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	**2**
1128/1191	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1154	3	3	1	-	1	-	4	-	-	1	4	-	-	-	-	-	-	19	-	2	2	-	-	-	-	-	-	-	**40**
1164	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
1191	7	6	-	-	-	-	3	6	-	-	-	-	-	1	-	-	1	5	-	6	2	5	-	-	-	-	2	-	**44**

Residual Prehistoric: ***Table 5.12*** **THORPE LEA NURSERIES**

count

	CALC				SHELL	TUFA				ORG				IRON			GLAUC			SAND						FINE			
	1	2	4	5	1	1	2	4	var	1	2	4	var	1	2	3	2	3	4	1	2	4	8	var	ER3C	1	2	var	Totals
1251	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	**7**
1577	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	**4**
1588	1	14	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	7	-	1	2	-	-	-	**29**
1596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	**2**
1597	-	2	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	**7**
1599	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1640	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-	-	-	-	1	-	-	-	**5**
1643	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	**3**
1644	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**
1645	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	**3**
1646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	**3**
1648	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	**4**
1659	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3	-	1	1	-	-	-	-	-	-	-	**7**
1668	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-	**4**
1678	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	**1**
1697	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1710	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	2	-	**8**
1726	-	1	1	-	-	-	5	1	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	**11**
1751	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1752	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1796	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**1**
1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	**3**
1831	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
1832	1	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4**
1833	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	-	-	-	-	-	-	**6**
1857	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
1862	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1878	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**2**
1885	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	**4**
1900	-	1	1	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	**7**
1916	3	-	2	-	1	-	4	7	-	2	-	1	-	-	-	-	8	10	-	-	-	-	-	-	-	-	3	-	**41**
1922	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1925	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1935	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	**2**
1951	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	**1**
1955	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**2**
1971	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**4**
1975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	**1**
1979	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	2	4	-	-	-	-	-	-	-	-	1	-	**9**
1981	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
1989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	**2**
2039	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
2045	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	5	-	-	-	-	-	1	1	-	-	-	**13**
2065	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	-	1	1	-	-	-	-	-	-	-	**7**
2065	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	**3**
2075	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
2090	4	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	**9**
2094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	**3**
2096	3	2	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	2	-	1	1	2	-	-	-	-	-	-	**14**
2105	6	-	-	1	1	-	1	-	-	3	-	-	-	-	-	-	-	10	-	2	2	1	1	1	-	-	-	-	**29**
2108	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
2117	1	-	-	-	1	-	2	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	-	-	2	-	-	-	**10**
2127	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	**4**
2137	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
2232	3	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	4	-	-	-	1	-	-	1	-	-	-	**12**
2265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**1**
2282	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
unst	14	16	10	1	4	-	39	5	-	2	5	13	-	1	-	-	12	105	-	48	23	8	6	20	8	-	21	2	**363**
TOTALS	**86**	**83**	**42**	**5**	**25**	**1**	**147**	**32**	**5**	**24**	**18**	**19**	**13**	**13**	**1**	**1**	**81**	**429**	**9**	**135**	**106**	**41**	**22**	**38**	**47**	**4**	**63**	**11**	**1501**

Residual Prehistoric: ***Table 5.13***

THORPE LEA NURSERIES

weight

	CALC				SHELL	TUFA				ORG				IRON			GLAUC			SAND						FINE			
	1	2	4	5	1	1	2	4	var	1	2	4	var	1	2	3	2	3	4	1	2	4	8	var	ER3C	1	2	var	Totals
104	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	**6**
109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	40	-	-	-	-	-	-	-	-	**43**
117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	2	-	-	-	-	-	-	-	-	**5**
130	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**6**
134	-	12	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	26	-	-	17	-	-	-	2	-	1	-	**62**
137	5	28	-	-	-	-	-	-	-	2	-	-	-	-	-	-	37	117	-	52	6	-	-	-	-	-	28	-	**275**
138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	8	-	-	-	-	-	-	-	-	-	-	**29**
140	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	**15**
142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	**2**
152	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	**9**
156	-	1	-	-	-	-	2	-	-	7	-	-	-	5	-	-	12	88	-	-	-	-	-	-	-	-	8	-	**123**
160	6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	**8**
307	30	43	4	-	-	-	10	7	-	9	-	-	-	16	-	-	-	66	-	-	91	-	-	422	16	-	21	-	**735**
310	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	41	72	-	-	7	-	3	-	-	-	11	-	**143**
311/350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	8	-	-	-	-	-	-	-	-	**18**
319	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**
321	-	-	-	-	-	-	-	-	9	-	-	-	-	3	-	-	-	58	-	-	-	-	-	9	6	-	-	-	**85**
322	45	4	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	96	5	-	-	-	-	8	-	-	-	-	**161**
321/322	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
321/330	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**
322/330	2	7	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	**15**
330//527	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	10	-	-	8	-	-	-	**38**
330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	11	-	-	-	-	6	-	-	-	**29**
337	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	22	-	-	**30**
350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	**19**
354	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	21	27	11	-	29	-	-	-	-	-	-	-	**103**
355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	**16**
367	-	-	4	-	-	-	5	-	-	-	8	-	-	-	-	-	7	48	2	24	29	-	3	-	10	-	15	-	**155**
368	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	**16**
369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	15	-	-	-	-	-	8	-	**30**
381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	**4**
391	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	8	-	-	-	-	-	**23**
398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	**2**
401	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5**
406	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	29	27	-	-	-	-	-	-	-	-	-	-	**69**
411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	**6**
413	20	11	-	-	-	-	23	-	-	7	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	7	**79**
428	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	4	-	-	-	17	-	-	-	**30**
431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	**27**
433	-	-	7	-	14	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	7	-	-	-	-	**63**
434	-	-	-	-	-	-	123	-	-	-	-	-	-	-	-	-	26	79	-	29	11	38	-	-	-	2	6	5	**319**
464	-	17	-	-	14	-	17	-	-	-	-	-	-	-	-	-	-	5	-	-	15	-	-	27	-	-	-	-	**95**
472	6	5	-	-	37	-	-	-	-	-	3	-	-	9	-	-	4	36	-	-	2	-	-	-	-	-	19	-	**121**
472/1025	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	4	-	-	-	-	19	-	-	7	**36**
480	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**6**
484	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	**22**
490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	**2**
495	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**
496	-	10	10	-	-	-	16	-	-	-	-	-	-	-	-	-	-	2	-	-	29	-	-	-	-	-	-	-	**67**
506	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	**3**
521	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	9	73	4	6	1	-	-	-	16	-	20	7	**140**
527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	11	-	-	-	-	-	-	-	-	**22**
534	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	-	-	21	-	-	12	-	-	-	2	**122**
539	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	**5**
553	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	5	-	-	-	-	-	-	-	**13**
558	-	4	-	-	-	-	79	-	10	-	11	-	-	-	-	-	24	5	-	-	-	6	-	5	-	-	5	-	**149**
563	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	**15**
564	-	-	-	-	-	-	3	-	6	-	-	-	-	-	-	-	4	13	-	-	-	-	-	-	-	-	-	-	**26**
565	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	23	-	-	-	-	-	-	196	-	-	-	**233**
566	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	-	-	43	-	-	-	-	-	-	5	**59**
572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	**2**
586	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	16	-	-	-	-	-	-	-	-	-	-	**21**
600	2	-	4	-	-	-	3	-	-	-	-	-	38	-	-	-	20	28	-	2	-	4	-	-	4	-	-	-	**105**
605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	**1**
615	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	-	-	**38**
625	8	58	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	38	-	-	10	-	-	-	-	-	20	-	**153**
628	-	-	-	-	12	-	8	-	16	-	-	-	54	-	-	-	29	24	-	23	-	-	-	-	-	-	-	-	**166**
638	-	-	-	-	9	-	8	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	11	-	-	-	**40**
653	-	-	-	-	-	-	12	-	-	-	-	-	15	-	-	-	-	14	-	8	-	13	17	-	-	-	-	-	**79**
658	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	6	-	-	-	-	-	-	-	-	-	-	**9**
664	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	**30**
674	-	-	15	-	-	-	12	-	-	-	-	-	1	-	-	-	9	118	-	-	41	5	3	-	-	-	4	-	**208**
682	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	**29**
685	-	-	-	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**38**
692	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	9	-	-	-	**19**
697	11	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	12	42	29	-	-	-	41	2	-	-	6	-	**145**
699	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	**7**
705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	**21**
709	-	5	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	5	-	-	-	-	-	26	-	**56**
711	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9**
712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	38	-	-	-	**54**
734	-	-	-	20	-	-	9	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**40**
1008	40	54	48	-	-	-	93	9	-	-	-	21	-	-	-	-	14	221	-	-	101	10	21	5	61	-	38	10	**746**
1072	-	-	3	-	-	-	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	**15**
1093	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	**13**
1128/1191	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4**
1154	2	7	2	-	9	-	24	-	-	84	7	-	-	-	-	-	-	85	-	-	22	-	-	-	-	-	-	-	**242**
1164	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**
1191	39	43	-	-	-	-	28	27	-	-	-	-	-	2	-	-	2	38	-	37	9	38	-	-	-	-	2	-	**265**
1251	4	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	2	-	1	-	-	-	**14**
1577	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	3	-	-	4	-	-	-	-	-	-	-	**46**
1588	11	225	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	13	-	-	-	63	-	16	9	-	-	-	**367**
1596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	6	-	-	-	-	-	-	-	-	**11**
1597	-	41	78	-	21	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	5	-	-	-	-	-	-	**181**

Residual Prehistoric:	CALC				SHELL	TUFA				ORG				IRON			GLAUC			SAND						FINE			
Table 5.13	1	2	4	5	1	1	2	4	var	1	2	4	var	1	2	3	2	3	4	1	2	4	8	var	ER3C	1	2	var	Totals
THORPE LEA NURSERIES																													
weight																													
1599	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**16**
1627	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
1640	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	4	-	-	-	-	-	-	10	-	-	-	**16**
1643	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	5	-	-	-	6	-	-	-	-	-	-	-	**18**
1644	-	-	-	-	-	-	4	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**22**
1645	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	39	-	-	111	-	-	-	-	-	-	-	**152**
1646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	48	**50**
1648	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	18	-	**44**
1659	-	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	10	-	-	1	-	-	-	-	-	-	-	**16**
1668	-	-	-	-	12	-	-	-	-	-	-	-	-	6	-	-	5	2	-	-	-	-	-	-	-	-	-	-	**25**
1678	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	**4**
1697	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4**
1710	-	-	-	-	-	-	10	5	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	29	-	**47**
1726	-	1	1	-	-	-	10	1	-	-	-	-	4	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	**27**
1751	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**8**
1752	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2**
1796	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	**11**
1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	**15**
1831	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**18**
1832	1	-	10	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**32**
1833	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4	2	-	32	-	-	-	-	**46**
1857	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**
1862	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
1878	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	**4**
1885	-	-	-	-	-	-	1	8	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	**21**
1900	-	5	8	-	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	**71**
1916	7	-	4	-	1	-	18	36	-	4	-	14	-	-	-	-	50	54	-	-	-	-	-	-	-	-	23	-	**211**
1922	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**8**
1925	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**
1935	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	1	-	**6**
1951	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	**14**
1955	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	**12**
1971	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	**20**
1975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	**3**
1979	-	-	-	-	-	-	1	-	-	-	-	-	-	17	-	-	19	28	-	-	-	-	-	-	-	-	18	-	**83**
1981	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**10**
1989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-	-	-	-	-	-	**29**
2039	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**10**
2045	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	8	32	-	-	-	-	-	1	8	-	-	-	**56**
2065	2	-	-	-	-	-	6	-	-	11	-	-	-	-	-	-	-	10	-	-	12	-	-	-	-	-	-	-	**41**
2075	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
2090	26	-	3	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	**36**
2094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	1	-	-	-	-	5	-	-	-	-	-	**16**
2096	13	22	-	-	-	-	8	-	-	31	-	-	-	-	-	-	-	4	-	9	6	16	-	-	-	-	-	-	**109**
2105	34	-	-	8	134	-	1	-	-	8	-	-	-	-	-	-	-	32	-	-	13	6	8	10	-	-	-	-	**254**
2108	-	-	-	-	2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5**
2117	9	-	-	-	4	-	10	-	-	-	-	-	-	-	5	-	-	7	-	-	-	-	-	-	7	-	-	-	**42**
2127	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	**4**
2137	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**
2232	9	-	3	-	-	-	1	-	-	4	-	-	-	-	-	-	-	4	-	-	-	4	-	-	1	-	-	-	**26**
2265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**1**
2282	5	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**6**
unstrat	272	129	67	3	56	-	360	14	-	12	22	149	-	5	-	-	129	1133	-	234	268	50	45	374	139	-	206	11	**3678**
TOTALS	**673**	**775**	**310**	**43**	**372**	**19**	**1104**	**177**	**46**	**217**	**109**	**187**	**116**	**78**	**5**	**12**	**643**	**3321**	**51**	**545**	**979**	**302**	**179**	**971**	**623**	**24**	**540**	**102**	**12523**

THORPE LEA NURSERIES

Table 14

Roman pot: count

phase	cp			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
3	IA-E	GULLY	1229	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	*7*
3	IA-E	GULLY	2315	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3	IA-E	DITCH	2483	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	DITCH	114	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
3	IA-W	PIT	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	IA-W	GULLY	612	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
3	IA-W	PIT	697	20	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3	IA-W	LAYER	698	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3	IA-W	PIT	1653	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	GULLY	1659	7	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3	IA-W	DITCH	1779	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	WELL	1916	41	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
3	IA-W	PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	DITCH	1996	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	RING DITCH	2110	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3	IA-W	HOLLOW	2143	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3	IA-W	GULLY	2423	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
2	MBA	DITCH	1990	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
		Totals			**3**	-	-	-	**31**	**3**	-	-	-	**1**	-	-	-	-	-	-	-	-	**3**	**1**	**2**	-	-	-	-	-	-	-	-	-	-	-	*41*
3/4	1	PIT/PH	117	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1	DITCH	137	40	7	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
3/4	1	PIT	138	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	WATERHOLE	156	13	5	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*28*
	1	mix	307/311	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4A	1	DITCH	322	14	9	-	-	-	31	-	2	-	-	-	-	1	-	-	-	-	-	-	5	1	-	-	-	-	1	-	-	-	-	-	-	-	*41*
4A	1	PIT	323	-	-	-	-	-	7	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*10*
3/4	1	PIT	355	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PIT	368	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*0*
4A	1	PH	398	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PIT	402	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4	1	PIT	413	10	2	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
3/4	1	SH	414	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
	1	PH	417	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1	PIT	431	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1		434	29	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*0*
4A	1	DITCH	472	18	2	-	-	-	35	4	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*41*
4A	1	PH	477	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
4A	1	PH	480	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*3*
3/4M	1	PIT	484	3	3	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
4A	1	PH	492	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1	PIT	495	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1	LAYER	496	10	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1	PH	506	1	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4M	1	LAYER	521	34	2	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
	1	mix	533/534	-	1	-	-	-	17	-	4	-	1	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
3/4M	1	PIT	539	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PH	550	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*3*
3/4	1	PIT	551	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PH	564	8	2	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4M	1	PIT	565	3	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4M	1	PIT	625	15	1	-	-	-	6	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*10*
3/4M	1	PIT	638	5	2	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
3/4M	1	PIT	664	5	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1	PIT/GULLY	666	-	-	-	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4A	1	PH	685	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1	PIT	699	1	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1		709	7	5	-	-	-	73	-	1	-	2	-	-	1	-	-	-	-	-	-	3	-	5	-	-	-	-	-	-	-	-	-	-	-	*85*
	1		712	5	2	-	-	-	18	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
	1	DITCH	1154	40	4	-	-	-	13	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
3/4M	1	trench	1588	29	2	-	-	-	15	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
3/4M	1	PIT	1627B	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1	PIT	1645	33	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*4*
3/4M	1	PIT	1646	3	-	-	-	-	24	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
3/4M	1	PIT	1648	4	3	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*18*
4A	1	BURIAL	1668	4	2	1	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4A	1	PH	1696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*1*
	1	DITCH	1710	8	3	-	-	-	25	-	-	-	3	-	-	1	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	*35*
	1	DITCH	1824	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1	PIT	2045	13	14	-	-	-	8	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
	1	PIT	2057	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1	PIT	2094	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PIT	2105	29	2	-	-	-	17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*21*
		Totals			**86**	**1**	-	-	**413**	**13**	**15**	-	**10**	-	-	**9**	-	-	-	-	-	-	**22**	**1**	**6**	**2**	**4**	-	**2**	**1**	-	-	-	-	-	-	*498*
4B	2	GULLY	308	17	1	-	-	-	25	-	-	-	1	-	-	2	-	-	-	-	-	-	1	-	-	-	1	-	1	-	-	-	-	-	-	-	*31*
4B	2	DITCH	367	32	17	-	-	-	268	2	2	-	3	2	-	3	-	-	-	-	-	-	11	14	3	4	-	1	3	-	-	-	-	-	-	-	*316*
4B	2	DITCH	464	8	6	-	-	-	107	8	6	-	12	-	1	1	-	1	-	-	-	-	4	2	-	1	1	-	-	-	-	1	-	-	-	-	*145*
4A	2	PIT	553	6	21	-	-	-	56	1	1	-	2	-	-	4	-	-	-	-	-	-	2	-	-	-	1	-	1	-	-	-	-	-	-	-	*68*
4A	2	GULLY	1910	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	*8*
4B	2	GULLY	2065	7	13	-	-	-	39	1	-	-	-	1	-	21	-	5	-	-	-	-	4	1	1	-	-	2	1	-	-	-	-	-	-	-	*76*
		Totals			**58**	-	-	-	**500**	**12**	**9**	-	**18**	**3**	**1**	**31**	-	**6**	-	-	-	-	**24**	**17**	**4**	**5**	**3**	**4**	**6**	-	-	**1**	-	-	-	-	*644*
4B	2/3	DITCH	599	17	10	-	-	-	218	5	1	-	14	-	1	8	-	2	2	-	-	-	17	6	-	8	-	-	1	-	-	-	-	-	-	-	*283*
	2-4	mix	134	21	2	-	-	-	5	14	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*
4B	2-4	mix	330/527	4	3	-	-	-	13	-	1	-	2	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
	2-4	SLOT	462	-	-	-	-	-	17	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	*22*
3/4M	2-4	LAYER	499	-	7	-	-	-	70	4	3	-	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*85*
4B	2-4	DITCH	734	5	-	-	-	-	42	1	6	-	1	-	-	-	-	-	1	-	-	-	-	9	-	1	-	1	-	-	-	-	-	-	-	-	*62*
3/4M	2-4	PIT	1643	3	2	-	-	-	25	-	1	-	1	-	1	1	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	*32*
3/4M	2-4	PIT	1644	3	5	-	-	-	15	-	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	*20*
R	2-4	PIT	1792	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4B	2-4	PIT	1832	4	1	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	2-4	DITCH	1862	1	-	-	-	-	15	2	-	-	2	-	12	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*32*
	2-4	PIT	1879	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*2*
3/4M	2-4	PIT	1955	2	1	-	-	-	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	*8*
	2-4	PIT	2038	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*5*
	2-4	GULLY	2102	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*5*
		Totals			**31**	-	-	-	**436**	**27**	**14**	-	**25**	-	**18**	**12**	-	**3**	**3**	-	-	-	**25**	**17**	-	**12**	**2**	**1**	**5**	-	-	-	-	-	-	-	*600*
4B	3	PIT	338	-	3	-	-	-	68	5	30	-	4	1	-	-	-	1	-	-	-	-	6	2	-	-	1	-	1	-	-	-	-	-	-	-	*119*
4B	3	SLOT	369	4	1	-	-	-	4	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4B	3	DITCH	527	3	-	-	-	-	36	2	5	-	1	1	-	1	-	-	-	-	-	-	3	1	-	2	1	3	-	-	-	-	-	-	-	-	-	*56*
4B	3	PIT	1640	5	1	-	-	-	4	1	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*10*
4B	3	PIT	1751	1	-	-	-	-	17	-	-	-	12	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*30*
4B	3	PIT	1833	6	1	-	-	-	11	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
		Totals			**6**	-	-	-	**140**	**8**	**35**	-	**17**	**2**	**3**	**2**	-	**2**	-	-	-	-	**13**	**3**	-	**2**	**3**	**3**	**1**	-	-	-	-	-	-	-	*234*
	4	PIT	1574	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
4B	4	PIT	1576	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
4B	4	DITCH	1988	-	1	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	15	-	-	-	-	-	-	-	-	-	-	-	*19*
		Totals			**1**	-	-	-	**29**	**1**	-	-	-	-	-	-	-	-	-	-	-	-	**1**	-	**15**	-	-	-	-	-	-	-	-	-	-	-	*46*
4B	5	WATERHOLE	1948	-	-	-	-	-	22	-	-	-	1	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	-	*28*
4A	5	MIDDEN	337	4	1	-	-	-	16	-	1	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*19*

THORPE LEA NURSERIES

Table 14

Roman pot: count

				prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
4C	5	LAYER	1805	-	-	-	-	-	11	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	*15*
		Totals			**1**	**-**	**-**	**-**	**49**	**-**	**1**	**1**	**1**	**-**	**1**	**-**	**-**	**1**	**1**	**-**	**-**	**-**	**1**	**1**	**-**	**-**	**1**	**-**	**4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	*62*
4A	6	HOLLOW	152	3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4M	6	HOLLOW	310	-	6	4	-	-	82	21	7	-	-	2	-	3	-	-	-	-	-	-	2	-	-	-	-	-	-	3	-	-	-	-	-	-	*120*
4C	6	PIT	682	3	-	8	-	9	136	3	-	2	-	-	1	-	-	-	2	-	-	-	1	-	-	-	1	-	1	1	-	-	-	-	-	2	*150*
4C	6	DITCH	1191	44	8	1	-	-	174	-	5	4	-	1	-	-	-	1	-	-	-	-	-	3	-	-	-	-	5	2	-	-	-	-	-	-	*195*
4C	6	PIT	1878	2	1	-	-	-	54	11	-	10	-	1	-	-	-	1	1	-	-	-	2	-	-	-	-	-	-	1	-	-	-	1	-	-	*82*
4C	6	LAYER	1981	2	-	-	-	-	23	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	*27*
		Totals			**15**	**13**	**-**	**9**	**469**	**37**	**12**	**16**	**-**	**7**	**1**	**3**	**-**	**2**	**3**	**-**	**-**	**-**	**5**	**3**	**-**	**-**	**1**	**-**	**6**	**9**	**-**	**-**	**-**	**1**	**-**	**2**	*577*
4C	7	PIT	319	1	-	-	-	-	44	-	-	-	-	6	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	7	-	-	-	-	-	-	*59*
4B	7	DITCH	321	10	1	-	-	-	106	12	3	-	5	5	4	-	-	-	-	-	-	-	3	1	-	-	-	-	-	3	-	-	-	-	-	-	*142*
	7	DITCH	558	12	8	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	7	PIT	563	3	1	1	-	-	16	-	-	-	-	17	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	*36*
	7	LAYER	692	4	-	-	-	-	29	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*33*
4B	7	DITCH	1072	5	-	-	-	-	133	-	-	-	-	26	-	-	-	-	-	-	-	-	1	1	-	-	-	-	2	7	-	-	-	-	-	-	*170*
4C	7	PIT	1959	-	-	4	-	-	46	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*51*
4C	7	WATERHOLE	1971	4	-	5	-	-	520	-	-	15	-	376	1	-	-	-	3	-	7	-	7	-	-	-	1	-	1	52	-	-	-	10	-	-	*993*
4C	7	WATERHOLE	2090	9	3	16	-	-	525	-	-	2	-	251	-	-	-	-	-	4	14	-	5	-	-	-	-	-	1	46	-	-	-	4	-	-	*852*
4C	7	WATERHOLE	2127	-	-	4	-	-	554	-	-	-	-	157	-	3	-	1	1	-	6	-	12	-	-	-	-	-	1	31	-	-	-	9	-	-	*775*
		Totals			**13**	**30**	**-**	**-**	**1973**	**14**	**6**	**18**	**7**	**841**	**5**	**3**	**-**	**1**	**5**	**4**	**28**	**-**	**30**	**3**	**-**	**-**	**1**	**-**	**5**	**146**	**-**	**-**	**-**	**23**	**-**	**1**	*3114*
3/4	6/7	PIT	130	2	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	PIT	140	4	-	1	-	-	4	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
4C	6/7	PIT	142	2	-	1	-	-	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	*8*
3/4M	6/7	PIT	307	27	28	-	-	-	61	1	2	-	5	2	5	-	-	-	-	-	-	-	4	-	-	-	2	-	-	-	-	-	-	-	1	-	*83*
4C	6/7	PIT	313	-	-	-	-	-	6	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*10*
4A/B	6/7	DITCHES	321/322	1	-	-	-	-	11	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*13*
4B	6/7	DITCHES	321/330	2	-	1	-	-	10	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
4A/B	6/7	322/330(326)	322/330	5	1	-	-	-	39	-	1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	*46*
4B	6/7	DITCH	330	4	9	-	-	-	83	-	2	-	6	1	-	-	-	-	-	-	-	-	2	-	-	-	1	2	-	-	-	-	-	-	-	-	*97*
3/4M	6/7		350	1	2	-	-	-	219	18	2	-	9	4	-	2	-	-	1	-	-	-	2	1	-	2	-	-	2	2	-	-	-	-	-	-	*264*
4C	6/7	PIT	387	-	-	-	-	-	4	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4C	6/7	GULLY	391	6	1	-	-	-	38	1	1	-	-	3	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	*46*
	6/7	LAYER	406	6	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*6*
4C	6/7	PH	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
3/4M	6/7	clearance	433	9	1	-	-	-	22	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*27*
4C	6/7	GULLY	445	-	-	-	-	-	13	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*18*
4C	6/7	PH	516	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	GULLY	566	6	3	-	-	-	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	6/7	PH	573	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	GULLY	615	1	3	-	-	-	13	-	-	-	-	3	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	3	-	-	-	-	-	-	*21*
4C	6/7	LAYER	691	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4B	6/7	PIT	1003	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4C	6/7	DITCH	1008	134	46	3	1	-	527	-	5	3	6	30	2	1	-	-	-	8	1	-	17	8	2	-	3	-	9	18	1	-	1	-	-	-	*642*
	6/7		1191/1128	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	*4*
R	6/7	DITCH	1251	7	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7		1533	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	-	-	1	-	-	-	-	-	-	*16*
4B	6/7	PIT	1577	4	1	1	-	-	29	7	-	-	1	-	-	-	-	-	-	-	-	-	3	4	-	-	-	-	-	6	-	-	-	-	-	-	*50*
4C	6/7	PH	1579	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	GULLY	1686	-	-	-	-	-	12	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
4C	6/7	PIT	1705	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	6/7	PIT	1747	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*3*
4C	6/7	PIT	1759	-	-	-	-	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	PH	1819	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	LAYER	1828	-	-	-	-	-	33	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*35*
4C	6/7	PH	1836	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	6/7	LAYER	1874	-	-	-	-	-	7	-	-	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4C	6/7	4-POSTER	1925	1	-	-	-	-	4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	PIT	1951	1	-	-	-	-	6	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
4C	6/7	PIT	1960	-	-	1	-	-	29	2	-	-	-	10	-	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	*44*
4C	6/7	PIT	1980	-	-	-	-	-	12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
4C	6/7	PIT	2021	-	-	-	-	-	6	1	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
4C	6/7	PIT	2064	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4C	6/7	PIT	2071	-	-	-	-	-	4	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	*23*
4C	6/7	SLOT	2075	1	-	1	-	-	5	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
4C	6/7	SLOT	2079	-	-	-	-	-	7	-	1	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4C	6/7	SLOT	2081	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*2*
4C	6/7	PIT	2088	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	*13*
4B	6/7	PIT	2096	14	-	-	-	-	18	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	1	-	-	*24*
4C	6/7	PIT	2138	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	6/7	GULLY	2232	13	1	-	-	-	36	1	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	*41*
	6/7	GULLY	2265	1	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
		Totals			**97**	**9**	**1**	**-**	**1316**	**36**	**20**	**9**	**28**	**97**	**12**	**4**	**-**	**1**	**2**	**10**	**2**	**-**	**37**	**20**	**3**	**4**	**7**	**3**	**14**	**51**	**1**	**-**	**-**	**2**	**1**	**-**	*1680*

