Contact, Concord and Conquest

Britons and Romans at Scotch Corner

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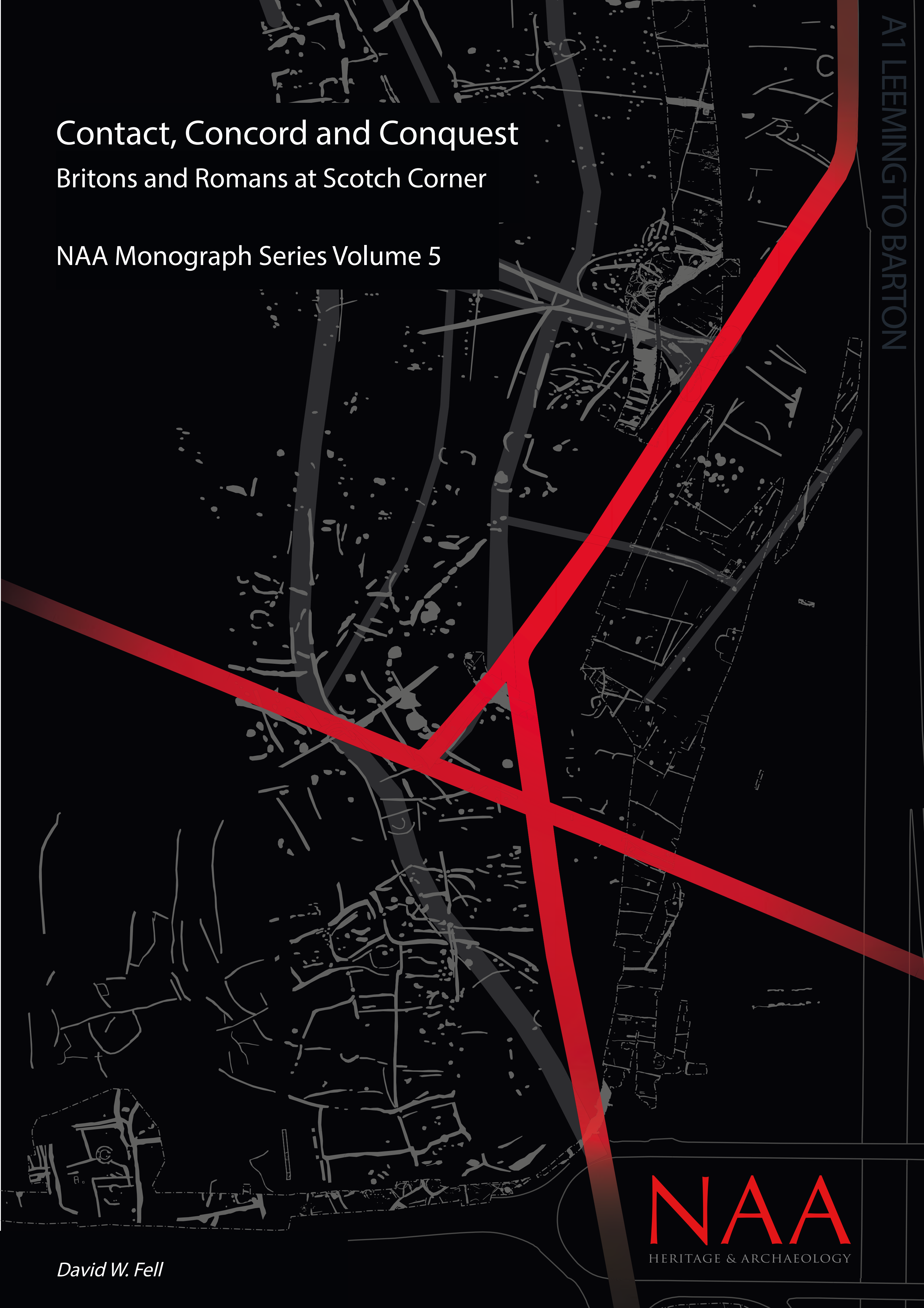

NAA
HERITAGE & ARCHAEOLOGY

David W. Fell

A1 Leeming to Barton

CONTACT, CONCORD AND CONQUEST

BRITONS AND ROMANS AT SCOTCH CORNER

by

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FOREWORD

Scotch Corner has long been one of the best-known road junctions in mainland Britain, familiar to the wider public as a stopping-off point on the long journey north or south, or across the Pennines. However, it is noteworthy to archaeologists mainly as the meeting place of two major Roman roads, equidistant from the forts and garrison settlements at Catterick, Piercebridge and Greta Bridge. A Roman *mansio* (inn) might perhaps be anticipated there (as now) and a few roadside buildings, but little else. Local historians might have pointed to the 18th- and 19th-century exploitation of the rich copper ores near Scotch Corner at Middleton Tyas, but for the Roman period, most archaeologists would probably have concurred with Sir Ian Richmond's judgement that these deposits 'were too deep and too waterlogged [to have been worked in antiquity] and … only accessible after the advent of steam-pumping machinery' (Richmond 1963, 156). After all, if the copper had been exploited in Roman times, one would expect a major settlement there.

How wrong is it possible to be? As result of the extensive investigations by Northern Archaeological Associates (NAA) between 2013 and 2017 in conjunction with the upgrading of the A1 to motorway status between Leeming and Barton (A1L2B), we now know that for most of the 1st century AD, Scotch Corner, far from being a nowhere place, was amongst the most significant settlements in Britain. Particularly in the decades after the Roman invasion in AD43, its inhabitants were at the epicentre of political, cultural and economic developments north of the Humber and the unique structural remains and excavated finds reported in this monograph constitute a major new resource for understanding the Iron Age–Roman transition in Britain, as well as for wider comparative studies of interaction between the Roman world and indigenous groups around its expanding frontiers. The interventions described here, along the road scheme, have also contributed materially to our knowledge of later Iron Age settlement and land use in the north of the Vale of Mowbray where there was previously very limited evidence.

The potential archaeological importance of Scotch Corner began to emerge in the 1990s. First, a geophysical survey by my former colleagues at Durham University confirmed the indications from cropmarks for an extensive settlement at the road junction, then a watching brief by NAA behind the Scotch Corner hotel recorded occupation dating to the 1st century AD. The presence of unusual imported Roman fine wares here, and at the nearby site of Melsonby investigated by Durham University in 1994–95, provided a link with the late Iron Age earthworks at Stanwick, 6km north-west of Scotch Corner. Subsequent interventions along the A66 by Oxford Archaeology North and near Richmond by NAA yielded further evidence of the Late Iron Age settlement at Scotch Corner, as well as showing that the Scots Dyke linear earthwork west of Scotch Corner had been built or modified at this period. Consequently, by the time I was writing the concluding chapters of my 2016 monograph on my earlier fieldwork at and around Stanwick, it had become clear to me that despite the Stanwick earthworks enclosing nearly three square kilometres, these other Late Iron Age elements were as much an integral part of the complex as the known settlement within the perimeter. In effect, Stanwick, Scots Dyke, Melsonby and Scotch Corner together formed part of a single settlement landscape, analogous to the better-documented royal centres of Roman client kingdoms in the coin-using areas of southern Britain. Given that Scotch Corner was located at such an important crossroads and lay on the far side of Scots Dyke from Stanwick, I even tentatively suggested that it might have been the place to which Roman emissaries and traders came and transacted business with the pro-Roman Brigantes led by Queen Cartimandua, who resided at Stanwick.

Nevertheless, I was completely unprepared for what the A1 scheme investigations at Scotch Corner would reveal! At a personal level, the results are gratifying in seemingly providing strong support for my published interpretation of Stanwick as the political and ritual focus of a philo-Roman elite, some of which I was aware rested on slender evidence. Some key points where I had gone out on a limb have been vindicated, notably the argument that the inhabitants of Stanwick were in contact with the Roman world before AD43, whether directly, or mediated through the Augustan–Tiberian client kingdoms of southern Britain. At the same time, the Scotch Corner excavations have added to our knowledge of Stanwick in intriguing ways. Imported samian pottery of the early Claudian period is rare at Stanwick, but relatively abundant at Scotch Corner. Conversely, a slight downturn detectable at Scotch Corner after AD55 arguably coincides with the period when Stanwick was at its most important. Rather than my asymmetrical view of the two sites as functionally distinct components of the same complex, one open and a point of entry, the other fortified and forming the ceremonial core, we should perhaps see them more as chronologically complementary settlement foci, their peaks and troughs reflecting the wider historical events at this period.

The two most exciting aspects of the Scotch Corner excavations are the way in which they challenge long-held understandings of Iron Age and Early Roman Britain, and the fascinating insights that they provide into the somewhat chaotic nature of life on a frontier settlement during the first years of the Roman military occupation. The Scotch Corner excavations revealed that working of surface veins of copper was probably an important factor in the development of the Iron Age settlement—perhaps echoing the short-lived phases of exploitation of copper ore at Middleton Tyas after the discovery of veins of high purity during much later stone quarrying. More important still was the discovery at Scotch Corner of numerous clay pellet moulds of a type thought to have been used in Late Iron Age coin production. This is the fourth-largest such find from Britain, and the first time pellet moulds have been excavated outside the known coin-using regions of Iron Age Europe. Either coinage was being minted at Scotch Corner before the Roman conquest and the products may yet come to light, or be recognised for what they are, or we may need to reconsider what role these moulds played in metalworking.

Most important of all is the contribution that the Scotch Corner excavations and David Fell's skilful analysis of the structural sequence have made in filling in our woefully thin knowledge of the critical years following the start of sustained Roman military intervention in central Britain around AD70. Archaeologists often talk rather glibly of discoveries rewriting history, claims that on closer inspection seem overblown. To my mind, the Scotch Corner excavations have as good a claim on this as any, but it would be unfair to burden the project in this way. What the investigations have in fact done is to provide us with unparalleled insights into Roman decision-making in the context of rapidly changing circumstances, manifested in the successive road layouts within the Scotch Corner settlement as new long-distance roads were added to the network and older routes downgraded, and seen too in the re-planning of the township as the inhabitants adapted to these externally driven changes. This is something about which Tacitus and our other Roman sources for the period tell us next to nothing. What the Scotch Corner excavations have done instead is to provide us with the material for writing the first chapter of an alternative, archaeologically led history of the conquest of the north, which previously lacked any real foundations.

The picture of indecision and rapid changes of mind stemming from inadequate strategic planning that emerges from Scotch Corner is very much at odds with our conventional idea of the Roman conquerors of Britain as highly methodical and practised in everything they did. This image has its back-history in our own imperialist past and world-view in the era when modern Roman archaeology was developing in the 19th and 20th centuries. In retrospect, we can now see clearly that there was much more happenstance and muddling through about the British empire than we generally cared to admit. It is hardly surprising that this should also be the case for the Roman conquest of Britain, perhaps exacerbated in Scotch Corner's case by the rapidity with which Cartimandua's rule collapsed and the emergency this precipitated at a time when the empire was already in crisis due to the rival claims in the throne. Unlike many other setbacks that befell the Romans (and British), not least the Boudican revolt in Britain, this one is hardly documented, however, and, as so often in the course of Roman expansion, it was rapidly and resourcefully overcome, so that within little more than a decade, the once flourishing settlement at Scotch Corner had lost its raison d'être.

This highlights another unique aspect of the Scotch Corner site with wider implications. We are used to the perceived advantages of excavating greenfield Roman towns such as Silchester, St. Albans and Caistor St. Edmund, where a lack of later development has left the Roman remains both relatively intact and accessible. To be able to excavate a full transect through a short-lived roadside settlement belonging to the very earliest stages of Roman expansion in Britain was a rare chance indeed. In most 'successful' Roman towns, greenfield or not, our knowledge of their earliest phases is still quite limited, typically hidden or destroyed by centuries of rebuilding and modification. Our ideas of rapidly imposed ordered plans derive predominantly from military sites. However, where the earliest phases of urban sites have been exposed on a sufficient scale through excavation, as at Silchester, or increasingly though the use of ground-penetrating radar combined with magnetometry, as at Aldborough and Brough-on-Humber in Yorkshire, these were evidently more fluid and subject to changes of layout than we have perhaps hitherto envisaged.

Another aspect of Roman archaeology in need of revisiting is the continued willingness—borne of lingering primitivist attitudes to indigenous Iron Age societies—to credit the Romans with having invented things that were in fact already in existence, in this case a long-distance road network. The excavations at Scotch Corner and along the A1 to the south reinforce a picture that is emerging across Europe of established land routes, with well-maintained roads, tracks and bridges, pre-dating the Roman conquest and complementing the seaways and navigable rivers. When we think about it, this is an obvious and necessary corollary to the high degree of mobility of both humans and animals increasingly evident from isotopic studies throughout the Iron Age. That the Romans vastly improved and augmented what they inherited is beyond dispute, but that is hardly the same thing.

In closing, I would like to pay tribute to everyone involved in the 2013–17 fieldwork and in the post-excavation research, which has been a necessary prelude to this stimulating volume. I have myself excavated in north-east England in all weathers, but not in all seasons. Digging on the boulder clays is challenging enough at the best of times. To do so month after month without respite to overcome one tight deadline after another is something else. No praise can be high enough for the professionalism of the NAA fieldwork teams, who excavated and recorded the archaeology of the A1 scheme to such high standards for the benefit of future generations, to whose efforts the excellent contributions of the post-excavation researchers have added extra value. They may rest assured that collectively they have produced a monograph that challenges preconceptions of the Iron Age–Roman transition in Britain and that is destined to become a standard work of reference to which archaeologists will return time and again as they debate the processes at work during this exciting formative period of our early history. It remains only for me as academic editor to thank the NAA team for facilitating my task and providing information, especially Hannah Russ and Rachel Cubitt, and above all, David Fell, lead archaeologist on the project for Scotch Corner and the principal author of this volume.

Colin Haselgrove, University of Leicester, January 2020

SUMMARY

During the A1 Leeming to Barton motorway upgrade scheme in North Yorkshire, a large team of archaeologists from Northern Archaeological Associates (NAA) dedicated much of 2014–2017 to the investigation of an extensive Late Iron Age and Early Roman contact-period settlement in fields flanking Scotch Corner roundabout. The location presents wide panoramic views and has provided a natural routeway and communication nexus since prehistoric times; its elevated position on the crest of Gatherley Moor was later commanded by a strategically important junction of the Roman trans-Pennine road over Stainmore and Dere Street, which survive in sections of the A66 and A1 respectively.

The archaeological remains at Scotch Corner encompass a remarkable era of social, economic and political transformations associated with the absorption of northern England into the Roman province. Artefact typologies, radiocarbon dates and Bayesian modelling indicate that initial stages of the settlement's evolution (Period 1; c.55BC–c.AD15) were characterised by congregations of native people and unenclosed roundhouse dwellings on land that was amenable to mixed agriculture. Regimes of cereal cultivation and pastoral farming underpinned a growing economy that promoted exchange networks amongst interconnected and mobile communities from the coast and further inland. Barely 5km north-west of Scotch Corner, the local Brigantian tribal elite developed a power centre at Stanwick, which became the gathering place for disparate groups as resources were centralised and opportunities arose from increasing contact with Rome. Operating much like a southern British or Continental oppidum, Stanwick presented a northern focus for Roman diplomatic missions, which sought to establish and maintain a client polity of the type already functioning profitably in territories around the Empire where Roman influence was well-established.

By the time ditched boundaries were instituted to delimit coaxial and nucleated tenurial units across Scotch Corner in the early to mid-1st century AD (Period 2; c.AD15–c.AD55), it is likely that terrestrial, riverine and marine transportation networks were already being used to convey lavish consignments of exotic Roman and Continental imports to Stanwick. From there, materials were apparently redistributed to satellite communities such as Melsonby and Scotch Corner, which were connected physically by a series of earthworks forming Scots Dyke and linked culturally and economically with complementary manufacturing endeavours. Amongst the densely settled landscape, each seemingly developed as centres of specialist metalworking; the famous 'Stanwick' hoard of copper-alloy objects was probably stowed within a workshop enclosure at Melsonby, whereas copper extraction around Scotch Corner supplied the manufacture of metal-alloy pellets and possibly even coins for Queen Cartimandua and her forebears. These prestigious commodities currently represent the most northerly application of such technologies, reflecting Stanwick-Scotch Corner's exceptional wealth and social pre-eminence.

Cartimandua's alleged betrayal of the fugitive native leader Caratacus to Roman forces signifies the extent to which Brigantian elites valued the state of concord forged with the invader. Yet, further south, Boudica's revolt in AD60/61 heralded a decade of violent civil strife that expressed intolerance towards increasingly exploitative client relationships. With reference to Tacitus' narrative, it seems that similar discord partly explains events at Scotch Corner during Period 3 (c.AD55–c.AD70), when pellet manufacturing in the workshops ceased, inhabited enclosures fell out of use and a new 'ladder' system was introduced. At the same time, the arrival of some commodities transported through military networks conceivably attest to Roman troop deployment in support of Cartimandua, whose leadership was threatened after schism with her former consort Venutius. By the end of the AD60s, widespread political instability arising from native in-fighting, Nero's suicide, and the Year of the Four Emperors, provided an ideal situation for Rome to extend the frontier northwards. While this ambition presumably underpinned previous interventions, it was finally realised early in Period 4 (c.AD70–c.AD85/90) when governor Q. Petillius Cerialis and his successors fulfilled Emperor Vespasian's wish to establish control in this troublesome part of the province, apparently prompting the desertion of Stanwick and Melsonby.

The most enduring testament to military conquest at Scotch Corner was the important Roman road junction and network, which originated with the first engineered iteration traversing Stainmore towards Carlisle, and another route aiming for Stanwick. Dere Street was subsequently extended from the junction on a northward trajectory in support of Agricola's abortive campaign into Scotland and to expedite movements around the frontier. As the roads were realigned in response to changing military objectives, three consecutive enclosure systems with surveyed layouts and complementary axial alignments were developed with respect to existing plots on previously unoccupied land at Scotch Corner. Inside the enclosures, rectangular timber buildings that conformed to standard dimensions seem to have accommodated a mixed community including Roman officials, privileged natives and possibly even displaced elites with access to fine ceramics, glass vessels, comestibles and other objects supplied exclusively via the Roman military. Adoption of Roman butchery

traditions, and querns and millstone technology further demonstrate the impact of annexation at the settlement, which perhaps resembled a vicus*, but was conceivably envisaged as a small town with an ambitious apsidal structure near its centre and stabling provision for travellers.*

*The project was abandoned, however, and Scotch Corner's subsequent demise transpired in two stages. Around AD85/90, episodes of closure comprised deliberate backfilling of negative features with materials characteristic of diplomatic gifts and Roman-style occupation. This seemingly coincided with the Roman withdrawal from Scotland, increasing troop redeployment to the Continent, and possibly also with Cartimandua's death. During the more protracted second stage (Period 5; c.AD85/90–c.AD135/150), a new structure at the junction was erected then abandoned along with an adjacent compound, but some roads were maintained and even upgraded. Although Scotch Corner evidently remained crucial to military and civilian transport, the effective neutralisation of Stanwick, suppression of native resistance, and construction of Hadrian's Wall arguably reduced the need for a military presence, which became refocused at forts at Catterick (*Cataractonium*), Binchester (*Vinovia*) and Bowes (*Lavatris*). Rapid growth of the* vici *around these military sites and the appearance of valley settlements such as Faverdale, near Darlington, demonstrates how, once assimilated, the native population gravitated towards developing markets and cultural centres that thrived in the vacuum left after migration from Stanwick–Scotch Corner, thus fixing the settlement pattern that survives to the present day.*

RÉSUMÉ

Au cours du projet de mise à niveau de l'autoroute A1 entre Leeming et Barton dans le Yorkshire du Nord, les traces d'une longue période d'occupation, depuis la fin de l'âge du Fer jusqu'au début de l'époque romaine, ont été découvertes dans les champs bordant le rond-point de Scotch Corner entre 2014 et 2017 par une grande équipe de Northern Archaeological Associates (NAA). L'emplacement offre de larges vues panoramiques sur un passage naturel utilisé depuis la préhistoire. Grâce à sa position élevée sur la crête de Gatherley Moor, le site est devenu un croisement d'importance stratégique à l'intersection de la voie romaine traversant la chaîne des Pennines à Stainmore avec Dere Street. Les traces de ces deux voies existent encore sous certaines sections de l'A66 et de l'A1 respectivement.

Les vestiges archéologiques découverts à Scotch Corner donnent un aperçu sur une ère de transformations sociales, économiques et politiques qui accompagnent la colonisation du nord de l'Angleterre sous l'empire romain. La typologie du mobilier, les dates radiocarbones et leur modélisation bayésienne permettent de définir une période initiale (période 1 ; environ 55 av. J.-C. à environ 15 apr. J.-C.) caractérisée par des habitations circulaires sans enclos occupées par une population indigène pratiquant une agriculture mixte. La culture céréalière et l'élevage ont alimenté un essor économique qui a favorisé les réseaux d'échange entre des communautés mobiles et interconnectées occupant les régions côtières ainsi que l'intérieur. ***À peine à*** *5 km au nord-ouest de Scotch Corner, Stanwick devint un centre de pouvoir de l'élite de la tribu locale des Brigantes, un lieu de rassemblement pour des groupes hétérogènes et de centralisation des ressources offrant de nouveaux débouchés grâce au contact croissant avec Rome. Tout comme les oppida du sud de la Grande-Bretagne et de l'Europe continentale, Stanwick accueillait des missions diplomatiques romaines qui cherchaient à établir, puis à maintenir, un état-client selon un modèle déjà bien établi dans d'autres territoires de l'empire romain.*

Au cours de la première moitié du Ier siècle de notre ère (période 2 ; environ 15 à environ 55 apr. J.-C.), au moment où l'on creusa des fossés sur tout le site de Scotch Corner pour délimiter des parcelles coaxiales et des unités foncières nucléées, il est probable que des réseaux de transport terrestre, fluvial et maritime acheminaient déjà des importations exotiques d'origine romaine et continentale vers Stanwick. Ces matériaux ont sans doute été redistribués à des communautés satellites, comme Melsonby et Scotch Corner, reliées entre-elles et à Stanwick par les levées de Scots Dyke. Des liens culturels et économiques existent également, accompagnés d'un artisanat complémentaire. Des centres de métallurgie spécialisés se sont apparemment développés au sein d'un paysage densément peuplé. Le fameux trésor dit « Trésor de Stanwick », comprenant des objets en alliage de cuivre, a été découvert à l'intérieur d'un enclos à Melsonby qui servait probablement d'atelier. De même, l'extraction du cuivre autour de Scotch Corner fournissait sûrement la matière première utilisée dans la fabrication de petits lingots d'alliage métallique, peut-être même de monnaies destinées à la reine Cartimandua et à ses ancêtres. Ce matériel prestigieux est le témoignage le plus septentrional de l'utilisation de ces technologies, démontrant la richesse exceptionnelle et la prééminence sociale de Stanwick-Scotch Corner.

La trahison présumée de Cartimandua, livrant le fugitif Caratacus aux forces romaines, indique à quel point les élites des Brigantes appréciaient leur état de concorde avec l'empire. Cependant, plus au sud, la révolte de Boudica en 60/61 apr. J.-C. a marqué le début d'une décennie de violents troubles civils révélateurs d'une intolérance croissante envers un système de clientèle de plus en plus abusif. Il semble qu'à Scotch Corner on puisse discerner les traces d'une discorde semblable, évoquée dans le récit de Tacite, pendant la période 3 (environ 55 à environ 70 apr. J.-C.). La production des petits lingots cessa, les enceintes habitées tombèrent en désuétude et furent remplacées par un nouveau système de petits enclos (en forme « d'échelle » en bord de route). Simultanément, l'arrivée de certaines marchandises transportées le long des réseaux militaires témoigne vraisemblablement du déploiement de troupes romaines à l'appui de Cartimandua, dont la position était menacée après la rupture avec son ancien consort Venutius. À la fin des années 60, l'instabilité politique généralisée, causée par des conflits entre groupes indigènes, le suicide de Néron et l'Année des Quatre Empereurs, a fourni l'occasion idéale d'étendre la frontière nord de l'empire romain. Bien que cette ambition motivait aussi des interventions antérieures, elle n'aboutit qu'au début de la période 4 (environ 70 à 85/90 apr. J.-C.). Le gouverneur Q. Petillius Cerialis et ses successeurs parvinrent enfin à réaliser le souhait de l'empereur Vespasien et soumettre ce secteur difficile de la province britannique, provoquant sans doute l'abandon de Stanwick et Melsonby.

Le carrefour et le réseau routier romain comprenant une voie traversant Stainmore en direction de Carlisle et une autre route reliant Stanwick sont les témoignages les plus durables de la conquête militaire à Scotch Corner. Dere Street a ensuite été prolongée vers le nord pour soutenir la campagne infructueuse d'Agricola en Écosse et pour accélérer les mouvements autour de la frontière. Lorsque les changements d'objectifs militaires exigèrent une rectification du tracé des voies romaines, on adapta le système d'enclos et l'alignement des parcelles agricoles sur des terres précédemment inoccupées à Scotch Corner en créant trois systèmes consécutifs intégrant les parcelles existantes. À l'intérieur de ces enclos, des bâtiments rectangulaires en bois construits selon un modèle standard auraient hébergé une communauté

mixte comprenant des fonctionnaires romains, des indigènes privilégiés et peut-être même des élites repliées sur Scotch Corner. Cette communauté avait accès à de la céramique fine, des récipients en verre, des denrées alimentaires et d'autres objets fournis exclusivement par les réseaux de distribution de l'armée romaine. La présence de traditions de boucherie typiquement romaine, de moulins à main et de meules de type romain démontre amplement l'annexation de l'habitat ; ce dernier ressemblait peut-être à un vicus*, voire une petite ville, contenant une structure absidale impressionnante près de son centre et des écuries pour accueillir les voyageurs.*

*Le projet fut cependant abandonné et le déclin de Scotch Corner se déroula en deux étapes ; vers 85/90 apr. J.-C., les fossés et fosses furent délibérément remblayés, le remblai contenant un mobilier typiquement romain, y compris des cadeaux diplomatiques. Cet épisode coïncida apparemment avec le retrait des forces romaines de l'Ecosse, permettant de les redéployer sur le continent européen, et peut-être aussi avec la mort de Cartimandua. Au cours de la deuxième étape d'abandon, plus longue (période 5 ; environ 85/90 à environ135/150 apr. J.-C.), une nouvelle structure accompagnée d'un enclos fut érigée puis abandonnée, alors qu'on continua à entretenir ou même améliorer certaines routes. Bien que Scotch Corner soit clairement resté essentiel pour le transport militaire et civil, la neutralisation de Stanwick, la fin de la résistance indigène et la construction du mur d'Hadrien réduisirent sans doute la nécessité d'une présence militaire. Celle-ci se regroupa dans les forts de Catterick (*Cataractonium*), Binchester (*Vinovia*) et Bowes (*Lavatris*). La croissance rapide des* vici *autour de ces sites militaires et l'émergence d'habitats dans les vallées, tel Faverdale près de Darlington, témoignent d'une assimilation de la population locale, désormais attirée vers les marchés et les centres culturels florissant dans le vide laissé après l'abandon de Stanwick-Scotch Corner, un modèle d'habitat encore visible de nos jours.*

ZUSAMMENFASSUNG

Während der Ausbauarbeiten der A1 Autobahn von Leeming bis Barton in Nord Yorkshire hat sich zwischen 2014 und 2017 ein großes Team von Northern Archaeological Associates (NAA) Archäologen der Untersuchung einer umfangreichen späteisenzeitlichen und frührömischen Siedlung gewidmet, in der Nähe des Kreisverkehrs von Scotch Corner. Von dort hat man eine weite Panoramaaussicht. Hier war seit urgeschichtlichen Zeiten ein natürlicher Verbindungs- und Knotenpunkt; die erhöhte Lage auf dem Kamm von Gatherley Moor entwickelte sich später zu einem wichtigen strategischen Punkt für die römische Straße, die über Stainmore und Dere Street das Mittelgebirge der Pennines durchquerte. Einige Abschnitte der Straße überleben als A66 und A1.

Die archäologischen Überreste von Scotch Corner gehören zu einer bemerkenswerten Epoche gekennzeichnet durch soziale, wirtschaftliche und politische Veränderungen, die mit der Übernahme von Nordengland in die römische Provinz Britannia zusammenhängen. Die Typologie der Artefakte, die Radiokarbondaten und deren Bayessche Modellierung zeigen, dass die Anfangsphase der Siedlungsentwicklung (Phase 1, um ca. 55 v. Chr. bis ca. 15 n. Chr.) von Ansiedlungen der einheimischen Bewohner geprägt war. Die nicht eingefriedeten Rundhäuser standen auf einem Boden, der sich für gemischte Landwirtschaft eignete. Der Getreideanbau und die Weidewirtschaft unterstützten eine wachsende Wirtschaft, welche Austauschbeziehungen zwischen vernetzten und mobilen Gemeinschaften aus dem Küstenbereich und dem Hinterland förderte. Kaum 5 km nordwestlich von Scotch Corner entwickelte die Elite des hier heimischen Brigantes Stammes ein Machtzentrum in Stanwick. Es diente verschiedenen Gruppen als Versammlungsplatz, nachdem Rohstoffe zentralisiert wurden und es möglich wurde, engere Kontakte mit Rom aufzubauen. Es war Ziel der römischen Politik, Stanwick zu einem nordenglischen Mittelpunkt der römischen Verwaltung zu machen, ähnlich wie das südenglische oder kontinental-europäische Oppidum. Dabei verfolgten sie das Ziel, eine Rom-hörige politische Klasse zu gründen und zu erhalten, wie das überall erfolgreich im römischen Reich funktionierte, wo der römische Einfluss gut etabliert war.

Als die Gräben, welche die rechteckigen Felder und verpachteten Landeinheiten im Bereich von Scotch Corner abgrenzten, am Anfang oder in der Mitte des 1. Jahrhunderts angelegt wurden (Phase 2, ca. 15 bis ca. 55 n. Chr.), war das Verkehrsnetz über Land, Fluss und See für die aufwendige Lieferung von exotischen römischen und kontinentalen Waren nach Stanwick wohl schon in Betrieb. Anscheinend wurden die Waren dann von Stanwick aus in untergeordnete Siedlungen wie Melsonby und Scotch Corner verteilt. Diese beiden Ansiedlungen waren durch mehrere Erdwälle, die Scots Dyke bilden, direkt verbunden und auch durch ergänzende handwerkliche Tätigkeiten kulturell und wirtschaftlich verknüpft. In der dicht besiedelten Landschaft entwickelten sich anscheinend spezialisierte Metallverarbeitungszentren. Die kupferlegierten Gegenstände des bekannten Schatzfunds von Stanwick wurden wahrscheinlich innerhalb einer Anlage in Melsonby gelagert, während der Abbau von Kupfer rund um Scotch Corner den Rohstoff zur Herstellung des Legierungsmetalls in Pellet-Form und vielleicht sogar für Münzen der Königin Cartimandua und ihrer Vorgänger lieferte. Diese wertvollen Produkte sind zurzeit die nördlichsten Beispiele der Anwendung solcher Technologien, die den außergewöhnlichen Reichtum und die hohe soziale Stellung von Stanwick-Scotch Corner veranschaulichen.

Cartimanduas angeblicher Verrat an die Römer - betreffend dem auf der Flucht befindlichen einheimischen Führer Caratacus - zeigt, in welchem Maße die Elite der Brigantes mit den römischen Invasoren kooperierte. Weiter südlich bildete der Aufstand von Boudica (60/61 n. Chr.) den Anfang eines Jahrzehnts, in dem gewaltsame Auseinandersetzungen und Intoleranz der zunehmend ausbeuterischen Besitzenden gegenüber den Abhängigen zum Ausdruck kamen. Gemäß Tacitus könnte eine ähnliche Auseinandersetzung die Ereignisse in Scotch Corner in Phase 3 (ca. 55 bis ca. 70 n. Chr.) zumindest teilweise erklären: Die Herstellung von Legierungsmetall in Pellet-Form ging zu Ende, die umschlossenen Siedlungen wurden aufgegeben und von einer neuen Art der „leiterförmigen" Anlagen ersetzt. Gleichzeitig ist es denkbar, dass einige Waren, die durch Transporte innerhalb des römischen Militärnetzwerks eintrafen, auf einen römischen Truppeneinsatz zugunsten Cartimanduas hinweisen (deren Herrschaft nach der Trennung von ihrem Ex-Gemahl Venutius gefährdet war). Gegen Ende der 60er Jahren nutzte Rom, im Rahmen der weit verbreiteten politischen Unsicherheit in Folge von einheimischen Konflikten, Neros Selbstmord und das Vierkaiserjahr, die Gelegenheit, die Grenzen nach Norden zu erweitern. Während dieses Ziel wahrscheinlich schon frühere Eingriffe begründete, gelang es schließlich dem Feldherrn Q. Petillius Cerialis und seinen Nachfolgern, den Wunsch des Kaisers Vespasian am Anfang der Phase 4 (ca. 70 bis ca. 85/90 n. Chr.) zu erfüllen. Der Kaiser wollte diesen unruhigen Teil der Provinz unter seine Kontrolle bringen, was scheinbar zur Aufgabe von Stanwick und Melsonby führte.

Der nachhaltigste Beweis der militärischen Eroberung von Scotch Corner war die wichtige römische Straßenkreuzung und das Verkehrsnetzwerk, das mit dem ersten Straßenbau über Stainmore nach Carlisle und mit einer weiteren Strecke

nach Stanwick führte. Dere Street wurde später von der Kreuzung nordwärts verlängert, um Agricolas erfolglosen Feldzug nach Schottland zu unterstützen und den Verkehr im Bereich der Grenze zu beschleunigen. Als die Straßen aufgrund der veränderten militärischen Lage neu ausgerichtet wurden, errichtete man auf ungenutztem Land in Scotch Corner drei aufeinander folgende befestigte Anlagen in achsialer Ausrichtung mit Rücksicht auf bestehende Felder. Innerhalb der Anlagen wurden rechteckige Holzgebäude von scheinbar einheitlicher Größe gebaut. Eine gemischte Gemeinschaft war dort untergebracht, darunter römische Beamte, privilegierte Einheimische und vielleicht sogar vertriebene Mitglieder der Elite; diese Einwohner verfügten über Feinkeramik, Glasgefäße, Lebensmittel und weitere Gegenstände, die ausschließlich durch das römische Militär erhältlich waren. Die Übernahme von römischen Metzgereitraditionen, Handmühlen und Mahlsteinen veranschaulicht auch den Einfluss der Besatzer auf die Siedlung. Möglicherweise hatte diese Siedlung die Form eines vicus*, könnte aber auch eine kleine Stadt gewesen sein, in welcher sich ein anspruchsvolles zentral gelegenes Apsidengebäude und Stallungen für Reisende befanden.*

*Das Unternehmen wurde jedoch aufgegeben. Der anschließende Untergang von Scotch Corner erfolgte in zwei Etappen. In einer ersten Stufe, um 85/90 n. Chr., nahm der Abbau die Form von negativen Befunden, die absichtlich verfüllt wurden und typisches Material von römischer Besiedlung und diplomatischen Gaben enthielten, an. Es scheint, dass dieser Abbau mit dem römischen Rückzug aus Schottland, mit dem Wiedereinsatz von Truppen auf dem europäischen Festland und vielleicht auch mit dem Tod von Cartimandua zeitlich übereinstimmt. In einer zweiten, längeren Stufe (Phase 5, ca. 85/90 bis ca. 135/150 n. Chr.), wurde ein neues Gebäude an der Straßenkreuzung errichtet und, zusammen mit einem angrenzenden Grundstück, wieder aufgegeben. Einige Straßen blieben jedoch erhalten oder wurden sogar verbessert. Obwohl Scotch Corner offensichtlich für den Militär- und Ziviltransport entscheidend blieb, reduzierten die effektive Neutralisierung von Stanwick, die Unterdrückung des einheimischen Widerstands und der Bau des Hadrianswalls die Notwendigkeit, eine Militärpräsenz zu erhalten. Diese zog in die Kastelle von Catterick (*Cataractonium*), Binchester (*Vinovia*) und Bowes (*Lavatris*). Die rasche Entwicklung der* vici *rund um diese Militäranlagen und die Entstehung von Talsiedlungen wie Faverdale bei Darlington sind Hinweise darauf, dass die einheimische Bevölkerung, einmal integriert, angezogen wurde von den wachsenden Märkten und Kulturzentren, die durch das Vakuum der Aufgabe von Stanwick–Scotch Corner aufblühten und die die heute noch sichtbare Siedlungsstruktur festlegten.*

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NOTE TO USERS OF THE VOLUME

To reduce costs and minimise any environmental impact associated with its production, the publication of the *Contact, Concord and Conquest* monograph was envisaged from the outset in digital format only, as a PDF document rather than as a printed volume. At the time of publication, it is available to download without charge, along with accompanying archival resources, from the Archaeology Data Service website (https://archaeologydataservice.ac.uk/).

While this mode of dissemination enhances the accessibility and reach of archaeological information arising from the A1 scheme, further adaptations have been made to harness the potential benefits of digital production. Effective exploration of PDF documents involves use of the 'search' function, which can seek terms or numbers referenced in all forms of content (e.g. text, figure captions, figure content, tables, catalogues, catalogued and recorded artefacts, context numbers, index, and so on). Elision of sequential numbers has been avoided in the main so that all numbers can be detected by the search function. Lists of sequential context numbers, for example, therefore appear in the text as '**12345**, **12346** and **12347**', recorded finds numbers appear as 'RF11; RF12; RF13', and catalogue numbers as 'Cat. nos 21, 22 and 23' (except for where exceptionally long lists would detract from the text). Figure captions are titled 'Figure XX:' and referred to in the text by 'Fig. XX', or in multiples by 'Figs XX and XY'. It is intended that this will make navigation and referencing of the volume quicker and more comprehensive, especially when switching between text and illustrations, and between different chapters or appendices.

OTHER CONVENTIONS

Context numbers from the A1 scheme are emboldened for clarity (e.g. **12345**), those from other excavations are not (e.g. OA 54321).

Period references are capitalised for the A1 scheme remains (e.g. Period 4), lower case is used for elsewhere (e.g. period 5, site 9, Stanwick).

CHAPTER 1
INTRODUCTION

David W. Fell

This volume is the second of three monographs that present the results of archaeological investigation undertaken in advance of upgrading the A1 dual carriageway to motorway status between Leeming and Barton in North Yorkshire. During the project, known as 'A1L2B', Highways England was the Client and the Carillion/Morgan Sindall Joint Venture (JV) was the Principal Contractor. Consultation was undertaken by AECOM and Atkins, who acted on behalf of the JV and Highways England respectively. North Yorkshire County Council Heritage Unit provided additional archaeological advice. The archaeological works were carried out by Northern Archaeological Associates (NAA) on behalf of the JV and under the supervision of AECOM who acted as the Archaeological Clerk of Works.

Upgrading of the Leeming to Barton section of road represented the final phase of a development which, over the preceding 25 years, has seen the A1 transformed into a modern motorway between Darrington and Barton. Each stage of the works was accompanied by archaeological mitigation, which has led to the preservation by record of archaeological remains (e.g. Tavener 1996; Roberts *et al*. 2001; Bishop 2005; Roberts 2005a; Brown *et al*. 2007a; 2007b; Ambrey *et al*. 2017). Working in collaboration with design, construction and heritage teams, the archaeological fieldwork programme of 2013–2017, and subsequent two-year post-excavation process, have presented archaeologists with an exceptional opportunity to advance our understanding of the people living in and travelling through the region in the past.

PROJECT BACKGROUND

Through North Yorkshire, the A1 approximately follows the route taken by its Roman precursor, known later as Dere Street, which formed the arterial south–north link between York and Scotland in the Roman road network. The A1 scheme extended for 19km northwards from Leeming Bar through the northern Vale of Mowbray (Fig. 1.1). Passing Catterick, the route crossed the River Swale at Brompton-on-Swale and then climbed gradually to Scotch Corner before descending towards Barton at the edge of the Tees Valley lowlands. Increased traffic in the 20th century led to construction of a dual carriageway, the A1(T), in the late 1950s, which included bypasses constructed to avoid both Leeming and Catterick. Despite continued improvements to the road, such as excavation of the cutting at Scotch Corner in the early 1970s to bypass the earlier roundabout, by the early 1990s ever-increasing traffic and heavier and larger vehicles prompted plans to upgrade the road to a six-lane motorway. Advance works (including

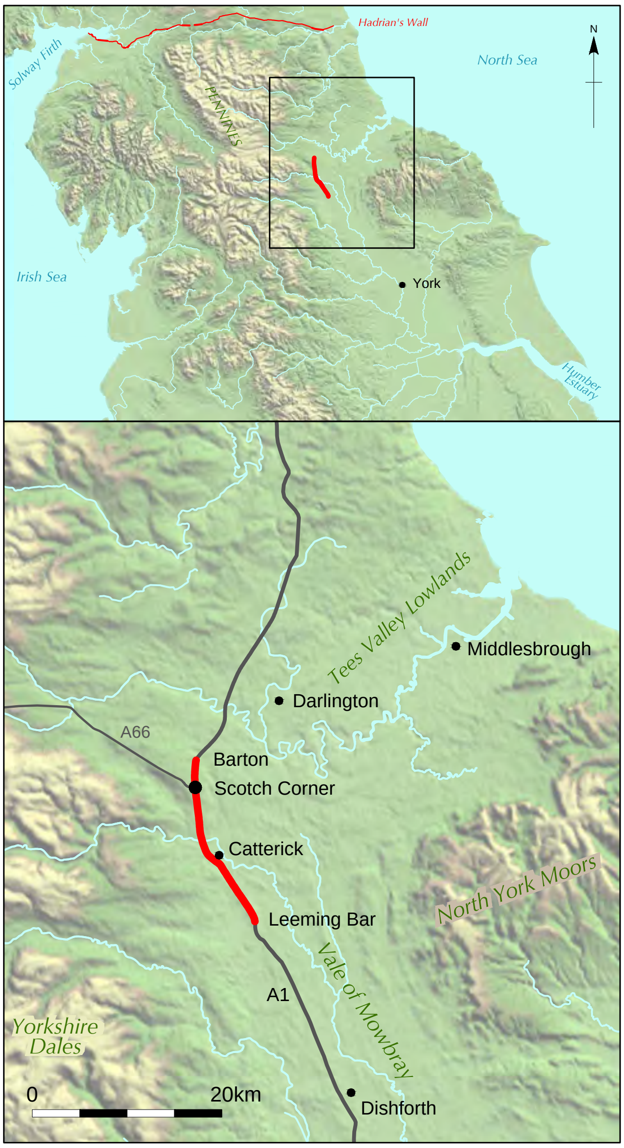


Figure 1.1: location of the A1 Leeming to Barton scheme.

archaeological assessment and evaluation works) continued until 1996, when the proposals for the road improvement were withdrawn. A scheme to upgrade the A1(T) between Dishforth and Barton was revived in the early 2000s. Draft Orders for the scheme were published in March 2006, but a Public Inquiry was held in October 2006 as a result of objections raised. The Secretary of State's Decision Letter of 2008 resulted in the scheme being split into two halves, with the Dishforth to Leeming section beginning construction in 2009 and opening in 2012 (Ambrey *et al*. 2017). The second half of the scheme, from Leeming to Barton, was announced by the Chancellor of the Exchequer in December 2012, construction work began in late 2013, and the new motorway was formally opened in May 2018.

Archaeological evaluations associated with the proposed 1990s motorway scheme took place between 1993 and 1995 and included geophysical survey, fieldwalking and trenching in the Catterick area by English Heritage Central Archaeology Service (Wilson 1994), and elsewhere by Lancaster University Archaeological Unit (LUAU 1994; Dennison 1996). Further evaluation was commissioned in the early 2000s to supplement the initial results and inform the Environmental Statement for the new road scheme (Amec/McAlpine Joint Venture 2006). This comprised geophysical survey (Hale 2005), fieldwalking (Vyner 2006), trial trenching and monitoring of geotechnical investigations (Speed 2006a–e). Further geophysical survey, excavation and monitoring took place in 2013 before road construction began.

PROJECT AIM

The primary aim of archaeological investigations on the A1 scheme was to mitigate the impact of road construction works on extant archaeological remains. To achieve this, all identifiable archaeological remains were recorded to the standards set out in the specifications and consents controlling work to 'inform a full fieldwork post-excavation and reporting methodology' (AECOM 2013a). The work was required to fulfil the terms of the Scheduled Monument Consents for those excavations within scheduled areas, and to meet guidance contained in the Design Manual for Roads and Bridges (Department for Transport 2007 and updates) and commitments provided by Highways England in the Environmental Statement and to the Public Inquiry. The aim of the post-excavation programme was to undertake appropriate assessment and/or analysis of the archaeological records and assemblages, leading to publication and the deposition of the excavation archive with the York Museums Trust and the Archaeology Data Service (Russ *et al*. 2017). The work was undertaken in accordance with national and regional archaeological standards and guidance (Petts and Gerrard 2006; CIfA 2014a–d; Historic England 2015).

FIELDWORK METHODOLOGY

The archaeological response to the scheme was informed by a research strategy prepared in advance of construction (AECOM 2013b). In the absence of an official archaeological research agenda for North Yorkshire, reference was made to relevant parts of the Archaeological Resource Assessment and Research Agenda for West Yorkshire (Sanderson and Wrathmell 2005; Vyner 2008; Chadwick 2009) and the North-East Regional Research Framework for the Historic Environment (Petts and Gerrard 2006), alongside discussion with Historic England and successive North Yorkshire County Council Archaeology Officers.

The overall strategy and methodology for archaeological fieldwork in the scheme was outlined in the *Specification for Topsoil and Subsoil Removal During Construction* (AECOM 2013c). This document proposed three forms of archaeological involvement in the works: monitoring of topsoil removal along haul roads; strip, map and record of areas known to have archaeological potential; and watching briefs on other areas, which would be supplemented by appropriate schemes of strip, map and record if hitherto unknown deposits of archaeological significance were revealed. The document was complemented by a *Strategy for Utilities Diversions Required as a Result of Motorway Construction* (AECOM 2013d). Excavation and recording methodologies were continually reviewed as the scheme progressed and

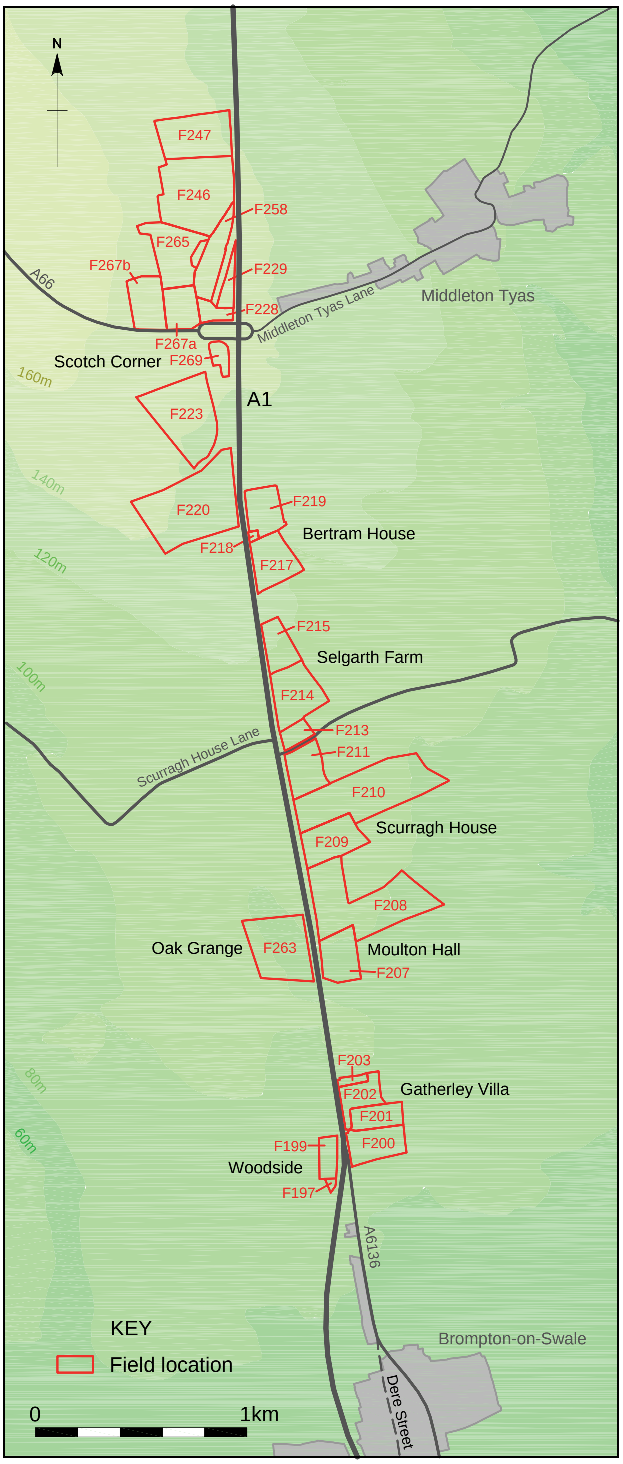


Figure 1.2: A1 scheme field and site locations.

were implemented in compliance with relevant national guidelines (English Heritage 2008; CIfA 2014a–d; Historic England 2015). Excavation of human remains found on the scheme also followed more specific published guidance (McKinley and Roberts 1993; Brickley and McKinley 2004; English Heritage and Church of England 2005; Historic England and Church of England 2017). In light of the apparent significance and complexity of archaeological remains at Scotch Corner, and under agreement of the Archaeological Consultants, the Archaeological Clerk of Works, the Historic England Principal Inspector of Ancient Monuments and the Historic England Regional Science Advisor, a series of research themes and questions was devised (see below), and the excavation and sampling strategy was adapted to reflect the potential of the archaeology to provide new and unique information. Accordingly, higher percentages of features and deposits were investigated where deemed appropriate, chiefly at Scotch Corner.

POST-EXCAVATION STRATEGY

The post-excavation strategy for the A1 scheme was guided initially by a specification issued prior to the beginning of fieldwork (AECOM 2013c). As the scale of fieldwork and post-excavation works increased, a more detailed strategy was compiled (Russ *et al*. 2017). Throughout the programme, the process was informed by monthly progress meetings attended by NAA and AECOM, as well as periodic meetings with contributors and representatives of the JV, Historic England, North Yorkshire County Council (NYCC), Highways England, and representatives from Atkins and Faithful and Gould.

In view of the very large quantities of data generated by the archaeological works and the limited scope of monographs, much of the information arising from the A1 scheme will be made available via the Archaeology Data Service (ADS) website as a part of the archive. This will include most of the site record, full versions of reports and data tables pertaining to the archaeological finds, details of objects not discussed within this volume, and other project-related reports. A full list of the online resources related to this volume that are available on the ADS is presented in Appendix A.

A1 SCHEME SITE LOCATIONS

The archaeological remains considered in this volume derive from 27 fields and sites located along the A1 scheme, with a concentration at Scotch Corner in the district of Richmondshire (Fig. 1.2 and Table 1.1). The sites have been allocated names (e.g. Bertram House), but also have specific field numbers; most named sites comprise several fields (e.g. Scurragh House, Fields 209–211). Numbers were allocated to fields that were likely to be affected by the overall road improvement scheme prior to the outset of the A1 Dishforth to Barton project, and prior to the final scheme design. The initial sequence for the Leeming to Barton section ran from Field 127 at Leeming Bar in the south, to Field 245 near the A1 Barton junction at the northern end of the scheme. As the fieldwork and construction programme progressed, additional areas were allocated Field numbers as required, and consequently do not conform to the same geographical sequence.

Table 1.1: Fields, site names and summary findings.

Field number	Site name	Parish	Central NGR	Summary of findings
197	Woodside	Brompton-on-Swale	NZ 22059 01318	A multi-iteration roundhouse with associated field system
199				
201	Gatherley Villa	Moulton	NZ 22129 01555	A settlement comprising at least five roundhouses with some evidence for ironworking
202				
203				
207	Moulton Hall	Moulton	NZ 21964 02488	Field boundaries pre-dating Dere Street
208				
209	Scurragh House	Moulton	NZ 21872 03038	Field boundaries pre-dating Dere Street
210				
211				
263	Oak Grange	Moulton	NZ 21876 02277	Field boundaries or a ditched monument pre-dating Dere Street
213	Selgarth Farm	Moulton	NZ 21779 03617	A rectilinear ditched enclosure with internal roundhouse and later field system associated with Dere Street
214				
215				

Table 1.1: Fields, site names and summary findings (continued).

Field number	Site name	Parish	Central NGR	Summary of findings
217	Bertram House	Middleton Tyas	NZ 21674 04306	Field boundaries pre-dating Dere Street, overlain by others associated with it
218				
219				
220	Scotch Corner	Middleton Tyas	NZ 21498 04641	Iron Age to Early Roman settlement and route nexus
223			NZ 21481 04883	
228			NZ 21458 05395	
229			NZ 21468 05801	
246			NZ 21480 05919	
247			NZ 21517 06215	
258			NZ 21476 05615	
265			NZ 21374 05605	
267a			NZ 21338 05310	
269			NZ 21525 05227	

THIS VOLUME

The A1 scheme passed through an area of known prehistoric and historical significance. In addition to the scheduled Roman settlements at *Cataractonium* and Bainesse (Heritage List nos 1021181 and 1021209 respectively), the excavations identified an extensive Late to Pre-Roman Iron Age and Early Roman settlement at Scotch Corner and investigated smaller sites ranging in date from the Early Mesolithic to the medieval period.

The quantity and quality of the evidence for Roman period activity was exceptional and, in recognition of this, NAA, AECOM and Historic England developed five research themes as part of a detailed and focused post-excavation strategy (Russ *et al*. 2017): 1. First Contact; 2. Dere Street; 3. Establishment, Consolidation and Retreat; 4. Death, Burial and Identity; and 5. Intra-site and Inter-site Deposition. This monograph is concerned primarily with addressing Themes 1 and 2 using archaeological discoveries made inside the footprint of the A1 scheme, although the project study area extends 5km to either side of the motorway construction corridor, which mostly corresponds to Dere Street, and sites from a wider catchment are considered where appropriate. Considering the significance of the discoveries made at Scotch Corner, and in order to expedite the post-excavation process, the aspects of the scheme presented in this monograph passed directly to the analysis phase. Consequently, the contents of this volume represent assessment, analysis and publication of the material.

LOCATION OF THE ARCHIVES

The site archive resulting from the excavations is, at the time of publication, held by NAA in Barnard Castle, County Durham. Once analyses of the site records, finds and environmental remains are complete, the archive will be deposited with the Yorkshire Museum, York (York Museums Trust), with the accession number YORYM: 2016.101. Electronic data will be available via the Archaeology Data Service (archaeologydataservice.ac.uk). It is expected that archiving will take place in 2020.

SCOTCH CORNER AND SURROUNDINGS

The area of the A1 scheme considered in this volume lies at the north end of the Vale of Mowbray, a northward extension of the Vale of York, which is framed to the east by the North York Moors and to the west by the Pennine Dales. On the fringe of the western uplands, at c.150m above Ordnance Datum (aOD), Scotch Corner occupies the east end of a low Carboniferous Limestone ridge that belongs to a series of low corrugations aligned south-east to north-west (Fig. 1.3). The Scotch Corner ridge is flanked to the immediate south-west by Gilling Beck and, beyond another ridge, by the River Swale. The Swale gives its name to the dale, which was known to the Romans for its lead deposits (Davies 1979, 164; Jones and Mattingly 1990, 179), and issues into the Vale of Mowbray to join the River Ouse on its way to York and the Humber estuary. To the north-east of Scotch Corner, the Tees Valley widens either side of the river to become a fertile lowland plain that extends to the north-east coast, some 38km distant.

Without tree cover, the prominence of Scotch Corner affords long views down both connected wide valleys and to the skylines of the surrounding uplands. To the north-west, the limestone ridge leads to a trans-Pennine route that runs across Stainmore to the Eden Valley and thereby to the Solway Firth. Scotch Corner is located at the natural point of convergence for a route to the north-west and the

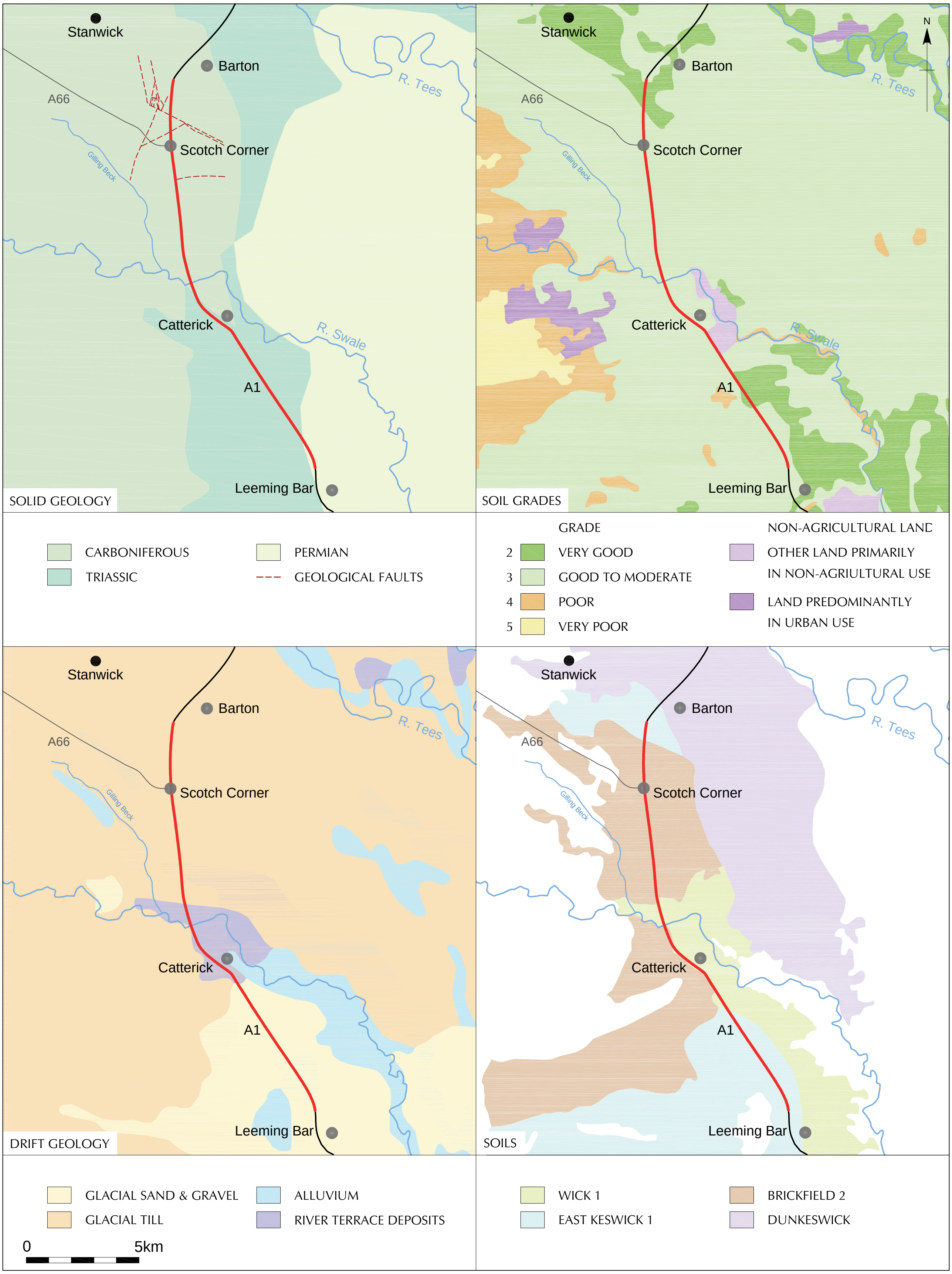


Figure 1.3: A1 scheme solid geology and faults, soil grades (Natural England), drift geology, soils.

south–north route that follows the Permian limestone ridge along the western side of the Vale of Mowbray (Gaunt and Buckland 2003, 19). The conjoining of important ancient routeways is perpetuated in the modern junction of the A1 and A66, both of which overlie Roman roads and their prehistoric antecedents, the latter running along the south-west flank of Gatherley Moor.

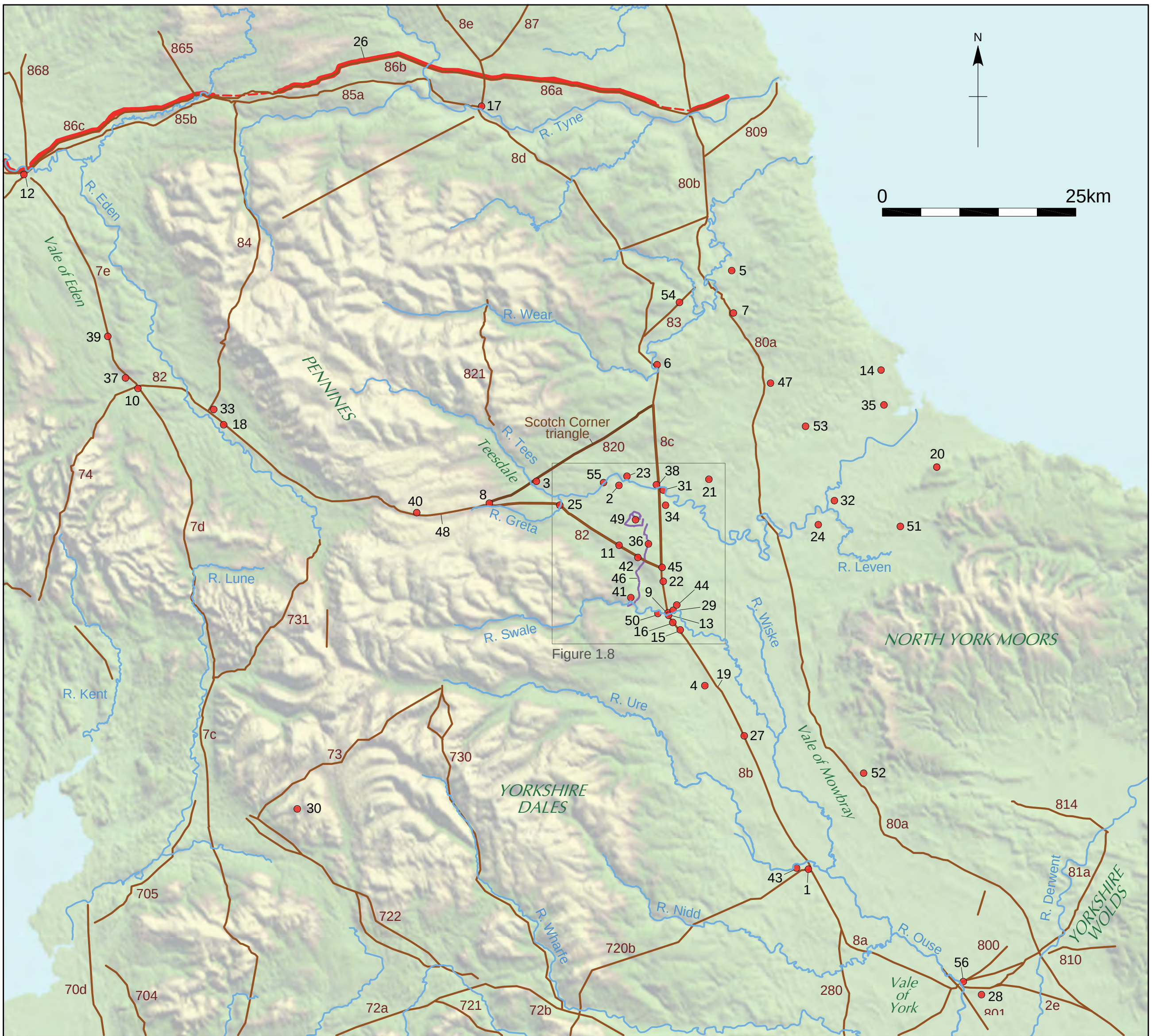
Outcropping pavement belonging to the Zechstein Group of limestone and dolomite was exposed frequently around the north side of Scotch Corner by soil stripping and archaeological investigation. The limestone is overlain by superficial deposits of glacial till, which comprises boulder clay with localised patches of sand and gravel that formed the surviving archaeological horizon (British Geological Survey 2017a). The limestone contains small epigenetic deposits of very high-grade copper, formed by downward migration of copper-rich fluids (British Geological Survey 1998; Wadge *et al*. 1982). Copper ore is known to have been mined from the limestone in bell-pits at the east end of Middleton Tyas village (National Heritage List for England no. 1020403) and from veins along geological faults just to the north of Scotch Corner (Raistrick 1936; Wells 1955; Hornshaw 1975). The earliest alleged example of mining is dated to the Late Neolithic period at Five Hills (North Yorkshire County Council Historic Environment Record (hereafter N. Yorks. HER): MNY12577), less than 2km north-east from the roundabout, although the precise nature of activity remains uncertain. Later prehistoric and Roman period exploitation is likely but unproven, but post-Roman quarrying of stone and/or copper certainly occurred at Violet Grange farm and is most visible at Crookacre Plantation, which developed within an abandoned quarry of unknown antiquity.

The latest episode of copper mining and associated habitation flourished and declined during the 19th century (Hornshaw 1975), and the parish of Middleton Tyas is now sparsely inhabited with a falling population of under 600 (Nomis 2019). Aside from a few commercial ventures, the land around Scotch Corner is used primarily for arable agriculture, but in the few fields that have escaped deep ploughing, well-preserved ridge-and-furrow earthworks demonstrate that improved soils were cultivated from at least the medieval period. Modern assessment of the land around the junction has designated it Grade 3 (moderate to good), becoming Grade 2 (very good) at Melsonby and Stanwick to the north-west, and also in much of the Vale to the south and east (Fig. 1.3). The locations and names of Violet Grange farm beside Scotch Corner at the south-east end of Gatherley Moor, and Rokeby Grange near Greta Bridge (not illustrated), are perhaps testament to the enduring agricultural potential of the area. Land on the uplands to the west is, however, generally poor (Grade 4) or very poor (Grade 5), but is suitable for seasonal pasture (Natural England 2010), as was presumably the case 2,000 years ago, meaning that Stanwick and Scotch Corner have ready access to a variety of environments and resources (Higham and Jones 1985, 4; Haselgrove *et al*. 1990a, 1–2).

South of the limestone ridge occupied by Scotch Corner, the bedrock changes to Carboniferous Millstone Grit, which declines around 90m to c.60m aOD at the River Swale where it passes between Brompton-on-Swale and Catterick. The remains of Middle to Late Iron Age settlement were concentrated on a series of plateaux along this gradually sloping land, where the Brickfield 2 Association soils that overlie alluvial gravels and boulder clay are suited both to pasture and arable cultivation (Fig. 1.3; Soil Survey of England and Wales 1983; Jarvis *et al*. 1984, 121–3, 302–5, fig. 5). Between Catterick and Leeming, the solid geology consists of Permian Magnesian Limestone and Triassic mudstones that are

Figure 1.4: Ordnance Survey First Edition Six-inch map Sheet 39 (1857). Excerpt reproduced with the permission of the National Library of Scotland.

overlain by glacial and alluvial gravel terraces along the west side of the Swale near Catterick (Fig. 1.3; British Geological Survey 2017a–b). To the south, the terraces give way to a series of morainic ridges, including the Leeming Moraine, which forms a ridge of glacial sands and gravels and provides a gently undulating, elevated north–south passage that has been exploited since early prehistoric times (Loveday 1998; Bridgland *et al*. 2011, fig. 2.1; Ambrey *et al*. 2017, 127–8). Here, the soils are predominantly of the Wick 1 Association, comprising well-drained coarse loamy brown earths that are well suited to arable cultivation and pasture (Soil Survey of



KEY • site referred to in narrative — selected earthworks — 8d Roman road/Margary number

1 Aldborough
2 Barforth
3 Barnard Castle
4 Bedale enclosure
5 Belmont
6 Binchester
7 Bowburn
8 Bowes
9 Bridge Road, Brompton
10 Brougham
11 Carkin Moor
12 Carlisle
13 *Cataractonium*
14 Catcote
15 Catterick
16 Catterick Racecourse
17 Corbridge
18 Crackenthorpe
19 Dere Street
20 Eston Nab
21 Faverdale
22 Selgarth Farm, Fields 213-215
23 Gainford
24 Green Lane, Yarm
25 Greta Bridge
26 Hadrian's Wall
27 Healam Bridge
28 Heslington East, York
29 Hollow Banks Farm, Scorton
30 Ingleborough
31 Holme House, Piercebridge
32 Ingleby Barwick
33 Kirkby Thore
34 Manfield
35 Marsh House Farm, Greatham
36 Melsonby
37 Old Penrith
38 Piercebridge
39 Plumpton Head
40 Rey Cross
41 Richmond
42 Rock Castle
43 Roecliffe
44 Scorton Quarry
45 Scotch Corner
46 Scots Dyke
47 Sedgefield
48 Stainmore Road
49 Stanwick
50 St. Giles Farm
51 Tanton Hall
52 Thirkleby
53 Thorpe Thewles
54 West Brandon
55 Winston Gate
56 York

Figure 1.5: locations of sites mentioned in Chapter 1.

England and Wales 1983; Jarvis *et al*. 1984, 302–5, fig. 5), though the latter is more common. The occasional peat-filled kettle hole can still be identified on either side of the road, representing formerly amenable environments for flora and fauna that would have attracted both itinerant people and settlers.

PLACE NAME EVIDENCE

Documentary research has yielded little about the origins of the place name either for 'Scotch Corner', or the nearby earthworks known collectively as 'Scots Dyke' (North Yorkshire County Council HER: MNY20692; see below). Neither was mentioned by Ekwall (1960), nor Morris (1982), whereas Mills (1998, 303) confirmed the lack of ancient cultural or linguistic derivation for Scotch Corner, stating simply that the name refers to a road junction on the Great North Road, so-called because the main road to south-west Scotland via Carlisle branches off there. Plate 8 of Ogilby's (1675) road map illustrates the crossroads at Scotch Corner but attributes no name to it. 'Scots Dike' first appears in Hartshorne (1841), although MacLauchlan used neither term for his 1849 map of entrenchments (see below). Shortly after publication of MacLauchlan's map, 'Scots Dike' was depicted in 1857 on the Ordnance Survey First Edition Six-inch series maps on Sheets 25 and 39. By the time that the Victoria History of the County of Yorkshire was published (Page 1914, 55), Scots Dyke was evidently an accepted name.

The name 'Scotch Corner' also first appeared in 1857 on Sheet 39 of the First Edition Six-inch Ordnance Survey map (Fig. 1.4), where it was associated with the 'Three Tuns P.H.', which was situated on the south-west quadrant of the crossroads. At the time of the map's publication, the road junction was labelled 'Middleton Tyas Lane End', yet this term was omitted from the 25-inch Ordnance Survey map of 1893. In addition, the 'Scotch Corner' label was detached from the 'Three Tuns Inn', and presented on the south-east quadrant of the junction, and was moved again to the north-west quadrant on the six-inch map of 1895, apparently so that it would fit on the sheet. The 'Scotch Corner' label was more prominent on the one-inch Ordnance Survey map of 1898, whereas the inn was not named, which suggests that the place name briefly (re)gained independence from hostelries, only to be adopted in the 20th century by the modern hotel and motorway service station that flank the roundabout. The reference seems to be linked inextricably with the road junction and associated amenities.

While there is no evidence that the names 'Scotch Corner' and 'Scots Dyke' were in use before the mid-19th century, the common reference to Scotland and its people describes the enduring purpose of the junction as a confluence of routes between Scotland and eastern England, which was formalised in the 1st century AD by the Romans, but had its origins in prehistory and survives to the present day. Perhaps, by the 19th century, it was thought that the original purpose of the earthwork, which is crossed by the road to Stainmore (Fig. 1.5), was to defend against the threat of Scottish incursion, which was a historical reality as recently as the 18th century.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Late and Pre-Roman Iron Age settlement and economy around Scotch Corner

From the 5th century BC and throughout the Middle Iron Age (c.400–100BC; Manby *et al*. 2003, 122), environmental improvement transformed the agricultural potential of northern England, including the region through which the A1 scheme passed. The collective response by the native population was large-scale land clearance, which continued into the Late and Pre-Roman Iron Age and prepared the ground for arable cultivation and grazing pasture in both lowland and some upland regions (Wilson 1983, 29–54; Simmons 1995; Vyner *et al*. 2011, 221–4). As human exploitation and settlement of the landscape intensified, so too did its division into delimited tenurial areas; amongst the ditched field systems, aerial photography has detected a widespread pattern of dispersed farmsteads, some without visible boundaries and others demarcated by small enclosures (Haselgrove 2002, 41; Harding 2004; Ottaway 2013, 61; Haselgrove and Moore 2016, 366). Examination of such enclosures in the lower Tees Valley has led to the observation that farmsteads usually fell within an approximate size range of 0.3ha and 0.5ha (Haselgrove 1982), presumably incorporating space for corralling and overwintering livestock, and for kitchen gardens.

Despite the problems associated with site identification on boulder clay (Still and Vyner 1986, 20; Haselgrove and Moore 2016, 358) and uncertain dating of cropmarks, the cumulative data from surveys and excavations indicate that a range of settlements co-existed, their forms variously rectilinear, sub-rectangular, D-shaped and irregular (Still and Vyner 1986; Still *et al*. 1989; Haselgrove and Moore 2016, 358, 364 and 375). Inside the enclosures, the remains of roundhouses, in their many configurations, represented the dominant form of dwellings, byres, and ancillary buildings during the 1st and 2nd centuries BC. In the north such buildings remained in use into the 4th century AD (Hingley 1989, 43; Sherlock 2012), although there is also a growing body of evidence for rectangular native structures, which sometimes existed alongside sub-circular buildings (e.g. Hingley 1989, 39; Moore 2003; Proctor 2012, 32; NAA 2019).

Farmsteads of the types described above have been investigated in the region east of Scotch Corner at Green Lane, Yarm, to the south of Ingleby Barwick (Wood and Robinson 2015, fig. 3), and at Marsh House Farm by the north-east coast (Fig. 1.5; Fell and Robinson 2018). Similar farmsteads, sometimes known colloquially as 'Jobey enclosures', are also found further north at sites such as West Brandon near Durham (Jobey 1962), Belmont (Haselgrove 1982, 61), and Bowburn (Graham

2009). To the immediate north-west of Scotch Corner, concentrations of occupied sub-rectangular enclosures have been recognised around Melsonby and Stanwick (Still and Vyner 1986; Still *et al*. 1989, 4; Fitts *et al*. 1994, 13; Haselgrove and Moore 2016), and while many are unexcavated and undated, their forms are broadly comparable with sampled sites that are local to Scotch Corner, such as the Late Iron Age and Early Roman period farmsteads at Rock Castle, 3km north-west of Scotch Corner along the route of the A66 (Fitts *et al*. 1994; Zant *et al*. 2013b, 49–55; Haselgrove and Hamilton 2016), as well as Holme House near Piercebridge (Harding 2008), Cliffe (Wessex Archaeology 2010), Carkin Moor, Barforth, Winston Gate and Tanton Hall (Haselgrove and Moore 2016, 366). Adding to this pattern, a Middle to Late Iron Age square enclosure with internal roundhouse and trackway was recorded at Selgarth Farm, between Scotch Corner and Catterick during the A1 scheme excavations and was similar to other farmsteads in the region.

Where available, environmental data, considered alongside animal bone assemblages and spinning and weaving equipment from Late Iron Age settlements on the Pennines, Moors and Wolds, suggest a reliance on sheep farming in upland areas, whereas cattle were more common in the valley settlements, where land clearance was more widespread (Cunliffe 2005, 440). As well as pastoral husbandry, cereal cultivation was an important part of the agricultural economy and intensified from c.300BC (Van der Veen 1992). Evidence is frequently recovered for mixed regimes, including the production of spelt, which was often processed using beehive querns made from stone sourced from outcrops of millstone grit (Heslop 1987a, 119; Harding 2004, 43; Cunliffe 2005, 44; Petts and Gerrard 2006, 35).

In addition to the enclosure of settlements, sub-division of the landscape and development of arable and pastoral agriculture, there was an apparent movement towards the demarcation of routeways (Robinson 2001, 87) and droveways. The cropmarks of double-ditched tracks feature prominently in association with pre-Roman sub-rectangular enclosures in lowland settings in the region, with examples at Scotch Corner (Abramson 1995; Zant *et al*. 2013b, 55–78), Rock Castle (N. Yorks. HER: MNY32523; Fitts *et al*. 1994; Zant *et al*. 2013b, 49–55; Haselgrove and Hamilton 2016), Melsonby period 2 (Fitts *et al*. 1999; Haselgrove and Hamilton 2016) and at Manfield south of Piercebridge (N. Yorks. HER: MNY32525; Still *et al*. 1989, 4). In some instances where large areas have been investigated, farmsteads of the period have been recorded with attached rectilinear field systems, managed water sources and droveways, such as the settlement at Heslington East on the York Moraine (Antoni *et al*. 2009; Roskams and Neal 2013), and nearby areas of Iron Age field systems (Horne 2003, 59, fig. 4.5). Such examples demonstrate the degree of integration between areas of occupation, production and communication and transport links, which apparently characterised parts of the Iron Age agricultural landscape.

The activities represented in the material remains at such enclosures are not always limited to agricultural processes and habitation, with evidence for small-scale ironworking frequently recovered (Morris 1997, 55). At Bedale, an approximately square enclosure with an internal bank, east-facing entrance and associated trackway with origins in the Middle Iron Age was occupied up to the 2nd century AD (site 58; Pre-Construct Archaeology 2017, 83). The perimeter boundary ditch was infilled and recut on numerous occasions, although enough survived to establish that ironworking was practised on a modest scale during the Late Iron Age and subsequently expanded in the post-conquest period (*ibid*., 85–6). By the Late Iron Age in the area of the North York Moors and Tabular Hills, Wilson (2002a, 17) describes how iron smelting and smithing led to the production of simple objects, such as nails, whereas more complex, elaborate, valuable and specialist items were likely to have been produced by smiths in larger settlements, or by itinerant ironworkers moving between settlements (Hill 1995, 62).

Developments in technologies, agricultural tenurial arrangements and territorial distinctions during the Late Iron Age were matched by increasing stratification and sophistication of settlements, which evolved in tandem with the importation of goods from the western part of the Roman Empire. Certain locations became focal points of occupation, such as Catcote (Long 1988; Vyner and Daniels 1989), Thorpe Thewles (Heslop 1984; 1987a), Ingleby Barwick (ASDU 2008; Willis and Carne 2013), Sedgefield (Carne 2006; 2007; 2009), and Faverdale (Proctor 2012). These settlements variously developed in agglomerated and proto-ladder form along routeways that accessed the transport network connecting settlements in the eastern Tees Valley and facilitated the trade and exchange of locally produced goods and more exotic imports from further afield (Haselgrove 2002; 2016). This age of enclosure (see Haselgrove 2007) also witnessed increasing delimitation of plots for habitation, mixed farming and burial in the Yorkshire Wolds (see Stoertz 1997; Giles 2007), often along the sides of routeways in numerous configurations including ladder forms. There are hints that pockets of the landscape in the Vale of Mowbray and the Tees Valley were formally organised before Roman the conquest and represented a stratified society (Spratt 1990, 142–54) that made use of much of the favourable land occupying the Magnesian Limestone and on the east side of the Vale of York (Roberts *et al*. 2010, 55–78; Ottaway 2013, 61). Undated cropmarks of boundaries observed north of Leeming Bar perhaps also originated then (see Deegan 2004; 2013; Speed in prep.).

When compared with the complex settlements, Scotch Corner was equally advanced in terms of scale, density and connectivity, but in contrast to the largest lowland agglomerations, it was positioned further inland and close to the proposed native capital at Stanwick (Heritage List no. 1016199) in a zone where habitation and prosperity rapidly increased as contact and trade with the Continent and Rome developed. Unlike many Iron Age centres in southern Britain and abroad, Scotch

Corner never evolved during and beyond the Roman period into a modern settlement of any scale, with the result that much of the archaeological evidence survives beneath plough soils. Perhaps because of this lack of development, relatively little is known about the pre-Roman agricultural landscape in the area south of Scotch Corner, although some Late Iron Age farmsteads evidently continued in use into the Early Roman period (Sherlock 2012, 121). Field systems have been recognised on the Swale gravel terraces around Catterick at St. Giles Farm, Scorton Quarry, Hollow Banks Farm, and possibly at Bridge Road, Brompton-on-Swale (Cardwell and Speed 1996; NAA 2004; 2008). A multi-period site at the south end of Catterick racecourse included the remains of 10 sub-circular structures that were set within a ditched enclosure (Maloney *et al*. 2003). A short distance south of Catterick, at Killerby, new mitigation works associated with quarrying have resulted in the discovery and investigation of five Late Iron Age to early Roman period livestock enclosures with a focus on cattle butchery, small assemblages of traditional hand-built pottery and a broken beehive quern. The enclosures are interpreted initially as components of a rural farmstead (pers. comm. Clive Waddington; Archaeological Research Services 2019), and further demonstrate the density of occupation and management of the landscape in the area around Scotch Corner.

Late and Pre-Roman Iron Age coinage and high-value metalwork

While local, regional and even trans-continental exchange of produce and livestock were central to Late Iron Age society (e.g. Moore 2007), the inhabitants of northern Britain are believed to have predominantly conducted their business in non-monetary economies (Jones and Mattingly 1990, 46, 50–7 and map 3:3). This notion was supported previously by the absence of evidence both for Late Iron Age coin minting and coin pellet blank production anywhere north of the Humber estuary, until the recent discoveries at Scotch Corner (see Chapter 7; Fell 2017; Haselgrove 2018). Although the Humber may remain the recognised northern limit of minting, coin use in regions north of the estuary is now represented by a steadily increasing number of gold and silver examples (Haselgrove 2018, map 1). Yet very few are currently known from the area around Scotch Corner; amongst those recorded are the native silver coin of East Midlands origin recovered from a pre-Claudian context at Stanwick (Haselgrove 2016, 182–6), and a stater found on land at Melsonby (Portable Antiquities Scheme ID: DUR-2151F3).

In Late Iron Age Britain, coin manufacturing and usage was predominantly a south-eastern exploit, which began in earnest during the 1st century BC, drawing heavily on Gallic technology and traditions (e.g. Jones and Mattingly 1990, 50; Creighton 2000; Cunliffe 2005, 531). Coin production was described by Cunliffe (2002, 531) as the last of the craft skills to be developed in Britain before the Claudian conquest in AD43. Even when displaced from their cultural context and meanings, coins of the Late Iron Age still proclaim their value through a unique combination of luminous precious metal and graceful naturalistic designs. Although native British coins are found in far greater numbers in south-eastern regions than in the central and northern parts of Britain, it is doubtful that they were ever regarded as currency in the same way as later, Roman coins (Haselgrove 1993, 50). It has been reported recently that greater proportions of native Late Iron Age coins are recovered from enclosed and nucleated settlements, religious foci, roadside settlements and ports, with little evidence to suggest widespread use for everyday transactions in rural populations (Brindle 2017, 239–40), which supports May's observation that most high-value coins present little circulation wear (May 1996, 220). Yet, whatever the precise applications of native coins, it is widely accepted that local minting probably ceased in the mid-1st century AD after a protracted period of debasement of the gold content through alloying, although their use potentially continued for at least a generation afterwards (see Northover 1992; Haselgrove 1993, 54 and 62; Moore 2006, 199–204). Consequently, many of the coins found in military contexts were probably redistributed by Roman activity (Haselgrove 1993, 62; 2016, 184), which presumably included a large proportion of the Claudian copies produced between c.AD46–64, and became concentrated at military sites near the western and northern frontiers (see Brickstock 2005; Haselgrove 2016, 189).

Gold and silver alloyed coins were not the only high-value metallic symbols of wealth in Late Iron Age society with Gallic precedent; torcs were arguably the zenith of native metallurgical craft and have been interpreted as symbols of power and wealth, as well as transportable currency (see Jope 2000; Hunter 2007; Farley 2012; Farley and Hunter 2015). Artisan and possibly itinerant metalworking was also evident in cauldrons, daggers, shields, bosses, helmets and masks—finds of which are all concentrated in the south-east (Cunliffe 2005, 513–31)—and also probably signified personal wealth, status, prowess, and tribal association both for the specialist craftsperson, owner and their associates. Perhaps following such traditions, a sword discovered by Wheeler in the rock-cut ditch at Stanwick (see Haselgrove 2016, 273–5) arguably carried the same connotations, and its style and type indicated that it was manufactured locally or in south-eastern Britain. Another Late Iron Age sword from Melsonby was found with a collection of native metalwork that had been purposefully deposited in the intriguing tradition of hoards (see Haselgrove 2016, 343–7; McIntosh 2016, 347–50).

The oppidum of Stanwick and 'client kingdom' of the Brigantes

The archaeological profile of the area between Stanwick and Scotch Corner first rose to national prominence in 1843, when the 'Stanwick hoard' was discovered at Melsonby. The dazzling array of Late Iron Age native metalwork was considered sufficiently eminent for display in the British Museum, where it prompted a

Figure 1.6: 'Map of ancient entrenchments between the Rivers Tees and Swale' by H. MacLauchlan, published 1849.

new level of interest in the period and region (Leeds 1933; MacGregor 1962). Despite this, the subterranean potential of the discovery area remained overshadowed by the conspicuous Pre-Roman Iron Age earthworks at Stanwick and the upstanding remains of local Roman military sites at Catterick, Piercebridge, Binchester, Greta Bridge and Bowes. At Scotch Corner, the First Edition Six-inch Ordnance Survey map of 1857 recorded a linear earthwork interpreted as the Roman road to Stainmore; this connected with the line of Dere Street, which was fossilised in the turnpike (Fig. 1.4), with no reference made to lesser earthworks around the junction. Such apparently minor features had not, however, escaped the attention of Henry MacLauchlan, who undertook a survey of the Roman roads, camps and other extant earthworks shortly after the discovery of the hoard. He considered the area to have been one of the most important military positions occupied by the Romans in the north of

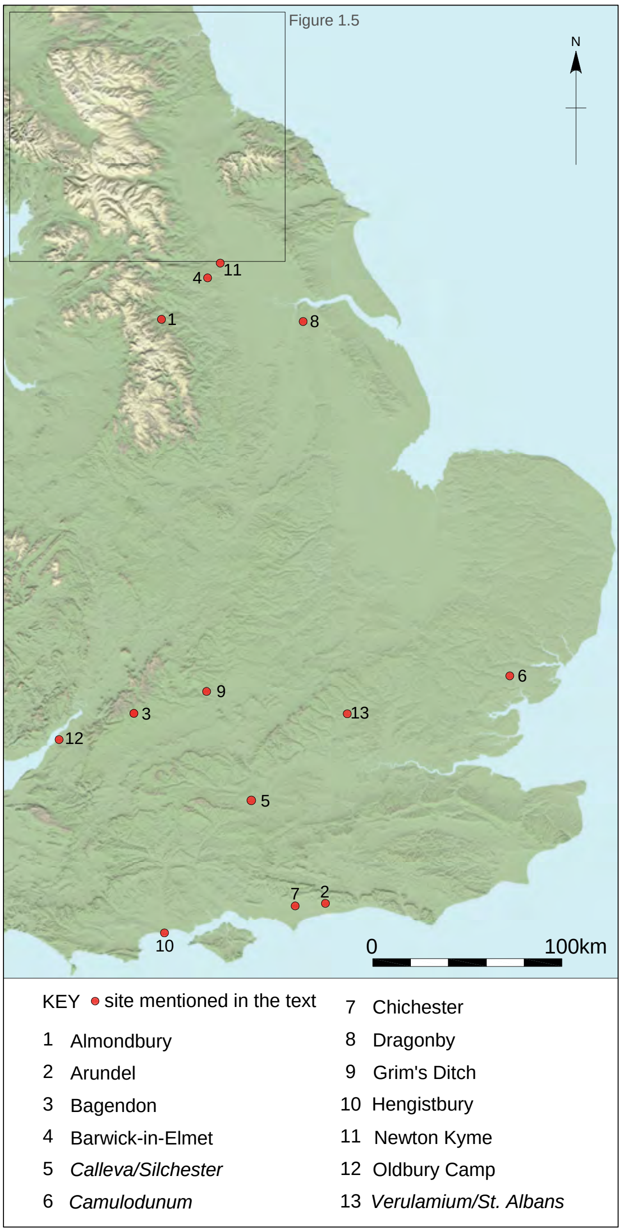


Figure 1.7: map of southern England indicating sites mentioned in the text.

Britain, due to its strategic logistical importance and its relationship to Stanwick, and his survey was accordingly detailed (MacLauchlan 1849, 213). It covered the district between the Rivers Tees and Swale, stretching between Darlington to the north and Richmond to the south, with Stanwick as the focus (Fig. 1.6). As his foundation, MacLauchlan used a large-scale map that had been produced for the Duke of Northumberland by William Lax, which now resides in the archive at Alnwick Castle (Haselgrove *et al*. 1990a) and shows Scotch Corner as a simple crossroads.

Stanwick presents an imposing facade that commands attention to this day. Its 6.8km-long perimeter earthwork stands up to 8m high in places and encloses an area of 270ha, making it one of the largest prehistoric strongholds in Europe (Haselgrove 2016, xxv). In addition to its large scale, Stanwick stands out in a region where 'hillforts' or 'defended settlements' of any size are far rarer than to the north (e.g. Oswald *et al*. 2006; 2008; Jones and Mattingly 1990, 62–3, map 3:19), or in southern Britain. The Tofts and perimeter earthwork at Stanwick enclose a section of the Mary Wild Beck and an associated flood meadow with high-grade pasture that must have been ideal for livestock, which are its primary beneficiaries today. If considered defensive, the earthwork is seemingly incongruous with the low-lying overlooked setting, particularly given the more usual preference for elevated upland positions occupied by hillforts, such as Almondbury (Haselgrove 2016, 446; Jones and Mattingly 1990, 47), Ingleborough, or Eston Nab (Haselgrove 2016, 446). Nevertheless, Stanwick has often been described as a defended territorial oppidum, one of the few examples in northern Britain (e.g. Jones and Mattingly 1990, 43–56; Haselgrove 2016, 448–56), distinguished not only by its earthworks and setting, but also by its connection with routeways, which would make it suitable for the congregation of different social groups (see Millett 1990, 25–6), and livestock.

Fewer than 20 oppida and Late Iron Age tribal centres are proposed nationally (Fig. 1.7); the closest comparable large undefended settlement to Stanwick lies 80km to the south at Barwick-in-Elmet, while Dragonby, a tribal centre for the coin-using Corieltavi people (see May 1996), was situated south of the Humber estuary 40km further south-east. Most oppida, however, are in the catchments of the River Thames and its tributaries (e.g. Bagendon, *Calleva*/Silchester, Grim's Ditch, Oldbury Camp and *Verulamium*/St. Albans – Romanised/Latin names of known major sites are used throughout the monograph), while others are found near other important rivers and/or the coast (e.g. *Camulodunum*/Colchester and Hengistbury). The term oppidum has sometimes been used interchangeably with Late Iron Age 'tribal capitals' and 'proto-urban' or 'urban' centres, labels traditionally bestowed on those settlements that fulfil an evolving and contested set of criteria. In Britain and western Europe, these include, but are not restricted to: dense, seasonal and or permanent occupation and congregations, crucial strategic positions, earthwork defences, a centralised market and extensive trading networks, including specialist goods, high-value and exotic imports, coin production and other industry (see Collis 1976; 1984; Cunliffe 1976a; 1976b; 2002, 174–6; Cunliffe and Rowley 1976; Haselgrove 1976; Jones and Mattingly 1990, 43–59). Given these attributes, it is unsurprising that assimilation of oppida formed an integral part of Roman conquest in the western empire, and that several of these settlements subsequently functioned as provincial administrative, political and economic centres, their names becoming Romanised and their layouts re-planned with regular grids, such as those recognised at *Verulamium* (see Frere 1972, 1983 and 1985) and *Calleva* (see Fulford and Timby 2000; Fulford 2012; 2015). In certain instances, notably in the south and east of England, some such settlements have been purportedly associated with systems of land division and management known as 'cadastration' and 'centuriation' (see Peterson 1990; 1993; 2002; Peterson

Figure 1.8: map of Scotch Corner area indicating Iron Age and Roman earthworks and Roman roads.

et al. 1993; Bonnie 2010), although it is not universally accepted that they were used in the province.

A recent resurgence in examination of Late Iron Age urbanism, kingdoms, assembly places and trading networks has led to further reconsideration of what constitutes an oppidum (e.g. Garland 2017; 2018; Hill 1995; Moore 2012; 2017a; 2017b; Pitts 2010, 2014; Woolf 1993), resulting in the prescient recognition that some appear less like defended capital cities and more like large sprawling areas of low-density poly-focal occupation and varied activity zones, often without enclosing or defensive earthworks. It is now acknowledged that both forms might occasionally coexist, as was proposed for Bagendon in Britain (e.g. Moore 2017a) and on the Continent at Mont Beuvray (Bibracte) and Sources de l'Yonne in Burgundy, France (Moore *et al*. 2013; Moore 2017a, 293–4). Given the combination of components observed there, appreciation and understanding of this foreign complex may prove valuable for interpreting the area around Stanwick and Scotch Corner.

The commonly recognised association between oppida and linear earthworks or 'outworks' in south-east England and beyond is also relevant to the landscape around Scotch Corner and Stanwick (Fig. 1.8). In MacLauchlan's (1849) record, the outer earthwork of Stanwick connected with the segmented linear features known collectively as Scots Dyke. These extended across the limestone ridge on a south–north course between the south-west side of Stanwick and the River Swale at Richmond, passing c.2.2km north-west of Scotch Corner junction, while its north-west branch possibly connected with the River Tees opposite Gainford (MacLauchlan 1849), although there is also a possible segment between Stanwick and the River Tees near Cliffe and opposite Piercebridge. As highlighted by Ramm (1981, 12), Scots Dyke was never demonstrably a unitary feature; the northern parts are currently contested, and the southern earthworks never certainly connected with Stanwick although it was postulated in the mid-19th century by Hartshorne (1841, 206–7). Enough of the feature remains, however, to establish that the surviving segments of bank, ditch and counterscarp extended for c.14km between the river catchments, and possible beyond for short distances. Recent work by NAA (1997; 2000) and Steve Sherlock (pers. comm.) shows that sections were remodelled during the late 1st millennium BC, and Bayesian modelling of three radiocarbon dates obtained by Oxford Archaeology for the A66 dualling scheme (Zant *et al*. 2013a, 37–41; Zant *et al*. 2013c, 115, 118–26) demonstrated that the Dyke was infilling by c.100BC.

These findings make links with Stanwick and its territory highly probable (Haselgrove 2016, 23–5) and support the notion that Scots Dyke functioned in the manner of 'outworks' or dyke systems, simultaneously defining territory and aiding in stock management (Taylor 2007, 57; Zant *et al*. 2013c, 122), much like Grim's Ditch to the east of Leeds (Roberts *et al*. 2001, 123–48; Robinson forthcoming), Aberford Dykes in West Yorkshire (Gregory *et al*. 2013, 98–103, 112–15, 240–7) and the Grinton–Fremington Dykes in Swaledale (White 1997, 46; Fleming 1998, 21). More complex dyke systems are known on the Hambleton and Tabular Hills fringing the North York Moors (Spratt 1993, 128–41), on the Yorkshire Wolds (Stoertz 1997; Giles 2012, 40–64) and others are found near southern oppida, such as Chichester-Arundel and *Camulodunum*, and elsewhere in western Europe. As has been proposed for many complex systems, the earthworks of Scots Dyke feasibly aided in the direction of livestock between Stanwick's perimeter earthwork and the wider landscape; the northern section was potentially traced by one of the proposed droveways that radiate from the entrances and connect with major routeways, including the River Tees, only 3.2km to the north-east (Haselgrove 2016, 417–20). Such interconnected and integrated systems recognised at southern oppida seem entirely plausible around Stanwick and Scotch Corner, and potentially place Stanwick at the heart of a network of livestock management that controlled access between east and west, while funnelling driven animals to the site for husbandry and taxation (see Zant *et al*. 2013c, 122). In this respect, there are strong similarities with important centres in southern Britain, such as Bagendon (see Moore 2012; forthcoming), *Camulodunum* (Hawkes and Crummy 1995) and Chichester (Garland 2017; 2018), where the role of earthworks in directing movement, managing stock, and demonstrating the power of the elite is recognised.

Stanwick, however, was not necessarily originally conceived with perimeter earthworks, nor even an interior enclosure around the area known as the Tofts. Habitation in the Tofts was certainly established by c.80/70BC (Haselgrove 2016), and between c.30/20BC and AD30–40 a cluster of small-scale enclosures was introduced around elaborate timber buildings, analogous with elite and sacred sites in Ireland, such as Dún Ailinne and Navan (*ibid*., 89 and 412–14). This process appears to have occurred in tandem with Stanwick's ascendancy as the capital and royal residence for a large confederacy of native northern people now known as the Brigantes; a development no doubt influenced by its position near the junction of major routeways to the north-west, north, east and south (Hartley and Fitts 1988; Haselgrove 2016). The tribal nomenclature of 'Brigantes' used by Seneca for generic northern barbarians (*Apocolocyntosis* 12.13–18; Braund 1984) was arguably adopted by the Roman historian and biographer of Agricola, Tacitus, in order to distinguish the populous northern peoples brought under imperial rule during the second half of the 1st century AD (*Annales* 12.32; Braund 1996). Writing in the 2nd century AD, the Roman geographer Ptolemy (*Geographia* 2.3.10; Lennart Berggren and Jones 2000) attributed to the Brigantes a questionably large portion of northern England stretching from 'sea to sea', and perhaps from the River Don in the south (Hartley and Fitts 1988) to Birrens in the north (*Geographia* 2.3; *ibid*.), the northern tribal boundary being later subsumed in the Roman frontier after the conquest of the Brigantes.

In composition, the name Brigantes may either represent Roman historical shorthand for the inhabitants of the vast unconquered northern area, or perhaps the dominant component in a confederacy of non-monetised peoples, drawn together by the mid-1st century AD as a consequence of Roman intervention in Britain (Higham 1987, 9; Hartley and Fitts 1988, 1–3; Howarth 2008, 35; Wilson 2009a, 9). Their alleged pre-conquest northern hegemony did not, however, extend over the neighbouring Parisi tribe, whose land Ptolemy tells us (*Geographia* 2.3.17; Lennart Berggren and Jones 2000) corresponded to a large part of East Yorkshire (e.g. Halkon 2011 and 2013; Giles 2012). The character of early interaction between the Parisi and Rome has been discussed by Ramm (1978, 26–36), though more recent work also considers how the eastern tribe may have been separated from the Brigantes by a native frontier zone akin to a Roman *limes*, presumably reflecting or anticipating inter-tribal tensions (Shotter 1997, 28).

Between AD30/40 and AD65/75 at Stanwick, earthen and rock-cut boundaries were created and buildings in the Tofts were radically developed (Haselgrove 2016). Stone became the building material of choice, and continental and Roman imports peaked during a period when the Tofts was encircled by the outer perimeter earthwork and connected to it with a series of additional banks. Unique in the north of England, and already believed to be directly associated with the Roman conquest of the north, the apparent defensive function of the Stanwick earthworks attracted the attention of Mortimer Wheeler. Immediately following his fieldwork campaign at Maiden Castle in Dorset,

Table 1.2: Roman dynasties, emperors and governors of Britannia.

	Sole Ruler/Imperator	**Dates**	**Governor of Britannia**	**Dates**
	Julius Caesar	48–44BC	-	-
	Octavian	44–27BC	-	-
Dynasty	**Emperor**		-	-
Julio-Claudian	Augustus	27BC–AD14	-	-
	Tiberius	AD14–37	-	-
	Caligula	AD37–41	-	-
	Claudius	AD41–54	Aulus Plautius	AD43–7
			Publius Ostorius Scapula	AD47–52
			Aulus Didius Gallus	AD52–7
	Nero	AD54–68	Quintus Veranius	AD57
			Gaius Suetonius Paulinus	AD58–62
			Publius Petronius Turpilianus	AD62–3
			Marcus Trebellius Maximus	AD63–9
Year of 4 Emperors	Galba	AD68–9 (JAN)		
	Otho	AD69 (JAN–APR)		
	Vitellius	AD69 (APR–DEC)		
Flavian	Vespasian	AD69–79	Marcus Vettius Bolanus	AD69–71
			Quintus Petillius Cerialis	AD71–4
			Sextus Julius Frontinus	AD74–8
	Titus	AD79–81	Gnaeus Julius Agricola	AD78–83
	Domitian	AD81–96	Sallustius Lucullus	AD83–9?
			Aulus Vicirius Proculus	AD93?
Nerva-Trajanic	Nerva	AD96–8	Publius Metilius Nepos	AD96–7?
			Tiberius Avidius Quietus	AD97–101?
	Trajan	AD98–117	Lucius Neratius Mercellus	AD101–3?
			Unknown	AD103–15
			Marcus Appius Bradua	AD115–18
	Hadrian	AD117–38	Quintus Pompeius Falco	AD118–22
			Aulus Platorius Nepos	AD122–5?
			Trebius Germanus	AD125–7?
			Sextus Julius Severus	AD131–3?
			Publius Mummius Sisenna	AD133–5?
Antonine	Antoninus Pius	AD138–61	Quintus Lollius Urbicus	AD138–44
			Gnaeus Papirius Aelianus	AD145–7
			Unknown	AD147–54
			Gnaeus Julius Verus	AD154–8
			Longinus	AD158–61

the 1951–2 Stanwick investigation naturally focused on the perimeter and interior corral and 'defences', as he saw them. Wheeler's reports collectively proposed a sequence that precisely tied their construction to increasingly turbulent Brigantian political events and the Roman conquest in the years between c.AD51–70, as described by Tacitus (Wheeler 1952; 1954; 1956). However, dateable materials recovered during the 1980s have been used in conjunction with radiocarbon determinations and Bayesian modelling to demonstrate an earlier origin and a more protracted evolution than was proposed by Wheeler, extending Stanwick's occupation between the late 1st century BC and c.AD65/75 (see Haselgrove 2016).

Native politics, Roman narrative

Accepting Tacitus' Roman bias and his reliance on received information, the sometime contradictory historical narratives presented in the *Annales*, *Historiae* (Braund 1996) and *Agricola* (Birley 1999) collectively imply that shortly after the Claudian invasion of southern Britain in AD43, and certainly by AD47 (Frere 1987, 54) or AD48 (Tacitus *Annales* 12.32; Braund 1996), the Roman army had crossed into the region now known as Yorkshire, ostensibly to suppress a civil rebellion against Cartimandua, alleged Queen of the Brigantes, and presumably also to continue their northward diplomatic mission. A similar rescue may have been executed in AD51–52 with the same outcome (Ottaway 2003, 125), although Braund (1984, 1) recognises that Tacitus fails to narrow the date for this intervention (Tacitus *Annales* 12.40) and perhaps even conflates it with similar events in AD69. At a date that is currently unknown and, following similar arrangements already in place with tribes in southern Britain, Tacitus implies that the Brigantes effectively became a client polity of Rome, although whether they saw the relationship in those terms is debatable (Salway 1981, 90–2; Creighton 2006, 14–45). This development may have been influenced by the fact that the invader had extended its border to the southern reaches of Brigantian territory at the River Don (Wilson 2009b, 9). A temporary frontier zone developed at this approximate latitude, reinforced by a series of fortifications, including those at Templeborough (May 1922; Buckland 1986, 30–6) and Rossington Bridge (St Joseph 1977; Buckland 1986,

Figure 1.9: 18th-century etching of 'Caractacus King of the Silures deliver'd up to Ostorius the Roman General by Cartismandua, Queen of the Brigantes'. Print by F. Bartolozzi, after William Hamilton, 1788 (© Trustees of the British Museum).

6–8; Van de Noort and Ellis 1997, 275–8), which were constructed under the governorship of Didius Gallus (AD52–7; Table 1.2).

While there is no definitive archaeological evidence for the client arrangement (Hanson and Campbell 1986), the importation of exotic materials from the Roman Empire, arriving at Stanwick before many southern Late Iron Age centres (see Haselgrove 2016, 482–3), certainly implies gift exchange, patronage and development of a relationship from the late 1st century BC. Cartimandua perhaps reconfirmed this during the governorship of Aulus Plautius by AD47 (Tacitus, *Annales* 12.40; Braund 1996; Birley 1952a), when the Brigantian elite probably continued to conduct their administration from Stanwick (see Haselgrove 2016), during the short-lived period of relative peace that was punctuated by sporadic native minor uprisings and incursions (Tacitus, *Annales* 12.32; Braund 1996), whether from the south, or perhaps from further north. The client arrangement presumably allowed the Brigantes access to Roman protection from intra- and inter-tribal threats, and also to the wealth generated and transported by its military and administrative infrastructure. The putative client relationship evidently had the initial effect of enabling trade and increasing the material wealth of the Brigantes (*Historiae* 3.45; Braund 1996), an assertion supported by the volume and spread of continental and Roman imports found at Stanwick and other locations in the immediate region (Haselgrove 2016). This was, perhaps, material evidence for a process employed widely during the early to mid-1st century AD, whereby new markets were established and flooded with exotic imports as part of a strategy that was attractive to new subjects and accelerated their cultural assimilation into the empire, while making them increasingly vulnerable, and possibly amenable to military annexation and subsequently also to taxation and exploitation of native resources.

Roman acculturation and annexation in the north was initially stalled, and then probably accelerated by Boudica's revolt of AD60–1, which exposed the fragility of client relationships in 1st-century Britain and temporarily diverted administrative and military forces to the south-east (Jones and Mattingly 1990, 71; Shotter 2004, 12–26). In contrast with her south-eastern counterpart, Cartimandua's downfall was ultimately precipitated by enthusiastic dealings with the occupiers, which included handing over the fugitive British war leader, Caratacus, in c.AD51/52 (*Annales* 12.36; Braund 1996; Howarth 2008, 57), an event imagined by Hamilton and recreated by Bartolozzi in his etching, which shows Publius Ostorius Scapula (AD47–52) as the Governor who received him (Fig. 1.9). In this apparent betrayal of a native leader, Cartimandua honoured her alliance with Rome, but triggered a terminal decline in relations between herself and Venutius, her consort. Formerly 'loyal to Rome' (*Annales* 12.40; Braund 1996), he abandoned his wife and the alliance, establishing an opposing stronghold, perhaps at Clifton Dykes near Brougham, across Stainmore, in the Vale of Eden, which probably fell within the tribal lands of the Carvetii and the wider Brigantian territory (see Higham and Jones 1975, 24; 1985, 11; Jones 1999, 92; Shotter 2004, 26–52). Once entrenched with loyal supporters, Venutius allegedly directed civil hostilities, which were repelled on more than one occasion with legionary assistance (*Annales* 12.40; Braund 1996). There is a suggestion that Roman military missions from strongholds near the Welsh border were launched in support of Cartimandua during the period of civil unrest in the AD50s and 60s (Shotter 2004), perhaps making early use of the trans-Pennine route across Stainmore, although Hanson and Campbell (1986), Wilson (2009b) and Haselgrove (2016, 8–9) contest the case for meaningful Venutian rebellion before AD69.

Shortly after Emperor Nero's suicide in AD68, tensions amongst the Brigantian elite appear to have reached a head when Cartimandua courted further controversy by marrying her former shield-bearer, Vellocatus. Taking advantage of the lack of coherence in the imperial strategy brought about by the Year of the Four Emperors (AD69), Venutius' response to this additional outrage was typically violent. Aggressions prompted further intervention by Roman troops, who succeeded in rescuing the loyal Queen, but temporarily lost the kingdom (*Historiae* 3.45; Braund 1996). Stanwick and its environs were presumably also conceded to Venutius in the process, never to regain its status as a proxy Roman capital. In principle, any combination of perceived threats and actual attack could have prompted structural developments, interior reorganisation and expansion of the great earthworks of Stanwick in the period between c.AD30–75.

However, it may be significant that from c.AD69, and regardless of civil discord, Tacitus states that the newly declared Emperor Vespasian reignited the imperial mission across the empire, including the problematic province of Britannia and the populous civitas of the Brigantes (Tacitus, Agricola 17; Birley 1999). It may be that the new emperor was drawing on former glories achieved during Claudius' Britannia campaign, when Suetonius informs us that Vespasian fought battles, subjugated tribes and captured towns while serving under Aulus Plautius (see Table 1.2; Suetonius, Divus Vespasianus 4; Graves 2007, 276). Tacitus proceeds to describe how under the new campaign, the native tribe allegedly capitulated with little resistance and were then surrounded by Roman military installations with minimal damage (Agricola 20; Birley 1999), the final Venutian revolt providing the ideal pretext for military intervention. Evidence from the Tofts area of Stanwick suggests abandonment by or before the AD70s (Haselgrove 2016), which accords with Tacitus' account that annexation was underway between AD71 and AD73/4 by the legio XX under the command of Petillius Cerialis (Robinson 2001, 89; Shotter 2004; Bidwell and Hodgson 2009, 8–11; Bishop 2014, 16–24). After a short hiatus in the AD70s, when military attention was refocused on Wales, annexation of the Brigantes was said in the Tacitean narrative to have ultimately been achieved in AD79 under Agricola, which places the incumbent governor centre stage in the heroic story of Brigantia's capitulation and the campaign deep into the area known today as Scotland.

Roads and forts: the infrastructure of conquest and annexation

Visible traces of the early Flavian campaign through the Brigantian heartlands survive in the earthworks of military establishments and in early versions of the Roman road network, although it is still not possible to differentiate confidently between presumed 'campaign' or more traditionally termed 'penetration' routes, and early engineered 'consolidation' roads which followed successful incursion. As a result, the dating of roads is often uncertain (Bidwell and Hodgson 2009, 8–12), and dateable artefacts recovered from their surfaces might be misleading. However, it is generally accepted that once territories were consolidated, engineered roads perpetuated the campaign corridors cleared by an advancing army (Bishop 2014, 16–18). In addition to the Stanwick earthworks and Scots Dyke, MacLauchlan's survey of 1849 provided a detailed record of a palimpsest of Roman roads at Scotch Corner, where the complex multi-phased junction of Dere Street and the road towards Stainmore apparently survived as earthworks, along with vestiges of other routes leading to the north-west and south-east from the intersection (Fig. 1.10).

In conjunction with the new survey, his description of Dere Street reads:

> The Way continues straight to about 300 yards to the north of Scotch Corner, where the traces of the Roman Road, from Greta Bridge (Margary road 82; 1973, 433–6), have been found to fall in at a farm called Violet Grange; here the road to Piercebridge (*ibid*., road 8c), makes a bend to the eastward, at right angles to the line from Greta Bridge, and about a quarter of a mile in length.
>
> MacLauchlan (1849, 216)

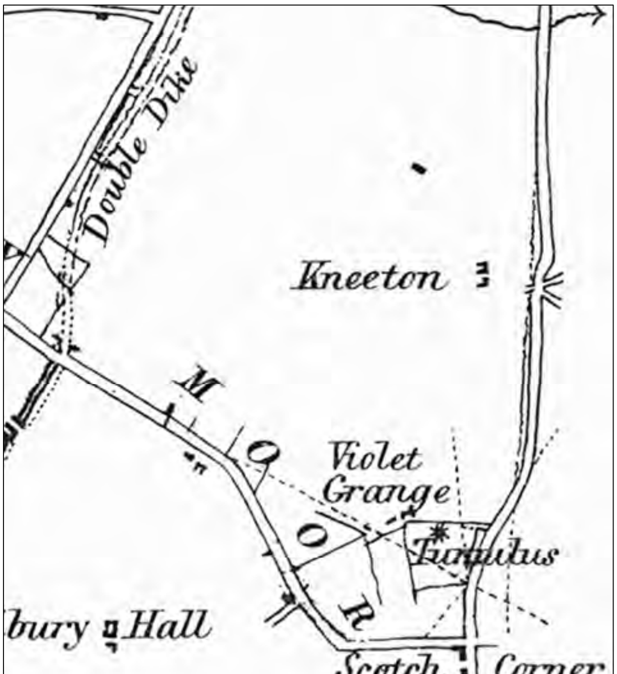


Figure 1.10: detail of 'Map of ancient entrenchments between the Rivers Tees and Swale' by H. MacLauchlan, published 1849.

The surveyor's account was replicated precisely by Margary (1973, 8), although by that time much of the earthwork evidence had been lost to ploughing and road development.

Recently, Poulter and Entwistle proposed that major Roman roads in the area around Scotch Corner were planned and mapped in advance of military annexation using long-distance alignments that penetrated much of the province (Poulter 2009; 2010; 2014; Poulter and Entwistle 2016). This compelling model may yet have to be reconciled with the observation that both native and invader routes exploited amenable topography and connected the most strategically important points, often connected by existing routeways including the south–north route through the Vales of York and Mowbray (e.g. Loveday 1998; Vyner 2007; Vyner *et al*. 2011, fig. 2.1; Ambrey *et al*. 2017, 127–8). Bidwell and Hodgson (2009, 8–11) have deduced from classical sources and the early establishment of a number of military sites within a corridor between York and Carlisle, that Cerialis' eastern campaign route anticipated the formal course of Dere Street up to Scotch Corner (Margary road 8a–c; 1973, 427–30). Therefore, perhaps as early as the AD70s, a metalled version of the route connected the legionary fortress established at the Ouse/Foss confluence in York (*Eboracum*) in AD71 (Frere 1987, 83; Ottaway 2004, 31) with a possible early version of the Margary (1973) road 28b from the early Flavian fort at Castleford (*Lagentium*; see Cool 1998b, 3; Abramson and Fossick 1999, 19–20; Abramson *et al*. 1999); north of this, the conjoined routes interacted with an early Flavian fort by the River Ure at Roecliffe (Bishop 2005), a possible early iteration of the Roman installation at Aldborough (*Isurium Brigantum*; see Ferraby and Millett 2020), the roadside settlement (and fort?) by the beck at Healam Bridge (Ambrey *et al*. 2017), and the roadside settlement at Bainesse south of the Flavian fort at *Cataractonium* by the River Swale (Wilson 2002c, 454; Ross and Ross in prep.). The proposal for an early variant of the parallel south–north road that runs up the east side of the Vale of Mowbray (Margary road 80a; 1973, 431–3) has gained validity now that a probable Flavian fort has been discovered at Thirkleby (Ferraby and Millett 2019; Millett and Brickstock 2020), while the associated west–east road network is also becoming better understood.

Establishment of the legionary fortress at York in AD71 and its occupation by *legio VIIII Hispana* is often considered to represent the beginning of military conquest in Brigantia, although the generally accepted post-AD70 range for Roman military presence in the region has been questioned at least since Eric Birley

(1952, 88–92) outlined the argument for Neronian period activity under governors Veranius and Bolanus, which was latterly interpreted as being associated with the rescue of Cartimandua in AD69 (Ottaway 2004, 33). Despite Suetonius' assertion that Nero felt no ambition to extend the Roman Empire, and even considered withdrawing forces from Britain (Suetonius Nero, 18; Graves 2007, 216), military activity between AD54–68 remains feasible in light of the assertion that Nero maintained the army presence because such a decision may have reflected poorly on the victories of his adoptive father, Claudius (*ibid*.), who had 'fought no battles and suffered no casualties, but reduced a large part of the island to submission' (Suetonius, Divus Claudius 17; Graves 2007, 189). If Suetonius is taken at his word, it seems clear that during Nero's time the Roman army remained in Britain without an expansionist imperial mission, although Birley (1952) conceives of a policy to hold and extent control under Nero.

However, the argument for Neronian-period Roman military action in Brigantia has gained traction now that it has advanced beyond Roman inscriptions and the scant evidence available to Birley. The concept carried forward by Shotter (2004), and most recently by Wilson (2009b, 9–11), considers numismatic and ceramic evidence from Blake Street in York (Hall 1997, 308–10; Monaghan 1997, 837; Ottaway 2004, 33), along with early samian ware dates (Dore 2005, 164–5) and Claudian issue coin copies at Roecliffe (Brickstock 2005, 176) and York (Sutherland 1935, 23). Additional evidence for mid-1st-century AD military presence in Brigantia may take the form of temporary camps along the campaign routes, although such structures are often undated (Welfare and Swan 1995, 24–6; Jones 2012), while Richard Hingley (pers. comm.; forthcoming) questions the practical ability of the Roman army to conquer territory, construct forts and roads and assimilate people at the rate indicated by accepted timelines, suggesting greater advances north during Nero's campaigns. Similarly, Woolliscroft and Hoffmann (2006) gathered together a strong case for Roman occupation in northern Scotland before Agricola's time, although such proposals have met with challenges from commentators wishing to maintain the traditional timescale, and initial presence in that region may not necessarily have arrived over land via Brigantian territory. Nevertheless, the insubstantial but accumulating evidence for pre-Flavian military activity accords with the concept of the early campaign route being progressively reinforced to consolidate newly acquired territory up to Scotch Corner, or perhaps associated with defence of Roman interests in the client kingdom during periods of civil unrest or in response to threats from the north.

As part of a possible objective to establish frontier boundaries by first securing trans-Pennine routeways via the west–east valleys (see Ferraby and Millett 2019), the initial military route from Scotch Corner struck north-west on a course that skirted approximately 3km south of Stanwick and crossed the Pennines via Stainmore, yet the early campaign route and engineered road over the Pennines has virtually no dateable material to support or challenge this (see Robinson 2001, 86–9). The marching camps at Rey Cross, Crackenthorpe and Plumpton Head, as well as a number of possible signal tower sites, have long been presumed to be associated with the Cerealian campaign, although without any proof (see Birley 1973, 189; Frere 1974, 120; Hartley 1980, 4; Hanson 1987, 61; Robinson 2001, 75–6). Undated remnants of the road have been found east of Greta Bridge at Thorpe Farm (Zant *et al*. 2013b, 49, 92–3), and while modest quantities of Flavian period material have been recovered from Brough (*Verteris*) and Kirkby Thore (*Bravoniacum*), the scant evidence does not convincingly support Cerealian origins (Pete Wilson, pers. comm.); the results of recent investigations by Glasgow University Archaeological Research Division (GUARD) along the A66 may be informative in this (J.-J. Atkinson pers. comm.), as might future work associated with widening the route.

Further north-west in the Vale of Eden, beyond the River Eamont crossing near the undated fort at Brougham (*Brovacum*; see Wilmott 2004, 2–8), the route joined with the campaign route from the West Midlands near Kirkby Thore, forming one road intent on the River Eden crossing, where an initial timber fort was established at Carlisle (*Luguvalium*) shortly after the trees were felled in winter AD72/3 (Groves 1990; Caruana *et al*. 1992; Zant 2009, 29–30), which was around a decade earlier than described by Tacitus, who attributed the achievement to Agricola (*Agricola* 20–1; Birley 1999). The route west of the Pennines to Carlisle from the heavily defended Welsh borderland bases, such as Wroxeter and Little Chester, through the Lune and Eden valleys is similarly difficult to date precisely, and there is some debate about its exact course (Philpott 2006, 63). The early date for the Roman military's northward campaign to the west of the Pennines is, however, reasonably certain on account of the pre-Flavian samian ware and coinage recovered from estuaries and coastline in the north-west, and the series of forts constructed in support of the Cerealian campaign during the early AD70s (Shotter 2000; Philpott 2006, 63–5), including early military bases at Lancaster (Shotter and White 1995, 20) and Ribchester, all perhaps representative of a northern advance along the west side of the Pennines before the Stainmore route was adopted by the Roman military.

Unlike in MacLauchlan's time, the proximate north-west projection of the route at Scotch Corner is now visible only on aerial photographs as the cropmarks of infilled parallel side ditches (N. Yorks. HER: MNY13508; Google Earth (v73.2.5776)) and as a slightly raised field boundary, which survives for a 1.4km section where the A66 loops south from its Roman course to the modern junction. Much of the recording done by MacLauchlan charted features that originated after the capitulation of the Brigantes, such as the new campaign route that extended north from Scotch Corner and headed past Corbridge (*Coria*) and into Scotland. This addition represented the northern section of the route now known as Dere Street (roads 8c–g in Margary's (1973) nomenclature), which is also known as Watling Street in some antiquarian sources (e.g. MacLauchlan 1852) and 19th-century Ordnance Survey maps. Bidwell and Hodgson (2009, 10–13) proposed that the route was established sometime during the governorship of Frontinus (AD73/4–77/8), although a large part of the Scottish stretch can probably be attributed to forces under Agricola between AD77/8–83/4.

Along the northern route taken by Dere Street from Scotch Corner, so-called high-status native occupation was already established at Holme House by the AD70s near the important River Tees crossing, later known as Piercebridge (possibly *Morbium*; Harding 2008, 295), where a Flavian period fort is suspected to have existed near the bridge or ford (Bidwell and Hodgson 2009, 147; Ottaway 2013, 106). Such an installation was presumably necessary to command the crossing at this location, which had sufficiently advantageous circumstances to survive the native-to-Roman power transition. The large early fort on the River Wear at Binchester (*Vinovia*) was probably founded around c.AD80 (Ferris 2010), and other strongholds further north similarly reflected the importance of south–north transportation and communication. During the period of consolidation associated with Agricola's governorship (AD78–84), the initial Flavian fort at *Cataractonium* was constructed on the south bank of the Swale by AD80 at the latest (Wilson 2002c, 446–8; Ross and Ross in prep.), as were those along the Stainmore road at Greta Bridge and Bowes (*Lavatris*; Frere and Fitts 2009), and possibly at Old Penrith (*Voreda*) during the AD80s. By the end of that decade, Roman campaigning in Scotland had faltered and the former Brigantian territory required consolidation, which was when Bishop (2014, 16–18), suspects that construction of the engineered road between York and Corbridge (*Coria*) was first accomplished.

By the time the Antonine Itineraries recorded major transport links across Roman Britain in the early 2nd century AD (Rivet and Jackson 1970), the road junction at Scotch Corner represented the south-east corner of a c.25km-sided triangle of roads, with Stanwick and its environs easily accessible from Dere Street and the road to Stainmore, both passing within 3km of the perimeter earthworks. The latest road (Margary road 820; 1973, 436–7), which completed the triangle and effectively enclosed Stanwick and other densely occupied areas, was a connecting branch between the road to Stainmore and Dere Street, with a junction near Bishop Auckland c.5km south of the fort at Binchester. The corresponding fort at *Cataractonium* was 6.2km south of Scotch Corner, and the fort at Bowes lay marginally west of the western corner. An additional facet of the purposeful arrangement is reflected in the disposition of roads, junctions and forts in relation to rivers. Each side of the triangle was bisected by a waterway—the River Tees crossed at Barnard Castle and Piercebridge, and the River Greta crossed at Greta Bridge—and each corner or junction occupied a dry site apparently without a major military installation. This arrangement meant that forts could only be approached from two directions, whereas they would be accessible from three if located at the road junctions. The putative fort or fortlet at Carkin Moor, between Scotch Corner and Greta Bridge on the Stainmore road, has seen minimal investigation (Hartley 1980, 4; Zant *et al*. 2013b, 93–6), but could feasibly have been established during the period of military consolidation after early campaigns. Other features relating to Roman military activity, including a newly identified possible marching camp in the grounds of Rokeby Park (recognised by Bryn Gethin; Haken forthcoming), another c.4km from Scotch Corner on the north side of the A66, and a possible Roman military post suggested by geophysical anomalies in Field 246 at Scotch Corner (Fig. 1.11; see Chapters 4 and 10). Taking all the evidence into account, it is difficult to conceive of a more effective infrastructure for regulating activities inside the triangular area and facilitating movement in all directions. This arrangement was not wholly unique to Scotch Corner and Stanwick, however, with examples commonly found near major Roman centres, with York (*Eboracum*) and Newton Kyme being the nearest examples.

The Scotch Corner triangle was connected to the network of early campaign roads and the later engineered network that encircled and bisected the northern Pennines and extended to the former northern territorial boundary of the Brigantes, which was adopted as the new Roman frontier from the late 1st century AD (Fig. 1.5). The associated boundary was defined initially by the pre-Hadrianic Stanegate road, which linked Carlisle (*Luguvalium*) and Corbridge (*Coria*) between the Solway Firth and Tyne (Philpott 2006, 65). Consolidation of the frontier at the same latitude was ultimately achieved with the construction of Hadrian's Wall (Hartley and Fitts 1988; Hodgson 2009, 11–33). Begun shortly after the eponymous emperor's visit in AD122, the wall was initially a discontinuous composite of turf, wood and stone (Bidwell and Hill 2009, 37–41; Wilmott 2009, 41–3). In the manner of other *limes*, it defined and defended the northern extent of Roman *imperium*, protecting the provincial population while also serving as an artery for trade and communication, and providing opportunity for taxation (e.g. Hodgson 2017, 157–75).

Early Roman civilian settlement and economy

Prior to the discovery of Scotch Corner, the most substantial Early Roman settlement in the area was located c.11km to the north-east at Faverdale, which was similarly distant from Stanwick and is believed to have expanded as the former Brigantian capital was evacuated or abandoned shortly after c.AD70 (Proctor 2012, xiv). Ptolemy (*Geographia* 2.3; Lennart Berggren and Jones 2000) identified several important settlements inside former Brigantian territory, although Scotch Corner and Stanwick were notably absent from the lists and inventories (Richmond 1954a; 1954b). The former now functioned as a major transportation junction well inside Roman-controlled territory, while the latter possibly lost its role as the principal native settlement during Hadrian's reign to what became the

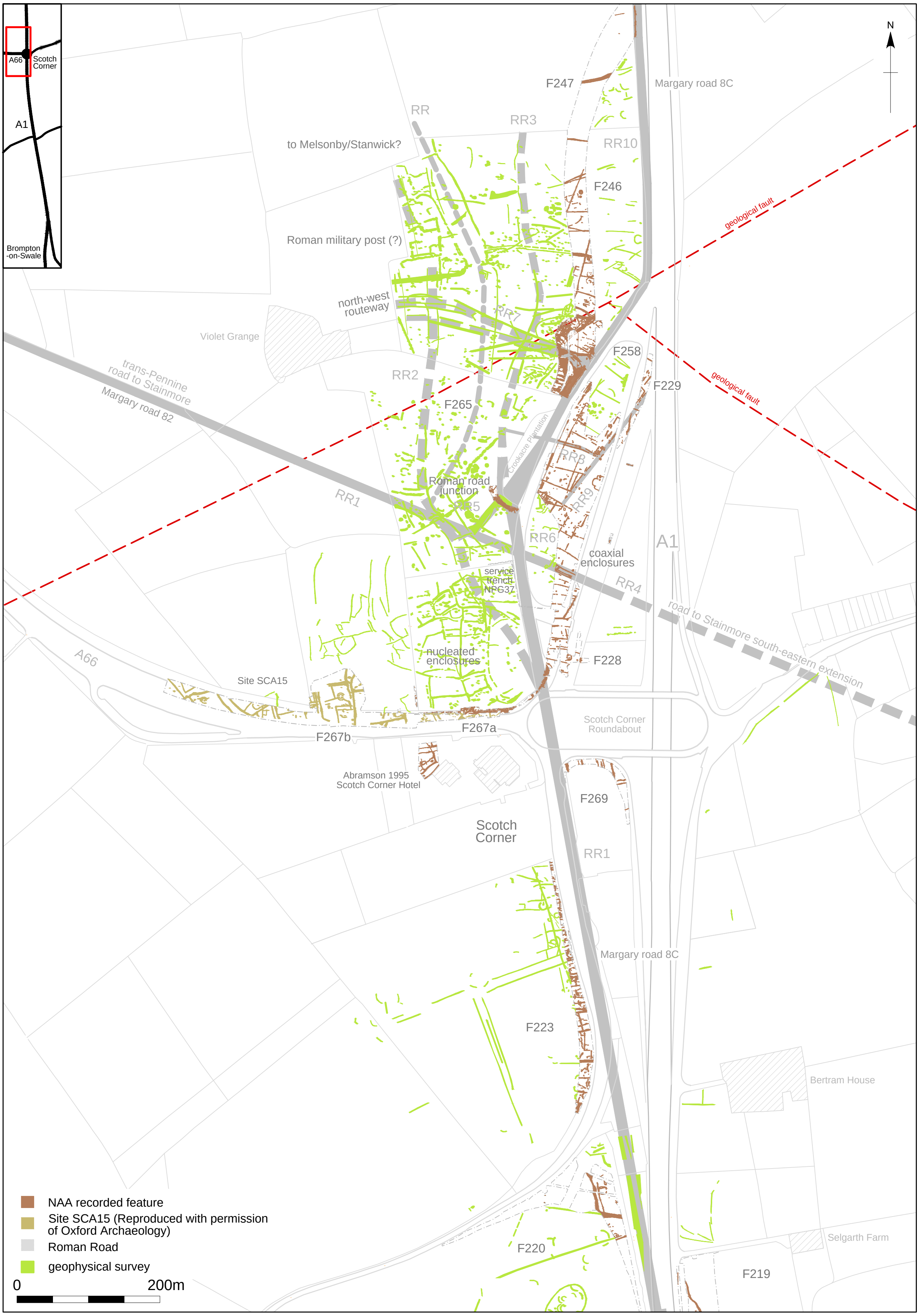


Figure 1.11: Scotch Corner: overview of geophysical survey data interpretations, A1 scheme and previous excavation areas, and geological faults.

civitas capital at Aldborough (*Isurium Brigantum*), which was first occupied by the Roman military c.AD70, and developed rapidly thereafter (Ferraby and Millett 2020). Positioned on Dere Street, and on a westward extension leading towards Ilkley past Roecliffe and the newly discovered (but currently undated) camp and fort at Burton Leonard (Ferraby and Millett 2019; 2020), the new fort and developing *vicus* was within striking distance of the fortresses at York and *Cataractonium* (Wacher 1975, 398–404; Hartley and Fitts 1988, 39–46), while controlling a bridging point and launch point at the River Ure (Ferraby and Millett 2020). It appears that continued occupation and substantial military presence at Scotch Corner would no longer be critical to the consolidation of Roman conquest in the north, and that the settlement followed the same pattern of depopulation from c.AD120, which has been noted at many military sites in Yorkshire as a direct consequence of the construction of Hadrian's Wall (Wilson 2009a, 344).

Writing over half a century ago, Jobey (1966, 13) tentatively proposed that the apparent lack of substantial rural farms indicated that, in contrast to the pre-Roman period, farmers chose to live in compact and growing communities in the environs of forts and cultivated their fields in the surrounding landscape. Although the development of *vici* was a proven consequence of Roman military settlement, the model of a sparsely populated landscape has seen significant revision in the intervening years, so that now parts of the region are seen as culturally 'Iron Age' well into the post-conquest period (Allen 2016, 248). While enclosed farmsteads remained more common than open examples, both categories declined slowly during the Early Roman period as the number of complex farmsteads increased steadily (*ibid.*, 251, fig. 7.12). A slim majority of the 258 Roman settlements recorded in the Vales of York and Mowbray are now defined as farmsteads (*ibid.*, 245), with isolated examples and agglomerations represented along with roadside settlements, while a similar spread of farmsteads is evident in the Tees Valley (*ibid.*, 246, fig. 7.4). Settlement patterns, routeways and agricultural regimes in the region around Scotch Corner would also have been influenced, perhaps as early as the early Flavian period, by native and subsequent Roman exploitation of mineral resources, particularly lead and zinc in the Yorkshire Dales and North Pennines, and some limited silver sources in Nidderdale utilised from the AD70s (Davies 1979, 164; Jones and Mattingly 1990, 179 and 189; Ferraby and Millett 2020).

In contrast with south-eastern Britain, the presumed Early Roman 'non-villa-based' economy of the region (Hingley 1989, 140) has also seen some adjustment now that a substantial number of potential villa sites have been recorded, with concentrations along the Magnesian limestone and in the Tees lowlands (Allen 2016, 245), in addition to the known examples at Holme House (Cool and Mason 2008) and the undated cropmarks immediately south-east of Middleton Tyas (N. Yorks. HER: MNY32350/1). Harding (2004, 163–5) suggests that the increasing number and distribution of Early Roman villas to the east of the Pennines makes it clear that the tangible impact of Romanisation in Brigantian territory was greater than that to the west, whether the shift to Roman building styles represented foreign occupation, adoption by native elites, or possibly both. Despite adoption of rectangular building forms, the vernacular roundhouse in its many variants remained the dominant building type after the conquest and represents continuity in the daily existence of Britons.

Across the region, there is minimal evidence for regular coin use in rural Early Roman period settlements, which presumably suggests the continuation of reciprocal exchange and obligation, perhaps using coins only for transactions at *vici* where coinage was predominantly focused (Brindle 2017, 275). This correlation has been interpreted as indicative of strong military control over the way coinage was distributed in the frontier zone (Hunter 2016a, 192), and the patterns of use, discard, and possible production at Scotch Corner may become significant for an understanding of the Late Iron Age and Early Roman monetary mechanisms.

RECENT ARCHAEOLOGICAL INVESTIGATION AT SCOTCH CORNER

Aside from the studies of above ground remains and historical sources, the area around Scotch Corner was not formally investigated until the 1990s, when interest was directed towards its Late Iron Age and contact period potential. Even with the A1 scheme included, only a small fraction of the densely occupied area has been investigated to date. Near the site of the 'Stanwick' hoard discovery, a small-scale research excavation at Melsonby exposed the remains of two ring-gully structures with a watering hole, pits, drainage gullies and enclosure ditches in the later phase, with occupation spanning the Late Iron Age up to the end of the 1st century AD (Fitts *et al*. 1999; Haselgrove and Hamilton 2016, 342–3). Geophysical survey by Durham University to the north of the modern village has demonstrated that these features formed part of a dense area of enclosures apparently appended to both sides of a north-west to south-east corridor (Haselgrove 2016, fig. 19.8, 370; Tom Moore, pers. comm.), which may have linked Melsonby to Stanwick and Scotch Corner. Amongst the regular enclosures, an irregular, and probably earlier, deformed D-shaped enclosure is thought to be the origin of the 'Stanwick' hoard, and potentially also the site of metalworking. The features were superficially reminiscent of the workshop enclosure discovered in Field 246 at Scotch Corner by the A1 scheme excavations, and aspects of the Tofts enclosure at Stanwick, where metalworking was also practised (Haselgrove 2016, 200–6, 428–9).

Directly south of the A66, a small-scale excavation at the Scotch Corner Hotel exposed remains of occupation comprising roundhouses, tracks and parts of a field system dated to the early and mid-1st century AD (Abramson 1995). Ahead of the A66 widening, an archaeological assessment was carried out for the Highways Agency by NAA (1997); this was followed by a condition and geophysical survey along the proposed A66 widening route (Barton Howe Warren Blackledge 1998; Geoquest Associates 1999), and ultimately by excavation of 35 trial trenches between Carkin Moor and Scotch Corner, which yielded pottery and features dated from c.AD40–70 near the junction (NAA 1999; 2000). The subsequent environmental statement outlined the potential for the presence of significant late prehistoric archaeological remains within the A66 corridor on the approach to Scotch Corner (Dennison 2002). As part of the programme of archaeological evaluation undertaken for the A1 scheme, trial trenching by Lancaster University Archaeological Unit (LUAU) identified little of archaeological significance in the area south of Scotch Corner (LUAU 1994; Barton Howe Warren Blackledge 1996). Additional evaluation for the A1 scheme (NAA 2006a; 2006b) was similarly unproductive between Catterick and Scotch Corner, which was reflected in the subsequent Environmental Statement (Amec/McAlpine Joint Venture 2006, 335–90).

An aerial survey of a 1km-wide corridor that was undertaken for the A1 scheme identified cropmarks of an undated possible curvilinear enclosure c.800m north-west of Scotch Corner, along with a segment of the Roman road to Stainmore (N. Yorks. HER: MNY13508; Deegan 2004). Cropmarks of undated enclosures north of Leeming were described as potentially of later prehistoric or Roman date, while several segments of Dere Street were also observed, as well as another possible Roman road (*ibid*.). Deegan also observed an unknown ditch or drain cropmark at Middleton Tyas (AP161) and either prehistoric or Roman enclosure and ditch cropmarks, also at Middleton Tyas (AP 162; *ibid*., 41).

The extent of occupation around Scotch Corner only became apparent when the area of geophysical survey from the early 1990s (Casey *et al*. 1995) was extended by NAA in 2015 (Fig. 1.11). The combined results demonstrated the presence of densely agglomerated enclosures immediately north of the A66 that extended beyond the Roman road junction and to the north of Violet Grange farm in Fields 265 and 267a (NAA 2016b). The western extent of connected enclosures was confirmed by large-scale excavations during road-widening at site SCA8 (N. Yorks. HER: MNY36299) and site SCA15 (N. Yorks. HER: MNY36301; Zant and Howard-Davis 2013). This part of the Scotch Corner settlement was occupied between c.200 BC and c.AD130, although the radiocarbon dates from the A66 scheme indicate habitation was concentrated between 60/50 BC and AD 70/80 (*ibid*., 113–15). A short distance to the north of the A66 in Field 267a, NAA were undertaking archaeological monitoring of a narrow west–east service trench at the time this volume was completed. Initial results appear to confirm those of the A66 and A1 scheme and geophysical surveys, demonstrating densely occupied areas within nucleated enclosures (NAA 2020).

As at Melsonby and the Scotch Corner Hotel, imported tableware pottery forms were combined with native wares in 1st-century deposits, as well as small assemblages of briquetage, which have also been discovered locally at adjacent site SCA15 (Zant *et al*. 2013b, 82–3), Melsonby (Fitts *et al*. 1999; Haselgrove and Hamilton 2016), Rock Castle (Fitts *et al*. 1994; Haselgrove and Hamilton 2016), Stanwick sites A and 9 (Willis 2016a, 256–61), the Bedale enclosure (Pre-Construct Archaeology 2017, 86) and numerous other sites in the Tees Valley and north Vale of Mowbray. The briquetage and its former contents (salt) are indicative of the native trading network and demonstrate the wide distribution of this important commodity from its probable source at North Sea coastal sites such as Street House (Sherlock, 2007; 2010; 2012; Sherlock and Vyner 2013).

The known footprint of dense, large-scale occupation and activity at Scotch Corner was further expanded by geophysical surveys carried out for the A1 scheme, which highlighted faint anomalies that suggested that enclosures, penannular gullies, ditches and pits existed along the south-east side of the Great North Road corridor (Field 258) and on its north-west side (Fields 246 and 247) for a distance of c.950m from the modern roundabout (ASDU 2007; 2014c). Throughout this area, a large proportion of the surviving archaeological features were later shown to be masked and protected by ridge-and-furrow earthworks. In advance of the redevelopment of the Driver and Vehicle Standards Agency (DVSA) site on the north side of Scotch Corner roundabout, components of the settlement were identified in two evaluation trenches (NAA 2017h). Other possible settlement evidence was apparently masked by ridge-and-furrow earthworks west of the A1 and north of the roundabout in pasture Fields 228 and 229 (NAA 2017b). East of the A1, geophysical survey (NAA 2017i) and evaluation trenching for a proposed drainage and attenuation scheme at the Scotch Corner Services recorded no remains dating from the Late Iron Age or Early Roman periods (Solstice Heritage 2017).

Other elements of archaeological prospection and fieldwork followed development south-west of the Scotch Corner roundabout, where a desk-based assessment (ASDU 2014a) was followed by magnetometry survey, which revealed enclosures that were perpendicular to Dere Street in a field adjacent to the Scotch Corner Hotel (ASDU 2014b). Subsequent trial trenching exposed components of enclosures (N. Yorks. HER: MNY37911 and MNY37930) and structural remains that appeared contiguous with those recorded in 1995 (ASDU 2015). A strip along the east side of the field (Field 223) was developed for the A1 scheme, with results that confirmed and enhanced those of the evaluations. The wider field was investigated ahead of proposed development in 2017–18 (Headland Archaeology forthcoming). Aside from some outlying features in Field 220 to the south, it appeared from all the combined information that dense occupation extended from the south end of Field 223 for a distance of c.1.3km across the roundabout on a south–north axis and for at least 0.5km to the west along Gatherley Moor towards Rock Castle, with an unknown extension along the routeway heading towards Melsonby and Stanwick. Preliminary interpretations of the fieldwork at Scotch Corner were presented in *British Archaeology* magazine shortly after fieldwork ended (Fell 2017). A popular booklet describing the archaeological highlights of the A1 scheme was compiled by AECOM (Highways England 2018), which also provided material for an article in *Current Archaeology* magazine (Hilts 2017, 10).

RESEARCH QUESTIONS

The following research questions were compiled by NAA, AECOM, Atkins, Historic England and NYCC. They were designed to address the five key research themes for the A1 scheme outlined in the post-excavation strategy (see above; Russ *et al*. 2017). The following list includes those questions that are specific to, or relevant for, the subjects of this monograph. Many of the questions are addressed in the excavation narrative Chapters 2–4, and the artefactual, environmental and scientific Chapters (5–9), which inform the synthesis and discussion presented in Chapter 10.

SCOTCH CORNER

1. When was the settlement established at Scotch Corner, and what was its form? What was the overall character of the settlement north of Scotch Corner, based upon the finds and date of the site?

2. What was the main economy of the settlement? Was there any evidence for trade?

3. Was Scotch Corner a later Iron Age developed settlement, displaying parallels with oppida in the south? If not, what is it? What was the nature of any relationship with the Iron Age settlement at Stanwick?

4. What evidence was there for coin pellet manufacturing and what features/structures are pellet tray fragments and any process evidence associated with? What is the date of this activity? Do the relative quantities and distribution of waste material suggest one or more foci of activity? What other industrial activities were taking place?

5. What evidence is there for the structure of the existing population when the Roman army arrived in the area, and what was the nature of the first Roman presence (for example trade, military, emissary, military advisors etc.)?

6. What is the relationship of any Iron Age settlement to Roman activity? For example, was any Iron Age settlement assimilated by the Romans? Did the nature of the population change? Was the initial Roman settlement civilian or military?

7. Is the Roman road Dere Street or another road that joined it? When was it established? Were there any other roads?

8. What forms of building are present (rectangular timber buildings, roundhouses, stone-rafted structures, or other structural elements such as platforms) and how do these relate to the enclosures and any early road or routeway?

9. Was there evidence for change in building form and function through time? Or were different building styles in use at the same time and fulfilling different functions?

10. What was the function of water on the site? How was it managed and how does it relate to the excavated features?

11. What variation is there in the distribution of finds across the site, and is this chronologically significant?

A1 SCHEME-WIDE

12. What was the pattern of rural settlement and land division from the Middle Iron Age onwards, and how did it develop through time?

13. Did the pattern of rural settlement change as a result of the Roman occupation of the area? Is there significant dislocation or was it 'business as usual' for the rural population?

14. What was the nature of rural economy and did it change through time? Was there any evidence of change from subsistence farming to producing surpluses to supply larger settlements?

15. To what extent did rural sites become 'Romanised' through time? How did site morphology and architectural styles change, and how did this contrast with patterns of change within the larger settlements? Did the material culture change?

16. Was there any evidence for specific finds deposition practices?

17. How did 'rural' burial practices change from the Late Iron Age through to the post-Roman period and how does this contrast with those practised at the larger settlements?

18. Was there any evidence for any industrial activity at any of the rural settlement sites?

Narratives of Late Iron Age internal politics and the Roman conquest of the north have been proposed by numerous commentators, including E. Birley (1946; 1948; 1952a; 1952b), A. R. Birley (1973), Branigan (1980), Hanson and Campbell (1986), Hartley (1980), Hartley and Fitts (1988), Higham (1987), Howarth (2008), Ottaway (2004; 2013), Ramm (1980), Shotter (1996; 2000; 2004), and latterly Wilson (2009b). In addition to these works, this volume follows the recent publication of several monographs that present and contextualise new archaeological information pertaining to activity during the 1st century AD in the region around the A1 upgrade scheme (e.g. Vyner 2001; Cool and Mason 2008; Ferris

2010; Proctor 2012; Sherlock 2012; Zant and Howard-Davis 2013; Haselgrove 2016). In conjunction with results from preceding studies, it is anticipated that the results from Scotch Corner, along with data preserved in the scheme archive, will not only address some of the research themes defined for the A1 scheme (see above), but will also contribute to a range of wider research topics and enhance our interpretation of events in the 1st century AD (e.g. Roskams and Whyman 2007, 30). In particular, information derived from Scotch Corner and other A1 sites should substantially increase our appreciation of Pre-Roman Iron Age regional settlement patterns and hierarchy, economic activities and social models. In addition, the evidence has significant potential to contribute to northern Roman frontier and conquest studies, which remain key research areas for Roman archaeology.