THORPE LEA NURSERIES

Table 14

Roman pot: count

				prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			*Totals*
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
4A	1-7	PIT	151	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	340	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	PH	343	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
R	1-7	PH	344	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1-7	PH	349	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4B	1-7	PIT	353	-	-	-	-	-	4	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
	1-7	PIT	354	10	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	1-7	PH	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PIT	365	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	1-7	PH	381	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4	1-7	PIT	411	1	6	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1-7	PH	428	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	PIT	534	11	3	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
	1-7	LAYER	545	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1-7	PH	578	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1-7	PIT	586	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	PH	596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	*1*
3/4	1-7	PIT	604	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4	1-7	PH	605	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1-7	PIT	628	11	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4M	1-7	PIT	631	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	PIT	653	7	1	-	-	-	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
3/4M	1-7	LAYER	658	3	1	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*27*
3/4M	1-7	PIT	674	21	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1-7	mix	705	1	2	-	-	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1-7	PIT	1074	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	*9*
	1-7	PIT	1093	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	1095	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	GULLY	1148	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	DITCH	1164	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	1501	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PIT	1544	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1-7	PIT	1586	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4M	1-7	PIT	1599	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4M	1-7	PIT	1642	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*5*
3/4M	1-7	PIT	1647	-	-	1	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
R	1-7	PH	1685	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4	1-7	PH	1697	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	DITCH	1700	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	*2*
	1-7	GULLY	1712	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1-7	PIT/PH	1722	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
3/4	1-7	PIT	1726	11	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	1739	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1-7	PH	1752	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	BONFIRE	1773	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	1-7	PIT	1796	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4	1-7	PIT	1815	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PIT	1831	2	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1-7	PH	1837	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1-7	PIT	1850	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	GULLY	1853	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4	1-7	SCOOP	1857	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	1866	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
R	1-7	GULLY	1873	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	GULLY	1885	4	1	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
R	1-7	PIT	1898	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
	1-7	PIT	1900	7	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	1922	1	-	-	-	-	3	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4A	1-7	PIT	1935	2	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1-7	PH	1961	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
3/4	1-7	PIT	1975	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4	1-7	GULLY	1979	9	3	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
R	1-7	PH	1985	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*2*
3/4	1-7	PIT	1989	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	1995	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
	1-7	HOLLOW	2041	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1-7	HOLLOW	2042	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1-7		2045/2065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PH	2073	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PH	2074	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PH	2078	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4A	1-7	PIT	2108	2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
3/4	1-7	PIT	2117	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	PIT	2136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	HOLLOW	2140	-	-	-	-	-	3	-	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
R	1-7	PH	2272	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	2282	2	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PH	2306	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	2312	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	2337/2338	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
			Totals		**33**	**1**	-	-	**225**	**4**	**3**	**3**	**1**	**1**	-	**2**	**1**	-	-	-	-	-	**10**	**4**	-	-	**1**	-	-	**1**	-	-	**1**	-	-	-	*257*
		unstrat	**Totals**		**154**	**6**	**1**	-	**1191**	**14**	**24**	**13**	**19**	**52**	**16**	**7**	-	**3**	**3**	-	**1**	**1**	**62**	**18**	-	**6**	**2**	**1**	**5**	**31**	-	-	-	-	-	-	*1469*
		TOTALS			**498**	**60**	**2**	**9**	**6772**	**169**	**139**	**60**	**126**	**1004**	**57**	**73**	**1**	**19**	**17**	**14**	**31**	**1**	**233**	**88**	**30**	**31**	**25**	**12**	**48**	**239**	**1**	**1**	**1**	**26**	**1**	**3**	**9222**

THORPE LEA NURSERIES

Table 5.15

Roman pot: weight

cp

			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
															1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
IA-W	GULLY	1229	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	*34*
IA-W	GULLY	2315	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
IA-W	DITCH	2483	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
IA-E	DITCH	114	-	-	-	-	-	9	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
IA-E	PIT	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	*5*
IA-E	GULLY	612	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
IA-E	PIT	697	145	6	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
IA-E	LAYER	698	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
IA-E	PIT	1653	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
IA-E	GULLY	1659	16	-	-	-	-	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*17*
IA-E	DITCH	1779	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
IA-E	WELL	1916	211	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	*27*
IA-E	PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
IA-E	DITCH	1996	-	5	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
IA-E	RING DITCH	2110	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
IA-E	HOLLOW	2143	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
IA-E	GULLY	2423	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
MBA	DITCH	1990	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*26*
		Totals		**11**	**-**	**-**	**-**	**165**	**23**	**-**	**-**	**-**	**5**	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**14**	**5**	**8**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***220***
1	PIT/PH	117	5	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1	DITCH	137	275	82	-	-	-	20	226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*246*
1	PIT	138	29	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1	PIT	156	123	168	-	-	-	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	*482*
1	DITCH	322	161	176	-	-	-	319	-	22	-	-	-	-	3	-	-	-	-	-	-	32	26	-	-	-	-	4	-	-	-	-	-	-	-	*406*
1	PIT	323	-	-	-	-	-	36	-	19	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	*69*
1	PIT	355	16	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1	PIT	368	16	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*0*
1	PIT	398	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1	PIT	402	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*32*
1	PIT	413	79	40	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*22*
1	SH	414	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*33*
1	7 PH	417	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1	7 mix	307/311	-	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*43*
1	PIT	431	27	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1		434	305	37																																*0*
1	GULLY	472	121	16	-	-	-	369	23	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*418*
1	Scoop 1857	477	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
1	PH	480	6	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*4*
1	PIT	484	52	16	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*83*
1	SH	492	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
1	PIT	495	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1	LAYER	496	67	8	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
1	PH	506	3	9	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
1	LAYER	521	140	5	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
4		533/534	-	5	-	-	-	78	-	34	-	1	-	-	44	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	*174*
1	PIT	539	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1	Pit 550	550	-	-	-	-	-	14	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*39*
1	PIT	551	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
1	PIT	564	26	10	-	-	-	3	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
1	PIT	565	233	-	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1	PIT	625	153	9	-	-	-	25	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	*44*
1	PIT	638	40	20	-	-	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*97*
1	PIT	664	30	119	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
1	PIT/GULLY	666	-	-	-	-	-	25	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*38*
1	PH	685	38	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1	PIT	699	7	21	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
1		709	56	143	-	-	-	220	-	10	-	38	-	-	55	-	-	-	-	-	-	21	-	5	-	-	-	-	-	-	-	-	-	-	-	*349*
1		712	53	23	-	-	-	171	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*179*
1	DITCH	1154	242	18	-	-	-	84	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*88*
1	trench	1588	367	17	-	-	-	168	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*176*
1	PIT	1627B	-	71	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*31*
1	PIT	1645	152	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	*76*
1	PIT	1646	50	44	-	-	-	308	-	-	-	-	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*355*
1	PIT	1648	44	102	-	-	-	162	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	*164*
1	BURIAL	1668	25	4	12	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	*52*
1	PIT	1696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	*4*
1	DITCH	1710	47	14	-	-	-	281	-	-	-	17	-	-	152	-	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	*530*
1	DITCH	1824	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
1	PIT	2045	56	428	-	-	-	310	-	-	-	53	-	-	-	-	-	-	-	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	*414*
1	PIT	2057	-	-	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*94*
1	PIT	2094	16	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
1	PIT	2105	254	3	-	-	-	116	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	*146*
		Totals		**1616**	**12**	**-**	**-**	**3828**	**287**	**133**	**-**	**139**	**-**	**-**	**345**	**-**	**-**	**-**	**-**	**-**	**-**	**223**	**26**	**9**	**3**	**13**	**-**	**8**	**25**	**-**	**-**	**-**	**-**	**-**	**-**	***5039***
2	DITCH	308	15	6	-	-	-	225	-	-	-	6	-	-	13	-	-	-	-	-	-	10	-	-	-	2	-	4	-	-	-	-	-	-	-	*260*
2	DITCH	367	155	178	-	-	-	1701	21	2	-	30	30	-	74	-	-	-	-	-	-	122	177	11	15	-	5	38	-	-	-	-	-	-	-	*2226*
2	DITCH	464	95	84	-	-	-	1179	86	152	-	66	-	6	235	-	28	-	-	-	-	107	9	-	4	3	-	-	-	-	2	-	-	-	-	*1877*
2	PIT	553	13	413	-	-	-	685	49	10	-	63	-	-	87	-	-	-	-	-	-	14	-	-	-	3	-	5	-	-	-	-	-	-	-	*916*
2	GULLY	1910	-	-	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	2	-	-	-	-	-	-	-	-	*232*
2	DITCH	2065	41	147	-	-	-	179	1	-	-	-	5	-	2535	-	77	-	-	-	-	5	-	2	-	-	4	14	-	-	-	-	-	-	-	*2822*
		Totals		**828**	**-**	**-**	**-**	**4173**	**157**	**164**	**-**	**165**	**35**	**6**	**2944**	**-**	**105**	**-**	**-**	**-**	**-**	**284**	**186**	**13**	**19**	**8**	**11**	**61**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	***8333***
2	3 DITCH	599	93	85	-	-	-	1934	87	3	-	58	-	9	144	-	64	48	-	-	-	116	122	-	40	-	-	88	-	-	-	-	-	-	-	*2713*
2	4 mix	134	62	4	-	-	-	49	492	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*548*
2	4 330/527(706)	330/527	38	148	-	-	-	94	-	22	-	11	-	-	-	-	19	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	*153*
2	4 SLOT	462	-	-	-	-	-	67	-	17	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	6	-	-	-	-	-	-	-	*106*
2	4 LAYER	499	-	117	-	-	-	484	22	68	-	26	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	*702*
2	4	734	40	-	-	-	-	402	5	58	-	9	-	-	-	-	-	5	-	-	-	-	62	-	25	-	4	-	-	-	-	-	-	-	-	*570*
2	4 PIT	1643	18	57	-	-	-	239	-	10	-	20	-	13	31	-	-	-	-	-	-	3	-	-	-	18	-	-	-	-	-	-	-	-	-	*334*
2	4 PIT	1644	22	74	-	-	-	123	-	-	-	-	-	-	33	-	-	-	-	-	-	16	-	-	-	-	-	38	-	-	-	-	-	-	-	*210*
2	4 PIT	1792	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
2	4 PIT	1832	32	3	-	-	-	11	-	-	-	-	-	24	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	*43*
2	4 DITCH	1862	1	-	-	-	-	105	29	-	-	22	-	118	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	*282*
	PIT	1879	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	*31*
2	4 PIT	1955	12	20	-	-	-	23	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	*47*
2	4 PIT	2038	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	*35*
	GULLY	2102	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*5*
		Totals		**508**	**-**	**-**	**-**	**3578**	**653**	**178**	**-**	**146**	**-**	**171**	**288**	**-**	**83**	**53**	**-**	**-**	**-**	**166**	**214**	**-**	**72**	**18**	**4**	**162**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***5786***
3	PIT/MIDDEN	338	-	47	-	-	-	993	48	1112	-	46	12	-	-	-	12	-	-	-	-	83	31	-	-	5	-	13	-	-	-	-	-	-	-	*2355*
3	SLOT	369	30	3	-	-	-	3	-	-	-	-	-	-	-	-	13	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*
3	GULLY	527	22	-	-	-	-	289	10	60	-	2	7	-	57	-	-	-	-	-	-	23	2	-	8	9	2	-	-	-	-	-	-	-	-	*469*
3	PIT	1640	16	39	-	-	-	46	14	-	-	-	-	-	21	-	-	-	-	-	-	16	-	-	-	5	-	-	-	-	-	-	-	-	-	*102*
3	HOLLOW	1751	8	-	-	-	-	107	-	-	-	61	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*182*
3	PIT	1833	46	1	-	-	-	103	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*116*
		Totals		**90**	**-**	**-**	**-**	**1541**	**72**	**1172**	**-**	**109**	**19**	**27**	**78**	**-**	**25**	**-**	**-**	**-**	**-**	**126**	**33**	**-**	**8**	**19**	**2**	**13**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***3244***
4	PIT	1574	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*73*
4	PH	1576	-	-	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*89*
4	GULLY	1988	-	7	-	-	-	13	6	-	-	-	-	-	-	-	-	-	-	-	-	54	-	15	-	-	-	-	-	-	-	-	-	-	-	-	*88*
		Totals		**7**	**-**	**-**	**-**	**175**	**6**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**54**	**-**	**15**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***250***
5	LAYER	1805	-	-	-	-	-	65	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	15	-	-	-	-	-	-	-	-	*95*
5	MIDDEN	337	30	3	-	-	-	267	-	38	-	-	-	-	-	-	-	25	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	*339*
5	WELL	1948	-	-	-	-	-	1040	-	-	-	251	-	8	-	-	-	-	-	-	-	5	-	-	-	-	-	30	-	-	-	-	-	-	-	-	*1334*
		Totals		**3**	**-**	**-**	**-**	**1372**	**-**	**38**	**12**	**251**	**-**	**8**	**-**	**-**	**-**	**25**	**-**	**-**	**-**	**5**	**9**	**-**	**-**	**3**	**-**	**45**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***1768***

THORPE LEA NURSERIES

Table 5.15

Roman pot: weight

			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
															1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
6	HOLLOW	152	9	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
6	HOLLOW	310	143	157	54	-	-	734	265	107	-	-	25	-	45	-	-	-	-	-	-	16	-	-	-	-	-	-	35	-	-	-	-	-	-	*1227*
6	PIT	682	29	-	146	-	165	1473	29	-	53	-	-	19	-	-	-	388	-	-	-	30	-	-	-	2	-	16	3	-	-	-	-	-	15	*2028*
6	DITCH	1191	265	74	180	-	-	1845	-	164	115	-	5	-	-	-	33	-	-	-	-	-	124	-	-	-	-	28	58	-	-	-	-	-	-	*2372*
6	HOLLOW	1878	4	18	-	-	-	551	181	-	290	-	31	-	-	-	13	22	-	-	-	19	-	-	-	-	-	-	11	-	-	-	48	-	-	*1166*
6	LAYER	1981	10	-	-	-	-	664	-	-	48	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	70	-	-	-	-	-	-	*799*
	Totals			**249**	**380**	**-**	**165**	**5267**	**475**	**271**	**506**	**-**	**69**	**19**	**45**	**-**	**46**	**410**	**-**	**-**	**-**	**82**	**124**	**-**	**-**	**2**	**-**	**44**	**177**	**-**	**-**	**-**	**48**	**-**	**15**	*7600*
7	PIT	319	22	-	-	-	-	724	-	-	-	-	96	-	-	-	-	-	-	-	-	5	5	-	-	-	-	-	144	-	-	-	-	-	-	*974*
7	DITCH	321	87	31	-	-	-	648	111	-	-	21	17	23	-	-	-	-	-	-	-	13	3	-	-	-	-	-	14	-	-	-	-	-	-	*850*
7	DITCH	558	149	76	-	-	-	-	-	28	18	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	*60*
7	PIT	563	15	15	1	-	-	253	-	-	-	-	193	-	-	-	-	1887	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	*2415*
1	LAYER	692	19	-	-	-	-	258	-	13	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*289*
7	DITCH	1072	15	-	-	-	-	589	-	-	-	-	207	-	-	-	-	-	-	-	-	6	2	-	-	-	-	75	36	-	-	-	-	-	-	*915*
7	PIT	1959	-	-	52	-	-	510	10	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*559*
7	WELL	1971	20	-	57	-	-	7564	-	-	682	-	5849	8	-	-	-	131	-	177	-	27	-	-	-	2	-	44	1120	-	-	-	220	-	-	*15824*
7		2090	36	11	83	-	-	5578	-	-	50	-	2087	-	-	-	-	-	69	565	-	21	-	-	-	-	-	1	999	-	-	-	34	-	-	*9404*
7	PIT	2127	4	-	9	-	-	4903	-	-	-	-	1212	-	50	-	21	16	-	282	-	140	-	-	-	-	-	1	436	-	-	-	61	-	-	*7122*
	Totals			**133**	**202**	**-**	**-**	**21027**	**121**	**41**	**750**	**39**	**9700**	**31**	**50**	**-**	**21**	**2034**	**69**	**1066**	**-**	**226**	**10**	**-**	**-**	**2**	**-**	**121**	**2749**	**-**	**-**	**-**	**315**	**-**	**40**	*38412*
6 7	PIT	130	6	1	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
6 7	HEARTH	140	15	-	32	-	-	15	-	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*61*
6 7	PIT	142	2	-	3	-	-	5	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	*51*
6 7	PIT	307	735	604	-	-	-	678	11	71	-	39	25	28	-	-	-	-	-	-	-	91	-	-	-	8	-	-	-	-	-	-	-	5	-	*956*
6 7	PIT	313	-	-	-	-	-	71	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	*119*
6 7	DITCHES	321/322	2	-	-	-	-	80	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*92*
6 7	DITCHES	321/330	22	-	4	-	-	72	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*79*
6 7	322/330(326)	322/330	15	8	-	-	-	88	-	19	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	1	-	-	5	-	-	-	-	-	-	*128*
6 7	DITCH	330	29	126	-	-	-	552	-	17	-	44	5	-	-	-	-	-	-	-	-	9	-	-	-	2	13	-	-	-	-	-	-	-	-	-	*642*
6 7		350	19	2	-	-	-	2160	297	77	-	115	35	-	196	-	-	1	-	-	-	24	4	-	38	-	-	7	12	-	-	-	-	-	-	-	*2966*
6 7	PIT	387	-	-	-	-	-	87	-	-	-	-	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*93*
6 7	GULLY	391	23	3	-	-	-	203	7	6	-	-	19	5	-	-	-	-	-	-	-	2	-	-	-	-	-	-	6	-	-	-	-	-	-	*248*
6 7	LAYER	406	69	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	*57*
6 7	PH	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
6 7	clearance	433	83	20	-	-	-	369	-	312	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*690*
6 7	GULLY	445	-	-	-	-	-	141	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	88	-	-	-	-	-	-	*279*
6 7	PH	516	-	-	-	-	-	-	-	-	-	-	226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*226*
6 7	GULLY	566	59	8	-	-	-	32	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*36*
6 7	PH	573	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
6 7	GULLY	615	38	28	-	-	-	87	-	-	-	-	100	-	-	-	-	-	-	-	-	1	18	-	-	-	-	-	78	-	-	-	-	-	-	*284*
6 7		691?	-	-	-	-	-	79	-	-	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*328*
6 7	BURNING	1003	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
6 7	DITCH	1008	743	642	46	14	-	5922	-	83	13	11	734	40	12	-	-	-	238	9	-	69	36	7	-	43	-	64	510	2	-	-	84	-	-	*7877*
6 7		1191/1128	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	*55*
6 7	DITCH	1251	14	-	-	-	-	8	-	-	-	-	5	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
6 7		1533	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-	4	12	-	-	-	-	-	2	-	-	-	-	-	-	*96*
6 7	PIT	1577	46	13	1	-	-	154	55	-	-	8	-	-	-	-	-	-	-	-	-	18	25	-	-	-	-	-	29	-	-	-	-	-	-	*289*
6 7	PH	1579	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
6 7	GULLY	1686	-	-	-	-	-	156	69	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*244*
6 7	PIT	1705	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
6 7	PIT	1747	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*22*
6 7	PH	1759	-	-	-	-	-	15	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*43*
6 7	PH	1819	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
6 7	LAYER	1828	-	-	-	-	-	149	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*156*
6 7	PH	1836	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
6 7	LAYER	1874	-	-	-	-	-	49	-	-	7	-	-	-	-	-	-	-	-	8	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*66*
6 7	4-POSTER	1925	3	-	-	-	-	6	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
6 7	PIT	1951	14	-	-	-	-	39	36	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*80*
6 7	PIT	1960	-	-	2	-	-	120	4	-	-	-	82	-	-	-	-	-	-	92	-	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	*303*
6 7	PIT	1980	-	-	-	-	-	62	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*68*
6 7	PIT	2021	-	-	-	-	-	97	10	-	27	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	*140*
6 7	PIT	2064	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
6 7	PIT	2071	-	-	-	-	-	53	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	-	-	*300*
6 7	SLOT	2075	1	-	2	-	-	26	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*98*
6 7	SLOT	2079	-	-	-	-	-	57	-	30	-	-	9	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*103*
6 7	SLOT	2081	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	*14*
6 7	PIT	2088	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	5	-	11	-	-	-	-	-	-	*68*
6 7	PIT	2096A	105	-	-	-	-	151	-	-	-	-	-	-	-	-	99	-	-	-	-	11	-	-	6	-	-	-	-	-	-	-	-	1	-	-	*268*
6 7	PIT	2138	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*34*
6 7	GULLY	2232	31	14	-	-	-	160	4	-	13	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	-	-	-	-	-	-	*197*
6 7	GULLY	2265	1	-	-	-	-	11	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
	Totals			**1469**	**90**	**14**	**-**	**12265**	**506**	**633**	**337**	**221**	**1726**	**88**	**211**	**-**	**99**	**11**	**253**	**101**	**-**	**238**	**104**	**9**	**44**	**54**	**18**	**86**	**896**	**2**	**-**	**-**	**85**	**5**	**-**	*17992*

THORPE LEA NURSERIES

Table 5.15

Roman pot: weight

			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			*Totals*
															1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
1 7	PIT	151	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
1 7	PH	340	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1 7	PH	343	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
1 7	PH	344	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
1 7	PIT/PH	349	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1 7	PIT	353	-	-	-	-	-	20	-	-	-	-	-	-	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*101*
1	PIT	354	103	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
1 7	PH	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
1 7	PIT	365	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
1 7	PH	381	4	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
1 7	PIT	408	-	49	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
1 7	PH	428	30	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
1 7	HOLLOW	534	122	66	-	-	-	33	60	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*132*
1 7	LAYER	545	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
1 7	PH	578	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1 7	PIT	586	21	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PH	596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	*3*
1 7	PIT	604	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PH	605	1	17	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
1 7	PIT	628	166	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*42*
1 7	PIT	631	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1 7	PIT	653	79	17	-	-	-	55	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*59*
1 7	LAYER	658	9	6	-	-	-	532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	*539*
1 7	PIT	674	208	30	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
1 7	mix	705	21	39	-	-	-	27	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*36*
1 7	PH	1074	-	-	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	6	-	-	-	-	-	-	*109*
1 7	PIT	1093	13	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
1 7	PIT	1095	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*
1 7	GULLY	1148	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
1 7	DITCH	1164	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1 7	PH 1501	1501	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PIT	1544	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
1 7	PIT	1586	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*30*
1 7	PIT	1599	16	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
1 7	PIT	1642	-	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	*66*
1 7	PIT	1647	-	-	13	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
1 7	PH	1685	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
1 7	PH	1697	4	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
1 7	DITCH	1700	-	7	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	*5*
1 7	GULLY	1712	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
1 7	PIT/PH	1722	-	4	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
1 7	PIT	1726	17	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1 7	PIT	1739	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*42*
1 7	PH	1752	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1 7	BURNING	1773	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
1 7	PIT	1796	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
1 7	PIT	1815	15	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
1 7	PIT	1831	18	-	-	-	-	14	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*32*
1 7	PH	1837	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
1 7	PIT	1850	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*34*
1 7	GULLY	1853	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*34*
1 7	Scoop 1857	1857	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
1 7	PIT	1866	-	-	-	-	-	258	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*258*
1 7	GULLY	1873	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1 7	GULLY	1885	21	5	-	-	-	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*126*
1 7	PIT	1898	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
1 7	PIT	1900	71	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
1 7	PH	1922	8	-	-	-	-	14	7	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*41*
1 7	PIT	1935	6	57	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
1 7	PH	1961	-	-	-	-	-	168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*168*
1 7	PIT	1975	3	-	-	-	-	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*61*
1 7	GULLY	1979	83	10	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*50*
1 7	PH	1985	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PIT	1989	29	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*24*
1 7	PIT	1995	-	-	-	-	-	142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*142*
1 7	HOLLOW	2041	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
1 7	HOLLOW	2042	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
1 7		2045/2065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PH	2073	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
1 7	PH	2074	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
1 7	PH	2078	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
1 7	PIT	2108A	5	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
1 7	PIT	2117	42	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
1 7	PIT	2136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	*45*
1 7	HOLLOW	2139	-	-	-	-	-	11	-	-	6	-	-	-	27	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	*51*
1 7	SH	2272	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
1 7	PIT	2282	6	38	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
1 7	PH	2306	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
1 7	PH	2312	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
1 7	PH	2337/2338	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	Totals			**453**	**13**	-	-	**2342**	**76**	**46**	**24**	**11**	**4**	-	**47**	**81**	-	-	-	-	-	**55**	**66**	-	-	**2**	-	-	**6**	-	-	-	**3**	-	-	-	*2763*
	unstrat			**2507**	**34**	**63**	-	**8714**	**71**	**472**	**841**	**595**	**425**	**140**	**247**	-	**140**	**114**	-	-	**38**	**588**	**157**	-	**19**	**16**	-	**34**	**351**	-	-	-	-	-	-	-	*12962*
		TOTALS		**7874**	**731**	**77**	**165**	**64447**	**2447**	**3148**	**2470**	**1676**	**11983**	**490**	**4255**	**81**	**519**	**2647**	**322**	**1167**	**38**	**2061**	**934**	**54**	**165**	**137**	**35**	**574**	**4204**	**2**	**2**	**3**	**448**	**5**	**55**	**104369**