DATING AND CHRONOLOGICAL PERIODS

The relationships between all A1 scheme archaeological remains described in this volume were investigated and then recorded in stratigraphic matrices (Appendix C), which formed the basis for an understanding of the activity sequences and phases. Chronological periodisation was informed by the dateable artefacts, particularly ceramics, which provided a framework for understanding and presenting broadly contemporary activities across areas, fields, and sites. Chronological Periods (Table 1.3) were also informed by 61 radiocarbon dates: two obtained for A1 evaluation excavation at Woodside, six obtained for work reported in the first A1 scheme monograph (Speed and Holst 2019), and 53 obtained specifically to support this volume. Additional radiocarbon determinations from other nearby schemes were also considered, particularly those from Oxford Archaeology site SCA15 (Zant and Howard-Davis 2013). Using artefactual typological dates and stratigraphic sequences, and 50 of the radiocarbon determinations, Bayesian analysis was performed to develop a model that proposed time periods in which certain events and processes took place at Scotch Corner. The initial Bayesian model was refined through sensitivity analysis to account for evident residuality, and the resultant Charcoal outlier model supported the artefacts and stratigraphic sequence in determining five main Periods of occupation at Scotch Corner, which started between c.55 cal BC and cal AD15 (95% probability), and ended between cal AD90 and cal AD150 (95% probability; Hamilton, Chapter 9).

In addition to the five main Periods, the complexity and density of archaeological remains allowed for many developmental sub-Periods to be identified in zones of continuous activity and discontinuous palimpsests, although these were too numerous and complex to translate between different areas and are therefore omitted from the already complex narrative. It was, however, necessary to differentiate and present those features which spanned Periods and their transitions, having been cut in one, and partially infilled, then further infilled later; additional complexity was introduced where re-cutting occurred. In such cases, *terminus post quem* dates for final infilling were often considered inadequate for demonstrating the lifespan of features. Consequently, cross-Periods (e.g. Period 1–2, or Period 2–3) were introduced to represent and enshrine the phenomenon in the chronological model. Features that were not superseded and had no certain end date were sometimes allocated a '+' suffix (e.g. Period 4+). The last iteration of a road, for example, may have seen continued use for an unknown time, but was constructed in Period 4.

Enclosures are not numbered because their boundaries were rarely exclusive to one enclosure, nor were they necessarily identifiable as pairs or quads, nor did their forms remain constant. Structures at Scotch Corner are numbered from south to north, from 1–59. Where a structure was shown to have been reconfigured or rebuilt, it retained its parent number and was appended with a Roman numeral for each iteration (e.g. Structure 47iii). At locations other than Scotch Corner, structure numbers continued the sequence from 60–68 from south to north between Fields 199 and 214.

The Roman roads discussed in the narrative and illustrations are referred to by numbers appended to the prefix 'RR', in the same manner as 'RW' has been used for native routeways (Figs 4.1 and 4.2), neither designation

Table 1.3: chronological Periods and nomenclature used in the monograph.

Scotch Corner chronological Periods	Nomenclature in text	Date range incorporating Bayesian 'Charcoal outlier' model
Period 1	Late Iron Age	c.55BC–AD15
Period 2	Pre-Roman Iron Age	c.AD15–55
Period 3		c.AD55–70
Period 4	Early Flavian	c.AD70–85/90
Period 5	Late Flavian–Hadrianic	c.AD85/90–135/150

reflecting the proposed developmental sequence. In the instances where Roman roads overlie native routeways, the RW number is replaced by the RR reference.

CATALOGUE AND RECORDED FINDS NUMBERS

Throughout this volume, catalogue numbers are assigned to illustrated objects and/or those discussed specifically in the text. Context details and, where appropriate, the Recorded Finds (RF) numbers issued by NAA are noted in the catalogue entry to permit cross reference with the archive data.

The only exceptions relate to pellet mould fragments. Groups of pellet mould fragments from individual contexts were recorded by RF numbers on site. As part of his analysis, Landon assigned CPM numbers to individual fragments, thus one RF number might include several CPM numbers. In the excavation narrative, the pellet mould is discussed at the context level by RF number. In Chapter 7, the individual fragments are discussed by CPM number. Table 7.1 provides a concordance.

The finds and environmental chapters contain summary tables detailing the key facets of each category of material. Full tables including the whole assemblage of artefacts and ecofacts recovered by the A1 scheme excavations relevant to this monograph are contained in Appendices accessible via the ADS.

CHAPTER 2
CONTACT

David W. Fell

INTRODUCTION

This chapter presents new and extensive evidence for Middle to Pre-Roman Iron Age native occupation discovered during the A1 scheme excavations. The findings contribute significantly to our understanding of settlement, landscape and social organisation, the environment and economy in the period leading up to contact between the Britons living around Scotch Corner and traders with links to the Roman Empire in the early to mid-1st century AD. While Pre-Roman Iron Age habitation was concentrated at Scotch Corner and is the focus of this chapter and Chapter 3, the first section describes the vestigial remnants of Middle and Late Iron Age buildings and field systems discovered on the shallow slopes and plateaux north of Catterick and the River Swale at Woodside, Gatherley Villa, Moulton Hall, Oak Grange, Scurragh House, Selgarth Farm, and Bertram House (Fig. 2.1).

The sites are presented from south to north with reference to a sinuous Iron Age routeway exposed at Selgarth Farm and implied at Bertram House (RW1, Fig. 2.2). The routeway extended obliquely across an ancient field system towards Scotch Corner, where it joined with a network of hollow-ways and tracks that connected with nearby settlements and the wider landscape, serving a developing economy that was underpinned by the movement of people, goods and livestock. The Iron Age iteration perpetuated a long-distance south–north routeway that was apparently established in earlier prehistoric times (e.g. Loveday 1998; Vyner 2007; Vyner *et al.* 2011, fig. 2.1; Ambrey *et al.* 2017, 127–8; Fell in prep.), the case for which is supported on the A1 scheme by discoveries of cultural materials and features dating from the Mesolithic and Neolithic periods, and Bronze Age (Speed *et al.* 2018; Speed and Holst 2019; Speed in prep.).

Bayesian modelling of radiocarbon date ranges suggests that occupation at Scotch Corner began to intensify substantially from a time between c.55 cal BC and cal AD15 (95% probability; Hamilton, Chapter 9), after which activity became focused primarily in two areas: in the southern part of the settlement was a zone of traditional habitation and subsistence-level food production, while to the north was an enclave of workshops, so-called because of structural modifications and adaptations apparently made to facilitate manufacturing and craft. Chief amongst these was the production of pellets, and possibly coins and other valuable objects, from alloys of precious and semi-precious metals. This venture began in Period 1 and peaked in Period 2, which was characterised partly by the arrival of rare and valuable continental glass

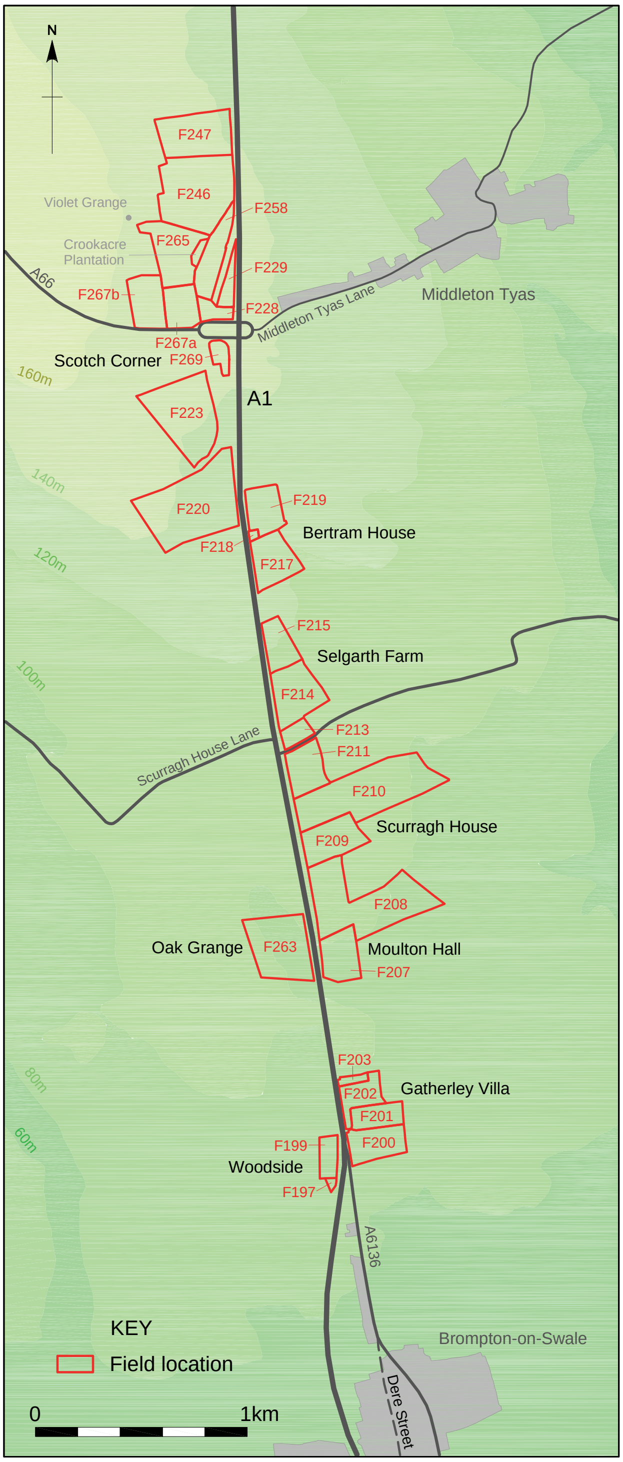


Figure 2.1: A1 scheme field and site locations.

and ceramic vessels, and probably also their comestible contents, which represent the earliest material evidence for first contact through trade with the western Roman Empire. The earliest dateable exotic import at Scotch

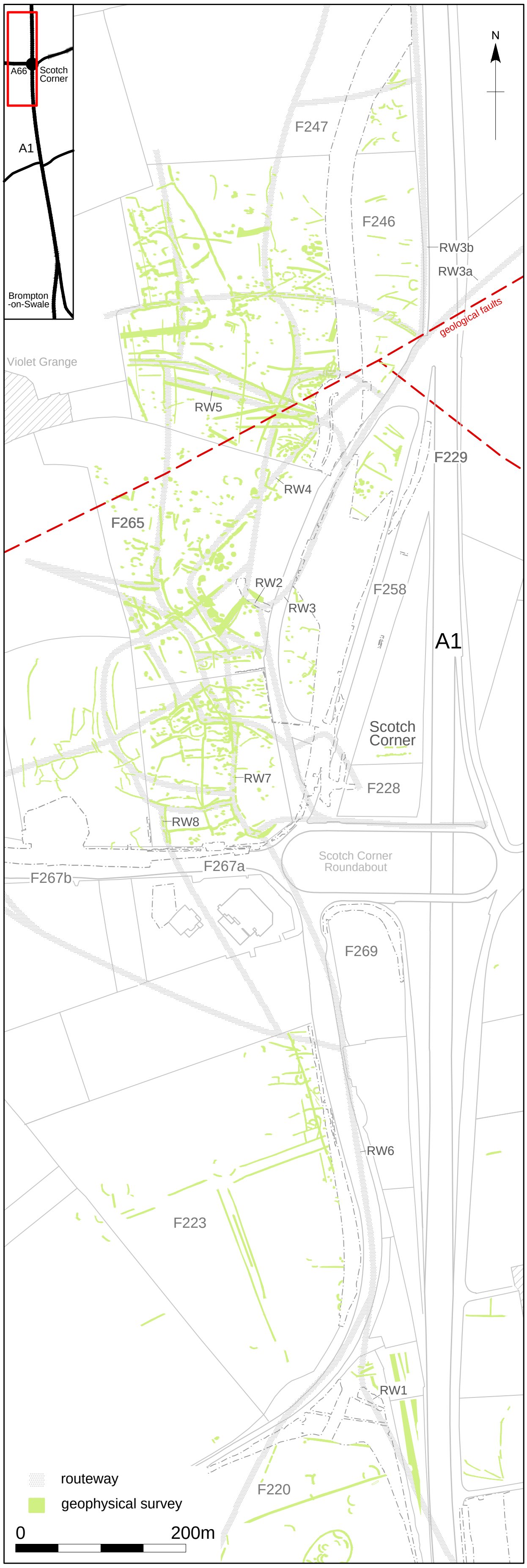


Figure 2.2: Scotch Corner: overview of prehistoric routeways.

Corner was a single platter of Arretine (Italian-style sigillata) produced between c.10BC and c.AD25, which apparently arrived with a consignment of continental goods produced in the Tiberian and Claudian periods (Monteil, Chapter 5; Chapter 1, Table. 1.2). The distant origins of the platter exemplify the extensive nature of exchange networks operating at Scotch Corner, while also illustrating problems associated with dating deposits and activity using objects discarded or lost far from their places of manufacture and transported by unknown bearers via potentially circuitous and varied routes. The fact of their arrival, however, supports the notion that terrestrial and possibly marine and riverine exchange and trading routes were expanding and diversifying in the decades before and after the Claudian conquest, as was witnessed at Stanwick and Melsonby.

The chapter concludes with a discussion of activity in the workshop enclave where imports began to find their way into the infilling features that were associated with developments in metalworking and other crafts. The beginning of Period 2 also witnessed rapid development of enclosure within the settlement, and growth in food production commensurate with increasing occupation in the early to mid-1st century AD. Yet, as with many cultural and chronological transitions, the more arresting changes occurred against a general backdrop of continuing native traditions. This was reflected in the persistence of vernacular building traditions, the maintenance, refurbishment, and infilling of existing structures and features, the use of local hand-built pottery and indigenous artefacts, and the continuation of traditional food production.

SETTLEMENT, FIELD SYSTEMS AND ROUTEWAYS BETWEEN THE RIVER SWALE AND SCOTCH CORNER

MIDDLE IRON AGE TO PERIOD 1 (c.400–c.55BC)

Woodside (Fields 197 and 199) and Gatherley Villa (Fields 200, 201, 202, 203)

Perhaps as early as the Middle Iron Age, habitation at Woodside began with the construction of a large roundhouse and continued as structures were rebuilt and re-roofed at least four times. The house plot was never apparently delimited by enclosure ditches but was set within a wider field system orientated south-east to north-west, which was observed in the excavation area and to the west as geophysical anomalies (Fig. 2.3). Structures 60i–v occupied a narrow terrace on the shallow south-east facing slope of a low ridge oriented south-west to north-east immediately north of Brompton-on-Swale (Fig. 2.4). A north-west to south-east stream was located at the base of the slope south of Woodside, while another ran southwards from a spring to the immediate east of Gatherley Villa. Water, therefore, would have been readily available for both inhabitants and livestock.

An open settlement of probable Late Iron Age date occupied the same ridge as Woodside, 220m to the north-east, at Gatherley Villa. There survived the remains of up to seven structures, including four roundhouses (Structures 62, 63, 65 and 66; below), and a small subcircular stone wall foundation with external penannular drip gully (Structure 64). In addition to the evidence for habitation, debris from ironworking was concentrated in features associated with Structure 66. An irregular narrow trench (Structure 61) apparently represented a timbered enclosure interpreted as a small stockade, and a short curving feature (**6429=6431**) may have been the remnant of a heavily truncated drip or structural gully. Unlike at Woodside, there was little evidence for refurbishment or rebuilding of the structures, leading to the conclusion that Gatherley Villa was a short-lived settlement, a proposal that is supported by the spacing and locations of Structures 62–65, which formed a row along a putative south-west to north-east trackway. Although refurbishment of the buildings was not evident, drip gullies had been cleaned out, a process that was more frequently required than episodes of rebuilding.

Outside the excavation areas, geophysical survey around Woodside identified linear anomalies to the north and west of the roundhouses (ASDU 2014c). A ditched field corner to the south continued the courses of boundaries recorded within the excavation area. If contemporary, as suspected, the boundaries place the roundhouse inside a large south-east to north-west field (Fig. 2.3). Indistinct traces of possible enclosures flanked the west side of the modern road in the area north of the roundhouses at Woodside. The anomalies are potentially remnants of a system associated with Roman Dere Street. Surveys within the A1 road corridor at the north end of Gatherley Villa were spoiled by strong magnetic interference originating from formal gardens and tracks associated with Gatherley Castle, which was built in the 19th century, fell into disrepair and was demolished in 1963. Another survey to the immediate south was devoid of responses indicative of settlement remains (WYAS 2002; not illustrated). Considered together, the geophysical and excavated evidence from Woodside and Gatherley Villa suggests that Middle and Late Iron Age open settlement was concentrated between the 90m and 95m Ordnance Datum contours on the south-east facing slope, with fields to the south and north, while Early Roman enclosures were focused along the route of Dere Street, which was almost perpendicular to the low ridge, a scenario that was matched at Scotch Corner (see Chapter 4). Later activity at Gatherley Villa, along the east side of the Roman road, was represented by a small assemblage of pottery dating from the 2nd to mid-4th centuries and iron nails in the subsoil (**6016**), all of which were perhaps associated with activity at *Cataractonium* fort, vicus and town (Ross and Ross in prep.). A rectilinear field system that was introduced along the side of Dere Street and cut across the Late Iron Age settlement is discussed further in Chapter 4.

The first dwelling constructed at Woodside (Fig. 2.4) was Structure 60i (group **25583**), a roundhouse with hurdle walls set in steep-sided trenches (**25553** and

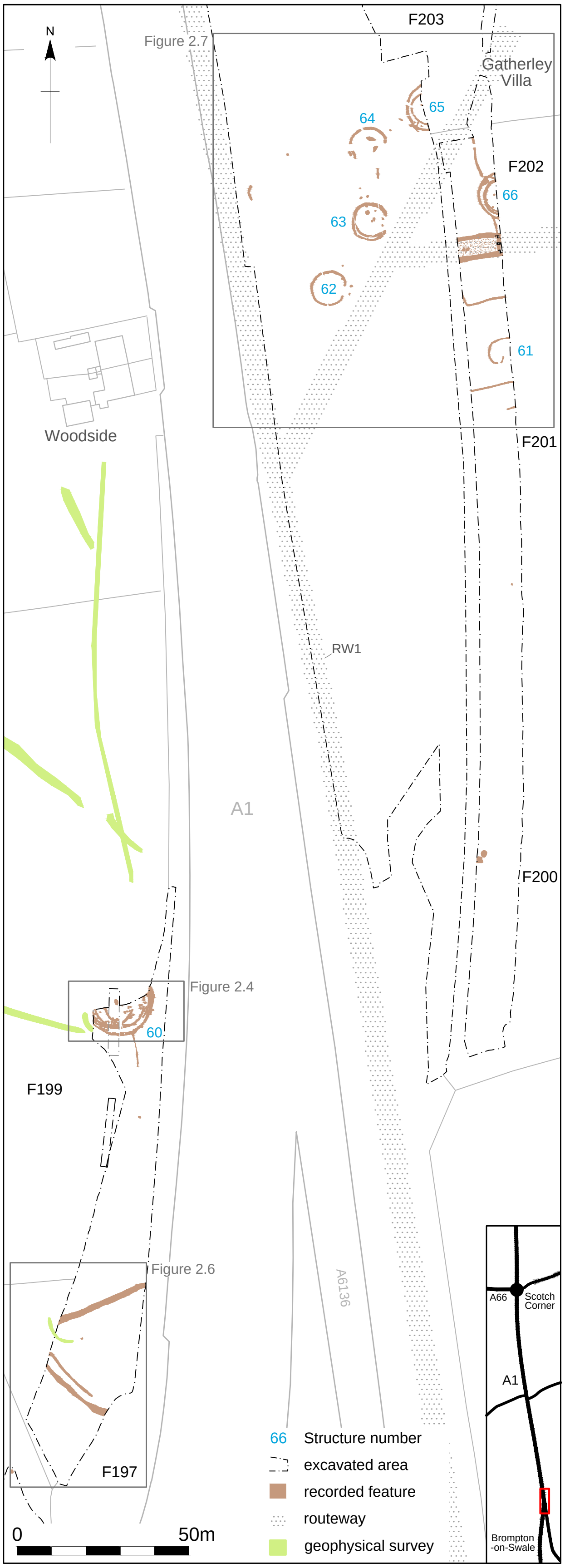


Figure 2.3: Woodside and Gatherley Villa: overview of excavation areas and features.

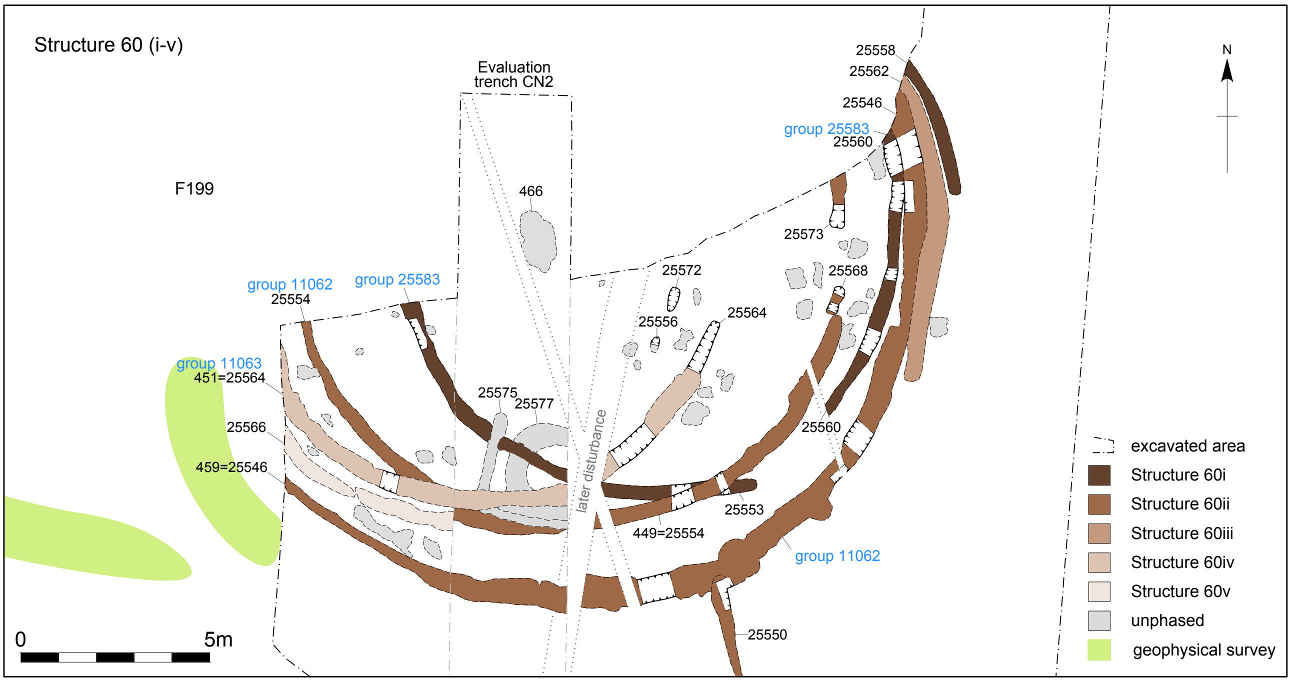


Figure 2.4: Woodside: Structure 60i–v.

25560), which incorporated a 2.5m-wide south-east facing doorway and had an internal diameter of 12.9m (Fig. 2.4). On the north-eastern arc, trench **25558** was concentric with **25553** and **25560**, and extended for 3.7m to the south-east with no obvious corresponding south-west arc, perhaps representing the remnant of a partial drip gully. Being the earliest structure on the long-lived plot, it was most comprehensively truncated by subsequent rebuilding.

The subterranean remains of Structure 60ii (group **11062**) represented the largest and most complete roundhouse at Woodside. The structure had a 2.2m-wide east-facing doorway and comprised hurdle trenches **449=25554** and terminal **25573**, which had an internal diameter of 14.3m. The flat trench base was lined with numerous post-packing stones set within the dark brown clayey silt fill (**450=25555**), which contained a single sherd from a Pre-Roman Iron Age or Early Roman period jar. This iteration of the structure was associated with a posthole (**25568**), which was adjacent to the northern terminal of gully **25554** and was perhaps the setting for a door post or jamb. The fill (**25569**) of the posthole contained alder, hazel and oak charcoal with some unidentifiable burnt animal bone, while a small quantity of pomaceous charcoal was recovered from fill **25574** in the northern terminal, all of which was representative of occupation debris incorporated once the posts and hurdles had rotted or been removed in preparation for refurbishment. The structural trenches were concentric and probably contemporary with a continuous outer drip gully (**459=25546**), which had an unusually large diameter of 18.5m. It was filled with dark brown silty clay (deposit **25547**), which produced a very small amount of bituminous or anthracite coal that may have been fuel, although this also occurs naturally in the region. Sherds from the rim of a barrel jar of Pre-Roman Iron Age or Early Roman date were also recovered, as well as some charcoal and charred goosefoot seeds, all of which are demonstrative of habitation. To augment the drip gully's capacity for draining water away from the structure, a small gully **25550** ran down-slope from its outer edge and was possibly a later modification.

Structure 60ii was cut by L-shaped feature **25575**, which was truncated to the east by a modern service trench. This stone-packed feature resembled a foundation and produced a rim sherd and four body sherds, probably all from a single Iron Age jar (Cumberpatch, Chapter 5). The feature appeared to enclose the earlier semi-circular feature (**25577**), both presumably components of a feature located inside Structure 60ii, such as an oven. A fragment of oak charcoal from fill **454** of the L-shaped feature provided a radiocarbon age of 753–408 cal BC (95.4% probability; SUERC-39621). The broad date range caused by a plateau in the calibration curve potentially suggests a rare example of Early to Middle Iron Age structural remains, yet being of uncertain provenance, the material was possibly residual and possibly earlier than the occupation. The sample may also be misleading because of the 'old wood' effect caused by dating structural(?) oak. Another example of this phenomenon came from hollow **466** inside the circuit of the structures. This feature could not be attributed to any particular phase of occupation, nor could its function be ascertained, but fill **465** contained oak charcoal that provided a Middle Iron Age radiocarbon date of 382–186 cal BC (95.4% probability; SUERC-39627). In combination, the radiocarbon determinations suggest that occupation at Woodside was certainly Middle Iron Age in origin, while the pottery sherds and sequence of rebuilding suggests that habitation continued into the Late Iron Age.

Structure 60iii was tentatively represented by gully **25562**, which followed the same arc as **25546** (Structure 60ii), perhaps representing no more than a partial refurbishment of the drip gully, although its wider circumference suggests that the diameter of the roof may have been extended slightly. It was superseded by Structure 60iv (group **11063**), a new construction represented by hurdle trench **451**=**25564** with a projected diameter of c.12m and a probable east-facing doorway that was at least 2.7m wide. A group of stakeholes occupied the centre of the hurdle trench, where burnt daub and charcoal in fill **25565** presumably derived from in-situ combustion of the hurdle (Fig. 2.5). A small assemblage of unidentifiable burnt animal bone was also recovered, along with fragmentary pottery sherds and part of a sandstone rubber (Cat. no. 864) from a saddle quern, representing the use of early prehistoric technology in the production of food (Cruse, Chapter 6). Some heat-affected pottery included a sherd from a Pre-Roman Iron Age or Early Roman jar found within fill **452** of gully **451** (Fig. 2.4). The combined evidence suggests that the structure had burnt down and was replaced by Structure 60v, which survived as trench **25566** and was the final iteration of the roundhouse. It followed the same arc as Structure 60iv (group **11063**) but had been substantially cut away by later features and had no identifiable north-eastern counterpart.

Inside the footprint of the roundhouses, there was an indecipherable collection of 28 pits and postholes that must represent numerous phases of structural uprights, although no discernible pattern was evident, nor were there many provable associations with particular hurdle trenches or drip gullies. Two excavated examples (**25556** and **25572**) contained charcoal flecks and displaced post-packing stones, presenting evidence of a practice commonly used for securing posts. However, it was notable that no post pads were evident despite their incorporation into the nearby roundhouses at Gatherley Villa, Selgarth Farm, Scotch Corner (see below and Chapter 3), and also possibly at Melsonby (Fitts *et al.* 1999, 12–13).

South of the roundhouses at Woodside, the western corner of an Iron Age field survived as infilled boundary ditches and gullies (groups **25579**, **25580**, **25581** and **25582**) and as geophysical anomalies outside the excavation area (Figs 2.3 and 2.6). The south-east to north-west aligned field corresponded to a linear geophysical anomaly north of the roundhouses, which was interpreted as a contemporary field boundary, placing Structures 60i–v inside a field that was contiguous with another to its south. The north-west side of the southern field was represented by ditch group **25582**, which was on average 1.9m wide by 0.6m deep, with a V-shaped profile. The south-west side survived as ditch group **25581**, which was on average 1.1m wide by 0.2m deep and contained two sandy silt fills with charred plant remains. Ditch group **25581** truncated a shallow gully (group **25580**), which followed a similar course and measured 0.27m wide by 0.1m deep and contained a small assemblage of Pre-Roman Iron Age or Early Roman period pottery in fill **25540**. A parallel gully (group **25579**) extended for c.18m from the western edge of the excavation to its terminal and measured 0.35m wide by 0.05m deep. The varying forms presumably represented successive reworkings of the boundaries during the lifespan of the field.

Inside the field, a small posthole or pit (**25543**) adjacent to gully **25579** measured 0.18m in diameter, while a

*Figure 2.5: Woodside: burnt daub in Structure 60iv hurdle trench **451**=**25564**.*

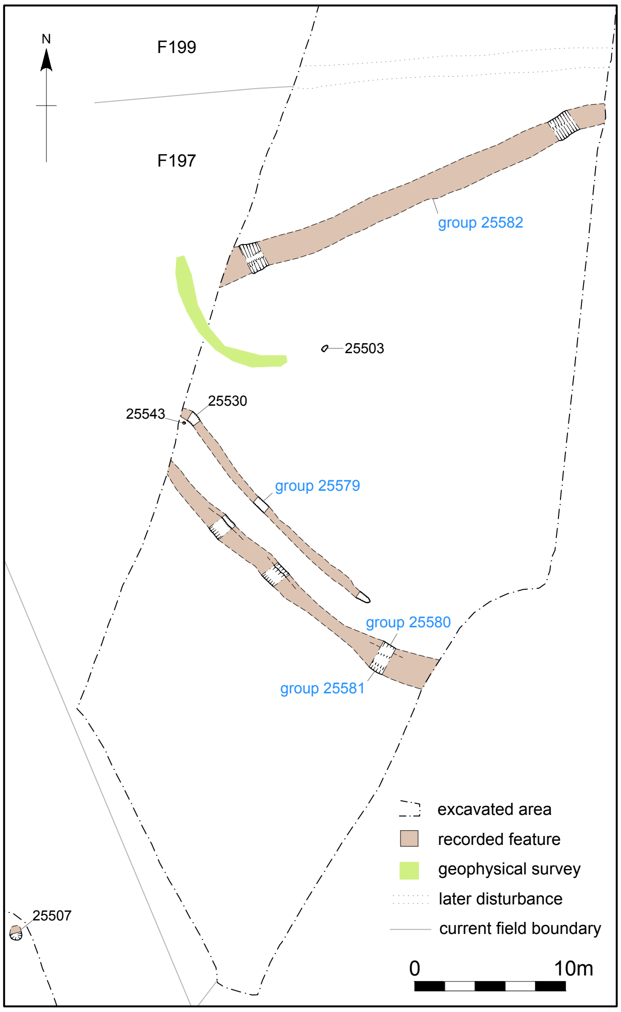


Figure 2.6: Woodside: field boundaries south of Structure 60i–v.

second, larger posthole (**25503**) was oval in plan and measured 0.5m by 0.25m (Fig. 2.6). Its fill (**25504**) included charred remains of red elderberry, speedwell, and pigweed, which may have been a remnant of fodder. The small assemblage recovered from posthole **25503** indicates small-scale early-stage cereal processing, while the speedwell could suggest that autumn-sown crops were being cultivated (Baines, Chapter 8). Paired with an absence of cereals and chaff, the presence of arable weeds and the fragment of quern (Cat. no. 864), this suggests local processing and domestic cooking waste at least during the penultimate phase of occupation at Woodside. Similarly, the small assemblage of unidentifiable burnt animal bone adds little to a coherent understanding of the economy, although considered with the field systems to north and south, the evidence suggests that mixed arable and pastoral regimes were employed by the inhabitants.

The successive roundhouses at Woodside probably represent occupation spanning several generations, with fluctuations in the building size and entrance widths that reflect changing requirements, traditions, or availability of resources. The comparatively large size of its early iterations corresponds with that of a broadly contemporary structure at Selgarth Farm (see below) and fits the regional model of larger diameters in the Middle to Pre-Roman Iron Age (Sherlock 2012, 53), but this pattern is far from universally proven. Fragments of charcoal recovered from Structures 60i, 60iii and 60iv indicate that oak was favoured as a building material and/or fuel, but alder, ash, hazel, stonefruit species, guelder-rose, dogwood and a few native herbs were also locally available and represent an unmanaged and diverse woodland environment that was yet to be cleared and dedicated to agriculture. The presence of dogwood suggests opportunistic fuel collection rather than dedicated hardwood exploitation. No signs of coppicing or woodworking were evident, which mirrors the model proposed for Gatherley Villa (see below and Baines, Chapter 8). The small assemblage of hazel, stonefruit and pomaceous wood indicates the presence of hedges in the vicinity, which supports the proposal for a contemporary field system that may not, in every instance, have been defined by earthworks.

The compact Late Iron Age settlement at Gatherley Villa included up to seven contemporary structures with varying forms and attributes (Figs 2.7 and 2.8). Although the pottery assemblage was very small and restricted to traditional hand-built wares, other artefactual and environmental evidence made it possible to determine some of the building materials used and activities performed therein. In particular, Structure 64 appears to have been a small non-domestic building with a stone foundation, and Structure 66 was evidently the site of small-scale iron-smelting and smithing, probably in addition to its primary domestic role. Although Gatherley Villa was essentially an open settlement, Structures 61, 64 and 66 were associated with narrow gullies, which were interpreted as insubstantial fence-lines that appeared to divide areas around and between them, perhaps designed in part to help with the management of small livestock inside the settlement. The diminutive animal-bone assemblage was mostly comprised of loose teeth, underlining the poor preservation across the site. Those remains that survived belonged to sheep or goats, cattle and pigs, as would be expected during this period (Wright, Chapter 8), while fragments of unidentifiable burnt bone came from Structures 62, 63, and 65, all of which were interpreted as dwellings. Due to the poor survival of animal bone, further details of the pastoral regime remain elusive (*ibid*.).

At the south-east corner of the settlement, putative Structure 61 (group **11466**) comprised a heavily truncated trench with a curved western end and a straight north side that continued eastward beyond the excavation area (Fig. 2.8a). Its steep-sided U-shaped form suggests that it housed narrow upright timbers in the manner of a palisade, perhaps the source of the oak and alder charcoal in fills **11479** and **11481** should the structure have burned, though other origins remain possible. The south side of the trench curved sharply northwards before terminating, creating an elliptical space with no surviving internal features. Structure 61 was approximately central to two parallel west—east gullies (**11520** and **11502**=**11508**); the latter feature had similar dimensions and form to the structural trench and extended across the excavation area before turning a right-angle northward (Fig. 2.7). It was interpreted as an insubstantial fence-line with the apparent purpose of partially enclosing Structure 61 in a c.25m-wide space, though the turn also suggests a possible association with Structure 66 to the north. Given the size and shape of Structure 61, and the complete absence of artefacts, it seems unlikely to have been associated with human habitation, and possibly functioned as a small stockade at the periphery of the settlement, although for which species of poultry or livestock remains unclear.

At the south-west side of the settlement, in an area heavily truncated by a modern access road, Structure 62 was located at the end of a row that included Structures 63, 64 and 65 (Fig. 2.9). The surviving remains of Structure 62 comprised a single-phased penannular trench or gully (group **6451**) with an internal diameter of 9.1m, measuring 0.52m wide and 0.25m deep, and incorporating a 1.2m-wide east-facing entrance (Fig. 2.8b). A posthole (**11428**) had been cut into the infilled gully near the south-facing terminal, presumably as a structural addition, but no interior structural features survived, which perhaps suggests that timbers were supported on post pads that have since been removed, and that the penannular feature was in fact a hurdle trench. Unusually for Late Iron Age remains on the A1 scheme, the charcoal assemblage from the trench was predominantly willow or poplar (from **6461**, **6485** and **6488**) with much smaller proportions of hazel and oak. This selection may reflect preference, but it is unclear why willow or poplar surpassed hazel and oak for

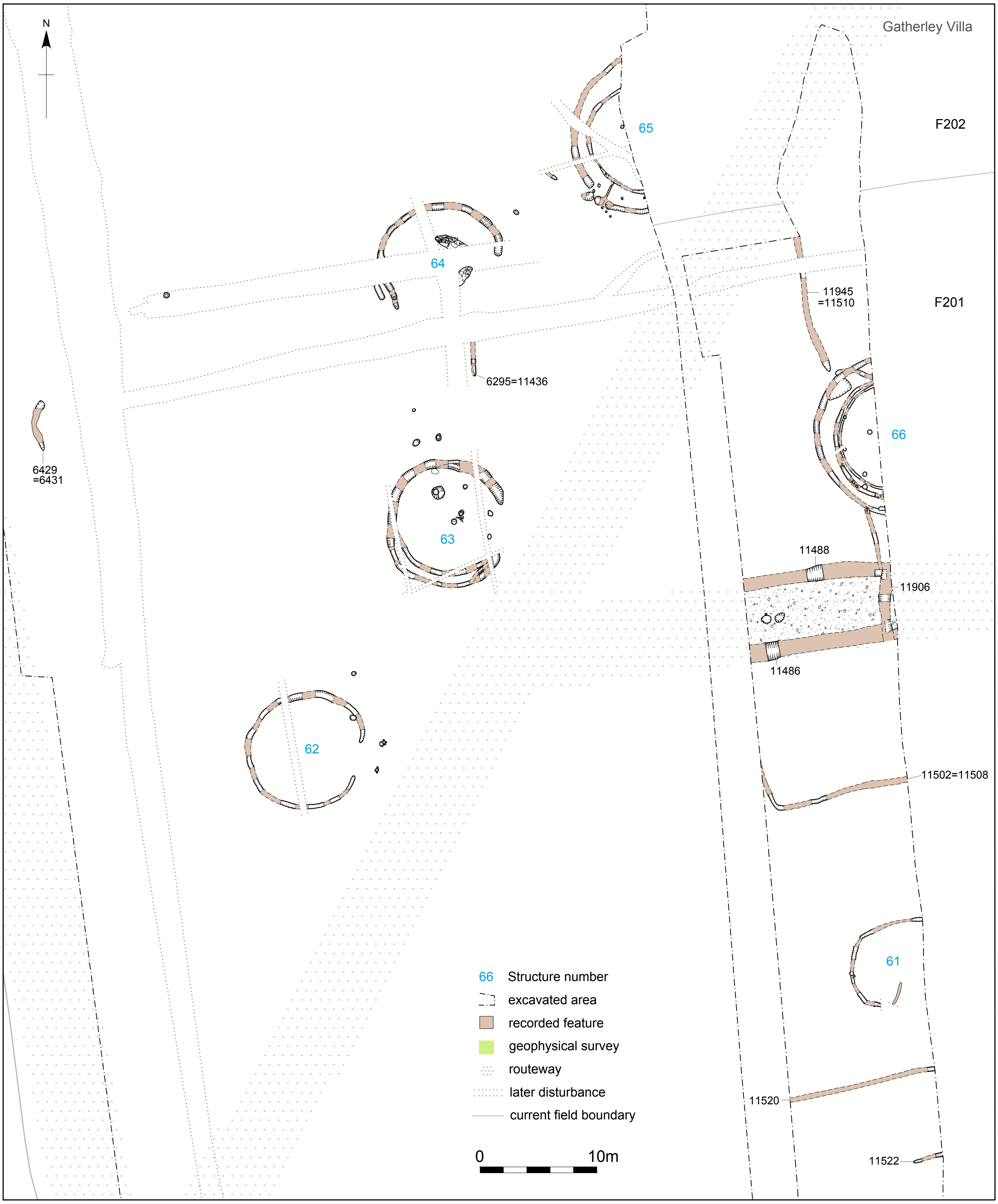


Figure 2.7: Gatherley Villa: settlement plan.

burning. What seems more likely is that they represented the most convenient resource at the time.

Outside the penannular trench or gully, five stakeholes were clustered around postholes **6497** and **11419**, approximately 2m to the east of the entrance (Fig. 2.10). The features were probably remnants of the only roundhouse porch at Gatherley Villa and they corresponded to the terminals of the penannular gully, effectively supporting the case for it being associated with the structure rather than drainage (Fig. 2.8b). The small amount of heather and oak charcoal from fill **11402** of the penannular gully feasibly represented thatch or kindling, and might be similarly interpreted at Structure 63, the drip gully of Structure 64, and the hurdle trench of Structure 65. As at Woodside, oak dominated the charcoal assemblage, but ash, poplar and willow also featured at Gatherley Villa, presumably as both building materials and fuel. The presence of field maple, guelder rose, hazel, stonefruit, bird cherry, and alder suggests

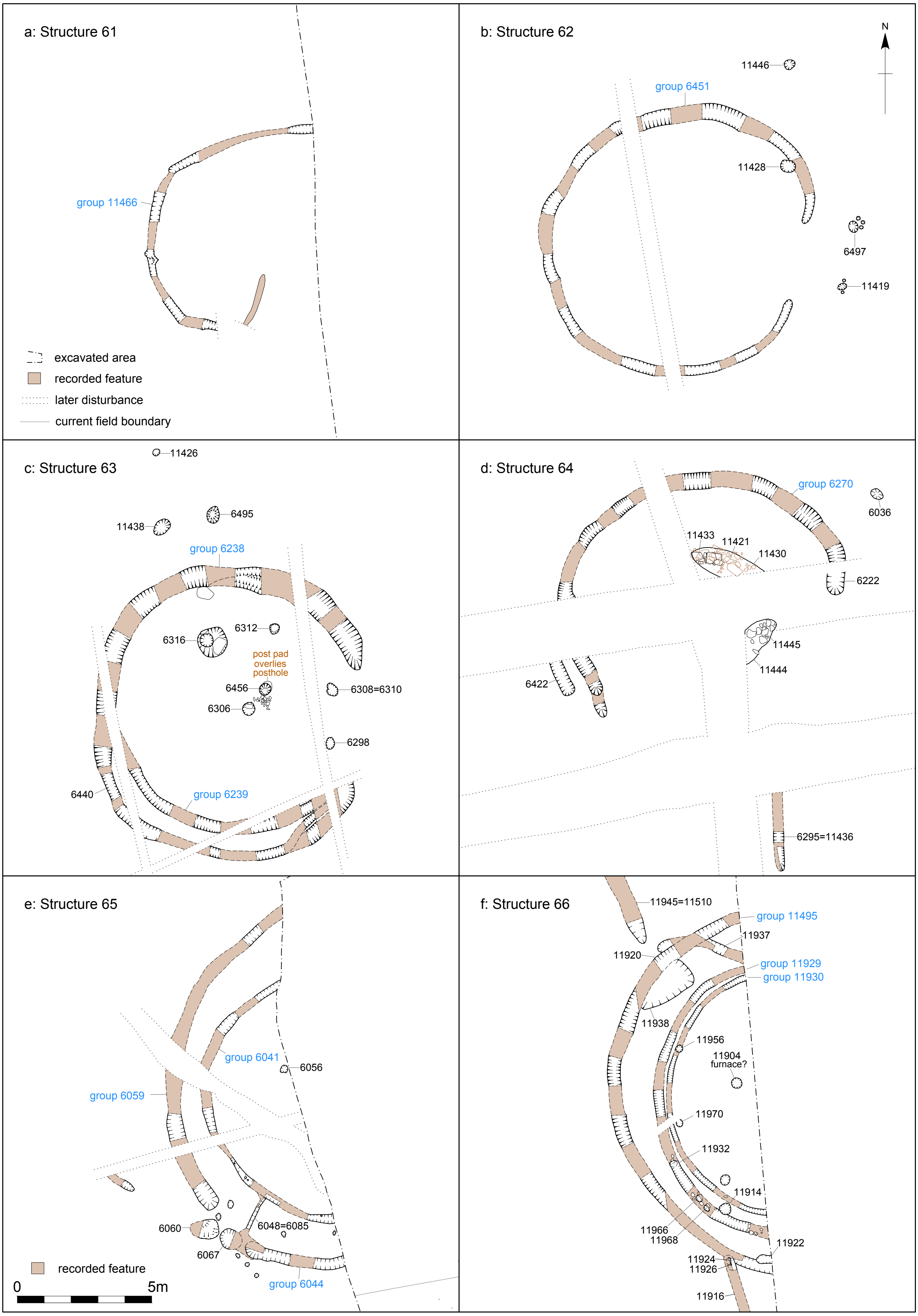


Figure 2.8: Gatherley Villa: Structures 61–66.

Figure 2.9: Gatherley Villa: Structures 62–64, facing north-east.

that wood was gathered from the surrounding area, representing its diverse and mature floral range (Baines, Chapter 8).

Survival of organic remains was generally poor in Structure 62 and restricted to small quantities of unidentifiable burnt or calcinated animal bone retrieved from fills **6461** and **6485** of the penannular gully, and from fill **11447** in posthole or pit **11446**, which was located a short distance to the north of the entrance (Fig. 2.8b). The meagre remains of consumption and discard were certainly diminished by taphonomic processes, but also suggest that refuse was removed from the dwellings, perhaps to an undiscovered midden and/or used for soil improvement rather than being disposed of in dedicated pits, which were notably absent at the settlement.

Structure 63 was located 12m to the north-east of Structure 62 and 12m south of Structure 64 (Figs 2.7 and 2.8c). The penannular drip gully (group **6238**) had been refurbished on at least two occasions and, in common with Structure 62, had internal diameters between 9m and 9.5m. There may also have been an inner structural trench (group **6239**), although this converged with the outer gully and may simply have been a phase of redefinition. The penannular drip gully had a c.4m-wide east-facing entrance, with two small postholes (**6308**=**6310** and **6298**) spaced centrally within the aperture, presumably representative of the structure's 1.5m-wide doorway (Fig. 2.11). The charcoal assemblage mostly consisted of oak, but examples of poplar or willow, heather, hazel, elm, ash, and guelder rose demonstrate exploitation of diverse resources, with the rare addition of conifer of unknown species.

Small fragments of mostly unidentifiable animal bone from fill **6230** in the northern terminal (**6228**; Fig. 2.8c), and from **6269** and **6272** of Structure 63 were generally burnt or calcinated and presumably represented discarded food waste (Wright, Chapter 8). Additional evidence for food production comprised hazelnut shells in fills **6269** and **6272** in the northern arc of the drip gully, and six spelt grains in fill **6268**, which signified either less corrosive soil, or more liberal disposal of refuse

Figure 2.10: Gatherley Villa: Structure 62, facing north-west.

around the structure (Baines, Chapter 8). A small deposit of coal in fill **6252**, near the southern terminal, could be either natural or represent a source of fuel, although the low volume of coal found across the settlement points to natural occurrence and deposition, rather than systematic gathering and exploitation (Baines, Chapter 8).

Several postholes inside the structure yielded no dateable artefacts. However, large packing stones or disturbed pad-stones were found within or adjacent to **6312**, **6316**, and **6456**, while **6306** was packed with stones to form a post pad (Fig. 2.8c). A large flat stone on the inner edge of the drip gully may also have once performed a structural function. Two large stone-packed postholes or pads (**11438** and **6495**) to the immediate north of the structure each measured 0.50m by 0.40m, with another smaller example (**11426**) further north. Their proximity to Structure 63 suggests some association, or perhaps an ancillary building or lean-to. Given the proportion of examples, it seems reasonable to suggest that the primary method for setting posts was on stone pads, which survived better in Structure 63 than those proposed for Structures 62, 65 and 66, where their absence may be the result of comprehensive truncation.

Structure 64 was the third building in the row (Figs 2.8d and 2.12). Its form differed obviously from the roundhouses to its south-west, although with an internal span of 9.7m, the drip gully was comparable to those of Structure 62 and 63, while Structures 65 and 66 were both larger. The putative southern arc of the drip gully was heavily truncated by a Roman boundary (see Chapter 4), while the surviving northern portion comprised a semi-circular-shaped gully (group **6270**), which was c.0.55m wide by 0.25m deep. A second possible terminal of the drip gully (**6422**) was recorded to the west, indicative perhaps of an episode of redefinition or a separate external feature. The south-facing terminal on the eastern arc (**6222**) appeared to represent a genuine entrance break, with a south-east aspect that corresponded broadly to those of Structures 62 and 63, and potentially also Structures 65 and 66. The vestiges of a possible curving gully (**6399**; not illustrated), perhaps a remnant of the penannular gully, was preserved beneath the later west–east ditches mentioned above, and a single posthole (**6036**) was located outside the drip gully to the north-east, much like the arrangements at Structures 62 and 63.

The unusual component of Structure 64 was a stone wall foundation (**11421**, **11430**, **11433, 11444** and **11445**; Fig. 2.13). With a circumference of only c.3–4m, it had a south-east facing entrance that corresponded with that proposed for the enclosing drip gully. The northern of two surviving segments of the wall comprised two courses of flat stones set in shallow 1m wide by 0.25m deep flat-bottomed wall trenches (**11430** and **11444**; Fig. 2.8d). It is possible that the stone walls continued to the roof (assuming one was present), but more likely that they acted as foundations for upright timbers in the manner of a post pad, a method observed at both Scotch Corner

Figure 2.11: Gatherley Villa: Structure 63, facing west.

Figure 2.12: Gatherley Villa: Structure 64, facing north-west.

(see below and Chapter 3), and Stanwick (Haselgrove 2016, 78–89). The soil component (**11432**) of the wall foundation contained an undiagnostic worked flint flake and sherds of Pre-Roman Iron Age or Early Roman pottery. Aside from these, some flake hammerscale in fill **6225** of posthole **6224**, located within the northern arc of the drip gully, could have innumerable sources, but Structure 66 is most likely (see below). The small volume of metalworking debris is insufficient to conclude that Structure 64 was associated with iron smithing, but its unusual form and the presence of flake hammerscale are suggestive of a connection, perhaps an indication that Structures 64 and 66 were active simultaneously, marginally before, or after the other structures.

The only environmental remains in Structure 64 were a typical mix of charcoal, including heather, ash, alder, hazel, oak, stonefruit, but no charred plant remains or cereals. The environmental evidence, therefore, was not indicative of a single function. Its size comfortably rules out human habitation, particularly when larger, more suitable structures formed the greater part of the settlement. A short fence-line (**6295**=**11436**) extended south from the projected southern arc of Structure 64, approximately parallel with fence-line **11945**=**11510** c.28m to the east (Fig. 2.7). Its form was consistent with those around Structures 61 and 66, and its purpose was also presumably to divide and define areas in the settlement; alternatively, it could have been a gully positioned to drain water away from the drip gully, as at Woodside (above).

At the northern end of the settlement, only 8.5m from Structure 64, Structure 65 was notably different in form and size to the structures in the row to the south-west (Fig. 2.8e). Like Structure 66 to the south-east, it had a larger span and included recognisable hurdle trenches dug into the natural clay. Approximately half of the roundhouse was exposed, with the remainder beyond the excavation to the east; thus, any entrance must have been on that side (Fig. 2.14). The evidence for load-bearing timbers comprised a single small posthole (**6056**) inside the structure, though much of the interior had been badly truncated. Consequently, the arrangement of posts could not be determined, and it seems likely that many of the structural timbers rested on stone post pads that have long-since been removed. The inner hurdle trench (group **6041**; Fig. 2.8e) measured c.0.40m wide, 0.20m deep and was 9.5m in diameter (the same as the drip gullies of Structures 62–64). The charcoal assemblage from the roundhouse came primarily from this trench and was dominated by oak, which could represent the hurdle uprights burnt in situ, or fuel from a domestic hearth brushed to the wall. Fill **6039** in the inner hurdle trench contained fuel waste or part-burned coal that either came from the building's hearth or was a redeposited natural component. Part of a single small cockle shell from fill **6083** was a very rare example of marine life at the settlement. It was considered unlikely to have been transported as a foodstuff and was probably brought to the site by a bird or in the stomach of a larger marine animal (Russ, Chapter 8).

Following a radius c.1.3m wider than the structural trench, the drip gully (groups **6044** and **6059**) was 0.37m wide and 0.25 deep with an internal diameter of 12.7m (Fig. 2.8e). The fill (**6043**) of gully **6042** (group **6044**) contained some burnt animal bone of uncertain species

Figure 2.13: Gatherley Villa: Structure 64 with stone wall foundation, facing north-east.

Figure 2.14: Gatherley Villa: Structure 65 pre-excavation, facing north-east.

but was otherwise devoid of artefacts. In addition to the main structural components, there was an intriguing arrangement of features on the south-west facing part of the roundhouse, which included a narrow linear gully or trench (**6048**=**6085**) that extended between the structural trench (group **6041**) and drip gully (group **6044**) adjacent to a narrow causeway, presumably once housing a hurdle that connected the inner wall with a post. Clustered around these conjoined features was a group of postholes and stakeholes representing an L-shaped or possibly rectangular feature with some relationship to the causeway in the drip gully (groups **6044** and **6059**). Two larger shallow pits or post settings (**6060** and **6067**) were also recorded at the causeway. The primary fill (**6062**) of pit **6060** yielded coal, hazelnut shells, and a small quantity of fired clay derived from a high-temperature process, such as metalworking, perhaps representing residue from activities undertaken in Structure 66, although no hammerscale was evident. Additional residue from ironworking was residual in a Roman boundary ditch to the immediate south of the structure (see Chapter 4), and also potentially derived from Structure 66. Similar arrangements of features are little known and understood, although a potential parallel has been recently discovered at East Wideopen in North Tyneside where a grain of charred spelt has been radiocarbon dated to 40 cal BC–cal AD43 (Pratt and Zockowski 2019).

The only opportunity to obtain a radiocarbon date at Gatherley Villa came from a barley grain in fill **6079** of the outer drip gully (group **6059**) of Structure 65. The excavator's concern over animal burrowing was reinforced by the determination of cal AD130–340 (95.4% probability; SUERC-83946). Given the total absence of Roman pottery from the fills of features at Gatherley Villa (despite its proximity to the fort and *vicus* at *Cataractonium*), the open nature of the settlement and its subsequent bisection by a rectilinear roadside field system, it seems that either the feature experienced an improbably protracted period of infilling or the grain was intrusive from Roman agricultural fields, rather than relating directly to occupation of Structure 65 (see Chapter 4).

Structure 66 lay 20m to the south-east of Structure 65 and displayed many common attributes, including its size (Fig. 2.8f). Like Structure 65, it is likely to have been a dwelling, but was also the scene of small-scale ironworking, which created by-products that were buried intentionally in a pit and accidentally became incorporated into backfilled features associated with Structure 66, and perhaps others further to the north-west. Another similarity with Structure 65 was the abundance and dominance of oak charcoal in the structural features, which clearly represented a preference, given the evident availability of other wood species. The structural remains included two concentric hurdle trenches (groups **11929** and **11930**) spaced 0.1m–0.3m apart (Fig. 2.15). The outer hurdle trench (group **11929**; Fig. 2.8f) was 10m in diameter, measured 0.35m wide by 0.3m deep, and contained a small quantity of hand-built pottery of the Iron Age tradition (Cumberpatch, Chapter 5), along with a large quantity of packing stones, one of which was a very rare reused sandstone saddle quern (Cat. no. 865) from deposit **11931**. The undamaged quern was of a type with antecedents in earlier prehistory, demonstrating continuity of the technology employed by the indigenous population. Its location and unbroken form perhaps suggest reverential treatment, signifying a placed deposit (Cruse, Chapter 6), as was proposed for a saddle quern placed in the ring-gully of building CS5 at the Tofts, Stanwick (Haselgrove 2016, 97–8; 107). At Gatherley Villa, however, simple expedient reuse as a building material remains the preferred interpretation. Fragments of vitrified hearth lining and undiagnostic ironworking slag had also found their way into fill **11947** of the outer hurdle trench. Three small postholes (**11932**, **11966** and

Figure 2.15: Gatherley Villa: Structure 66, facing east.

11968) had been cut into the trench fill at the south-west part of its circumference and were presumably remnants of posts incorporated into the hurdle walls of the structure for additional support.

The inner hurdle trench (group **11930**; Fig. 2.8f) was 0.2m wide and 0.2m deep and contained undiagnostic ironworking slag in fills **11950** and **11953**. Once infilled, the hurdle trench had been cut by a posthole (**11956**), although how this fitted with the structure was unclear. Three internal postholes (including **11970** and **11914**) were close to the walls and presumably housed structural timbers. Whether the walls were contemporary, or one was a replacement of the other, remains unanswered. However, if the former scenario explains the concentric features, then maybe they provided a double-skin wall with a cavity that could be insulated. This attribute is well-attested in the stone-built Iron Age structures of Atlantic Scotland but is currently unknown in timber and hurdle structures in the region around Scotch Corner, and perhaps represents a newly recognised vernacular building form.

Structure 66 was encircled by an outer drip gully (group **11495**), which was 0.5m wide and 0.2m deep, with evidence of this being recut (**11922**) observed at its southernmost point. Gully **11916**, which followed the same alignment as gully **11945=11510** to the north, cut the infilled drip gully to the south-west of the structure. Its function was not clear, though a small posthole (**11924**) and stakehole (**11926**) had been cut into its infilled terminal, indicating that it could have been a fence-line associated with a modification to the structure.

The northern part of the drip gully incorporated a large sub-oval pit (**11938**), which measured 2.2m long by 0.45m deep, with a base that sloped gently from south-west to north-east (Fig. 2.8f). Three distinct fills were excavated; the primary deposit (**11939**) consisted of a thin layer of redeposited natural clay derived from erosion to the sides of the feature, which suggested that the pit had been left open or was used for a period of time before being backfilled. Above this, the secondary fill comprised a 0.15m-deep deposit of silty clay (**11940**) that contained hazel, oak, and ash charcoal with an iron-smithing hearth bottom, flake hammerscale, a possible redeposited furnace bottom, undiagnostic ironworking slag, vitrified hearth lining, cinder, charcoal, and heat-affected stone. Overlying **11940** was an upper fill of sandy/silty clay (**11944**) with fired clay derived from metalworking or another high-temperature process, vitrified hearth lining and some ferruginous concretion (Mackenzie and Starley, Chapter 7). The pit, therefore, seems to have been used primarily as a receptacle for metalworking waste. Next to pit **11938**, deposit **11919** in drip gully **11920** included fragments of undiagnostic ironworking slag and an iron lump or artefact, and **11943** contained fired clay from metalworking or another high-temperature process. Similarly, c.1m to the north-west, the terminal of a south–north fence-line or narrow gully (**11945=11510**) included a single deposit of sandy/silty clay (**11946**), with undiagnostic ironworking slag. No ironworking residue came from gully **11937**, which pre-dated Structure 66.

The probable origin of the ironworking residue was feature **11904**, located near the centre of Structure 66 (Fig. 2.8f). This circular bowl-shaped feature with scorched natural clay sides appeared to be the base of a small furnace. It contained a single charcoal-rich deposit (**11905**) with oak and ash, the only example of the latter species in Structure 66. The deposit incorporated fayalitic run slag, undiagnostic ironworking slag and spheroidal hammerscale from iron smithing (Mackenzie and Starley, Chapter 7). The combined 6kg assemblage of ironworking debris from pit **11938**, ditch terminal **11945** and furnace **11904** suggests that the three features all relate to a single episode of iron smelting, although the quantity of debris present was small, less perhaps than might be expected from a smelting operation. This may be due to the lack of stratified deposits, particularly working floors, or because other material lay to the east of the pit, beyond the excavated area. Based on the amount of material recovered, iron production does not appear to be a major economic activity for the inhabitants (*ibid.*), but was more likely an attempt to produce or mend equipment required for domestic use or farming. This isolated example of pre-Roman ironworking was sufficiently rare to raise the question of whether it was part of the local repertoire, or perhaps technology mastered by an itinerant specialist.

While the ironworking residues probably represented a single episode of smelting and smithing, tiny amounts of flake hammerscale had moved as far away as Structure 64 (see above), and at the west side of the settlement in fill **6430** of a short section of curving gully (**6429=6431**) with animal bone, fuel and fuel waste (Fig. 2.7). This heavily truncated feature could plausibly represent the vestiges of a small penannular structural gully with a c.2.8m diameter, comparable with that of Structure 64, yet this could not be established certainly. Unusually, the scant remains of deposit **6430** also contained a single gram of yew charcoal. Although this tree is native to Britain, it is not a common forest component, and probably represents either the remains of a charred artefact or originates in mixed broadleaf woodland, perhaps distant from the settlement (Baines, Chapter 8).

To the immediate south of Structure 66, two substantial parallel west–east ditches (**11486** and **11488**) represented the side ditches of a trackway (Fig. 2.7). They were a maximum of 1.5m wide and 0.4m deep, but diminished to nothing further west, as did the surviving patches of aggregate found between them. A piece of worked flint, an iron object and some coal were found in fill **11487** of the southern ditch with some fuel or fuel waste, possibly derived from metalworking in Structure 66. Another undiagnostic iron object was found in the fill (**11490**) of ditch **11488**. Once silted up, the ditches had been cut by a post-medieval north–south ditch (**11906**), which measured 1.4m wide and 0.3m deep and appeared to continue the alignment of gully **11916** between the trackside ditches. Its primary fill (**11963**) included a fragment of a jet ring bead (Cat. no. 739), which was insufficiently diagnostic to describe as indigenous or Roman (Foulds, Chapter 6). If contemporary, it would be the only evidence for personal adornment and luxury objects of any type at the settlement. During machine stripping of subsoil near the structures a finely made countersunk pierced sandstone disc (Cat. no. 772) was discovered. Such objects were produced in both the Iron Age and Roman periods and are usually interpreted at spindle-whorls for the production of thread, and sometimes as tallies, accounting tokens, or line weights (Croom, Chapter 6). Like the evidence for iron smelting and smithing, the probable spindle-whorl provided a rare insight into some of the activities undertaken as part of daily existence at the Gatherley Villa during the Late Iron Age.

Oak Grange (Field 263), Moulton Hall (Fields 207 and 208) and Scurragh House (Fields 209, 210, 211)

As at Woodside, the pre-Roman landscape around Oak Grange, Moulton Hall and Scurragh House was divided by boundaries aligned obliquely to the corridor of Dere Street and the current A1 (Fig. 2.16). These features included a series of south-east to north-west recut ditches (**7998**, **11792**, **11788** and **10731/10738**) in Fields 207, 208 and 209, and five south-west to north-east aligned

Figure 2.16: Moulton Hall, Oak Grange, and Scurragh House: ditched boundaries.

ditches (**11699**, **11701**, **11708**, **11690**, and **11692**) in Fields 209 and 211. The ditches were a maximum of 1.75m wide and 0.50m deep, and apart from the ditch terminal in Field 209, they extended beyond the limits of excavation. All the boundaries appeared to have infilled naturally and contained no dateable finds, making their dates impossible to determine, though they potentially have their origins in much earlier alignments that persisted into the Iron Age. The southernmost boundary in Field 207 (**11786**) followed a markedly different alignment from **11792** (though similar to 11788 in Field 208), and was perhaps of earlier origin, while two parallel and undated ditches at Oak Grange (groups **11626** and **11627**) on the western side of the A1, opposite Field 207, may also pertain to early prehistoric activity that influenced the alignments of boundaries up until the Roman conquest (Speed in prep.).

Selgarth Farm (Fields 213, 214, 215)

On a plateau at Selgarth Farm, the well-preserved subterranean remains of a large roundhouse (Structure 67; Fig. 2.17) were set within a rectilinear enclosure that fronted the sinuous Iron Age south–north routeway (RW1; Fig. 2.1). A small watercourse that ran from north-west to south-east a short distance to the east of the fields was the canalised form of a palaeochannel, which extended to the rear of the enclosure to the south-east as a linear geophysical anomaly, and perhaps delimited its eastern side (Fig. 2.17). The enclosed form of the settlement and close association with routeways shared more in common with nearby Bedale site 58; PCA 2017), Scotch Corner (Enclosure 7, site SCA15; Zant *et al.* 2013b; see Chapter 3), Rock Castle (Fitts *et al.* 1994; Haselgrove 2016) and around Melsonby and Stanwick (see Chapter 1) than the open settlement at Woodside and Gatherley Villa. There were, however, strong parallels in terms of the natural resources represented in the environmental remains, which reflect similarities in the immediate environment and patterns of exploitation. Another partial drip gully arguably represented an earlier roundhouse (Structure 68) that was almost entirely truncated but was apparently situated in an open landscape before enclosure was deemed desirable or necessary.

The penannular drip gully (group **7513**) of Structure 67 had an internal diameter of c.12.7m (Figs 2.18 and 2.19), which was almost identical to that of the earliest roundhouse (Structure 60i; Fig. 2.4 above) at Woodside, with both potentially occupied at a similar time. It measured up to 1.2m wide by 0.6m deep on the southern arc, whereas truncation by ploughing had caused it to be shallower and narrower on its northern arc, perhaps also removing any deposited artefacts in the process (Fig. 2.19). The south-east facing entrance was 5.4m wide and corresponded to a 2.9m-wide doorway in the hurdle trench (group **7660**). With a diameter of c.9.6m, the hurdle trench was typically 0.1m deep, with steep or vertical sides that displayed no sign of refurbishment. Three surviving postholes (**7450**, **7560**, and **7427**) marked the corners of an approximately square framework of substantial upright posts that probably supported

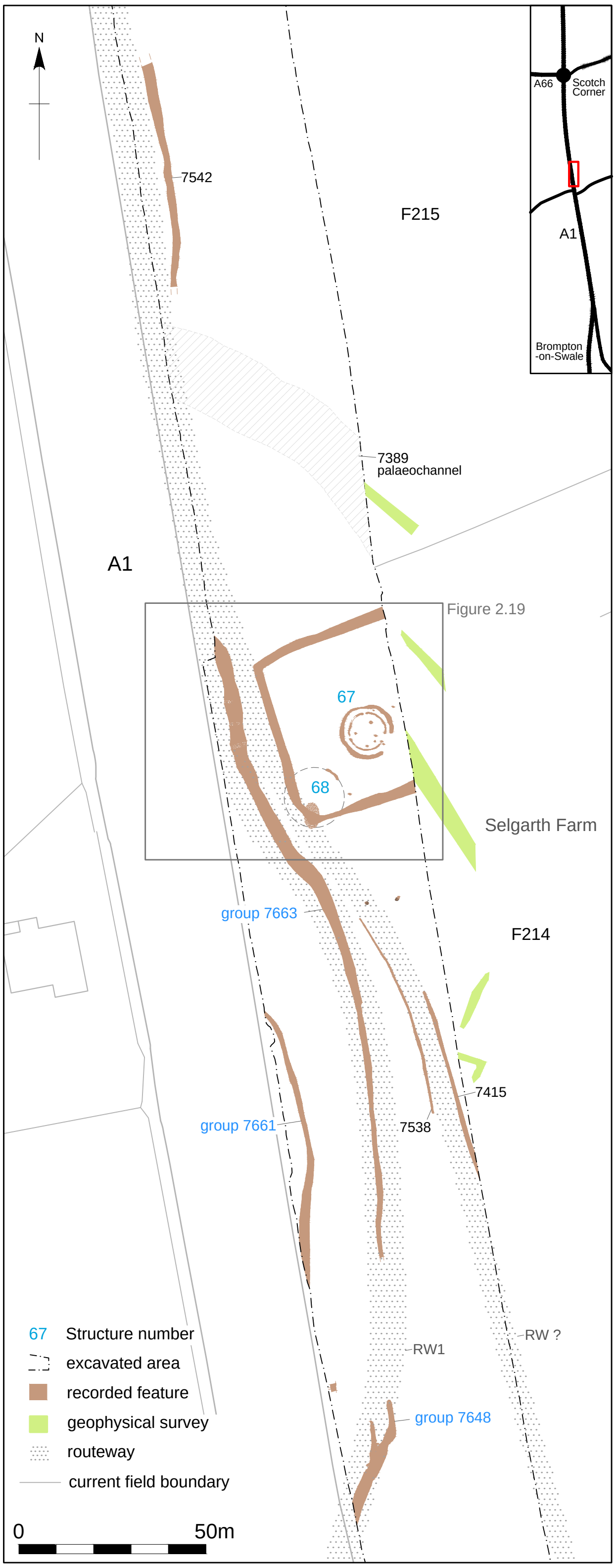


Figure 2.17: Selgarth Farm: plan of features.

a roof; a fourth setting has presumably been lost to truncation. As at Gatherley Villa and Scotch Corner, it seems likely that some posts rested on stone pads, now lost to ploughing. Four other postholes clustered near the entrance were probably associated with the doorway and internal divisions. The coherent and ordered remains of the roundhouse arguably represent a single phase of construction, or a final phase that erased earlier traces. With its distinctive hurdle trench and penannular drip

Figure 2.18: Selgarth Farm: Structure 67 facing north-west.

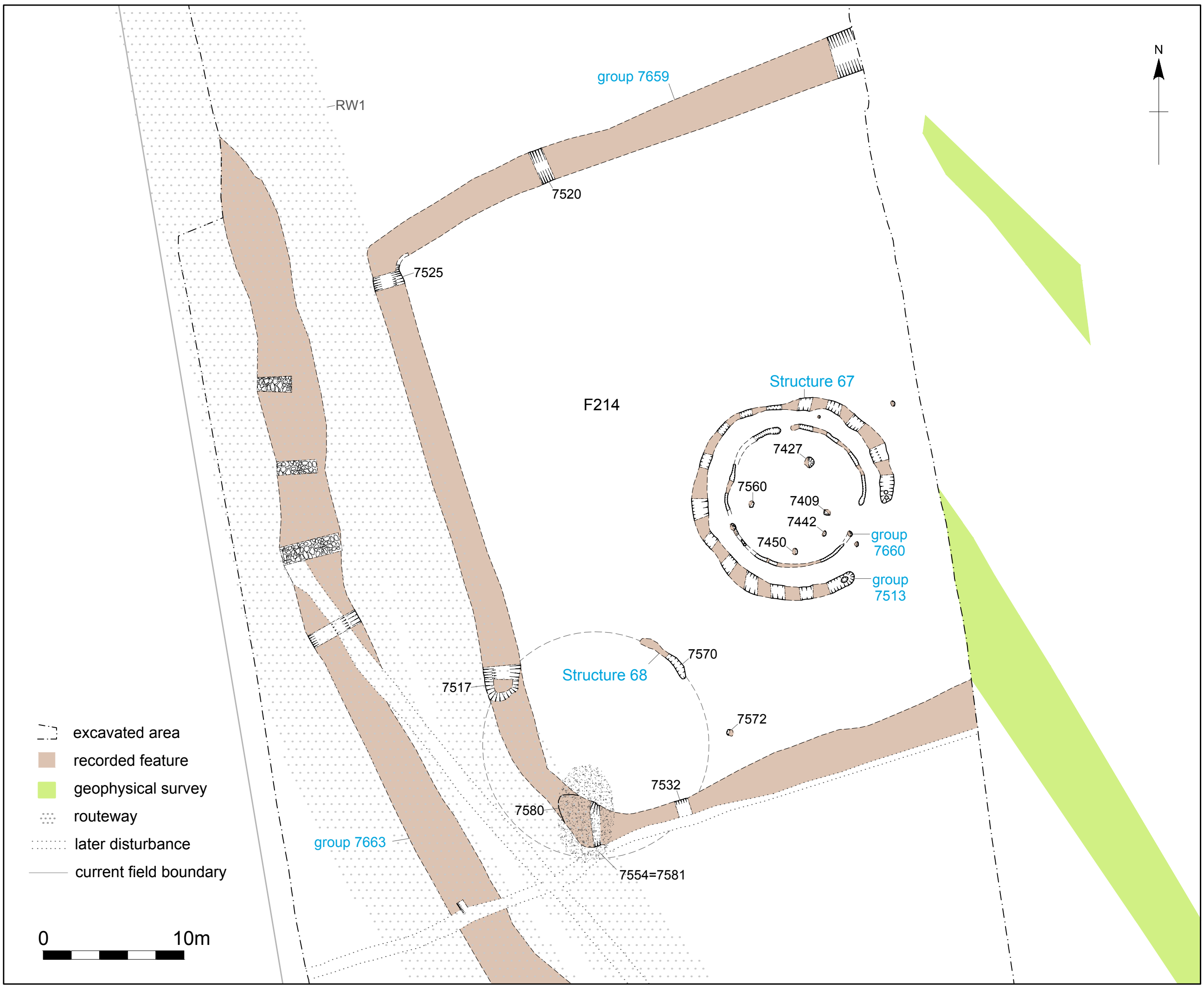


Figure 2.19: Selgarth Farm: plan of RW1 and the rectilinear enclosure with Structures 67 and 68.

gully, the footprint of Structure 67 was remarkably similar to roundhouse 14021 at Scotch Corner site SCA15 (Zant et al. 2013b, 69–71; see Chapter 3), structure 1, and potentially structure 2 at Melsonby (Fitts et al. 1999, 4–10), and structures CS1 and CS2 at Rock Castle (Fitts et al. 1994, 17–20). Another common attribute was that Structure 67 faced east towards the sun, and away from the prevailing winter wind, as did the roundhouses at Melsonby, Rock Castle and Scotch Corner.