THORPE LEA NURSERIES

Table 5.16

Roman pot: count

PHASE	cp			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
2	MBA	DITCH	1990	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
3	IA-W	DITCH	114	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
3	IA-W	PIT	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	GULLY	612	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
3	IA-W	PIT	697	20	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
3	IA-W	LAYER	698	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3	IA-E	GULLY	1229	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	7
3	IA-W	PIT	1653	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	GULLY	1659	7	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3	IA-W	DITCH	1779	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	WELL	1916	41	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	5
3	IA-W	PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	DITCH	1996	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	RING DITCH	2110	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-W	HOLLOW	2143	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3	IA-E	GULLY	2315	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3	IA-W	GULLY	2423	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	IA-E	DITCH	2483	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		Totals			**3**	-	-	-	**31**	**3**	-	-	-	**1**	-	-	-	-	-	-	-	-	**3**	**1**	**2**	-	-	-	-	-	-	-	-	-	-	-	*41*
3/4	1	PIT/PH	117	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	6/7	PIT	130	2	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	PIT	138	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	PIT	355	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	411	1	6	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	PIT	413	10	2	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
3/4	1	SH	414	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
3/4	1-7	PH	428	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	PIT	495	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	LAYER	496	10	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
3/4	1	PIT	551	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PH	578	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	604	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
3/4	1-7	PH	605	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1	PIT	699	1	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
3/4	1-7	PH	1697	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT/PH	1722	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	1726	11	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	1815	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	SCOOP	1857	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	1975	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3/4	1-7	GULLY	1979	9	3	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
3/4	1-7	PIT	1989	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4	1-7	PIT	2117	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
		Totals			**19**	-	-	-	**43**	-	-	-	-	**1**	-	-	-	-	-	-	-	-	**2**	-	-	-	-	-	-	-	-	-	-	-	-	-	*46*
3/4M		PIT	307	27	28	-	-	-	61	1	2	-	5	2	5	-	-	-	-	-	-	-	4	-	-	-	2	-	-	-	-	-	-	-	1	-	83
3/4M	6	HOLLOW	310	-	6	4	-	-	82	21	7	-	-	2	-	3	-	-	-	-	-	-	2	-	-	-	-	-	-	3	-	-	-	-	-	-	120
3/4M	6/7		350	1	2	-	-	-	219	18	2	-	9	4	-	2	-	-	1	-	-	-	2	1	-	2	-	-	2	2	-	-	-	-	-	-	264
3/4M	1	PIT	431	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	6/7	clearance	433	9	1	-	-	-	22	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
3/4M	1	PIT	484	3	3	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
3/4M	2-4	LAYER	499	-	7	-	-	-	70	4	3	-	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	85
3/4M	1	LAYER	521	34	2	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
3/4M	1	PIT	539	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1	PIT	565	3	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3/4M	1-7	PIT	586	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1	PIT	625	15	1	-	-	-	6	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	10
3/4M	1-7	PIT	628	11	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
3/4M	1-7	PIT	631	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1	PIT	638	5	2	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
3/4M	1-7	LAYER	658	3	1	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	27
3/4M	1	PIT	664	5	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1	PIT/GULLY	666	-	-	-	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
3/4M	1-7	PIT	674	21	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
3/4M	1-7	PIT	1586	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3/4M	1	trench	1588	29	2	-	-	-	15	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
3/4M	1-7	PIT	1599	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1	PIT	1627B	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3/4M	1-7	PIT	1642	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	5
3/4M	2-4	PIT	1643	3	2	-	-	-	25	-	1	-	1	-	1	1	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	32
3/4M	2-4	PIT	1644	3	5	-	-	-	15	-	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	20
3/4M	1	PIT	1645	33	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	4
3/4M	1	PIT	1646	3	-	-	-	-	24	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
3/4M	1-7	PIT	1647	-	-	1	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
3/4M	1	PIT	1648	4	3	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	18
3/4M	2-4	PIT	1955	2	1	-	-	-	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	8
		Totals			**74**	**5**	-	-	**636**	**46**	**25**	-	**20**	**9**	**6**	**10**	-	-	**1**	-	-	-	**14**	**3**	-	**5**	**6**	-	**4**	**5**	-	-	-	-	**1**	-	*791*

THORPE LEA NURSERIES

Table 5.16

Roman pot: count

PHASE	cp			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
4A	1-7	PIT	151	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	6	HOLLOW	152	3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1	WATERHOLE	156	13	5	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*28*
4A	1	DITCH	322	14	1	-	-	-	31	-	2	-	-	-	-	1	-	-	-	-	-	-	5	1	-	-	-	-	1	-	-	-	-	-	-	-	*41*
4A	1	PIT	323	-	-	-	-	-	7	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*10*
4A		MIDDEN	337	4	1	-	-	-	16	-	1	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*19*
4A	1	PIT	368	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*0*
4A	1	PH	398	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PIT	402	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1	DITCH	472	18	2	-	-	-	35	4	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*41*
4A	1	PH	477	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
4A	1	PH	480	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*3*
4A	1	PH	492	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	PH	506	1	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1-7	PIT	534	11	3	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4A	1	PH	550	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*3*
4A	2	PIT	553	6	21	-	-	-	56	1	1	-	2	-	-	4	-	-	-	-	-	-	2	-	-	-	1	-	1	-	-	-	-	-	-	-	*68*
4A	1	PH	564	8	2	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4A	1-7	PH	596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	*1*
4A	1-7	PIT	653	7	1	-	-	-	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
4A	1	PH	685	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1	BURIAL	1668	4	2	1	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4A	1	PH	1696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	GULLY	1885	4	1	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
4A	2	GULLY	1910	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	*8*
4A	1-7	PIT	1935	2	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1	PIT	2045	13	14	-	-	-	8	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
4A	1	PIT	2105	29	2	-	-	-	17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*21*
4A	1-7	PIT	2108	2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4A	1-7	PIT	2136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4A	1-7	HOLLOW	2140	-	-	-	-	-	3	-	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
		Totals			**60**	**1**	**-**	**-**	**261**	**10**	**7**	**1**	**5**	**4**	**-**	**9**	**-**	**-**	**1**	**-**	**-**	**-**	**16**	**3**	**1**	**1**	**3**	**1**	**3**	**1**	**-**	**-**	**1**	**-**	**-**	**-**	***328***
4A/B	6/7	DITCHES	321/322	1	-	-	-	-	11	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*13*
4A/B	6/7	322/330(326)	322/330	5	1	-	-	-	39	-	1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	*46*
		Totals			**1**	**-**	**-**	**-**	**50**	**-**	**2**	**-**	**-**	**-**	**4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	***59***
4B	2	GULLY	308	17	1	-	-	-	25	-	-	-	1	-	-	2	-	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	*31*
4B	7	DITCH	321	10	1	-	-	-	106	12	3	-	5	5	4	-	-	-	-	-	-	-	3	1	-	-	-	-	-	3	-	-	-	-	-	-	-	*142*
4B	6/7	DITCHES	321/330	2	-	1	-	-	10	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
4B	6/7	DITCH	330	4	9	-	-	-	83	-	2	-	6	1	-	-	-	-	-	-	-	-	2	-	-	-	1	2	-	-	-	-	-	-	-	-	-	*97*
4B	2-4	mix	330/527	4	3	-	-	-	13	-	1	-	2	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
4B	3	PIT	338	-	3	-	-	-	68	5	30	-	4	1	-	-	-	1	-	-	-	-	6	2	-	-	1	-	1	-	-	-	-	-	-	-	-	*119*
4B	1-7	PIT	353	-	-	-	-	-	4	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	2	DITCH	367	32	17	-	-	-	268	2	2	-	3	2	-	3	-	-	-	-	-	-	11	14	3	4	-	1	3	-	-	-	-	-	-	-	-	*316*
4B	3	SLOT	369	4	1	-	-	-	4	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4B	1-7	PH	381	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4B	2	DITCH	464	8	6	-	-	-	107	8	6	-	12	-	1	1	-	1	-	-	-	-	4	2	-	1	1	-	-	-	-	-	1	-	-	-	-	*145*
4B	3	DITCH	527	3	-	-	-	-	36	2	5	-	1	1	-	1	-	-	-	-	-	-	3	1	-	2	1	3	-	-	-	-	-	-	-	-	-	*56*
4B	6/7	PH	573	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4B	2/3	DITCH	599	17	10	-	-	-	218	5	1	-	14	-	1	8	-	2	2	-	-	-	17	6	-	8	-	-	1	-	-	-	-	-	-	-	-	*283*
4B	2-4	DITCH	734	5	-	-	-	-	42	1	6	-	1	-	-	-	-	-	1	-	-	-	-	9	-	1	-	1	-	-	-	-	-	-	-	-	-	*62*
4B	6/7	PIT	1003	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4B	7	DITCH	1072	5	-	-	-	-	133	-	-	-	-	26	-	-	-	-	-	-	-	-	1	1	-	-	-	-	2	7	-	-	-	-	-	-	-	*170*
4B	4	PIT	1576	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
4B	6/7	PIT	1577	4	1	1	-	-	29	7	-	-	1	-	-	-	-	-	-	-	-	-	3	4	-	-	-	-	-	6	-	-	-	-	-	-	-	*50*
4B	3	PIT	1640	5	1	-	-	-	4	1	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*10*
4B	3	PIT	1751	1	-	-	-	-	17	-	-	-	12	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*30*
4B	2-4	PIT	1832	4	1	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	3	PIT	1833	6	1	-	-	-	11	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
4B	2-4	DITCH	1862	1	-	-	-	-	15	2	-	-	2	-	12	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*32*
4B	5	WATERHOLE	1948	-	-	-	-	-	22	-	-	-	1	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	*28*
4B	4	DITCH	1988	-	1	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	15	-	-	-	-	-	-	-	-	-	-	-	-	*19*
4B	2	GULLY	2065	7	13	-	-	-	39	1	-	-	-	1	-	21	-	5	-	-	-	-	4	1	1	-	-	2	1	-	-	-	-	-	-	-	-	*76*
4B	6/7	PIT	2096	14	-	-	-	-	18	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	1	-	-	*24*
		Totals			**69**	**2**	**-**	**-**	**1288**	**47**	**57**	**-**	**65**	**37**	**25**	**37**	**1**	**13**	**3**	**-**	**-**	**-**	**65**	**42**	**19**	**18**	**6**	**9**	**11**	**16**	**-**	**1**	**-**	**1**	**-**	**-**	***1761***

THORPE LEA NURSERIES
Table 5.16
Roman pot: count

PHASE	cp			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			*Totals*
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
4C	6/7	PIT	140	4	-	1	-	-	4	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
4C	6/7	PIT	142	2	-	1	-	-	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	*8*
4C	6/7	PIT	313	-	-	-	-	-	6	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*10*
4C	7	PIT	319	1	-	-	-	-	44	-	-	-	-	6	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	7	-	-	-	-	-	-	*59*
4C	1-7	PH	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PIT	365	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	PIT	387	-	-	-	-	-	4	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4C	6/7	GULLY	391	6	1	-	-	-	38	1	1	-	-	3	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	*46*
4C		PH	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
4C	6/7	GULLY	445	-	-	-	-	-	13	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*18*
4C	6/7	PH	516	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	7	PIT	563	3	1	1	-	-	16	-	-	-	-	17	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	*36*
4C	6/7	GULLY	566	6	3	-	-	-	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	GULLY	615	1	3	-	-	-	13	-	-	-	-	3	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	3	-	-	-	-	-	-	*21*
4C	6	PIT	682	3	-	8	-	9	136	3	-	2	-	-	1	-	-	-	2	-	-	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	*150*
4C	6/7	LAYER	691	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	6/7	DITCH	1008	134	46	3	1	-	527	-	5	3	6	30	2	1	-	-	-	8	1	-	17	8	2	-	3	-	9	18	1	-	-	1	-	-	*642*
4C	6	DITCH	1191	44	8	1	-	-	174	-	5	4	-	1	-	-	-	1	-	-	-	-	-	3	-	-	-	-	5	2	-	-	-	-	-	-	*195*
4C	6/7		1533	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	-	-	1	-	-	-	-	-	-	*16*
4C	6/7	PH	1579	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	GULLY	1686	-	-	-	-	-	12	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
4C	6/7	PIT	1705	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4C	6/7	PIT	1759	-	-	-	-	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C		LAYER	1805	-	-	-	-	-	11	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	*15*
4C	6/7	PH	1819	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	LAYER	1828	-	-	-	-	-	33	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*35*
4C	1-7	PIT	1831	2	-	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	PH	1836	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	6	PIT	1878	2	1	-	-	-	54	11	-	10	-	1	-	-	-	1	1	-	-	-	2	-	-	-	-	-	-	1	-	-	-	1	-	-	*82*
4C	6/7	4-POSTER	1925	1	-	-	-	-	4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4C	6/7	PIT	1951	1	-	-	-	-	6	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
4C	7	PIT	1959	-	-	4	-	-	46	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*51*
4C	6/7	PIT	1960	-	-	1	-	-	29	2	-	-	-	10	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	*44*
4C	7	WATERHOLE	1971	4	-	5	-	-	520	-	-	15	-	376	1	-	-	-	3	-	7	-	7	-	-	-	1	-	1	52	-	-	-	10	-	-	*993*
4C	6/7	PIT	1980	-	-	-	-	-	12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
4C	6	LAYER	1981	2	-	-	-	-	23	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	*27*
4C	6/7	PIT	2021	-	-	-	-	-	6	1	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
4C	6/7	PIT	2064	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4C	6/7	PIT	2071	-	-	-	-	-	4	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	*23*
4C	1-7	PH	2073	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	1-7	PH	2074	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
4C	6/7	SLOT	2075	1	-	1	-	-	5	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
4C	1-7	PH	2078	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
4C	6/7	SLOT	2079	-	-	-	-	-	7	-	1	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4C	6/7	SLOT	2081	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*2*
4C	6/7	PIT	2088	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	*13*
4C	7	WATERHOLE	2090	9	3	16	-	-	525	-	-	2	-	251	-	-	-	-	-	4	14	-	5	-	-	-	-	-	1	46	-	-	-	4	-	-	*852*
4C	7	WATERHOLE	2127	-	-	4	-	-	554	-	-	-	-	157	-	3	-	1	1	-	6	-	12	-	-	-	-	-	1	31	-	-	-	9	-	-	*775*
4C	6/7	PIT	2138	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	6/7	GULLY	2232	13	1	-	-	-	36	1	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	*41*
		Totals			**67**	**46**	**1**	**9**	**2915**	**27**	**12**	**44**	**7**	**899**	**5**	**5**	**-**	**3**	**9**	**13**	**30**	**-**	**52**	**19**	**3**	**-**	**6**	**1**	**22**	**178**	**1**	**-**	**-**	**25**	**-**	**3**	*4279*
R	1-7	PH	340	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	PH	343	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
R	1-7	PH	344	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1-7	PH	349	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PIT	1074	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	*9*
R	1-7	GULLY	1148	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	6/7	DITCH	1251	7	-	-	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1-7	PH	1501	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PIT	1544	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	1685	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	DITCH	1700	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	PH	1739	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	1-7	BONFIRE	1773	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	2-4	PIT	1792	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PIT	1796	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	1-7	PH	1837	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	1-7	GULLY	1853	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
R	1-7	GULLY	1873	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PIT	1898	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1-7	PH	1922	1	-	-	-	-	3	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1-7	PH	1985	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
R	1-7	PH	2272	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	2312	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1-7	PH	2337/2338	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
		Totals			**2**	**-**	**-**	**-**	**58**	**1**	**1**	**-**	**1**	**1**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**1**	**-**	**-**	**1**	**-**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	*69*

THORPE LEA NURSERIES
Table 5.16
Roman pot: count

PHASE	cp			prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
?	2-4	mix	134	21	2	-	-	-	5	14	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*
?	1	DITCH	137	40	7	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
?	1	mix	307/311	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1-7	PIT	354	10	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	6/7	LAYER	406	6	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*6*
	1	PH	417	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
			434	29	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*0*
	2-4	SLOT	462	-	-	-	-	-	17	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	*22*
	1	mix	533/534	-	1	-	-	-	17	-	4	-	1	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
	1-7	LAYER	545	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	7	DITCH	558	12	8	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	7	LAYER	692	4	-	-	-	-	29	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*33*
	1-7	mix	705	1	2	-	-	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
	1		709	7	5	-	-	-	73	-	1	-	2	-	-	1	-	-	-	-	-	-	3	-	5	-	-	-	-	-	-	-	-	-	-	-	-	*85*
	1		712	5	2	-	-	-	18	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
	1-7	PIT	1093	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	1095	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1	DITCH	1154	40	4	-	-	-	13	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
	1-7	DITCH	1164	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	6/7		1191/1128	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	*4*
	4	PIT	1574	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
	1	DITCH	1710	8	3	-	-	-	25	-	-	-	3	-	-	1	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*35*
	1-7	GULLY	1712	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	6/7	PIT	1747	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	*3*
	1-7	PH	1752	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1	DITCH	1824	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
	1-7	PIT	1850	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PIT	1866	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*12*
	6/7	LAYER	1874	-	-	-	-	-	7	-	-	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
	2-4	PIT	1879	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	*2*
	1-7	PIT	1900	7	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PH	1961	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
	1-7	PIT	1995	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
	2-4	PIT	2038	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
	1-7	HOLLOW	2041	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1-7	HOLLOW	2042	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
	1	PIT	2057	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7		2045/2065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1	PIT	2094	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	2-4	GULLY	2102	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	*5*
	6/7	GULLY	2265	1	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
	1-7	PIT	2282	2	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
	1-7	PH	2306	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
		unstrat		-	154	6	1	-	1191	14	24	13	19	52	16	7	-	3	3	-	1	1	62	18	-	6	2	1	5	31	-	-	-	-	-	-	-	*1469*
		Totals			**195**	**6**	**1**	**-**	**1490**	**35**	**35**	**15**	**28**	**52**	**17**	**11**	**-**	**3**	**3**	**1**	**1**	**1**	**78**	**19**	**5**	**7**	**2**	**1**	**7**	**37**	**-**	**-**	**-**	**-**	**-**	**-**		*1848*
		TOTALS			**490**	**60**	**2**	**9**	**6772**	**169**	**139**	**60**	**126**	**1004**	**57**	**73**	**1**	**19**	**17**	**14**	**31**	**1**	**233**	**88**	**30**	**31**	**25**	**12**	**48**	**239**	**1**	**1**	**1**	**26**	**1**	**3**		**9222**

THORPE LEA NURSERIES

Table 5.17

Roman pot: weight

cp					prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																	1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
2	1	7	DITCH	1990	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***26***
3			DITCH	114	-	-	-	-	-	9	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***14***
3			PIT	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3			GULLY	612	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***23***
3	1	7	PIT	697	145	6	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	***6***
3	1		LAYER	698	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
3			GULLY	1229	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	***34***
3	1	7	PIT	1653	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3	1	7	GULLY	1659	16	-	-	-	-	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***17***
3	1	7	DITCH	1779	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
3			WELL	1916	211	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	***27***
3	1	7	PIT	1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3	1	7	DITCH	1996	-	5	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***11***
3	1	7	RING DITCH	2110	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
3	1	7	HOLLOW	2143	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
3	1	7	GULLY	2315	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
3	1	7	GULLY	2423	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
3	1	7	DITCH	2483	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
			Totals		372	11	0	0	0	165	23	0	0	0	5	0	0	0	0	0	0	0	0	14	5	8	0	0	0	0	0	0	0	0	0	0	0	220
3–4	1		PIT/PH	117	5	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
3–4	6	7	PIT	130	6	1	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3–4	1		PIT	138	29	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
3–4	1		PIT	355	16	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3–4	1		PIT	413	79	40	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***22***
3–4	1		SH	414	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***33***
3–4	1	7	PH	428	30	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
3–4	1		PIT	495	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
3–4	1		LAYER	496	67	8	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
3–4	1		PIT	551	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
3–4	1	7	PH	578	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
3–4	1	7	PIT	604	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	***4***
3–4	1	7	PH	605	1	17	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
3–4	1		PIT	699	7	21	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***18***
3–4	1	7	PH	1697	4	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
3–4	1	7	PIT/PH	1722	-	4	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***7***
3–4	1	7	PIT	1726	17	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
3–4	1	7	PIT	1815	15	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***6***
3–4	1	7	Scoop 1857	1857	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
3–4	1	7	PIT	1975	3	-	-	-	-	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***61***
3–4	1	7	GULLY	1979	83	10	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***50***
3–4	1	7	PIT	1989	29	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***24***
3–4	1	7	PIT	2117	42	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	***11***
			Totals		439	205	0	0	0	284	0	0	0	0	5	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	303
3/4M			PIT	307	735	604	-	-	-	678	11	71	-	39	25	28	-	-	-	-	-	-	-	91	-	-	-	8	-	-	-	-	-	-	5	-	***956***
3/4M	6		HOLLOW	310	143	157	54	-	-	734	265	107	-	-	25	-	45	-	-	-	-	-	-	16	-	-	-	-	-	-	35	-	-	-	-	-	-	***1227***
3/4M	6	7		350	19	2	-	-	-	2160	297	77	-	115	35	-	196	-	-	1	-	-	-	24	4	-	38	-	-	7	12	-	-	-	-	-	-	***2966***
3/4M	1		PIT	431	27	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
3/4M	6	7	clearance	433	83	20	-	-	-	369	-	312	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***690***
3/4M	1		PIT	484	52	16	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***83***
3/4M	2	4	LAYER	499	-	117	-	-	-	484	22	68	-	26	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	***702***
3/4M	1		LAYER	521	140	5	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***18***
3/4M	1		PIT	539	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
3/4M	1		PIT	565	233	-	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
3/4M	1	7	PIT	586	21	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
3/4M	1		PIT	625	153	9	-	-	-	25	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	***44***
3/4M	1	7	PIT	628	166	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***42***
3/4M	1	7	PIT	631	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
3/4M	1		PIT	638	40	20	-	-	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***97***
3/4M	1	7	LAYER	658	9	6	-	-	-	532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	***539***
3/4M	1		PIT	664	30	119	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
3/4M	1		PIT/GULLY	666	-	-	-	-	-	25	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***38***
3/4M	1	7	PIT	674	208	30	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
3/4M	1	7	PIT	1586	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***30***
3/4M	1		trench	1588	367	17	-	-	-	168	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***176***
3/4M	1	7	PIT	1599	16	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***11***
3/4M	1		PIT	1627B	-	71	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***31***
3/4M	1	7	PIT	1642	-	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	***66***
3/4M	2	4	PIT	1643	18	57	-	-	-	239	-	10	-	20	-	13	31	-	-	-	-	-	-	3	-	-	-	18	-	-	-	-	-	-	-	-	-	***334***
3/4M	2	4	PIT	1644	22	74	-	-	-	123	-	-	-	-	-	-	33	-	-	-	-	-	-	16	-	-	-	-	-	38	-	-	-	-	-	-	-	***210***
3/4M	1		PIT	1645	152	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	***76***
3/4M	1		PIT	1646	50	44	-	-	-	308	-	-	-	-	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***355***
3/4M	1	7	PIT	1647	-	-	13	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***25***
3/4M	1		PIT	1648	44	102	-	-	-	162	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	***164***
3/4M	2	4	PIT	1955	12	20	-	-	-	23	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	***47***
			Totals		2745	1494	67	0	0	6514	621	688	0	200	94	41	432	0	0	1	0	0	0	155	23	0	46	30	0	67	47	0	0	0	0	5	0	8964
4A	1	7	PIT	151	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***18***
4A	6		HOLLOW	152	9	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
4A	1		PIT	156	123	168	-	-	-	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	***482***
4A	1		DITCH	322	161	176	-	-	-	319	-	22	-	-	-	-	3	-	-	-	-	-	-	32	26	-	-	-	-	4	-	-	-	-	-	-	-	***406***
4A	1		PIT	323	-	-	-	-	-	36	-	19	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	***69***
4A			MIDDEN	337	30	3	-	-	-	267	-	38	-	-	-	-	-	-	-	25	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	***339***
4A	1		PIT	368	16	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***0***
4A	1		PIT	398	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
4A	1		PIT	402	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***32***
4A	1		GULLY	472	121	16	-	-	-	369	23	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***418***
4A	1		Scoop 1857	477	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
4A	1		PH	480	6	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	***4***
4A	1		SH	492	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
4A	1		PH	506	3	9	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
4A	1	7	HOLLOW	534	122	66	-	-	-	33	60	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***132***
4A	1		Pit 550	550	-	-	-	-	-	14	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	***39***
4A	2		PIT	553	13	413	-	-	-	685	49	10	-	63	-	-	87	-	-	-	-	-	-	14	-	-	-	3	-	5	-	-	-	-	-	-	-	***916***
4A	1		PIT	564	26	10	-	-	-	3	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***13***
4A	1	7	PH	596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	***3***
4A	1	7	PIT	653	79	17	-	-	-	55	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***59***
4A	1		PH	685	38	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
4A	1		BURIAL	1668	25	4	12	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	***52***
4A	1		PIT	1696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	***4***
4A	1	7	GULLY	1885	21	5	-	-	-	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***126***
4A	2		GULLY	1910	-	-	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	2	-	-	-	-	-	-	-	-	-	***232***
4A	1	7	PIT	1935	6	57	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***16***
4A	1		PIT	2045	56	428	-	-	-	310	-	-	-	53	-	-	-	-	-	-	-	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	***414***
4A	1		PIT	2105	254	3	-	-	-	116	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	***146***
4A	1	7	PIT	2108A	5	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***8***
4A	1	7	PIT	2136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	***45***
			Totals		1116	1383	12	0	0	3123	154	128	0	142	12	0	134	0	0	25	0	0	0	144	80	4	1	12	2	13	25	0	0	3	0	0	0	4002
4A/B	6	7	DITCHES	321/322	2	-	-	-	-	80	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	***92***
4A/B	6	7	322/330(326)	322/330	15	8	-	-	-	88	-	19	-	-	-	15	-	-	-	-	-	-	-	-	-	-	1	-	-	5	-	-	-	-	-	-	-	***128***
			Totals		17	8	0	0	0	168	0	30	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	0	0	0	0	0	0	220