The artefactual and environmental assemblages at Selgarth Farm were notably richer than those at Woodside and Gatherley Villa and provide compelling insights into the building materials used in the roundhouse, the species used for firewood, some of the foods consumed, the cereals cultivated nearby, and patterns of disposal. Artefacts and waste materials focused around the entrances evidently represented sweeping out the interior, and occasional loss or casual discard of items when entering or leaving the roundhouse, while there was a corresponding absence of material in the fill at the rear of the hurdle trench and drip gully. The terminals and adjacent segments of the drip gully (group **7513**; Fig. 2.19) also contained the only examples of fired clay or daub, charred plant remains, including spelt and barley, unidentifiable burnt animal bone, and an iron object of unknown function. Charcoal near the terminals included the greatest range of species from any samples taken around the structure, presumably representative of combusted fuel in the form of oak, ash, alder, hazel, birch, and pomaceous wood. Middle Iron Age arable agriculture was represented by two radiocarbon dates: one obtained from one of the spelt grains in fill **7407** (group **7513**), which indicated production and charring of the cereal between 400–200 cal BC (95.4% probability; SUERC-83947); and the second from hazel charcoal from fill **7424** of the same group, which dated from 361–195 cal BC (95.4% probability; SUERC-84825). The concordance was suggestive of good reliability in the range, despite the effective span exceeding 200 years.

Some of the principal arable weeds of the period, including black bindweed and stitchwort, as well as the bulbous variety of onion couch, were present in small quantities in the northern terminal (Baines, Chapter 8). Otherwise, the complete charcoal assemblage from the drip gully represented a heterogenous collection of hardwood timber wood, including poplar or willow, ash, birch, alder or hazel, with a small component of fruit trees and shrubs. But, as at Woodside, Gatherley Villa and Scotch Corner, oak was prevalent. Similarly, oak charcoal dominated the assemblage from the hurdle trench (group **7660**) and was also recovered from some of the internal postholes, along with charred wheat grains from fill **7910** in posthole **7409**, conforming to the typical pattern of loss and discard near access points.

Approximately 7m south-west of Structure 67, the vestiges of a possible earlier roundhouse (Structure 68; Fig. 2.19), comprising curving gully **7570** and a single posthole (**7572**), followed a projected circuit that was the same approximate size as Structure 67 but was interrupted by the enclosure ditch (group **7659**). The south-east end of gully **7570** was interpreted as a terminal that signified a south-east facing entrance, consistent with the majority of roundhouses on the A1 scheme and in the wider region (e.g. Parker-Pearson 1996; Oswald 1997; Pope 2003, 212). Abraded sherds of hand-built pottery were found with a small quantity of fired clay in deposit **7571**, both typical of Iron Age habitation.

The relationship between Structure 68 and the enclosure ditch suggests that initial habitation at Selgarth Farm was open, as at Woodside, but was superseded by a new building (Structure 67) and a substantial rectilinear enclosure defined by a large ditch (group **7659**) with a broad V-shaped profile, that measured up to 2m wide by c.0.9m deep (Figs 2.17 and 2.19). The enclosure was c.49m north–south by at least 40m west–east, although it continued east beyond the limit of excavation, possibly interacting with a curving palaeochannel (**7389**), which contained sherds of Roman pottery dating to the mid-1st century AD. Several phases of recutting were evident at the south-west corner of the enclosure ditch; two terminals (**7517** and **7580**) created a c.3.5m-wide entrance, which may have been consolidated with cobbles that rolled into the part-open ditch (Fig. 2.20). The entrance was subsequently infilled with boulder clay and narrowed to c.1.5m wide (Fig. 2.19). A single posthole (**7555**; not illustrated) may have been the sole remnant of a gate arrangement, but this was overlain by an aggregate surface (**7554=7581**) that consolidated the entrance and provided access to the adjacent routeway. Fragments of animal bone trodden into the surface provide testament to its use at the same time as habitation in the enclosure.

The interior area of the Selgarth Farm enclosure was at least 0.196ha, which falls well below the 0.3–0.5ha average for similarly shaped Late Iron Age enclosures defined by Haselgrove (1982). In its final Pre-Roman Iron Age incarnation, Enclosure 7 at site SCA15 measured 46m by 53m with an interior space of c.0.24ha (Zant *et al*. 2013b; see Chapter 3), and the nearby Bedale square enclosure, which lasted from the Middle Iron Age to the Early Roman period, was very similar in scale, measuring 50m square with an interior of c.0.25ha (PCA 2017). This leads to the conclusion that smaller enclosures such as Selgarth Farm might be an enduring local variation and perhaps a consequence of needing to accommodate fewer animals.

At Selgarth Farm, the Iron Age routeway (RW1; Figs 2.1 and 2.17) took the form of a 15m-wide curving track, flanked by ditch groups **7661**, **7663** and **7648** and ditch **7542**, with at least two episodes of refurbishment and metalling. The course of the ditches defining the east side (group **7663**) closely traced the west side of the enclosure at a distance of c.6m, perhaps providing evidence for an outer enclosure bank that has long since been ploughed flat. Patches of gravel and cobbles used to form an aggregate track surface only survived where it had subsided into natural depressions or soft ground, and occasionally within the side ditches. The only artefact from the trackway was a sherd of undiagnostic Roman pottery recovered from deposit **7620** in the top fill of western ditch group **7661**, close to Dere Street and the existing A1, which probably came from sands introduced during the construction of Dere Street (see Chapter 4). Further to the east, ditches **7538** and **7415** followed a corresponding course to the routeway. Their functions were not obvious, but they might suggest that, during its long existence, the routeway meandered within a wide corridor. The direct association with a routeway presents a notable similarity between Selgarth Farm, Enclosure 7 at Scotch Corner, Bedale and Rock Castle. The Scotch Corner routeways apparently aligned with the Iron Age version (Zant *et al*. 2013b), the Bedale example being a double-ditched drove-way leading to Bedale Beck (PCA 2017), and the routeway at Selgarth Farm crossed the palaeochannel on a south–north route towards Scotch Corner and Stanwick. The enclosure at Rock Castle was adjacent to the Iron Age routeway that was later perpetuated by the Roman road across Stainmore. In combination, these common attributes further corroborate the proposal for an integrated landscape and economy and an established south–north link at least from the Middle Iron Age.

Bertram House (Fields 217, 218, 219)

At Bertram House, immediately south of Scotch Corner, the Iron Age routeway seen at Selgarth Farm apparently anticipated the Roman road to Stainmore with a curve to the north-west (RW1; Fig. 2.21). On the east side of this curve, the routeway appeared to have been referenced by two or possibly three large prehistoric fields. Their shared south-east to north-west orientation corresponded to the boundaries at Moulton Hall, Oak Grange, Scurragh House, Selgarth Farm and Scotch Corner, which preceded the introduction of a coaxial enclosure system at Scotch Corner (see Chapter 3), and Dere Street and the associated system of perpendicular fields and enclosures that referenced it (see Chapter 4). The rare examples of processed food remains from the fields, and the sparsity of animal bone and domestic artefacts support their interpretation as primarily arable, while the shallow-sloping south-facing aspect was equally suggestive of the same.

The southern field at Bertram House was c.250m long and was defined on its south-east side by substantial dich group **12249** and on its north-east side by ditch group **12197**. The north-east boundary was up to 3.3m wide by 1.4m deep, with two recuts visible. The lower fills were composed predominantly of silts, while the upper fills were potentially aeolian in nature, with all being naturally accumulated. East of the large southern field was a contemporary ditched boundary that extended east at 45 degrees to the prevailing alignment and formed part of the same Iron Age system. Inside the southern field was a partial lateral subdivision (group **12201**), and a right-angled gully (group **12199**), interpreted as the remnant of an interior sub-enclosure. The single posthole (**12246**) inside the corner gave away nothing of the sub-enclosure's purpose and, like the ditches, contained no dateable artefacts. The interior

*Figure 2.20: Selgarth Farm: north-facing section of enclosure ditch **7517**, group **7659**.*

subdivisions of the southern field were redefined by ditch groups **12200** and **12248**, which were still infilling after c.AD45, once samian ware was arriving at Scotch Corner (see Chapter 4). The single rim sherd of a Dr.27 cup came from upper fill **12168** in group **12200** (Monteil, Chapter 5), which also contained a rare example of animal bone.

The internal field layout was further reconfigured with the introduction of boundary ditch group **12198**, although it might alternatively have been paired with ditches **12130**, **12113**, **12115** and **12111** as components in an earlier system that aligned well with the Pre-Roman Iron Age field defined by group **7383** to the north. Ditch group **12198** was up to 2.8m wide, 0.4m deep and extended c.26m into the field on a slightly oblique angle to the field edges. The lower fills were predominantly silty, while the upper fills were aeolian and alluvial sands, including fill **12189**, which contained pomaceous charcoal and charred barley, and fill **12187** of ditch **12171** (group **12198**). This latter fill included redeposited charred barley and other cereal grains (Baines, Chapter 8), suggesting that these crops were being cultivated nearby.

A large portion of the northern field was represented by a recut ditch (group **7383**), which was created in segments with occasional narrow causeways and a wider entrance on the south-east side at the corner. The boundary extended for more than 140m to the southern and western limits of the excavation and was a maximum of 1.7m wide by 0.3m deep. In places along the north-east side, a ribbon of disordered large stones occupied the base of the ditch; the material was neither natural infill from the surrounding deposits, nor obviously placed to support a fence, given the apparent lack of lateral constraint, but it may have been used to assist with drainage, as with 'French drains'. The fill (**7200**) of an early cut (**7198**) contained a small assemblage of hand-built pottery, along with worked flint and animal bone. More bone was recovered from deposit **7140** near the south-east corner of the feature. On the south-east side of the field, upper fill **7268** contained a single excoriated body sherd of a decorated samian ware bowl, which was arguably introduced by widespread refurbishment of adjacent features in Period 4 (see Chapter 4). Inside the field, a shallow palaeochannel (**33808**) that once flowed to the south-west corner had filled in with sands and silts. In an environment wetter than that of today, the palaeochannel occupied an area where water was directed and managed, with successive recuts of later boundaries resulting from continued mixed agriculture and drainage in Period 4 and later.

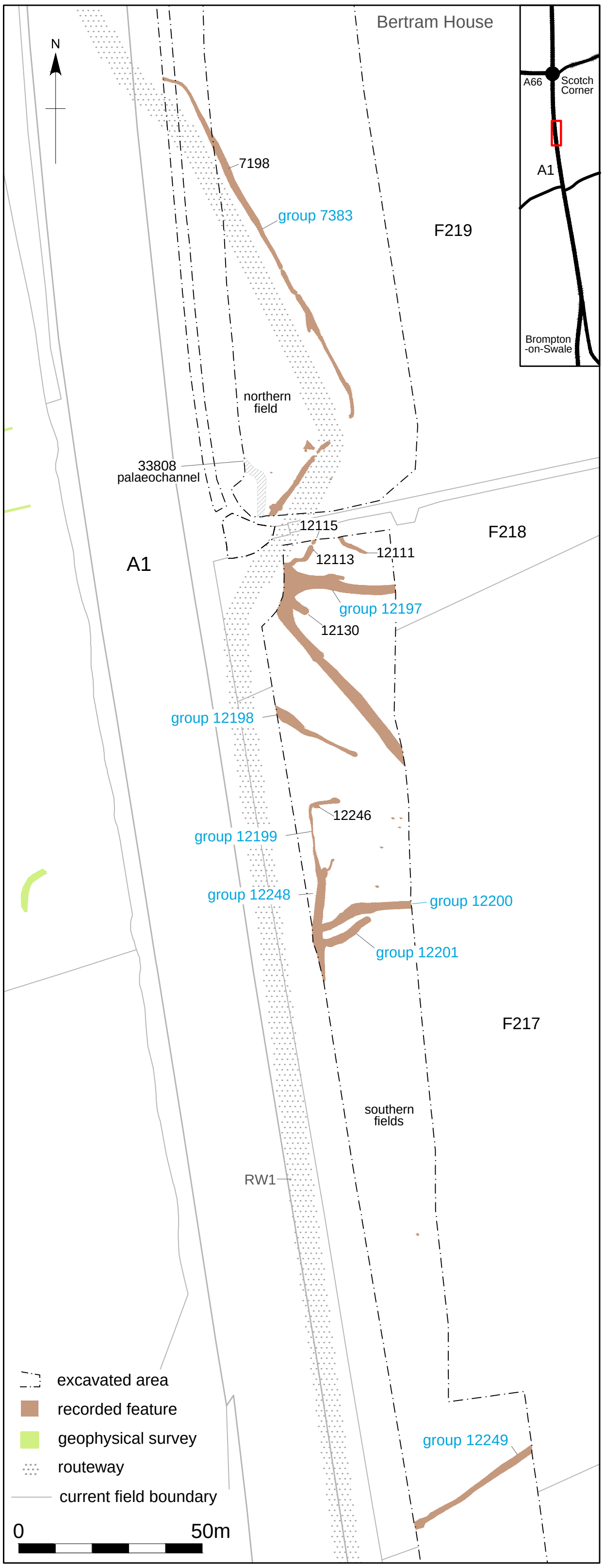


Figure 2.21: Bertram House: plan of fields.

SCOTCH CORNER

The following section of this chapter focuses on the Period 1 archaeological remains discovered within the 5.2ha area stripped for the A1 scheme at Scotch Corner, while continuous activity spanning Periods 2–5 at the settlement is presented in Chapters 3 and 4.

Dispersed occupation at Scotch Corner was evident from the Middle Iron Age but, Bayesian modelling indicates that during Period 1, between 55 cal BC and cal AD15 (95% probability), activity intensified dramatically. Open habitation on the shallow south-facing slope at the southern reaches of the indigenous settlement in Fields 220 and 223 was characterised by roundhouses and other structures and features associated with food production. There were also remnants of an Iron Age routeway following a south-east to north-west alignment, and other routeways serving the interior of the settlement and connecting it with other settlements and the wider landscape (Fig. 2.22). The primary south-east to north-west trackway (RW1) was referenced by several boundaries and linear features, an insubstantial rectangular structure, and a palisaded compound or stockade. The fills of Late Iron Age features in this primarily domestic zone were either aceramic or contained only hand-built pottery in traditional forms (Cumberpatch, Chapter 5), whereas by Period 2, used and broken imported pottery was beginning to be discarded in the same area (see Chapter 3).

Period 1 activity was also evident on the crest of the low ridge in Field 246 (Fig. 2.22), where an enclave of workshops was associated with metalworking, which included the manufacturing of pellets made with precious and semi-precious alloys. Ceramic pellet mould trays were discarded in nearby pits and ditches, along with metalworking waste materials. In this northern focus of pre-Roman activity, metalworking apparently began in a largely open landscape to the immediate north-west of a ditch that followed the south-east side of a copper-bearing geological fault. This ditch was repeatedly redefined, and an irregular enclosure was soon appended to its north-west side, which surrounded the workshops where crafts continued during Period 2, when imports produced in Britain and on the Continent began to arrive at Scotch Corner (see Chapter 3). Locally available high-grade copper may have been fundamental to the production and working of non-ferrous metals at Scotch Corner, perhaps even being the primary consideration in the location of the manufacturing component of the settlement, and was potentially associated with metalworking near Melsonby, as suggested by the 'Stanwick' hoard found there (see Chapters 1, 6 and 10). Three Roman Republican coins (Cat. no. 664; Cat. no. 665; Cat. no. 666), which were found in early Flavian contexts in Fields 246, 258 and 265, could have been transported to the area during military annexation (Brickstock, Chapter 6), but might equally represent lost and redeposited currency that was originally used for trade and exchange at the Late Iron Age settlement.Between the southern dwellings and northern workshops, a junction of hollow-ways (RW2 and RW3; Fig. 2.22) was preserved beneath the Roman road junction in Field 265. A contemporary four-post structure by the hollow-way in Field 265 may also pertain to food production and storage during the same period.

PERIOD 1 (c.55BC–c.AD15): HABITATION, FOOD PRODUCTION AND ROUTEWAYS (FIELDS 220, 223, 228, 246 AND 265)

Environmental remains from the shallow, south-facing slope occupied by Fields 220 and 223 reveal a cultivated landscape that was divided by hedges, as well as the ditches recorded through excavation and geophysical survey. Rich assemblages of charcoal and charred plant remains derived from cereal crops that may have been locally produced and debris from food preparation, although evidence for processing was restricted to a modest number of traditional querns and a small amount

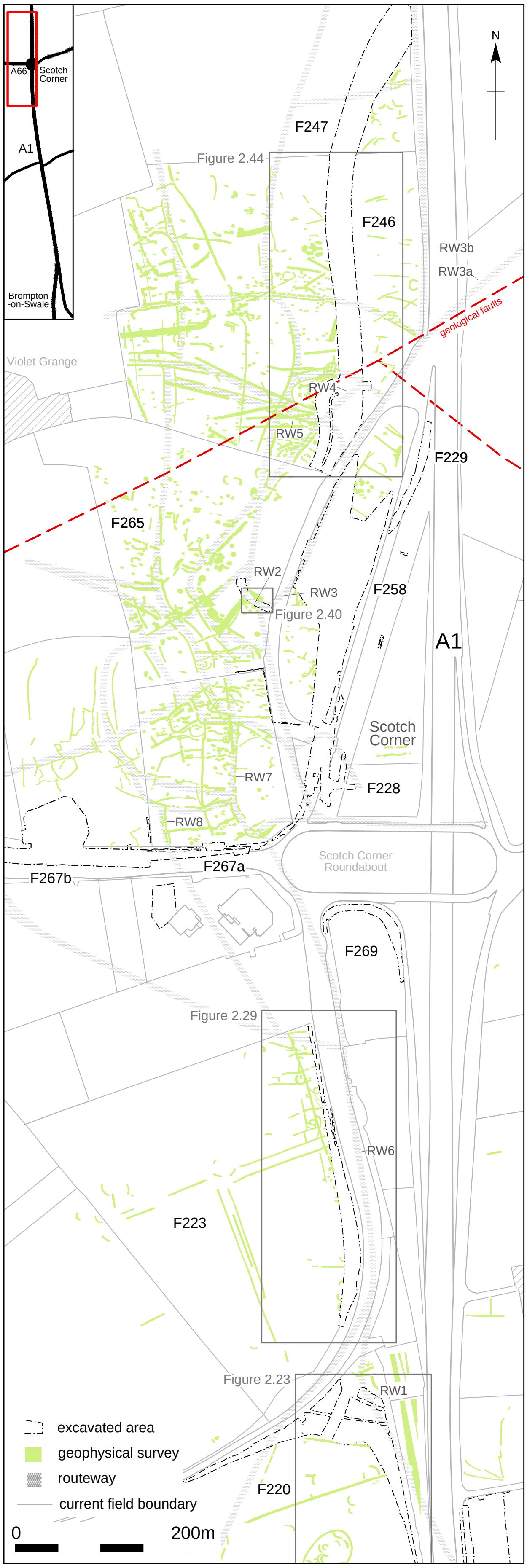


Figure 2.22: Scotch Corner: overview.

of chaff. In some of the organic-rich deposits, there were traces of wild flora from the outskirts of the settlement, which may have been exploited for culinary or medicinal purposes. Salt was imported from the north-east coast in crude briquetage containers and would have been used in food for immediate consumption, and perhaps also for curing meat and in dairy production. In some of the features, sherds of locally produced, hand-built pottery made in the Iron Age tradition indicate subsistence-level habitation. The surviving sherds had suffered too greatly from acidic conditions to reveal anything of any former decoration or contents. Of the identifiable forms, none were closely dateable; vertical-rim jars span the period between the Middle Iron Age and the mid- to late Roman period, while open jars have a lifespan that covered the Pre-Roman Iron Age and the Roman period (Cumberpatch, Chapter 5). Consequently, the indigenous vessel forms represent a continuum of production and use at Scotch Corner.

Today, the nearest flowing water is Gilling Beck, c.2km to the south-west, but the palaeochannels at Bertram House indicate that running water was much closer to the Late Iron Age settlement, perhaps even diverted for irrigation and drainage. The domestic water supply in Field 223 appears to have relied on wells and watering holes near the roundhouses (Jonathan Shipley pers. comm.; Headland Archaeology forthcoming), yet at the centre of the settlement during the mid-1st century AD, its inhabitants demonstrated capabilities in utilising run-off and ground water, which was diverted from buildings in an intricate network of gullies and collected in cisterns to supply livestock, the human population, for metalworking processes, and also possibly for producing and dyeing textiles (see Chapter 3). Water management would reach additional levels of ingenuity during Roman occupation of the settlement in Period 4 when an integrated irrigation system was introduced with planned enclosures and paddocks in Field 258 (see Chapter 4).

North of the manufacturing workshops in Field 246 were the vestiges of two probable dwellings built in the vernacular sub-circular tradition. They appeared to signify a northern zone of open habitation, similar in essence to pre-Roman occupation on the south side of the settlement, although the evidence for agricultural production in the immediate vicinity was minimal, nor was there any nearby source of running water.

Field 220

RW1: an Iron Age routeway

Outside the more concentrated areas of settlement to the north, remains found beside routeway RW1 suggested that either three or four dwellings occupied the south end of Field 220 (Fig. 2.23). To the west of the A1 scheme excavation area, geophysical survey revealed a kidney-shaped enclosure with interior subdivisions and sub-circular anomalies and pits, as well as other possible settlement remains in the area between it and the north-east corner of Field 220. The overall forms of Structures 1,

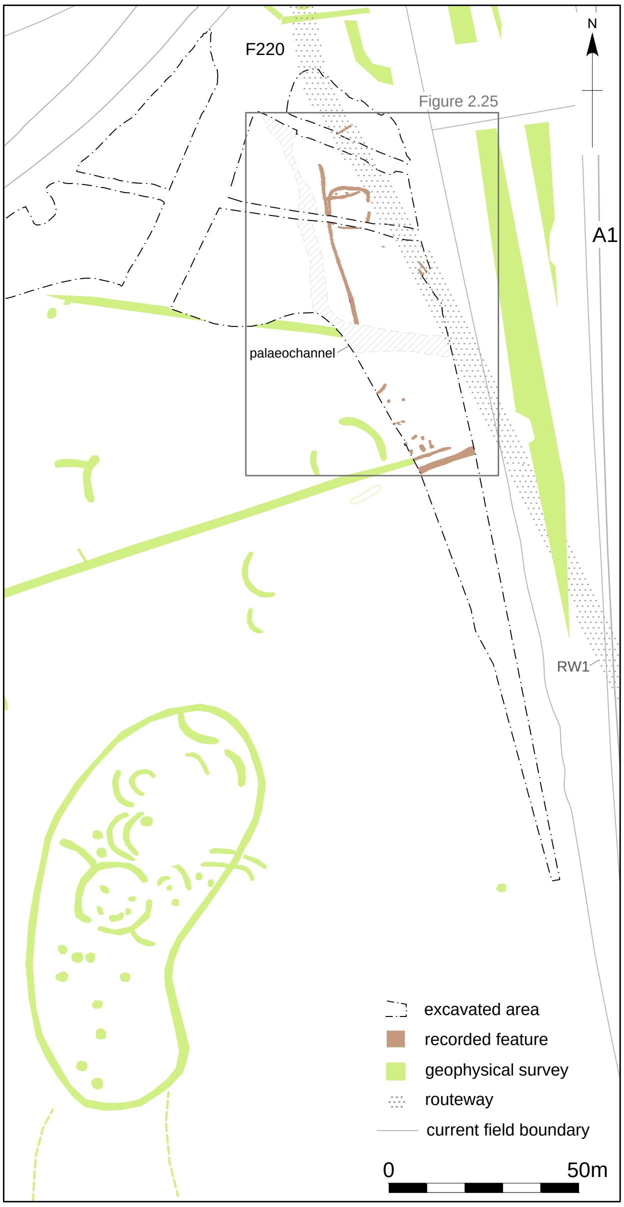


Figure 2.23: Scotch Corner: Field 220, Period 1 features.

2 and 3 were not discernible, as they lay predominantly beyond the western edge of the excavations, but all three were set back c.20m from RW1 in a scenario reminiscent of Gatherley Villa (see above). North of the low knoll occupied by the structures was a right-angled palaeochannel, which was probably contemporary with habitation. It was incorporated into a system of drainage associated with a sub-square structure (Structure 4) situated on slightly higher ground to the north.

Directly to the east of Structure 4, RW1 had been almost entirely truncated, yet the surviving remnants followed the Iron Age alignment referenced by the fields at Bertram House to the east. At the base of a natural hollow, a short section of aggregate surface (**10986**; Fig. 2.24) was protected by a thick layer of colluvial material that had accumulated during the early to mid-Roman period as demonstrated by the assemblage of pottery sherds. Parallel wheel-ruts complemented the alignment and matched the course of wheel-ruts **11019** and **11022** located 40m to the south-east. Additional hollow-ways to the north in

Fields 228 and 265 indicate that routeways were braided through the settlement, with numerous strands following the pre-Roman alignment. Unfortunately, the date of the track in Field 220 was not confirmed by artefacts or material suitable for radiocarbon dating.

Structure 1 (group 10950)
The remains of Structure 1 included a group of six substantial postholes with a layout that suggested curving walls, which were presumably one associated with the adjacent sub-circular structure defined by geophysical anomalies to the immediate west of the excavation area (Fig. 2.25). An adjacent gully or beam-slot (**11047**=**11054**) may have been associated with Structure 1 but might equally have referenced ditched boundary **10936** to its immediate south-east. The ditch probably represented a component of the early field system; its alignment was consistent with the northern field at Bertram House, and perpendicular to RW1.

Most of the postholes in Structure 1 contained displaced packing stones and displayed extensive signs of recutting, suggesting rebuilding on the same footprint and long-lived occupation. The aceramic assemblages of artefacts and environmental remains from postholes **10967** and **10976** included fragments of material that may have been compacted earth floor surface, presumably displaced and redeposited during maintenance, and one very small piece of flake hammerscale from context **10977** in posthole **10976** (Mackenzie, Chapter 7). This single example could be attributed to the small-scale production of metals, as might fragments of coal and fired clay, but it seems more likely that the metal waste derived from elsewhere and the combusted fuels were by-products of an undiscovered domestic hearth or oven, which was also the source of charcoal from a familiar combination of wood species, including ash, oak and pomaceous varieties (Baines, Chapter 8). A sample of pomaceous charcoal from the same fill returned a radiocarbon determination of 400–210 cal BC (95.4% probability; SUERC-83948), representing either Middle Iron Age occupation or residual material from that period in a later dwelling at the same location. In the absence of corroborating artefactual material, it is not clear which option best reflects reality, although the location in respect of RW1 and the spacing with Structures 2, 3 and 4 indicate contemporary occupation and the sample was excluded from Bayesian models of the radiocarbon determinations (Hamilton, Chapter 9).

Structure 2 (group 11064)
Six metres north of Structure 1 was a cluster of five features believed to represent the northern arc of Structure 2, which curved to the south in the manner of a drip gully, yet there were no features to demonstrate a corresponding southern arc (Fig. 2.25). Posthole **10912** was cut through the end of gully **10920** in a similar arrangement to the terminal of gully **10951** (Structure 3), and another posthole (**10918**) was found adjacent to the central segment of curving gully **10914**, which was aligned with gully **10916**. It is possible that the components belonged to a single plough-truncated entity; all fills were devoid of dateable artefacts.

Figure 2.24: Scotch Corner: Field 220, surface of RW1, facing north-east.

Structure 3 (gully 10951)
A similar scenario was discovered at Structure 3, although here the southern terminal was the only side represented; complete loss of a northern counterpart seems unlikely given that **10951** survived to a depth of c.0.3m and was c.0.5m wide (Figs 2.25 and 2.26). Above the colluvial primary fill of terminal **10951**, deposit **10952** was rich with charcoal from oak, hazel and pomaceous varieties, and contained fragments of fired clay, coal, and possibly some extremely fragmented brick or tile, all typical of domestic occupation. A single sherd of colourless blown glass weighing only 0.2g was dated to the 2nd or 3rd century AD (Cool, Chapter 5). It is possible that the sherd is indicative of occupation during the mid-Roman period, but the environmental remains are consistent with Late and Pre-Roman Iron Age habitation and the glass was probably intrusive.

The combined evidence from Structures 2 and 3 allows for two possible interpretations: that two opposing sides of adjacent penannular or curving gullies with similar dimensions survived in isolation from their counterparts, or that the terminals represented opposite sides of an 8.8m-wide flared entrance to a single structure, with postholes **10908** and **10922** approximately central—a

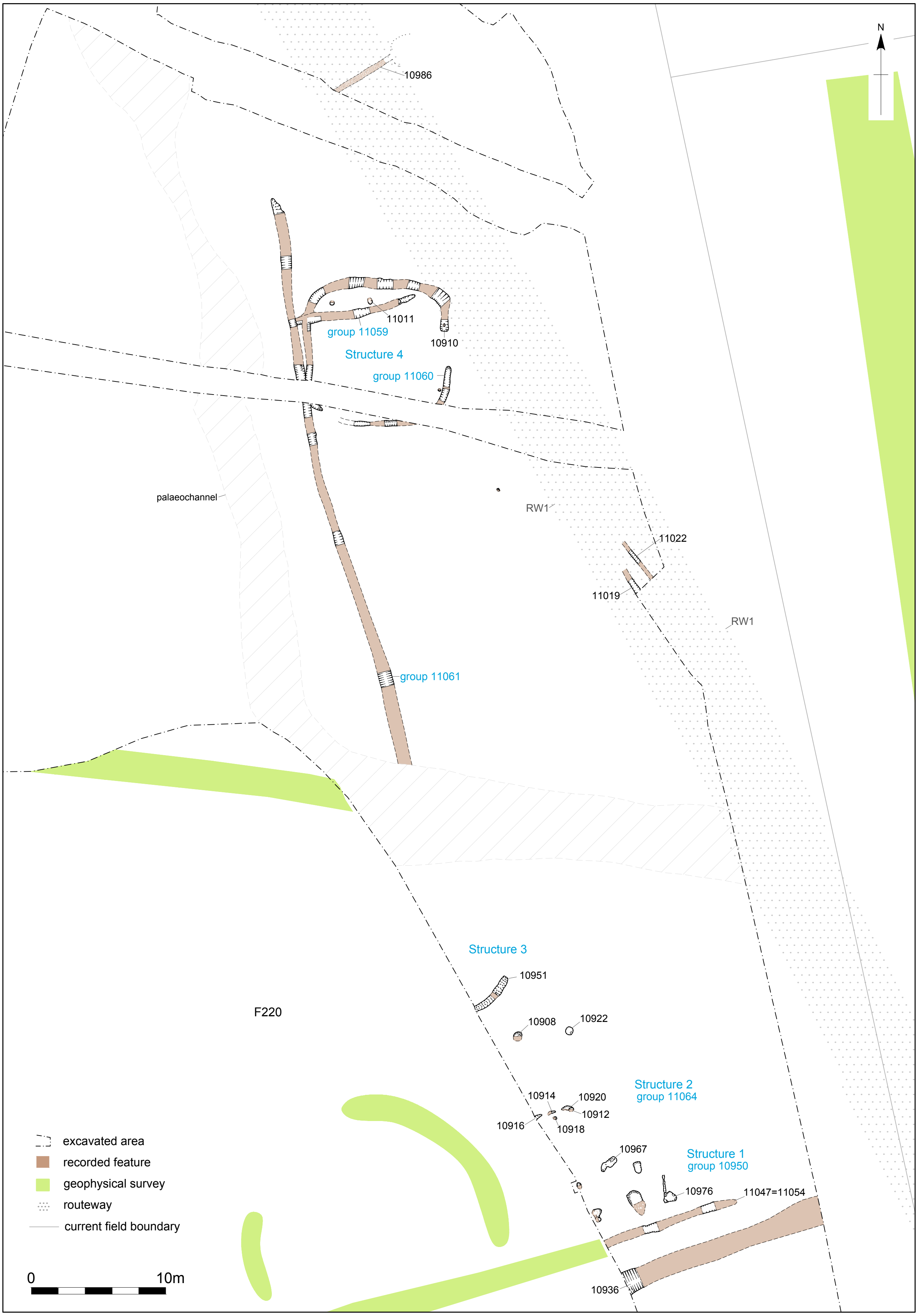


Figure 2.25: Scotch Corner: Field 220, RW1, Structures 1–4 and associated features.

possibility that perhaps best fits the curving anomalies visible in the geophysical survey, which have the appearance of a large sub-circular structure and might be of Middle Iron Age date if the size range is indicative (Sherlock 2012, 53). By way of nearby comparanda for Structure 2/3, another roundhouse in Field 223 (Structure 6, see below) included features appended to the entrance terminals, although its configuration was different in appearance.

Structure 4 (group 11060) and its drainage system

The structure (group **11060**) was represented by a sub-square gully measuring c.12.5m west–east by 12m north–south (Figs 2.25 and 2.27). With a steep-sided U-shaped profile, it was a maximum of 0.65m deep by 0.50m wide and had a 1m-wide east-facing doorway. Its south side had been truncated by ploughing and a modern service; additional disturbance brought doubt upon a trio of post and stakeholes that crossed the interior, with early 3rd-century Roman pottery in fill **11012** of posthole **11011**. More certain, though, was a drainage gully (group **11059**) that appeared to have been added to Structure 4 following initial construction. It ran downslope to the west from within the structure, issuing into a perpendicular ditch (group **11061**), which drained southwards into the right-angled palaeochannel that effectively enclosed the structure.

The unusual form of Structure 4 and its integral drainage system prompted careful examination of its possible function. The only cultural materials from the drainage system were coal and sherds of hand-built pottery in fill **10949** of south–north ditch group **11061** (Fig. 2.25). With so little material associated with its use, it is difficult to determine why such a comprehensive system was deemed necessary. Initial considerations might include

*Figure 2.26: Scotch Corner: Field 220, Structure 3, drip gully terminal **10951**, facing west.*

the effective removal of animal urine or foul-smelling or toxic material from a process carried out inside the structure. While the small quantity of undiagnostic industrial waste in fill **10930** on the south side of the structure, and coal in fill **10954** on the north-west corner might give some indication of small-scale hot works, most of the artefactual and environmental remains strongly indicate that Structure 4 was primarily domestic.

The assemblages of artefacts and environmental remains survived mostly in the upper fills on the east side, with a notable concentration around the doorway. On the north side, in fills **10925** and **10926**, birch and oak charcoal accompanied charred barley and spelt, and some animal bone, while sherds of a hand-built funnel-rim jar (Cumberpatch, Chapter 5; Cat. no. 1; Fig. 2.28) of Late Pre-Roman Iron Age date came from upper fill **11053**. The fill (**10911**) of a possible door post (**10910**) also included oak charcoal (Fig. 2.25). On the south side of the doorway, upper fill **10935** contained oak charcoal with other typical wood species, as well as charred grains of wheat, spelt and barley and parts of a hand-built vessel. Thirty fragments of briquetage were also included in the fill and demonstrate the presence of salt, supporting the proposal for habitation and food production at the structure (Britton, Chapter 5). From another part of the same backfilled deposit, a disordered sample of calcinated animal bone fragments returned a radiocarbon determination of 2 cal BC–cal AD126 (91.0% probability; SUERC-75369), evidently associated with abandonment of the structure. Similarly, the lower stone of a beehive quern (Cat. no. 869) was interpreted as part of the abandonment; it had been placed in fill **10941** on the north side of the structure despite having seen only light use (Cruse, Chapter 6). The discovery potentially represents a purposeful, meaningful and final act carried out by occupants who moved elsewhere some time during the 1st century AD, but apparently had opportunity to venerate their former residence.

The form of Structure 4 is unknown in the region, but not at Scotch Corner, where another example of this sub-square arrangement (Structure 25 in the nucleated enclosures of Field 267a; see Chapter 3) was occupied during Periods 2 and 3 while Period 2 and early Period 3 imports were being supplied to the settlement (Leary, Chapter 5). The unusual square form was evidently a rare local variation that was perhaps furnished with a circular roof.

Field 223

Features associated with Period 1 activity were difficult to differentiate amongst the archaeological palimpsest discovered in Field 223, yet habitation during that time was identifiable through the examination of stratigraphic positions, alignments and associations, which coincided with an absence of the imported materials that characterised Period 2. The indigenous ceramic assemblages in Period 1 features were restricted to fragmentary body sherds of hand-built vessels (Cumberpatch, Chapter 5), and fragments of briquetage,

Figure 2.27: Scotch Corner: Field 220, Structure 4 (vertical orthoimage).

Figure 2.28: Scotch Corner: Field 220, in situ hand-built funnel-rim jar (Cat. no. 1) in Structure 4.

which together represented a large assemblage (Britton, Chapter 5). Some structures were associated with features respecting a south-east to north-west alignment, and others were apparently enclosed by the first components in the west–east coaxial system of routeways, enclosures and associated dwellings, which in Period 2 was adopted universally across the A1 scheme excavation area in Field 223. Continuations of excavated features and additional components in the coaxial system were also visible as geophysical anomalies, which extended for a short distance to the west and are discussed further in Chapter 3.

In the open area at the south end of Field 223, four structures (Structures 5, 6, 8 and 10; Fig. 2.30) apparently pre-dated the arrival of continental imports, though their absence is not de facto proof of occupation before Period 2. At the northern end of the field, beyond a blank area over 80m long, another nine structures (Structures 12, 13, 15, 16, 19, 20, 21, 22i and 23i; Fig. 2.33) were also largely devoid of materials characteristic of Period 2. Amongst them, a crop processing and domestic food preparation area was in continuous use into the second half of the 1st century AD. Ceramic assemblages from Structures 13, 22 and 23 indicate that they originated in the Pre-Roman Iron Age and were refurbished and modified when continental pottery was in use; the handful of examples provide rare evidence for continuous occupation spanning Periods 1 and 2.

Field 223 southern area

Structure 5 (gully 30307)

Structure 5 survived as a single-phase pebble-lined drip gully with an internal diameter of 9.2m, securely within the normal Pre-Roman Iron Age and Early Roman size range for the region (see above; Sherlock 2012, 53). An entrance on the east side was deduced from the continuous U-shaped gully on the western arc, which contained fragments of Pre-Roman Iron Age hand-built pottery, oak charcoal and the charred remains of spelt and wood sage in upper fill **30435**, the former being the staple cereal for the period (Fig. 2.30). The same species were represented in pit **30322** to the south, where domestic refuse appears to have been deposited with a relatively large assemblage of briquetage spread across primary fill **30493** and secondary fill **30440**, which probably also relates to food preparation (Britton, Chapter 5). Five sherds of a Campanian Dressel 2–4 wine amphora found in a gully fill of Structure 5 perhaps arrived at Scotch Corner at a similar time to examples found in pre-Claudian conquest contexts in southern Britain (Griffiths and Williams, Chapter 5). It is equally possible that the sherds derived from later ditch **30279**, which cut across the northern arc (see Chapter 3). The unusual pebble lining probably aided water flow downhill to the east, consolidated the cut and must also have hampered infiltration. This is, perhaps, a rare insight into the mechanism of such a feature, demonstrating that, in order to expedite drainage in those specific circumstances, aiding flow was prioritised above infiltration.

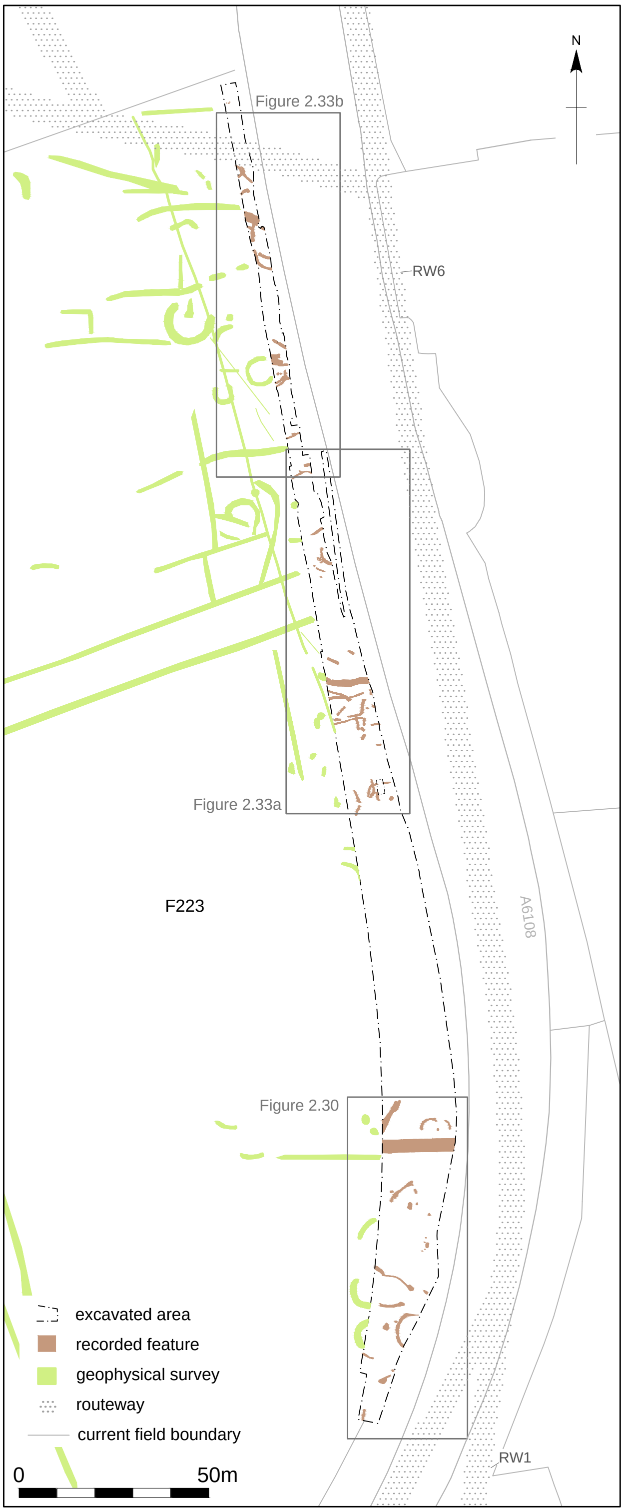


Figure 2.29: Scotch Corner: Field 223, overview of Period 1 features.

Outside the western circuit of Structure 5, the position of single small posthole **30523** suggested an undefined association with the structure, or possibly with another potential structure defined by a curving geophysical anomaly immediately west of the excavation area (Fig. 2.30). Nearby pit **30305** was probably also open at the time of occupation in Structure 5 and became incorporated into a south-west to north-east boundary that was maintained into Period 2. Approximately 5m south-west of Structure 5 was a pair of badly truncated features:

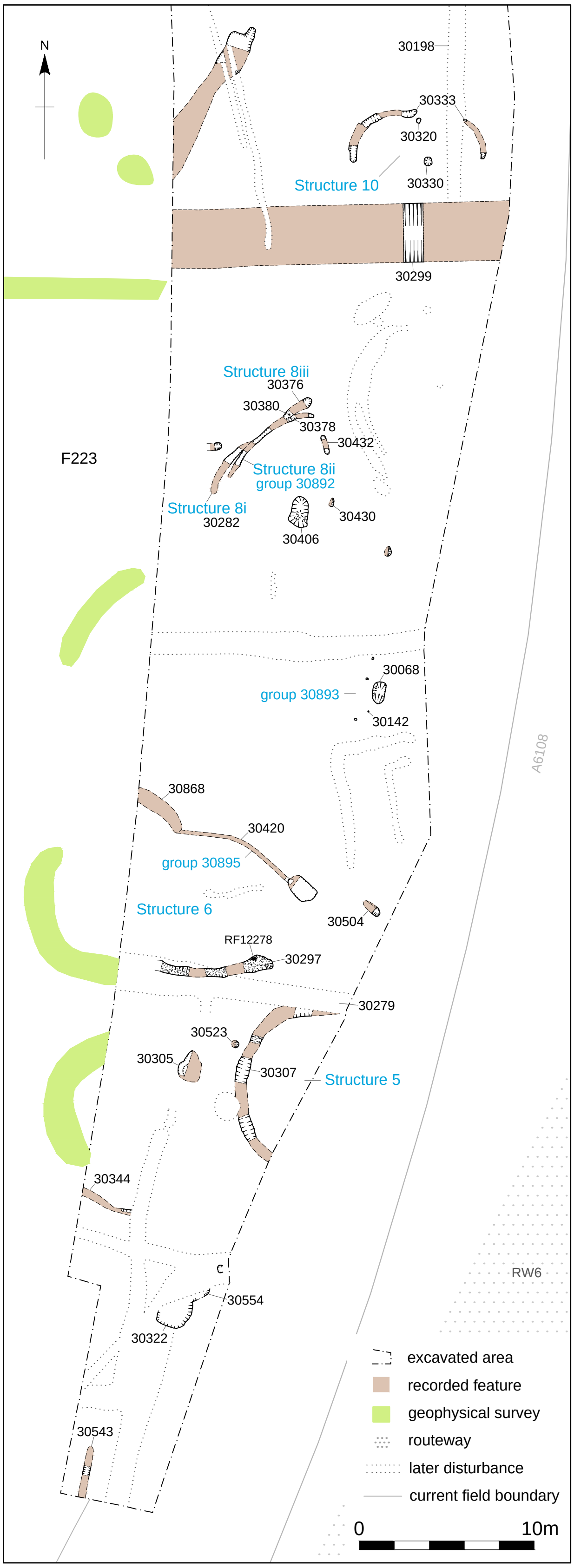


Figure 2.30: Scotch Corner: Field 223, southern area, Period 1 features.

posthole **30554 30322**. The latter used as a repository for domestic refuse, perhaps from Structure 5. Primary fill **30439** was rich in organic material, which included oak charcoal, charred barley and spelt and bedstraw as well as sherds of traditional hand-built pottery. The pit was evidently still used into Period 2, when imported pottery produced in the Claudian period was deposited in upper fill **30440** with hand-built vessel sherds, and hazel, heather, ash, oak and pomaceous charcoal. The charred plant remains were also greatly more diverse than in the lower fill, including foods such as: barley, sprouted spelt, spelt, wheat, as well as meadow plants and arable weeds. The same deposit also contained an assemblage of briquetage fragments, derived presumably from vessels used to transport salt to the settlement from the north-east coast for consumption, meat curing and dairy production (Britton, Chapter 5; Willis 2016a, 256–9). Discovery of the material is consistent with other sites of the same period in the region (see Chapters 1 and 10), and its presence at Scotch Corner in the early to mid-1st century demonstrate how well connected and mobile elements of the Scotch Corner community appear to have been. Other discoveries of briquetage in Field 223 and Field 267a (see Chapter 3) further support the assertion.

Structure 6 (group 30895)

A compacted deposit of angular stones in the southern side of Structure 6 (trench **30297**) had attributes consistent with a foundation trench for upright timbers or a wall (Fig. 2.30). It was 7.6m from its northern counterpart (**30420**), which, by contrast, was both narrow and shallow. The features either represented the vestiges of an earlier structure or a flared enclosure appended to the south-east facing entrance of a roundhouse, which was represented by gully **30868** and visible as a curving anomaly in the geophysical survey. The compact matrix of stones (fill **30482**) in the south side included sherds of hand-built pottery and part of a beehive quern (Cat. no. 870; Fig. 2.31), as well as alder and hazel charcoal, charred wheat, spelt, pale persicaria and grasses. The species were different in the northern side (**30420**), where the charcoal was of ash and elm in fills **30421** and **30422**, and pomaceous wood in **30167**, while the charred remains only included spelt. This variation likely represents individual episodes of discard and might also pertain to specific activity zones. Ash charcoal was the only species represented in fill **30306** of pit **30305**, located between Structures 5 and 6. Neither it, nor pit **30504** to the east, was apparently a receptacle for inorganic domestic waste from the nearby dwellings.

The annexe was an unusual addition to the presumed roundhouse, with the only possible comparanda on the A1 scheme being Structures 2/3 in Field 220 (see above). In the wider region, the roundhouse represented by structures 5–7 at Moss Carr, Methley, West Yorkshire, included gullies projecting eastwards from the structural ring gully terminals (Roberts 2001), defining a forecourt like the Scotch Corner example. The inclusion of a beehive quern at Structure 6 is worthy of further comment, as it represented the only Period 1 example that was not apparently reused in a structure or adapted for other processes (Cruse, Chapter 6). Incorporation or repurposing of querns was a common practice in the Late Iron Age, the nearest published examples being

Figure 2.31: Scotch Corner: Field 223, in situ quern (Cat. no. 870) in Structure 6.

a saddle quern used as structural component in the ring-gully of building CS5, and three beehive querns incorporated into the stone wall fabric of building SS1 at the Tofts, Stanwick (Haselgrove 2016, 97–8, 107, and 112–15).Approximately midway between Structures 6 and 8, a fire-pit or oven (**30068**) was protected from westerly winds by a windbreak represented by a line of four stakeholes (group **30893**; Fig. 2.30). Similar configurations of features were also recognised at Structures 8 and 13 to the north (see below), which were presumably identical solutions to the same problem. The fire-pit or oven measured c.1.3m long by c.0.7m wide with a base that sloped to the south (Fig. 2.32). Inside the heat-affected bowl, primary fill **30071** included charred spelt, charcoal from oak and sloe, and heather charcoal, which provided a radiocarbon determination of 90 cal BC–cal AD70 (95.4% probability; SUERC-83953), comfortably spanning the proposed period of occupation. A similar upper fill (**30069**) included over 100 fragments of briquetage (Britton, Chapter 5), sherds of hand-built pottery, bone, fired clay and a diverse range of charcoal (oak, ash, alder and hazel). However, the charred plant remains were the most revealing, comprising a wide range of cereals (wheat, emmer, spelt and barley), mixed with onion couch tuber, daisy, brome, chaff, fescue or ryegrass, bedstraw, mint, indeterminate grasses, sloe and two sloe stones. The onion couch tubers might have been consumed in times of adversity, or were potentially used as thatch or bedding (Baines, Chapter 8), but kindling seems the most likely option, given the concentration of charred household cereal processing waste in the pit. Fragments of charcoal from upper fill **30069** were dated to 180 cal BC–cal AD20 (95.4% probability; SUERC-83952). Bayesian modelling of the dates and associated artefactual materials place the fire-pit's use in the very late 1st century BC and the earliest years of the 1st century AD (Hamilton, Chapter 9). A sherd of glass dating from the 1st to 3rd centuries must have been inserted into fill **30143** of stakehole **30142**, but there was nothing else to suggest continued activity once continental imports arrived in the area.

Structure 8i (trench 30282), 8ii (group 30892) and 8iii (trench 30376)

The arrangement of features associated with fire-pit or oven **30068** was essentially replicated c.10m to the north-west at Structure 8, where a curving fence or windbreak had been replaced twice (Fig. 2.30). The uprights represented by stakeholes and hurdle trenches **30282**, **30376**, **30378** and **30380**, gully **30432**, and posthole **30430** were presumably erected to protect activity in pit **30406** from the elements. The pit had similar dimensions to **30068**, being 1.8m long by 1m wide by 0.19m deep, and its comparable contents

*Figure 2.32: Scotch Corner: Field 223, fire-pit **30068**, facing west.*

were similarly representative of domestic activity and refuse. Primary fill **30419** included heather charcoal, while upper fill **30407** contained sherds of hand-built pottery and charcoal from alder or hazel, birch, hornbeam and oak, all mixed with the charred remains of barley and spelt, onion couch tuber, hazelnut shell, fescue or ryegrass and an indeterminate grass. The radiocarbon determination obtained from charcoal ash provided a range of 160 cal BC–cal AD50 (95.4% probability; SUERC-83956), which was refined in the Bayesian model to a period between the early 1st century BC and mid-1st century AD and was therefore consistent with Late Iron Age activity in Field 223 (Hamilton, Chapter 9), as were the staple food remains represented in fire-pit or oven **30068**.

Structure 10 (trench 30333)

Approximately 12m north-east of Structure 8, the remains of Structure 10 comprised the northern arc of structural trench (**30333**) with a span of 7.2m (Fig. 2.30). It was truncated by later ditch **30198** on the south side but survived elsewhere to a maximum width of 0.35m and depth of 0.2m, with steep-sloping sides and fills rich with oak and birch charcoal. Two postholes (**30320** and **30330**) occupied a central south–north axis, the former measuring 0.2m deep and the latter only c.0.1m deep, both with flecks of oak charcoal in their fills. The trench backfill (**30445**) contained a small quantity of undiagnostic industrial waste, along with fragments of oak and birch charcoal. The unusual absence of charred cereals may indicate that, unlike other structures in Field 223, activity at Structure 10 was not primarily domestic. However, as at Structure 64 at Gatherley Villa (see above), there was insufficient evidence to suggest a convincing alternative purpose.

The south-facing terminals of Structure 10 were both c.2.4m from V-shaped ditch **30299**, which was 3.4m wide by c.1m deep, and easily the most substantial ditch in Field 223 (Fig. 2.30). The equal spacing suggests that the structure referenced the ditch in its early phase of use. The ditch had been backfilled with redeposited natural stony clay; secondary fill **30314** contained hand-built pottery and sherds of CAM 139 'black sand' flagon or amphora (Cat. no. 225; Griffiths and Williams, Chapter 5), whereas above a barren tertiary fill, fourth fill **30315** contained hand-built pottery, including imported wheel-thrown vessel sherds produced in the Claudian period, as did upper fill **30267**. The scale of the feature, and the pattern and date of deposited materials were comparable to ditch group **30877**, located c.121m to the north (see below; Fig. 2.33), perhaps demonstrative of an early pairing of boundaries that continued to infill once continental imports were abundant at Scotch Corner.

Field 223 northern area

Structure 12 (drip gully 30590)

North of Structures 5, 6, 8 and 10 was a 110m-long ribbon of land with little evidence of habitation before the arrival of continental imports (Fig. 2.33a), except for a possible drip gully terminal (**30116**; not illustrated) that had been substantially removed by later features. The equally scant remains of Structure 12 occupied a busier area of Pre-Roman Iron Age activity. Its putative drip gully (**30590**) was almost truncated to the base, with little fill remaining and no artefacts or environmental remains. It might stretch credulity to propose a south-east entrance given the high degree of truncation, but the gully did peter out where one might have existed.

Structure 13 (group 30897)

Structure 13 appears to have been developed once imported Period 2 pottery began to arrive at Scotch Corner (Fig. 2.33a). Its form was similar to a configuration of features observed further south in Structure 8 and pit **30068** (see above), demonstrating continuity in the methods and materials associated with food production. Two connected gullies (**30465** and **30529**), displaying a similar form to Structure 12, may have been parts of a heavily truncated drip gully and were cut across by a curving fence-line or hurdle trench (**30467**). The trench enclosed a smaller cobble-capped gully (**30547**), which shielded fire-pit or oven **30164**, which appeared to be the focal point of Structure 13. Outer gully **30467** contained fragments of fired clay and hand-built pottery in deposit **30468** at its east end, while fill **30548** from the inner gully was a compacted stony matrix that incorporated sherds of imported Claudian pottery and fired clay. Additional fragments of fired clay also came from fill **30530** in gully **30529**, which could have been associated with the fire-pit before the surrounding features were constructed. The dominant charcoal species was oak, but hazel was also recovered; its use as a fuel or in a hurdle complements the consumption of hazelnuts indicated by shells from fill **30553** of the outer fence-line or hurdle trench and from the fire-pit.

Fire-pit **30164** was 1m long by 0.8m wide and, like **30068**, had a sloping base with a maximum depth of 0.4m at the south-west end (Figs 2.33a and 2.34). Another similarity with pit **30068** was that the fills appeared to represent layered charcoal and domestic refuse, demonstrative of repeated episodes of use. Pottery was absent from the primary and secondary fills (**30176** and **30175**, respectively), but the abundant assemblages of charcoal and charred plant remains were comparable to those of fire-pit or oven **30068**. Oak, pomaceous species and heather charcoal were typical of the period, and the plant remains included the most common cereals (barley and spelt) with some sprouted grains. Other domestic refuse comprised hazelnut shells, fescue or ryegrass, indeterminate grasses, heathgrass and wood sage. A grain of barley from primary fill **30176** returned a radiocarbon determination of cal AD1–130 (95.4% probability; SUERC-83955), while another barley grain from secondary fill **30175** provided a range of 60 cal BC–cal AD70 (95.4% probability; SUERC-83954); once refined with Bayesian analysis, the chronological model suggests that combustion and deposition occurred in first half of the 1st century AD (Hamilton, Chapter 9).

In contrast with the organic-rich contents of the lower fills, top fill **30165**) contained only charred grasses and

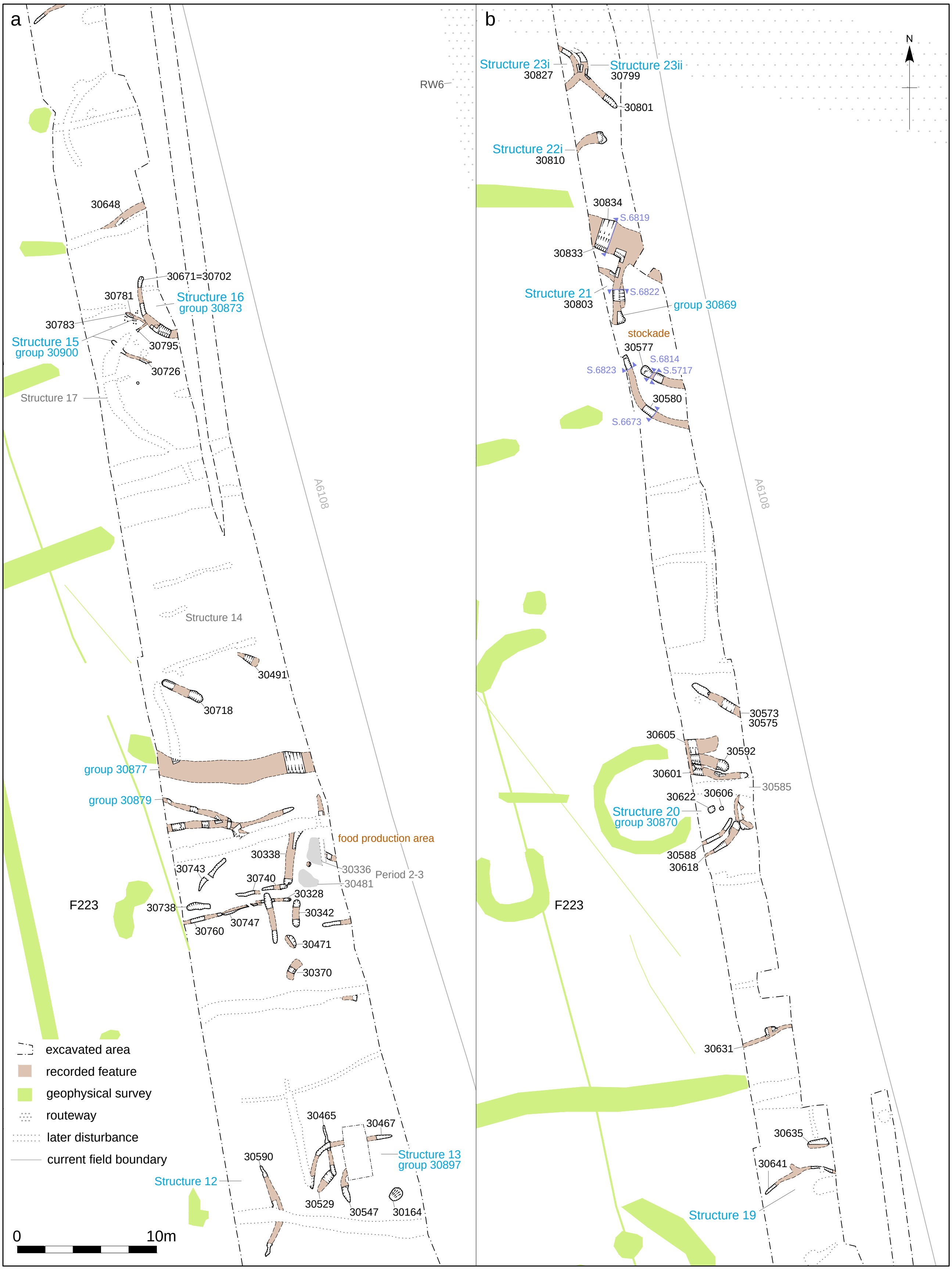


Figure 2.33a–b: Scotch Corner: Field 223, northern area, Period 1 features.

*Figure 2.34: Scotch Corner: Field 223, fire-pit **30164**, facing south-east.*

abraded sherds of hand-built hollow ware pottery of an indigenous type; imported wares were absent in three of the domestic pits (**30068**, **30164** and pit **30406** in Structure 8), whereas in an area of prolonged processing and production to the north, refuse pits **30336** and **30481** evidently continued in use into the Early Roman period and were receptacles for even more diverse assemblages of charred remains (see below).

The south-east to north-west Pre-Roman Iron Age alignment was recognised again c.35m to the north in a series of parallel gullies (group **30879**, as well as **30718** and **30491**), and a perpendicular gully (**30743**; Fig. 2.33a). Despite the shared alignments and regular spacing, the features appear to have served purposes other than defining enclosures, as might otherwise be assumed. Both **30491** and **30718** were devoid of imported vessels amongst otherwise diverse pottery assemblages but appeared to be spatially associated with Structure 14, which has its origins in Period 2 (see Chapter 3). The orientation and north-west terminal of feature **30718** seemingly referenced the gap between perpendicular gullies associated with Structure 14, though this need not indicate contemporaneity. Feature **30491** was very shallow, yet fill **30488** contained sherds of indigenous pottery, animal bone, and non-ferrous metal debris (Mackenzie, Chapter 7). In contrast, **30718** had a steep-sided U-shaped profile with a fill (**30719**) that contained a typical range of hardwood charcoal, the earliest example of an iron nail in Field 223, and the charred remains of spelt, barley, hazelnut shells and sedge. This was in stark contrast to larger ditch group **30879**, which yielded nothing and was probably a recut drain that was kept relatively free of debris. Preservation of discarded charred grains of barley and spelt in fill **30744** of south-west to north-east gully **30743** indicate proximity to a dwelling. Evidently, it was not always possible to determine the functions of features in the area.

Amongst the south-east to north-west features, ditch group **30877** meandered on a west to east course (Fig. 2.33a). This substantial feature was U-shaped and measured c.1.5m wide by 0.65m deep, had Pre-Roman Iron Age origins and, with ditch **30299** 121m to the south (Fig. 2.30 above), was perhaps the earliest of the large boundaries that defined the west–east enclosure system adopted and expanded into the mid-1st century AD. The lower fills of ditch group **30877** were colluvial and devoid of diagnostic materials, while the upper backfilled deposits included a rich mixture of debris derived from crop processing and debris from domestic food preparation to the immediate south during the Pre-Roman Iron Age, continuing while continental imports were in use (see Chapter 3), yet the only sherds of pottery found in ditch group **30877** were hand-built examples from upper fill **30451** (Cumberpatch, Chapter 5).Oak, pomaceous, alder or hazel, and birch charcoal were deposited continuously as ditch group **30877** was backfilled, with the notable and rare addition of European spindle in top fill **30453**. Waste from food preparation included the charred remains of barley, wheat and spelt, as would be expected, but there were also chaff remains from all three species, which was rarely encountered at Scotch Corner, and represents compelling evidence for processing. In such concentrations, the grains are interpreted primarily as processed residues of human food, yet barley chaff might also be remnants of horse fodder, which could be easily transported, or material for kindling. The proportionately greater recovery in these fields of chaff, compared to elsewhere in Scotch Corner, reflects waste from activities related to arable agriculture and the provisioning of traction animals (Baines, Chapter 8).

The complex of features immediately south of ditch group **30877** evidently represented an enduring focal point for crop processing and food production (Fig. 2.33a). Continuous and discontinuous gullies, ditches and pits were traced on complementary and oblique alignments, sub-dividing the area by creating narrow corridors and access points, apparently to direct the movement of waste materials from processing areas to refuse pits (see below). No coherent structural floorplan was evident, and consequently the hot activities appear to have been performed away from any dwellings.

The only possible primary source of the charcoal and charred plant remains inside the excavation area was an elongate feature interpreted as a hearth (**30738**) with burnt clay sides. However, the line of the feature continued to the east as gully **30740**, and it may simply have been part of a fence or hurdle that burnt in situ and was later divided by truncation. Another discontinuous gully or fence-line (**30760**, **30747** and **30328**) traced a parallel course some 0.6m to the south-east, the two lines forming a narrow corridor. At the eastern end, gully **30338** extended north-east to the northern enclosure boundary, while gully **30342**, pit **30471** and curving pit **30370** extended the discontinuous alignment to the south. Mixed charcoal and charred plant remains were recovered from features in both alignments, possibly deposited in transit, because the intended receptacles in the mid-1st century were evidently pits **30481** (Fig. 2.35) and **30336** (see Chapter 3), which possibly continued in use after AD50, as suggested by the sherds of imported amphora and coarseware of Claudian and possibly Neronian date in middle fill **30484** of pit **30481** and similar coarseware in upper fill **30337** of pit **30336** (Griffiths and Williams, and Leary, Chapter 5) as well as sherds of a hand-built jar (Cat. no. 8; Cumberpatch, Chapter 5). It is argued, however, that the feature originated much earlier in the century; a radiocarbon date of 50 cal BC–cal AD80 (95.4% probability; SUERC-83957) from a barley grain in primary fill **30485** of pit **30481** was refined by Bayesian modelling to a time within the first 60 years of the 1st century AD (Hamilton, Chapter 9).

Structure 15 (group 30900)

The insubstantial remains of Structure 15 comprised gullies **30726**, **30795** and **30783**, which appeared to describe a rectangular footprint. Such features are not commonly associated with vernacular pre-Roman buildings, yet this example respected the Pre-Roman Iron Age north-west to south-east orientation and may have stood at the same time as the nearby former roundhouse (Structure 16; Fig. 2.33a). The rectangular structure had been abandoned and demolished by the time a Period 2–3 drip gully (Structure 17) cut through it (see Chapter 3). The straight walls or fence-lines of Structure 15 survived as two narrow parallel trenches spaced 2.4m apart with no surviving evidence for gables. A posthole (**30781**) cut into the northern terminal of the north-east trench contained alder or hazel charcoal in fill **30780**, which represented the only cultural material. The form might be considered unusual for the period, but a very similar arrangement dated to the early to mid-1st century AD was also found in close association with two roundhouses (Structures 26 and 27) in Field 267a (see Chapter 3). The functions of the rectangular structures were never satisfactorily established, but they appeared ancillary to vernacular dwellings in both cases (e.g. Powlesland *et al.* 1986; Moore 2003, 47).

Structure 16 (group 30873)

Most of the original curving gully defining Structure 16 was removed by recut **30671=30702**, which traced a projected diameter of c.6m and fell mostly outside the excavation area (Fig. 2.33a). In common with other domestic structures in Field 223, the charcoal assemblage was oak, ash and heather, and charred grains of spelt and barley came from the same fills (**30672** and **30703**); the latter fill also included hand-built pottery and fragments of fired clay. The environmental assemblage was therefore entirely consistent with exploitation of the local flora and food production. Where Structure 16 differed from those in the open area to the south was in its association with a ditched boundary, which it shared with Structure 19.

Structure 19 (trench 30641)

Approximately 4m north of Structure 16, ditch **30648** crossed the area from south-west to north-east. It was potentially contemporary with gully **30631**, located c.27m to the north-west, thus forming an early west–east enclosure in which the heavily truncated remains of Structure 19 occupied the central part (Fig. 2.33b). The 0.12m-deep curving hurdle trench or fence-line (**30641**) of Structure 19 did not follow the arc of a circle as might be expected for a penannular gully, nor was there any evidence for a southern side. Considered with the very modest dimensions, it seems likely that Structure 19 was little more than a curving fence, perhaps constructed with pomaceous wood that became incorporated into fill **30642**. However, immediately north of Structure 19, fill **30636** of sub-rectangular pit **30635** contained a domestic environmental assemblage of charcoal, charred spelt and barley, black bindweed and bedstraw. This perhaps provides evidence that Structure 19 was once a dwelling or a designated processing or preparation area, though much of it was apparently lost to later activity.

Structure 20 (group 30870)

Structure 20 was located c.25m north of Structure 19 (Fig. 2.33b). It was the best preserved and most coherent structure in Field 223, comprising inner structural hurdle trenches (**30588** and **30601**) and outer drip gullies (**30618**, **30592** and **30605**) featuring a relatively modest internal diameter of c.5m and demonstrating episodes of refurbishment and modification (Fig. 2.36). More than half of its circuit was represented clearly as a

*Figure 2.35: Scotch Corner: Field 223, refuse pit **30481**, facing south-west.*

geophysical anomaly to the west of the excavation area. Inside the A1 scheme excavation area, two postholes (**30622** and **30606**) were all that remained of the internal features after west–east ditch **30585** was cut through the centre in Period 2. The complete absence of artefacts meant that the only evidence for activity was environmental, and this came from contemporary drip gullies **30592** and **30618** on the north and south sides respectively, and hurdle trench **30588** on the south. The species conformed to trends seen across the area; charcoal was primarily oak, with examples of alder or hazel and pomaceous species on the north side. The charred plant remains were also more diverse on the north, with barley, spelt and onion couch tuber from **30593** and **30594**, while only spelt came from the fills on the south side. The presence of onion couch may perhaps be associated with arable fields and is edible as fodder for livestock. As with Structure 6 (above), it is difficult to say whether this reflects activity areas or was an accident of tidying up. Immediately north-east of Structure 20, the remaining base of gully **30573** followed the Pre-Roman Iron Age alignment and included sherds of hand-built pottery in fill **30574**. Evidence for the function of the gully was restricted to a single posthole (**30575**), which was perhaps a relic of a fence-line.

Structure 21 (drip gully 30803)

Approximately 30m north of gully **30573**, a northern drip gully terminal (**30803**) contained sherds of hand-built wares in fill **30805** (Fig. 2.33b). The absence of imported or wheel-thrown pottery is not necessarily evidence

Figure 2.36: Scotch Corner: Field 223, Structure 20, facing west.

Figure 2.37: Scotch Corner: Field 223, ditch ***30834*** *and palisade trench* ***30833****, facing south-east.*

of a Period 1 date range, but the feature was evidently abandoned in favour of a timber-built compound or stockade constructed over its infilled footprint and so fits sequentially with the earliest occupation.

A palisaded compound or stockade

Near the northern end of Field 223, the south-east to north-west Iron Age alignment was respected by a wide shallow ditch (**30834**), which corresponded with a geophysical anomaly that traced a shallow curving course for c.28m to the west of the excavation area (Fig. 2.33b). The excavated part of the ditch contained sherds of hand-built and Early Roman pottery in fill **30841** (Cumberpatch and Leary, Chapter 5). Along its south-west, downslope side ran a steep-sided palisade trench (**30833**), which represented the north side of a unique arrangement of features that could have been a conspicuous compound for a roundhouse, but might equally have been a robust timber stockade (Fig. 2.37). The adjacent ditch presumably acted as a header drain to divert water away from upright timbers of the palisade and provide an outer boundary for the activity zone.

Palisade trench **30833** was connected to a curving palisade trench (group **30869**) that branched southwards, cutting through Structure 21 (Fig. 2.33b). The south side of the compound or stockade was defined by two similar trenches (**30580** and **30577**), which may have been contemporary or representative of an episode of internal reconfiguration. The profiles of palisade trenches **30580**, **30577**, **30833** and group **30869** were steep-sided, measuring up to c.0.7m deep by c.0.5m wide at ground surface, and tapering to c.0.2m at the base (Fig. 2.38, sections 6673, 2823, 5717, 6814, 6819 and 6822). They were unlike anything to the south, but parallels were seen in the nucleated early to mid-1st century enclosures in Field 267a (see Chapter 3). Once the timbers had been removed, rotted or burnt, the trenches in Field 223 were evidently backfilled with very dark materials containing high concentrations of the typical charcoal species, as well as Early Roman artefacts and environmental remains consistent with food preparation. In addition, charred remnants of rye/soft brome and legumes recovered from fill **30581** of trench **30580** probably derive from exploitation of nearby pasture (Baines, Chapter 8).

More notable finds came from trench **30577** (Fig. 2.39); of particular significance was an assemblage of briquetage found with charcoal and charred cereals in primary fill **30578** (Britton, Chapter 5). Its presence in the palisade trench perhaps presents an opportunity to connect the imported salt with local meat curing or dairy production rather than food production for imminent consumption, which is a more satisfactory explanation given the paucity of butchery remains. Fragments of fired clay came from another primary fill **30812** and secondary fill **30813** included some burnt bone from an unidentifiable species, and a globular gold-in-glass Roman bead (Cat. no. 760) of 1st-century AD date (Foulds, Chapter 6) from fill **30859** in trench **30580** on the south side; the date for the jewellery style corresponds well with a radiocarbon determination of 110 cal BC–cal AD60 (95.4% probability; SUERC-83958), which was obtained from a barley grain in fill **30857** of trench **30806** (group **30869**). Considered with the refined date range suggested by Bayesian modelling (Hamilton, Chapter 9), the combined evidence seems to place abandonment of the compound or stockade and its final infilling during Period 2 (see Chapter 3).

On the north side of the compound or stockade, secondary fill **30852** in trench group **30869** contained fragments of fired clay that possibly derived from the lining of a hearth, kiln, or corn drier (Mackenzie, Chapter 7). The richest environmental assemblages came from palisade trench **30833** (Fig. 2.33b), which

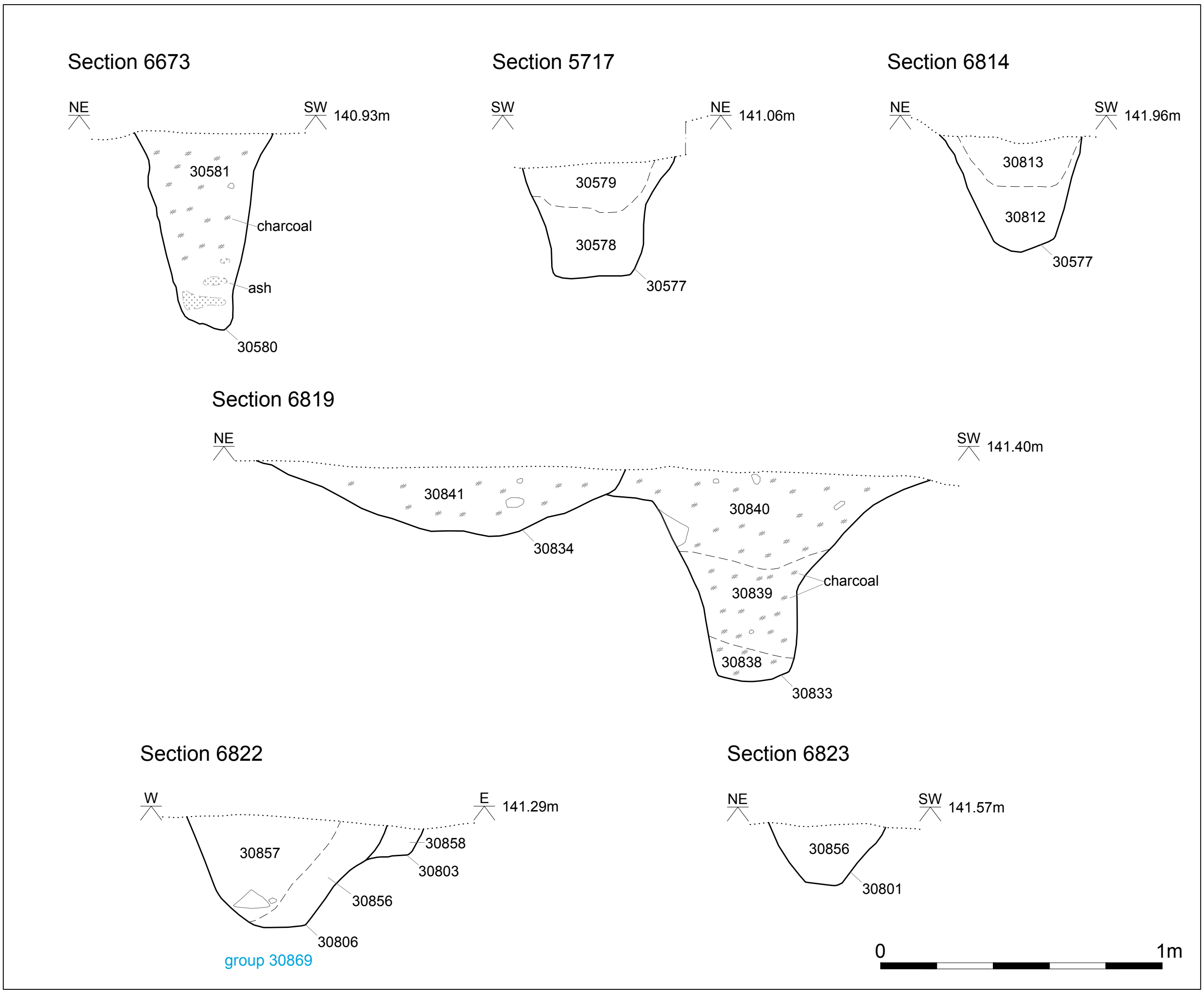


*Figure 2.38: Scotch Corner: Field 223, sections of palisade trenches **30580**, **30577**, **30833** and group **30869**.*

also included briquetage (see Britton, Chapter 5), body sherds of hand-built hollow ware (Cumberpatch, Chapter 5) and imported Period 2 pottery in the secondary fill (**30839**). The upper fill (**30840**) was charcoal-free, but also contained a fragment of briquetage, and was rich in charred plant remains, which included a piece of fired clay with the paw print of a cat (Mackenzie, Chapter 7). Compelling evidence for butchery was notably absent, however, and if the proposal for a stockade has any credibility, animal processing must have taken place elsewhere.

Structure 22i (drip gully 30810)

Structure 22i comprised the northern arc and terminal of curving gully **30810**, which extended beyond the western site boundary, c.5m north of the compound or stockade and its associated ditch (Fig. 2.33b). A Period 1 date is postulated from the hand-built pottery assemblage in fill **30811** and similarities with Structure 21, c.9m to the south, although the terminal was recut as **30796** (not illustrated) and its upper fill (**30798**) contained typical charcoal and plant species, as well as sherds of imported pottery produced in the Claudian period or possibly later. This material may derive from the same origin as the deposits found in the palisade trenches to the immediate

*Figure 2.39: Scotch Corner: Field 223, palisade trench **30577**, facing east.*

south, and thus represents episodes of backfilling after abandonment of the structures. It is possible that Structure 22i was contemporary with either or both of Structures 23i and 23ii, which were the features furthest north in Field 223 with probable Pre-Roman Iron Age origins, deduced ostensibly from the absence of imported pottery sherds in an area where other features included them.

Structure 23i (trench 30827) and 23ii (trench 30799)
The first iteration of Structure 23 was represented by a semi-circular trench (**30827**) with an internal diameter of c.2.5m and infill that contained no artefacts but did incorporate alder, hazel and oak charcoal with charred barley grains in fill **30855** (Fig. 2.33b). Recut **30799** traced a similar arc and was appended to gully **30801**, which extended south-east for a little over 3m and was perhaps associated with a south-east entrance and the pre-Roman alignment. Its fill (**30856**) included ash charcoal, charred spelt grains and bedstraw, all of which are indicative of habitation and domestic consumption in the wider settlement, but perhaps not within a structure with a 2.5m diameter, which was more likely an ancillary building with an even smaller interior than Structure 64 at Gatherley Villa (above).

Field 265

RW2 and RW3: Late Pre-Roman Iron Age routeways
A remarkably complex network of native pre-Roman routeways around Scotch Corner was inferred from the fieldwork results from the A1 scheme in combination with: the 2015 NAA geophysical survey, A1 scheme geophysical surveys (Fig. 2.2; ASDU 2007; 2014c), further survey undertaken for the proposed Scotch Corner Designer Village (Field 223; ASDU 2014b), excavations at the Scotch Corner Hotel (Abramson 1995), and the A66 widening scheme (Zant and Howard-Davis 2013). The routeway network reinforced the idea of a mobile community using comprehensive transportation links within the developing settlement as well as routes radiating from it, much like the scenario proposed for Stanwick (Haselgrove 2016, 460, fig. 26.6). From the beginning of fieldwork at Scotch Corner, there was a potential opportunity to investigate the character and extent of such routeways, particularly around the important junction connecting the Roman road to Stainmore with the Roman road between south and north known now as Dere Street (Fig. 2.40; Chapter 4, Fig. 4.2). This was achieved in the narrow excavation area in Field 265, where the conjoined routeways

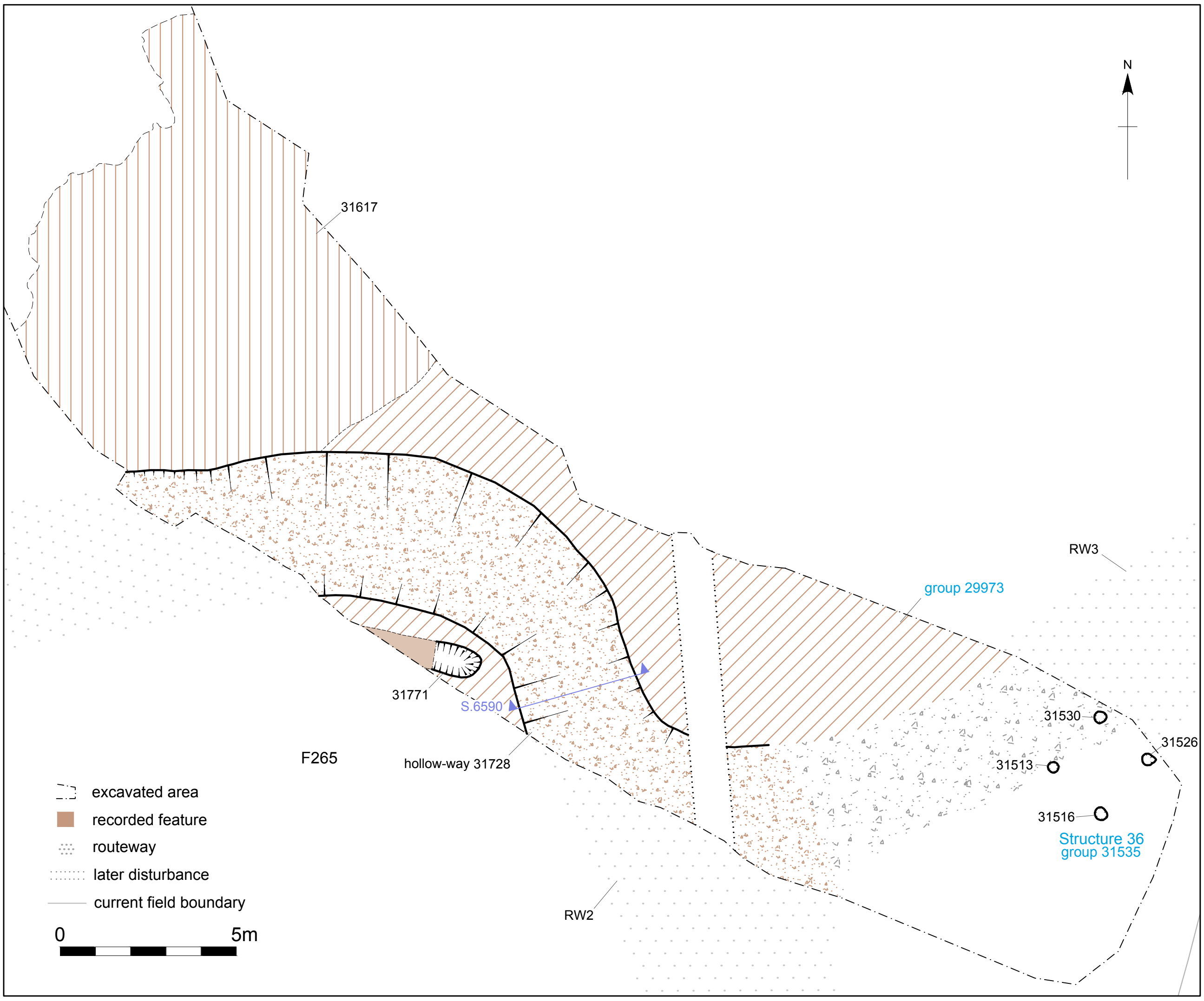


Figure 2.40: Scotch Corner: Field 265, Period 1 features.

Figure 2.41: Scotch Corner: Field 265, routeway RW2, facing north-west.

(RW2 and RW3; see below) continued to be used through Periods 2 and 3 and were perpetuated in the later Roman junction (see Chapter 4). A short distance to the south, undated segments of hollow-ways with uncertain alignments were observed in the sides of service trench NPG37 and were presumably associated with pre-Roman occupation and the enclosure systems introduced in Period 2 (see Chapter 3).

The junction of hollow-ways RW2 and RW3 fell within the narrow excavation area in Field 265 (Figs 2.40 and 2.41). The westerly route (**31728**, RW2) curved sharply away from a south–north course, while another route (RW3) branched north-east from the outside corner, becoming completely truncated where it passed a four-post structure (Structure 36; group **31535**), which respected its alignment and that of the Iron Age routeway (RW1) further south. The arrangement and position of this hollow-way junction, which was used into Period 3, was later perpetuated in the Roman road to Stainmore (RR1) and in the northward extension of Dere Street (RR10; see Chapter 4; Fig. 4.2, section 6590). The hollow-ways carved through surviving patches of buried soils (group **29973**) and respected the north side of ditch **31771**, which continued to infill as activity here intensified through the 1st century AD. Later activity associated with construction of Roman roads appears to have introduced materials to the upper fills and deposits here (see Chapter 4); a charred barley grain in deposit **31796** of buried soil group **29973** returned a radiocarbon date of cal AD50–230 (95.4% probability; SUERC-84004), and charcoal in-fill **31770** of ditch **31771** provided a radiocarbon date of cal AD20–140 (95.4% probability; SUERC-84002).

In the central part of the excavation area in Field 265, a strip of buried soil (**31617**; Fig. 2.40) survived beneath successive Roman roads but was considerably disturbed in Periods 4 and 5, as demonstrated by the trampled sherds of BB1 pottery dating from after AD120 (Leary, Chapter 5). In addition to the abraded coarseware sherds, building materials, ash, slag and fired clay, charcoal and charred grains were moved around and trampled into the surface during construction of Roman roads. The most notable addition were rare sherds of Baetican olive oil and Campanian wine amphorae. As Willis (2016b, 214) states for the equivalent Period 4 (c.30/20BC–c.AD30/40) material at Stanwick, these probably arrived complete with their contents (see Chapter 4 and Griffiths and Williams, Chapter 5). The lower part of the deposit, however, was better preserved and included a dense assemblage of worked flints, which were representative of Mesolithic and Neolithic activity, which is discussed elsewhere (Foulds 2017; 2018; Speed in prep; Fell in prep.).

Following gentle undulations in the ground, the north-west section of hollow-way **31728** (RW2) was exposed for over 25m of its sinuous route along the south-west side of the excavation area. The shallow, concave profile was up to 5m wide with a deeper channel worn approximately along the centre. In order to consolidate the route and prevent further erosion, it was reinforced with a 0.1m-thick aggregate layer (**31795**) formed with small stones up to

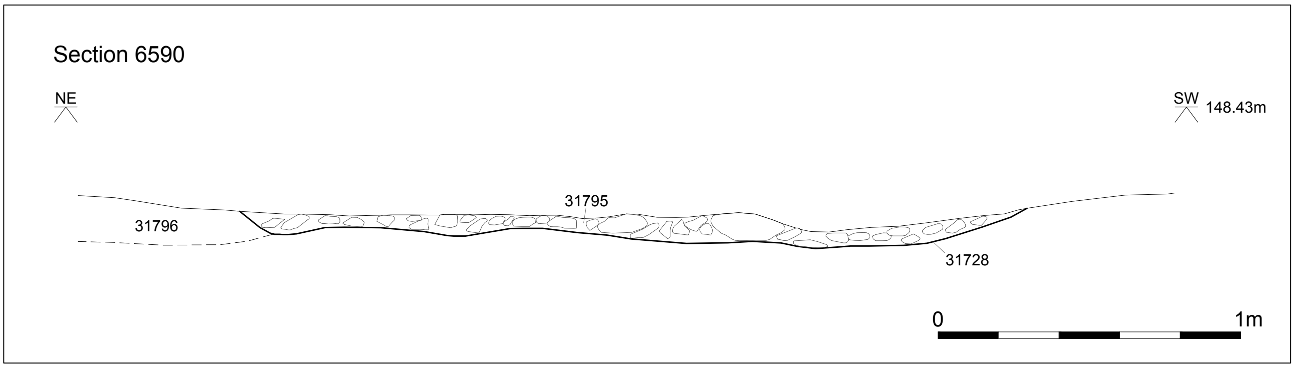


Figure 2.42: Scotch Corner: Field 265, section of routeway RW2.

0.05m in size with occasional cobbles around 0.10m in diameter (Fig. 2.42). Compacted by years of traffic, the surface included fragments of bone and a small copper-alloy brooch trumpet (Cat. no. 725), which had been manufactured and lost during Period 4 (Croom, Chapter 6) when Dere Street west (RR3) was first constructed over the hollow-way (see Chapter 4; Fig. 4.2).

The north-east routeway (RW3) had been significantly truncated, leaving no trace of aggregate surface where it passed the north-western side of Structure 36, yet its trajectory was clearly north-easterly (Fig. 2.40). Colluvial fill **31797** had accumulated in the primary hollow-way and included some habitation debris that was comparable to assemblages from Field 223, such as alder or hazel charcoal, but the fragments of animal bone and charred remains of fescue or ryegrass perhaps demonstrate that bedding and fodder were primary concerns in this area later in the century, when a stable or slaughterhouse was constructed next to the Dere Street junction (see Chapter 4; Baines and Wright, Chapter 8). Evidence for pre-Roman equine activity was also focused at the hollow-way junction in Field 265, with examples of a typical Iron Age copper-alloy bit (Cat. no. 689) and part of a possible rein hook (Cat. no. 690) that was very similar in form to those from the 'Stanwick' hoard found at Melsonby (Croom, Chapter 6). The junction of routeways and its association with horses evidently survived the arrival of the Roman military and road construction and were well-represented at this location and immediately to the east in Field 258 during Period 4 (see Chapter 4; Croom, Chapter 6).

A continuation of the hollow-way led to a busy area of Period 4 activity in Field 258, where no Iron Age remains survived, and beyond to the north, effectively defining a sinuous south–north route that perhaps curved to the north-east (RW3a; Fig. 2.22, above) and also probably forked to the north (RW3b), a line later followed by the northward extension of Dere Street (RR10; Chapter 4; Fig. 4.2).

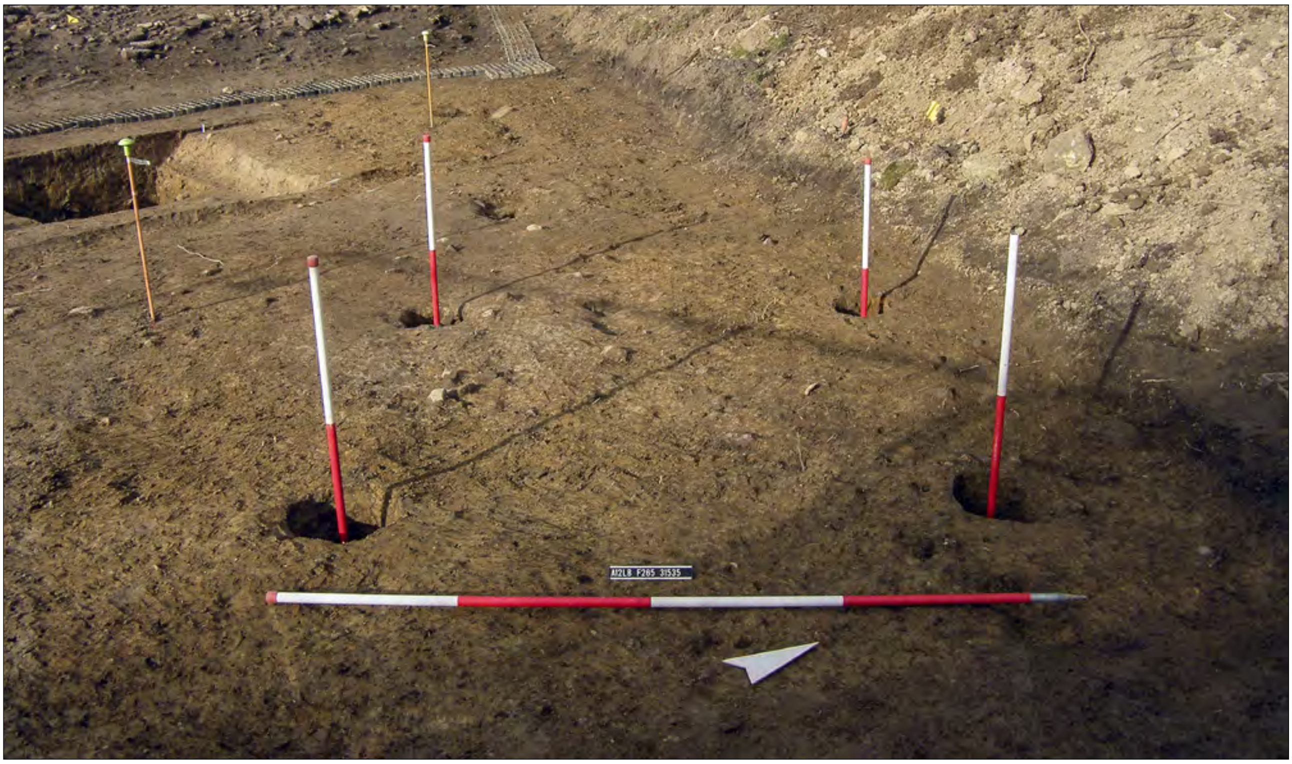


Figure 2.43: Scotch Corner: Field 265, Structure 36, facing south-east.

Structure 36 (group 31535)

Structure 36 comprised postholes **31513**, **31516**, **31526** and **31530** arranged in an approximate square, with sides of 1.9m and 2.0m, falling within the usual size range for similar structures found nearby at Stanwick and Scorton Quarry (Speed 2009, 14–15; Haselgrove 2016, 68–9), but rarely in the wider region. The truncated features survived to depths of up to 0.39m, with diameters of c.0.35m (Figs 2.40 and 2.43). Packing stones in **31530**, **31513** and **31526** appeared to have slumped after removal or decay of the posts, following which the holes were partially infilled with heat-affected stones. The only charcoal species identified were alder or hazel and poplar or willow, and oak from upper fill **31529** of posthole **31530**, which also contained some animal bone, and charred hazelnut shell and indeterminate grass species came only from upper fill **31512** of posthole **31513**. The paucity of the plant remains raises some questions about the type of structure, which in Iron Age or Early Roman period contexts have typically been regarded as granaries, constructed with raised floors to improve air circulation and discourage vermin (Cunliffe 2005, 411). Were this the primary function of Structure 36, we might expect to find more cereal remains. Similar absences have contributed to alternative interpretations such as excarnation platforms (Ellison and Drewett 1971, 190–2; Carr and Knüsel 1997), square dwellings, or the central frames of otherwise invisible roundhouses (Moore 2003, 47–50; Cunliffe 2005, 411–12). None of these alternative functions is currently supported by the evidence at Structure 36, and an elevated food store remains its most likely function.

Fields 246 and 247

The results of geophysical survey and excavation suggest that two apparently domestic structures (55 and 56) were located in a relatively open area, c.50m north of the concentrated area of activity associated with the workshop enclave in Field 246 (Fig. 2.44). Along the east side of Field 246, a few dispersed sub-circular geophysical anomalies suggest that structures may yet remain undiscovered beneath the plough-soil, while a cluster of similar features occupied the south-east corner of Field 247 outside the A1 scheme excavations. Given their size and shape, it seems likely that the anomalies represent roundhouses of the indigenous tradition.

Structure 55 (group 31251)

The plough-damaged vestiges of a probable domestic roundhouse comprised a short surviving segment on the north-western arc of a curving gully (Fig. 2.45). The projected c.10m diameter circuit would later be truncated on the north-eastern arc by Period 4 enclosure boundary **16183** (see Chapter 4). The remains of approximately one-third of the circuit were surveyed before cleaning, after which only segment **15598** remained for investigation. The gully was 0.32m wide and only 0.05m deep. Its fills contained charred goosefoot and campion but no dateable artefacts, whereas finds were plentiful in the later ditch (see Chapter 4). A single

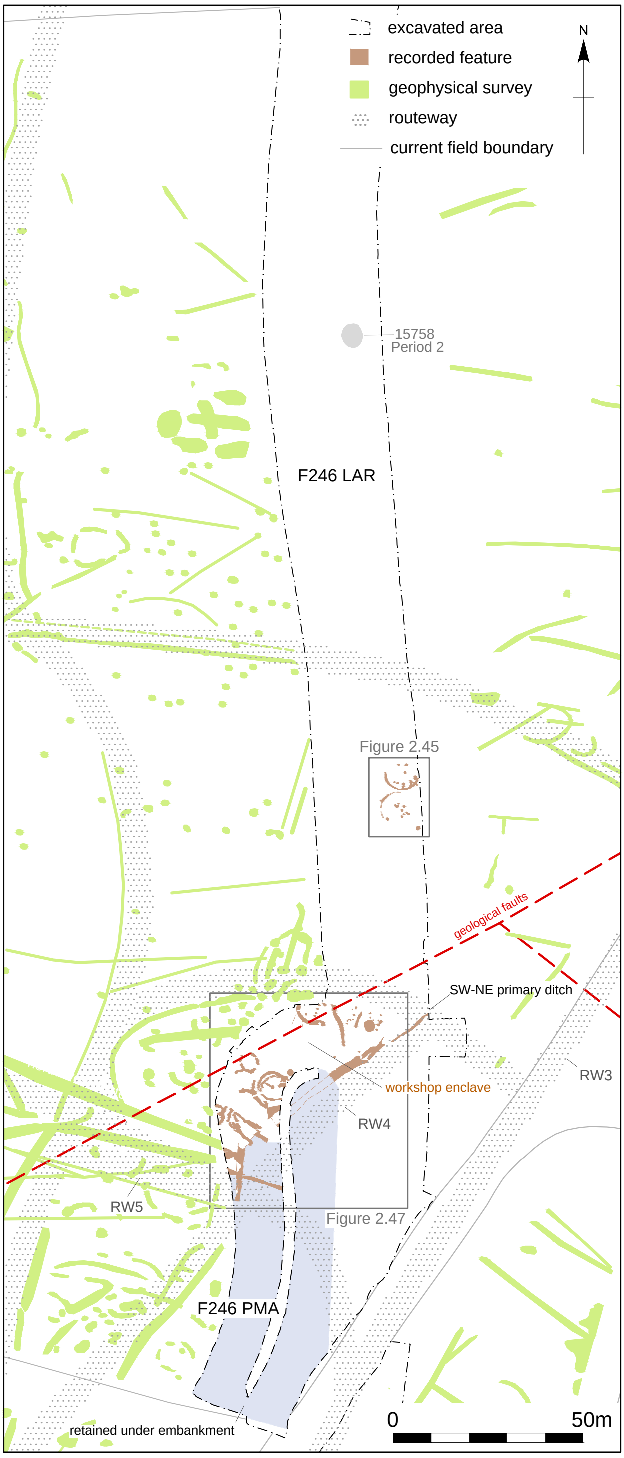


Figure 2.44: Scotch Corner: Field 246, overview of Period 1 features.

small posthole (**16160**) lying immediately outside gully **15598** was presumably associated with the structure, while additional features including pit **16142** were also recorded at the approximate perimeter. Most of the internal features were clustered near the centre of the structure; larger features (**16088**, **15600**, **16081**, **16077**, **16079**, **16092**, and **16090**), which measured up to 0.5m in diameter, perhaps housed a framework of substantial posts, although the overall configuration of structural supports was not clear, nor was any sequence evident. Fired clay from fill **15601** of feature **15600** presumably derived from an oven or hearth, but no other cultural

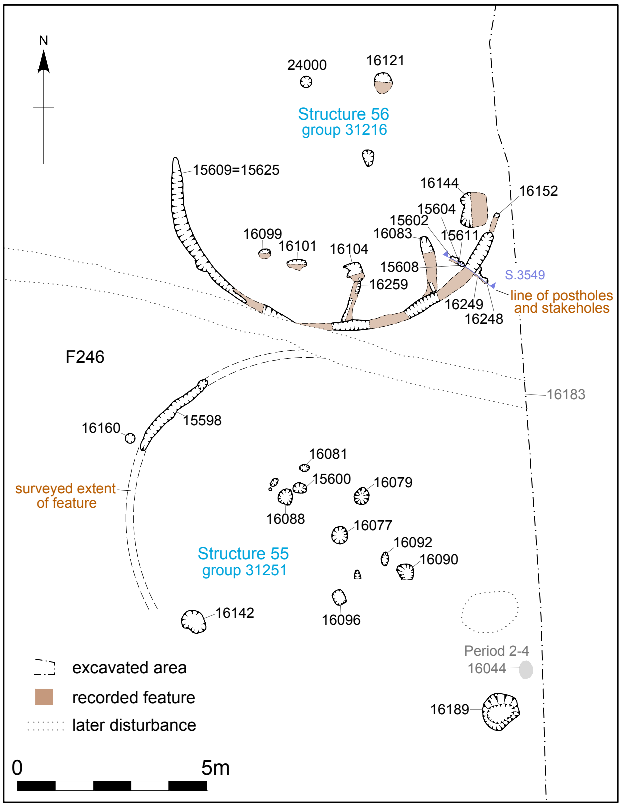


Figure 2.45: Scotch Corner: Field 246, Structures 55 and 56, and associated features.

materials aside from some undiagnostic magnetic matter were recovered from the fills of these apparently structural features.

Approximately 1m outside the projected circuit of the structure, and near a putative south-east facing entrance, posthole **16189** was 0.45m deep with a c.0.6m diameter set within a wider and shallower fringe. It is not clear how or whether this feature related to Structure 55, and it may be more appropriate to consider it alongside **16044**, which contained artefacts deriving from Periods 2–4 activity, and was perhaps part of later oven group **31217** (not illustrated; see Chapter 3).

Structure 56 (group 31216)

Like Structure 55, the circuit of Structure 56 was truncated by Period 4 enclosure ditch **16183** and on its opposite side by ploughing (Fig. 2.45). The surviving southern half of structural trench **15609=15625** measured up to 0.3m wide by 0.15m deep with steep or near-vertical sides and a projected diameter of c.8m. The short gully (**16152**) that extended for c.0.5m beyond the north-east facing entrance terminal followed the same arc and was interpreted as a remnant of the south-east facing doorway, with shallow depression **16144** perhaps worn into the natural boulder clay by the footfall of the inhabitants. The range of artefacts and environmental remains from the fills of the trench suggests exploitation of a diverse floral resource and a typical domestic setting: fill **15610** contained charcoal from elm, birch, and ash, as well as a single scrap of Late Pre-Roman Iron Age or Early Roman pottery; charred onion couch tuber came from **15626**; barley grains were found with an indeterminate grass and fragments of daub in **15627**; goosefoot and common knotweed were found with coal, non-metallurgical industrial waste, and an unidentifiable copper-alloy object (Cat. no. 886; see Mackenzie, Chapter 6) in fill **16103**; charred goosefoot also featured in **16163**, along with pomaceous charcoal and fragments of animal bone. Oak charcoal was only recovered from deposit **16235**, which was slightly at odds with evidence from fields to the south, as was the paucity of charred grains; where spelt might be expected, the assemblage here was restricted to barley, which was probably consumed by humans and animals alike (Baines, Chapter 8).

The rather conventional structural trench functioned with three features that were unique at Scotch Corner. Near the south-east entrance terminal, a line of postholes and stakeholes (**15602**, **15604**, **15608**, **15611**, **16248** and **16249**) marked a former hurdle that extended on perpendicular alignments for c.0.45m to either side of trench **15609=15625** (Fig. 2.46, section 3549). The function of the feature was uncertain, but it appeared to have been a divider near the entrance. and was reminiscent of arrangements accompanying Circular Structure (CS) 8 at Stanwick Site 9 (Haselgrove 2016, fig 4.42; 96). The pieces of coal and charred goosefoot found in fill **15603** revealed little of its purpose. Further round the circuit to the west, the structural trench connected with gullies **16259** and **16083**, which terminated at an arc of internal structural postholes (**16099**, **16101** and **16104**) positioned c.1.2m inside the hurdle trench; these presumably supported the roof and perhaps formed bays in the manner of Iron Age Atlantic wheelhouses (e.g. Armit 1990; 2003; 2006; Crawford 2002), feasibly denoting specific activity zones. The northern arc of postholes was represented by **16121** and **24000**, the latter with hazel charcoal in fill **24001**, which was regarded as spent fuel.

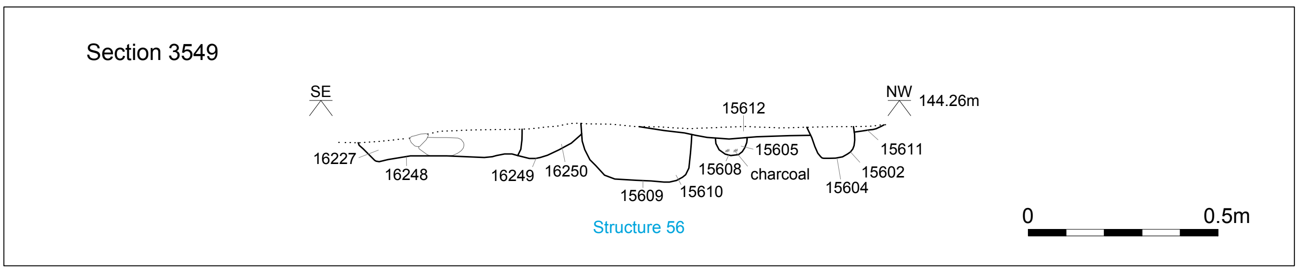


Figure 2.46: Scotch Corner: Field 246, section of Structure 56 hurdle trench and stakeholes.

PERIOD 1 (c.55BC–c.AD15): PELLET MANUFACTURING AND COPPER PROSPECTION AT THE WORKSHOP ENCLAVE (FIELD 246)

Manufacturing of precious and semi-precious metal-alloy pellets at Scotch Corner occurred in either a single episode, or a few short episodes during the period spanning the Late Pre-Roman Iron Age and early to mid-1st century AD (Figs 2.47 and 2.48; Landon, Chapter 7). While abundant charred plants indicate that food waste was present in the workshop enclave at this time, the absence of beehive querns in contemporary deposits suggests that food production and cooking took place outside the immediate area. Native species of hardwood charcoal were very common in deposits across the workshop area during Periods 1 and 2, particularly oak and birch, the latter species known for producing high temperatures suitable for metalworking (Baines, Chapter 8). Hazel and alder charcoal was commonly associated with contexts containing pellet moulds and may be associated with the manufacturing process. The artefactual and environmental evidence suggest that artisans working in the enclave specialised in pellet manufacturing and other crafts using gold, silver, copper alloys and bronze. Minute traces of iron smithing residues may represent small-scale background activity at this time, or perhaps even contamination from deposits associated with Period 4 (see Chapter 4; Mackenzie, Chapter 7).

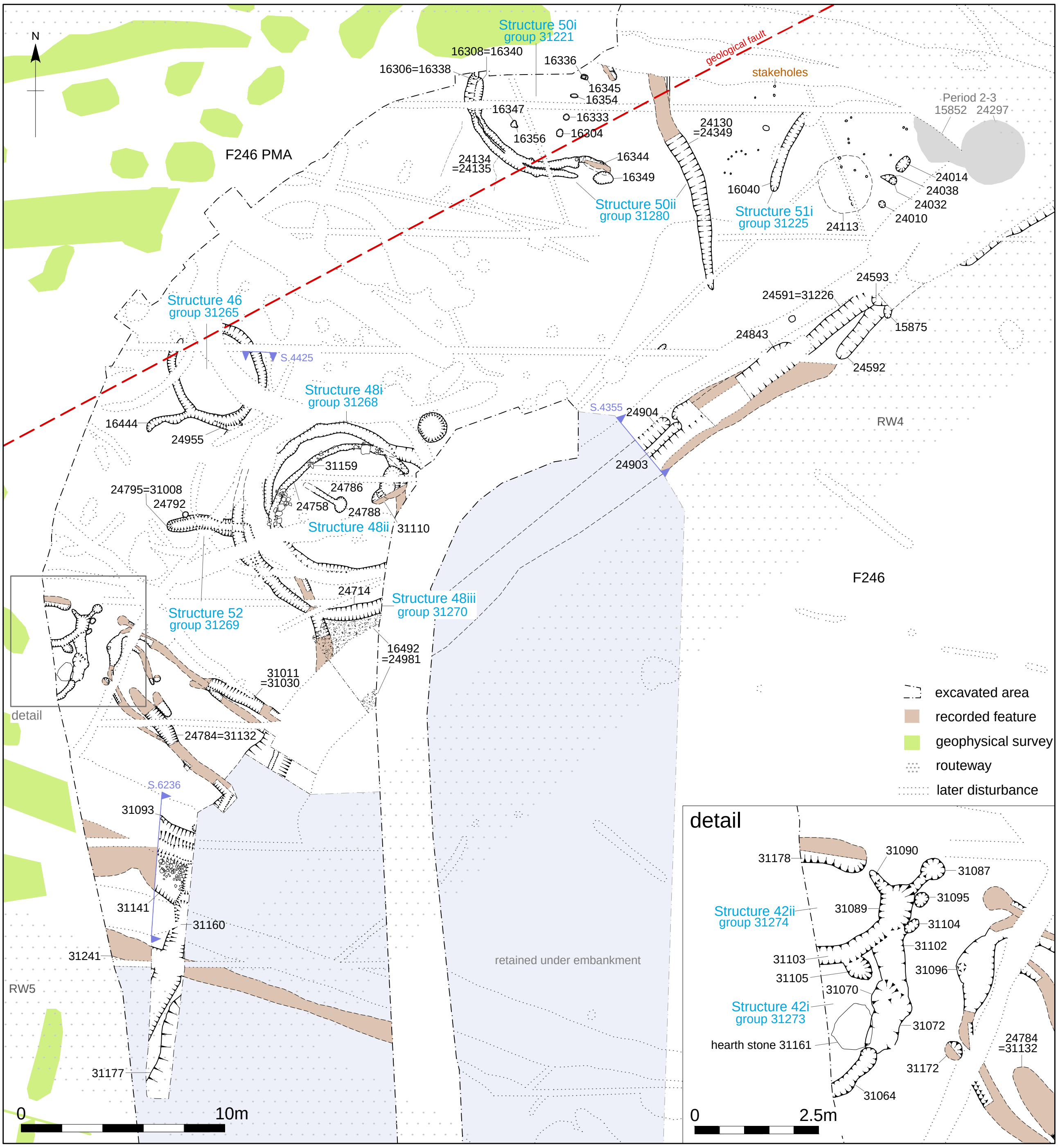


Figure 2.47: Scotch Corner: Field 246, workshop enclave.

Figure 2.48: Scotch Corner: Field 246, workshop enclave pre-excavation (vertical orthoimage).

Before Roman imports began to arrive at Scotch Corner, non-ferrous metalworking and pellet manufacturing was probably underway in or around five structures (42, 46, 48, 50, 51 and 52), some of which were refurbished or rebuilt in Period 2, and most of which displayed attributes that were unfamiliar in contemporary indigenous roundhouses. Shortly after continental ceramics began to arrive at Scotch Corner in the early 1st century, broken vessels were deposited in every form of cut feature, while imported glass vessels produced in Periods 2 and 3 were soon added to the discarded refuse. Although the concentration of imported vessels at Scotch Corner was greatest in the workshop area and might be linked to periodic feasting or ritualised behaviour (Leary, Chapter 5), the primary activity was arguably manufacturing, rather than habitation—an interpretation supported by the deposits of pellet moulds and manufacturing waste including crucibles, the morphology of buildings, the network of water cisterns, and other enigmatic features apparently associated with artisan production and potentially with newly acquired technologies. These categories need not be seen as mutually exclusive, though, as consumption of imported comestibles, the use of valuable vessels and their discard, and precious metalworking may have represented a suite of conspicuous activities that were intricately connected to each other and the practitioners, and were representative of elevated social and/or economic status.

Pellet production apparently began in a zone without a complete ditched boundary, although workshops and other early structures were restricted to an enclave to the west of a south-west to north-east primary ditch cut along the south-east side of an underlying copper-bearing fault in the limestone substrate. The zone occupied by the workshops was geologically distinct, with silty sand overlying the boulder clay, making for drier surface conditions than those found south-east of the ditch. The earliest iterations of the ditch were devoid of metalworking finds, but waste materials were disposed there shortly after its inception. The possibility remains that ditched boundaries of an early workshop enclosure appended to the north-west side of the ditch were removed during later episodes of redefinition, but there was no surviving evidence for any coherent enclosure until the arrival of continental imports, during and after which it was frequently redefined (see Chapter 3). At the core of the enclosure, Structure 47 (see Chapter 3, Fig. 3.3) and Structure 48 would undergo the most frequent and substantial episodes of refurbishment and modification. While both incorporated intriguing features and adaptations not usually recognised in domestic settings, neither appears to have been definitively involved with pellet manufacturing, unless the waste was fastidiously tidied into middens or pits and the ditches. This apparent pattern, however, may be symptomatic of disposal preferences and redeposition, rather than a reliable guide to metalworking areas, as noted by Landon (see Chapter 7; Landon, 2016).

With the development of the earthwork enclosure came new structures and further adaptations attributed to manufacturing and craft, which arguably extended into the unexcavated part of Field 246, to the west of the A1 scheme corridor. This interpretation was supported by concentrations of discarded pellet moulds near the western trench edge. In addition, the geophysical survey revealed structures and enclosure ditches extending to a rounded point 40m to the west (Fig. 2.44), and enclosing an area of c.0.2ha, which was comparable with the enclosures at Selgarth Farm (see above), Scotch Corner enclosure 7 (site SCA15) and Bedale (see above and Chapter 1). Less than half of the enclosure in Field 246 was exposed and excavated by the A1 scheme, although the remaining portion survives beneath c.0.25m of arable topsoil and very little discernible subsoil. The shallow overburden inside the road corridor proved insufficient to prevent considerable plough damage since medieval times, with numerous regimes of furrows cut into the archaeological horizon. The mixed boulder clay and sandy drift geology was also criss-crossed with land-drains and other services, all of which re-introduced disturbed finds to neighbouring archaeological deposits and redistributed finds from upper fills in subsiding lower plough horizons and buried soils.

Figure 2.49: Scotch Corner: Field 246, primary ditched boundary delimiting the workshop enclave, facing north-east.

The south-west to north-east primary ditch

A south-west to north-east ditched boundary was recut frequently on the approximate same course along the south-east side of the workshop enclave as metalworking activity intensified (Figs 2.47, 2.48 and 2.49). Period 1 iterations of the boundary included ditches **24592**, **24591**=**31226**, **15875**, **24593**, and **24843**, which were of similar dimension and form to ditches **24903** and **24904** (Fig. 2.50, section 4355). Numerous recuts demonstrate that an enduring boundary was established and maintained, and once largely infilled, was accompanied by an aggregate track (RW4; Fig. 2.2) and became a reference for roadside and rear enclosures introduced in late Period 3 and Period 4 (see Chapters 3 and 4). The ditched boundary extended as a linear anomaly on the geophysical survey to the north-east, and also on a direct course to the south-west as substantial parallel ditches **31160** and **31177**, which were recorded in Field 246 heading beyond the trench to an unexcavated part of Field 265, some 200m distant, their trajectories continued by a series of large depressions overlain by medieval(?) broad ridge-and-furrow (Fig. 2.51). The large depressions are equivalent in size and form to post-medieval(?) copper-mining bell-pits identified around Middleton Tyas (Hornshaw 1975) and a large sterile conical feature (**15758**) at the north end of Field 246, possibly dating from the early 1st century AD (see Chapter 3). The cumulative evidence indicates that the pits may not all originate with the post-medieval copper mining industry, and that pre-Roman copper prospection along the fault may have taken several forms. A quarry (now Crookacre Plantation), presumed to be of post-medieval date, was cut through the northern branch of Dere Street (RR10; Chapter 4, Fig. 4.2) immediately north of its junction with the road to Stainmore (RR1). It is possible that limestone was not the only yield from the quarry, and that the venture began much earlier than is currently demonstrated. In addition, a group of pits and

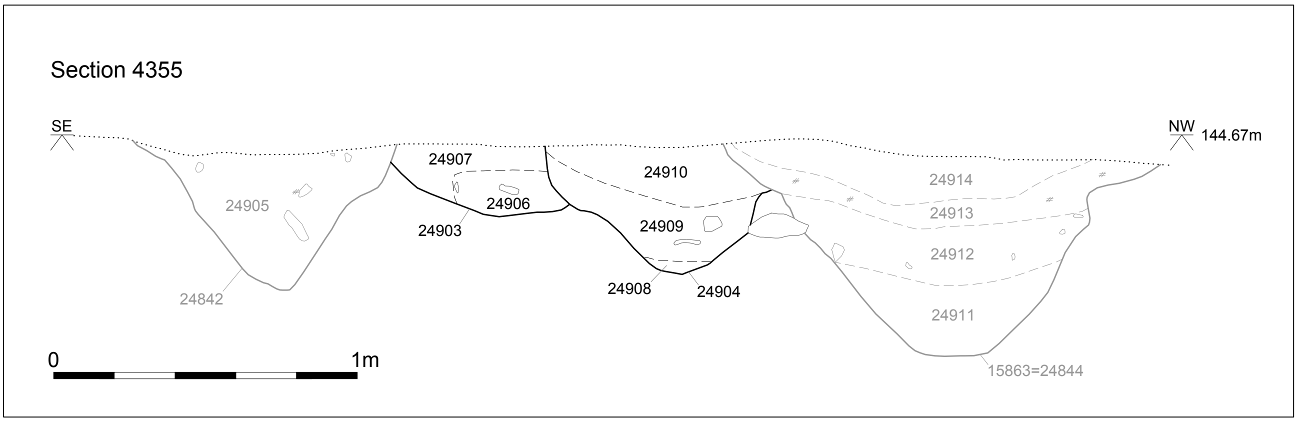


*Figure 2.50: Scotch Corner: Field 246, section of primary ditches **24903** and **24904**.*

Figure 2.51: Scotch Corner: Field 265 in foreground under ridge and furrow and Field 258 under excavation between Crookacre Plantation and the A1 northbound slip road, facing south-east (©JV and Highways England).

quarries (**21831**; not illustrated) and a copper-working area in the north end of Field 258, a short distance south of the faults, may also have origins associated with copper prospection (see Chapter 3).

Complete profiles and dimensions of the ditches delimiting the workshop enclave rarely survived intact, but were generally steep sided with U-shaped profiles, measuring up to 1m wide at ground level and c.0.5m deep (Fig. 2.47). No contemporary cultural material was recovered, and a residual flint scraper (RF11509; not catalogued) from upper fill **24583** was the only artefact in ditch **24592**, which did nothing to challenge its early place in the stratigraphic sequence. Its successor, ditch **24591**, was devoid of diagnostic finds, while fragments of fired clay from fill **24856** were the only sign of activity potentially related to hot works in equivalent ditch **31226**. Artefacts were absent from ditches **24903** and **24904**. However, 12 fragments of pellet mould (RF11516) in primary fill **24368** of replacement ditch **15875** represented some of the earliest evidence for pellet manufacture and fragments of fired clay that were possibly derived from metalworking (Mackenzie, Chapter 7), but no debris associated with domestic life. The latest ditch in the Period 1 sequence (**24593**) was equally free of evidence for habitation and the single fragment of pellet mould in fill **24581** was almost certainly redeposited from ditch **15875** below.

It appears that the early dump of pellet moulds in ditch **15875** originated from activity in Structure 51i, a deduction supported by the projected circuit of the penannular drip gullies, which coincided with the course of the ditch, the two perhaps conjoined in use and both also adjacent to a putative early iteration of feature **15852** and 'well' **24297**. Although final infilling of the 'well' took place during Periods 2 and 3 (see Chapter 3), it could feasibly have been cut early in the sequence of activity around the workshops. Its form was intriguing; a 0.15m-deep basin was cut into the bedrock below the level of the ditches (Fig. 2.52). When clear of sediment, the basin filtered and collected groundwater. Yet, when connected with the ditches and drip gully, their outflow would have contaminated the water, rendering it useless as a potable source. As this was only a theoretical paradox in Period 1, it is not addressed further here, but better-preserved Period 2 and 3 iterations of the enclosure ditches and 'well' **24297** are considered further in Chapter 3, where they are discussed as components of a system designed for capturing and retrieving precious metals associated with pellet production.

The truncated remains of the adjacent Period 1 primary ditch were not probably part of an enclosure, nor was the feature deep enough to consistently reach limestone bedrock, and thereby quarry it for copper, although it certainly traced the course of the underlying fault and did reach bedrock sporadically. While this suggests that the primary ditch was not a typical quarry, its form and location may relate to the particular type of 'epigenetic' copper deposits known at Middleton Tyas (Wells 1955; Wadge *et al*. 1982; BGS 1998;), which accumulated in

*Figure 2.52: Scotch Corner: Field 246, base of 'well' **24297** cut into limestone bedrock.*

limestone beds due to downward migration of copper-rich fluids, leaving small deposits of exceptional quality; these are usually 45% pure, which puts the average c.9% purity in Cornwall into perspective (Hornshaw 1975, 33). Raistrick (1936) notes, and Wells (1955, 238–40) confirms, that although the copper ore may have been seen in the faults at Middleton Tyas and is in some way associated with them, it did not by any means always occurs along these faults. However, Hornshaw (1975, 31) stated that the limestone that contained the ore is near to the surface or was presented as outcrops. It is therefore possible that residues lay near the interface of boulder clay and bedrock along the line of the fault, and that this resource was recognised and exploited by metalworkers. Such a scenario might have resulted in some of the more enigmatic structures and accompanying features at Scotch Corner.

RW5: the north-west routeway

In the early phase of activity associated with the primary ditch and workshop enclave, a hollow-way (**31141**) with an aggregate surface (**31200**) flanked the south-west side of the workshops and was parallel and possibly contemporary with ditch **31241**, which represents the first iteration of the south-west enclosure boundary (Fig. 2.47). On the north-east side of the hollow-way, parallel gully **31093** probably aided drainage and functioned as part of the boundary. It is considered equally likely that hollow-way **31141** connected with trackway **16492=24981** along the primary south-east ditch before the enclosure was defined by earthworks, the latter cut through by ditches (Figs 2.53 and 2.54, section 6236), while the former was maintained as an early passage to the north-west, or more probably represented a route that curved around the west side of another zone of dense activity suggested by geophysical anomalies. Answers to these questions remain preserved in the deposits beneath the new access road to Violet Grange farm and the unexcavated part of Field 246.

Structures in the workshop enclave

Structure 51i (group 31225)

Structure 51i (Fig. 2.55a) was arguably the origin of primary dumps of pellet moulds in adjacent ditch **15875**, and in pit **24014** (see below) and is therefore interpreted as a site of pellet manufacture, which continued as the drip gully was redefined (Structures 51ii and 51iii; Fig. 2.56) and additional pellet moulds were disposed of nearby (see Chapter 3; Landon, Chapter 7). The initial drip gully of Structure 51i (**16040**) was 0.48m wide and up to 0.15m deep, with shallow, eroded edges and a projected internal diameter of c.10m. It represented a partial circuit, with a flattened posterior side and south-west facing entrance that was at least c.6m wide. These attributes set it apart from the majority of domestic roundhouses on the A1 scheme, yet they were paralleled at contemporary structures in the immediate vicinity; Structure 52 was largely open to the south-west, and Structure 50 (see below) had a c.5m-wide south-east facing entrance between drip gully terminals. Perhaps the purpose of these attributes was to facilitate structures or working areas with large open doorways designed specifically to maximise airflow and fume dispersal. Those structures with south-west facing entrances

*Figure 2.53: Scotch Corner: Field 246, section of routeway RW4 **16492=24981** cut by workshop enclave ditches, facing east.*

would gain additional ventilation from prevailing south-westerly winds; perhaps these modifications and adaptations were particular requirements for certain manufacturing processes or crafts.

The truncated interior of Structure 51i contained remnants of a compacted clay surface (**24113**) and an indecipherable collection of stakeholes, all potentially associated with manufacturing processes inside, but devoid of metalworking and domestic artefacts (Figs 2.55a and 2.56). To its east, two postholes (**24010** and **24032**) with diameters of c.0.25m were in line with the entrance, as were two pits (**24038** and **24014**). Pit **24014** was closer to the rear of the interior than to the front. It was elliptical in plan, measuring 0.88m long by 0.57m wide and 0.13m deep, with a shallow sloping cut and no sign of in-situ burning (Fig. 2.57). In contrast with the sterile drip gully fills, its dark organic fill (**24015**) contained an assemblage of combusted waste materials, including charcoal from alder, birch, hazel and poplar or willow, which may have been the remnants of charcoal used specifically in the production of pellets (Baines, Chapter 8). The fill also contained charred spelt, barley, wheat, sprouted wheat, wild oat, cereals and grass, sedge and brome, as well as fragments of animal bone. A radiocarbon determination obtained from hazel charcoal indicated its combustion between 50 cal BC and cal AD90 (95.4% probability; SUERC-83975), although this was refined through Bayesian modelling to the first half of the 1st century AD (Hamilton, Chapter 9). The organic-rich fill of pit **24014** was accompanied by over 200 pellet mould fragments, the second largest assemblage in any one context on the site at Scotch Corner (RF10163; RF13163), and potentially the only confirmed primary

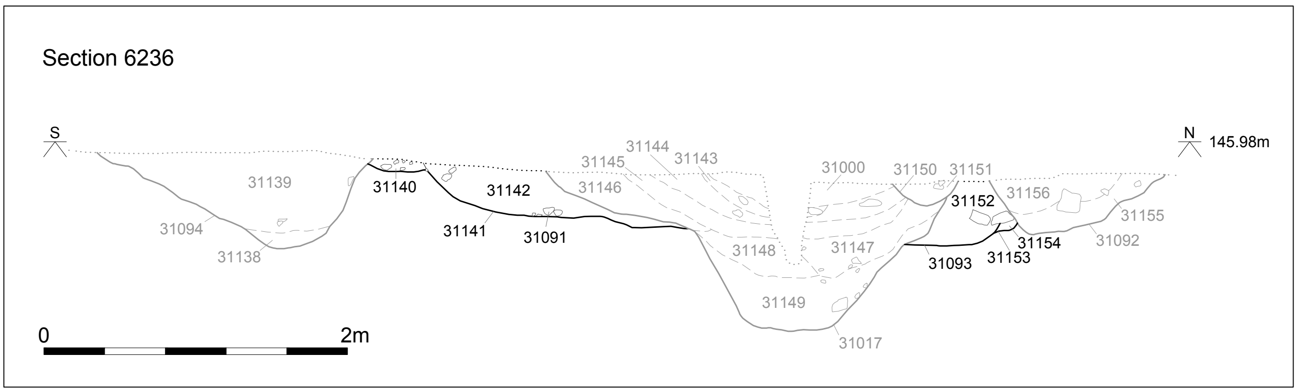


Figure 2.54: Scotch Corner: Field 246, section of routeway RW5.

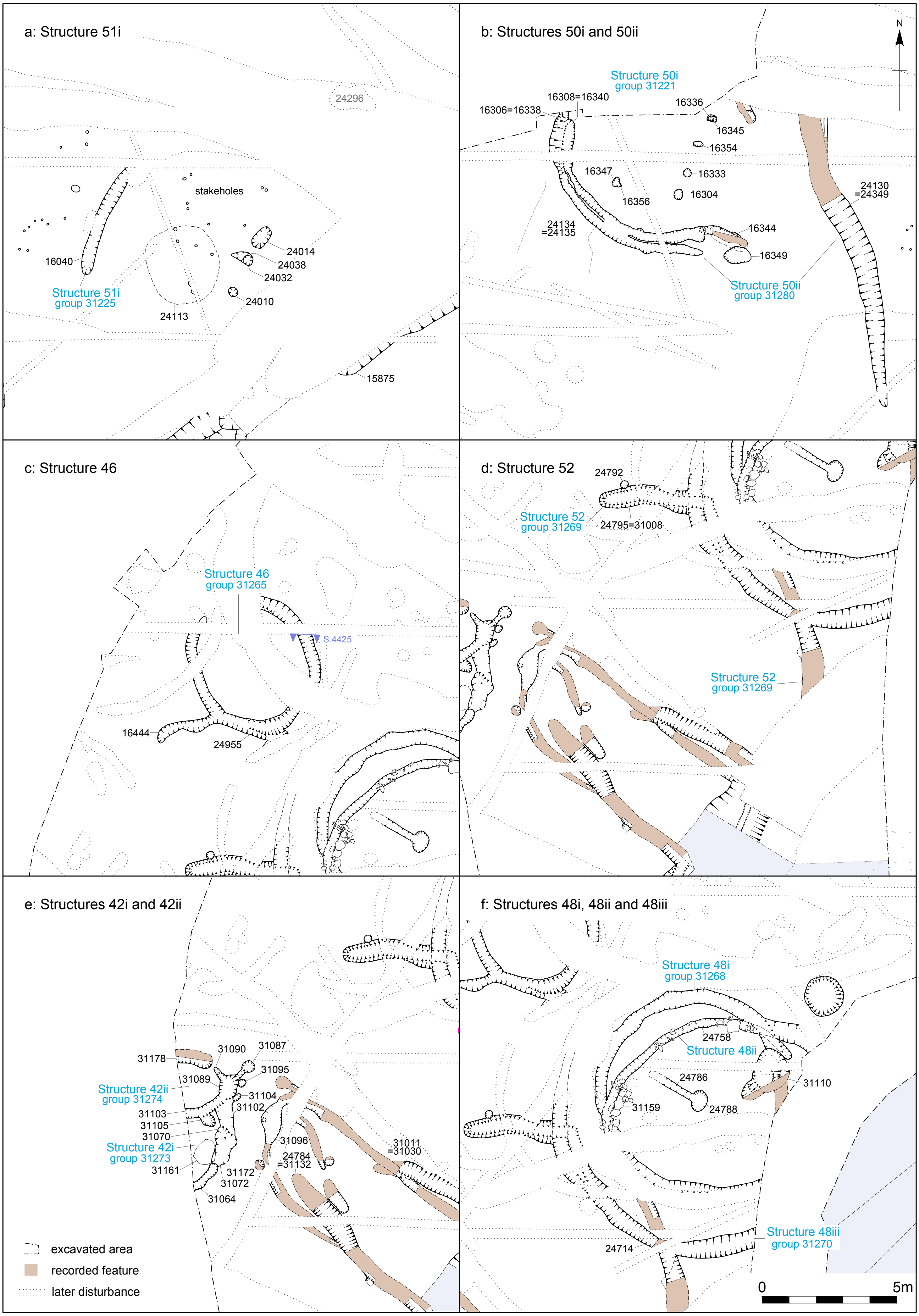


Figure 2.55a–f: Scotch Corner: Field 246, Period 1 Structures in the workshop enclave.

Figure 2.56: Scotch Corner: Field 246, Structure 51, facing south-east.

deposit. The fragments formed a major constituent of the fill and could have been deposited there any time during the life of Structure 51, perhaps at the same time as spent moulds were disposed of behind the drip gully in pit **24296** and continental imports began to arrive at Scotch Corner (see Period 1–2, Chapter 3).

Structure 50i (group 31221) and Structure 50ii (group 31280)

Structure 50i was located approximately 9m west of Structure 51 (Fig. 2.47). It was never provably a venue for manufacturing or craft, although its location suggested a strong association with metalworking and those practising it. Although the northern arc was lost to later enclosure ditches, enough remained to establish that the penannular drip gully was refurbished and extended at least once, with no evidence for any changes or upgrades to structural components at that point (Figs 2.55b and 2.58). The c.6m-wide internal space was relatively constant across both iterations, as was the c.5m-wide south-east facing entrance. The structure was initially defined on the south-west side by curving gully **16308**=**16340** and was associated with two shallow pits (**16344** and **16349**) at its terminal, where charred wild radish from fill **16350** was the only cultural material (Fig. 2.55b). The gully was up to 0.35m wide by 0.14m deep, with a shallow U-shaped profile suggestive of drainage rather than a structural function. Fill **16341** contained oak charcoal and charred grains of spelt and ryegrass or fescue, but no artefacts associated with metalworking or manufacturing.

Five interior postholes appeared to represent a single episode of construction, which may have endured while the penannular drainage gully was cleaned out and extended. Four equally spaced postholes (**16304**, **16333**, **16336**/**16345**, and **16354**) formed a row that corresponded to the span of the entrance 1.15m to their south-east; the configuration was perhaps specifically designed to present a wide entrance. An additional posthole (**16347**/**16356**) lying c.2m north-west of **16304**, potentially represented the south-west corner of a rectangular timber framework that occupied the approximate centre of the interior, and consequently supported a circular roof that directed rain into the drip gully. The infilled features contained domestic refuse: fill **16346** included two fragment of briquetage, suggesting that salt was used in or around the structure (Britton, Chapter 5); fill **16337** in **16336** included charred spelt, wheat and rush, and fill **16355** in **16354** contained animal bone. The only find directly associated with manufacturing was some industrial waste (Cat. no. 907; Mackenzie, Chapter 7) from deposit (**24135**), and a gold, silver and copper alloy pellet (Cat. no. 686; Brickstock, Chapter 6) recovered from equivalent deposit **24134** and, which was identified during cleaning adjacent to the south-west side of the penannular gully. Although the pellet cannot be linked directly to the cut features in Structure 50i or ii, it was unlikely to have travelled far, and arguably represents a very rare example of loss of such an inherently valuable object during the time of pellet production in the workshop enclave.

Refurbishment of the drip gully was represented by curving gully **16306**=**16338** (Structure 50ii, group **31280**) on the south-west arc, which traced the outside of the earlier drainage gully (Fig. 2.55b). Some partially burnt coal or coke in **16298** potentially provides evidence for hot working, although this context also contained medieval pottery introduced by a land drain, so its origin is contestable. Oak charcoal was present near the terminal in fill **16307**, and a complete, iron hinged, strip-bow brooch of Durotrigan type (Cat. no. 687) dating from the 1st century BC or AD. There is little evidence this far north for wearing brooches, with Stanwick the

*Figure 2.57: Scotch Corner, Field 246, primary pellet mould deposit **24015** in pit **24014**, facing north-east.*

Figure 2.58: Scotch Corner: Field 246, Structure 50, facing south-east.

approximate northern limit of the practice (Croom, Chapter 6; Allason-Jones and Haselgrove 2016, 191–3), making the wearer of this brooch at the forefront of a new fashion. Furthermore, it is suggested that the complete form potentially indicates purposeful deposition in the gully, as it was closed (Croom, Chapter 6), which might suggest that it was representative in some way of an individual or activity most associated with the structure. More prosaic were the sherds of hand-built pottery found in fills **16310** and **16359**, which conformed to discard patterns seen around entrances and doorways elsewhere. The drip gully at the rear of the structure also contained stonefruit and oak charcoal, with charred rush, hazelnut shells, spelt grains, some coal and hand-built pottery in fill **16339**. A possible stone tool (Cat. no. 702) had smoothed faces and may have functioned as a smoother or polisher (*ibid*.), perhaps for textiles or metalwork. The diversity of materials in the combined assemblage indicates that activity was not exclusively associated with pellet manufacture.

The north-east portion of the penannular drip gully was developed and extended by ditches **24130**=**24349** as part of its refurbishment (Fig. 2.55b). The larger ditch measured up to 0.9m wide by 0.35m deep, and followed a wider arc, resulting in a c.8.5m interior diameter. It extended on a sinuous route for c.9m south-east of the sub-circular enclosed space, presumably designed for draining water away from the interior and entrance, and towards the early ditch a short distance to the south-east. The only artefacts came from tertiary layer **24541**, which had slumped into the subsiding fills and amply demonstrated the continuation of activity across the area into Period 4. It contained ash charcoal, animal bone, sherds of samian ware dating from c.AD 45–90, Period 3 or 4 coarseware, and vessel glass dating from the 1st to 3rd centuries (Monteil, Leary and Cool, Chapter 5).

Structure 46 (group 31265)

Structure 46 was one of the earliest structures at the settlement, unique in both size and form and evidently too small to be considered domestic and could more plausibly be described as a store. Its interior was an elliptical platform that measured 4.5m long by 3.9m wide, and the gully was up to 0.25m deep, with a steep-sided U-shaped profile (Figs 2.55c and 2.59, section 4425). No surviving postholes or post pads were identified, nor was there a break in the circuit of the drip gully as might be expected for a ground-level internal structure (Fig. 2.60). Assemblages of later Pre-Roman Iron Age hand-built pottery including sherds from a flat-rim open jar (Cat. no. 2) came from deposits **16291**, **16484** and **24699**, including an unusual flat-rim open jar that currently lacks parallels (Cumberpatch, Chapter 5); however, no other

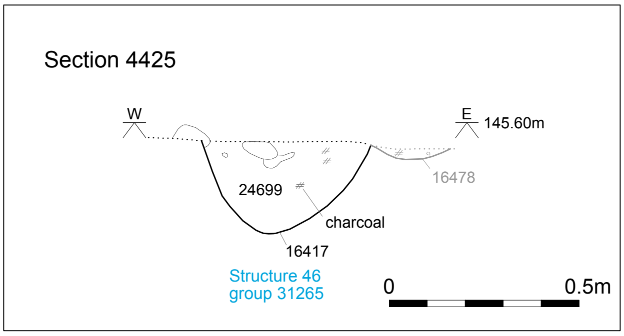


Figure 2.59: Scotch Corner: Field 246, section of Structure 46.

artefacts or metalworking debris was evident. A sinuous gully (**16444**) extended to the south-west for c.2.3m, and the vestiges of another connected gully (**24955**) on the south-east arc were lost to truncation; both were potentially designed to aid drainage.

Structure 52 (group 31269)

Structure 52 was tentatively inferred from curving gully **24795=31008**, which was up to 1m wide and c.0.2m deep with a west-facing terminal that suggested a partial radius on the north-east side of a designated space (Fig. 2.55d). Like Structure 51, Structure 52 was unusual in the south-west orientation of its entrance or open side. The structural evidence comprised a single posthole (**24792**) on the outside edge of its northern terminal with no sign of interior features. Amongst this palimpsest of penannular and sinuous drainage gullies, many of the earliest and insubstantial structural components must have been lost, although the scant structural evidence potentially signifies that no building existed, and the gully functioned as a sump and drain for the interior.

Structure 42i (group 31273) and 42ii (group 31274)

Much of Structure 42's putative circuit was beyond the western edge of the excavation area, and its precise form was difficult to discern from the intercutting features (Fig. 2.55e). The initial structure (group **31273**) appears to have been at least 4.5m wide internally, with a 3.5m-wide east-facing entrance defined by two opposing curving gully terminals; **31178** to the north and **31064** to the south. The arc of the entrance was represented by a series of mixed deposits, which occupied shallow indistinct gullies or hollows (**31072**, **31070**, **31102**, and **31090**) that were interpreted as erosion and attempts to manage water and consolidate the entrance.

Despite signs of disturbance in the natural clay, the interior of Structure 42i was not cluttered with identifiable postholes or settings, which made the large hexagonal, flat-topped stone (**31161**) adjacent to the southern terminal even more conspicuous (Fig. 2.61). The stone measured 0.9m long by 0.78m wide and had a heat-affected surface, with discolouration and cracking. These attributes suggest high heat and/or repeated use as a hearth or perhaps as part of a hot process, yet no diagnostic residues came from any of the surrounding features and the on-site interpretation of 'anvil' remains

Figure 2.60: Scotch Corner: Field 246, Structure 46, facing west.

Figure 2.61: Scotch Corner: Field 246, hearth stone ***31161*** *in Structure 42i, facing north-east.*

unsupported. Hazel charcoal recovered from fill **31065** of gully **31064**, ash charcoal from fill **31071** in feature **31070**, and some charred grass in fill **31116** of gully **31090** could easily derive from every-day activities.

Structure 42ii (group **31274**) was represented by two connected features (**31103** and **31089**), which together formed a northward-curving gully that bisected the interior and passed through the former entrance of the earlier structure (Fig. 2.55e). Three postholes (**31104**, **31105** and **31095**) traced the outer south side of the curving gully, and another posthole (**31087**) occupied the gully terminal in an unusual structural configuration. There was no evidence for a northern side of Structure 42ii. In combination, the features appeared to represent the south side of a structure that post-dated Structure 42i or represented its refurbishment on the same plot.Some of the infilled features on the south-east side were later capped with large flat stones that followed the curve of the underlying gully and may have been structural in origin (Fig. 2.47). However, additional flagstones were found to the immediate south-east, where a line of four curved south-eastwards. Their character suggested structural functions, although it was not clear how they related to any of the surviving remains; they may simply have been components of a more widespread flagged surface that partially survived plough-truncation because of subsidence into underlying features.

Across the flagged area was a network of gullies and postholes, which defined an enclosed corridor that linked the south-east side of Structure 42ii with the south-west to north-east boundary ditch (Fig. 2.47). The features nearest to the structure appeared to mirror it, forming a highly unusual configuration with no artefacts in the fills; the small amount of oak charcoal in fill **31097** of posthole **31096** was characteristic for the period, as were packing stones in posthole **31172**. The south-east ends of the side gullies had both been recut. Hand-built pottery came from fill **24785** of **24784=31132**, and a shallow circular mortar quern fragment (Cat. no. 868; Cruse, Chapter 6) locally made in a traditional form was found on the opposite side in fill **31124** of gully **31011=31030**, neither definitive evidence of anything other than habitation, though the reuse of querns for metalworking and craft should be recognised as a distinct possibility. A stone tool from fill **31016** (Cat. no. 703) could be held so that the wide flat sides were usable or held more like a pen whereby the shorter diagonal end could be used as a smoother or polisher (for an unknown purpose), the only clues being its shape and very fine score marks on one face (Croom, Chapter 6). The gully also potentially formed a south-west boundary for Structure 52 (see above), defining the semi-circular interior associated with another elusive structure.