THORPE LEA NURSERIES

Table 5.17

Roman pot: weight

cp				prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
4B	2	DITCH	308	15	6	-	-	-	225	-	-	-	6	-	-	13	-	-	-	-	-	-	10	-	-	-	2	-	4	-	-	-	-	-	-	-	*260*
4B	7	DITCH	321	87	31	-	-	-	648	111	-	-	21	17	23	-	-	-	-	-	-	-	13	3	-	-	-	-	-	14	-	-	-	-	-	-	*850*
4B	6 7	DITCHES	321/330	22	-	4	-	-	72	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*79*
4B	6 7	DITCH	330	29	126	-	-	-	552	-	17	-	44	5	-	-	-	-	-	-	-	-	9	-	-	-	2	13	-	-	-	-	-	-	-	-	*642*
4B	2 4	330/527(706)	330/527	38	148	-	-	-	94	-	22	-	11	-	-	-	-	19	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	*153*
4B	3	PIT/MIDDEN	338	-	47	-	-	-	993	48	1112	-	46	12	-	-	-	12	-	-	-	-	83	31	-	-	5	-	13	-	-	-	-	-	-	-	*2355*
4B	1 7	PIT	353	-	-	-	-	-	20	-	-	-	-	-	-	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*101*
4B	2	DITCH	367	155	178	-	-	-	1701	21	2	-	30	30	-	74	-	-	-	-	-	-	122	177	11	15	-	5	38	-	-	-	-	-	-	-	*2226*
4B	3	SLOT	369	30	3	-	-	-	3	-	-	-	-	-	-	-	-	13	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*
4B	1 7	PH	381	4	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4B	2	DITCH	464	95	84	-	-	-	1179	86	152	-	66	-	6	235	-	28	-	-	-	-	107	9	-	4	3	-	-	-	-	2	-	-	-	-	*1877*
4B	3	GULLY	527	22	-	-	-	-	289	10	60	-	2	7	-	57	-	-	-	-	-	-	23	2	-	8	9	2	-	-	-	-	-	-	-	-	*469*
4B	6 7	PH	573	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
4B	2 3	DITCH	599	93	85	-	-	-	1934	87	3	-	58	-	9	144	-	64	48	-	-	-	116	122	-	40	-	-	88	-	-	-	-	-	-	-	*2713*
4B	2 4		734	40	-	-	-	-	402	5	58	-	9	-	-	-	-	-	5	-	-	-	-	62	-	25	-	4	-	-	-	-	-	-	-	-	*570*
4B	6 7	BURNING	1003	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*18*
4B	7	DITCH	1072	15	-	-	-	-	589	-	-	-	-	207	-	-	-	-	-	-	-	-	6	2	-	-	-	-	75	36	-	-	-	-	-	-	*915*
4B	4	PH	1576	-	-	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*89*
4B	6 7	PIT	1577	46	13	1	-	-	154	55	-	-	8	-	-	-	-	-	-	-	-	-	18	25	-	-	-	-	-	29	-	-	-	-	-	-	*289*
4B	3	PIT	1640	16	39	-	-	-	46	14	-	-	-	-	-	21	-	-	-	-	-	-	16	-	-	-	5	-	-	-	-	-	-	-	-	-	*102*
4B	3	HOLLOW	1751	8	-	-	-	-	107	-	-	-	61	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*182*
4B	2 4	PIT	1832	32	3	-	-	-	11	-	-	-	-	-	24	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	*43*
4B	3	PIT	1833	46	1	-	-	-	103	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*116*
4B	2 4	DITCH	1862	1	-	-	-	-	105	29	-	-	22	-	118	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	*282*
4B	5	WELL	1948	-	-	-	-	-	1040	-	-	-	251	-	8	-	-	-	-	-	-	-	5	-	-	-	-	-	30	-	-	-	-	-	-	-	*1334*
4B	4	GULLY	1988	-	7	-	-	-	13	6	-	-	-	-	-	-	-	-	-	-	-	-	54	-	15	-	-	-	-	-	-	-	-	-	-	-	*88*
4B	2	DITCH	2065	41	147	-	-	-	179	1	-	-	-	5	-	2535	-	77	-	-	-	-	5	-	2	-	-	4	14	-	-	-	-	-	-	-	*2822*
4B	6 7	PIT	2096A	105	-	-	-	-	151	-	-	-	-	-	-	-	-	99	-	-	-	-	11	-	-	6	-	-	-	-	-	-	-	1	-	-	*268*
		Totals		940	918	5	0	0	10728	473	1433	0	635	283	215	3079	81	312	53	0	0	0	617	441	28	98	26	28	262	79	0	2	0	1	0	0	18874
4C	6 7	HEARTH	140	15	-	32	-	-	15	-	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*61*
4C	6 7	PIT	142	2	-	3	-	-	5	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	*51*
4C	6 7	PIT	313	-	-	-	-	-	71	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	*119*
4C	7	PIT	319	22	-	-	-	-	724	-	-	-	-	96	-	-	-	-	-	-	-	-	5	5	-	-	-	-	-	144	-	-	-	-	-	-	*974*
4C	1 7	PH	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
4C	1 7	PIT	365	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
4C	6 7	PIT	387	-	-	-	-	-	87	-	-	-	-	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*93*
4C	6 7	GULLY	391	23	3	-	-	-	203	7	6	-	-	19	5	-	-	-	-	-	-	-	2	-	-	-	-	-	-	6	-	-	-	-	-	-	*248*
4C		PH	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
4C	6 7	GULLY	445	-	-	-	-	-	141	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	88	-	-	-	-	-	-	*279*
4C	6 7	PH	516	-	-	-	-	-	-	-	-	-	-	226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*226*
4C	7	PIT	563	15	15	1	-	-	253	-	-	-	-	193	-	-	-	-	1887	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	*2415*
4C	6 7	GULLY	566	59	8	-	-	-	32	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*36*
4C	6 7	GULLY	615	38	28	-	-	-	87	-	-	-	-	100	-	-	-	-	-	-	-	-	1	18	-	-	-	-	-	78	-	-	-	-	-	-	*284*
4C	6	PIT	682	29	-	146	-	165	1473	29	-	53	-	-	19	-	-	-	388	-	-	-	30	-	-	-	2	-	16	3	-	-	-	-	-	15	*2028*
4C	6 7		691?	-	-	-	-	-	79	-	-	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*328*
4C	6 7	DITCH	1008	743	642	46	14	-	5922	-	83	13	11	734	40	12	-	-	-	238	9	-	69	36	7	-	43	-	64	510	2	-	-	84	-	-	*7877*
4C	6	DITCH	1191	265	74	180	-	-	1845	-	164	115	-	5	-	-	-	33	-	-	-	-	-	124	-	-	-	-	28	58	-	-	-	-	-	-	*2372*
4C	6 7		1533	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-	4	12	-	-	-	-	-	2	-	-	-	-	-	-	*96*
4C	6 7	PH	1579	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
4C	6 7	GULLY	1686	-	-	-	-	-	156	69	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*244*
4C	6 7	PIT	1705	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
4C	6 7	PH	1759	-	-	-	-	-	15	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*43*
4C		LAYER	1805	-	-	-	-	-	65	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	15	-	-	-	-	-	-	-	*95*
4C	6 7	PH	1819	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
4C	6 7	LAYER	1828	-	-	-	-	-	149	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*156*
4C	1 7	PIT	1831	18	-	-	-	-	14	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*32*
4C	6 7	PH	1836	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*3*
4C	6	HOLLOW	1878	4	18	-	-	-	551	181	-	290	-	31	-	-	-	13	22	-	-	-	19	-	-	-	-	-	-	11	-	-	-	48	-	-	*1166*
4C	6 7	4-POSTER	1925	3	-	-	-	-	6	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*10*
4C	6 7	PIT	1951	14	-	-	-	-	39	36	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*80*
4C	7	PIT	1959	-	-	52	-	-	510	10	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*559*
4C	6 7	PIT	1960	-	-	2	-	-	120	4	-	-	-	82	-	-	-	-	-	-	92	-	-	3	2	-	-	-	-	-	-	-	-	-	-	-	*303*
4C	7	WELL	1971	20	-	57	-	-	7564	-	-	682	-	5849	8	-	-	-	131	-	177	-	27	-	-	-	2	-	44	1120	-	-	-	220	-	-	*15824*
4C	6 7	PIT	1980	-	-	-	-	-	62	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*68*
4C	6	LAYER	1981	10	-	-	-	-	664	-	-	48	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	70	-	-	-	-	-	-	*799*
4C	6 7	PIT	2021	-	-	-	-	-	97	10	-	27	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	*140*
4C	6 7	PIT	2064	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
4C	6 7	PIT	2071	-	-	-	-	-	53	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	-	-	*300*
4C	1 7	PH	2073	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4C	1 7	PH	2074	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*8*
4C	6 7	SLOT	2075	1	-	2	-	-	26	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*98*
4C	1 7	PH	2078	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*6*
4C	6 7	SLOT	2079	-	-	-	-	-	57	-	30	-	-	9	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*103*
4C	6 7	SLOT	2081	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	*14*
4C	6 7	PIT	2088	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	5	-	11	-	-	-	-	-	-	*68*
4C	7		2090	36	11	83	-	-	5578	-	-	50	-	2087	-	-	-	-	-	69	565	-	21	-	-	-	-	-	1	999	-	-	-	34	-	-	*9404*
4C	7	PIT	2127	4	-	9	-	-	4903	-	-	-	-	1212	-	50	-	21	16	-	282	-	140	-	-	-	-	-	1	436	-	-	-	61	-	-	*7122*
4C	6 7	PIT	2138	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*34*
4C	6 7	GULLY	2232	31	14	-	-	-	160	4	-	13	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	-	-	-	-	-	-	*197*
		Totals		1352	813	613	14	165	31974	356	283	1598	15	11154	72	65	0	67	2454	314	1167	0	356	204	9	0	50	5	183	3627	2	0	0	447	0	55	54457
R	1 7	PH	340	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1 7	PH	343	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*23*
R	1 7	PH	344	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*13*
R	1 7	PIT/PH	349	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*5*
R	1 7	PH	1074	-	-	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	6	-	-	-	-	-	-	*109*
R	1 7	GULLY	1148	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*11*
R	6 7	DITCH	1251	14	-	-	-	-	8	-	-	-	-	5	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
R	1 7	PH 1501	1501	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1 7	PIT	1544	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*9*
R	1 7	PH	1685	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*14*
R	1 7	DITCH	1700	-	7	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	*5*
R	1 7	PIT	1739	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*42*
R	1 7	BURNING	1773	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*16*
R	2 4	PIT	1792	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
R	1 7	PIT	1796	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*19*
R	1 7	PH	1837	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*15*
R	1 7	GULLY	1853	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*34*
R	1 7	GULLY	1873	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
R	1 7	PIT	1898	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*7*
R	1 7	PH	1922	8	-	-	-	-	14	7	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*41*
R	1 7	PH	1985	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1 7	SH	2272	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*4*
R	1 7	PH	2312	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*25*
R	1 7	PH	2337/2338	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*2*
		Totals		22	7	0	0	0	361	7	7	0	11	5	0	20	0	0	0	0	0	0	10	2	0	0	2	0	0	6	0	0	0	0	0	0	431

THORPE LEA NURSERIES

Table 5.17

Roman pot: weight

cp					prehist	1	2A	2B	2C	3A	3B	3C	3D	4	5	6	7A		7B					8			9			10A					10B			Totals
																	1	2	1	2	3	4	5	A	B	C	A	B	C	1	3	4	7	8	3	4	5	
?	2	4	mix	134	62	4	-	-	-	49	492	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***548***
?	1		DITCH	137	275	82	-	-	-	20	226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***246***
?	1	7	mix	307/311	-	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***43***
?	1		PIT	354	103	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***25***
?	6	7	LAYER	406	69	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	***57***
	1	7	PIT	408	-	49	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***18***
?	1	7	PH	417	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***5***
?				434	305	37																															***0***
?	2	4	SLOT	462	-	-	-	-	-	67	-	17	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	6	-	-	-	-	-	-	***106***
?	4			533/534	-	5	-	-	-	78	-	34	-	1	-	-	44	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	***174***
?			LAYER	545	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***10***
?			DITCH	558	149	76	-	-	-	-	-	28	18	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	***60***
	6	7	GULLY	615	38	28	-	-	-	87	-	-	-	-	100	-	-	-	-	-	-	-	-	1	18	-	-	-	-	-	78	-	-	-	-	-	-	***284***
?	1		LAYER	692	19	-	-	-	-	258	-	13	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***289***
?	1	7	mix	705	21	39	-	-	-	27	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***36***
?	1			709	56	143	-	-	-	220	-	10	-	38	-	-	55	-	-	-	-	-	-	21	-	5	-	-	-	-	-	-	-	-	-	-	-	***349***
?	1			712	53	23	-	-	-	171	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***179***
?	1	7	PIT	1093	13	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3***
?	1	7	PIT	1095	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***20***
?	1		DITCH	1154	242	18	-	-	-	84	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***88***
?	1	7	DITCH	1164	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	***2***
?	6	7		1191/1128	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	***55***
?			PIT	1574	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***73***
?	1		DITCH	1710	47	14	-	-	-	281	-	-	-	17	-	-	152	-	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	***530***
?	1	7	GULLY	1712	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***14***
?	6	7	PIT	1747	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	***22***
?	1	7	PH	1752	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
?			DITCH	1824	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***19***
?	1	7	PIT	1850	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***34***
?	1	7	PIT	1866	-	-	-	-	-	258	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***258***
?	6	7	LAYER	1874	-	-	-	-	-	49	-	-	7	-	-	-	-	-	-	-	8	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	***66***
?	1	7	PIT	1879	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	***31***
?	1	7	PIT	1900	71	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***9***
?	1	7	PH	1961	-	-	-	-	-	168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***168***
?	1	7	PIT	1995	-	-	-	-	-	142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***142***
?	2	4	PIT	2038	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	***35***
?	1	7	HOLLOW	2041	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***10***
?	1	7	HOLLOW	2042	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***23***
?	6	7	PIT	2057	-	-	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***94***
?	1	7		2045/2065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	***4***
?	1	7	PIT	2094	16	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***12***
?	1	7	GULLY	2102	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	***5***
	1	7	HOLLOW	2139	-	-	-	-	-	11	-	-	6	-	-	-	27	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	***51***
?	6	7	GULLY	2265	1	-	-	-	-	11	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***18***
?	1	7	PIT	2282	6	38	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***2***
?	1	7	PH	2306	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***1***
			unstrat		-	2507	34	63	-	8714	71	472	841	595	425	140	247	-	140	114	-	-	38	588	157	-	19	16	-	34	351	-	-	-	-	-	-	***12962***
			Totals		1555	3063	34	63	0	11217	813	579	872	673	525	147	525	0	140	114	8	0	38	752	197	5	20	16	0	48	493	0	0	0	0	0	0	17182
			TOTALS		8558	7902	731	77	165	64534	2447	3148	2470	1676	12083	490	4255	81	519	2647	322	1167	38	2062	952	54	165	137	35	574	4282	2	2	3	448	5	55	104653

Table 5.19 Thorpe Lea Nurseries: loomweights by Phase

PHASE	FABRIC	CONTEXT	COUNT	WEIGHT	COMMENTS
	A	114G	12	100	Flat base and curved side
	A	114I	1	43	
	A	124	1	129	Side fragment
	A	414	1	84	Perforation
	A	434	1	105	Corner fragment
	C	444	1	275	Perforation
	A	463	3	114	Corner fragment
	C	463	1	33	Top of triangular weight, with finger impression
		557	1	26	
	B	645	1	3	
	A	1104	1	137	Corner fragment, with perforation
	B	1146	1	183	Top of triangular weight, with perforation
	C	1244	1	95	Corner fragment
	A	1248	1	45	Corner fragment
	A	1586	1	22	
	B	1586	1	10	
	C	1586	1	32	
	A	1602	1	74	Corner fragment
	C	1608	1	15	
	A	1626	2	47	
	C	1703	1	77	
	C	1709	12	140	
	A	1745	1	100	
	C	1806	8	173	
	B	1816	3	8	
	A	2296	5	158	Perforation
Total 3			64	2228	
3/4	C	412	1	167	Perforation
	A	506	1	15	
		567	6	55	
	A	604	1	18	
	C	629	6	161	
	A	653A	3	59	
	B	653B	1	21	
		667	1	101	
		672	3	185	
	C	675	1	28	Perforation
	A	1588	2	108	
	D	1588	1	80	
	A	1596	1	39	
	C	1646	1	19	
	A	1747	3	119	
	C	1854A	1	30	
Total 3/4			33	1205	
	A	156C	2	56	Top of triangular fragment
	C	321	1	40	
	C	333	1	52	
	A	366A	1	43	
	A	367	2	96	
	C	371	1	179	Top of triangular fragment , with perforation
	B	418	5	536	Perforation
	C	156C	1	135	
	C	418	3	312	
	C	543	1	100	
	C	543B	3	127	Perforation
	A	543D	4	99	
		598B	2	144	

PHASE	FABRIC	CONTEXT	COUNT	WEIGHT	COMMENTS
	C	616	2	104	
	A	624	2	42	
	B	625(?1625)	1	19	
	B	649B	1	46	
	C	654	1	69	
	C	679	2	15	
	A	1205	1	93	Corner fragment
	C	1569	1	16	
	A	1575	1	61	
	C	1643	1	80	
	B	1648	1	167	Perforation
	C	1717	1	41	Corner fragment
	A	1822	1	54	
	C	1949A	3	62	
	A	1989	1	46	Corner fragment
	B	2036B	2	39	
	C	2140	2	53	
Total 4			51	2926	
UNPHASED	A	300/318	2	91	
	A	350A	1	108	
	B	618	1	45	
	C	640	1	131	
	A	1804	2	153	Perforation
	A	U/S	1	33	
Total			8	561	
TOTAL			156	6920	

Table 5.20 Thorpe Lea Nurseries: nails by phase and type

Phase	Context	Type 1b	Shanks	Modern	Total
2	2405		2		2
3	1118A		1		1
3	1768		1		1
3/4	554	1			1
4	156A		1		1
	308		1		1
	315	2			2
	318	1			1
	319		1		1
	328		1		1
	392	1			1
	418	1			1
	515B	1			1
	515B/520	1			1
	532		1		1
	543	1			1
	543D		1		1
	583	2			2
	642	1			1
	649A	2			2
	649A/B	2			2
	649B		1		1
	1068			1	1
	1197	1			1
	1551	1			1
	1731B	2			2
	1830	2			2
	1878	1			1
	1879	1			1
	1934	1			1
	1934A	1			1
	1934B	1			1
Phase	Context	Type 1b	Shanks	Modern	Total
	1936B		2		2
	1940B	1			1
	1959		1		1
	1960C	1			1
	1972	2	1		3
	2036		3		3
	2052	1			1
	2062		3		3
	2091		2		2
	2119B	1			1
	2119C	1			1
	2128	1			1
	2129	4	5		9
	2227		2		2
U/S	1179	1			1
	U/S		1		1
Total		40	31	1	72

Table 5.21 Thorpe Lea Nurseries: quernstones

NUMBER	PHASE	CONTEXT	STONE	COUNT	WEIGHT	COMMENTS
1	2	1218 (2400)	LGS	5	965	fragments
2	2	1218 (2414A)	LGS	1	597	full thickness 60-70mm
3	2	1218 (2415)	LGS	1	549	ft 50-55mm
4	2	Pit 2370	Sarsen	1	315	upper stone, poss saddle quern
5	2	PH 2381A	Sarsen	1	939	-
6	2	PH 2381B	Sarsen	1	238	-
7	3	PH 1877	LGS	1	42	-
8	3	Pit 2202	LGS	1	82	-
9	3	2366	Sarsen	1	372	?quern, ft 55mm
10	3b	Hollow 523	LGS	1	44	central perforation
11	3/4	Unstr 418	LGS	2	435	upper stone, ft 20-30mm
12	3/4	Unstr 418	Sarsen	6	278	?grain rubber, smooth surfaces
13	3/4	531/543	LGS	3	90	fragments
14	3/4	Unstr 543	LGS	1	461	?quern
15	3/4	Unstr 543B	Sarsen	3	78	?grain rubber, smooth
16	3/4	Pit 625 (623)	LGS	3	113	fragments
17	3/4	Pit 628 (627)	LGS	1	21	upper stone
18	3/4	Pit 664 (667)	LGS	1	193	-
19	3/4	Pit/gully 666	LGS	4	122	fragments
20	3/4	Pit 1646	LGS	1	190	?lower stone
21	4	1008 (1731)	micaeous Sst	1	73	?quern
22	4	Unstr 300/318	LGS	1	237	?lower stone
23		304/318	Lava	7	416	fragments
24	4	Pit 1866	Lava	2	21	fragments
25	4a	Ditch 322 (1854A)	LGS	2	219	fragments
26	4a	324/37/38	LGS	1	139	?upper stone, poss saddle quern
27	4a	Pit 553 (554)	LGS	1	889	?upper stone, ft 65mm
28	4a	?Pit 553 (554)	LGS	1	465	-
29	4a/c	Mix 321/322 (549N)	LGS	1	52	?quern
30	4b	367 (479)	Lava	8	486	fragments
31	4b	367 (598A)	Lava	1	78	-
32	4b	464 (435)	LGS	1	106	?upper stone
33	4b	464 (435)	Sarsen	1	634	pyramidal, smooth, ?grain rubber
34	4b	Well 1948	LGS Bargate	1	770	upper stone, ft 38mm
35	4c	Pit 319B	LGS	1	247	?upper stone, ft 35mm
36	4c	Pit 682 (649A)	Lava	10	595	fragments
37	4c	682 (649A)	LGS	1	1167	?lower stone
38	4c	682 (649A)	LGS	2	1108	ft 40mm, 60mm
39	4c	682 (649A/B)	LGS	1	137	?upper stone, ft 30mm
40	4c	682 (649A/B)	LGS Bargate	2	1167	upper stone
41	4c	Ditch 1008 (392)	LGS	1	66	?quern
42	4c	1008 (1934D)	Quartzite Sst	2	1171	?upper stone
43	4c	1008 (1934E)	Quartzite Sst	1	71	?upper stone
44	4c	1008 (1934G)	LGS	1	1737	upper stone, ft 60-65mm
45	4c	1008 (1934G)	LGS	1	61	-
46	4c	1008 (1934G)	LGS	1	401	burnt fragment, ft 55mm
47	4c	1008 (2070)	Sarsen	1	35	?quern
48	4c	Hollow 1878	LGS	1	35	?quern
49	4c	1878E	LGS	3	889	fragments
50	4c	1878E	Sarsen	1	155	-
51	4c	1878 (1068)	LGS	1	893	upper stone, grooved
52	4c	Pit 1960A	LGS	1	162	upper stone, ft 40mm
53	4c	Well 1971 (1972)	LGS	3	318	fragments
54	4c	1971 (1976)	LGS Bargate	1	841	upper stone, ft 40mm
55	4c	1971 (2036B)	Sarsen	1	165	?quern
56	4c	1971 (2056)	Sarsen	1	3455	upper stone
57	4c	1971 (2056B)	LGS	1	691	upper stone, ft 35mm
58	4c	1971 (2062B)	LGS Bargate	1	211	?upper stone
59	4c	Layer 1981	LGS Bargate	1	388	?upper stone, ft 45mm
60	4c	2090 (2097)	LGS	1	458	?quern, ft 45mm
61	4c	Pit 2127 (2133)	LGS	1	1606	upper stone, central perforation
62	4c	2127 (2134)	LGS	1	817	ft 45mm
63	4c	2127 (2134)	LGS Bargate	1	738	-
64	UN	Unstr 1000	Lava	2	37	fragments
65	UN	1053	Lava	2	98	fragments
66	UN	1170	Lava	1	13	-
67	UN	Unstr 1500	LGS	1	148	-
			Total	**119**	**30790**	

Table 5.22 Thorpe Lea Nurseries: ceramic building material

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
		ct	wt	ct	wt	ct	wt	ct	wt	ct	wt		ct	wt	ct	wt	ct	wt		ct	wt
Ditch 1218(2361A)	2	-	-	-	-	-	-	-	-	-	-	-	0	0	2	5	-	-	-	2	5
Unstr 1400	2	-	-	-	-	-	-	-	-	-	-	-	0	0	1	16	-	-	-	1	16
2024A	2	-	-	-	-	-	-	-	-	1	9	-	1	9	-	-	-	-	-	0	0
Pit 2362	2	-	-	-	-	-	-	-	-	-	-	-	0	0	1	1	-	-	-	1	1
2460	2	-	-	-	-	-	-	-	-	-	-	-	0	0	2	36	-	-	-	2	36
Ditch 1164(1165)	3	-	-	-	-	-	-	-	-	1	15	-	1	15	-	-	-	-	-	0	0
Pit 1900B	3	-	-	-	-	-	-	-	-	1	3	-	1	3	-	-	-	-	-	0	0
1995 (1002)	3	-	-	2	295	-	-	-	-	-	-	-	2	295	-	-	-	-	-	0	0
2001	3	1	330	-	-	-	-	-	-	-	-	-	1	330	-	-	-	-	-	0	0
2483 (2352)	3	-	-	-	-	-	-	-	-	-	-	-	0	0	2	15	-	-	-	2	15
PH 643	3a	-	-	1	75	-	-	-	-	-	-	-	1	75	-	-	-	-	-	0	0
Pit 1824A	3a	-	-	-	-	-	-	-	-	-	-	-	0	0	2	56	-	-	-	2	56
Pit 153	3b	-	-	4	905	-	-	-	-	-	-	-	4	905	-	-	-	-	-	0	0
Pit 1603	3b	-	-	1	24	-	-	-	-	-	-	-	1	24	-	-	-	-	-	0	0
Pit 1889	3b	-	-	1	14	-	-	-	-	-	-	-	1	14	-	-	-	-	-	0	0
Gully 2107W	3b	-	-	1	250	-	-	-	-	-	-	-	1	250	-	-	-	-	-	0	0
2110 (2096B)	3b	-	-	-	-	-	-	-	-	1	23	waster	1	23	-	-	-	-	-	0	0
1996 (1998)	3c	-	-	-	-	-	-	-	-	1	3	-	1	3	-	-	-	-	-	0	0
121	3/4	-	-	-	-	-	-	-	-	1	7	-	1	7	-	-	-	-	-	0	0
300 (717)	3/4	-	-	-	-	-	-	-	-	3	16	-	3	16	-	-	-	-	-	0	0
Pit 307	3/4	-	-	-	-	-	-	-	-	2	22	-	2	22	-	-	-	-	-	0	0
307 (419)	3/4	1	168	-	-	-	-	-	-	-	-	-	1	168	-	-	-	-	-	0	0
Hollow 310	3/4	-	-	3	188	1	50	-	-	3	30	-	7	268	-	-	-	-	-	0	0
350A	3/4	-	-	7	270	1	61	-	-	-	-	-	8	331	-	-	-	-	-	0	0
Pit 376	3/4	-	-	-	-	-	-	-	-	3	4	-	3	4	-	-	-	-	-	0	0
SH 414	3/4	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0
Unstr 418	3/4	8	1925	48	5060	12	1035	-	-	20	244	-	88	8264	-	-	-	-	-	0	0
Unstr 418	3/4	-	-	5	62	-	-	-	-	-	-	waster	5	62	-	-	-	-	-	0	0
433	3/4	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
Gully 445	3/4	-	-	1	55	-	-	-	-	-	-	-	1	55	-	-	-	-	-	0	0
Pit 470/481	3/4	-	-	-	-	-	-	-	-	1	40	-	1	40	-	-	-	-	-	0	0
Layer 499	3/4	1	140	1	70	-	-	-	-	-	-	-	2	210	-	-	-	-	-	0	0
Layer 499	3/4	3	230	-	-	-	-	-	-	-	-	waster	3	230	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
531/543	3/4	-	-	7	670	-	-	-	-	-	-	-	7	670	1	40	-	-	-	1	40
Unstr 543	3/4	4	560	10	480	4	135	-	-	-	-	pav=waster	18	1175	-	-	-	-	-	0	0
Unstr 543B	3/4	-	-	6	277	-	-	-	-	-	-	-	6	277	-	-	-	-	-	0	0
Unstr 543C	3/4	1	215	10	740	-	-	-	-	-	-	pav=waster	11	955	8	215	-	-	-	8	215
Unstr 543D	3/4	-	-	3	418	-	-	-	-	8	45	-	11	463	8	230	-	-	-	8	230
Pit 586	3/4	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
Pit 699(421)	3/4	-	-	-	-	-	-	-	-	1	7	-	1	7	-	-	-	-	-	0	0
Ditch 1154(1250)	3/4	-	-	-	-	-	-	-	-	-	-	-	0	0	1	5	-	-	-	1	5
Ditch 1251(1117)	3/4	-	-	-	-	-	-	-	-	3	75	-	3	75	-	-	-	-	-	0	0
1251(1117A)	3/4	-	-	-	-	-	-	-	-	-	-	-	0	0	1	55	1	80	-	2	135
1251 (1117B)	3/4	-	-	-	-	-	-	-	-	-	-	-	0	0	1	20	-	-	-	1	20
Pit 1627B	3/4	-	-	1	92	-	-	-	-	-	-	-	1	92	-	-	-	-	-	0	0
Pit 1643	3/4	1	145	-	-	-	-	-	-	-	-	-	1	145	-	-	-	-	-	0	0
Pit 1644	3/4	-	-	-	-	-	-	-	-	2	68	-	2	68	-	-	-	-	-	0	0
PH 1818	3/4	-	-	-	-	-	-	-	-	1	6	-	1	6	-	-	-	-	-	0	0
Pit 1955	3/4	1	113	-	-	-	-	-	-	-	-	-	1	113	-	-	-	-	-	0	0
Ditch 201	4	1	460	5	616	-	-	-	-	-	-	pav=waster	6	1076	-	-	-	-	-	0	0
Unstr 300/318	4	1	286	7	244	1	98	-	-	-	-	pav=waster, hobnail print	9	628	7	428	-	-	-	7	428
300 (303)	4	-	-	2	148	-	-	-	-	-	-	-	2	148	1	81	-	-	-	1	81
300 (304)	4	-	-	4	248	-	-	-	-	8	106	-	12	354	9	215	3	58	-	12	273
Unstr 318	4	2	184	18	1051	-	-	-	-	-	-	pav=waster	20	1235	34	854	-	-	-	34	854
318 (641)	4	1	415	-	-	-	-	-	-	-	-	-	1	415	1	22	-	-	-	1	22
318 (702)	4	-	-	-	-	-	-	-	-	4	30	-	4	30	-	-	-	-	-	0	0
PH 344	4	3	1680	-	-	-	-	-	-	-	-	waster	3	1680	-	-	-	-	-	0	0
367 (655)	4	3	1135	-	-	-	-	-	-	-	-	-	3	1135	-	-	-	-	-	0	0
702 (304/318)	4	1	159	6	344	-	-	-	-	-	-	-	7	503	6	632	-	-	-	6	632
1000 (1731A)	4	1	124	-	-	-	-	-	-	-	-	waster	1	124	-	-	-	-	-	0	0
1000 (1731B)	4	1	1295	3	93	-	-	-	-	-	-	pav=waster	4	1388	2	24	1	177	-	3	201
1000 (1731D)	4	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0
Ditch 1008	4	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0
1200	4	-	-	-	-	-	-	-	-	1	10	-	1	10	-	-	-	-	-	0	0
PH 1685	4	1	78	-	-	-	-	-	-	-	-	-	1	78	-	-	-	-	-	0	0
Pit 1898	4	-	-	1	40	-	-	-	-	-	-	-	1	40	-	-	-	-	-	0	0
PH 1922	4	2	135	-	-	-	-	-	-	-	-	-	2	135	-	-	-	-	-	0	0
Gully 1988A	4	-	-	-	-	-	-	-	-	1	11	-	1	11	-	-	-	-	-	0	0
2219 surf	4	-	-	-	-	-	-	-	-	1	4	-	1	4	1	11	-	-	-	1	11

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
2219	4	1	166	-	-	-	-	-	-	-	-	-	1	166	-	-	-	-	-	0	0
341	4?	-	-	1	285	-	-	-	-	-	-	-	1	285	-	-	-	-	-	0	0
1108	4?	-	-	-	-	-	-	-	-	-	-	-	0	0	2	95	1	680	-	3	775
?Gully 1148	4?	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
1251 (2224)	4?	-	-	-	-	-	-	-	-	-	-	-	0	0	1	26	-	-	-	1	26
1251 (2249)	4?	-	-	-	-	-	-	-	-	3	15	-	3	15	-	-	-	-	-	0	0
1500 (1606)	4?	-	-	-	-	-	-	-	-	-	-	-	0	0	1	80	-	-	-	1	80
1500 (1958A)	4?	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0
1700 (1680)	4?	-	-	-	-	-	-	-	-	-	-	-	0	0	1	34	-	-	-	1	34
1700 (1681)	4?	-	-	-	-	-	-	-	-	1	2	-	1	2	-	-	-	-	-	0	0
1700 (1767)	4?	-	-	-	-	-	-	-	-	1	8	-	1	8	-	-	-	-	-	0	0
1704	4?	-	-	-	-	-	-	-	-	1	17	-	1	17	-	-	-	-	-	0	0
1751 (1075)	4?	-	-	2	75	-	-	-	-	-	-	-	2	75	1	15	-	-	-	1	15
1802	4?	-	-	-	-	-	-	-	-	-	-	-	0	0	1	22	-	-	-	1	22
2221	4?	-	-	-	-	1	49	-	-	-	-	-	1	49	-	-	-	-	-	0	0
2227	4?	-	-	-	-	-	-	-	-	2	18	-	2	18	-	-	-	-	-	0	0
2254	4?	-	-	-	-	-	-	-	-	2	9	-	2	9	-	-	-	-	-	0	0
Pit 156A	4a	-	-	2	296	-	-	-	-	-	-	-	2	296	-	-	-	-	-	0	0
300 (324A)	4a	-	-	2	131	-	-	-	-	-	-	-	2	131	-	-	-	-	-	0	0
Ditch 322(333)	4a	-	-	-	-	-	-	-	-	-	-	-	0	0	1	35	-	-	-	1	35
322 (1854A)	4a	-	-	1	22	-	-	-	-	-	-	-	1	22	-	-	-	-	-	0	0
322 (1855A)	4a	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	1	10	-	1	10
Pit 323	4a	-	-	-	-	1	75	-	-	-	-	-	1	75	-	-	-	-	-	0	0
Midden 337	4a	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0
Gully 472 (1549)	4a	-	-	1	214	-	-	-	-	-	-	-	1	214	-	-	-	-	-	0	0
472 (1649)	4a	-	-	-	-	-	-	-	-	1	21	-	1	21	-	-	-	-	-	0	0
Pit 553(554)	4a	1	190	1	60	1	100	-	-	-	-	-	3	350	-	-	-	-	-	0	0
553(570)	4a	1	1455	3	90	-	-	-	-	-	-	teg=X hatch back	4	1545	-	-	-	-	-	0	0
553 (571)	4a	-	-	1	360	-	-	-	-	-	-	X hatch on back	1	360	-	-	-	-	-	0	0
553 (571A)	4a	-	-	1	225	-	-	-	-	-	-	-	1	225	-	-	-	-	-	0	0
Inhumation 1668	4a	-	-	-	-	-	-	-	-	1	39	-	1	39	1	102	-	-	-	1	102
2045 (2047)	4a	-	-	1	67	-	-	-	-	-	-	-	1	67	-	-	-	-	-	0	0
Pit 2105A	4a	-	-	-	-	-	-	-	-	-	-	-	0	0	1	32	-	-	-	1	32
324/37/38	4a/b	-	-	2	71	-	-	-	-	-	-	-	2	71	-	-	-	-	-	0	0
Ditch 2065(2046)	4a/b	-	-	5	80	-	-	-	-	-	-	-	5	80	-	-	-	-	-	0	0
Mix 321/322(549)	4a/c	-	-	1	80	-	-	-	-	-	-	-	1	80	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
Mix 321/330(348)	4a/c	-	-	3	290	-	-	-	-	-	-	-	3	290	-	-	-	-	-	0	0
Ditch 308	4b	-	-	1	130	2	36	-	-	-	-	all wasters	3	166	2	14	-	-	-	2	14
Ditch 330(312)	4b	11	458	-	-	-	-	-	-	-	-	waster	11	458	-	-	-	-	-	0	0
330 (373)	4b	-	-	2	41	-	-	-	-	-	-	-	2	41	-	-	-	-	-	0	0
330 (520)	4b	-	-	1	35	-	-	-	-	-	-	-	1	35	-	-	-	-	-	0	0
Pit/midden 338	4b	-	-	5	406	-	-	-	-	-	-	-	5	406	-	-	-	-	-	0	0
Ditch 367	4b	-	-	3	560	-	-	1	133	-	-	flue=combed	4	693	-	-	-	-	-	0	0
367 (366A)	4b	-	-	2	94	-	-	-	-	-	-	-	2	94	1	46	-	-	-	1	46
367 (457)	4b	1	280	-	-	1	70	-	-	-	-	-	2	350	-	-	-	-	-	0	0
367 (459D)	4b	-	-	1	65	-	-	-	-	-	-	-	1	65	-	-	-	-	-	0	0
367 (479A)	4b	-	-	3	445	-	-	-	-	-	-	-	3	445	-	-	-	-	-	0	0
367 (598A)	4b	-	-	3	410	-	-	-	-	-	-	-	3	410	-	-	-	-	-	0	0
367 (598B)	4b	1	375	-	-	-	-	-	-	-	-	overfired	1	375	-	-	-	-	-	0	0
367 (663)	4b	-	-	5	365	-	-	-	-	-	-	-	5	365	-	-	-	-	-	0	0
367 (1949B)	4b	-	-	-	-	-	-	-	-	2	10	-	2	10	-	-	-	-	-	0	0
Slot 369	4b	-	-	-	-	-	-	-	-	4	58	-	4	58	-	-	-	-	-	0	0
370	4b	-	-	1	71	-	-	-	-	-	-	dog print	1	71	-	-	-	-	-	0	0
Ditch 464(328)	4b	-	-	3	207	-	-	-	-	-	-	-	3	207	1	13	-	-	-	1	13
464(435)	4b	-	-	4	200	-	-	-	-	-	-	-	4	200	-	-	-	-	-	0	0
Gully 527(515A)	4b	-	-	-	-	-	-	-	-	2	15	-	2	15	-	-	-	-	-	0	0
527 (515B)	4b	-	-	1	29	-	-	-	-	-	-	-	1	29	-	-	-	-	-	0	0
533/534	4b	-	-	1	30	-	-	-	-	-	-	-	1	30	-	-	-	-	-	0	0
Unst 543(584)	4b	-	-	1	60	-	-	-	-	-	-	-	1	60	3	50	-	-	-	3	50
Ditch 599(583)	4b	-	-	4	620	-	-	-	-	-	-	-	4	620	-	-	-	-	-	0	0
599 (600)	4b	-	-	2	75	-	-	-	-	-	-	-	2	75	-	-	-	-	-	0	0
599 (661)	4b	-	-	7	490	-	-	-	-	-	-	-	7	490	-	-	-	-	-	0	0
Pit 682 (649A)	4b	5	1285	15	745	2	220	2	625	7	125	-	31	3000	-	-	-	-	-	0	0
682 (649A)	4b	13	5555	-	-	-	-	-	-	-	-	waster	13	5555	-	-	-	-	-	0	0
682 (649A/B)	4b	3	3040	44	6245	-	-	-	-	-	-	-	47	9285	-	-	-	-	-	0	0
682 (649A/B)	4b	14	7920	-	-	-	-	-	-	-	-	wasters	14	7920	-	-	-	-	-	0	0
682 (649B)	4b	3	1640	20	1352	3	250	-	-	-	-	-	26	3242	-	-	-	-	-	0	0
682 (649B)	4b	7	2585	-	-	-	-	-	-	-	-	waster	7	2585	-	-	-	-	-	0	0
734 (654)	4b	-	-	-	-	1	45	-	-	-	-	-	1	45	-	-	-	-	-	0	0
734 (1928)	4b	-	-	-	-	-	-	-	-	1	7	-	1	7	-	-	-	-	-	0	0
734 (1928A)	4b	-	-	-	-	-	-	-	-	1	16	-	1	16	-	-	-	-	-	0	0
Ditch 1072	4b	1	945	1	240	-	-	-	-	-	-	-	2	1185	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
Ditch 1072	4b	1	1370	-	-	-	-	-	-	-	-	waster	1	1370	-	-	-	-	-	0	0
1072 (1957A)	4b	1	41	-	-	-	-	-	-	1	4	pav=waster	2	45	-	-	-	-	-	0	0
1072 (2119B)	4b	-	-	1	212	1	59	-	-	-	-	teg=waster	2	271	-	-	-	-	-	0	0
1072 (2119D)	4b	-	-	1	119	-	-	-	-	-	-	-	1	119	-	-	-	-	-	0	0
PH 1576	4b	-	-	1	261	-	-	-	-	-	-	waster	1	261	-	-	-	-	-	0	0
Pit 1577(1578A)	4b	-	-	6	292	-	-	-	-	1	608	misc=?mamW	7	900	-	-	-	-	-	0	0
Pit 1832	4b	-	-	-	-	-	-	-	-	2	35	-	2	35	-	-	-	-	-	0	0
Pit 1833	4b	-	-	2	41	-	-	-	-	-	-	-	2	41	-	-	-	-	-	0	0
Ditch 1862(1859B)	4b	-	-	1	23	-	-	-	-	-	-	-	1	23	-	-	-	-	-	0	0
Waterhole 1948	4b	-	-	10	1197	-	-	-	-	-	-	-	10	1197	-	-	-	-	-	0	0
2065 (2100)	4b	-	-	-	-	-	-	4	181	-	-	2xincised,2xcomb	4	181	-	-	-	-	-	0	0
Pit 313	4c	-	-	1	308	-	-	-	-	-	-	-	1	308	-	-	-	-	-	0	0
Pit 319A	4c	1	415	2	339	-	-	-	-	-	-	-	3	754	-	-	-	-	-	0	0
Pit 319A	4c	1	893	-	-	-	-	-	-	-	-	waster	1	893	-	-	-	-	-	0	0
Ditch 321(309)	4c	-	-	-	-	-	-	-	-	1	17	-	1	17	-	-	-	-	-	0	0
321 (335)	4c	1	125	-	-	-	-	-	-	-	-	-	1	125	-	-	-	-	-	0	0
Pit 365	4c	-	-	2	62	-	-	-	-	-	-	-	2	62	-	-	-	-	-	0	0
Gully 391(316)	4c	-	-	-	-	-	-	-	-	2	11	-	2	11	-	-	-	-	-	0	0
391(372)	4c	-	-	-	-	-	-	-	-	2	10	-	2	10	-	-	-	-	-	0	0
391(384)	4c	-	-	-	-	-	-	-	-	1	18	-	1	18	-	-	-	-	-	0	0
391 (385)	4c	-	-	4	292	-	-	-	-	-	-	-	4	292	-	-	-	-	-	0	0
Ditch 558(559A)	4c	-	-	-	-	-	-	-	-	3	45	-	3	45	-	-	-	-	-	0	0
558 (595)	4c	-	-	-	-	1	95	-	-	-	-	-	1	95	-	-	-	-	-	0	0
Gully 615(383)	4c	-	-	3	382	-	-	-	-	-	-	-	3	382	-	-	-	-	-	0	0
Feature 691	4c	1	205	-	-	-	-	-	-	-	-	-	1	205	-	-	-	-	-	0	0
1008 (392)	4c	-	-	7	309	-	-	-	-	-	-	-	7	309	1	13	-	-	-	1	13
1008 (591A)	4c	-	-	-	-	-	-	-	-	6	20	-	6	20	-	-	-	-	-	0	0
1008 (591A)	4c	-	-	-	-	-	-	-	-	2	15	waster	2	15	-	-	-	-	-	0	0
1008 (591B)	4c	-	-	-	-	-	-	-	-	3	10	-	3	10	-	-	-	-	-	0	0
1008 (592)	4c	1	320	-	-	-	-	-	-	-	-	-	1	320	-	-	-	-	-	0	0
1008 (616)	4c	-	-	4	155	-	-	-	-	-	-	-	4	155	-	-	-	-	-	0	0
1008 (642)	4c	-	-	10	295	-	-	-	-	-	-	-	10	295	-	-	-	-	-	0	0
1008 (1205)	4c	3	410	-	-	-	-	-	-	-	-	waster	3	410	-	-	-	-	-	0	0
1008 (1551)	4c	1	245	-	-	1	49	-	-	-	-	pav waster	2		-	-	-	-	-	0	0
1008 (1551B)	4c	-	-	-	-	-	-	-	-	-	-	-	0	0	1	52	-	-	-	1	52
1008 (1553)	4c	-	-	-	-	-	-	-	-	4	38	-	4	38	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
1008 (1553B)	4c	-	-	1	90	-	-	-	-	-	-	-	1	90	-	-	-	-	-	0	0
1008 (1565A)	4c	-	-	-	-	-	-	-	-	2	16	-	2	16	-	-	-	-	-	0	0
1008 (1567A)	4c	-	-	1	33	-	-	-	-	-	-	-	1	33	-	-	-	-	-	0	0
1008 (1569)	4c	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
1008 (1615A)	4c	2	316	-	-	-	-	-	-	-	-	-	2	316	-	-	-	-	-	0	0
1008 (1615B)	4c	-	-	-	-	-	-	-	-	1	2	-	1	2	-	-	-	-	-	0	0
1008 (1655B)	4c	-	-	1	43	-	-	-	-	-	-	-	1	43	-	-	-	-	-	0	0
1008 (1656A)	4c	1	159	-	-	-	-	-	-	-	-	-	1	159	-	-	-	-	-	0	0
1008 (1803)	4c	-	-	-	-	-	-	-	-	1	12	-	1	12	-	-	-	-	-	0	0
1008 (1917A)	4c	-	-	-	-	-	-	-	-	-	-	-	0	0	7	238	-	-	-	7	238
1008 (1930)	4c	-	-	-	-	-	-	-	-	3	17	-	3	17	-	-	-	-	-	0	0
1008 (1932B)	4c	2	475	5	237	-	-	-	-	-	-	-	7	712	-	-	-	-	-	0	0
1008 (1933)	4c	1	137	-	-	-	-	-	-	1	14	pav+overfired	2	151	-	-	-	-	-	0	0
1008 (1934A)	4c	-	-	-	-	-	-	-	-	5	166	-	5	166	-	-	-	-	-	0	0
1008 (1934B)	4c	-	-	6	257	-	-	-	-	-	-	-	6	257	-	-	-	-	-	0	0
1008 (1934C)	4c	-	-	4	210	-	-	-	-	-	-	-	4	210	-	-	-	-	-	0	0
1008 (1934D)	4c	-	-	2	259	-	-	-	-	1	362	misc=mamW	3	621	-	-	-	-	-	0	0
1008 (1934E)	4c	1	209	-	-	-	-	-	-	5	36	-	6	245	-	-	-	-	-	0	0
1008 (1934F)	4c	-	-	4	669	-	-	-	-	-	-	2xburnt	4	669	-	-	-	-	-	0	0
1008 (1934G)	4c	-	-	1	131	5	72	-	-	-	-	-	6	203	-	-	-	-	-	0	0
1008 (1939)	4c	1	235	-	-	-	-	-	-	-	-	-	1	235	-	-	-	-	-	0	0
1008 (1940A)	4c	-	-	1	31	-	-	-	-	-	-	-	1	31	-	-	-	-	-	0	0
1008 (1940B)	4c	-	-	1	153	-	-	-	-	-	-	waster	1	153	-	-	-	-	-	0	0
1008 (1987A)	4c	-	-	2	67	-	-	-	-	-	-	-	2	67	3	57	-	-	-	3	57
1008 (2119A)	4c	-	-	3	263	-	-	-	-	-	-	waster	3	263	-	-	-	-	-	0	0
Ditch 1073	4c	-	-	1	70	-	-	-	-	2	370	-	3	440	7	125	-	-	-	7	125
Unstr 1174/1239	4c	-	-	1	40	-	-	-	-	-	-	-	1	40	-	-	-	-	-	0	0
Ditch 1191	4c	1	222	3	156	-	-	-	-	-	-	-	4	378	-	-	-	-	-	0	0
1191	4c	1	302	-	-	-	-	-	-	-	-	waster	1	302	-	-	-	-	-	0	0
1191 (1162A)	4c	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
1191 (1539)	4c	-	-	10	668	-	-	1	50	-	-	flue incised	11	718	-	-	-	-	-	0	0
1191 (1547A)	4c	1	510	-	-	-	-	-	-	-	-	-	1	510	-	-	-	-	-	0	0
1191 (1547B)	4c	-	-	1	68	1	225	-	-	-	-	-	2	293	-	-	-	-	-	0	0
1191 (1550)	4c	1	192	1	107	-	-	-	-	-	-	-	2	299	-	-	-	-	-	0	0
1191 (1566)	4c	1	283	-	-	-	-	-	-	-	-	waster	1	283	-	-	-	-	-	0	0
1191 (1566B)	4c	-	-	-	-	-	-	-	-	1	37	-	1	37	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
1191 (1556C)	4c	1	787	-	-	-	-	-	-	-	-	waster	1	787	-	-	-	-	-	0	0
1191 (1936A)	4c	-	-	1	156	-	-	-	-	-	-	-	1	156	-	-	-	-	-	0	0
1191 (1937)	4c	1	254	-	-	-	-	-	-	-	-	waster	1	254	-	-	-	-	-	0	0
1191 (1973)	4c	-	-	1	82	-	-	-	-	-	-	-	1	82	-	-	-	-	-	0	0
1191 (2236)	4c	-	-	1	62	-	-	-	-	-	-	-	1	62	-	-	-	-	-	0	0
1191 (2238)	4c	-	-	10	302	-	-	-	-	-	-	-	10	302	-	-	-	-	-	0	0
1191 (2243)	4c	-	-	-	-	-	-	-	-	2	12	-	2	12	-	-	-	-	-	0	0
1194	4c	-	-	1	55	-	-	-	-	-	-	-	1	55	-	-	-	-	-	0	0
1195	4c	-	-	1	55	-	-	-	-	-	-	-	1	55	-	-	-	-	-	0	0
1198	4c	1	80	-	-	-	-	-	-	-	-	-	1	80	-	-	-	-	-	0	0
1202	4c	1	120	-	-	-	-	-	-	-	-	-	1	120	-	-	-	-	-	0	0
1203	4c	2	735	-	-	-	-	-	-	-	-	overfired	2	735	-	-	-	-	-	0	0
1556	4c	-	-	-	-	-	-	-	-	1	8	-	1	8	-	-	-	-	-	0	0
1563B	4c	2	700	1	142	-	-	-	-	-	-	-	3	842	-	-	-	-	-	0	0
1691	4c	-	-	1	34	-	-	-	-	-	-	-	1	34	-	-	-	-	-	0	0
Pit 1705	4c	-	-	1	33	-	-	-	-	-	-	-	1	33	-	-	-	-	-	0	0
1710 (1658B)	4c	1	151	-	-	-	-	-	-	-	-	-	1	151	-	-	-	-	-	0	0
1710 (1711B)	4c	-	-	1	54	-	-	-	-	-	-	-	1	54	1	46	-	-	-	1	46
Layer 1828	4c	3	679	-	-	-	-	-	-	-	-	-	3	679	3	117	-	-	-	3	117
1828 (1829)	4c	-	-	-	-	-	-	-	-	1	8	-	1	8	-	-	-	-	-	0	0
Hollow 1878	4c	-	-	5	302	-	-	4	257	3	48	2xflue combed	12	607	-	-	-	-	-	0	0
1878A	4c	-	-	4	186	1	124	-	-	-	-	-	5	310	-	-	-	-	-	0	0
1878 (1068)	4c	3	455	5	455	-	-	-	-	-	-	-	8	910	-	-	-	-	-	0	0
Pit 1879	4c	-	-	1	103	1	68	-	-	-	-	flue combed	2	171	-	-	-	-	-	0	0
1925 (1044)	4c	-	-	-	-	-	-	-	-	2	10	-	2	10	-	-	-	-	-	0	0
Pit 1951	4c	-	-	6	91	-	-	-	-	-	-	-	6	91	-	-	-	-	-	0	0
1951C	4c	1	215	-	-	-	-	-	-	-	-	-	1	215	-	-	-	-	-	0	0
Pit 1959	4c	-	-	12	918	1	34	-	-	2	108	misc=flue/imb?	15	1060	-	-	-	-	-	0	0
1959 (1208)	4c	-	-	1	85	-	-	-	-	-	-	-	1	85	-	-	-	-	-	0	0
Pit 1960	4c	-	-	-	-	-	-	-	-	1	3	-	1	3	-	-	-	-	-	0	0
1960A	4c	-	-	-	-	1	174	-	-	-	-	-	1	174	-	-	-	-	-	0	0
1960C	4c	-	-	-	-	-	-	-	-	1	6	-	1	6	-	-	-	-	-	0	0
W'hole 1971(1972)	4c	6	713	18	828	3	154	-	-	-	-	pav=waster	27	1695	-	-	-	-	-	0	0
1971 (1972B)	4c	3	676	12	490	-	-	-	-	-	-	pav=waster	15	1166	-	-	-	-	-	0	0
1971 (693)	4c	-	-	6	230	-	-	-	-	6	75	-	12	305	-	-	-	-	-	0	0
1971 (1976)	4c	-	-	16	1105	-	-	-	-	-	-	-	16	1105	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
1971 (1976)	4c	-	-	3	403	-	-	-	-	-	-	waster	3	403	-	-	-	-	-	0	0
1971 (1976B)	4c	-	-	5	469	-	-	-	-	4	68	teg=waster	9	537	-	-	-	-	-	0	0
1971 (2036)	4c	1	198	5	341	-	-	-	-	-	-	pav=waster	6	539	-	-	-	-	-	0	0
1971 (2036B)	4c	3	748	5	599	2	462	-	-	-	-	pav=waster	10	1809	-	-	-	-	-	0	0
1971 (2048)	4c	-	-	2	60	-	-	-	-	-	-	-	2	60	-	-	-	-	-	0	0
1971 (2051)	4c	-	-	-	-	2	118	-	-	4	92	-	6	210	-	-	-	-	-	0	0
1971 (2051/2051A)	4c	-	-	2	96	-	-	-	-	-	-	-	2	96	-	-	-	-	-	0	0
1971 (2052B)	4c	-	-	3	176	-	-	-	-	1	3	-	4	179	-	-	-	-	-	0	0
1971 (2056)	4c	-	-	5	178	-	-	-	-	1	14	misc=waster	6	192	-	-	-	-	-	0	0
1971 (2056B)	4c	3	1026	10	2800	-	-	-	-	-	-	pav=waster	13	3826	-	-	-	-	-	0	0
1971 (2062B)	4c	2	645	-	-	-	-	-	-	-	-	waster	2	645	-	-	-	-	-	0	0
Layer 1981	4c	-	-	6	1545	-	-	-	-	-	-	-	6	1545	-	-	-	-	-	0	0
1981 (1982)	4c	-	-	-	-	-	-	-	-	1	91	-	1	91	-	-	-	-	-	0	0
1981 (1982A)	4c	-	-	7	1509	-	-	-	-	-	-	-	7	1509	-	-	-	-	-	0	0
2029	4c	-	-	1	88	-	-	-	-	-	-	-	1	88	-	-	-	-	-	0	0
2029A	4c	-	-	1	94	-	-	-	-	-	-	-	1	94	-	-	-	-	-	0	0
Pit 2038	4c	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
Hollow 2041	4c	1	641	1	497	-	-	-	-	-	-	pav=waster	2	1138	-	-	-	-	-	0	0
Hollow 2042	4c	-	-	-	-	-	-	-	-	1	10	-	1	10	-	-	-	-	-	0	0
Pit 2057	4c	1	195	-	-	1	37	-	-	-	-	pav=overfired	2	232	-	-	-	-	-	0	0
Pit 2071	4c	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
PH 2073	4c	-	-	-	-	1	93	-	-	-	-	-	1	93	-	-	-	-	-	0	0
PH 2074	4c	-	-	-	-	-	-	-	-	1	14	-	1	14	-	-	-	-	-	0	0
Slot 2075	4c	1	166	-	-	-	-	-	-	-	-	-	1	166	-	-	-	-	-	0	0
Pit 2088	4c	2	99	-	-	-	-	-	-	-	-	-	2	99	-	-	-	-	-	0	0
W'hole 2090(2091)	4c	2	1007	6	750	1	114	-	-	-	-	pav=waster	9	1871	-	-	-	-	-	0	0
2090 (2097)	4c	-	-	4	769	-	-	-	-	-	-	-	4	769	-	-	-	-	-	0	0
2127 (2043B)	4c	2	445	6	835	1	110	-	-	-	-	pav=waster	9	1390	-	-	-	-	-	0	0
2127 (2091A)	4c	-	-	5	302	-	-	-	-	-	-	-	5	302	-	-	-	-	-	0	0
2127 (2091B)	4c	-	-	9	431	-	-	-	-	-	-	-	9	431	-	-	-	-	-	0	0
2127 (2131/32)	4c	-	-	1	101	-	-	-	-	-	-	-	1	101	-	-	-	-	-	0	0
2127 (2133/34)	4c	5	2125	-	-	-	-	-	-	-	-	waster	5	2125	-	-	-	-	-	0	0
2127 (2133/34)	4c	1	494	-	-	-	-	-	-	-	-	-	1	494	-	-	-	-	-	0	0
2127 (2134)	4c	4	995	1	424	-	-	-	-	-	-	all wasters	5	1419	-	-	-	-	-	0	0
2127 (2134)	4c	-	-	1	216	-	-	-	-	-	-	-	1	216	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
2127 (2135)	4c	-	-	4	1006	-	-	-	-	-	-	-	4	1006	-	-	-	-	-	0	0
2232 (2356)	4c	-	-	-	-	-	-	-	-	1	8	-	1	8	-	-	-	-	-	0	0
Mod feature 317	5	-	-	-	-	-	-	-	-	-	-	-	0	0	1	25	-	-	-	1	25
Pit 1850	5	-	-	1	33	-	-	-	-	-	-	-	1	33	1	2	-	-	-	1	2
1890	5	-	-	-	-	-	-	-	-	1	14	-	1	14	-	-	-	-	-	0	0
PH 2072	5	-	-	-	-	-	-	-	-	2	9	-	2	9	-	-	-	-	-	0	0
2256	5	-	-	-	-	1	21	-	-	-	-	-	1	21	-	-	-	-	-	0	0
2257	5	-	-	-	-	1	72	-	-	-	-	-	1	72	-	-	-	-	-	0	0
2258	5	1	560	-	-	-	-	-	-	-	-	pale fabric	1	560	-	-	-	-	-	0	0
2457	5	-	-	2	123	-	-	-	-	-	-	-	2	123	-	-	-	-	-	0	0
2466	5	-	-	-	-	-	-	-	-	1	3	-	1	3	-	-	-	-	-	0	0
Machining 300	UN	-	-	11	2445	2	98	-	-	14	133	-	27	2676	23	525	-	-	-	23	525
300A	UN	-	-	4	257	-	-	-	-	-	-	-	4	257	5	86	-	-	roof	5	86
300A	UN	-	-	4	194	-	-	-	-	-	-	waster	4	194	1	208	-	-	floor,glz	1	208
300 (678)	UN	-	-	6	260	-	-	-	-	-	-	-	6	260	2	85	-	-	-	2	85
302	UN	-	-	-	-	-	-	-	-	1	3	-	1	3	-	-	-	-	-	0	0
346	UN	-	-	-	-	-	-	-	-	1	6	-	1	6	-	-	-	-	-	0	0
511	UN	-	-	-	-	-	-	-	-	1	5	-	1	5	-	-	-	-	-	0	0
Clearance spit 618	UN	-	-	4	125	-	-	-	-	4	20	-	8	145	-	-	-	-	-	0	0
Unstr 1000	UN	3	780	3	620	1	125	-	-	-	-	-	7	1525	10	455	-	-	-	10	455
1000 (1010)	UN	-	-	2	45	-	-	-	-	-	-	-	2	45	-	-	-	-	-	0	0
1000 (1069)	UN	-	-	2	80	-	-	-	-	-	-	-	2	80	-	-	-	-	-	0	0
1000 (1071)	UN	1	820	-	-	-	-	-	-	-	-	waster	1	820	-	-	-	-	-	0	0
1000 (1092)	UN	-	-	1	45	-	-	-	-	-	-	-	1	45	-	-	-	-	-	0	0
1000 (1207)	UN	-	-	-	-	-	-	-	-	1	30	-	1	30	-	-	-	-	-	0	0
1008 (1519)	UN	1	554	5	462	-	-	1	43	3	100	flue incised	10	1159	3	125	-	-	-	3	125
1008 (1519)	UN	2	224	-	-	-	-	-	-	-	-	waster	2	224	-	-	-	-	-	0	0
1170	UN	1	195	-	-	-	-	-	-	-	-	-	1	195	-	-	-	-	-	0	0
1170B	UN	-	-	-	-	-	-	-	-	1	20	-	1	20	-	-	-	-	-	0	0
1206	UN	-	-	1	70	1	50	-	-	-	-	-	2	120	-	-	-	-	-	0	0
1246	UN	-	-	-	-	-	-	-	-	-	-	-	0	0	1	10	-	-	-	1	10
Unstr 1500	UN	8	3218	8	1426	1	196	-	-	7	279	2sigs,1odd deposit	24	5119	2	44	-	-	-	2	44
1500	UN	1	696	-	-	-	-	-	-	-	-	waster	1	696	-	-	-	-	-	0	0
1500A	UN	1	229	1	33	-	-	-	-	-	-	-	2	262	-	-	-	-	-	0	0
1500 (1672A)	UN	-	-	-	-	-	-	-	-	1	13	-	1	13	-	-	-	-	-	0	0