Structure 48i (group 31268), Structure 48ii (wall foundation 24758), and Structure 48iii (group 31270)

Structure 48 had the complex developmental history that lasted to the second half of the 1st-century AD; the first three iterations appeared to pre-date the arrival of continental imports, and the last was connected with Structure 47ii (see Chapter 3). The initial structure (48i) was represented by a drip gully (group **31268**) with an internal diameter of 6.6m, perhaps with a south-east facing entrance retained beyond the trench edge (Fig. 2.55f). The only recovered cultural materials comprised fragments of animal bone and oak charcoal, mixed with charred spelt and barley grains in fill **24951** on the north-eastern arc. There, the drip gully connected with a vertical-sided feature (**31110**) interpreted as a water cistern (Fig. 2.47). It was subsequently recut during the lifespan of Structure 48iv, so little of the original survived, but the dimensions suggest that it supplied a process that required more water than habitation would need, potentially serving some purpose in manufacturing or textile production. A large central pit (**24788**) was the only interior feature in this unique building form on the A1 scheme (Fig. 2.55f). A narrow gully filled with angular cobbles (**24786**) was connected to its north-west side; its alignment might inadvertently indicate the orientation of the entrance on the south-eastern arc.

Figure 2.62: Scotch Corner: Field 246, stone foundation ***31159*** *in Structure 48ii, facing south.*

The second structure (48ii) on the same approximate footprint included a wall foundation (**24758**) that was substantially robbed-out, leaving a single course of tessellated flags (**31159**) in places along the trench (Fig. 2.62). The oak charcoal and animal bone from the accompanying soil matrix (**24753**) around the stones were presumably incorporated during its construction or removal. It was the sole surviving example of a structural wall in vernacular or Roman buildings at Scotch Corner, comparable only with Structure 64 at Gatherley Villa, which had a smaller diameter (see above). The footprint of Structure 48ii was reminiscent of Structure 51, with its flattened posterior, its c.7m internal span, and wide entrance, though in contrast, Structure 48ii faced the south-east; perhaps light was a more important consideration than ventilation in this particular unit. Structure 48iii (group **31270**) survived truncation on the south-western arc sufficiently to demonstrate that its entrance was not oriented that way, and to establish a projected diameter of c.11m for the drip gully (**24714**), which was 0.8m wide by 0.25m deep, with steeply sloping sides and fills containing a fragment of a rounded cobble (Cat. no. 707) with three flattened surfaces, which might have been a pot boiler (Croom, Chapter 6). It was replaced by the final iteration (Structure 48iv) with a drip gully that is best considered with adjacent and probably contemporary Structure 47ii (see Chapter 3), which represented a continuation of activity in the workshops that corresponded with further growth of the settlement at Scotch Corner.

DISCUSSION

Prior to the arrival of continental imports from the Roman Empire, native Britons lived in the semi-managed landscape much as they had done for centuries. Fertile soils in the Tees Valley and Vale of Mowbray were exploited for production of staple cereal crops, and while meat consumption was relatively rare, the inhabitants supplemented their diets with foods that were foraged locally. Spelt and barley were ground using traditional saddle and beehive rotary querns, and rudimentary pots were considered sufficient for cooking, serving and storing food. The population occupied traditional roundhouses in open settlements without boundaries, although occasional, more ambitious dwellings were surrounded with earthwork enclosures. Buildings were typically constructed from locally sourced oak and ash, which were also the preferred wood species for fuel. Settlements and fields were connected by a network of routeways and droveways, the most robust and well-maintained route being that between south and north, which connected with other routes at Scotch Corner and promoted the transport of regional commodities such as salt from the nearby north-east coast.

Proximity to the routeway nexus and imports of salt were not, however, the only factors which distinguished life at Scotch Corner in Period 1 from earlier and contemporary occupation further south along the A1 scheme corridor and in the wider landscape. In addition to promoting favourable arable conditions and on the south-facing flank of Gatherley Moor, the limestone geology incorporated high-quality copper deposits at shallow depths. This resource made possible a venture that was unparalleled in northern Britain, whereby in the late 1st century BC and early 1st century AD, a small group of metalworking craftspeople apparently began to exploit the deposits with the aim of forming pellets of copper, gold and silver alloy, a process that was most commonly practised by the Late Iron Age people of south-eastern Britain and Gaul, where it usually preceded the minting of high-value coins in native denominations.

In principle, the pellets produced at Scotch Corner could have been formed into coins locally, although examples of locally minted 'Brigantian' coinage are yet to be confirmed. It is also possible that pellets were used as 'micro-bullion' currency, and potentially traded for minting by people elsewhere in Britain or on the continent in their own denominations. What is certain is that pellet production at Scotch Corner marginally preceded and overlapped with the arrival of luxury goods from the Continent and southern Britain. Once this process began in early Period 2, rapid development of the settlement as a satellite of Stanwick and part of the exchange network with international connections cemented its position at the top of Late Iron Age society. Together, the focal points of political and economic power appear to have incorporated many of the components and functions recognised at major Late Iron Age centres and oppida.

CHAPTER 3
CONCORD

David W. Fell

INTRODUCTION

Favourable relationships with Rome and exchange networks established with southern Britain and the Continent during the early to mid-1st century AD promoted rapid growth of the native economy around Stanwick and Scotch Corner from the end of Period 1 (c.AD15). A result of this apparent concord was population and settlement expansion as people gravitated towards the centres of agriculture, metalworking, exchange, ceremony and power. Food production from arable crops continued in the southern reaches of Scotch Corner, and the use of hand-built pottery in the Iron Age tradition persisted, but with prosperity came increasing organisation of the settlement's interior, leading to the introduction of contiguous enclosure systems that occasionally defined activity zones; the workshop enclave was surrounded with earthworks as pellet manufacturing peaked and there was also evidence to suggest prospection and exploitation of local copper and minerals took place nearby in Fields 246 and 258.

Meanwhile, a west–east coaxial enclosure system dedicated to habitation was superimposed over the former irregular tenurial units in Field 223 alongside an arterial south-north routeway (RW6; Fig. 3.1). Enclosures belonging to the same system apparently extended northwards into previously unoccupied land within Field 228 and the south end of Field 258, where native dwelling were also discovered. A contemporary agglomeration of nucleated enclosures in Field 267a (and Field 267b) seemed to be contiguous with coaxial systems to its south and east, and similarly respected a corridor formed by the continuation of a south–north routeway (RW7; Fig. 3.1), as well as additional routeways to the north-west.

Rapid growth and development in the settlement's morphology were accompanied by the supply of an impressive suite of Gallo-Belgic wine-related ceramics, with evidence for fish-based products delivered in amphorae, as well as attractive glass vessels of varieties favoured by native Britons, and other prestigious objects with no known precedents in the region. This concentration around Scotch Corner and Stanwick contrasted with their complete absence along the routeway to the south, where Late Iron Age traditions persisted despite proximity to the trading centre and transport routes. The imports at Scotch Corner also represent compelling evidence for diversification of the extensive and intricate trading relationships already established with indigenous tribes and Romans, both in southern Britain and on the Continent. Goods were presumably transported along terrestrial networks, across the North Sea via the Tees and Humber estuaries, and also probably across the Channel. As previously suggested for Stanwick, some of the exotica probably arrived at Scotch Corner with Roman diplomatic missions and as rewards for a mutually beneficial client relationship between Rome and the Brigantes, heralding a period of relative peace and conspicuous growing prosperity (see Chapters 1 and 10).

However, lifestyles experienced by the inhabitants of Scotch Corner during Period 2 were subject to change from the beginning of Period 3. The rebellious nature of native Britons was reasserted during the Boudican revolt of AD60/61, prompting Rome to review the sustainability and future of client polities in the province. Against this backdrop, growing tensions amongst the Brigantian elite perhaps led to a shift in the dynamics of Roman diplomacy. New types of imported ceramics and glass vessels arriving at Scotch Corner appear to demonstrate a transfer towards Roman military supply mechanisms, which were complemented by the arrival of Roman building materials around the workshop enclosure and the construction of a small stone shrine (Structure 57). Within the area exposed by the A1 scheme, there appears to have been a diminution in the overall number of buildings constructed, while boundaries were allowed to silt up and pellet production ceased. Reorganisation of the settlement involved increasing formalisation of a north-west routeway (RW5; Fig. 3.1) that was already established along the south-west side of the former workshop enclosure. At the same time, a proto-ladder enclosure system was introduced along the side of south–north routeway RW3, which was subsequently perpetuated by Dere Street to the north. Considered together, the suite of developments that took place during Period 3 seem to indicate that the native population responded quickly to evolving Roman policy and increasing presence and influence, which perhaps represented annulment of the putative client arrangement and the prelude to annexation.

PERIOD 1–2 (c.55BC–c.AD55)

Continuous habitation spanning Periods 1 and 2 occurred on the south-facing slope of the settlement in Field 223 (see Chapter 2), and was also evident at the workshop enclave in Field 246 where boundary ditches were established and maintained to form an enclosure, and interior Structures 43, 45, 47, 48 and 51 were used and sometimes redeveloped and refurbished at the time when consignments of continental imports began to arrive at Scotch Corner (Figs 3.1 and 3.2). Across much

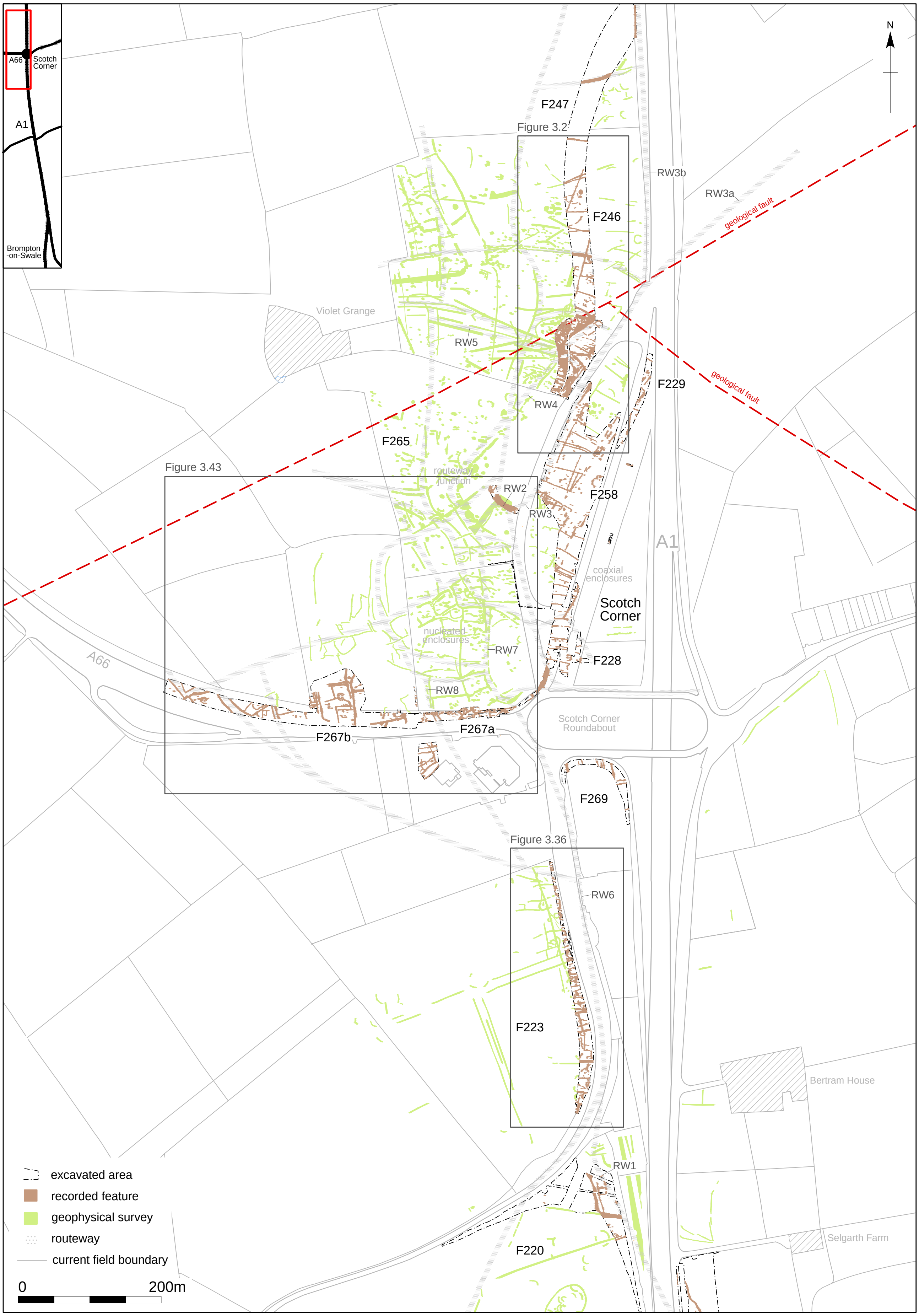


Figure 3.1: Scotch Corner: overview of prehistoric routeways.

of the settlement, however, many of the dwellings, associated features and material remains that signified traditional occupation in Period 1 either fell out of use, or were superseded by structures, enclosures and imported artefacts that characterised Period 2. Such remains represent a substantial component of the settlement and are discussed separately below.

Field 246: pellet manufacturing and craft at the workshop enclosure

By the time continental imports began to find their way into infilling features, the workshop enclave in Field 246 was in the process of being formalised as an enclosure, which geophysical survey to the west of the excavation area suggested was an irregular D-shape with an interior area of c.0.19ha (Figs 3.2 and 3.3). Earthwork boundaries were raised on the north-west side of the primary recut ditch that defined the south-east limit of manufacturing and habitation in Field 246 (see Chapter 2). The irregular ditched, and possibly banked, enclosure boundary ultimately contained all the structures associated with pellet mould production, possible bronze working, copper-alloy production, and other crafts, including limited evidence for very small-scale iron smithing (Mackenzie, Chapter 7) and possible textile production and dyeing (Croom, Chapter 6).

By the time these activities were underway, local small scale copper prospection was also possibly taking place, both to the south and north of the workshop enclosure and the junction of the geological faults, in pits and quarries at the northern ends of Fields 258 and Field 246 (see Period 2, below). The relative paucity of charred cereals, fodder, meadow plants and weeds associated with the workshop area during the Period 1–2 transition was consistent with the absence of beehive and saddle querns in primary contexts; the single example in Period 2 (Cat. no. 867; see below; Cruse, Chapter 6), was followed by further absence in the Period 2–3 and Period 3, although two beehive querns were reused in Period 4 in a nearby stone raft (group **31261**, not illustrated) and presumably came from the immediate area (see Chapter 4; Cruse, Chapter 6). Evidently, food production was never commonplace in the workshop area, where manufacturing and conspicuous displays of consumption appear to have been prioritised over domestic activities during the time of native occupatio

Only fragmentary remains of the workshop enclosure boundary survived on the north-east side during the transition to Period 2, most of ditches **24880** and **24867** (not illustrated) having been removed by later activity. Sherds of hand-built pottery and charred grains of wheat in the boundary's latest surviving fill (**24868**) represent the discarded remains of food production near the newly introduced earthwork, possibly in structures to the immediate north. The north-east enclosure boundary apparently followed a course influenced by gully **24194=24262** at the rear of Structure 51 and pellet mould pit **24296**, cutting across the infilled drip gullies of the structure as it did so (see below).

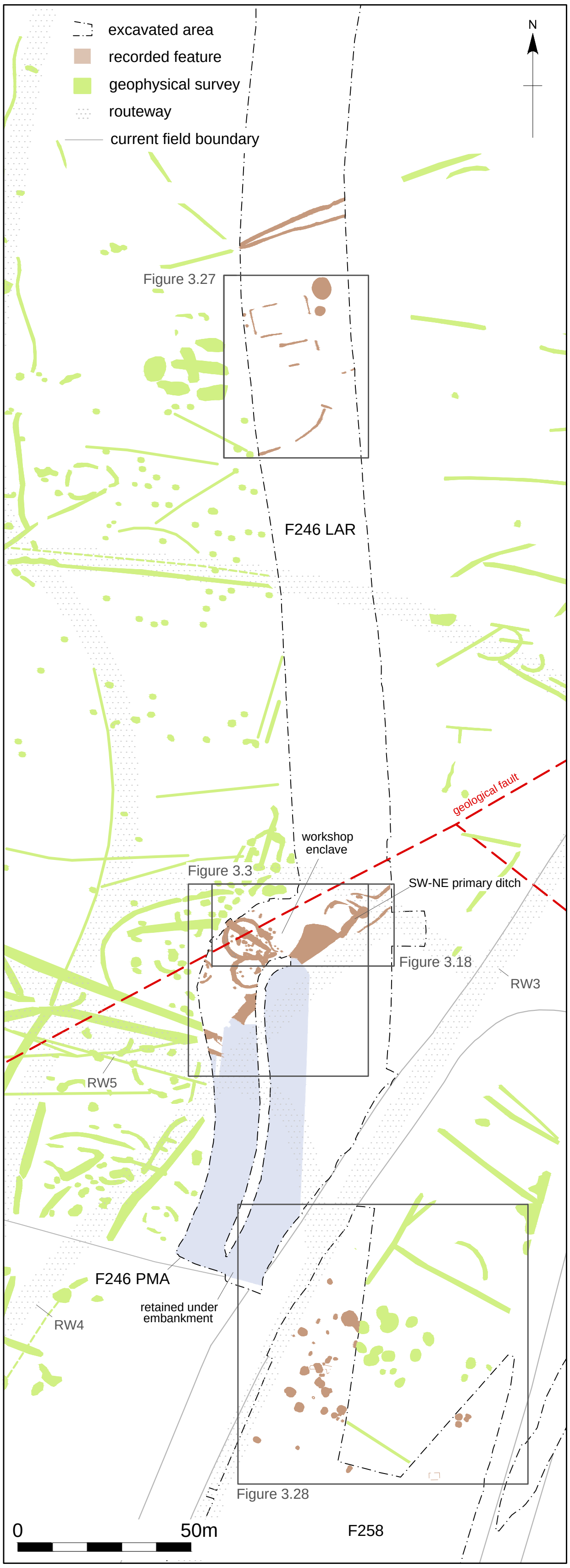


Figure 3.2: Scotch Corner: overview of Period 1–2 and Period 2 features.

Similarly, the early south-west side of the enclosure may have partially survived later truncation as ditch **31241** alongside hollow-way **31141** (RW4; Figs 3.1 and 3.3); however, both were in such commuted form that

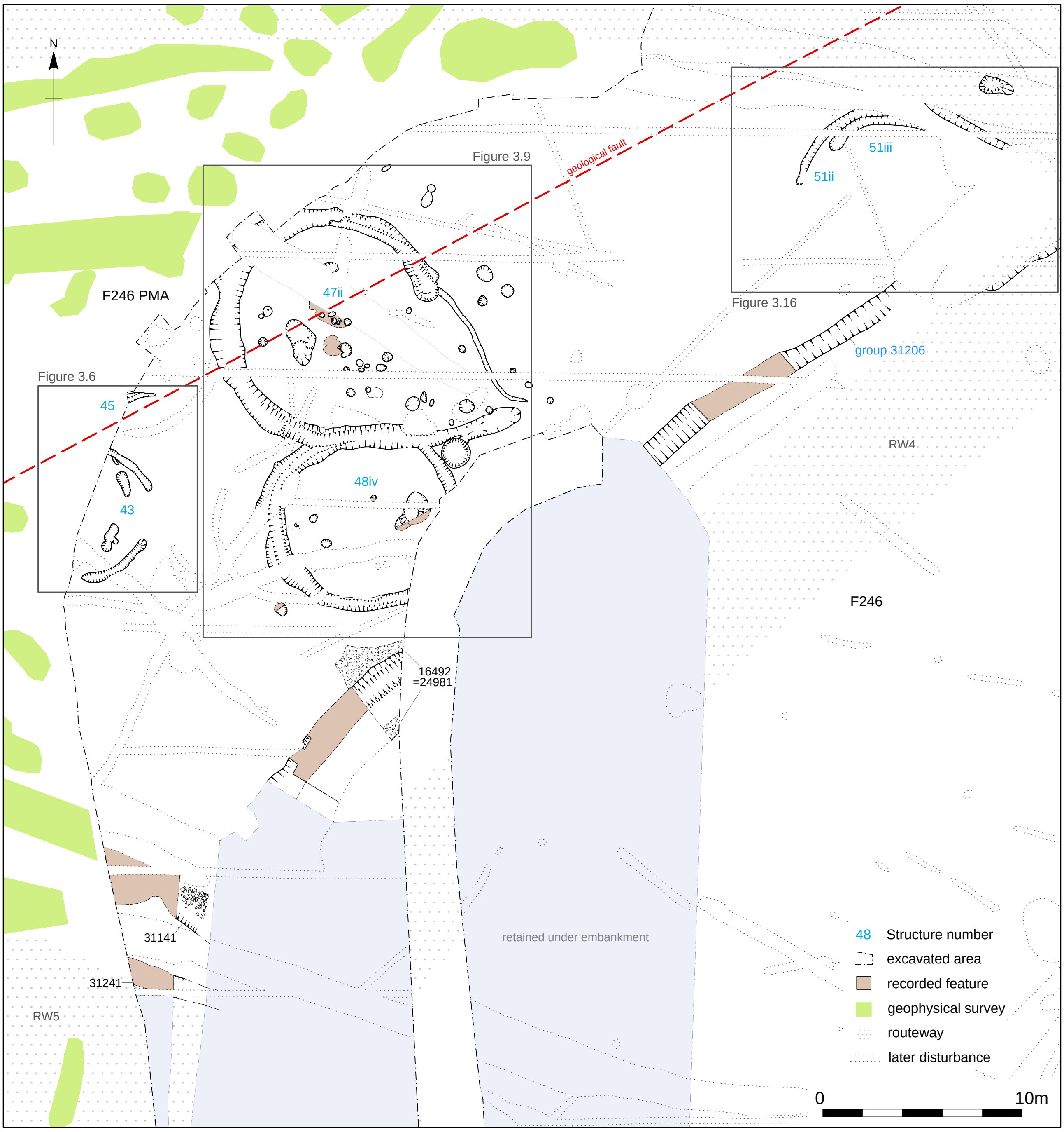


Figure 3.3: Scotch Corner: Field 246, plan of Period 1–2 features in workshop enclosure.

it was impossible to determine their former extents. In spite of these constraints, it is reasonable to assert that the north-east and south-west sides of the workshop enclosure were introduced as continental imports arrived in abundance, and pellet manufacturing was well established, and that the enclosure boundaries and associated features were maintained along relatively consistent courses, as demonstrated by the frequent recuts and strong geophysical anomalies to the west (Figs 3.2 and 3.4). Containment of the workshop enclave might be interpreted as a perceived requirement for separation between habitation and metalworking areas, potentially also between craftspeople and other inhabitants. Alternatively, it might simply be commensurate with the general move towards enclosure across the settlement at this time.

With the development of the workshop enclosure came redefinition of the south-east ditch as a single cut (group **31206**; Figs 3.3 and 3.5) across the width of the excavation area, without any visible breach or entrance. Near the south-west corner of the enclosure, the ditch was accompanied by a parallel aggregate trackway (**16492=24981**; RW4; Figs 3.1 and 3.3) that was substantially cut away by later refurbishment of the ditch. The extent and form of the trackway were difficult to ascertain, and it might have been introduced to consolidate ground and facilitate passage along either side of the ditch, or alternatively could represent the vestiges of a c.3.5m-wide feature that traced the course of the geological fault, perhaps a precursor or accompaniment to the early ditches cut along its course (see Chapter 2). Sherds of amphorae that overlay layer **16492** indicate

*Figure 3.4: Scotch Corner: Field 246, east part of workshop enclosure, 'well' **24297** at north-east corner in the foreground, facing west.*

that it was still in use when vessels carrying fish-based products (*muria*, *liquamen* and *garum*) were arriving, although these were absent in later periods as the supply chain altered (Griffiths and Williams, Chapter 5).

Ditch group **31206** was U-shaped in profile and contained a pottery assemblage that largely comprised of hand-built wares and imported Period 2 ceramics, which included butt-beakers, amphorae, and flagons that were mostly found near the heavily reworked south-west corner (Leary, Chapter 5). Sherds of samian ware dating from c.AD45–70 were recovered from top fill **24977** (Monteil, Chapter 5), while an additional sherd of samian ware from fill **24972** and sherds of CAM 139v 'black sand' amphora from the Bay of Naples (Griffiths and Williams, Chapter 5), in secondary fill **24974** from the same location, suggest that a later episode of recutting was not recognised during excavation (the fills were possibly contained within Period 2–3 ditch **16486**=**24777**; see below).

In ditch group **31206**, top fill **24769** included a deposit of six pellet mould fragments (RF11595), alongside fired clay and possible fragments of casting mould or hearth lining (Cat. no. 887), but no metal residues (Mackenzie, Chapter 7). The nearest substantial dump of pellet moulds, which were deposited at approximately the same time, was in the backfill of structural gully **24663** in Structure 43 (Fig. 3.6), located c.15m to the north-west. However, these may have been redeposited more than once (see below and Chapter 7). Fired clay from other fills along the middle section of the ditch were not demonstrably associated with metalworking, although concentrations of waste from pellet manufacturing were distributed throughout recut ditches and the well around the north-east enclosure corner. Ditch group **31206** had been greatly disturbed by recutting here, but a deposit (**24361**) containing 12 fragments of pellet mould (RF11507) may originate from past or continued manufacturing at Structure 51 (see below and Chapter 2).

Structure 43 (group 31224)

Extending beyond the western edge of the excavation area, Structure 43 was apparently a 6m-wide sub-circular feature defined by two inwardly curving gullies (**24663** and **24622**), which terminated to allow access through a 2.4m-wide, east-facing entrance (Figs 3.6 and 3.7). The steep-sided southern gully (**24663**; Fig. 3.8, section 4412) was c.3.8m long with north- and west-facing terminals, and therefore did not represent part of a truncated continuous circuit. Its steep-sided form was suggestive of a structural trench rather than drainage function, and the south-facing break may have been part of another entrance. Fill **24664** contained an organic-rich deposit with a large assemblage of pellet moulds comprising 45 heavily abraded fragments (RF11557–RF11589, not

*Figure 3.5: Scotch Corner: Field 246, ditch group **31206** (with vertical scale) cut along south-east workshop enclosure boundary, facing south-west.*

catalogued; Appendix J), which were mixed with waste materials from manufacturing, although it was not certain whether they represented a primary depositional context. The waste materials included fragments of possible casting moulds and fired clay (RF11565, RF11579, RF11580 and RF11589, not catalogued; Appendix I), but no conclusive evidence for metal production (Mackenzie, Chapter 7).

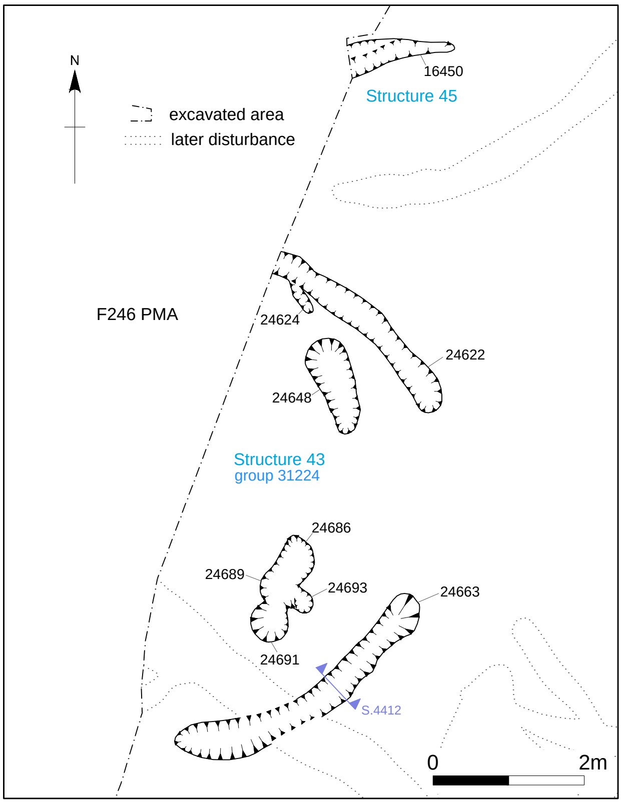


Figure 3.6: Scotch Corner: Field 246, Structure 43.

The range of species represented in the accompanying charcoal and charred plant assemblage was diverse: poplar or willow and oak charcoal was mixed with wheat, spelt and barley, as well as wild oat, sedge, wild radish, wood sage and indeterminate grasses, cereals and legumes. Animal bone was fragmented and poorly preserved, and the pottery assemblage included scraps of undateable coarseware and amphorae, most sherds being from hand-built vessels (see Chapter 5).

The north side (**24622**) of Structure 43 was c.3m long by c.0.4m wide by 0.18m deep (Fig. 3.6). Like opposite gully **24663**, its steep-sided profile suggested a structural rather than drainage function. A short narrow gully (**24624**) cut by Structure 43 may have been associated with an early iteration of the northern arc of the gully, although insufficient survived to establish its intended function. While no pellet mould fragments were found in the north side of the structure, fill **24646** contained oak and pomaceous charcoal, alongside charred legumes and cereals, including spelt grains dated to 50 cal BC–cal AD120 (95.4% probability; SUERC-83982), which was refined through Bayesian modelling to the first half of the 1st century AD (Hamilton, Chapter 9). Animal bone and hand-built pottery completed an assemblage that was comparable to that of the southern side, except for the absence of pellet mould fragments. This disparity perhaps suggests purposeful, and possibly primary, deposition in the south side, while the absence of fragments in other features associated with Structure 43 suggest that redeposition did not commonly occur.

The east-facing entrance to Structure 43 was flanked internally by structural features on the south and north

Figure 3.7: Scotch Corner: Field 246, Structure 43, west to top.

sides (Fig. 3.6). Northern feature **24648** followed a tighter curve than outer gully (**24622**) but was thought to have been contemporary with it. The internal feature was steep-sided and 0.2m deep by 1.3m long by 0.56m wide at its north-west end, narrowing to its south-eastern terminal where fill **24649** contained some charcoal, but no diagnostic metalworking waste. Approximately 1.5m to the south, an intercutting series of four features (**24686**, **24689**, **24691** and **24693**) had a combined length of 1.4m. Like feature **24648**, they respected the external gully (**24663**) and were interpreted as a series of postholes (**24690**, **24693**, and **24700**) where hand-built pottery and animal bone had been incorporated into fills that were devoid of pellet moulds. Birch charcoal recovered from fill **24688** in posthole **24686** was a rare example of the species in this period, but the other wood species were typical of those routinely exploited at the settlement.

Structure 45 (curving gully terminal 16450)
The only exposed part of a probable drip gully was represented by gully 16450, which curved to the east and feasibly represented a northern terminal of an east-facing entrance, although no southern counterpart survived in the complex of intercutting features (Fig. 3.6). Aside from the charcoal in fill 16451, there was an absence of dateable finds and reliable stratigraphic relationships. Consequently, Structure 45's proposed place in the sequence of activity relied upon its projected circuit, which was incompatible with that of Structure 44 (see Period 2–3, below), which survived more completely and might therefore be later. With so little of Structure 45 investigated, the activities undertaken there remain unknown, but it was evidently part of the dense activity zone associated with the workshop enclave or subsequent enclosure.

Structure 47i (group 31277) and 47ii (group 31266)
Structure 47 was the most substantial and enigmatic vernacular structure at Scotch Corner (Figs 3.9 and 3.10). As observed elsewhere in Field 246, the standard penannular form was apparently modified and adapted to a range of interior structures, activities and crafts, although pellet manufacturing may not have been one of them if the absence of mould fragments in the drip gullies is considered to be a reliable indicator that they

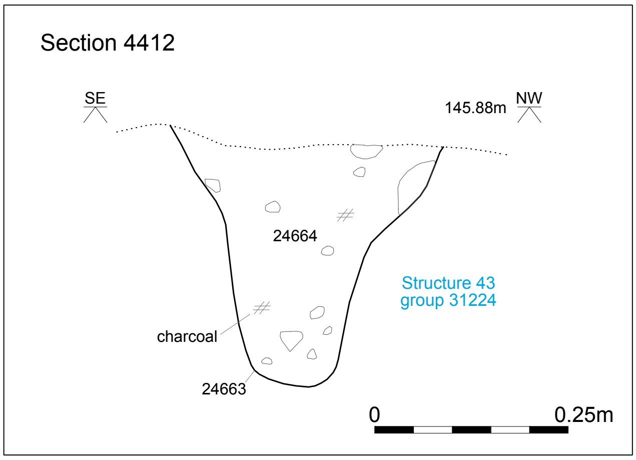


Figure 3.8: Scotch Corner: Field 246, section of Structure 43.

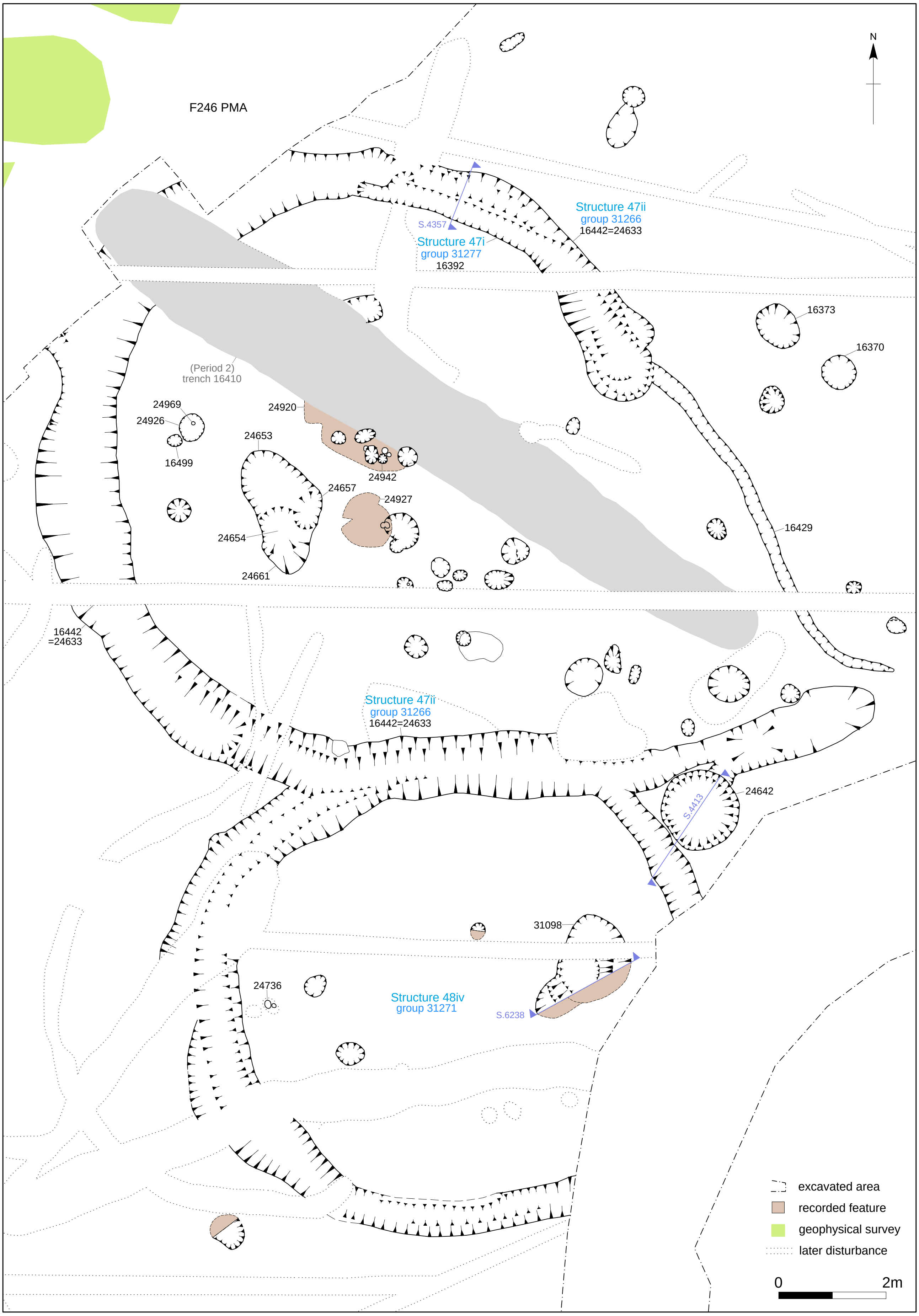


Figure 3.9: Scotch Corner: Field 246, Structures 47i, 47ii and Structure 48iv.

were not used there. The structure spanned the arrival of Period 2 imports, during which time there were at least four episodes of refurbishment and reconfiguration, resulting in a complex legacy of intercutting features that were difficult to attribute confidently to successive structural iterations.

The perimeter of Structure 47 (group **31277**) survived as a short curving segment of steep-sided U-shaped drip gully (**16392**) on the northern arc (Fig. 3.11). Abundant hazel charcoal that stained fill **16441** returned a radiocarbon date range of 180–1 cal BC (95.4% probability; SUERC-84044), which was excluded from Bayesian modelling on account of being obviously residual, a quality that was later confirmed by the presence of wheel-thrown pottery sherds of Period 2 date in equivalent deposit **16394**. The subterranean remains of Structure 47ii were far-better preserved, allowing for a fuller understanding of its form in plan (Fig. 3.9). There was no evidence for any wall or hurdle trenches that might accompany a dwelling, store or byre. However, a group of postholes concentrated in the southern half of the interior perhaps represent components of lean-to or open-sided shelters associated with more than one iteration of the perimeter gully. The internal diameter was at least 10m and the substantial drip gully (group

Figure 3.10: Scotch Corner: Field 246, Structures 47 and 48 (vertical orthoimage).

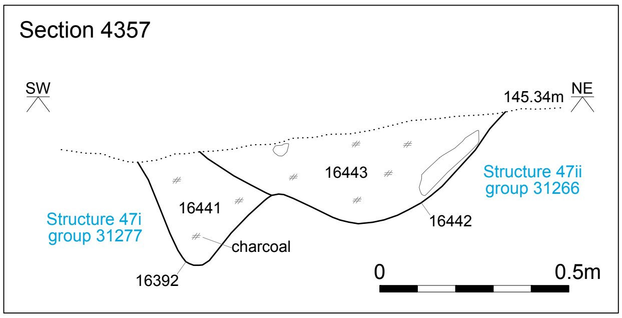


Figure 3.11: Scotch Corner: Field 246, section of Structures 47i and 47ii.

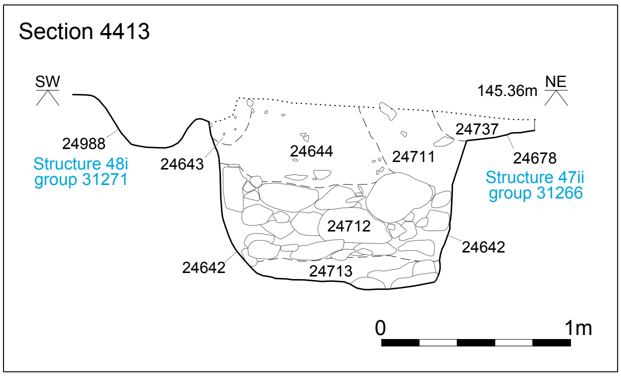


*Figure 3.12: Scotch Corner: Field 246, section of cistern **24642**.*

31266; Fig. 3.11, section 4357; Fig. 3.20, sections 4398 and 4399, see below) was up to 1.2m wide and c.0.4m deep, with shallow sides and a flattened base, except at the northern terminal, which widened to 2.4m by 0.8m deep and possibly functioned as a water cistern and filter, with cobbles lining its base.

The southern terminal extended eastwards beyond the circuit for c.6.8m, where it connected with another cistern (**24642**; Figs 3.9 and 3.12, section 4413, Fig. 3.13); both were apparently positioned down-slope to collect water from the drip gully. A sinuous cobble-filled fence-line (**16429**; Fig. 3.9) connected with the northern cistern and terminated adjacent to the extended southern terminal, leaving a 0.4m-wide entrance that was perhaps suggestive of restricted access or visibility, an attempt to control the environment, or possibly all three.

As for many of the vernacular structures on the A1 scheme, artefacts and environmental remains in the drip gully were concentrated near the entrance, but the evidence for food preparation and consumption in Structure 47ii was limited to charred spelt and barley grains in upper fill **24923** of the northern cistern terminal, which also contained oak charcoal, but none of the sherds of hand-build and imported pottery sherds that were commonly found elsewhere. Beneath the upper fill, primary fill **24921** included some animal bone, along with sherds of hand-built bowl (Cat. no. 5) and undiagnostic Roman pottery. From the surviving samples

*Figure 3.13: Scotch Corner: Field 246, cistern **24642**, facing north-east.*

of stonefruit and hazel charcoal, the latter provided a radiocarbon date range of 60 cal BC–cal AD80 (95.4% probability; SUERC-83983), which was refined in the Bayesian model to the period between the end of the 1st century BC and first half of the 1st century AD (Hamilton, Chapter 9). Approximately halfway round the drip gully, on the south side, fill **24651** contained sherds of hand-built pottery, and additional sherds came from fills **24634** and **16443**, located opposite on the north side; the latter fill also included undiagnostic Roman pottery, which had potentially been introduced by later activity. Hand-built pottery came from fill **24644** in cistern **24642**, and undiagnostic Roman sherds were recovered from fill **24935** of fence-line **16429**. The arrangement of features, alongside the artefactual and environmental assemblages, were evidently atypical for domestic structures of the period and location; however, the exact main function of the structures and their associated gullies and cisterns could not be ascertained.

The array of interior and proximate external features potentially accompanied all four incarnations of the drip gully, with no obvious configuration nor definitive way of confirming their particular associations in the absence of stratigraphic links. Most of the features could only have housed slender posts, with only a few examples suitable for supporting a roof that would span the interior; in the absence of a wall, the structures were presumably slight. Inside the proposed structure, a patch of surviving compacted clay floor or trample (**24920**) possibly overlay numerous features, although such sequential relationships were difficult to establish given the similarities of many of the fills. Near the centre of the interior, and immediately south of a dense complex of small post and stakeholes, the dished fired-clay base of hearth **24927** arguably belonged with an early structure, having been substantially removed by trench **16410** in Period 2 (see below). Approximately 3.6m to its west, a small pit (**16499**) without stratigraphic connections contained two fragments of crucible with probable traces of metallurgical residue or slag in fill **16498** (Mackenzie, Chapter 7).

Other cultural material was restricted to features near the centre of the interior, although even here it was relatively sparse. Next to the crucible pit, stakehole **24969** contained sherds of hand-built pottery in fill **24930**, while by the hearth, fill **24943** of posthole **24942** consisted of sediment containing hazel and pomaceous charcoal. South of the central feature cluster and hearth was a semi-penumbra of features that contained small volumes of charcoal and charred plant remains. Within a group of pits that cut posthole **24657**, fill **24660** of pit **24654** contained oak and ash charcoal with charred wood sage, brome and sedge, some animal bone and coal. Fill **24665** of pit **24661** and primary fill **24658** of pit **24653** also included oak charcoal. Upper fill **24659** of the latter pit contained oak charcoal along with some fired clay, Period 2 coarseware pottery, and a rare occurrence of vessel glass (not catalogued; Appendix G) in production from the late 1st century AD, which may represent subsidence or intrusion from overlying deposits.

Immediately outside the northern terminal of Structure 47, and probably associated with it, two adjacent pits (**16370** and **16373**) were separated by c.0.6m (Fig. 3.14). The south-eastern feature (**16370**) had a diameter of 0.64m and was 0.13m deep. The interface between its fills and the natural silty clay appeared to have been scorched by in-situ burning, or perhaps from the deposition of very hot materials. Primary fill **16371** incorporated a rich mix of charcoal and charred food remains, as did upper fill **16372**, which contained pieces of animal bone and a single residual fragment of pellet mould (RF12887). Feature **16373** was an ellipse that measured 0.9m long by 0.7m wide by 0.15m deep with a shallow profile similar to that of **16370**. It was similarly rich in charcoal, and its upper fill (**16372**) contained pieces of animal bone and some coal but demonstrated no sign of in-situ burning. The wide range of materials in the pits share similarities with other features directly associated with pellet moulds, particularly the proposed primary deposit in pit **24014** (Structure 51; see Chapter 2), although the absence of a primary pellet mould deposit suggests that specific manufacturing waste was deposited elsewhere.

*Figure 3.14: Scotch Corner: Field 246, pits **16370** and **16373**, facing south.*

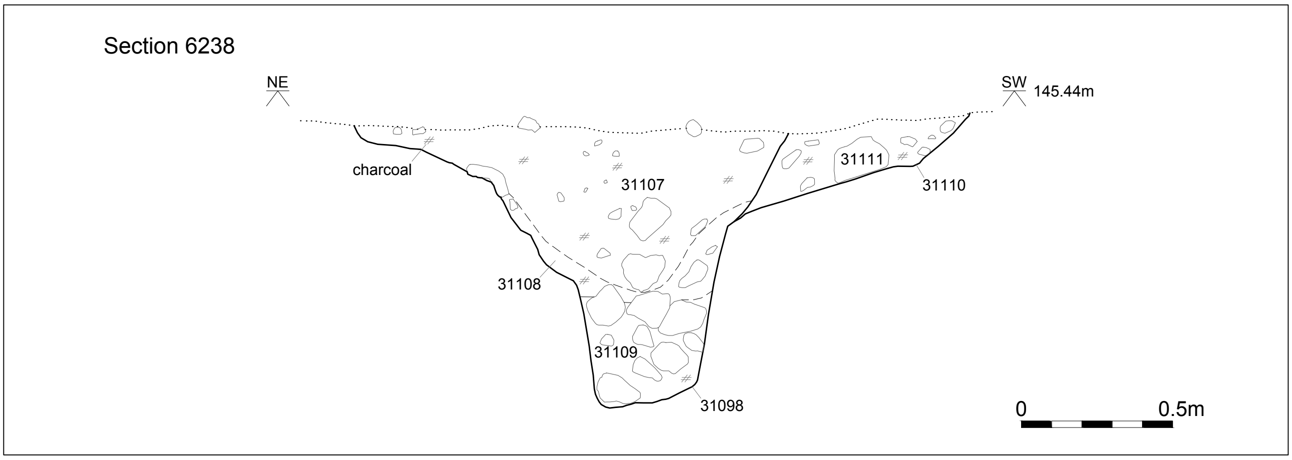


*Figure 3.15: Scotch Corner: Field 246, section of cistern **31098**.*

Structure 48iv (group 31271)

Immediately south of Structure 47, the final iteration of Structure 48 was represented by its largest and most complete drip gully (group **31271**; Fig. 3.9). The U-shaped profile was undoubtedly for drainage and encircled an interior space with a maximum diameter of 8.1m and a probable south-east facing entrance that fell outside the excavation area. The circuit of the drip gully coincided with the southern arc of Structure 47ii (group **31266**), appearing to accommodate it as though they operated in tandem for drainage and/or water collection. The primary fills probably accumulated during the latter stages of the structures' active lives, but the upper fills included mixed subsided deposits from overlying occupation layers (**16288**=**24161**) associated with the Period 4 Roman roadside enclosures system and structures, as well as associated disturbance caused by activity within them (see Chapter 4). This was the case in upper fill **24984**, where fragments of fired clay were found redeposited with possible fragments of casting moulds or crucibles, although no metal residues were evident (Mackenzie, Chapter 7). A stone smoother or polisher (Cat. no. 700) was recovered from a more secure context (**24735**) in the only posthole (**24736**) attributed to Structure 48iv. This tool had one smoothed face, with a highly polished patch; its form was not definitely indicative of manufacturing or craft (Croom, Chapter 6), but its context was highly suggestive.

In the fills of drip gully group **31271** there was very little charcoal, no charred plant remains and few ceramic imports, with just two sherds each of CAM 139v Campanian wine amphorae (Cat. no. 224; 20BC–AD80) and Dressel 20 olive oil amphorae (Griffiths and Williams, Chapter 5). Instead, the ceramic assemblage from these features consisted predominantly of hand-built jars including sherds of a globular vessel with an everted rim (Cat. no. 4; Cumberpatch, Chapter 5) and some rusticated ware jar sherds considered intrusive from the overlying Period 4 occupation layer **16288**=**24161** and potentially from occupation of Structure 49 (not illustrated; see Chapter 4; Leary, Chapter 5). However, a very distinctive base from a hand-built pedestal-based jar (Cat. no. 3) in fill **24728** displayed a form and fine finish that was reminiscent of effort expended on smaller, finer types of vessel, rather than the larger jar forms to which it belonged. It therefore seems probable that this vessel represented the native equivalent of tablewares and is comparable with examples from Lincolnshire and the east Midlands that are usually dated to the later 1st century AD (Cumberpatch, Chapter 5).

Inside Structure 48iv, cistern **31098** was a refurbishment of **31110** from earlier iterations of the structure (see Chapter 2, Figs 2.47 and 2.55f). The recut feature was similar in form and probably function to cistern **24642**, which was associated with Structure 47ii, although the example in Structure 48iv was only designed to store and filter the sediment from water rather than collect it from drip gullies (Fig. 3.9). Cistern **31098** was 1.4m long by 1m wide by 0.93m deep, with near-vertical sides and a flat base that was lined with large, rounded stones (**31109**; Fig. 3.15, section 6238). The only finds were sherds of imported Period 2 pottery from the sediment (**31108**) above the stones. As in the case of cistern **24642**, there was nothing to indicate any manufacturing processes took place in or around it, which is perhaps not surprising if they were used purely for water collection and filtration. The capacity of the features does seem excessive for domestic use and, considered with the intricate system of drainage gullies, it is proposed that the cisterns provided clean water for consumption, cooking, craft and manufacturing processes.

Structure 51ii (group 31278), Structure 51iii (group 31279) and pit 24296

The drip gully of Structure 51i (see Chapter 2) was refurbished as gully **16049** (group **31278**, Structure 51ii), which represented either a reduction in the proportion of the interior surrounded by a drip gully, or southward realignment of the broad entrance (Fig. 3.16). Its profile and dimensions were similar to those of the previous iteration, and fill **24108** contained pieces of animal bone and charcoal from a pomaceous species and hazel. A fragment of charcoal returned a radiocarbon date range of 360–110 cal BC (95.4% probability;

SUERC-84045), which was considered residual and excluded from the Bayesian model (Hamilton, Chapter 9). Equally informative was the intrusion of a single mortarium sherd of Scotch Corner origin in fill **24095**, dating from c.AD60–90, which was symptomatic of renewed occupation in late Period 3 and early Period 4 (see Chapter 4; Griffiths and Williams, Chapter 5). Diagnostic artefacts were lacking in the final recut (**24586**), which either represented less of a circuit than its predecessors or another episode of realignment, although fill **24587** did include ash, dogwood and guelder rose charcoal combined with charred sedge and goosefoot, none of which were considered to be by-products of food preparation.

Mirroring the position of earlier interior pit **24014**, external pit **24296** was opposite the entrance of Structure 51 and outside the projected circuit of the drip gully. The proposed association between both pits, the structure and the pellet mould dump in ditch **15875** is based on their relative contemporaneity in the stratigraphic sequence and their locations in respect to each other; there was, however, no direct stratigraphic connection to confirm it. Pit **24296** measured 1.65m long by 0.8m wide and 0.3m deep and would originally have been larger before truncation by later enclosure ditches, which its position appeared to pre-empt or influence. The introduction and refurbishment of enclosure ditches appears to have displaced pellet moulds from pit **24296** (and potentially from lost, shallower, primary dumps), causing them to be redistributed in the fills of later features concentrated in features around Structure 51 (see below).

Primary fill **24200** in pit **24296** included only three fragments of pellet mould (RF10193), while the overlying deposit (**24238**; Fig. 3.17) apparently contained a primary deposit of pellet moulds and associated manufacturing debris. Amongst the elm and hazel charcoal-rich soil matrix, which also contained charred spelt, other cereals and grasses, were 174 pellet mould fragments (RF11453 and RF13164), alongside fired clay industrial waste, including fragments of a possible casting mould that may have been related to metal production, light vesicular industrial waste slag and some possible fuel ash slag (Cat. no. 896; Mackenzie, Chapter 7). A grain of spelt from deposit **24238** provided a radiocarbon date range of 50 cal BC–cal AD90 (95.4% probability; SUERC-83976), which was refined in the Bayesian model to the beginning of the 1st century BC and first half of the 1st century AD, much like the range indicated for Structure 47ii (see above). Equivalent deposit **24127** included alder charcoal and charred spelt grains, as well as 22 fragments of pellet mould (RF10190). Deposition in the pit apparently spanned the period of manufacturing in and around Structure 51, which continued into Period 2. Gully **24194=24262** traced the rear of Structure 51 on a south-east to north-west alignment (Fig. 3.16). Along with pit **24296**, it appears to have influenced the course of the north-east enclosure boundary, which was subsequently cut across both features (see below).

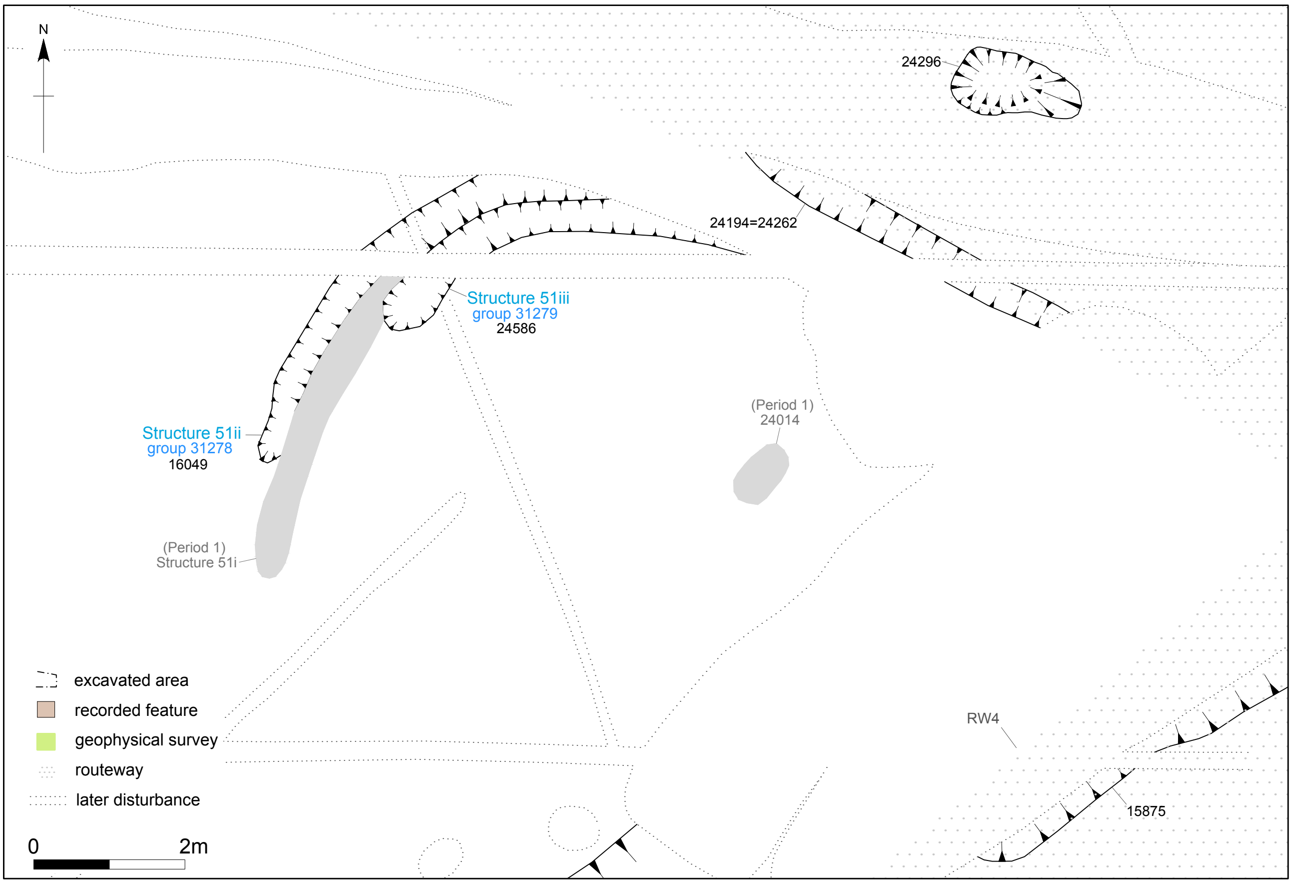


Figure 3.16: Scotch Corner: Field 246, Structures 51ii and 51iii and associated features.

*Figure 3.17: Scotch Corner: Field 246, pit **24296** and deposited pellet mould during excavation, facing west.*

PERIOD 2 (c.AD15–c.AD55)

Period 2 was characterised by the consolidation of activity zones and widespread introduction of enclosures inside the settlement at Scotch Corner (Fig. 3.1). The developments represented a new focus on the designation and delimiting of spatial and tenurial units. Earthwork boundaries were dug and maintained around the workshop enclosure in Field 246, while copper and mineral prospection and processing was apparently undertaken to support pellet manufacturing, and other possible craft production implied by intense activity. A west–east coaxial enclosure system was defined by ditches and gullies in Field 223, where occupation continued, and there were traces of the same system spreading westward outside the A1 scheme (ASDU 2014b, 2014c; Headland Archaeology forthcoming) and northward into Field 228. An agglomeration of nucleated enclosures in Field 267a (extending into Field 267b to the west) corresponded with site SCA15 investigated during the A66 upgrade scheme (Zant and Howard-Davis 2013), where occupied plots contained structures with a range of forms, and evidence for food production amongst other domestic activities. Components of the same system were also revealed along the western edge of Field 267a in a two-phase watching brief (NAA 2020). Between the coaxial enclosures of Field 223 and nucleated enclosures of Field 267a, a hybridised enclosure arrangement including roundhouse, tracks and enclosure gullies was investigated during development of the Scotch Corner Hotel (Abramson 1995).

While changes to the layout were implemented across the settlement, the inhabitants of Scotch Corner were in receipt of goods from a wide range of Mediterranean and Continental sources including North Gaul, Italy and Spain; the small volume of amphorae transported wine from at least five locations, as well as fish-based products from southern Spain, and small quantities of olive oil from Baetica (Griffiths and Williams, Chapter 5). Imported wheel-thrown pottery included terra rubra, terra nigra platters, butt beakers, North Gaulish white ware vessels, silty wares, and a small number of platters in Pompeian red ware from Campania (Leary, Chapter 5). Fine dining in the Continental and Roman style was also made possible with the small assemblage of Arretine (Italian-style sigillata) that accompanied more abundant consignments of terra sigillata (samian ware) cups and dishes produced in southern Gaul in the Claudian period (Monteil, Chapter 5). A small number of certain Claudian period glass vessels arriving at Scotch Corner during Period 2 or shortly thereafter represented forms that were popular on the Continent and were also presumably attractive to the native British population (Cool, Chapter 5). Like the fine pottery wares, discarded glass was concentrated in and around the workshop enclosure in Field 246, where consumption and discard of exotic imports appears to have been more conspicuous than elsewhere at Scotch Corner.

FIELD 246: PELLET MANUFACTURING, CRAFT AND FEASTING AT THE WORKSHOP ENCLOSURE

Period 2 witnessed the peak of pellet manufacturing in the workshop enclosure in Field 246, the maintenance and modification of the enclosure boundaries and associated features, and the continued deposition of moulds before extensive disturbance and redeposition in subsequent periods (Fig. 3.18). Outside the workshop enclosure, potential evidence for processes associated with copper and mineral prospection was revealed in the form of a small area of exposed ore in the limestone bedrock of Field 258 (Mackenzie, Chapter 7). In the north end of Field 258, between the workshop enclosure and the exposed area of copper ore, a group (28131; Fig. 3.28, below) of pits and small quarries cut into the limestone bedrock might originally have been prospection pits for copper ore, then for storage, and ultimately refuse associated with settlement closure at the end of Period 4 (see Chapter 4). While it is not possible to demonstrate the original function of the pits, their locations and context are highly suggestive of an association with metalworking processes in the native settlement. Equally suggestive of copper prospection was a possible bell-pit or quarry (15758; Fig. 3.27, below) at the north end of Field 246, which was found near Structure 59.

All the surviving modifications made to the workshop enclosure during Period 2 were located near the north-east corner around feature **15852**, which may be the remnant of an early iteration of 'well' feature **24297** (Fig. 3.18). The south-east side of the enclosure was refurbished and adapted to incorporate a south-east facing entrance of unknown width, defined on its south-east side by ditch **24422** and adjacent gully **24360**, while its presumed south-west side was removed by later iterations of the boundary. Ditch **24422** had a shallow-sided, U-shaped profile, measured 0.7m wide by 0.3m deep, and followed a course that cut across the former footprint of Structure 51, possibly disturbing deposits containing pellet mould fragments and other refuse in the process. Primary fill **24429** included 62 pellet mould fragments (RF11483), as well as fired clay and animal bone, but was also rich in hazel charcoal and a comprehensive mixture of charred plant remains, including cereals. The assemblage of hand-built and wheel-thrown imported coarseware was predominantly produced in Period 2. An equivalent deposit (**24423**) included sherds of a deep-blue glass bowl or jar with an out-turned rim (Cat. no. 622), apparently one of the earliest examples of the impressive glass vessel assemblage imported for the Scotch Corner population during Periods 2 and 3 (Cool, Chapter 5). A narrow gully (**24360**), which was cut along the same course as ditch **24422**, included a similar range of charcoal, charred plant remains and pottery in fill **24421**, presumably also derived from food production in the vicinity.

The north-east side of the enclosure survived as gully **24537**, which continued as gully **16202=24537** after a dog-leg to the north-east, following the same course as the existing south-east side of the enclosure. Artefacts were absent from the former segment of gully but, beyond the angle, **16202=24537** was the receptacle for a substantial dump of pellet mould fragments, debris from manufacturing, and occupation refuse. Deposit **24004** included hazel and oak charcoal, sprouted spelt, spelt, barley, and animal bone, as well as 50 fragments of pellet mould (RF10161) and fired clay. Hazel charcoal and animal bone also came from primary fill **15895**, which contained flakes and spheres from ferrous metalworking potentially related to very small-scale iron smithing (Mackenzie, Chapter 7). The upper fill (**15896**) was more productive still: hazel charcoal was accompanied by a rare example of birch; sherds of samian ware from c.AD45–80 were mixed with coarseware pottery of the same vintage (Leary and Monteil, Chapter 5); animal bone was represented, as well as 67 fragments of pellet mould (RF10158, RF10160, and RF13165), fired clay, and some possible metallurgical slag (Cat. no. 890). The concentration of discarded pellet mould fragments near feature **15852** and 'well' **24297**, which potentially had Period 2 origins, was suggestive of an association between pellet manufacturing and the water management features at the north-east enclosure corner. While this aspect is recognised in Period 2, it is considered further in the discussion of the Period 2–3 'well' **24297** (see below).

Occupation deposit 24409

The disturbed remnant of occupation deposit **24409** survived along the inside edge of the south-eastern workshop enclosure boundary near the proposed entrance (Fig. 3.18). It appeared as a dark mixed horizon with frequent inclusions of oak and pomaceous charcoal and charred remains of cereals, and grasses, with some sedge, fescue or ryegrass, pale persicaria, all representative of occupation. Charred examples of bog bean indicate nearby water, perhaps found in the many drip gullies and ditches associated with the enclosure. Alternatively, its presence perhaps indicates the use of peat as fuel or turf for construction, a possibility often overlooked in attempts to deduce structural materials (Baines, Chapter 8). As might be expected, the occupation deposit had been subject to continual disturbance, which was presumably how two very abraded grey ware sherds of Period 2 or 3 production and 13 fragments of pellet mould (RF11502) became incorporated. The rest of the assemblage was entirely consistent with Period 2 activity and included a range of jars or flagons, amphorae including Italian CAM 139 type (e.g. Cat. no. 227) and Dressel 2-4 (Cat. no. 230; Griffiths and Williams, Chapter 5), butt beakers, silty-ware vessels (Leary, Chapter 5) and sherds of samian ware Dr.15/17 dishes (e.g. Cat. no. 21) produced between c.AD40 and AD55 (Monteil, Chapter 5).

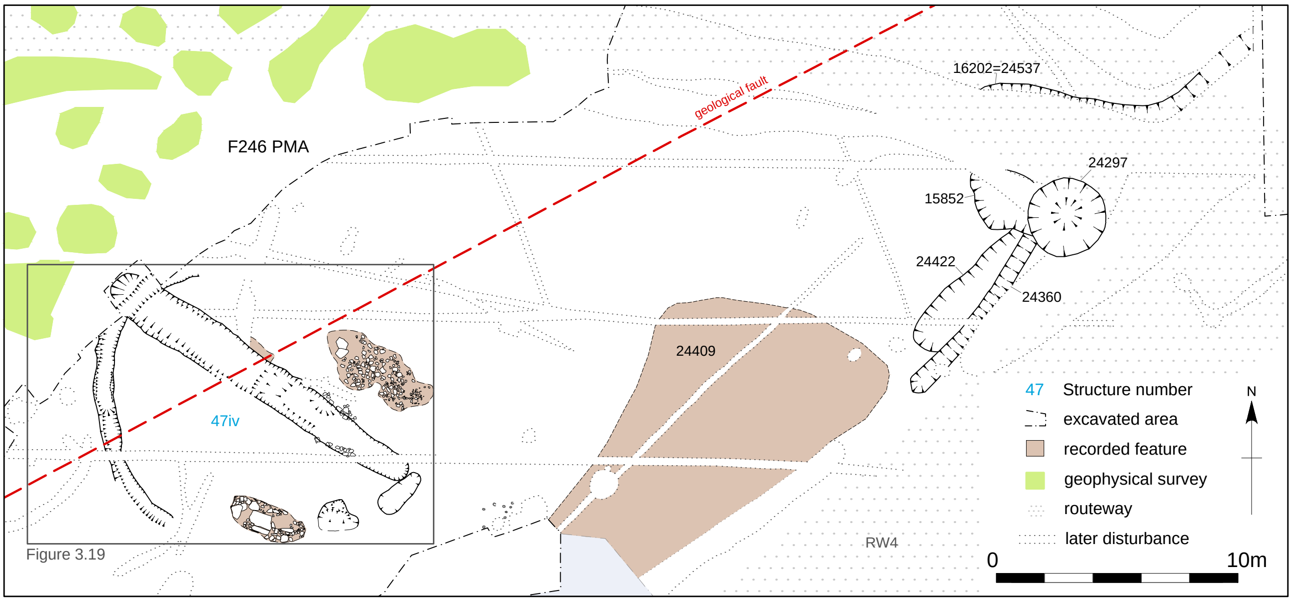


Figure 3.18: Scotch Corner: Field 246, Period 2 features in the workshop enclosure.

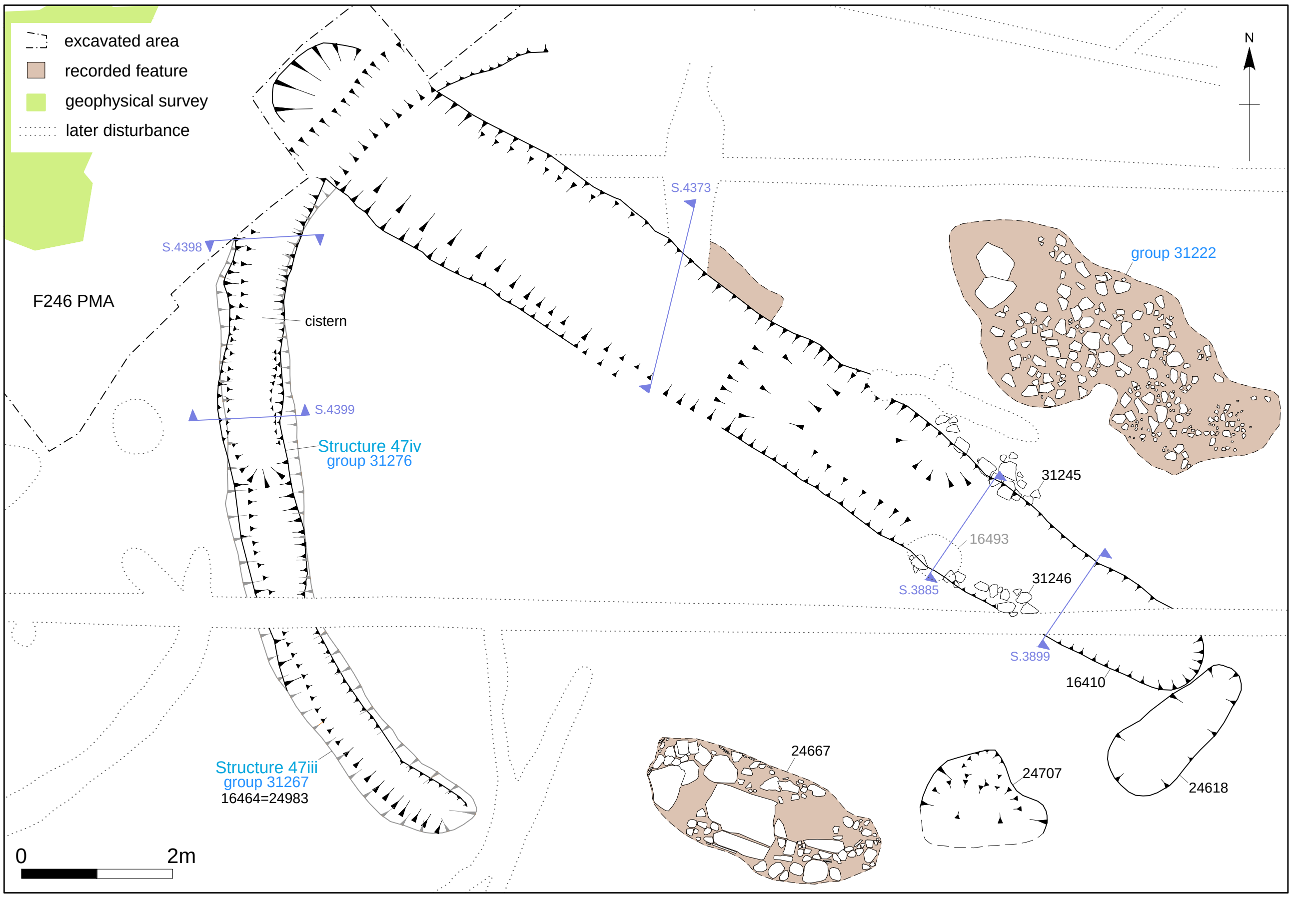


Figure 3.19: Scotch Corner: Field 246, Structures 47iii and 47iv and associated features.

Structure 47iii (group 31267)

The drip gully defining Structure 47iii (group **31267**) was a partial recut of Structure 47ii but survived only on the western arc, with an east-facing terminal that represented a significant reduction of the area enclosed by the former drip gully (Fig. 3.19). On the south-western arc, a short segment of the drip gully deepened to c.1m in a vertical-sided cistern, a unique feature with parallels only seen at deepened drip gully terminals elsewhere at Scotch Corner (Fig. 3.20, sections 4398, 4399; Fig. 3.21), although a similar feature may have been observed at the south side of Field 267a in a service trench (not illustrated; NAA 2020). As with the previous iteration, its fills were devoid of pellet mould fragments and debris from metalworking, although a sandstone grinding tool (Cat. no. 867) with numerous possible applications came from fill **24638** (Cruse, Chapter 6). Were the stone used in the production of food, it would be the only example of a quern or quern-like object found in any of the features infilled prior to Period 4 in and around the workshop enclosure, despite the frequent occurrence of charred cereals. As such, it remains possible that the tool served some manufacturing purpose, which may also be the case for two stone balls (Cat. no. 716 and Cat. no. 717) recovered from fill **24934** and interpreted by Croom (Chapter 6) as water-worn pebbles rather than hand-made objects. Even so, their appearance in an area with no running water is intriguing, and they were surely selected for either a sacred or profane purpose rather than being incidental or unrelated to activity.

Another stone ball associated with Structure 47iv (see below) was more convincingly shaped by human hands (*ibid*.), and potentially belongs to a class of artefacts found on sites in south-east Scotland and north-east England, as well as locally at Stanwick and Street House (Lowther 2016, 284). Their suggested uses include gaming pieces, weights, sling-stones or ceremonial objects (Haselgrove 2016, 431), and their deposition at Structure 47 and in trench **16410** (see below) is certainly suggestive of an association with manufacturing and craft such as textile production, as well as possible sacred observances.

Otherwise, the relatively modest assemblage of artefacts from Structure 47iii included two tile fragments in fill **16286**, which demonstrate the arrival/production and use of building materials in the Roman tradition before any Roman buildings were present at Scotch Corner. Sherds of hand-built and coarseware vessels were found in fills **16472** and **24933** respectively. The olive oil amphorae in fill **16295** was a Baetican Dressel 20 produced between AD15 and AD70 (Cat. no. 228; Griffiths and Williams, Chapter 5), while animal bone and ash charcoal came from upper fill **24637**, although these could have subsided from later mixed surface deposits. An attempt to radiocarbon date a grain of spelt from the deposit returned a modern date and further demonstrated ploughing disturbance.

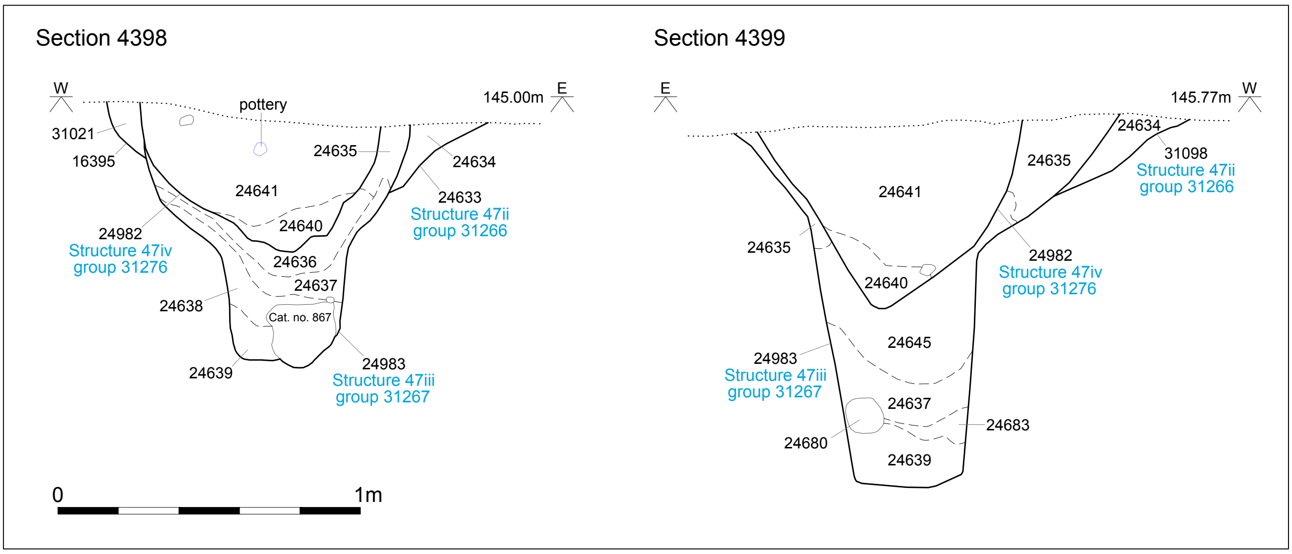


Figure 3.20: Scotch Corner: Field 246, sections of Structures 47ii, 47iii and 47iv.

Structure 47iv (group 32176)

The final iteration of Structure 47 was a substantial C-shaped drip gully (group **31276**), which occupied much of the earlier circuits of the structure and was typically c.0.8m wide by c.0.4m deep (Figs 3.19 and 3.20, sections 4398 and 4399). The southern drip gully terminal of Structure 47iv corresponded broadly with that of Structure 47iii, and its base was partially lined with large flat-topped stones, which survived sporadically (Fig. 3.22). Their purpose was either to act as support for upright posts or aid in the cleaning out of the gully with a shovel, potentially functioning together with stone-lined tank **24667** (Fig. 3.19; see below), which was adjacent to the eastern terminal, beyond which was recut pit **24707** and a shallow-sided depression (**24618**). The depression connected with the south-eastern terminal of a vertical-sided flat-bottomed trench (**16410**) that bisected the interior of the former sub-circular structure and terminated a short distance outside the north-western arc of the drip gully. Any birds flying above the recent

*Figure 3.21: Scotch Corner: Field 246, cistern **24983** within Structure 47iii drip gully, facing north-east.*

Figure 3.22: Scotch Corner: Field 246, stones in base of Structure 47iv gully, facing north-west.

excavation might have observed that the infilled remains strongly resembled a penannular brooch, an impression emphasised by charcoal-rich fills that contrasted with the buff-coloured sandy-clay horizon (Fig. 3.23). The trench was central and parallel to a roadside enclosure introduced in Period 4, perhaps providing a reference for the later boundaries (see Chapter 4).

Primary silty fill **24640** of Structure 47iv drip gully (group **31276**; Fig. 3.19) provided the first potential evidence for contemporary activities and included a radiocarbon date for arable agriculture during the Middle Iron Age. The fill was a dark soil matrix that included pomaceous charcoal, charred barley and fescue or ryegrass, and animal bone, sherds of beakers and flagons, a terra rubra sherd, and samian ware that provided a *terminus post quem* of AD45–90 (Monteil and Leary, Chapter 5). The same fill also included parts of a ceramic crucible (Cat. no. 889) with no distinct morphology or certain evidence of metal production. It was accompanied by an undiagnostic concretion and fragments of fired clay, evidentially derived from hot-works (Mackenzie, Chapter 7). A large limestone boulder that had been pitched into the partially infilled cistern as the lower fills accumulated was also suggestive of manufacturing and craft. It was a rectangular cuboid, with sides and corners regular enough to suggest shaping, and a size (approximately 0.6m x 0.4m x 0.4m) that could feasibly signify an anvil. The radiocarbon date range of 400–210 cal BC (95.4% probability; SUERC-83978) obtained from a charred barley grain tells us little about activity taking place at the time of pellet manufacturing and was excluded from the Bayesian model devised for the developed settlement (Hamilton, Chapter 9), but does demonstrate food consumption, if not arable production and barley processing, at the site during the Middle Iron Age.

The tertiary fills of Structure 47iv were equally instructive, although in common with the upper fills of trench **16410** (see below), they incorporated imported Period 3 and 4 materials from subsided deposits associated with the later enclosure system (see Chapter 4). Considered alongside the tile from Structure 47iii (see above), at least 10 iron nails, including RF11538 (not catalogued;

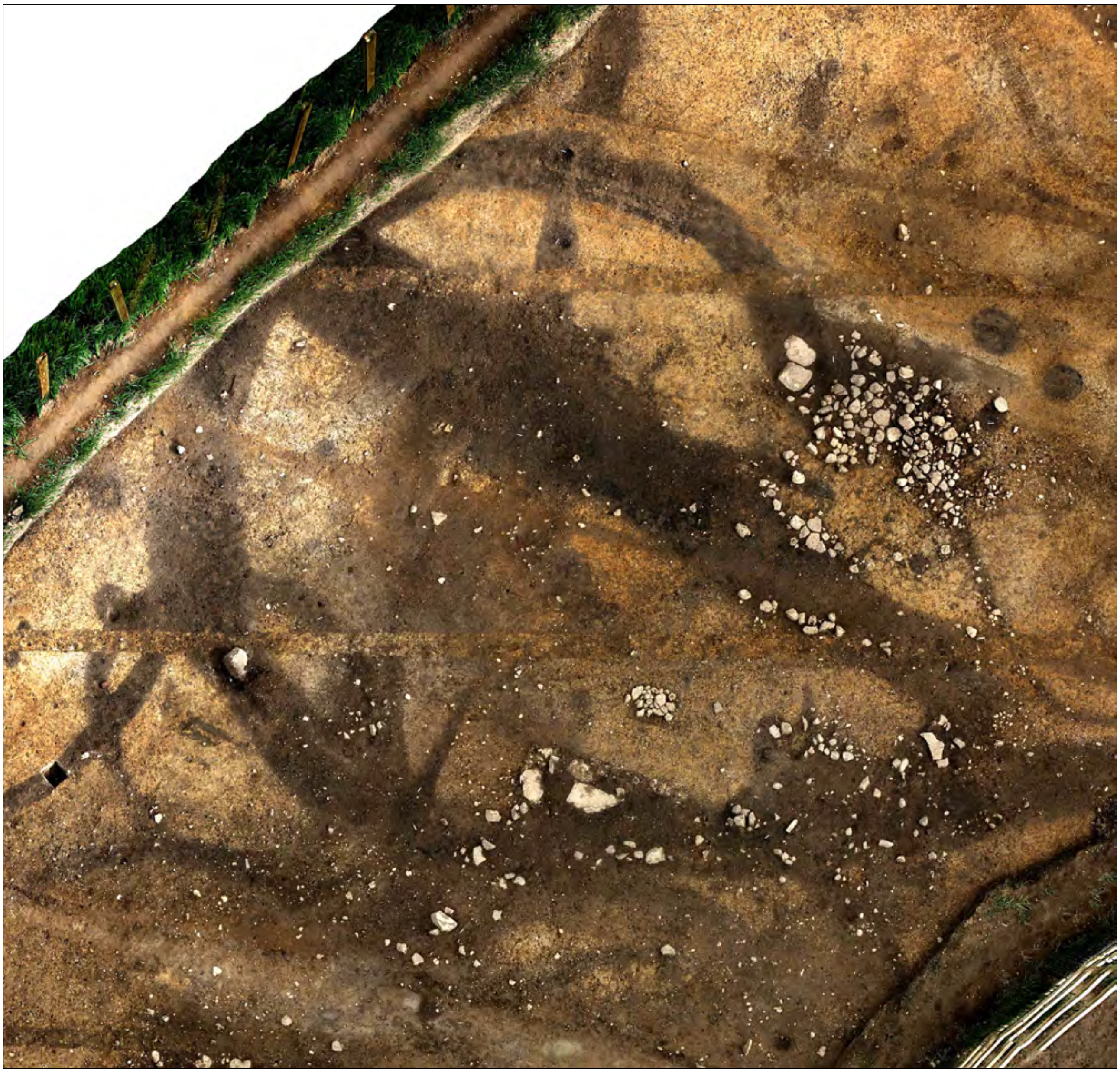


Figure 3.23: Scotch Corner: Field 246, Structure 47 and associated features (vertical orthoimage).

Appendix H) in fill **16397**, are argued to indicate contact with Romans (Croom, Chapter 6) but could equally have been produced by native inhabitants or procured in the region. A stone tool (Cat. no. 705) from the same deposit had the appearance of a whetstone but with polished faces (*ibid*.), perhaps indicative of fine finishing work or grinding. In the south-western arc, samian and coarseware sherds were recovered from a dark organic fill (**24641**) with oak charcoal and charred remains of wheat and fescue or ryegrass, iron nails and animal bone. A lead object (RF11550, not catalogued; Appendix H) was of uncertain function but represented uncommon use of the material prior to the Roman conquest and exploitation of the natural resource.

The most arresting inclusion in fill **24641**, however, was a sample of powdered Egyptian blue pigment (see below; Foulds, Chapter 6; Beeby, Chapter 9). Alone, this would be remarkable, but it is made substantially more significant by the discovery of pink pigment made from rose madder in the Period 2–3 enclosure boundary (fill **24140** of ditch **15884**; see below) and a glassy material that was potentially associated with Egyptian blue production found (re)deposited in a nearby Period 4 feature (fill **16280**, group **31263**; see Chapter 4). The applications of pink and blue pigments are not certain in this context, although the possibilities include enamelled metalwork, object decoration, body paint/make-up, wall paint and textile dye, each option potentially making use of water, fire, stone-grinding tools and unique features in the workshop enclosure.

East of the terminal of Structure 47iv's drip gully, the heavily truncated remains of flagstone-lined tank **24667** were built over the infilled drip gully of Structure 48iv (Fig. 3.24). The tank was aligned with trench **16410** and corresponded to a segment where its vertical sides had been stabilised with several courses of unbonded cobbles (**31245** and **31246**), and also with a raft of cobbles (group **31222**), which had subsided into the infilled

Figure 3.24: Scotch Corner: Field 246, flagstone-lined tank ***24667****, facing south-east.*

terminal of Structure 47ii to the immediate north-east (Fig. 3.19). The base of tank **24667** was lined with thin tessellated flagstones with fine silty clay filling the gaps, and the sides were formed with orthostats, which had been set into the natural clay but had subsequently been broken away above ground level. The interior of the tank measured 3.1m by 1.2m wide, giving an internal area of 3.72m^2. Assuming vertical sides of at least 0.25m, the tank would provide capacity for c.930l of liquid which is a substantial volume. It appears that any physical traces of the original function were lost, but its form strongly suggests quenching, textile dyeing, or another process requiring submersion such as bathing. The presence of oak charcoal in primary fill **24669** probably relates to activity after it had fallen out of use.

Further round the southern side of Structure 47iv, pit **24707** was of irregular form and unclear function, although its fill (**16289=24708**) yielded an instructive assemblage of artefacts, including a small amount of hand-built and samian pottery, part of a handle from an Italian Dressel 2–4 amphora (Leary and Griffiths and Williams, Chapter 5), and a sandstone ball with a flattened edge (Cat. no. 715; see above; Croom, Chapter 6), which adds to the corpus of objects and features with unspecified but suggestive functions. Between pit **24707** and trench **16410**, elliptical hollow **24618** appeared to represent a worn access route or heavily truncated component in Structure 47iv's southern circuit.

Trench 16410

Trench **16410** was 14.4m long and, where it connected with Structure 47iv, was 1.7m wide, while its rounded terminal extended 0.4m beyond the cut of the drip gully (group **31276**; Fig. 3.19). At the rounded south-east terminal, it tapered to 1.1m wide and the base stepped up slightly. The feature was between 0.3m and 0.5m deep, with vertical sides and a flattish base cut into natural sandy clay that was too porous to retain water (Fig. 3.25, sections 3885, 3889 and 4373). Both sides

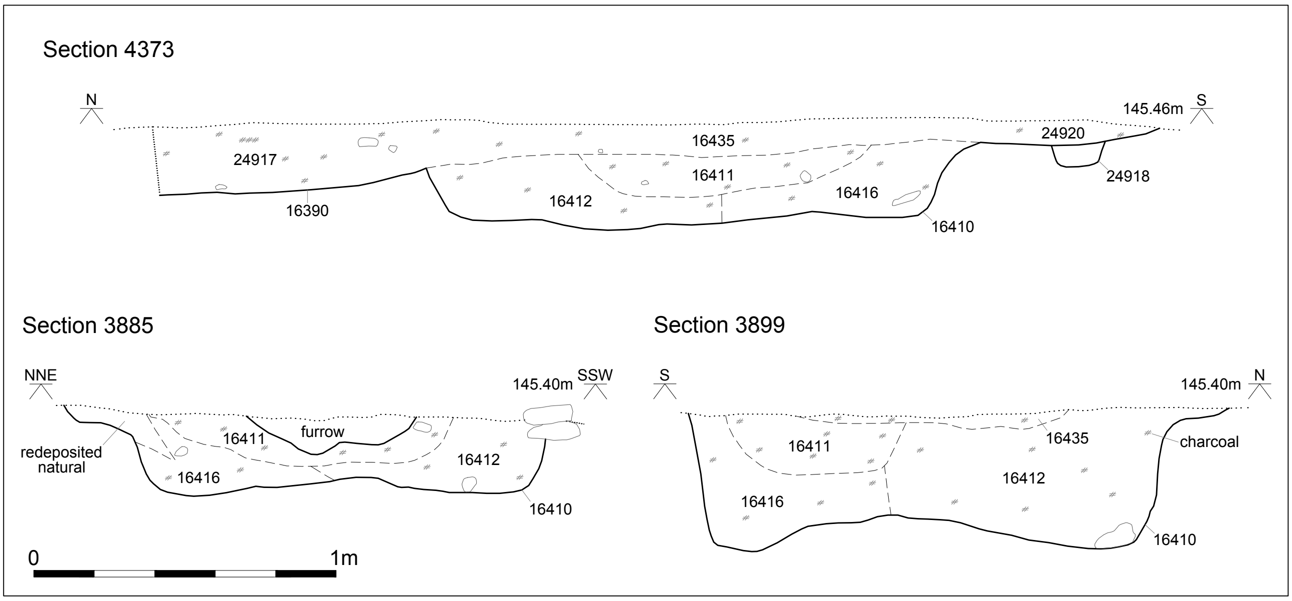


*Figure 3.25: Scotch Corner: Field 246, sections of trench **16410**.*

had evidently been re-straightened and the right-angle reformed by the action of running a spade or shovel along the base. The vertical sides had been protected with courses of stones (**31245** and **31246**) in a short segment near the south-eastern end, as if to support a light timber bridge (Fig. 3.26). Along with Structure 47, it represented one of the most distinctive and enigmatic components of the workshop enclosure. It was clearly designed for a specific and currently elusive function, although considering its context and the focus on water management and containment in the immediate vicinity, it could feasibly have been associated with a range of manufacturing processes including metalworking and textile production or dyeing.

Amongst the oak and hazel charcoal-rich sediment of the primary fills (**16412**=**16416**) were iron nails, animal bone, charred spelt, unidentifiable grasses and cereals, and sherds of hand-built pottery in the Iron Age tradition. The absolute dating was consistent for both deposits; a grain of spelt in fill **16412** returned a radiocarbon date range of 90 cal BC–cal AD70 (95.4%

*Figure 3.26: Scotch Corner: Field 246, trench **16410**, showing stone courses **31245** and **31246**, facing north-west.*

probability; SUERC-83972), which was refined in the Bayesian model to c.50 years before or after the turn of the millennium (Hamilton, Chapter 9), while hazel charcoal in **16416** was dated to 110 cal BC–cal AD60 (95.4% probability; SUERC-83973), which was similarly refined in the Bayesian model. Also common to both fills were samian ware and coarseware pottery assemblages that were exceptional in terms of the relative quantity of imported wares to drinking and fine dining, with very few hand-built vessels. Griffiths and Williams (Chapter 5) identify sherds of CAM 139v type 'black sand' amphorae produced in the Bay of Naples between 20BC and AD80, while Monteil (Chapter 5) observes that the earliest samian vessel at Scotch Corner came from these deposits. The sherds come from an exceptionally rare Arretine (Italian-style sigillata) platter of possible Pisan origin,

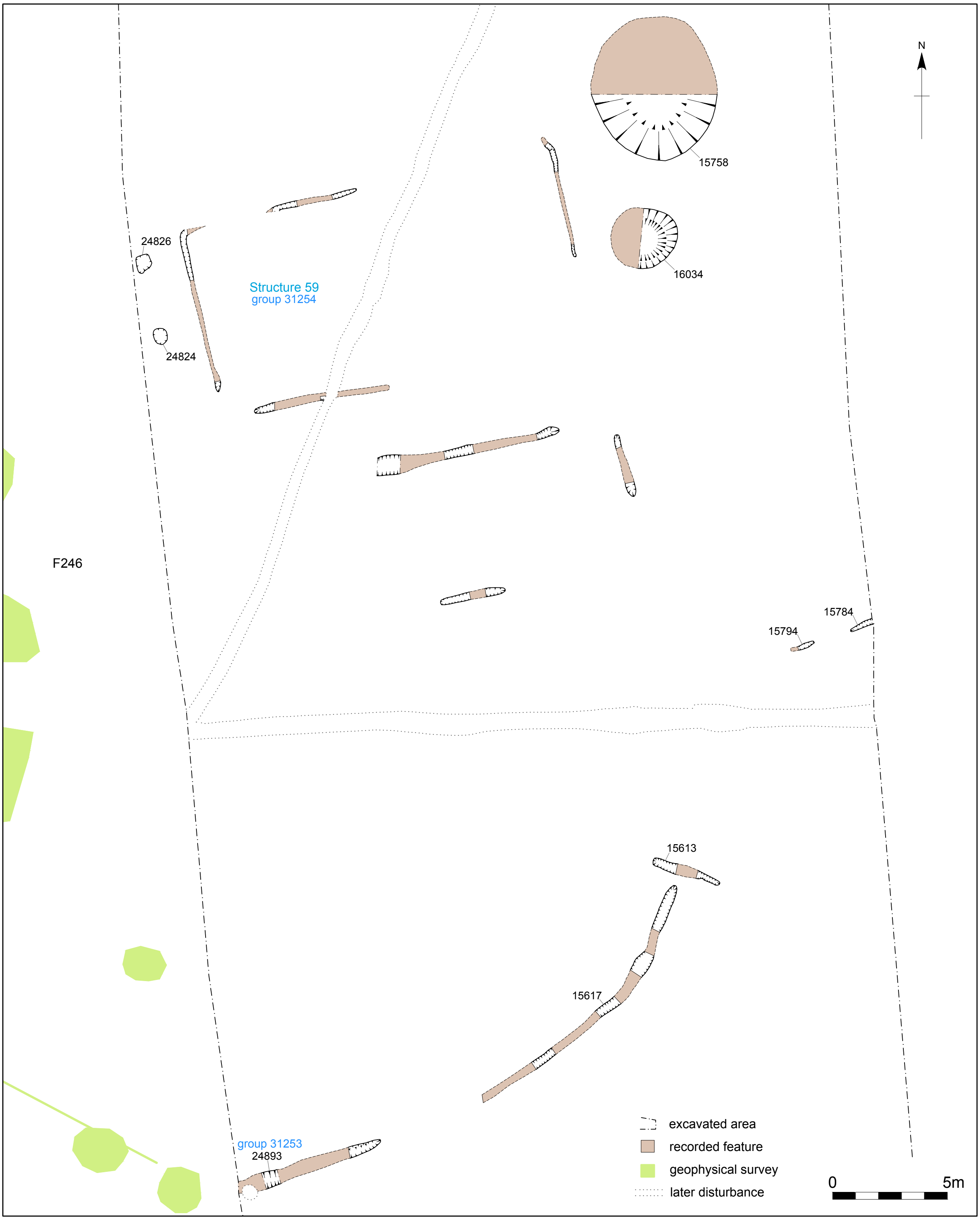


Figure 3.27: Scotch Corner: Field 246, Structure 59 and associated features.

dating from between c.10BC and c.AD25. Examples of similar vessel forms are sufficiently common in eastern England to suggest early 1st-century importation along native trading networks rather than arriving with the Roman military (*ibid*.).

Although the vessels are fragmentary and incomplete, the group appears to derive from either a structure in which these fine imports were being used, or a single event, such as a feast or celebration that was conspicuous in terms of the vessels used and discarded, and presumably also the food consumed (Leary and Monteil, Chapter 5). This was perhaps the earliest surviving example at Scotch Corner of a distinct and purposeful depositional event, such as those incorporating late Period 3 and 4 materials in Period 4 features nearby (see Chapter 4). The same pottery assemblage extended into secondary fill **16411**, which contained sherds from samian ware Dr.24/25 cups (Cat. no. 17) and Dr.29 decorated bowls (e.g. Cat. no. 20) as well fragments of hazel charcoal dated to between 170 cal BC–cal AD30 (95.4% probability; SUERC-83968), which was refined in the Bayesian model to the first half of the 1st century AD (Hamilton, Chapter 9). The deposit also included a small assemblage of briquetage (Britton, Chapter 5), pomaceous and oak charcoal, as well as animal bone and iron nails, but more evocative was the possible debris from copper metal casting (Cat. no. 888; Mackenzie, Chapter 7). Fragments of fired clay were accompanied by a broken cobble with evidence of burning or heat damage, possibly a pot-boiler or tool (Cat. no. 713), all of which further demonstrate that hot works were central to the processes conducted inside the enclosure and relied upon the supply of raw materials or recyclable objects.

Field 246: possible evidence for copper prospection

Structure 59 (group 31254) and enclosure 15617 (group 31253)

Approximately 150m north of the workshop enclosure, a series of shallow beam-slots represented the heavily truncated remnants of a large rectangular structure (Fig. 3.27). The north-east side of Structure 59 (group **31254**) appeared to correspond with an enclosure boundary (group **31253**, gullies **15617**=**24893**) 14m to the south. The boundary followed a curving course from the western edge of the excavation area, apparently enclosing the area south of Structure 59. It was c.0.45m wide by up to 0.17m deep and had been entirely truncated for c.4.8m. The northern terminal ended 0.45m away from of a short perpendicular gully (**15613**), which was likely to have been contemporary and could have been a remnant of an entrance. Both the alignments of Structure 59 and the associated enclosure appeared to already reference an unseen south–north boundary, yet construction of Dere Street to the north was still several decades away. Given the density of routeways and settlement evidence revealed by geophysical survey (Fig. 3.1), the possibility that an Iron Age precursor (RW3b) to the northern section of Dere Street (RR10; Chapter 4, Fig. 4.2) existed along the east side of Field 246 must be considered; this may have been a continuation of RW3 as it extended north-east from a junction in Field 265 (Fig. 3.1). Other suggestions of this south–north routeway were also recognised in features associated with Period 2 and 3 activity near the workshop enclosure (see below).

Structure 59 was c.18.2m wide by 16.6m long and comprised a framework of beam-slots that were typically 0.2m wide and less than 0.1m deep, with near-vertical sides and no evidence for any post settings (Fig. 3.27). The northern room measured 16.6m long by 8.4m wide, whereas the south-west gable of the southern room was absent, but an interior width of 5.8m was discernible. The only cultural material from the beam-slots was a small assemblage of charred weeds, a possible fragment of undiagnostic ceramic building material, and some animal bone. More substantial and revealing artefactual and environmental materials were recovered from two sub-circular fire-pits, located 1.4m west of Structure 59 and 2.6m from each other: **24824** to the south, and **24826** to the north. Both were c.0.7m in diameter, less than 0.1m deep and filled with strikingly dark fills above natural clay bases with signs of in-situ burning. The fill (**24825**) of the southern feature included hazel, ash, pomaceous and stonefruit charcoal, and some fragments of fired clay that had potentially been removed from the scorched sides. On the other hand, fill **24827** of the southern pit contained only ash charcoal. No charred plant remains pertaining to food production were recovered from any of the features, which suggests that the primary activity in and around Structure 59 was something other than habitation and may be connected with two adjacent features, one of which was interpreted as a possible bell-pit.

Possible bell-pit 15758

Immediately east of Structure 59 were two large sub-circular pits (**15758** and **16034**; Fig. 3.27). The northern feature (**15758**) was considerably larger, with a diameter of c.6m and steeply sloping, conical sides, which narrowed to a shaft that extended at least 3m below ground surface. Much of the fill appeared to have been sterile, redeposited, natural silty-clay, yet small quantities of animal bone came from fill **15986**, charred tormentil and common chickweed from fill **15985**, stonefruit charcoal from upper fill **15989**, and poplar or willow charcoal, along with charred onion couch tuber and barley in top fill **15982**. Above this, the feature contained a subsided layer of medieval plough-soil that yielded green-glazed pottery from the 13th or 14th century.

Similarities in the environmental remains in feature **15758** and Structure 59 might indicate an association, but they do little to elucidate the function of either, except to confirm that neither appears to have been directly associated with habitation. While the form of feature **15758** was superficially reminiscent of wells in the settlement (particularly Period 2–3 well **31848** in the nucleated enclosures; see above and below), the location and aspects of its form and fills

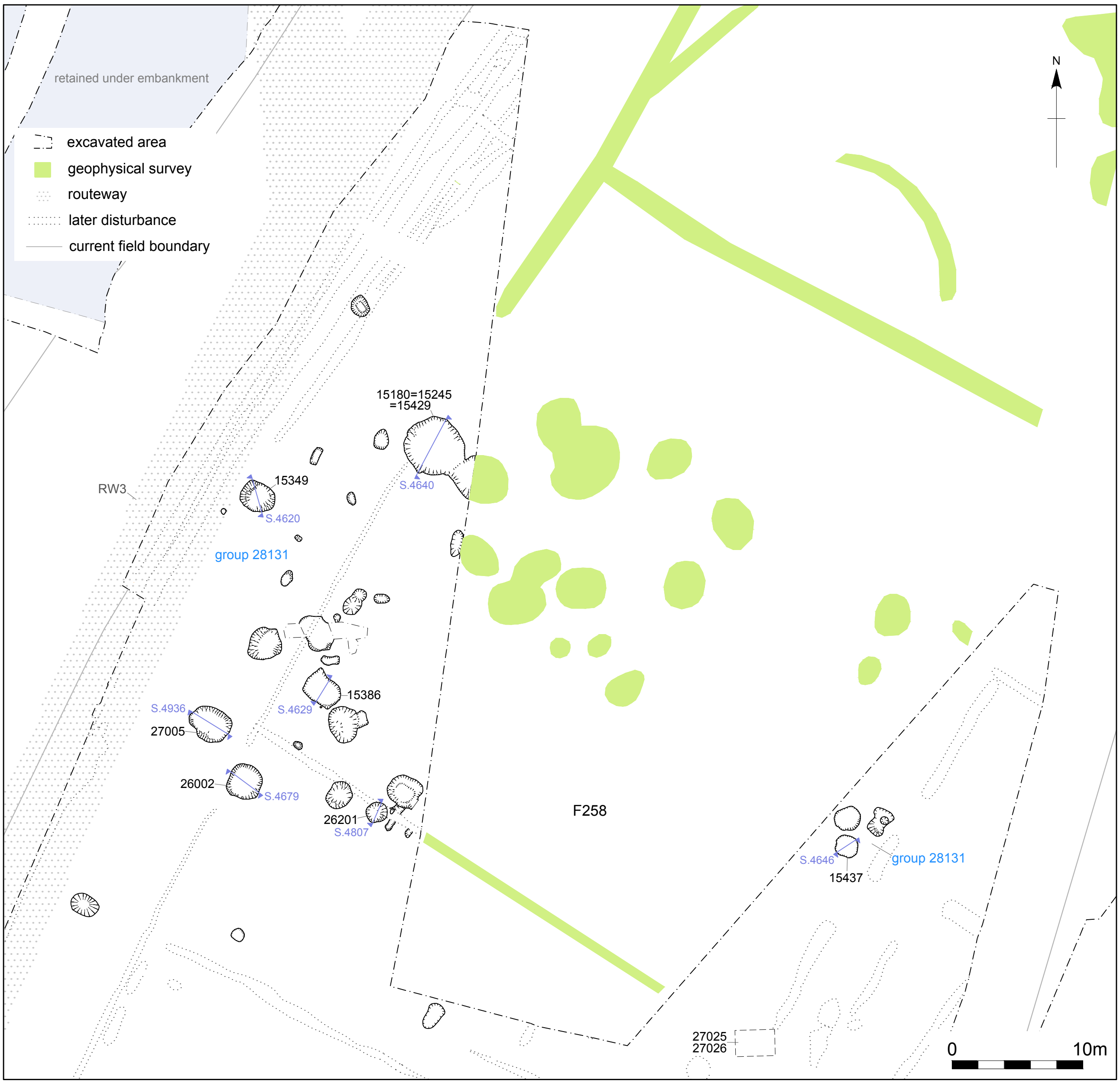


*Figure 3.28: Scotch Corner: Field 258, quarry/pit group **28131**, and surfaces **27025** and **27026**.*

suggests another purpose. A 0.5m-wide shelf extended around the feature at a depth of c.1m from ground level and could have been inserted to support a timber scaffolding or steps, such as that which might accompany a mining bell-pit or well, yet no structural evidence survived.

Pit **16034** was c.2m south of pit **15758** and had a diameter of c.3m, which narrowed as the pit deepened, and was similar in form to a number of wells at the settlement. Hand excavation was stopped at a depth of 1.4m and a machine was used to excavate further. The lower fill (**16035**) was sandy with frequent gravel and contained a sample of fuel ash slag with no metalliferous residues, while the upper (**16050**) was clean silt. The presence of slag alone is insufficient evidence for metalworking around Structure 59, although the unusual dispositions and forms of fire-pits **24824** and **24826** immediately west of the structure could pertain to activities associated with metalworking.

Field 258: copper and mineral prospection and processing

Copper and mineral processing area 27025 and 27026

Near the north-east corner of Field 258, a patch of discoloured clay and sand (**27026**) overlay an area of partially exposed limestone bedrock that visibly contained copper ore (Fig. 3.28). It was a little over 200m south-east of the workshop enclosure and c.150m south of a junction between geological faults. To examine the features, a grid of 0.5m squares was set up over a 3m by 2m area, from which a total of 40 c.300ml soil samples and five additional targeted samples from areas apparently rich in ore were recovered. The samples contained approximately 60 corroded copper-alloy prills/scraps and approximately 90 small pieces of corroded copper-alloy production residues (Cat. no. 898), as well as a sample of blue material that was probably azurite. Malachite was also present and may be a product of crushed copper ore, and possibly a by-product of processing (Gardiner 2017; Mackenzie, Chapter 7). A nearby patch of exposed clay (**15157**, not illustrated) contained a possible sample of copper ore (Cat. no. 905), while an adjacent patch of discoloured clay (**27025**) included a sherd of samian ware dating to AD45–110 and corroded copper-alloy waste (not catalogued; Appendix I).

The presence of ore-bearing rock and the copper prills suggests that smelting may have been an activity carried out in the immediate area. However, the paucity of diagnostic slag means that this interpretation is tentative (Mackenzie, Chapter 7). While the origin, significance and precise date of the deposits are difficult to determine, the coincidence between the near-surface copper and mineral deposits and the workshop enclosure in Field 246 certainly suggests a connection with metalworking between Period 1 and Period 3, and possibly beyond. Mackenzie (Chapter 7) also suggests that smelting may have been carried out at possible mine and extraction sites to save transporting the ore, although more recent stone/ore extraction at the adjacent quarry in Crookacre

*Figure 3.29: Scotch Corner: Field 258, pit **15349**, facing east.*

*Figure 3.30: Scotch Corner: Field 258, pit **26002**, facing south-east.*

Plantation and at Middleton Tyas are likely to have destroyed much, if not all, of the evidence of Iron Age-Roman ore extraction at the sites.

Copper prospection and storage pits (group 28131)

In the northern end of Field 258, final infilling of pit and quarry group **28131** (Fig. 3.28) began in Period 4 and included the deposition of organic-rich anthropogenic sediment, exotic objects, ceramic and glass vessels, and evidence for the purposeful and meaningful placement of numerous objects, including coins attributed to Vespasian (see Chapter 4; Brickstock, Chapter 6). However, it is proposed that during Periods 1–3, some of the features might have served two purposes prior to infilling; first as prospection pits for copper ore and other minerals, and then as storage pits. The pits were concentrated in an area of c.50m² at the angle between two conjoined geological faults. More than half of the pit group was investigated, with the rest falling outside the excavation area, but visible as geophysical anomalies. Of the 39 features recorded, most had flat bases and steeply sloping or vertical sides. Many measured between 1.5m

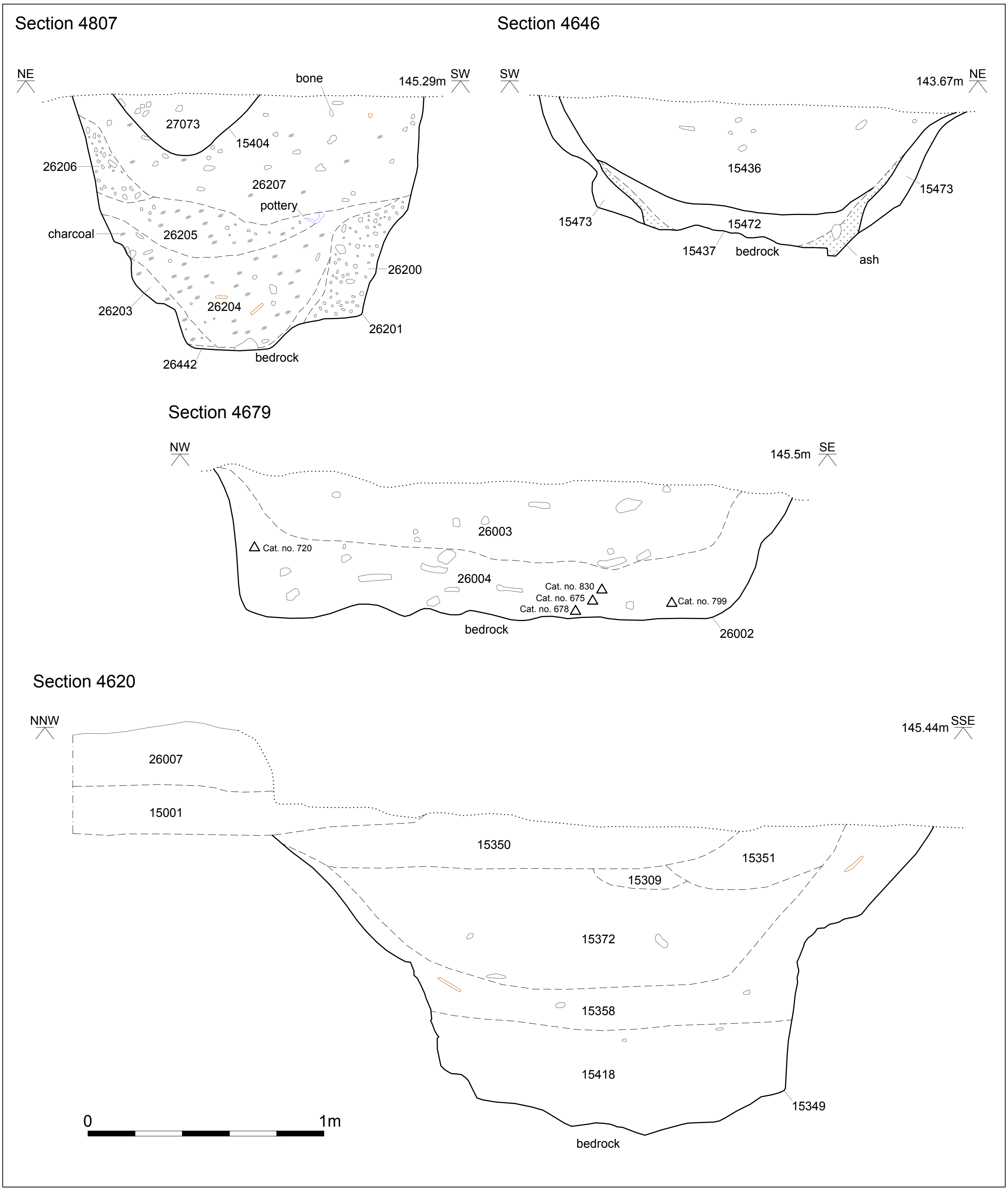


*Figure 3.31: Scotch Corner: Field 258, sections of select pits in group **28131**.*

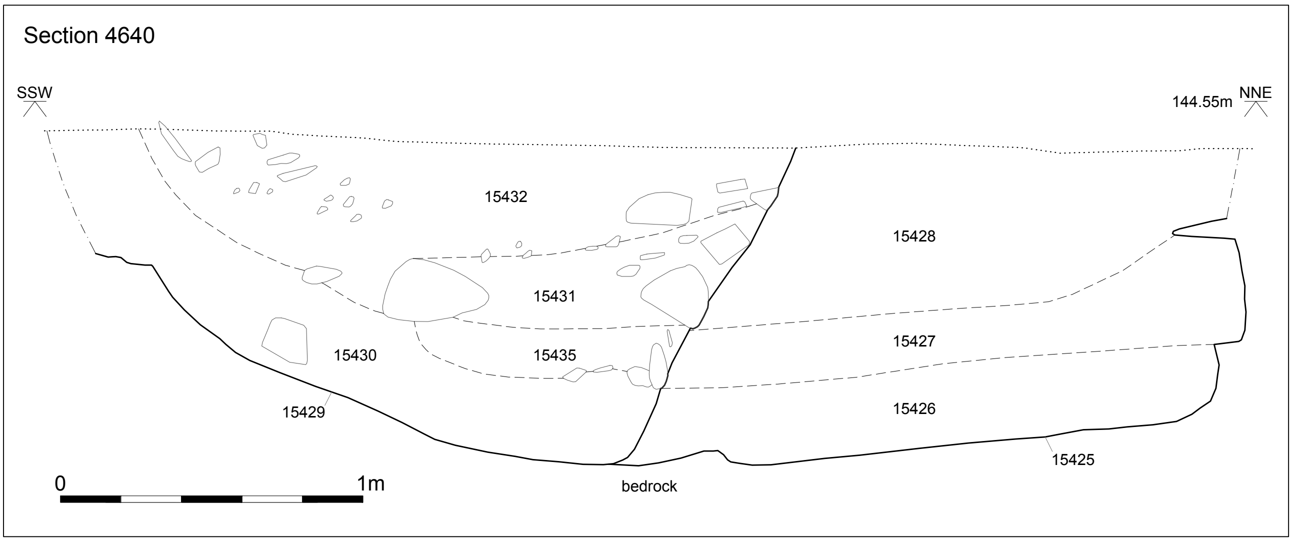


*Figure 3.32: Scotch Corner: Field 258, group **28131**, section of pit/quarry **15180**=**15425**=**15429**.*

and 3m in diameter by more than 1m deep, some being cut through the boulder clay and up to 0.5m into the limestone bedrock. These attributes were variously exemplified in pits **15349**, **26002** and **26201** (Figs 3.29, 3.30 and 3.31, sections 4620, 4679 and 4807).

At the northern end of the group, pit/quarry **15180**=**15425**=**15429** measured 4.3m in diameter and was over 1m deep, with a flat base and steep sides, and was suggestive of the primary function (Fig. 3.32, section 4640; Fig. 3.33). Two geophysical anomalies with similar large proportions, located in the adjacent unexcavated area, lend further credibility to this proposal. What cannot be demonstrated, however, is whether the prospection pits and quarries yielded any copper and, if so, how much and who mined it, or when. Success in the putative venture cannot be proven by the c.50 examples, since that number could feasibly have been used for storage of either loose produce or foodstuffs in vessels for a relatively large population. In the south-west part of group **28131**, remains of clay and possible wattle lining in large pits (**15437**; Fig. 3.31, section 4646; **15386** and **27005**; Figs 3.34 and 3.35, sections 4629 and 4936) was strongly suggestive of such a storage function, although if this was indeed so, there was no corroborating evidence for any comestibles (see Chapter 10).

Fields 223: the west–east coaxial enclosure system

In Period 2, and for a short time afterwards, Field 223 continued to be a site associated with habitation

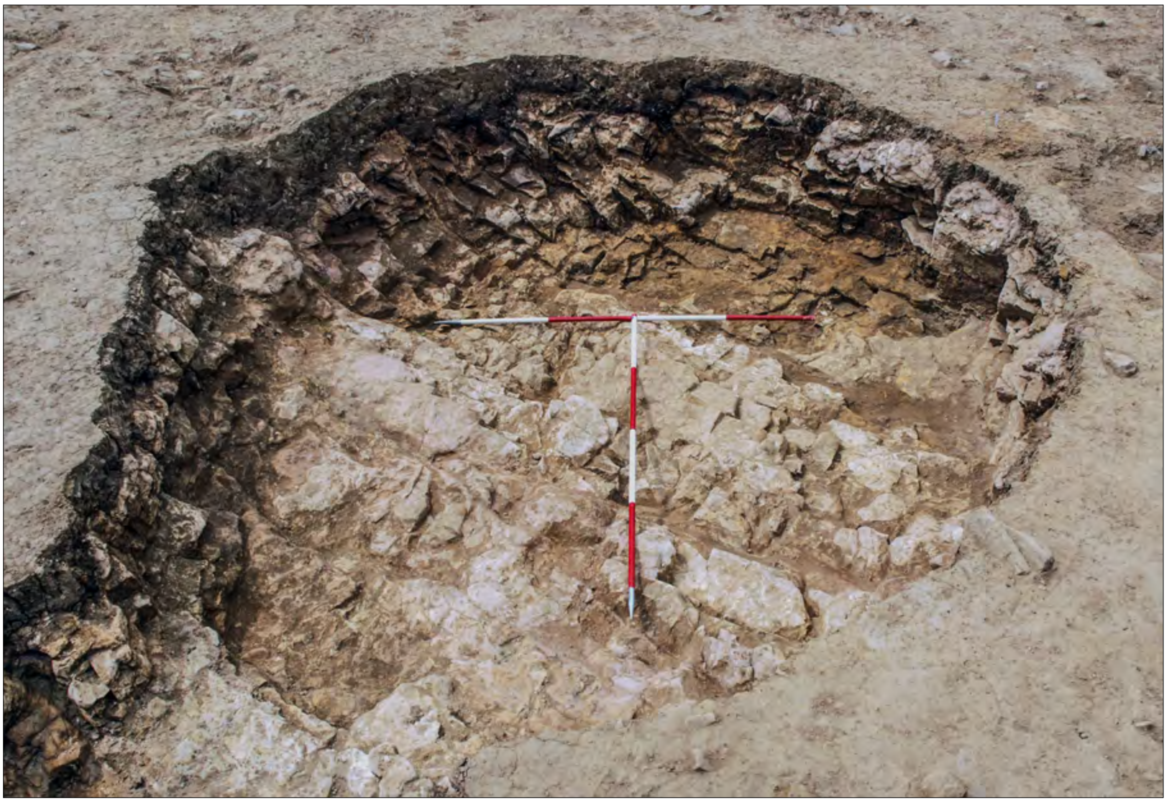


*Figure 3.33: Scotch Corner: group **28131**, pit/quarry **15180**=**15425**=**15429**, facing west.*

*Figure 3.34: Scotch Corner: group **28131**, pit **15437**, facing north.*

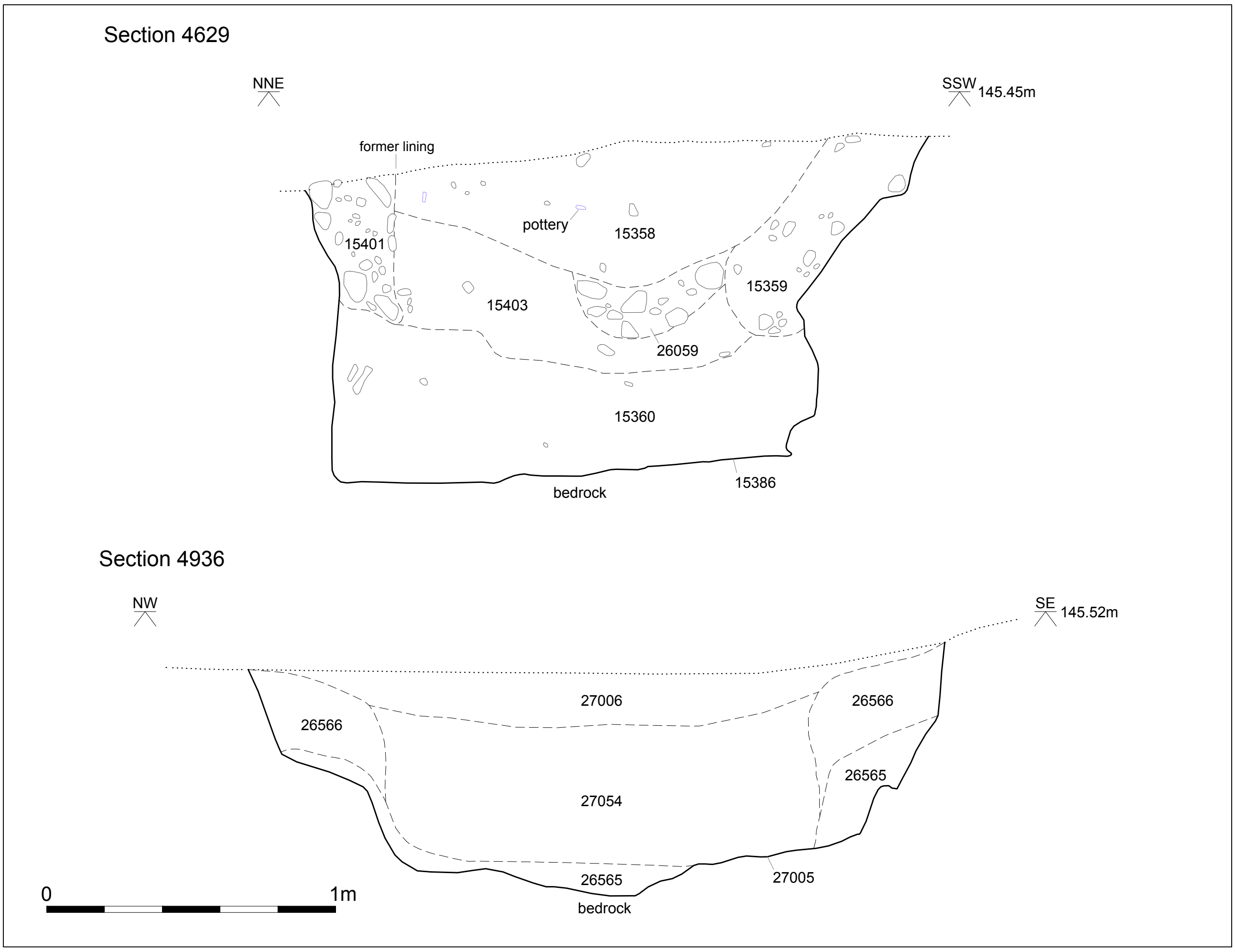


*Figure 3.35: Scotch Corner: Field 258, group **28131**, sections of pit **15386** and **27005**.*

and food production, demonstrating the inhabitants' perseverance with traditional hand-built pottery, staple foodstuffs, and vernacular building forms (Fig. 3.36). Despite the evidence for numerous structures in the excavation area and more implied by geophysical anomalies (with a concentration at the north end of the field), the sherds of imported pottery were mainly small and abraded, belonging to modest assemblages from structural features when compared with artefacts recovered from contemporary features in Fields 246 and 267a.

While the modest artefactual assemblages might suggest minimal habitation (e.g. Leary, Chapter 5), it is perhaps more likely symptomatic of the widespread use of middens and the repurposing of domestic waste for soil improvement in nearby kitchen gardens and fields that adjoined areas of habitation identified across the excavation area and implied by the geophysical survey to the west. The case for increased levels of habitation, food production and processing in Field 223 was further supported by samples of charred cereal chaff, which increased from a single example during Period 1, to 14 examples across Periods 1–2 and 2. While small in volume, the presence of chaff represents evidence for cereal processing, which was absent elsewhere in the Late Iron Age settlement, except for the nucleated enclosures of Field 267a, where six occurrences derived from activity during Periods 2–4.

The settlement increasingly adopted a coaxial enclosure system that partially incorporated, and partially superseded, existing occupation with its occasional reference to earlier south-east to north-west routeway alignments (see Chapter 2). The new enclosures in Field 223 were defined by east–west ditches that were investigated in the narrow A1 scheme excavation area, and were found to be broadly perpendicular with the adjacent routeway (RW6; Fig. 3.36), which had already been substantially truncated along with adjacent sections of the enclosures during construction of the A6108 to Richmond (Fig. 3.37). To the west of the excavation area, geophysical survey demonstrated that some enclosures continued beyond a shared rear boundary or routeway (Fig. 3.36), and a few more structures, sub-enclosure boundaries and wells were apparently represented by additional geophysical anomalies (see Headland Archaeology forthcoming).

Inside the A1 scheme excavation area, it was not always possible to determine the pairs of ditches that formed each enclosure because of the frequent changes in the configuration of the enclosed areas and refurbishment of the boundaries. In some instances, structures appeared to occupy the enclosures, while others were cut across by redefined boundaries or were constructed over existing ones, representing a continuum of activity. The enclosure ditches varied in depth and profile, although most showed evidence of recutting and some contained the remains of a collapsed bank. Most of the enclosures had internal divisions, the majority of which survived as shallow gullies, some with evidence for possible fence-lines and palisades, further demonstrating continuity with Period 1. While imported coarsewares were common, samian ware and amphorae were very limited during this period, both in Field 223 and in the nucleated enclosures of Field 267a, suggesting that exotic comestibles and fine tablewares were not habitually distributed this far from the centre of manufacturing in Field 246, where they were arrestingly common (see above and below; Chapter 5).

Figure 3.36: Scotch Corner: Field 223, overview of Period 2 features.

Figure 3.37: Scotch Corner: Field 223, view of archaeological horizon truncation and the A6108, facing south.

The southern area

At the southern end of Field 223, a network of ditches seemed to incorporate and expand existing insubstantial boundaries and cut through earlier infilled pits (Fig. 3.38). The most substantial feature was right-angled ditch **30480**, which apparently related initially to an area on its south-east side. Its primary fill (**30441**) included sherds of traditional hand-built pottery and a small quantity of ash charcoal, but no diagnostic artefacts were recovered. The angle of the ditch coincided with its connection to south-east to north-west aligned ditch **30401**, which was also a receptacle for indigenous pottery and oak charcoal. Another right-angled boundary, represented by ditches **30545** and **30290**, further subdivided areas to the north-east and west as part of the developing coaxial system. Its absence in Field 220, to the immediate south, and the paucity of cultural materials in the fills indicates that the ditches at the south end of Field 223 lay near the southern limit of the coaxial system, which coincided with the southern reaches of the settlement at this time.

Parallel with ditch **30401**, and 14.7m to its north-east, ditch **30279** cut across the south-west side of abandoned Structure 6 and the north-east arc of Structure 5 (see Chapter 2). The enclosure flared slightly to the east, presumably to accommodate a curving primary boundary, such as a routeway or earthwork now lost to development of the A6108 (RW6; Fig. 3.1). The primary fill (**30296**) of ditch **30279** contained sherds of hand-built pottery, on top of which were a series of fills with no artefacts or environmental material, evidence perhaps for a short-term break in the deposition of refuse here. Above these barren layers, upper fill **30295** contained sherds of imported Period 2 wares, followed by more hand-built sherds in top fill **30054**. This sequence presents a good example of the non-linear character of pottery supply, use, and deposition. Refuse in the lowest fills conceivably came from the sub-circular structures that the ditch post-dated, and the Period 2 material perhaps from rectangular Structure 7, located in the centre-north of the enclosure.

Structure 7 (group 30894)

Structure 7 would have been situated at the south side of the settlement, adjacent to RW6, and potentially near a routeway junction (Fig. 3.38). The structure survived as two corresponding steep-sided right-angled gullies; the outer feature (**30382**=**30384**=**30501**) measured up to 0.63m wide by 0.3m deep and survived for a distance of 7m, while the inner (**30486**) was shallower at 0.15m but had been heavily truncated to the east by modern road construction. A single posthole (**30437**) punctured the base of the outer gully at a possible west-facing entrance or doorway, although truncation made it impossible to confirm or refute whether the gullies originally continued to the south-west. A short beam-slot (**30456**) that respected the same alignments at Structure 7, some 5.1m to the west, may have been associated with it. Aside from their complementary alignments, there was nothing to connect the features. Regardless of its parlous state of preservation, the remaining portion obviously represented a unique structure at Scotch Corner; the

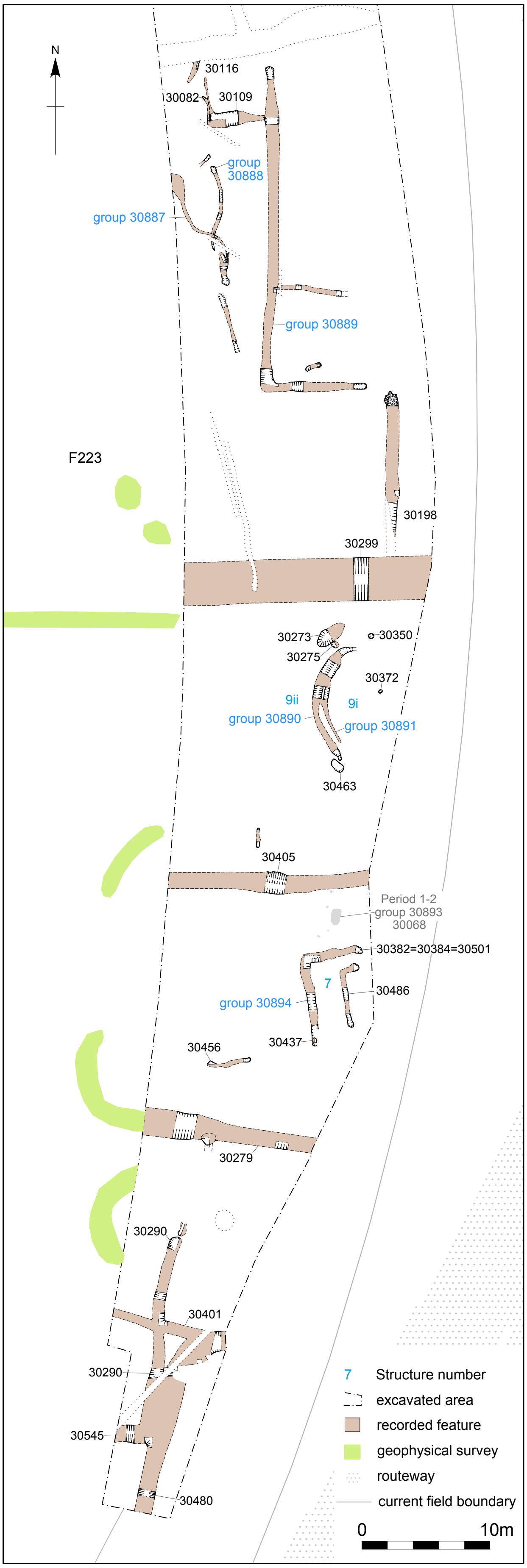


Figure 3.38: Scotch Corner: Field 223, southern area, Period 2 features.

disposition of 'walls' or fences has strong resonance with enclosed ambulatory corridors that are sometimes interpreted as characteristic of Iron Age and Early Roman ('Romano-British') shrines or temples and are discussed further in Chapter 10.

The north side of Structure 7's 18.4m-wide enclosure was defined by ditch **30405**, which was recut at least twice. It contained very limited evidence for the discard of objects with greater value and rarity than hand-built cooking and storage pots. In the original cut of the ditch, fill **30417** included a range of charred cereals and other plant remains, as well as charcoal, fired clay, imported Period 2 wheel-thrown pottery and one of the earliest examples of vessel glass recovered (see Appendix G), which was a rarity this far south in the settlement. Fragments of briquetage (Britton, Chapter 5), sherds of hand-built pottery, charred grains and charcoal in fill **30415** of recut **30412** (not illustrated) demonstrate the continuation of habitation in the immediate vicinity, most likely in Structure 9 to the immediate north.

Structure 9i (group 30891) and Structure 9ii (group 30890)

Set inside a 21m-wide enclosure between ditch **30405** and **30299**, both iterations of Structure 9 comprised two curving drip gullies that followed broadly concentric arcs (Fig. 3.38). The inner feature (group **30891**) was 0.35m wide by a maximum of 0.18m deep with shallow-sloping sides and a projected internal diameter of 7–8m. Sherds of imported Period 2 pottery were recovered from fills **30534** and **30536** in a soil matrix that included ash and pomaceous charcoal, but no charred cereal remains. On its northern arc, the circuit of gully **30891** was truncated by outer gully group **30890**, which may have represented a refurbishment of the original feature for a structure on the same plot. Replacement gully group **30890** was a maximum of 0.59m wide by 0.17m deep and, like **30891**, may have been lost to plough truncation on its projected eastern arc. Hand-built pottery was recovered from fill **30535**, while the assemblage of imported Period 2 pottery sherds found in fills **30526**, **30527** and **30233** was more numerous than in the earlier iteration. From these same deposits came charred spelt grains, ash, poplar or willow, birch and heather charcoal, and a rare appearance of European spindle, which was also found in ditch group **30877** at the northern end of Field 223, in Period 2 parallel ditch **30178** (group **30882**; see below), and in a Period 2 buried soil horizon (**32611**; see below) in Field 267a. European spindle is named after its preferred use, being a particularly hard wood that is suitable for making durable tools (Baines, Chapter 8). The few examples of its combustion at Scotch Corner were confined to occupation areas in Fields 223 and 267a, perhaps indicating that a modest supply of European spindle was available locally, or that it represented importation through native or Roman mechanisms before conquest began in earnest.

Possible evidence for the structures was limited to an L-shaped arrangement of three similarly sized pits or postholes (**30372**, **30350**, and **30275**), which were not necessarily part of the same construction. Outside the southern arc of the drip gullies, shallow pit **30463** contained imported wheel-thrown pottery in fill **30462**, while a larger shallow pit with a stony base (**30273**), located outside the northern arc, contained oak and ash charcoal with charred grains of barley and spelt, fired clay and wheel-thrown pottery sherds in fill **30289**. The domestic refuse recovered from the shallow pits presumably derived from Structures 9i and 9ii. The north side of the enclosure containing Structure 9 was defined by enduring ditch **30299**, which was one of the earliest and largest west–east boundaries in Field 223 (see Chapter 2). By the time Structure 9 was occupied, the ditch was already infilling, with imported Period 2 pottery not apparent until top fill **30315** and mixed with possible Period 3 wares in top fill **30267**.

Ditch **30299** provided a reference for a rectilinear network of enclosure boundaries that connected to its north side, delimiting areas to its west and east and appearing to mark the southern limit of an area with little habitation. No contemporary structures were evident in the excavation area, but south–north aligned ditch **30198** contained charcoal and charred plant remains consistent with habitation, as well as sherds of samian ware from AD50–70 and coarseware dated to AD45–85 in fill **30199** (Leary and Monteil, Chapter 5). The supply and use of late Period 2 pottery forms was evidently underway by the time the boundary was infilling, a process that was possibly still active into Period 3(*ibid*.). During this time, the only convincing evidence for contemporary activity was in reworked enclosures at the centre of the field (see below), while habitation across the remaining areas diminished. Beyond a 1.6m-wide access point, the boundary network was continued by right-angled ditch group **30889**, which contained burnt household debris and Period 2 pottery, with possible Period 3 sherds in fill **30173** at its northern terminal.

The paucity of cultural material from the south–north component of boundary group **30889** is perhaps a consequence of the relatively low sample, but might also reflect the prevalence of activities other than habitation in the central part of Field 223, which was broadly consistent with the pattern of occupation in Period 1 (see Chapter 2). The sinuous features to the west of the boundary (including groups **30887** and **30888**) were insufficiently diagnostic to confidently interpret and seemed too insubstantial for structural remains. Their modest assemblages of traditional pottery, charcoal and charred grains conformed to the general pattern rather than suggesting any particular functions. The same could be said for curving gully **30082** and a possible ring-gully terminal (**30116**) near the northern end of the enclosure, although their forms were more suggestive of former dwellings.

At the northern end of ditch group **30889**, a right-angled arrangement of gullies and a ditch formed a 4.7m-wide three-sided space, possibly structural in origin, but certainly a sub-enclosure of some type. Small quantities of traditional and imported pottery and animal bone were incorporated into fill **30055** of gully **30109**, but most interesting was the fired stone that could either have been roasting ore waste (Mackenzie, Chapter 7) or simply a pot-boiler or burnt stone from a domestic setting, which would be more in keeping with the habitation area.

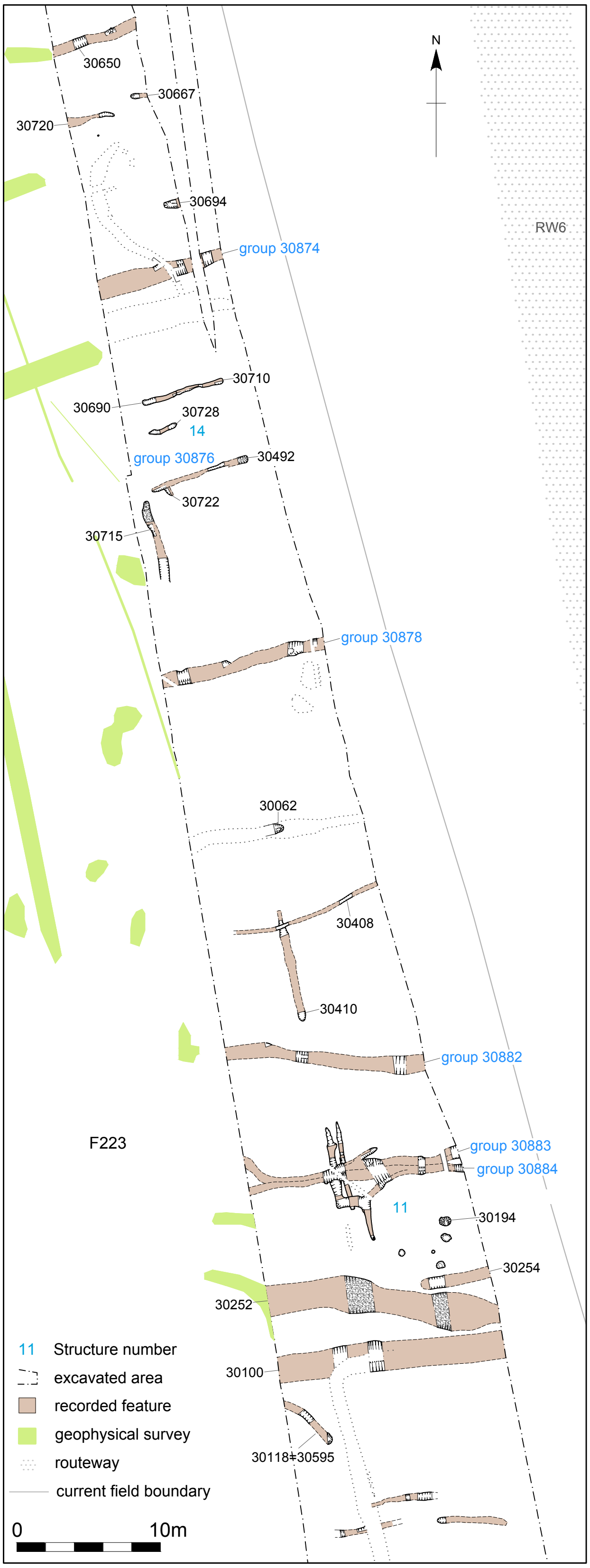


Figure 3.39: Scotch Corner: Field 223, central area, Period 2 features.

The central area

The nature of Period 2 activity in the area to the north of ditch group **30889** is uncertain, but probably included the creation and maintenance of a substantial west–east enclosure, with a perpendicular subdivision that lay central to the long axis of Field 223 (Fig. 3.39). Little can be said about the early incarnation of the enclosure due to its continued use into Period 3, although several interior features that contained imported Period 2 artefacts were badly truncated by continuing activity. These included some shallow west–east boundaries near the centre and the terminal of a curving gully (**30118**=**30595**). The secondary fill (**30126**) of the latter feature included fired clay and animal bone, while fill **30596** contained charcoal, charred cereals, onion couch, and imported pottery of Period 2 production.

Structure 11 (group 30884)

Structure 11 occupied a 19.4m-wide enclosure delimited on its south side by a putative Period 2 iteration of west–east aligned ditch **30100**, and to the north by ditch group **30882** (Fig. 3.39). The fills throughout the northern ditch were particularly rich in charcoal and diverse charred plant remains associated with food production, as well as two examples of burnt European spindle, a species which has been discussed with reference to its occurrence in Structure 9 and elsewhere above. The only pottery sherds were either Period 2 or possible early Period 3 examples from **30179**, with no sign of traditional hand-built vessels.

Inside the enclosure, the northern arc of Structure 11's drip gully connected with a west–east aligned drainage ditch (group **30883**) that incorporated several recuts on its course, which was approximately central to the long axis of the enclosure. The small coarseware pottery assemblage included body sherds of a silty ware butt beaker, amongst other vessels consistent with a Period 2 date range (Leary, Chapter 5), while the assemblages of briquetage in secondary fill **30261** are consistent with food preparation (Britton, Chapter 5). The curving gully of Structure 11 produced few remnants of domestic life, but in conjunction with ditch **30254** to the south-east, it enclosed an interior with a span of c.7.2m. The structure was represented by five postholes, one of which (**30194**) had a flat stone pad at its base. Charcoal from the postholes demonstrated that, amongst other species commonly found, ash was preferentially burnt at the structure. Other short narrow gullies may represent fence-lines or drainage gullies associated with the structure or drainage ditch, none of which were particularly enlightening. The only contemporary example of a routeway in Field 223 was also located in the same enclosure and survived as a 2.6m-wide metalled hollow-way (**30252**; Fig 3.40). This feature curved around the south side of Structure 11 and broadly respected the orientation of the coaxial enclosure.

North of enclosure ditch group **30882**, the north side of a probable 15.2m-wide enclosure was defined by west–east aligned ditch **30062** (Fig. 3.39), which contained Period 2 pottery and was maintained into Period 3 (see below). Inside the enclosure, earlier Structures 12 and 13 had fallen out of use (see Chapter 2), and the only contemporary Period 2 features were gullies **30408** and **30410**, which represented interior subdivisions. The absence of cultural materials in their fills was consistent with the paucity of features relating to occupation in the enclosure, which had presumably been repurposed.

*Figure 3.40: Scotch Corner: Field 223, hollow-way **30252**, facing west.*

The northern area

A series of relatively regular west–east enclosure ditches delimited the coaxial system in the northern area of Field 223, with occasional internal parallel and perpendicular subdivisions (Fig. 3.41). Precise contemporaneity in paired features was never provable, but when the interior subdivisions are included, the spacing between boundaries ranged from c.4.6m to 21.2m, with a majority around 6–7m wide, hence the frequent intercutting of enclosure boundaries and structures with interiors greater than 7m in diameter. There was little evidence for habitation in the enclosures, although limited assemblages of charcoal, charred plant and cereal remains, and sherds of hand-built pottery demonstrate that food production continued nearby, with the indigenous suite occasionally embellished with imported coarseware vessels.

Structure 14 (group 30876)

Three parallel gullies possibly represented the remains of a rectangular structure located centrally between ditch groups **30878** and **30874** (Fig. 3.39). Their interpretation as components of a former structure is tentative; the obvious alternative explanation is that they were additional boundaries in the coaxial enclosure system. However, certain attributes make this unlikely. The northern gully (**30690=30710**) was steep-sided, measuring 5.8m long by 0.36m wide by 0.18m deep, with the profile of a foundation or hurdle trench rather than a drainage gully. Its fill (**30691**) included a wide range of charred plant and cereal remains, including comestibles, fodder and bedstraw. Between gullies **30690=30710** and **30492** was a short section of gully (**30728**) that followed a parallel orientation, although its cut was irregular and its function unclear. No dateable finds were recovered, but an association with Structure 14 remains possible, given the location.

The southern gully (**30492**) ran parallel, 5.4m from the northern gully. It extended for 6.9m and was a maximum of 0.45m wide by 0.22m deep at the eastern terminal (**30492**), which was packed with stones in the manner of a foundation. Fill **30493** included charcoal and charred spelt grains, but no ceramic vessels. A short extension (**30722**) near the western terminal may have been associated with the putative structure. Near the western terminal, a perpendicular north–south aligned ditch (**30715**) extended for 5.8m and measured 0.72m wide by 0.18m deep, and also had a flat base occupied by stone cobbles at the northern terminal, where its secondary fill **30716** contained a pottery assemblage consisting of Period 2 coarseware and hand-built pottery sherds and some undiagnostic industrial waste.

The configuration of Structure 14 remains elusive, although the forms of the foundation gullies are suggestive of hurdles or fence-lines for a rectangular construction, or possible for parallel walls with open gables, since there was no structural evidence to demonstrate them. The assemblages of artefacts pertained to habitation and possibly manufacturing.