CONTEXT	PHASE	PAVING		TEGULA		IMBREX		FLUE		MISC		COMMENTS	ROMAN TOTAL		M/PM TILE		PM BRICK		COMMENTS	M/PM TOTAL	
Pit 1628	UN	-	-	-	-	-	-	-	-	1	9	-	1	9	-	-	-	-	-	0	0
1780 (1179)	UN	-	-	-	-	-	-	-	-	3	50	-	3	50	3	20	-	-	-	3	20
PH 1827	UN	-	-	12	180	-	-	-	-	-	-	-	12	180	-	-	-	-	-	0	0
Layer 1874	UN	-	-	2	1067	-	-	-	-	-	-	1xsig	2	1067	-	-	-	-	-	0	0
U/S	UN	-	-	1	80	-	-	-	-	-	-	-	1	80	-	-	-	-	-	0	0
Totals		196	64360	687	62831	62	4774	13	1289	234	4373	-	1192	137627	183	5758	7	1005	-	190	6763

Table 5.23 Thorpe Lea Nurseries: Stone

PHASE	CONTEXT	STONE	COUNT	WEIGHT	COMMENTS
1	1931A	Quartzite/Sarsen	1	3	-
2	Pit 12\17	L Greensand	1	15	burnt
2	Ditch 1218 (2397)	Iron panning	2	29	-
2	1218 (2400)	Ironst	2	90	-
2	1218 (2407A)	Quartzite pebble	1	310	utilised, v smooth
2	1218 (2411A)	Quartzite pebble	1	283	utilised, v smooth
2	1218 (2413B)	Quartzite Sst	1	743	-
2	PH 2381A	Quartzite Sst	1	16	-
2	Pit 2411 (2408C)	Quartzite pebble	1	391	utilised, v smooth
2	Ditch 2441 (2408A)	Quartzite Sst	1	552	-
2	2441 (2408A)	Ferro-concrete Sst	1	90	-
2	2441 (2412D)	Iron panning	1	55	-
3	PH 1877	Quartzite	1	24	-
3	Pit 2209B	Quartzite/Sarsen	1	9	-
3	2334	Chalk	3	3	-
3	Gully 2483 (2244)	LGS	2	26	-
3	2483 (2253)	Quartzite	1	15	-
3	PH 1618	Quartzite pebble	1	54	?utilised, smooth
3b	PH 519	LGS	1	18	-
3b	Ditch 1779 (1776)	Quartzite/Sarsen	1	25	?utilised, smooth
3b	Hollow 2142 (2143)	LGS	1	40	-
3c	Gully 612 (613)	LGS	1	17	-
3c	Feature 1747	LGS	1	10	-
3/4	307 (419)	Quartzite/Sarsen	1	225	odd shape, smooth, utilised
3/4	Hollow 310	Ironst	1	13	frag
3/4	350	Sarsen	1	1256	smooth sides, dressed base
3/4	350A	LGS	1	20	-
3/4	Pit 354	LGS	2	59	1 burnt frag
3/4	Pit 354	Ironst	1	107	lump
3/4	Pit 411 (408)	Chalk	1	34	-
3/4	411 (409)	Chalk	1	4	-
3/4	Unstr 418	Slate	1	4	-
3/4	Unstr 418	Chalk	1	39	-
3/4	Unstr 418	Ironst	1	58	-
3/4	PH 428	LGS	1	8	-
3/4	Unstr 543D	LGS	1	13	-
3/4	Unstr 543D	Slate	1	4	-
3/4	664 (667)	Sarsen	1	39	smooth pebble, utilised
3/4	Pit 1586	Ironst	1	11	-
3/4	Gully 1979 (1977)	Quartzite	1	5	pebble frag
	Pit 307	LGS	1	9	frag
4	1008 (1731)	Ironst	1	4	-
4a	?PH 506	LGS	1	15	-
4a	Pit 653A	LGS	1	15	-
4a	Pit 653B	Quartzite	1	35	-
4a	1008 (1553)	LGS	1	7	-
4a	Pit 2045 (2047)	LGS	2	29	-
4a	2045 (2058)	LGS	1	5	-
4b	Ditch 308	LGS	1	16	frag
4b	Ditch 330 (607)	Slate	1	2	-
4b	Pit/midden 338	Chalk	1	23	frag
4b	Ditch 367 (366A)	Sarsen	1	10	-
4b	367 (598A)	LGS	1	18	-
4b	367 (598A)	Ironst	2	2	-
4b	Slot 462	LGS	1	27	burnt
4b	Slot 462	Sarsen	2	72	-
4b	Slot 462	Slate	1	2	-
4b	Ditch 464 (328)	Chalk	1	260	lump
4b	Ditch 599 (583)	LGS	1	13	-
4b	734 (654)	Sarsen	1	342	smooth pebble, utilised
4b	Ditch 2065 (2046)	LGS	4	34	-
4b	2065 (2046)	Quartzite pebble	1	17	-
4b	2065 (2100)	Chalk	1	5	-
4c	Pit 563	Slate	1	4	-
4c	682 (649A/B)	Ironst	1	104	-
4c	682 (649B)	Sarsen	1	661	part pyramidal lump, smooth, util
4c	682 (649B)	Chalk	9	275	-
4c	1008 (592)	LGS	1	9	-
4c	1008 (594)	LGS	2	43	1 frag burnt
4c	1008 (616)	Sarsen	1	274	smooth, utilised
4c	1008 (1934G)	Ironst	1	979	-
4c	1008 (1940A)	Quartzite pebble	1	7	?utilised, smooth
4c	Ditch 1072 (2119A)	Sarsen	1	54	-
4c	Layer 1828	Ironst	1	65	-
4c	1878	Flint	1	187	fossil echinoid
4c	1971 (1972B)	Quartzite/Sarsen	1	179	utilised, smooth surfaces
4c	1971 (1976)	Quartzite/Sarsen	1	123	-

PHASE	CONTEXT	STONE	COUNT	WEIGHT	COMMENTS
4c	1971 (1976)	LGS	1	142	-
4c	1971 (1976)	UGS/Chalk	1	121	flat slab, utilised
4c	1971 (2036)	Quartzite	1	243	?whetstone, smooth, utilised
4c	Well 2090 (2091)	Sarsen	1	2687	utilised, 1 smooth surface
UN	474	LGS	1	22	-
Total			**103**	**11858**	

Table 5.24 Thorpe Lea Nurseries: distribution of major artefact categories over phases

Phase	Waste flakes	Cutting flakes	Blades	Smashed	Cores	Tools	**Total**
Natural	1	3	1	0	0	1	**6**
Unknown	16	4	3	0	2	6	**32**
Unstrat.	46	-	8	0	5	12	**71**
Prehist?	20	2	3	0	2	1	**28**
BA	291	5	21	53	55	34	**459**
BA Area H	6	0	0	0	0	0	**6**
IA/Rom	216	20	31	19	26	62	**374**
Total	**596**	**34**	**67**	**73**	**90**	**116**	**976**
%	61	3	7	7	9	12	100

Table 5.25 Thorpe Lea Nurseries: distribution of tool types across phases

Type	Nat	Unkn.	Unstrat	Prehist.	BA	BA area H	IA/Rom	**Total**
Borer	0	1	1	0	1	0	4	**7**
Ret. fl.	0	0	2	0	3	0	12	**17**
Util. fl.	0	1	1	0	1	0	6	**9**
Ret. bl.	0	1	0	0	1	0	7	**9**
Hammer	0	1	1	0	0	0	1	**3**
Convex scraper	0	1	3	0	7	0	12	**23**
Notch fl.	0	0	2	0	3	0	6	**11**
Notch frag	0	1	0	0	0	0	0	**1**
Util. bl.	1	0	0	0	2	0	3	**6**
Dentic.	0	0	0	0	2	0	2	**4**
Straight scr.	0	0	1	0	0	0	2	**3**
Fab.	0	0	1	0	0	0	0	**1**
Tr. a’head	0	0	0	0	2	0	2	**4**
Serr. bl.	0	0	0	1	0	0	3	**4**
Ret. frag.	0	0	0	0	1	0	1	**2**
Combi	0	0	0	0	3	0	4	**7**
Concave scr.	0	0	0	0	0	0	1	**1**
Axe frag	0	0	0	0	0	0	1	**1**
Total	**1**	**6**	**11**	**1**	**28**	**0**	**69**	**116**

Table 5.26 Thorpe Lea Nurseries Visual examination of metalworking debris

context	description	date	phase	slag interpretation	mass (g)	comments
34				dense slag	56	
34				tap slag	34	
42?				dense slag	27	
114	ditch and segments	IA	3	dense slag	30	
123	soil mark		u/s	iron object	3	
124	pit	IA	3	dense slag	41	
137	ditch	LIA	3	cinder	1	
137	ditch	LIA	3	undiagnostic ironworking debris	12	
140A	hearth deposit?	LC3/4	4	undiagnostic ironworking debris	11	charcoal impression
144	pit	IA	3	cinder	2	
153	pit	IA	3	dense slag	37	
156A	large pit	ER(1st)	4	undiagnostic ironworking debris	5	
300/318	unstratified/ditch	?/lC3/4	u/s/4	dense slag	73	part furnace bottom, 40mm thick
301A	linear feature	LIA/ER?	3/4	dense slag	60	
304	layer	IA/R	4	dense slag	29	
304/318	layer/ditch		4	vitrified furnace lining	12	
310	layer	C1/2	4	cinder	5	
310	layer	C1/2	4	undiagnostic ironworking debris	13	
311	ditch	ER	4	dense slag	102	strongly attracted to magnet but fayalitic coating (grey streak). Poss. bloom fragment.
311	ditch/gulley	ER	4	undiagnostic ironworking debris/iron object	56	
316	ditch	R	4	undiagnostic ironworking debris	57	
318	layer	LC3/4	4	dense slag	626	aligned wood impressions
320	ditch	R(Lc3/4	4	undiagnostic ironworking debris	17	
326	finds from ditch	R	4	dense slag	42	
327	posthole	u/s		undiagnostic ironworking debris	1	
328	ditch	RC2	4	undiagnostic ironworking debris	224	
337	midden	m-lC2	4	dense slag	232	some blocky
350A	midden		4	undiagnostic ironworking debris	196	
353	pit	R	4	iron-rich slag	20	
354	pit	LIA/ER?	3/4?	dense slag	483	runs/blobs not flowed like tap, wood impressions (no cross checking) = pit furnace residue
354	pit	LIA/ER?	3/4?	iron-rich slag	252	
354	pit	LIA/ER?	3/4?	ore?	128	roasted or part smelted
354	pit	LIA/ER?	3/4?	undiagnostic ironworking debris	230	
354	pit	LIA/ER?	3/4?	vitrified furnace lining	84	
354?	pit	LIA/ER?	3/4?	dense slag	782	
354?	pit	LIA/ER?	3/4?	vitrified furnace lining	71	
355	pit/posthole	LIA/ER?	3/4?	undiagnostic ironworking debris	19	
366A	ditch	R(LC1-MC2)	4	dense slag	87	
372	gully	R(LC3/4	4	dense slag	70	blocky
373	ditch	R(LC3/4	4	burnt stone	8	
390	fill		3/4	dense slag	60	5mm thick plate fragment
390	fill		3/4	fuel ash slag	15	
392	ditch	lC3/4	4	dense slag	41	
398	pit	IA/R?	3/4	dense slag	29	
402	pit	R	4	dense slag	39	
404	pit	IA?	3	dense slag	8	
408	pit	IA	3	undiagnostic ironworking debris	24	
409	pit	IA	3	iron object?	91	strongly attracted to magnet but fayalitic coating (grey streak). Poss. bloom fragment.
412	pit fill	LIA/ER	3/4	dense slag	147	
414	stakehole/posthole	IA	3/4	undiagnostic ironworking debris	42	
414	stakehole/posthole	IA	3/4	vitrified furnace lining	134	highly fired clay block
418	layer	E-MC2	4	cinder	40	
418	layer	E-MC2	4	dense slag	613	
418	layer	E-MC2	4	furnace bottom	272	90x70x35mm
419	layer	R	4	cinder	8	
419	layer	R	4	undiagnostic ironworking debris	96	
425	layer	LIA/ER?	4	dense slag	49	blocky
428	post hole	IA	3	undiagnostic ironworking debris	13	
434	layer	lC3/4	3	undiagnostic ironworking debris	151	
443	post hole	?	u/s	undiagnostic ironworking debris	9	
444	pit(s)	IA	3/4	dense slag	67	wood impressions, not very magnetic
445/500	gulley/fill	R(L3/4th)/LIA/ER?	3\4	undiagnostic ironworking debris	40	
462	slot/gully	R(2nd?)	4	undiagnostic ironworking debris	28	
478	post hole	?	?	undiagnostic ironworking debris	19	very magnetic

Table 5.26 Thorpe Lea Nurseries Visual examination of metalworking debris

context	description	date	phase	slag interpretation	mass (g)	comments
481	pit	IA	3	dense slag	90	wood/charcoal impressions
484	pit	LIA/ER	3\4	undiagnostic ironworking debris	160	
485	pit	IA	3	undiagnostic ironworking debris	38	
488	post hole	IA	3	undiagnostic ironworking debris	5	
492	stake hole	R?	?	iron object	6	mineral preserved organic
495	pit	LIA/ER	3\4	undiagnostic ironworking debris	15	
504	post hole	IA?	3?	dense slag	113	blocky
504	post hole	IA?	3?	ore?	41	very magnetic
504	post hole	IA?	3?	undiagnostic ironworking debris	61	
505	pit fill		3?	undiagnostic ironworking debris	50	very magnetic
506	post hole?	R? (LIA/ER?)	4	ore?	17	poss. roasted, poss. smelted
506	post hole?	R? (LIA/ER?)	4	ore?	53	very magnetic
506	post hole?	R? (LIA/ER?)	4	undiagnostic ironworking debris	353	
513	post pipe	IA?	3?	dense slag	85	
515B	gulley segment	R (2nd/3rd?)	4	undiagnostic ironworking debris	14	
521	layer	IA	3	cinder	12	
521	layer	IA	3	ferruginous concretion	7	
521	layer	IA	3	undiagnostic ironworking debris	149	
521	layer	IA	3	undiagnostic ironworking debris	59	
521	layer	IA	3	undiagnostic ironworking debris	5	
521	layer	IA	3	undiagnostic ironworking debris	163	
521	layer	IA	3	undiagnostic ironworking debris	74	
526	pit fill	IA	3	undiagnostic ironworking debris	38	
531/543	midden/clearance layer	L3/4th	4	dense slag	158	flow lines on upper surface, wood impressions beneath
533/534	ditch/shallow feature	R(L3/4th)	4	dense slag	55	
543B	clearance layer	L3/4th	4	undiagnostic ironworking debris	70	
543D	clearance layer	L3/4th	4	undiagnostic ironworking debris	32	
543D	clearance layer	L3/4th	4	vitrified heath lining	35	
549	mixed ditch fill	1\2nd	4	undiagnostic ironworking debris	20	
549N	mixed filled ditch	1/2nd	4	undiagnostic ironworking debris	10	
551	post hole/pit	LIA/ER	3\4	undiagnostic ironworking debris	45	
557	pit/gulley?	IA	3	undiagnostic ironworking debris	8	
564	pit	ER	4	undiagnostic ironworking debris	119	
565	pit?	IA/LIA/ER	3\4	dense slag	132	angular, blocky
568	post hole?	IA?	3	undiagnostic ironworking debris	21	
575	post hole	IA	3	undiagnostic ironworking debris	15	
583	ditch	C3+?	4	burnt stone	19	
583	ditch	C3+?	4	vitrified furnace lining	17	
584	layer	ER	4	undiagnostic ironworking debris	60	
586	pit	IA	3	ore?	71	part smelted
592	ditch fill	LIA/ER	4	dense slag	106	
604	pit	LIA/ER?	3/4	ore?	22	roasted? part smelted, strongly magnetic
614	gulley segment	(L)IA	3	undiagnostic ironworking debris	161	
614	gulley segment	(L)IA	3	vitrified heath lining	28	
616	ditch fill		4	undiagnostic ironworking debris	44	
624	pit	LIA/ER (or C3)	3/4	dense slag	27	
626	pit fill	(L)IA(/ER)	3\4	dense slag	16	
627	pit fill	(L)IA(/ER)	3	dense slag	41	very magnetic
627	pit fill	(L)IA(/ER)	3	vitrified heath lining	20	
634	pit hollow	IA	3	fired clay	14	
634	pit holow	IA	3	undiagnostic ironworking debris	105	
635	pit hollow	IA?	3?	iron object	6	
638	fill of 525	R(orLIA/ER)	3/4?	undiagnostic ironworking debris	71	
639	pit? fill	IA	3	undiagnostic ironworking debris	40	
645	pit	IA	3	undiagnostic ironworking debris	25	
649A	pit	3(C3-LC3)	4	dense slag	17	
649A	pit	3(C3-LC3)	4	furnace bottom	194	
649A/B	pit	3(C3-LC3)	4	furnace bottom	3377	more cindery than dense slag
667	pit	LIA/ER?	3/4	dense slag	32	
697	pit	LIA/ER?	3	dense slag	102	charcoal impressions
721	layer	IA	3	dense slag	19	
723	layer	IA	3	undiagnostic ironworking debris	14	
1000	unstratified			dense slag	34	
1104	pit	IA?	3?	cinder	6	
1104	pit	IA?	3?	dense slag	398	blocky
1106	pit	IA	3	dense slag	369	charcoal impressions
1106	pit	IA	3	undiagnostic ironworking debris	13	
1126	subsoil			dense slag	98	
1128	gully	LC3/4?	4	dense slag	59	

Table 5.26 Thorpe Lea Nurseries Visual examination of metalworking debris

context	description	date	phase	slag interpretation	mass (g)	comments
1131	gully	IA	3	iron-rich slag	94	
1131	gully	IA	3	smithing hearth bottom?	105	
1131	gully	IA	3	undiagnostic ironworking debris	59	
1131	gully	IA	3	vitrified furnace lining	48	
1132	ditch	IA	3	dense slag	47	
1167	ditch	LIA/ER?	3/4	dense slag	2	
1183	gully or pit	IA	3	dense slag	12	
1186	gully	IA	3	dense slag	7	
1192	ditch	LC3/4	4	undiagnostic ironworking debris	14	
1528	pit	IA	3	iron-rich slag	9	
1551	ditch	R	4	dense slag	57	
1569	ditch	C2	4	dense slag	12	
1576	posthole	LC2/EC3	4	undiagnostic ironworking debris	7	
1578	pit	EC2	4	iron object	12	
1586	pit	IA	3	dense slag	18	
1596	pit	LIA/ER?	3/4?	vitrified furnace lining	78	
1597	pit	LIA/ER?	3/4?	undiagnostic ironworking debris	17	
1602	pit	IA	3	dense slag	65	
1603	pit	IA	3	undiagnostic ironworking debris	79	
1626B	pit	IA	3/4	undiagnostic ironworking debris	122	
1643	pit	E-LC2	4	dense slag	88	
1649	ditch	C1/2	4	dense slag	105	
1653	pit	IA	3	cinder	85	
1653	pit	IA	3	dense slag	78	
1663	pit	IA	3	vitrified furnace lining	3	
1672A	posthole			dense slag	17	
1685	posthole	R	4	undiagnostic ironworking debris	9	
1703	pit	IA	3	furnace bottom?	1569	slag pit type, charcoal impressions
1731	ditch	R	4	cinder	10	
1731	ditch	R	4	fired clay	4	
1731A	ditch	R	4	coke	69	
1731A	ditch	R	4	undiagnostic ironworking debris	90	hard & brittle (=coke smelting?)
1745	pit	IA	3	undiagnostic ironworking debris	51	wood? charcoal impressions
1747	feature	LIA/ER	3	dense slag	443	
1800	ditch	BA	2	undiagnostic ironworking debris	22	
1818	posthole	IA/R?	3/4	dense slag	42	
1830	area	R	4	undiagnostic ironworking debris	22	
1833	pit?	C2/3	4	vitrified furnace lining	17	
1850	pit?	modern	mod	cinder	2	
1854B	gully	C1/2	4	dense slag	105	
1854B	gully	C1/2	4	glassy	53	
1855	gully	LIA/ER	4	undiagnostic ironworking debris	10	
1868	pit	IA	3	dense slag	139	
1874	spread	LC3/4	US	dense slag	12	
1877	posthole	IA	3	undiagnostic ironworking debris	8	
1878	hollow	LC3/4	4	cinder	14	
1878	hollow	LC3/4	4	undiagnostic ironworking debris	5	
1878	hollow	LC3/4	4	furnace bottom	933	fragment
1922	posthole/pit	R	4	undiagnostic ironworking debris	5	
1926	pit	IA	3	fuel ash slag	130	
1926	pit	IA	3	undiagnostic ironworking debris	1	
1934A	ditch	R	4	dense slag	55	
1934A	ditch	R	4	vitrified furnace lining	37	
1934B	ditch	R	4	dense slag	257	blocky
1934C	ditch	R	4	undiagnostic ironworking debris	621	charcoal impressions
1940A	spit	R	4	dense slag	11	
1957A	ditch	LC2/3	4	dense slag	23	
1969	pit	IA	3	dense slag	81	blocky
1972	spit	LC3/4	4	fired clay	38	
1976	layer	LC3/4	4	dense slag	65	
1977	ditch	LIA/ER?	3/4?	undiagnostic ironworking debris	83	
1997	segment of 1996	IA	3	iron object	96	
1998	ditch	IA	3	undiagnostic ironworking debris	102	hard and glassy
2001	gully	IA	3	undiagnostic ironworking debris	44	
2003	posthole			coke	99	
2003	posthole			smithing hearth bottom?	132	132g70x70x40mm
2003	posthole			undiagnostic ironworking debris	257	light & brittle = coke smithing?
2017B	gully	LIA/ER	3/4	undiagnostic ironworking debris	13	
2024	ditch	BA	2	fired clay	5	
2036	layer	C4	4	vitrified furnace lining	155	
2043A	pit	C4	4	fuel ash slag	8	
2046	pit	C4?	4	undiagnostic ironworking debris	122	
2066	ditch	C1/2	4	dense slag	208	charcoal/wood impressions
2070	pit/posthole	C4	4	dense slag	366	
2073	posthole	R	4	fuel ash slag	4	

Table 5.26 Thorpe Lea Nurseries Visual examination of metalworking debris

context	description	date	phase	slag interpretation	mass (g)	comments
2074	posthole	R	4	cinder	1	
2075	slot Nof 2074	4th	4	cinder	9	
2079	linear slot	4th	4	iron object	52	
2079	linear slot	C4	4	undiagnostic ironworking debris	26	
2081	slot	C4	4	undiagnostic ironworking debris	134	
2096B	pit	C1-2	4	vitrified furnace lining	40	
2097	layer	C4	4	dense slag	28	
2099	pit	IA	3	dense slag	103	
2099B	pit	IA	3	undiagnostic ironworking debris	25	
2100	gully	E-MC2	4	dense slag	75	
2100	gully	E-MC2	4	fuel ash slag	5	
2100	gully	E-MC2	4	undiagnostic ironworking debris	34	
2105A	pit	C1/2	4	vitrified furnace lining	14	
2106	gully	IA/R?	3	undiagnostic ironworking debris	60	
2111	gully	IA?	3	dense slag	15	
2116	ditch	IA	3	undiagnostic ironworking debris	386	
2117	pit	IA?	3?	fuel ash slag	2	
2133	pit	LC3/4	4	ferruginous concretion	2200	
2134	pit	LC3/4	4	furnace bottom?	1138	lighter than dense, shows impression of pit on one side
2142B	pit	IA	3	undiagnostic ironworking debris	14	
2209B	pit	IA	3	undiagnostic ironworking debris	25	
2211	posthole		3	dense slag	234	wood impressions
2244	gully	IA	3	undiagnostic ironworking debris	206	
2282	pit	IA	3?	dense slag	9	
2289	gully	IA	3	dense slag	214	wood impressions
2290	gully	IA	3	undiagnostic ironworking debris	94	
2334	posthole	IA?	3?	cinder	7	
2357	ditch	IA	3?	dense slag	125	
2414	ditch	BA	2	dense slag	59	
2438	gully	IA	3?	iron object	79	
2448	gully	LIA/ER?	3/4?	fuel ash slag	64	

Table 5.27 Thorpe Lea Nurseries Slag weight totals by phase

	weights in phases (g)						
slag type	**1**	**2**	**3**	**3or4**	**4**	**?**	**total**
furnace bottoms	0	0	1569	0	5914	0	7483
dense ironworking slag	0	59	2923	1879	3780	317	8958
tap slag	0	0	0	0	0	34	340
possible ore	0	0	112	150	70	0	3320
smithing hearth bottoms	0	0	105	0	0	132	237
hammerscale	0	0	0	0	0	0	00
vitrified hearth/furnace lining	0	0	99	367	327	0	793
cinder	0	0	113	0	87	2	202
iron-rich cinder	0	0	112	160	70	0	342
undiagnostic ironworking slag	0	22	2398	857	2524	286	60870
ferruginous concretions	0	0	7	0	2200	0	2207
fuel ash slag	0	0	132	79	17	0	228
glassy slag	0	0	0	0	53	0	53
fired clay	0	5	14	0	42	0	610
iron objects	0	79	272	0	64	9	424
burnt stone	0	0	0	0	27	0	27
coke	0	0	0	0	69	99	168
total	0	165	7856	3492	15244	879	27636

Table 5.28 Thorpe Lea Nurseries Mean analyses of debris samples

sample		**Na_2O**	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**S**	**K_2O**	**CaO**	**TiO_2**	**V_2O_5**	**MnO**	**FeO**
970028	possible ore	0.5	0.2	6.2	66.1	1.2	nd	2.3	0.5	0.5	0.1	0.1	22.3
970029	dense slag, wood impressions	0.4	0.2	1.6	22.2	1.5	0.1	0.7	1.4	0.1	nd	2.3	69.6
970030	possible ore	0.7	0.3	0.6	16.1	4.6	nd	0.3	1.5	nd	nd	0.4	75.6
970031	dense blocky slag	0.6	0.1	2.3	17.9	5.3	0.1	0.6	3.1	nd	nd	0.6	69.3
970032	possible ore	0.8	0.1	4.7	21.8	4.6	nd	2.3	1.7	0.2	nd	0.1	63.6
970033	smithing hearth bottom	0.0	0.1	0.8	15.6	1.8	nd	nd	0.5	nd	nd	0.5	80.8
970034	furnace bottom, wood impressions	0.5	nd	2.8	12.6	3.3	0.5	0.4	0.6	nd	nd	nd	79.3
970035	furnace bottom, dense blocky	0.6	0.3	2.0	18.8	5.9	0.1	0.7	2.2	0.2	nd	0.3	68.9

Table 5.29 Thorpe Lea Nurseries SEM microanalyses of ironworking debris																
Analysis no.	**Sample no.**	**sample**	**Phase analyzed**	**Wt% oxide**					**nd = not detected**							
No.	**No.**			**Na_2O**	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**S**	**K_2O**	**CaO**	**TiO_2**	**V_2O_5**	**MnO**	**FeO**
				0.90											
TLN01	970028	possible ore	part dissolved particle	nd	0.17	7.61	36.31	1.13	nd	3.75	0.60	0.50	nd	0.25	48.77
TLN02	970028	possible ore	quartzy mass	nd	nd	0.20	98.55	0.36	nd	nd	nd	nd	nd	nd	0.89
TLN03	970028	possible ore	angular particle	nd	0.17	6.20	10.35	nd	nd	0.67	nd	2.17	nd	nd	80.44
TLN04	970028	possible ore	angular particle	nd	0.18	6.24	6.00	nd	nd	0.35	nd	2.17	nd	nd	85.07
TLN05	970028	possible ore	grey matrix	0.30	0.42	9.78	56.61	1.06	nd	4.45	0.55	0.30	nd	0.36	26.46
TLN06	970028	possible ore	bulk analysis	0.66	0.07	4.50	70.06	0.97	nd	1.77	0.44	0.34	nd	nd	21.55
TLN07	970028	possible ore	bulk analysis	0.39	0.31	8.54	64.49	1.49	nd	3.19	0.73	0.65	nd	nd	19.93
TLN08	970028	possible ore	bulk analysis	nd	0.26	5.55	63.87	1.20	nd	2.07	0.40	0.42	0.15	0.23	25.46
TLN09	970028	possible ore	part dissolved particle	nd	nd	nd	99.83	nd	nd	nd	nd	nd	nd	nd	0.17
TLN10	970028	possible ore	angular particle		nd	0.15	98.13	nd	nd	nd	nd	nd	nd	nd	1.72
				0.72											
TLN11	970029	dense slag	wüstite dendrite	nd	nd	2.44	4.99	1.78	nd	1.24	1.51	0.39	nd	0.64	86.28
TLN12	970029	dense slag	fayalite matrix	nd	0.55	0.20	24.22	nd	nd	nd	0.33	nd	nd	2.80	71.89
TLN13	970029	dense slag	wüstite dendrite	nd	nd	0.42	0.48	nd	nd	nd	nd	0.34	nd	0.69	98.06
TLN14	970029	dense slag	fayalite matrix	0.97	0.52	nd	24.12	0.47	nd	nd	0.36	nd	nd	2.81	71.71
TLN15	970029	dense slag	glassy angular particle	1.26	nd	11.26	25.73	20.88	0.55	10.93	21.29	0.36	nd	0.29	7.76
TLN16	970029	dense slag	glassy angular particle	nd	nd	9.27	20.00	25.25	nd	9.18	26.08	0.18	nd	0.28	8.51
TLN17	970029	dense slag	fine white phase	nd	nd	0.78	1.34	nd	nd	nd	nd	0.23	nd	0.78	96.87
TLN18	970029	dense slag	bulk analysis	0.61	nd	1.79	22.18	1.60	0.19	0.83	1.57	nd	nd	2.27	69.56
TLN19	970029	dense slag	bulk analysis	0.60	nd	1.77	22.78	1.59	nd	0.86	1.45	0.14	nd	2.34	68.44
TLN20	970029	dense slag	bulk analysis		0.52	1.25	21.52	1.22	nd	0.38	1.20	0.09	nd	2.41	70.80
				nd											
TLN21	970030	possible ore	large white phase	nd	nd	0.66	4.42	4.04	nd	0.73	1.21	0.48	nd	nd	88.47
TLN22	970030	possible ore	fayalitic matrix	0.90	0.13	0.20	22.59	1.14	nd	nd	0.38	nd	nd	0.51	75.05
TLN23	970030	possible ore	dark P-rich phase	0.89	0.26	0.16	1.44	33.10	nd	8.21	7.67	nd	nd	0.49	47.76
TLN24	970030	possible ore	dark P-rich phase	nd	nd	nd	1.27	32.88	nd	7.47	7.48	nd	nd	0.49	49.52
TLN25	970030	possible ore	fine iron prills	0.65	nd	nd	2.66	0.00	nd	nd	nd	nd	nd	nd	97.34
TLN26	970030	possible ore	bulk analysis	0.80	0.14	0.83	16.80	3.46	nd	0.23	1.08	nd	nd	0.43	76.38
TLN27	970030	possible ore	bulk analysis	0.56	0.27	0.25	17.08	3.63	nd	0.32	1.05	nd	nd	0.41	76.19
TLN28	970030	possible ore	bulk analysis		0.37	0.63	14.56	6.79	nd	0.37	2.25	nd	nd	0.30	74.17
				nd											
TLN29	970031	dense blocky slag	fayalite matrix	nd	0.10	nd	21.77	3.09	nd	0.33	2.33	nd		0.73	71.63
TLN30	970031	dense blocky slag	wüstite dendrites	nd	nd	0.55	0.42	nd	nd	nd	nd	0.62	nd	0.22	98.18
TLN31	970031	dense blocky slag	black angular phase	0.85	nd	4.83	4.20	5.65	2.04	nd	1.08	nd	nd	0.26	81.94
TLN32	970031	dense blocky slag	black angular phase	1.07	nd	nd	0.06	41.47	nd	1.10	45.21	nd	nd	nd	11.32
TLN33	970031	dense blocky slag	mid grey angular phase	0.39	0.19	0.28	4.54	28.17	nd	6.41	5.83	0.54	nd	1.02	52.21
TLN34	970031	dense blocky slag	mottled phase	0.59	Nd	8.04	16.86	9.83	nd	6.15	9.33	0.25	nd	nd	49.27
TLN35	970031	dense blocky slag	bulk analysis	0.52	nd	2.46	18.30	6.06	nd	0.85	3.33	nd	nd	0.57	67.81
TLN36	970031	dense blocky slag	bulk analysis	0.71	0.09	2.27	17.74	5.39	0.18	0.58	3.36	0.14	nd	0.66	69.06
TLN37	970031	dense blocky slag	bulk analysis		0.15	2.04	17.60	4.43	0.24	0.51	2.59	nd	nd	0.68	71.05
				0.40											
TLN38	970032	possible ore	black globular phase	nd	nd	14.06	59.21	1.69	nd	11.81	0.59	nd	nd	nd	12.25
TLN39	970032	possible ore	white angular grains (*magnetite, Fe_3O_4)	nd	nd	4.56	0.79	nd	nd	nd	nd	0.79	nd	nd	*93.87
TLN41	970032	possible ore	fayalite laths	nd	0.53	0.20	24.10	0.65	nd	nd	0.14	nd	nd	0.64	73.74
TLN40	970032	possible ore	white angular grains (*magnetite, Fe_3O_4)	0.36	nd	2.76	0.99	nd	nd	nd	nd	1.03	nd	nd	*95.23

TLN42	970032	possible ore	dark P-rich infill	0.79	0.30	0.28	0.07	42.40	nd	nd	44.69	nd	nd	nd	11.90
TLN43	970032	possible ore	bulk analysis	0.81	0.23	3.80	23.53	4.90	nd	1.94	1.58	0.10	nd	nd	63.12
TLN44	970032	possible ore	bulk analysis	0.74	0.06	6.18	26.59	5.07	nd	3.72	1.94	0.10	nd	nd	55.52
TLN45	970032	possible ore	bulk analysis	nd	0.05	4.17	15.41	3.94	nd	1.35	1.46	0.34	nd	0.41	72.12
TLN46	970033	smithing hearth bottom	wüstite dendrite	nd	nd	0.70	0.48	nd	0.15	nd	nd	nd	nd	0.05	98.61
TLN47	970033	smithing hearth bottom	fayalite matrix	1.16	nd	0.11	24.15	0.63	nd	nd	0.20	nd	nd	0.88	74.04
TLN48	970033	smithing hearth bottom	mottled infill	nd	nd	4.25	0.85	18.21	0.47	6.52	1.72	0.15	nd	0.51	66.16
TLN49	970033	smithing hearth bottom	dark angular grains	nd	nd	45.93	0.86	nd	nd	nd	nd	0.27	nd	0.30	52.64
TLN50	970033	smithing hearth bottom	bulk analysis	nd	nd	0.71	16.47	2.38	nd	nd	0.64	nd	nd	0.55	79.26
TLN51	970033	smithing hearth bottom	bulk analysis	nd	0.15	0.79	17.48	1.73	nd	0.13	0.51	nd	nd	0.45	78.76
TLN52	970033	smithing hearth bottom	bulk analysis	nd	0.24	0.79	12.74	1.16	nd	nd	0.37	nd	nd	0.39	84.30
TLN53	970034	furnace bottom	wüstite dendrite	nd	nd	0.72	0.36	nd	nd	nd	nd	nd	nd	nd	98.92
TLN54	970034	furnace bottom	fayalitic matrix	nd	0.34	0.19	22.94	1.33	nd	nd	nd	nd	nd	0.31	74.88
TLN55	970034	furnace bottom	dark angular grain	nd	nd	44.70	0.29	nd	nd	nd	nd	0.25	nd	nd	54.76
TLN56	970034	furnace bottom	large inhomogeneous particle	nd	0.20	0.45	1.23	3.61	nd	nd	1.36	nd	nd	nd	93.14
TLN57	970034	furnace bottom	large inhomogeneous particle	0.70	0.34	0.19	22.90	1.33	nd	nd	0.17	nd	nd	0.31	74.75
TLN58	970034	furnace bottom	bulk analysis	nd	nd	2.64	8.56	3.44	0.51	0.48	0.67	nd	nd	nd	83.00
TLN59	970034	furnace bottom	bulk analysis	0.79	nd	2.12	14.40	2.64	0.44	0.20	0.40	nd	nd	nd	79.78
TLN60	970034	furnace bottom	bulk analysis	nd	nd	3.72	14.71	3.74	0.60	0.58	0.67	nd	nd	nd	75.18
TLN61	970035	dense furnace bottom	wüstite dendrite	nd	nd	0.31	0.48	nd	nd	nd	nd	0.17	nd	nd	99.03
TLN62	970035	dense furnace bottom	fayalitic matrix	0.27	0.51	0.20	24.04	0.52	nd	nd	0.27	nd	nd	0.36	74.09
TLN63	970035	dense furnace bottom	mixed phase, glassy black spheres	nd	nd	20.90	47.75	5.52	nd	15.75	0.23	0.09	nd	nd	9.49
TLN64	970035	dense furnace bottom	mixed phase, high Al diamonds	1.05	nd	17.84	1.61	0.20	nd	nd	0.06	3.68	0.17	nd	76.44
TLN65	970035	dense furnace bottom	mixed phase, high P mid grey	nd	0.22	0.20	1.41	32.89	nd	8.20	5.34	0.24	nd	0.19	50.26
TLN66	970035	dense furnace bottom	mixed phase, white ? dendrites	0.60	nd	1.64	4.21	0.46	nd	nd	0.00	0.39	nd	nd	93.29
TLN67	970035	dense furnace bottom	bulk analysis	0.54	0.43	1.37	20.38	4.54	0.40	0.47	2.27	0.14	nd	0.28	69.11
TLN68	970035	dense furnace bottom	bulk analysis	0.68	0.17	3.74	16.72	6.93	nd	0.74	1.97	0.37	nd	0.26	68.55
TLN69	970035	dense furnace bottom	bulk analysis	nd	0.22	0.88	19.35	6.19	nd	0.81	2.21	0.18	nd	0.28	69.19

Table 5.31 Thorpe Lea Nurseries: Iron Age, summary of articulated remains

Sheep/goat

Ctx 1653, pit, Iron Age					
Element	*Fusion*	*Element*	*Fusion*	*Element*	*Fusion*
Scapula		Humerus	Distal fused	Metacarpal	Distal unfused
Humerus	Distal fused	Radius	Proximal fused	1st Phalanx	Proximal fused
Radius	Proximal fused	Ulna	Proximal unfused		
Ulna	Proximal unfused				

Horse

Ctx 2117, pit, Iron Age	
Element	*Fusion*
Tibia	Distal fused
Astragalus	
Calcaneum	
Navicular	
Cuboid	
Lat Cuneiform	
Lit Cuneiform	
Metatarsal	Distal fused
Lat Metapodial x2	
1st Phalanx	Proximal fused
2nd Phalanx	Proximal fused
3rd Phalanx	
Prox Sesamoid x2	
Dist Sesamoid	

Table 5.32 Thorpe Lea Nurseries: 1st-2nd/early 3rd century, summary of articulated remains

Cattle

Ctx 311, ditch, early Roman		*Ctx 366, ditch Late 1st - mid 2nd century*	
Element	*Fusion*	*Element*	*Fusion*
Humerus	Distal fused, proximal unfused	Astragalus	
Radius	Proximal fused	Calcaneum	no fusion evidence
Ulna			

Table 5.33 Thorpe Lea Nurseries: 3rd-4th century, summary of articulated remains

Cattle

Ctx 1972, waterhole, Late 3rd-4th century		*Ctx 1976, waterhole, Late 3rd/4th century*		*Ctx 2056, waterhole, Late 3rd/4th century*	
Element	*Fusion*	*Element*	*Fusion*	*Element*	*Fusion*
Metatarsal	Distal fused	Radius L&R	Proximal fusing	Radius	Fused
2x 1st phalanx	Proximal fused			Ulna	no fusion evidence

Ctx 1948, waterhole, late 2nd-mid 3rd century					
Element	*Fusion*	*Element*	*Fusion*	*Element*	*Fusion*
Radius	Distal fused	Metacarpal	neonate	1st and 2nd phalanx	neonate
Ulna	no fusion evidence	Unciform	neonate		
		2nd phalanx x2	neonate		

Ctx 1960, pit, 4th century		*Ctx 372, gully, Late 3rd/4th century*		*Ctx 543, layer, Late 3rd/4th century*		*Ctx 591, ditch, Late 3rd/4th century*	
Element	*Fusion*	*Element*	*Fusion*	*Element*	*Fusion*	*Element*	*Fusion*
Metacarpal	Distal fused	Metacarpal	Distal unfused	Astragalus		Metatarsal	Distal fused
2x 1st Phalanx	Proximal fused	1st phalanx	Proximal fusing	Calcaneum		1st phalanx	Proximal fused
2x 2nd Phalanx	Proximal fused						
2x 3rd Phalanx							
Dist Sesamoid							

Sheep/goat

Ctx 1948, waterhole, late 2nd-mid 3rd century		*Ctx 2036, pit, 4th century*			
Element	*Age*	*Element*	*Fusion*	*Element*	
Radius	Proximal fused	Radius	Proximal fused	Mandible	pair
Ulna		Ulna	Proximal fused	Maxilla	

Sheep/goat

Ctx 1959, pit, 4th century	
Element	*Fusion*
Lower incisor	neonate
Scapula	neonate
Humerus L&R	neonate
Radius L&R	neonate
Ulna L&R	neonate
Metacarpal L&R	neonate
Pelvis L&R	neonate
Femur	neonate
Tibia L&R	neonate
Astragalus	neonate
Calcaneum L&R	neonate
Metatarsal	neonate
3x 1st Phalanx	neonate
2nd Phalanx	neonate
3rd Phalanx	neonate
17 x Rib	neonate
22x Vertebrae frag	neonate

Pig

Ctx 2091, waterhole, Late 3rd/4th	
Element	*Fusion*
Calcaneum	Proximal unfused
Navicular	
Cuboid	

Cattle size

Ctx 2051, waterhole, Late 3rd/4th century	
Element	
3x Cervical vertebrae	

Cattle size

Ctx 2052, waterhole, Late 3rd/4th century	
Element	
2x Cervical vertebrae	

Sheep size

Ctx 1948, waterhole, late 2nd-mid 3rd century	
Element	
8x lumbar vertebrae	
4x cervical vertebrae	

Table 5.34 Thorpe Lea Nurseries: Cattle and horse skulls
Summary of measurements
(see Key for description of measurements)

Cattle

Context	*Period*	*13*	*15*	*26*	*27*	*28*	*29*	*30*	*31*	*32*	*33*	*34*	*38*	*40*	*41*	*42*	*43*	*44*	*45*	*46*	*47*
1171	1/2nd century										165.1	114.6									
1610	Late 3rd/4th century	209	288	84.8		36.8	39.9		129.4	149.9	192.9	136.7		130.3	99.5	135.6	141.3	125.0	43.5	31.2	127.0
1611	Late 3rd/4th century			105		35.2	40.5	140.7	158.9	174.2	219.2			159.7	119.4	258.6	258.6	162.0	57.3	43.9	175.0
1612	Late 3rd/4th century							115.5	133.9	148.9	175.2										
1613	Late 3rd/4th century			106	162	37.5	41.9					145.3									
1615	Late 3rd/4th century							117.6	130.2	153.3	188.9		114.7			265.78	273.2	115.0	41.1	29.9	116.0
1362	Late 3rd/4th century									141.8	160.9										
1621	Late 3rd/4th century										178.5										
1256	Late 3rd/4th century								127.2	154.4	170.7										
1355	4th century								135.2	147.4								126.0	44.6	31.7	
1629	4th century			86.5	129	38.7							99.6								

Horse

Context	*Period*	*6*	*10*	*12*	*13*	*15*	*19*	*31*	*32*	*33*	*34*	*36*	*37*	*41*	*42*	*43*	*44*	*45*	*47*	*48*	*50*
1627	LIA/ER?	325	308	206	260	320	292	57.4	54.7					174.7	125.5	136.6	63.6	57.8	54	108.5	
1628	1/2nd century									86.7	76.1	33.6	42.1								90.3

Table 5.35 Thorpe Lea Nurseries: Cattle
Summary of dental ageing

Age	*Iron Age*	*1st-2nd/Early 3rd Century*	*3rd-4th Century*
New born			
1-3 mths		2	1
3-6 mths			1
6-15 mths	2		1
15-26 mths	1	1	3
26-36 mths	1	5	5
3-6 yrs	1		3
6-8 yrs	1		1
8-10 yrs	3	2	2

Table 5.36 Thorpe Lea Nurseries: Cattle fusion
Iron Age

	Fused	*Fusing*	*Unfused*
Early fusing			
12-20 mths	6		
Mid fusing			
24-30 mths	2		
Late fusing			
36-42 mths	2		

Table 5.37 Thorpe Lea Nurseries: Cattle fusion
1st-2nd/Early 3rd century

	Fused	*Fusing*	*Unfused*
Early fusing			
12-20 mths	9	1	
Mid fusing			
24-30 mths	8	1	
Late fusing			
36-42 mths	2		

Table 5.38 Thorpe Lea Nurseries: Cattle fusion
3rd-4th century

	Fused	*Fusing*	*Unfused*
Newborn			1
< 6 mths			1
Early fusing			
20 mths	23	2	1
Mid fusing			
30 mths	13	1	2
Late fusing			
42 mths	5	3	6

Table 5.39 Thorpe Lea Nurseries: Sheep/goat
Summary of dental ageing

Age (months)	*Iron Age*	*1st-2nd/Early 3rd Century*	*3rd-4th Century*
1-6		1	1
6-12	1		
12-18	2	1	
18-24			
24-36	1		3
32-42	4	1	1

Table 5.40 Thorpe Lea Nurseries: Sheep/goat fusion
Iron Age

	Fused	*Fusing*	*Unfused*
Newborn			2
Early fusing			
12 mths	6		2
Mid fusing			
24-30 mths	1		3
Late fusing			
36-42 mths	1		1

Table 5.41 Thorpe Lea Nurseries: Sheep/goat fusion
1st-2nd/Early 3rd century

	Fused	*Fusing*	*Unfused*
Early fusing			
12 mths			
Mid fusing			
24-30 mths	2		1
Late fusing			
36-42 mths			

Table 5.42 Thorpe Lea Nurseries: Sheep/goat fusion
3rd-4th century

	Fused	*Fusing*	*Unfused*
Newborn			1
Early fusing			
12 mths	4		1
Mid fusing			
24-30 mths	5	1	
Late fusing			
36-42 mths	6	3	1

Table 5.43 Thorpe Lea Nurseries: Pig, summary of ageing

	Iron Age	*3rd-4th Century*
1-7 mths		
7-10 mths	1	1
10-16 mths	3	1
16-24 mths		
24-27 mths	1	
27-30 mths		

Table 5.44 Thorpe Lea Nurseries: Dogs , mandibular and cranial measurements

Measurement (mm)	*Phase 3*		*Phase 4*						
	Context 119	*Context 1998*	*Context 598a*	*Context 1643*	*Context 331*		*Context 2036*	*Context 1958*	
Mandible	*L*	*R*	*R*	*L*	*R*	*L*	*R*	*L*	*R*
Condyle process to aboral edge canine alveolus				105.6			89.3		
Indent condyle/angular process to aboral edge canine alveolus				102.3			86.5		
Aboral edge M3 alveolus to aboral edge canine alveolus				75.2			63.3		
Length M3-P1	82.1			71.1		51.7	60.5		
Length M3-P2	76.8			66.1					
Length molar row	38.7			36.5		25.7	29.7		
Length P1-P4	45.1	38.6		37.1		27.2	32		
Length P2-P4	39.5	25.3		32.1					
Length carnassial alveolus	23.3	22.2		21.7	17.7	17.2	18.9		
Length M2 alveolus	10.9			9.5	6.4	5.9	7.5		
Length M3 alveolus	5			4.7		3.1	3.2		
Thickness of jaw below M1	13.4	11.8		11.8	9.3	9.2	8.8		
Height vertical ramus	59.8					36.5			
Height of jaw behind M1	26.6			23.2	16.1	15.8	16.7		
Height of jaw between P2 and P3	21.4	18.8	18.2	19	15.3	15.4	14.2		
Cranial									
Length carnassial alveolus								15	14.9

Table 5.45 Thorpe Lea Nurseries: Dogs, axial and appendicular measurements

Phase	*Context*	*Element*	*R/L*	*Measurement*	*mm*
3	1998	Humerus	L	Shaft width (SD)	14
				Distal breadth (Bd)	35.8
3	119	Atlas		Breadth across wings (GB)	94
				Length (GL)	41.3
				Width cranial articular surface (BFcr)	44.2
				Width caudal articular surface (BFcd)	35
				Length dorsal arch (LAd)	18.6
				Height (H)	28.6
3	723	Femur	R	Depth caput (DC)	20.1
3	1997	Tibia	L	Shaft width (SD)	10.2
4	418	Tibia	R	Distal breadth (Bd)	22.5
				Distal depth (Dd)	16.4
4	331	Ulna	L	Depth across the anconeal process (DPA)	15
				Smallest depth of olecranon (SDO)	12.1
				Breadth across coronoid process (BPC)	9.7
		Radius	L	Proximal breadth (BP)	14
4	392	Femur	R	Depth caput (DC)	16.9
				Shaft width (SD)	12.8
4	1551	Metacarpal V	R	Length (GL)	59.5
				Distal breadth (Bd)	9.1
		Metacarpal III	R	Length (GL)	71.6
				Distal breadth (Bd)	8.8

Table 5.46 Thorpe Lea Nurseries: Selected cattle measurements

Astragalus

Period	*Greatest lateral length (GLl)*	*Greatest medial length (GLm)*	*Breadth distal articulation (Bd)*
Iron Age	61.3	56.9	36.9
Iron Age	56.7	51.0	34.3
Late 1st-Mid 2nd century	61.7	54.0	39.5
1st/2nd century	56.6	50.9	35.3
Late 3rd/4th century	63.1		39.2
Late 3rd/4th century	61.6	56.0	39.6
Late 3rd/4th century	59.4	52.8	36.6
Roman	58.6	37.6	
Roman	67.9	62.9	43.9
Roman	59.7	5.6	38.2
Roman	68.1	62.7	42.5
Roman	68.6	63.5	42.7

Humerus

Period	*Breadth distal articulation (Bd)*	*Breadth trochlea (BT)*
3rd century or later	68.0	76.3
Late 1st-Mid 2nd century	71.8	65.5
4th century	67.6	65.1
Roman		62.1
Roman	84.3	76.2

Metacarpal

Period	*Greatest length (GL)*	*Minimum shaft width (SD)*	*Breadth distal epiphysis (B@F)**	*Depth medial condyle (Ddm)***	*Breadth distal articulation (BT)*
Late 3rd/4th century			54.1	31.7	61.4
Late 3rd/4th century	181.0	35.4	56.6	32.0	62.3
4th century	175.0	27.5	46.7	28.7	51.2
Roman			55.7	32.5	60.1
Roman	206.0	39.8	61.7		67.6
Roman	196.0	34.2	58.6	34.8	66.8

* Payne in prog ** Payne 1969

Metatarsal

Period	*Greatest length (GL)*	*Minimum shaft width (SD)*	*Breadth distal epiphysis (B@F)**	*Depth medial condyle (Ddm)***	*Breadth distal articulation (BT)*
1st century?	202.0	24.8			
Late 1st-Mid 2nd century	223.0		53.9	31.2	55.4
Late 3rd/4th century	220.0	22.4	45.7	30.4	49.0
Late 3rd/4th century	212.0	28.2	49.3	30.2	53.6
Late 3rd/4th century	217.0	24.8	47.5	28.9	49.8
Late 3rd/4th century	200.0	23.7	45.0	29.0	49.9
Roman			50.2	31.7	52.4
Roman	211.0	22.7	46.2	29.1	50.2

* Payne in prog ** Payne 1969

Radius

Period	*Greatest length (GL)*	*Proximal breadth (BP)*	*Breadth proximal articulation (BFp)*	*Distal breadth (Bd)*	*Breadth distal articulation (BFd)*
Iron Age		66.2	61.8		
Iron Age		64.2	57.7		
Early Roman		73.9	67.7		
Late 2nd-Mid 3rd century				66.5	
Late 3rd/4th century		73.3	66.2		
Roman	269.0	80.6	71.8	67.5	63.0
Roman		71.6	66.8		
Roman	318.0	89.3	82.0	77.2	67.3
Roman		82.4	74.6		
Roman		82.6	74.1		

Scapula

Period	*Greatest length glenoid process (GLP)*	*Breadth glenoid cavity (BG)*	*Smallest length scapula neck (SLC)*	*Length glenoid cavity (LG)*
Iron Age		37.5		43.5
Roman	76.6	52.8		60.9
1st/2nd century	58.8	40.8	42.4	50.7
1st/2nd century	53.3	37.9	41.2	45.4
Late 3rd/4th century	65.3	45.0	46.2	51.3
Late 3rd/4th century	62.2	43.4	48.5	51.1
Late 3rd/4th century	64.9	46.2	47.0	54.2
4th century	65.3	55.6	51.8	56.8
4th century	58.2	40.0	41.0	47.0

Tibia

Period	*Breadth distal articulation (Bd)*	*Depth distal articulation (Dd)*
Iron Age	49.4	37.4
1st/2nd century	56.6	39.1
1st/2nd century	51.4	38.9
4th century	59.9	43.4
Roman	51.5	38.9
Roman	63.4	48.1
Roman	56.0	42.4
Roman	66.7	50.2

Table 5.47 Thorpe Lea Nurseries: Selected sheep/goat measurements

Radius

Period	*Proximal breadth (BP)*	*Breadth proximal articulation (BFp)*	*Distal breadth (Bd)*	*Breadth distal articulation (BFd)*
Iron Age?	24.3	23.8		
Late 3rd/4th century			24.9	20.1
4th century			27.8	22.3
4th century	26.2	23.4		
4th century			25.6	21.7

Tibia

Period	*Breadth distal articulation (Bd)*
Late Iron Age	21.7
Roman	25.9
Roman	22.6
Late 3rd/4th century	24.8
Late 3rd/4th century	22.8

Table 5.48 Thorpe Lea Nurseries: Selected horse measurements

Metacarpal

Period	*Greatest length (GL)*	*Minimum shaft width (SD)*
Iron Age	199.0	27.8

Metatarsal

Period	*Greatest length (GL)*	*Minimum shaft width (SD)*	*Depth distal articulation (Dd)*	*Breadth distal articulation (Bd)*
Iron Age			31.8	40.8
Iron Age		25.5	30.0	38.8
Iron Age?	260.0	28.7	3.6	47.9
Late 3rd/4th century			30.3	

Radius

Period	*Greatest length (GL)*	*Proximal breadth (BP)*	*Breadth proximal articulation (BFp)*
Iron Age			
Late 3rd/4th century	331.0		
4th century		81.9	75.4
Roman		61.6	58.9

Tibia

Period	*Greatest length (GL)*	*Minimum shaft width (SD)*	*Distal breadth (Bd)*	*Distal depth (Dd)*
Iron Age		31.7	55.3	34.6
Iron Age		29.1	52.3	31.9
Iron Age?		38.0	68.3	42.8
4th century			68.4	43.7
Early-Mid 2nd century	308.0	32.9	64.5	39.5
Late 3rd/4th century			70.0	41.2

Table 5.49 Thorpe Lea Nurseries: Pig measurements (mm)

Upper third molar

Period	*Length*	*Anterior width*
2nd century	41.2	21.7

Period	*Greatest length glenoid process (GLP)*	*Breadth glenoid cavity (BG)*	*Smallest length scapula neck (SLC)*	*Length glenoid cavity (LG)*
Iron Age	33.0	22.3		26.9
Iron Age	32.3		21.1	28.4

Table 5.51 Thorpe Lea Nurseries: charred plant remains other than charcoal

			No. of items								
		Phase	2/3 Bronze Age / Iron Age		3 Iron Age				4 Roman		
		Sample	72	73	11	12	62	26	8	30	31
		Context	2403	2403	1508	1508	2350	1296	1773	1962	1963
		Sample Volume (litres)	12.5	10.0	10.0	10.0	7.0	8.5	1.75	10.0	2.0
		Context type	?cremation pit	?cremation pit	pit	pit	pit	pit	bonfire	pit	water hole
Cereal Grain											
Triticum spelta L.		spelt wheat	-	-	-	-	-	-	2	4	2
Triticum sp.		wheat	-	-	1	1	-	1	6	17	-
Hordeum vulgare L.	- hulled lateral grain	hulled six-row barley	1	-	-	-	-	-	5	-	-
H. vulgare L.	- lateral grain	six-row barley	1	-	-	-	-	-	1	-	-
Hordeum sp.	- hulled median grain	hulled barley	1	-	-	-	-	-	3	-	-
Hordeum sp.	- hulled grain	hulled barley	-	-	-	-	-	1	49	-	-
Hordeum sp.	- median grain	barley	-	-	-	-	-	-	2	-	-
Hordeum sp.		barley	1	-	-	-	-	-	82	-	-
cereal indet.			3	-	3	2	1	12	116	27	2
Total Cereal Grain			7	0	4	3	1	14	266	48	4
Cereal Chaff											
Triticum dicoccum Schubl.	- glume	emmer wheat	-	-	-	-	1	-	-	-	-
T. spelta L.	- glume	spelt wheat	-	-	-	1	-	3	3	40	9
T. dicoccum Schubl. or *spelta* L.	- glume	emmer or spelt wheat	-	-	-	2	1	7	1	49	4
Secale cereale L.	- rachis	rye	-	-	-	1	-	-	-	-	-
Hordeum vulgare L.	- rachis	six-row barley	-	-	-	-	-	-	1	-	-
Hordeum sp.	- rachis	barley	-	-	-	-	-	-	1	-	1
Total Cereal Chaff			0	0	0	4	2	10	6	89	14
Weed Seeds											
Thlaspi arvense L.		field penny-cress	-	-	-	-	2	-	-	-	-
Cruciferae indet.			1	-	-	-	-	-	-	-	-
Stellaria media gp.		chickweed	1	1	-	-	9	-	-	1	-
Montia fontana L. ssp. *chondrosperma* (Fenz.) Walt.		blinks	-	-	-	-	1	-	-	-	-
Chenopodium album L.		fat hen	146	44	3	3	3	5	4	-	-
Atriplex sp.		orache	36	20	-	1	1	-	-	2	-
Chenopodiaceae indet.		fat hen, orache etc	153	54	1	3	4	-	3	-	-
Vicia or *Lathyrus* sp.		vetch or tare	20	26	4	4	35	-	-	-	-
cf. *Medicago lupulina* L.		black medick	4	-	-	-	2	-	-	-	-
Trifolium / *Lotus* sp.		clovers, trefoils	-	-	-	-	2	-	-	-	-

			No. of items								
		Phase	2/3 Bronze Age / Iron Age		3 Iron Age				4 Roman		
		Sample	72	73	11	12	62	26	8	30	31
		Context	2403	2403	1508	1508	2350	1296	1773	1962	1963
		Sample Volume (litres)	12.5	10.0	10.0	10.0	7.0	8.5	1.75	10.0	2.0
		Context type	?cremation pit	?cremation pit	pit	pit	pit	pit	bonfire	pit	water hole
Crataegus sp.		hawthorn	-	-	-	-	3	-	-	-	-
Polygonum aviculare agg.		knotgrass	8	1	6	7	12	-	-	-	-
P. persicaria L.		redshank	-	-	-	-	-	-	21	-	-
Fallopia convolvulus (L.) Löve		black bindweed	16	5	39	18	1	-	3	-	-
Rumex acetosella agg.		sheep's sorrel	4	3	-	-	15	-	3	-	-
Rumex sp. (not *acetosella* agg.)		dock	2	-	8	11	5	-	-	-	1
Corylus avellana L.		hazel	-	-	-	1	-	-	-	-	-
Solanum sp.		nightshade	-	-	-	1	-	-	-	-	-
Odontites verna (Bell.) Dum.		red bartsia	7	5	-	-	1	-	-	-	-
Plantago major L.		great plantain	1	-	-	-	-	-	-	-	-
P. media L. or *lanceolata* L.		hoary or ribwort plantain	9	3	-	-	-	-	-	-	-
Sherardia arvensis L.		field madder	-	-	-	-	1	-	-	-	-
Galium aparine L.		goosegrass	-	-	-	3	-	-	-	-	-
Sambucus nigra L.		elder	1	-	-	-	-	-	-	-	-
Anthemis cotula L.		stinking mayweed	-	-	-	-	-	-	10	4	-
Tripleurospermum inodorum (L.) Sch.		scentless mayweed	1	3	-	1	1	-	-	9	3
Carduus sp.		thistle	-	-	-	-	-	-	-	1	-
Juncus sp.	- seed cluster	rush	-	-	-	1	-	-	-	-	-
Eleocharis S. *Palustres* sp.		spike rush	-	-	1	6	2	-	-	2	-
Carex sp.		sedge	-	-	1	2	1	-	-	-	-
Bromus cf. *secalinus* L.		brome	-	-	-	-	2	1	2	2	3
Avena sp.		oat	-	-	-	-	-	-	3	2	-
Gramineae indet.		grass	32	2	-	1	4	-	1	-	1
weed indet.			201	105	11	26	133	2	12	2	1
Total Weed Seeds			643	272	74	89	240	8	62	25	9
Other Plant Remains											
Prunus / *Crataegus* tp.	- thorn	sloe, hawthorn	1	-	-	-	-	-	-	-	-
Avena sp.	- awn	oat	-	-	-	-	-	14	3	22	-
Total no. of items per litre (excluding awns)			57.0	33.5	14.1	15.9	43.7	10.7	226.9	22.5	45.0

Table 5.52 Thorpe Lea Nurseries: charcoal

		No. of items								
	Phase	2 Bronze Age	2/3 Bronze Age / Iron Age			3 Iron Age				
	Sample	75	72	73	53	11	12	62	15	26
	Context	2411	2403	2403	2266	1508	1508	2350	1824	1926
	Sample Volume (litres)	10.0	12.5	10.0	12.0	10.0	10.0	7.0	7.0	8.5
	Context type	ditch	?cremation pit	?cremation pit	pit	pit	pit	pit	pit	pit
Alnus glutinosa (L.) Gaert.	alder	-	-	-	-	-	-	-	+	-
Corylus avellana L.	hazel	-	-	-	-	-	-	-	-	+
Pomoideae indet.	hawthorn etc	-	+	+	+++	-	-	-	++	-
Prunus sp.	sloe	-	-	-	-	-	-	-	-	-
Quercus sp.	oak	+	+	+	+	+	++	+	+	+

		No. of items								
	Phase	3/4	4 Roman							
	Sample	1	8	30	31	34	41	42	59	80
	Context	1626	1773	1962	1963	1976	2036	2047	2051	2091
	Sample Volume (litres)	10.0	1.75	10.0	2.0	10.5	8.5	9.5	10.5	7.0
	Context type	pit	bonfire	pit	water hole	pit	pit	pit	pit	pit
Alnus glutinosa (L.) Gaert.	alder	-	-	-	-	-	-	-	-	-
Corylus avellana L.	hazel	++	-	-	-	-	-	-	-	-
Pomoideae indet.	hawthorn etc	+	+	-	-	+++	++++	-	+	+
Prunus sp.	sloe	-	-	-	-	-	-	-	-	+
Quercus sp.	oak	+	+	+	+	+++	++++	++	++	++

Table 5.53 Thorpe Lea Nurseries: waterlogged seeds

	Phase	4 Roman
	Sample	31
	Context	1963
	Sample Volume (litres)	2.0
	Context type	water hole
Ranunculus cf. *acris*	meadow buttercup	2
R. cf. *repens* L.	creeping buttercup	2
R. flammula L.	lesser spearwort	1
Papaver rhoeas tp.	poppy	2
P. argemone L.	poppy	12
Coronopus squamatus (Forst.) Ash.	swine cress	1
Thlaspi arvense L.	field penny-cress	1
Capsella bursa-pastoris (L.) Med.	shepherd's purse	1
Agrostemma githago L.	corn cockle	8
Cerastium sp.	mouse-ear chickweed	1
Stellaria media gp.	chickweed	97
S. graminea L.	stitchwort	2
Chenopodium polyspermum L.	all-seed	3
C. album L.	fat hen	46
Atriplex sp.	orache	74
Malva sylvestris L.	common mallow	9
Linum catharticum L.	fairy flax	2
Ulex sp.	gorse	1
Filipendula ulmaria (L.) Max.	meadowsweet	1
Rubus fruticosus agg.	blackberry	5
Potentilla cf. *erecta* (L.) Räu.	tormentil	2
P. reptans L.	creeping cinquefoil	1
Aphanes arvensis agg.	parsley-piert	1
Coriandrum sativum L.	coriander	1
Aethusa cynapium L.	fool's parsley	2
Conium maculatum L.	hemlock	4
Polygonum aviculare agg.	knotgrass	14
Fallopia convolvulus (L.) Löve	black bindweed	3
Rumex acetosella agg.	sheep's sorrel	13
R. obtusifolius L.	broad-leaved dock	4
R. conglomeratus Mur.	sharp dock	1
Rumex sp.	dock	37
Urtica urens L.	small nettle	14
U. dioica L.	stinging nettle	689
Hyoscyamus niger L.	henbane	28
Solanum cf. *nigrum* L.	black nightshade	1
Mentha sp.	mint	1
Ballota nigra L.	black horehound	13
Galeopsis tetrahit agg.	hemp-nettle	2
Glechoma hederacea L.	ground-ivy	4
Galium aparine L.	goosegrass	5
Galium sp.(not *aparine*)	bedstraw	2
Sambucus nigra L.	elder	2
Anthemis cotula L.	stinking mayweed	42

	Phase	4 Roman
	Sample	31
	Context	1963
	Sample Volume (litres)	2.0
	Context type	water hole
Leucanthemum vulgare Lam.	ox-eye daisy	1
Arctium sp.	burdock	5
Carduus sp.	thistle	3
cf. *Cirsium* sp.	thistle	3
Sonchus asper (L.) Hill	sow-thistle	1
Eleocharis S. *Palustres* sp.	spike rush	4
Carex spp.	sedge	9
Bromus S. *Eubromus* sp.	brome grass	1
Triticum spelta L.	spelt wheat	3
cf. *Triticum* sp.	wheat	3
Gramineae indet.		7
Total		1,197

2

Table 5.54 Thorpe Lea Nurseries: other waterlogged plant remains

		Phase	4 Roman
		Sample	31
		Context	1963
		Sample Volume (litres)	2.0
		Context type	water hole
Bud scale indet.			2
Leaf abscission pad indet.			2
Pteridium aquilinum (L.) Kuhn.	- frond fragment	bracken	2
Quercus sp.	- twig	oak	+
Rumex sp.	- stem with peduncle	dock	1
Trifolium sp.	- flower	clover	5
Triticum spelta L.	- glume	spelt wheat	72
Ulex sp.	- calyx	gorse	12
Ulex sp.	- pod	gorse	9
Ulex sp.	- prickly shoots	gorse	+++

1

Table 5.55 Thorpe Lea Nurseries: coleoptera from the Roman water hole sample 31, context 1963 by species group

Species Group		Percentage of Total Terrestrial Coleoptera
(1.	Aquatic	1.7)
2.	Pasture / dung	4.5
3.	? Meadowland	2.5
4.	Wood and trees	1.2
5.	Marsh / aquatic plants	0
6a.	General disturbed ground / arable	2.1
6b.	Sandy dry disturbed ground / arable	0.8
7.	Dung / foul organic material	7.9
8.	Lathridiidae	7.4
9.	Synanthropic	4.1
10.	Esp. structural timbers	8.7
11.	On roots in grassland	0.4
12.	Unclassified	60.7
Total number of terrestrial individuals		242

Table 5.56 Thorpe Lea Nurseries: other insects

			Species Group
	Phase	4 Roman	
	Sample	31	
	Context	1963	
	Sample Volume (litres)	7.0	
	Context type	water hole	
Forficula auricularia L.		27	
Heterogaster urticae (F.)		1	
Megalonotus sp.		1	
Scolopostethus sp.		1	
Philaenus or *Neophilaenus* sp.		1	
Aphrodes bicinctus (Schr.)		14	
A. fuscofasciatus (Gz.)		6	
A. histrionicus (F.)		4	
Aphrodes sp.		3	
Stenamma sp.	- worker	5	
Lasius niger gp.	- worker	2	
Lasius sp. (not *fuliginosus*)	- female	1	
Lasius sp.	- male	1	
Apis mellifera L.	- worker	1	
Hymenoptera indet. (not Formicidae)		7	
Diptera indet.	- puparium	6	
Diptera indet.	- adult	14	

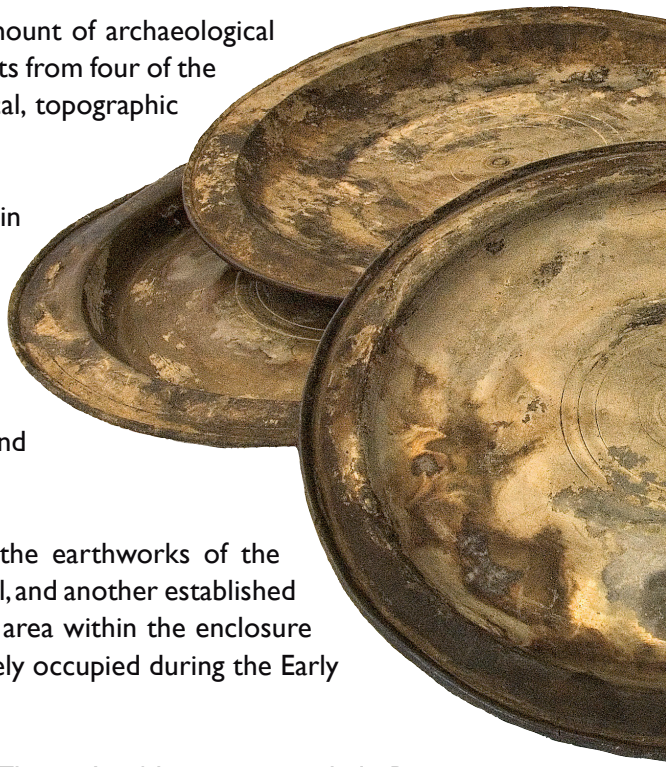
1

Table 5.57 Thorpe Lea Nurseries: coleoptera

Phase	4 Roman	Species Group
Sample	31	
Context	1963	
Sample Volume (litres)	7.0	
Context type	water hole	
Leistus ferrugineus (L.)	1	
Nebria brevicollis (F.)	4	
Notiophilus sp.	1	
Clivina collaris (Hbst.) or *fossor* (L.)	3	
Trechus obtusus Er. or *quadristriatus* (Schr.)	6	
Bembidion obtusum Serv.	2	
Pterostichus madidus (F.)	1	
Calathus fuscipes (Gz.)	8	
C. melanocephalus (L.)	1	
Olisthopus rotundatus (Pk.)	2	
Agonum dorsale (Pont.)	3	6a
Amara aulica (Pz.)	1	
A. bifrons (Gyl.)	2	6b
Zabrus tenebrioides (Gz.)	3	
Harpalus rufipes (Deg.)	2	6a
H. S. *Ophonus* sp.	10	
Metabletus sp.	2	
Brachinus crepitans (L.)	1	
Agabus sp. (not *bipustulatus*)	2	1
Helophorus nubilus F.	1	
Helophorus spp. (*brevipalpis* size)	1	1
Cercyon analis (Pk.)	2	7
C. haemorrhoidalis (F.)	1	7
C. terminatus (Marsh.)	4	7
Megasternum obscurum (Marsh.)	10	7
Cryptopleurum minutum (F.)	1	7
Kissister minimus (Aubé)	1	
Onthophilus striatus (Forst.)	4	
Paralister sp.	1	
Atholus duodecimstriatus (Schr.)	1	
Ochthebius cf. *bicolon* Germ.	1	1
Ptiliidae indet. (not *Ptenidium*)	1	
Choleva or *Catops* sp.	1	
Silpha obscura L.	1	
Scydmaenidae indet.	1	
Phyllodrepa floralis (Pk.)	1	
Omalium sp.	2	
Xylodromus concinnus (Marsh.)	1	
Platystethus cornutus gp.	1	
P. nitens (Sahl.)	1	
Anotylus sculpturatus gp.	1	7
Oxytelus sculptus Grav.	3	
Stenus sp.	1	
Paederus littoralis Grav.	1	
Lathrobium sp.	1	
Gyrohypnus fracticornis (Müll.) or *punctulatus* (Pk.)	1	
Xantholinus linearis (Ol.)	1	
Philonthus spp.	6	
Creophilus maxillosus (L.)	1	
Tachyporus sp.	1	
Tachinus sp.	3	
Aleocharinae indet.	3	

Phase	4 Roman	Species Group
Sample	31	
Context	1963	
Sample Volume (litres)	7.0	
Context type	water hole	
Geotrupes sp.	2	2
Aphodius contaminatus (Hbst.)	2	2
A. cf. *foetidus* (Hbst.)	1	2
A. granarius (L.)	3	2
A. cf. *sphacelatus* (Pz.)	1	2
Aphodius sp.	1	2
Onthophagus ovatus (L.)	1	2
Cetonia aurata (L.)	1	
cf. *Cyphon* sp.	2	
Agrypnus murinus (L.)	1	11
Melanotus erythropus (Gml.)	1	4
Trixagus sp.	1	
Anobium punctatum (Deg.)	20	10
Ptinus fur (L.)	9	9
Lyctus linearis (Gz.)	1	10
Brachypterus urticae (F.)	2	
Meligethes sp.	1	
Monotoma sp.	1	
Cryptophaginae indet.	11	
Atomaria sp.	1	
Olibrus sp.	2	
Lathridius minutus gp.	10	8
Enicmus transversus (Ol.)	1	8
Corticaria punctulata Marsh.	2	8
Corticariinae indet.	5	8
Mycetophagus quadriguttatus Müll.	1	9
Typhaea stercorea (L.)	5	9
Anthicus floralis (L.)	3	
A. formicarius (Gz.)	1	
Phymatodes testaceus (L.)	1	4
Bruchus or *Bruchidius* sp.	1	
Phyllotreta atra (F.)	1	
Longitarsus sp.	1	
Altica sp.	4	
Podagrica fuscicornis (L.)	3	
Chaetocnema concinna (Marsh.)	1	
Apion rufirostre (F.)	2	
A. urticarium (Hbst.)	3	
Apion spp. (not *rufirostre* or *urticarium*)	3	3
Trachyphloeus bifoveolatus (Beck)	1	
Phyllobius roboretanus Gred. or *viridiaeris* (Laich.)	1	
Sitona cf. *hispidulus* (F.)	1	3
S. cf. *lineatus* (L.)	2	3
Leiosoma deflexum (Pz.)	1	
Cidnorhinus quadrimaculatus (L.)	6	
Ceutorhynchus erysimi (F.)	1	
C. pollinarius (Forst.)	2	
Ceuthorhynchinae indet.	1	
Scolytus rugulosus (Müll.)	1	4
Total	246	

The Thames valley, near Chertsey, has seen a large amount of archaeological work in the last 25 years. This volume details the results from four of the sites investigated, and provides a review of their geological, topographic and archaeological context.



Prestige artefacts, including the only Iron Age shield in Europe made entirely of bronze from Abbey Meads, and a Late Bronze Age axe with wooden haft from Shepperton Ranges, were recovered from former channels of the Thames. The votive deposits from these sites belong to all periods from the Mesolithic to the Late Saxon, and suggest that particular places along the river acquired and retained sanctity over a very long time.

A trial trench sectioned the earthworks of the hillfort at St Ann's Hill, and another established that at least one area within the enclosure had been densely occupied during the Early Iron Age.

Excavations at Thorpe Lea Nurseries revealed a Bronze Age rectilinear field system and associated occupation sites. More intensive Iron Age occupation began in the Middle Iron Age, and one farmstead was then continuously occupied until the end of the 4th century AD. Rare and important evidence for an iron smelting industry of Iron Age date was widely distributed.

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A SpoilHeap publication for

SURREY COUNTY COUNCIL
Archaeology South-East UCL
SURREY COUNTY SCAU ARCHAEOLOGICAL UNIT
ENGLISH HERITAGE

ISBN 978-0-9558846-4-1