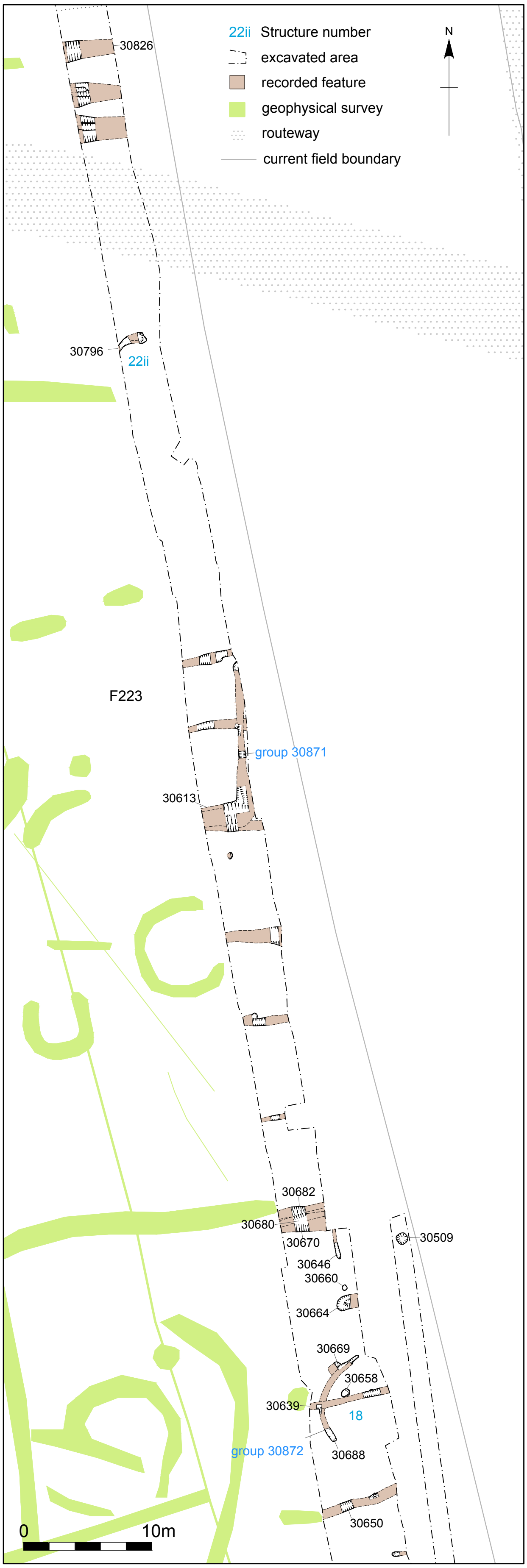


Figure 3.41: Scotch Corner: Field 223, northern area, Period 2 features.

The presence of metal debris and manufacturing waste in upper fill **30488** of short gully **30491** (see Chapter 2), might also derive from the same process, suggesting a continuum of activity around the structure, which may have involved manufacturing or mending metal objects such as tools.

The space between ditch group **30874** and ditch **30650**, was formerly occupied by Structures 15 and 16 (see Chapter 2), but the introduction of the coaxial enclosures in Period 2 seems to have coincided with the structures' demise. The newly defined c.16m-wide enclosure was subdivided internally with parallel gully **30694**, which was devoid of artefacts, and with opposing gullies **30720** and **30667**, which contained assemblages of charcoal and charred cereals denoting habitation. The area occupied by the gullies was soon to become the site of Structure 17 (see below), and it remains possible that the insubstantial boundaries remained functional into Period 2–3 when the new structure was in use.

Structure 18 (group 30872)

What remained of Structure 18 (group **30872**; Fig. 3.41) was the north-west arc of a curving gully, cut through by enclosure ditch **30639**, which contained charcoal but no dateable artefacts that might help to elucidate the lifespan of the structure, nor the nature of activity carried out within. The shallow curving gully survived to a maximum depth of only 80mm, with insufficient profile to differentiate between drainage or structural functions. Sherds of amphora were recovered from fill **30689** in the southern terminal (**30688**), and the base of a stamped samian ware Dr.24/25 cup dated to AD45–70 (Cat. no. 16) was found in fill **30634** at the marginally deeper northern terminal. A shallow posthole (**30637**, not illustrated), which was cut by enclosure ditch **30639**, contained amphorae sherds in fill **30638** and probably formed part of the structure, while two shallow pits (**30658** and **30669**) may have also resulted from occupation. The latter contained fragments of fired clay in fill **30643**, presumably indicating cleaning out of an oven used for domestic heating and cooking.

*Figure 3.42: Scotch Corner: Field 223, lower half of jar with footring base (Cat. no. 359) in situ in pit **30509**, facing south.*

To the south, Structure 18 was probably enclosed by recut ditch **30650**, which was 0.8m wide by 0.4m deep with a V-shaped profile. A small assemblage of hand-built pottery was recovered from fill **30685**, along with modest quantities of charcoal and charred spelt and legumes. The north side of the 21.2m-wide enclosure, which was visible in the adjacent geophysical survey and contained another roundhouse-sized sub-circular anomaly, was defined by a substantial recut ditch (**30670**, **30680**, and **30682**). The earliest iteration of the ditch (**30670**) was 1.18m wide and survived to 0.8m deep, with subsequent recuts diminishing is size. Animal bone, charcoal and charred plant remains represented the species typically found in the area, and a mixture of traditional pottery and Period 2 imports were recovered from the ditches, along with some fired clay in upper fill **30679** and an assemblage of briquetage fragments in upper fill **30677** (Britton, Chapter 5).

A short perpendicular gully or fence-line (**30646**) extended southwards into the enclosure from the northern boundary and may have been an internal subdivision, which was also infilled with material containing charcoal and charred cereals. It was potentially connected with pit or posthole **30660**, which was c.2m distant and had been cut into the infilled gully of Structure 19 (see Chapter 2), possibly representing a gate post. Its fill (**30661**) contained part of a samian ware vessel dating from AD45–70 that is consistent with the pattern of occasional fine imported tablewares being incorporated into the daily lives of roundhouse dwellers. Pit **30664** was also potentially part of this arrangement and contained samian ware with the same date range in fill **30665**. Further imported pottery came from pit **30509** inside the sub-enclosure. Spread across its secondary (**30510**) and tertiary (**30511**) fills were the base and lower body sherds of a vessel with a footring base, perhaps a butt beaker, and a silty ware girth beaker with a possible early Period 2 origin (Leary, Chapter 5; Fig. 3.42). The deposits were capped with a lens of fired clay and alder/hazel and pomaceous charcoal along with fragments of animal bone that had accumulated in the pit while it was partially infilled. These were presumably remnants of activity at Structure 18, as were sherds of samian ware from fill **30665** of pit **30664** (Fig. 3.41). Despite the paucity of evidence for substantial or enduring buildings, the assemblage of imported pottery hints at some level of social aspiration or wealth amongst those living in the immediate vicinity.

No demonstrable structural remains were exposed in the c.160m-wide strip between Structure 18 and Structure 22ii, although the artefactual and environmental assemblages from the enclosure ditches indicate that the general area was inhabited as densely as those places where structures were exposed in the narrow trench (Fig. 3.41). In particular, the three most northerly examples of the regularly spaced coaxial boundaries were later joined by a perpendicular boundary group ditch (**30871**). The new ditch subdivided the interiors of the enclosures, presumably separating activity areas and/or reflecting tenurial arrangements. This reconfiguration involved an internal bank being shovelled into the southern boundary (**30613**), the redeposited natural silty clay obviously backfilling the earlier ditch. It can only be concluded that dwellings and food processing areas at this location fell marginally outside the area stripped for the A1 scheme, most likely to the east, which had been most comprehensively truncated during modern road construction.

Structure 22ii (terminal 30796)

Structure 22ii occupied a 41m-wide area in which west–east ditches belonging to the coaxial system were absent (Fig. 3.41). In this respect, it was apparently not contained by the enclosure system, but was perhaps constructed with reference to the earlier corral or stockade, which possibly remained in use during Period 2 (see Chapter 2, Fig. 2.33b). The modest remains of Structure 22ii effectively represented the refurbishment of a drip gully terminal on the same plot as Structure 22i , almost certainly an indication of continuous occupation of the structure during the transition to Period 2 and later. Typical occupation debris recovered from upper fill **30798** included oak, pomaceous and alder or hazel charcoal, with a comprehensive assemblage of charred remains from food production, including a rare appearance of emmer and sprouted spelt, in addition to the more usual debris, suggesting that the stems were collected and stored for a secondary purpose, such as bedding and fodder (Baines, Chapter 8). The sherds of imported coarseware pottery potentially spanned Periods 2 and 3, which would be consistent with some of the occupation around the central area of Field 223 (see below) and, as elsewhere, the use and discard of traditional hand-built pottery continued in Structure 22ii.

The northern limit of the area occupied by Structure 22ii was defined by a series of four closely spaced parallel

Figure 3.43: Scotch Corner: Field 267a and 267b, overview of Period 2 features.

Figure 3.44: Scotch Corner: Field 267a, facing east.

ditches, some with multiple recuts (Fig. 3.41). The northernmost example (**30826**) was still infilling in the transition between Periods 2 and 3, but the artefactual assemblages from the remaining three ditches give no opportunity to propose a chronological sequence in which one replaced another. Without an understanding of their relationships to the activity further to the north, little can be deduced from their dispositions, except perhaps that these closely spaced contemporary parallel ditches (and banks?) were a unique arrangement in any period at Scotch Corner and were perhaps reminiscent of earthworks designed to symbolically deter entry; however, any suggestion that they were effectively defensive would be overstating their capacity.

Field 267a: the nucleated enclosures

In contrast with areas to the immediate south and north, no definitive evidence was recovered in Field 267a for indigenous habitation before the arrival of imported Period 2 vessels, nor was there any convincing evidence for metalworking. The agglomeration of nucleated enclosures introduced in Field 267a (Fig. 3.43) during Period 2 appeared to be contiguous with the coaxial system that was adopted across the southern reaches of Scotch Corner in Field 223, and potentially also to the north-east in Fields 228 and the southern part of Field 258 (see below).

While differing in layout, the nucleated enclosures were apparently contiguous with the coaxial system, broadly respecting the same west–east alignments and the adjacent routeways (RW6 and RW7; Fig. 3.1). Successful adherence of the nucleated system to any planned layout or rectilinear ideal diminished to the west where the increasingly irregular enclosures were apparently adapted to conjoining routeways. The influence of enduring boundaries was also evident in the occupied enclosure recorded in the Scotch Corner Hotel excavation area (Abramson 1995), which was dated by Gallo-Belgic pottery alone to the early to mid-1st century AD, and apparently belonged to the same agglomeration of nucleated enclosures near the point where they connected with the coaxial system in Field 223, perhaps forming a hybrid of the neighbouring systems.

The area excavated for the A1 scheme exposed an oblique transect across three rows of the nucleated enclosures (Figs 3.44 and 3.45). The excavation area abutted the north side of the area previously investigated by Oxford Archaeology (OA) (site SCA15; Zant *et al*. 2013b) and incorporated an evaluation trench (NAA 2000), both parts of the earlier A66 scheme. Described from east to west, the enclosures fronting the south–north routeway corridor (RW7) are termed 'southern front enclosure' and 'northern front enclosure' (Fig. 3.45). Then came the 'southern central' and 'northern central enclosures', which were delimited to the west by a trackway, and beyond this the 'rear enclosure'. The A66 excavation area extended c.500m further west and examined remains that represented a continuum of occupation from the Middle to Late Iron Age into Period 4; the later dates deduced primarily from the samian ware (Zant *et al*. 2013b, 83–5), while the series of 10 radiocarbon determinations suggested a focus of activity in the early 1st century AD (*ibid*., 114). Four radiocarbon determinations obtained for the A1 scheme were also consistent with activity in Period 2; the assemblages of coarseware, samian ware and amphorae from the A1 scheme assign the greatest proportion of activity to Period 2, with some continued presence into Period 3. Although discarded pottery was more frequently associated with structural features than in Field 223, as with most of Scotch Corner, the majority of discarded material came from the most substantial recut enclosure ditches, which were evidently the primary receptacles for domestic refuse, any middens having been used to improve soils or lost to ploughing. Refuse pits were infrequent, as is common with other parts of Scotch Corner, but when encountered their contents were highly instructive about nearby domestic activity.

Figure 3.45: Scotch Corner: Field 267a, overview of Period 2 features.

THE SOUTHERN FRONT ENCLOSURE

A series of three refurbished south-east to north-west aligned ditches at the east side of Field 267a represented sequential boundaries that appear to have simultaneously delimited the corridor of routeway RW7 to the east and the southern front enclosure to the west (Fig. 3.46). The routeway corridor was largely devoid of surviving features, except for curving hollow-way **32465**, which was probably in use throughout Periods 2 and 3 (Fig. 3.45). The southern enclosure that fronted the routeway corridor was delimited on its east side by ditch **32470**, and by ditch group **32649** (OA context 10371) to the west, enclosing a 29m-wide area (Fig. 3.46). The presumed northern boundary appeared as a linear geophysical anomaly located c.15m north of the trench edge, while the southern limit remains unknown.

Artefactual and environmental assemblages from boundary ditch fills usually provide the greatest insight into a range of activity inside enclosures, but while eastern

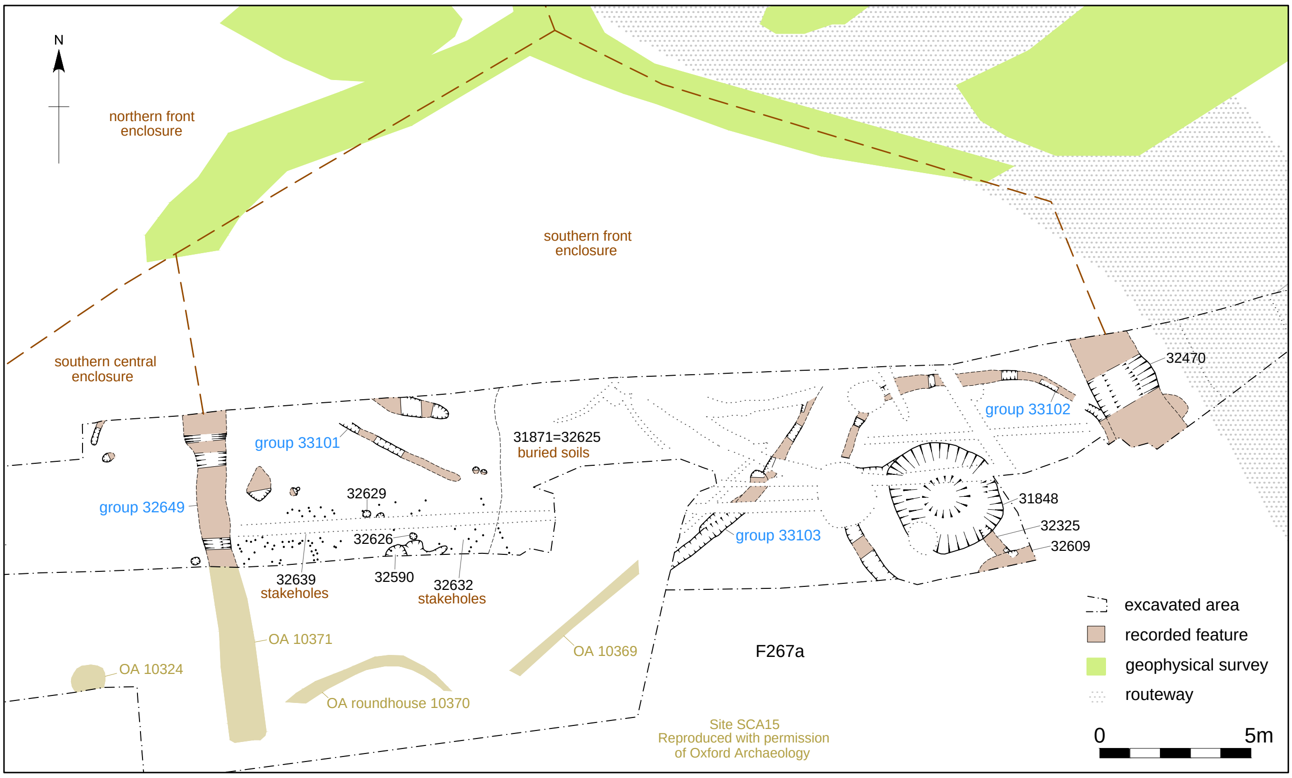


Figure 3.46: Scotch Corner: Field 267a, southern front enclosure, Period 2 features.

ditch **32470** was substantial, measuring 2.1m wide and 0.75m deep, it had infilled with colluvial silts and sands and only contained animal bone in primary fill **32477**. Despite its proximity to a busy area of contemporary activity, no other dateable finds were evident in the single excavated segment. The scenario was similar for the rear enclosure ditch group **32649**, which was 1.3m wide and 0.6m deep, with a V-shaped profile, and was more extensively investigated. Secondary fill **32593** contained birch and oak charcoal, charred sedge and indeterminate grasses and cereals, as well as sherds of imported wheel-thrown pottery of Period 2 date, but volumes were notably modest.

A palisade trench (group **33103**; OA 10369) crossed the interior of the enclosure on a south-west to north-east alignment, separating the eastern area with its well enclosure from the western area where activity was less well-defined. Inside the A66 scheme excavation area, the palisade approached the northern arc of a roundhouse drip gully (OA 10370), which contained no dateable artefacts (Zant *et al*. 2013b, 79–80). In the A1 scheme area, the palisade trench was 0.62m wide and 0.34m deep, with a steep-sided profile and infill that contained oak and alder or hazel charcoal in fill **31836**, as well as a small assemblage of hand-built pottery, sherds of North Gaulish butt beaker and silty ware butt beaker sherds giving a date range that spanned the arrival of Period 2 continental imports (Leary, Chapter 5). The palisade and roundhouse were probably contemporary with the most substantial features in the enclosure, a well (**31848**) and a surrounding palisade (group **33102**) that apparently represented a focal point.

Well 31848 and the surrounding palisade (group 33102)
The substantial well (**31848**) was evidently a long-lived feature by the standards of the nucleated enclosures. Its latest and deepest iteration spanned the time when Period 2 and 3 imports were deposited, but it is likely that it originated early in Period 2, contemporary with the earliest occupation in the area. The well was encircled by a palisade trench (group **33102**) with a projected circuit of c.8.7m. This respected the west side of enclosure ditch **32470** and extended beyond the southern edge of the excavation area. The early well was connected to feature **32609** to the south by palisade trench **32325**, which may have directed access or represented part of a structure associated with the use of the well (Fig. 3.47). The primary fill (**32380**) of trench **32325** included sherds of Period 2 pottery, suggesting contemporaneity with the encircling palisade.

A series of mixed buried soils represented intense activity in the area round the well (Fig. 3.46). Apart from a retouched flint tool (RF13384, not catalogued), the earliest definable horizon (**31871=32625**) was devoid of artefacts, although the environmental remains demonstrate combustion of poplar or willow, oak, and pomaceous wood, the cooking of legumes, roasting of cereals and oats, and burning of fescue or ryegrass, vetch, speedwell, sedge and bedstraw, all of which

Figure 3.47: Scotch Corner: Field 267a, palisade trench ***32325****, facing south.*

are residues of habitation. The buried layer was sealed by another silty horizon (**32611**), which provided the ground surface during a busier period of activity in the enclosure. Together with equivalent deposit **32574**, the horizon contained fragments of fired clay, but the charcoal and charred plant remains was more revealing about the activity taking place in the enclosure: an example of European spindle charcoal was suggestive of a tool fashioned from this material (Field 223 southern and central areas), while the spelt chaff might relate to the final preparation of this cereal before use. Otherwise, the deposit contained black bindweed, often associated with winter-grown cereals, and other weeds, such as daisy, bindweed and knotweed, that were found at the fringes of or around settlement (Baines, Chapter 8). As might be expected, crops and other resources collected outside the enclosures were brought to the area of habitation near the well.

Other features in the southern front enclosure
Between rear enclosure ditch **32649** and palisade trench group **33103** (Figs 3.46 and 3.48, centre front) was a disparate collection of small postholes and other features, which collectively conformed to a south-east to north-west trend. A palisade trench (**331031**), following the same alignment also contained imported Period 2 pottery sherds and oak charcoal. In combination, the palisades are likely to have formed partitions that defined activity areas and influenced the alignments of interior features, some of which potentially represented components in light structures. Groups of stakeholes (**32632** and **32639**) and two postholes (**32626** and **32629**) had been cut into the buried soil horizon, although no pattern was apparent (Fig. 3.46). The only dateable finds came from a probable refuse pit (**32590**), which was part of a partially exposed intercutting group located near OA roundhouse 10370. The waste material in fill **32591**, which presumably

Figure 3.48: Scotch Corner: Field 267a, palisade trench **33103** cutting buried horizon in foreground, facing east.

derived from habitation at the roundhouse, included coarseware sherds of Period 2 origin, and charcoal and charred plant remains typical of habitation at the time, including heather that was potentially used for kindling, thatch or bedding. There were also examples of lime and rose wood charcoal, neither of which were commonly found at Scotch Corner, and both potentially representative of wood collection from across a wide area (Baines, Chapter 8).

The northern front enclosure

Anomalies revealed by geophysical survey indicate that the interior of the sub-rectangular enclosure measured c.36m from north-east to south-west by c.22m from south-east to north-west, although only the south-west corner was exposed in the A1 excavation area (Fig. 3.49). It comprised extensively recut boundary ditches (groups **32645** and **32646**), which appear to have also functioned as drainage for water from the roof of Structure 25. Although obscured by numerous episodes of redefinition and a substantial modern service trench, the complex ditch intersection provided an opportunity to investigate the developmental sequence of the enclosures, with the resulting discovery that the northern front enclosure was delimited by a ditched boundary before enclosures were added to the west.

Ditch group **32645** was typically c.1.7m wide by 1m deep, with a steep-sided V-shaped profile and was similar in scale and form to ditch **32470**, which is believed to represent the east side of the southern front enclosure (see above). The lower fills of ditch **32645** comprised redeposited natural clay, which perhaps derived from the

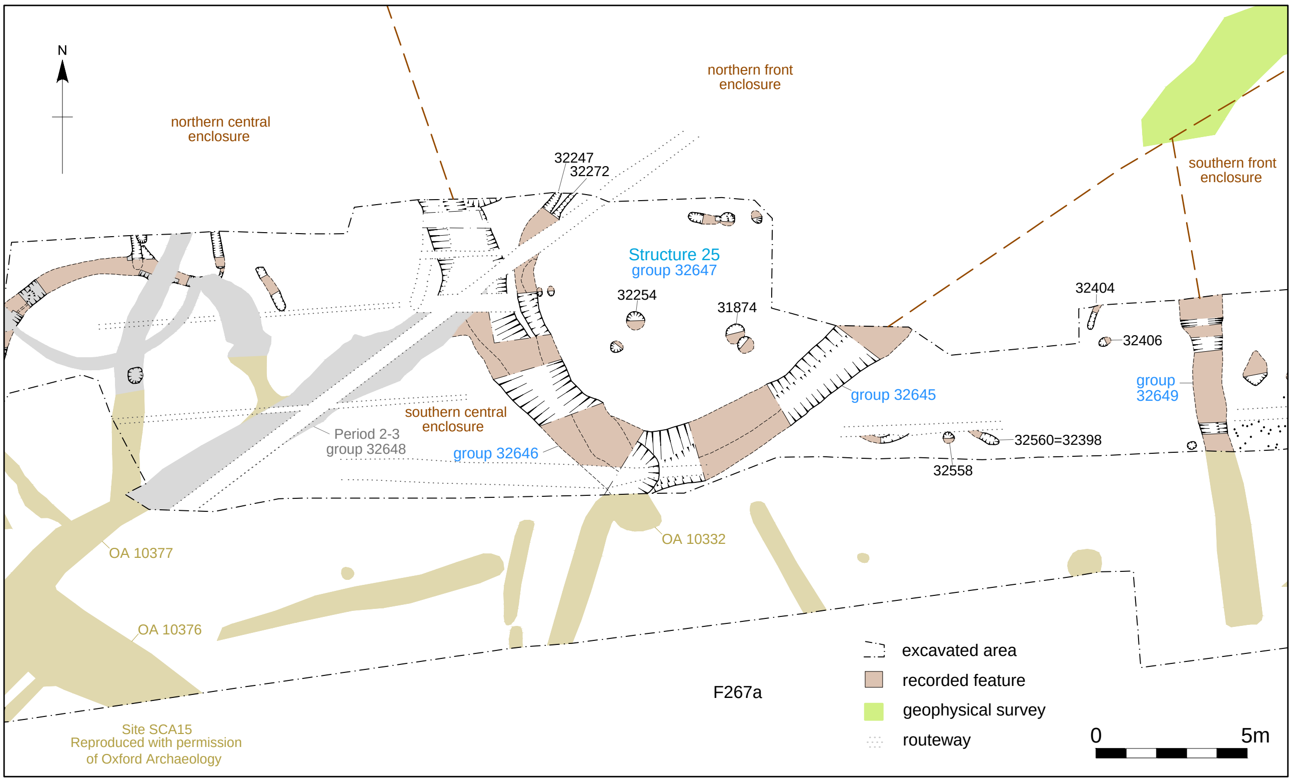


Figure 3.49: Scotch Corner: Field 267a, northern front enclosure and southern central enclosure, Period 2 features.

collapse of a former bank. Fill **31857** contained charcoal and charred cereal grains, including barley suitable for radiocarbon dating. The date of heating, in 90 cal BC–cal AD70 (95.4% probability; SUERC-84005), was refined in the Bayesian model to the beginning of the 1st century BC to the mid-1st century AD (Hamilton, Chapter 9) and was consistent with the proposed range for occupation and the sherds of amphora. Period 2 coarseware sherds in secondary fill **31856** were found with additional charcoal and charred cereals and fragments of animal bone, all presumably domestic refuse from adjacent Structure 25.

The large enclosure ditch was recut along its south-west side up to the southern corner as ditch group **32646** (possibly OA 10332), which was equally substantial at c.2.3m wide and 0.9m deep. From the lowest fills, the assemblages of pottery included sherds of hand-built vessels and coarseware pottery, such as a terra nigra Cam 3 platter that was diagnostic of Period 2 imports (Leary, Chapter 5). This pottery was discarded alongside modest assemblages of charcoal, charred cereals and animal bone, presumably derived from contemporary occupation of Structure 25. Continued occupation of the adjacent northern rear enclosure into Period 3 and refurbishment of its eastern boundary ditch (group **32648**) where it joined ditch group **32646** (see below), may have been the source of a sherd of Gallic amphora of a type known only after c.AD60 in Britain, which was recovered from the seventh fill (**32334**) of group **32646** (Griffiths and Williams and Leary, Chapter 5). The upper fills also contained a more diverse range of environmental remains, consisting of plants gathered as nearby occupation continued in the mid-1st century. The weed species recovered, such as milk vetch or clover, hemp nettle, wild radish and bulrush, mostly prefer damp environments and perhaps suggest diminishing discrimination during the collection of edible produce or poorer control of weeds amongst crops, both potentially indicating a decline in agricultural discipline (Baines, Chapter 8).

Structure 25 (group 32647)

As described previously, the circuit of Structure 25 corresponded with the enclosure ditch surrounding its south-western arc and appears to have been constructed with a sub-square floor plan; this is perhaps similar to Structure 4 in Field 220 (see Chapter 2, Fig. 2.25), although at 8.8m, Structure 25's interior span was around two-thirds of its size (Fig. 3.49). The interior of Structure 25 was occupied by eight postholes and an elongated pit; the features loosely formed pairs set near the perimeter. The only examples to contain dateable finds were posthole **31874**, where sherds of Period 2 pottery came from fill **31875**, and posthole **32254**, which contained packing stones, as well as sherds of Period 2 vessels, in fill **32255**. The paired postholes denote either rebuilding or an attempt to achieve additional structural integrity, while the walls occupied a pair of converging narrow hurdle trenches that survived best on the western arc, with two phases certainly represented by the replacement of **32247** with **32272**. No artefacts came from the original trench, but **32247** contained an abundance of debris, presumably derived from activity associated with occupation in the primary structure before its wall was replaced. The material in lower fill **32248** and upper fill **32249** included charcoal and charred cereals and weeds, with examples of coarseware pottery that added to the overall assemblage. The pottery was characterised by an absence of hand-built vessels and the inclusion of Italian wine amphora sherds, as well as butt beaker and silty ware sherds (Griffiths and Williams and Leary, Chapter 5).

The southern central enclosure

The southern central enclosure shared ditched boundary group **32649** to the east, and groups **32645**, **32646** and **32648** to the north (Fig. 3.49). Its south-west side was recorded by OA as ditch 10376, which produced no dateable material (Zant *et al*. 2013b, 78–80). The projected north-east to south-west extent of the enclosure was 35m, while its north-west to south-east measurement was unknown. While several linear gullies and postholes were recorded by OA, the archaeological remains in the A1 excavation area were sparse, comprising only two gullies and three postholes. Sinuous gully **32560=32398** curved around posthole **32258**, which in combination may be the vestiges of an insubstantial feature that was reminiscent of fence-line **16429** at Structure 47ii (not illustrated; see above), although the example in Field 267a could only have been associated with Structure 25 in the adjacent enclosure if they represented a phase of the structure that post-dated the infilling of the dividing enclosure ditch. Discarded imported Period 2 pottery and animal bone from gully fill **32561** certainly pertained to habitation in the immediate vicinity, which might also be suggested by a curving gully terminal (**32404**) and an adjacent posthole (**32406**) found a short distance to the north-east, which contained charred spelt in fill **32407**. Such vestiges could feasibly represent components of Structure 25 or another former structure that lay mostly outside the A1 excavation area.

The northern central enclosure

The northern central enclosure suggested by geophysical survey was an irregular trapezoidal shape measuring 48m from south-west to north-east by c.35m near its centre, and with an approximate length of c.50m (Fig. 3.50a). The greater proportion of the southern half was investigated by OA, while NAA added a narrow strip that contained a dense area of occupation remains which represented activity that lasted into the period when Neronian period pottery was in use at Scotch Corner. The enclosure was defined by ditch group **32648** to the south-east and north-east and by trackway side ditch **32529** (OA 14679) to the south-west. Refurbishment of ditch group **32648** had removed much of its earlier fill, but some vestiges (**32290** and **32286**) of the original ditched boundary at the northern edge of the excavation area survived in commuted form. Sherds of imported Period 2 pottery found with animal bone, oak charcoal, charred

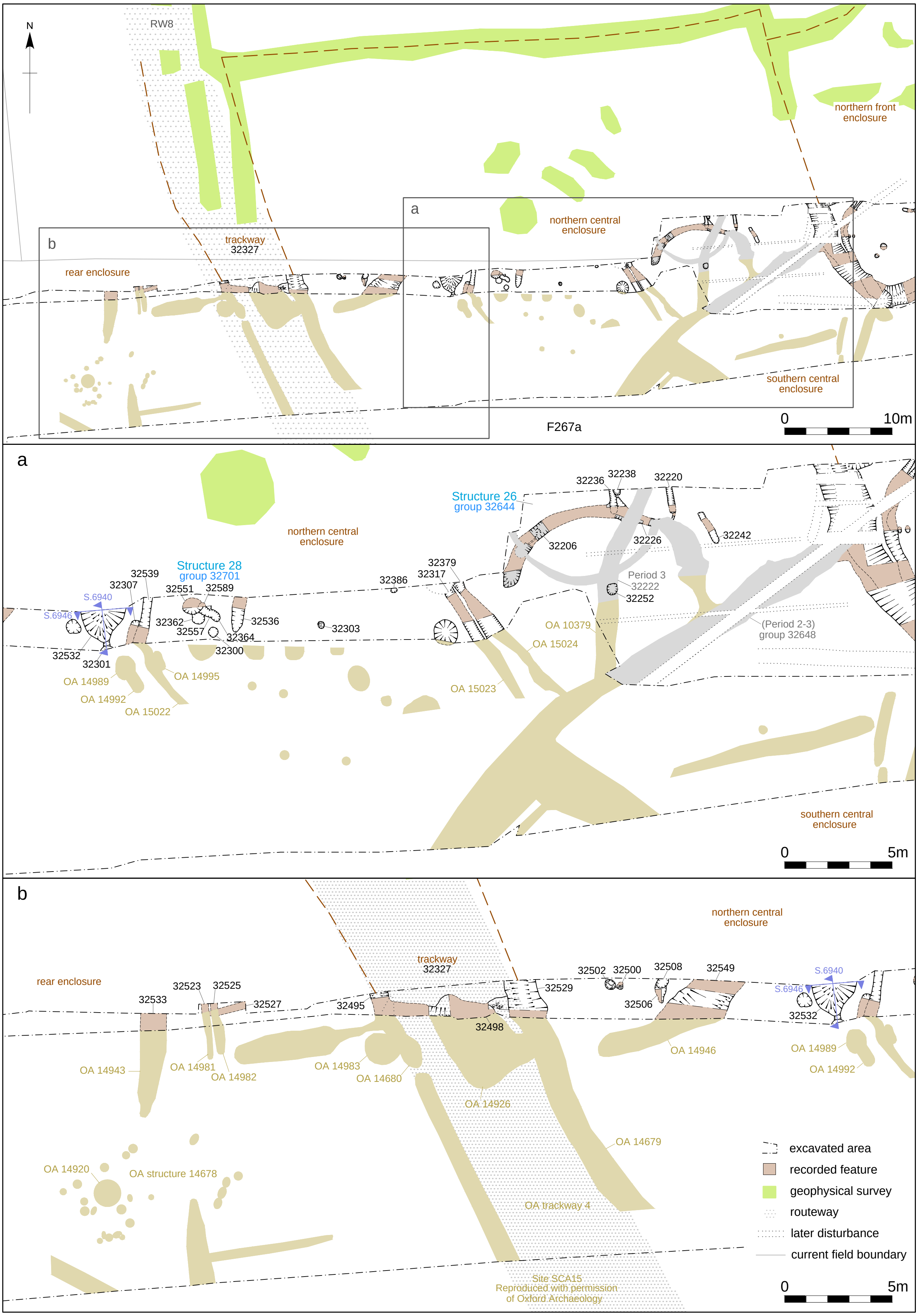


Figure 3.50a–b: Scotch Corner: Field 267a, northern central enclosure, routeway RW8 and rear enclosure, Period 2 features.

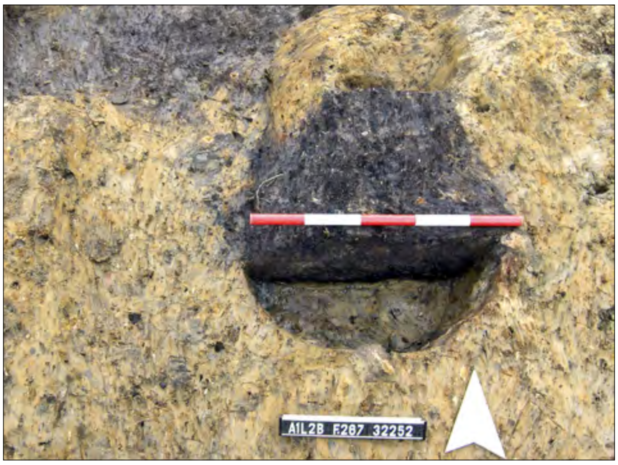


*Figure 3.51: Scotch Corner: Field 267a, oven **32252** and flue, facing north.*

sedge and grasses in fills **32283** and **32284** presumably relate to habitation in adjacent Structure 25 to the east, and/or Structure 26 c.8m to the west. Archaeological monitoring of a service trench excavated from west to east across the northern central enclosures indicated that habitation was focused in centre of the enclosure, which corroborates the geophysical survey results and infrastructure scheme investigations (NAA 2020).

Structure 26 (group 32644)

The remains of Structure 26 (group **32644**) were represented by a C-shaped gully **32206** (and its continuation **32226**), which adjoined the north-east side of the northern rear enclosure boundary (Fig. 3.50a). The curving gully probably functioned with two north-west to south-east hurdle trenches or fence-lines **32317** (OA 15023) and **32379** (OA 15024), effectively delimiting a 9.3m by 7.4m interior space with a 1.2m-wide west-facing entrance. The C-shaped gully was steep-sided for most of its arc, measuring 0.6m wide by 0.5m deep. It had the appearance of a structural trench rather than a drip gully. It was filled with laminated silts that contained fragments of animal bone, charcoal, charred cereals and legumes. There was also a very modest assemblage of abraded pottery sherds that were too small

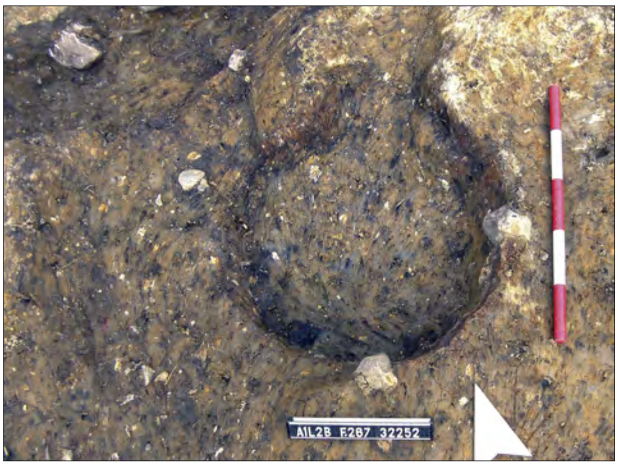


*Figure 3.52: Scotch Corner: Field 267a, oven **32252** and flue with scorched sides post-excavation, facing north.*

*Figure 3.53: Scotch Corner: Field 267a, palisade trench **32220**, facing north.*

for identification but were possibly imports, suggesting that domestic refuse circulated for some time before final deposition in accumulating silts.

It is likely that some of the burnt material in the gully came from a small central oven (**32252**; Fig. 3.51), which had a narrow, north-facing flue and a bowl with heat-affected natural clay sides that measured 0.54m wide by 0.18m deep (Fig. 3.52), but had been truncated by ditch **32222** (OA 10379). Charred remains in the oven appeared to represent in-situ burning and included examples of heather, oak and birch, as well as spelt chaff and spelt, sedge, brome, soft rye, and other unidentifiable cereals and grasses. This represents a more comprehensive assemblage of domestic occupation than that recovered from the curving structural gully. The organic material was therefore considered appropriate for obtaining a reliable radiocarbon date, with some of the heather charcoal from primary fill **32553** providing a range of 100 cal BC–cal AD60 (95.4% probability; SUERC-84007). Once refined in the Bayesian model to a time between the beginning of the 1st century BC and the mid-1st century AD, it appears that the oven was potentially in use, or Structure 26 was occupied, before the arrival of continental imports. However, this possibility is rendered less likely by their apparent association with fence-lines **32317** (OA 15023) and **32379** (OA 15024) to the west (Fig. 3.50a), the latter containing pottery of Period 2 origin in fill **32381**, and in fill **32383** of its recut (**32382**).

The north-eastern arc of Structure 26 connected with two parallel fence or palisade trenches, **32220** and **32236**, along with its recut **32238**. The original features were spaced 2.4m apart; trench **32220** was c.0.3m wide by 0.34m deep (Fig. 3.53), and **32236** was a similar width, but only 0.13m deep. Both the form and dimensions of the paired features were similar to those of Structure 15 in Field 223 (see Chapter 2), and close proximity to curving structures was also a shared attribute. The charcoal and charred remains recovered from the Structure 25 example were considerably richer than those from Field 223, although no other cultural material was evident. Amongst the oak charcoal and charred weeds in fill **32221** of the eastern trench were examples of clover and sedge, both of which are possibly remnants of animal fodder or bedding material (Baines, Chapter 8). Given their form, proximity to roundhouses, and the plant remains associated with the features, it is possible that trenches in Field 267a, and the similar features which comprised Period 1 Structure 15 in Field 223 (see Chapter 2), represent the remains of stalls or stables appended to domestic structures. Another short, straight segment of palisade or fence trench (**32242**) traced the eastern side of Structure 26 for 1.6m and contained oak and alder charcoal and indeterminate charred cereal in its lower fill **32243**. While its alignment differed subtly from the possible stables/stalls described above, it may once have served a similar function, or perhaps represented a partial division that was perpendicular to the south-eastern enclosure boundary and parallel with hurdle or fence-lines **32317** (OA 15023) and **32379** (OA 15024), which defined the west side of Structure 26.

Structure 28 (group 32701)
The c.10m-wide area to the west of Structure 26 was heavily truncated by works associated with the A66 upgrade and contained only two surviving postholes (**32303** and **32386**), both of which possibly represented former components in Structure 28 (group **32701**) or boundary fences (Fig. 3.50a). While the postholes were devoid of dateable finds, **32303** (OA 15010) included a stone post pad, which was compelling evidence for its association with a structure on the plot. The adjacent transect excavated to the south by OA recorded a group of pits and postholes with alignments or rows, some of which were probably associated with the same structure.

The western arc of Structure 28's wall survived as a curving segment of hurdle trench, which spanned the A1 and A66 excavation areas; the northern section (**32539**) included displaced packing stones and connected with an elongated pit or short gully on the outside (**32307**), while the southern section (OA 15022) connected with an elliptical pit on the inside (OA 14995). In isolation, the gully was interpreted as part of a small field system during the A66 scheme, which would fit with the alignments of gully **32317** (OA 15023) and **32379** (OA 15024), then visible to the east, and the trackway to the west, although it was reinterpreted as part of the structure in response to findings made by the A1 scheme.

The interior of Structure 28 included a short gully **32536**, with domestic debris in the form of ash and pomaceous charcoal in primary fill **32537**. The gully terminated adjacent to a group of intercutting postholes that lay between it and the structural hurdle trench, effectively delimiting an area of replaced structural upright timbers. An initial group of three postholes included **32589**, which was substantially truncated, while enough remained of **32362** for oak charcoal and displaced packing stones to have survived. Examples of the same practice were discovered in adjacent posthole **32300**, which also contained oak charcoal and charred spelt, both representative of habitation in the enclosure. The second phase of construction included postholes **32551** and **32557**. The fill of the former of these contained birch charcoal, charred spelt and grasses, which relate to continued domesticity, while a rare example of samian ware dating from AD45–110 in fill **32556** of the latter suggests a modest level of distribution of fine tablewares in the nucleated enclosures shortly after the Claudian conquest in southern Britain (Monteil, Chapter 5). Further use of stone post pads was observed in replacement posthole **32364**, which was probably contemporary with a succession of stone post pads in posthole **32551**. The combined evidence for post pads and post packing in Structure 28 betrayed the soft nature of the clay natural geology it was built on; the fact that occupation on the plot did not apparently continue much beyond the mid-1st century AD may be testament to the same problem.

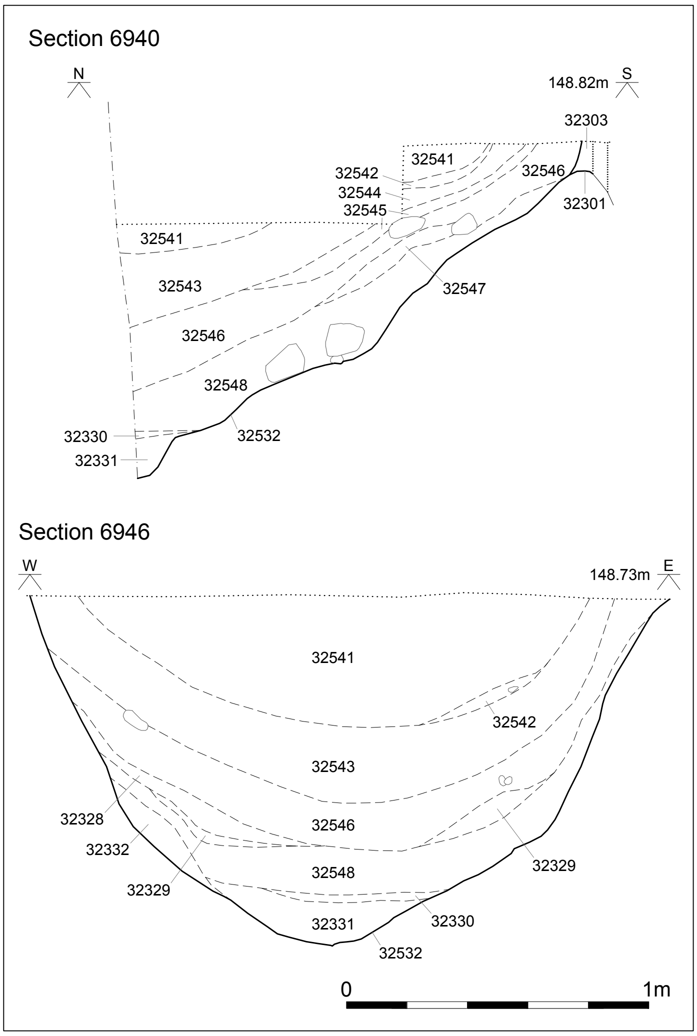


*Figure 3.54: Scotch Corner: Field 267a, sections of pit **32532**.*

Figure 3.55: Scotch Corner: Field 267a, pit ***32532****.*

'Refuse pit' 32532

Immediately outside the hurdle trench of Structure 28, a large 2.1m-wide by 1.2m-deep refuse pit (**32532**) contained slumped fills, some of which were rich with organic material (Fig. 3.54, sections 6940, 6946; Fig. 3.55). The deposits probably included refuse from Structure 28 and a small adjacent keyhole-shaped oven or corn drier (OA 14992/14989; Figs 3.50a and b). Between the oven and pit, channel **32301** was presumably a conduit for waste material shovelled or raked from the oven to the pit. Deposition of organic-rich waste in the pit appears to have been episodic; the lowest three fills comprised eroded natural clay and were sealed by organic-rich fill **32548**, which was a mixture of oak charcoal, animal bone, sherds of traditional hand-built pottery and vessels fabricated in the Period 2. Three subsequent fills were devoid of identifiable cultural materials, while the next episode of refuse deposition (**32546**) incorporated numerous dumps of domestic waste. While charcoal was absent, a substantial and diverse range of charred plant remains included barley and barley chaff, as well as spelt and spelt chaff; the inclusion of chaff was an attribute of the charred plant assemblages recognised nearby during the A66 scheme (Zant *et al*. 2013b, 89) and at Scotch Corner Hotel, where barley, bread wheat and spelt were found in small quantities when compared with the high proportion of chaff interpreted as evidence for cereal processing (Abramson 1995, 1 and 7–13; Huntley 1995, 17–18). However, it was notable that such evidence for cereal processing, and possibly threshing and drying or roasting around the nucleated enclosures, was not supported by the presence of querns at Structure 28, nor anywhere else in the A1 scheme area in Field 267a. While this might be seen as a result of the narrow sample area, no querns were recovered either in the A66 excavation area (Zant *et al*. 2013b) or at the Scotch Corner Hotel (Abramson 1995), which reinforces the observation that debris and paraphernalia relating to food production were not well-represented in the nucleated enclosures when compared to the coaxial system to the south.

The same deposit (**32546**) in pit **32532** also contained a collection of incidental charred inclusions from the field margins, although the onion couch tuber was perhaps cultivated, a use that was also demonstrated in domestic refuse incorporated into the open and enclosed habitation in Field 223 and at sites further south (see Chapter 2). Fill **32546** included a small fragment of a samian Dr.27 cup dated AD45–110 (Monteil, Chapter 5), which had been discarded a short distance from the only other example of samian ware in Structure 28; the occupants evidently valued prestigious imports associated with the Roman world.

Two further fills with no combusted or cultural material were sealed by a final organic-rich deposit (**32543**) that incorporated continental pottery produced during Periods 2 and 3. These included a fragment of coarseware, and a large body sherd of Gallic amphora dated to after c.AD60 (Griffiths and Williams and Leary, Chapter 5), which were found together with hand-built pottery of traditional form. The date suggested by the artefacts conflicted with that of the radiocarbon determination obtained from stonefruit charcoal, which indicated a range of 170 cal BC–cal AD30 (95.4% probability; SUERC-84015), which was refined in the Bayesian model to a period between the early 1st century BC and mid-1st century AD (Hamilton, Chapter 9). The early raw radiocarbon date could indicate that the burnt remains incorporated older material, with the implication that the upper fills were not uniquely derived from the adjacent oven or corn drier, and instead incorporated waste from older sources, which could also be the origin of oak, pomaceous, and another appearance of birch that have been posited by Baines (Chapter 8) as possible evidence for increasing land clearance and exploitation of unmanaged resources.

As in lower organic-rich fills, the charred plant assemblage in fill **32453** was noteworthy for its volume and diversity; cereals, chaff, and sprouted spelt were combined with other cultivated foodstuffs, possible fodder and thatch, and a range of weeds associated with settlement margins and arable production. Henbane made its only recorded appearance from the A1 excavation area at Scotch Corner, although another charred example of the plant came from pit group OA 14024 in rectilinear enclosure 7 (Zant *et al*. 2013b, 68, 89–90, fig. 51) and was retrieved alongside fragments of briquetage (*ibid*., 82), which was found on the A1 scheme only in areas of native habitation in Fields 223 and 267a (see Chapters 2 and 10). At Stanwick, kiln-dried henbane was also recorded in oven 3, adjacent to stone-walled circular structure SS2, which stood between c.AD30/40 and AD65/70 in the Tofts enclosure (Haselgrove 2016, 109, 219, 290–1, 303 and 416). Haselgrove cites a range of qualities possessed by the plant and refers to its medical properties as the favoured application. This perhaps provides further evidence for native adoption of its uses that were already practised widely in the Roman Empire and only taken up at Scotch Corner, and possibly Stanwick, with the arrival of continental imports.

Other features in the northern central enclosure

West of pit **32532** and Structure 28 (Fig. 3.50b), curving ditch **32549** (OA 14946) formed an interior subdivision of the northern central enclosure and reportedly terminated before interacting with the adjacent trackway (**32327**; OA trackway 4) that defined the rear enclosure boundary (Zant *et al*. 2013b, 75, 78, fig. 54). The fills (**32311**, **32312** and **31313**) of ditch **32549**'s latest iteration included sherds of imported Neronian period pottery and the OA equivalent (OA 14971) included sherds of pre-Flavian beaker and flagon (*ibid*., 78), but its origins were feasibly associated with the enclosure during Period 2; the boundary was apparently refurbished together with the east side of the enclosure at a time spanning Periods 2 and 3.

In its putative Period 2 incarnation, ditch **32549** would have enclosed a small area that contained three postholes (**32500**, **32502** and **32508**; the latter recut as **32506**). They shared attributes in common with features in and around Structure 28, most notably post pads and packing stones. Posthole **32502** was a regular, steep-sided, bowl shape that measured 0.45m wide by 0.18m deep (Fig. 3.56). It contained two large central stones (**32503**) that formed a flat platform, with additional packing stones. The soil matrix (**32504**) included fragments of oak charcoal and charred grass. A slightly smaller posthole (**32500**) immediately to the east was also steep-sided and its fill contained displaced post-packing or supporting stones. Fill **32501** contained charred grasses and cereal grains, including a rare appearance of emmer, evidence perhaps for diversification into autumn-sown cereal crops (Baines, Chapter 8). Approximately 2m to the east, posthole **32508** also contained packing stones, as did its replacement **32506**, with a soil matrix incorporating fragments of oak and pomaceous charcoal. Aside from the postholes and the environmental remains, there was no evidence for the form of any putative structure.

RW8: trackway 32327

The west side of the central enclosure coincided with routeway RW8, which was defined in the A1 scheme excavation area by trackway **32327** (OA trackway 4) and was accompanied by side ditches **32495** and **32529** (Fig. 3.50b; OA 14680 and 14679 respectively). These components all followed a shallow northwards curve in the A1 and A66 excavation areas and continued to do so as geophysical anomalies in the survey area, perhaps connecting with a south-west to north-east route that defined the north-western limit of the nucleated enclosures (Fig. 3.43). In the 5.4m-wide strip between the side ditches, the gravel fabric of the track (**32327**) comprised a loosely metalled layer that survived plough-damage where it had subsided into a shallow hollow (**32498**, Fig. 3.50b; OA 14926). Above the surviving fabric, dark colluvial layer **32499** included Dressel 2–4 Campanian amphorae sherds (Cat. no. 229; Griffiths and Williams, Chapter 5), imported coarseware fabricated during the Period 2 and a single sherd of possible Period 3 date (Leary, Chapter 5), demonstrating continued use into the second half of the 1st century AD. The equivalent deposit (OA 14925) contained a rim sherd of

*Figure 3.56: Scotch Corner: Field 267a, stone post pad **32502**, facing north.*

a butt beaker of proposed pre-Flavian date (Zant *et al*. 2013b, 73), which supported the case for contemporary occupation prior to Period 4.

The east trackway and enclosure ditch (**32529**; OA 14679) measured 1.85m wide by 0.8m deep and had a flat base. The primary fill mainly comprised silting, while secondary fill **32531** produced animal bone, charcoal, charred cereal grains, sherds of traditional hand-built pottery and samian ware dated from c.AD40–85, as well as imported coarseware produced during Period 2 (see Chapter 5). An equivalent upper fill (OA 14665) produced a less diagnostic sherd dated to the 1st or 2nd century AD (Zant *et al*. 2013b, 73). Also with a flat base, the west trackway and enclosure ditch (**32495**; OA 14680) measured 1m wide by 0.35m deep; its primary fill (**32496**) included poplar or willow charcoal and imported pottery fabricated in Period 2, while the equivalent fill recorded in the A66 excavation area (OA 14663) contained 1st-century AD amphora sherds and charred cereal grains that provided a radiocarbon determination of 110 cal BC–cal AD60 (SUERC-27898; Zant *et al*. 2013b, 73, 114).

The silty upper fill (**32497**) of ditch **32495** was similarly devoid of oak charcoal but did include fragments of heather and poplar or willow and imported pottery of Period 2 date in common with the primary fill. The pottery recovered from upper deposit OA 14964 included sherds of unidentified 'Romano-British' pottery and fragments of a pre-Flavian vessel (Zant et al. 2013b, 73). A change in the source of refuse was demonstrated by the inclusion of charred plant remains, including cereals and weeds, such as sedge, residue perhaps of combustion carried out in the adjacent hearth or kiln (OA 14983; *ibid*., 73), which had a bowl and rake-out channel much like **32301** and OA 14989 by Structure 28 (see above). Amongst its roughly tessellated flagstone base, the hearth or kiln contained no dateable artefacts, but its existence and location were surely indicative of occupation west of the trackway in the rear enclosure.

The rear enclosure

West of trackway **32327** (RW8), the narrow A1 scheme excavation area extended for a little over 24m into the zone described by Zant *et al*. (2013b, 72–3) as 'the area east of enclosure 7', which was part of a c.40m-wide enclosure (Fig. 3.50b). Little of significance was exposed there during the A1 scheme; the remains comprised only short segments of a ditch (**32533**; OA 14943) and three connected gullies (**32523**, **32525** and **32527**; OA 14981, OA 14982 and OA 14947 respectively). The latter included charcoal, charred plant remains and imported Period 2 pottery in fill **32528**. Although of limited value in isolation, their occupational context was demonstrated by proximity to the hearth or kiln described above (OA 14983), and also to a probable structure (OA group/structure 14678) with a proposed rectangular footprint. Approximately 1.6m to the west, north–south aligned ditch **32533** (OA 14943) measured 1.1m wide by 0.55m deep; its southern terminal appeared to respect OA structure 14678.

The structure survived as 18 postholes that defined straight walls and interior structural uprights, and an approximately central stone-packed circular feature (OA 14920) described as a foundation, which like several of the associated postholes, contained only 'Romano-British' pottery (Zant *et al*. 2013b, 77–8). The understandable ambiguity about the pottery dates and the building's form do nothing to undermine its initial interpretation as being contemporary with surrounding occupation. But, the implied absence of vessels imported in the mid-1st century AD potentially indicates origins early in the chronology of the nucleated enclosures, perhaps near the beginning of the 1st century. Regardless of its construction date, the unusual form of OA structure 14678 suggests that its function may have differed from nearby roundhouses and perhaps represented a particular association for its builders, inhabitants or users. This possibility was supported by its situation only 30m east of a large square enclosure adjacent to enclosure 7 with a substantial central roundhouse (OA 14021), and also by unique finds of Roman vessel glass in the nucleated enclosures.

PERIOD 2–3 (c.AD15–c.AD70)

The transition included features that were introduced during Period 2 and remained open into Period 3, with the upper fills often receiving imported pottery, such as Gallic amphora and mortaria produced after c.AD60, while the lower fills exclusively contained only traditional hand-built vessels and imports of Period 2 and/or 3 production (see Chapter 5). It was also during this time that vessel glass manufactured during Periods 2 and 3 began to arrive at Scotch Corner with the suite of goods imported to the native community (Cool, Chapter 5). In conjunction with these developments the settlement experienced both continuity and changes in its layout and focal points of activity (Figs 3.57 and 3.58).

Most of the Period 2 structures fell out of use in the workshop enclosure in Field 246, and it seems likely that this presented an opportunity for occupation, which was apparently exploited by the construction of circular Structure 44 centrally within the interior. Although the workshops appear to have fallen out of use, earthwork boundaries delimiting the workshop enclosure were redefined extensively, causing redeposition of manufacturing and craft waste products. These included the largest assemblage of pellet mould fragments, which were placed in a ditch that simultaneously represented the south-east side of the enclosure and the north-east side of the north-west routeway. South-east of the primary enclave and enclosure ditch (see Chapter 2), a series of extremely truncated boundaries divided a previously uninhabited area into rectilinear enclosures, one of which was occupied by post-built Structure 41. Activity in the coaxial enclosures at the south end of the settlement contracted, which was evident in redefinition of relatively large enclosures in the centre of Field 223. Meanwhile, a similar contraction in the nucleated enclosures of Field 267a was represented by diminishing evidence for structural development and occupation debris, although this should be seen in the

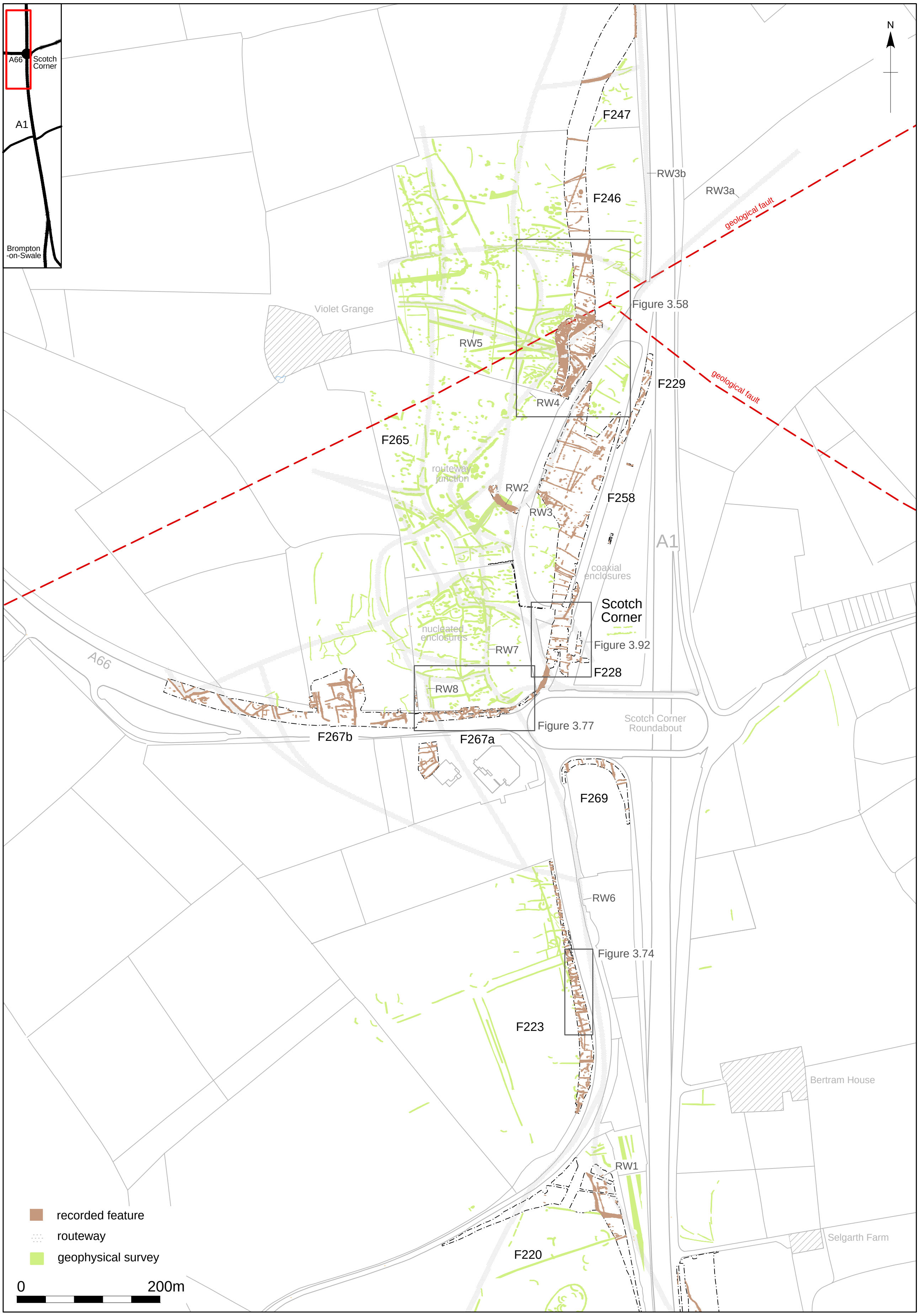


Figure 3.57: Scotch Corner: overview with Period 2–3 and Period 3 figure locations.

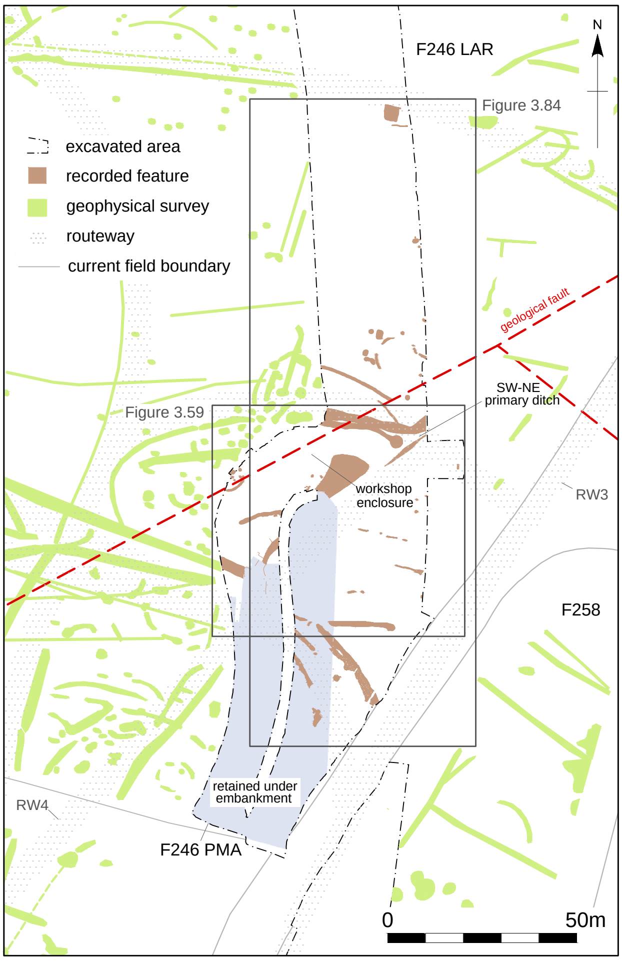


Figure 3.58: Scotch Corner: Field 246, Period 2–3 and Period 3 figure locations.

context of some continued activity during the Claudian and Neronian period at site SCA15 (Zant *et al.* 2013b) and the Scotch Corner Hotel (Abramson 1995). Nevertheless, most of the trends in Periods 2 and 3 that were recognised during the A1 scheme evidently continued into Period 3 (see below).

Field 246: the workshop enclosure

The ditches and boundary features of the workshop enclosure were more extensively reworked than at any other time during the time spanning Periods 2 and 3 (Figs 3.59 and 3.60). In addition to recutting and redeposition, many of the cut features contained upper deposits derived from mixed and subsided material associated with later occupation. What survived of the enclosure ditches indicated that the north-east enclosure boundary was first cut as group **31262** (ditches **16312=24081=24128**) and followed a course that curved directly to 'well' **24297**, which was evidently an enduring focus, originally having been cut in Period 2 (see Chapter 2). The ditched boundary was subsequently recut along the north side of group **31262** as ditches **15884=24193**, which avoided the 'well' on its north side and curved sharply to the north-east, as if continuing the south-east enclosure side to the north-east (Fig. 3.59). Finally, ditch group **31283** (ditches **15353=16146=24309**) represented a recut of the previous iteration along the same course, still apparently respecting 'well' **24297**.

Any refurbishment of the enclosure's south-east side near the north-east corner survived only as ditch **15866**, which feasibly spanned the time of major reworking on the north-east side. Near the south-west corner of the enclosure, the south-east boundary was more comprehensively recut as ditch **16486=24777**, which was commensurate with the degree of reworking at the south-west side where substantial ditches **31057=31092** and **31017** may have been contemporary. These functioned simultaneously as boundaries for the enclosure, and for the enduring north-west routeway (RW5), which had its origins in Period 1 (Fig. 3.1). It is perhaps significant that, while no certain undisturbed primary deposits of pellet moulds were attributable to this period, fills accumulating in the workshop enclosure yielded considerably more coin pellet mould than any other period (Landon and Morley-Stone, Chapter 7).

'Well' 24297

The first iteration of 'well' **24297** and its probable predecessor (**15852**; see Chapter 2, Fig. 2.47) were apparently contemporary with Period 2 boundary ditches at the north-east corner of the workshop enclosure and adjacent to the dog-leg of Period 2 gully **16202=24537**, which contained a concentration of discarded pellet mould fragments probably deposited shortly after their primary use (see Chapter 2). The enclosure ditches near the north-east enclosure corner were maintained and refurbished throughout the transition into Period 3 and clearly respected the site of the 'well', although only the first iteration of the north-east boundary provably functioned in combination with it, the projected connection to the south-east boundary since lost. Also lost to truncation was the rear arc of the drip gullies attributed to Structure 51, which must have been abandoned or significantly modified by that time.

As described previously, the base of 'well' **24297** was the lowest point on the enclosure boundary (Fig. 3.59). At ground level, its cone measured 3.3m in diameter, tapering 2.1m to an elliptical flat-bottomed bowl that had been cut 150mm into the limestone bedrock (Fig. 3.61, section 4316; Fig. 3.62). During periods of wet weather when the features were open, the void would have been inundated with silty run-off, an aspect of the system demonstrated frequently during the A1 scheme excavations (Fig. 3.63). At the time of manufacturing and craft, the water was presumably contaminated with residue from processes undertaken inside the enclosure, since much of the waste was evidently dumped in adjoining ditches. This apparently undesirable outcome would render the 'well' entirely useless as a potable water source, and raises the question of whether it was in fact a collection point or 'pan' for those fragments of precious metals that were discarded accidentally during the manufacturing process and conveyed towards it in a solution, or became trapped in pellet moulds until they were broken apart around the ditches for retrieval before final discard. In such a system, the rock-cut basin would prove an effective trap and settling tank for sediment containing such valuable constituents, which could then

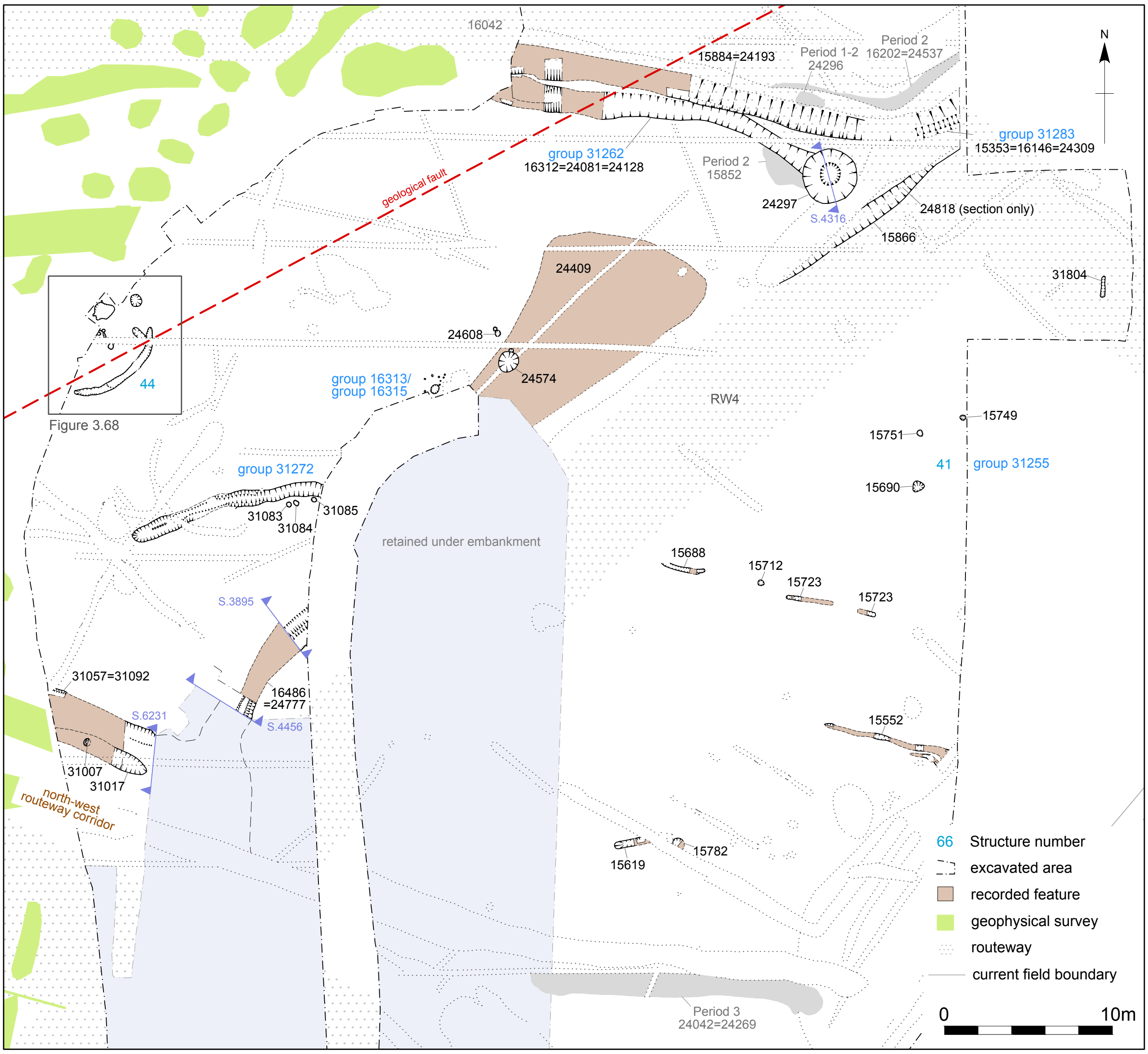


Figure 3.59: Scotch Corner: Field 246, Period 2–3 and Period 3 features.

be easily collected, and might explain the concentration of broken moulds in the ditches nearby. While this model proposes that the cut features performed practical and integrated functions in the pellet manufacturing system, it need not preclude powerful symbolic significance from the combination of managed water and precious 'alchemic' metalworking in an area that must have been inextricably linked with craft and wealth-creation, and potentially the observance of sacred rites which were often focussed on water sources (e.g. Hingley 2018, 3).

The 'well' and connected ditches were evidently a focal point for an activity undertaken immediately prior to pellet mould discard, yet it does not necessarily follow that their original functions persisted as they became infilled with deposits rich in potentially redeposited mould fragments. Once infilling began, the rock-cut basin would have become incapable of functioning in its original intended manner; the assemblages of pellet moulds in its upper fills might simply represent episodes of redeposition, with no intended meaning or purpose other than to redistribute earth. Having previously been kept clean, the two lowest fine clayey-silt fills of the basin were devoid of artefacts and might betray the first lapse in its maintenance. The third fill (**24087**) contained animal bone, hazel and ash charcoal, sherds of traditional hand-built pottery and charred remains of wheat, spelt and barley amongst some arable weeds; arguably, this represents an episode of refuse disposal that comprised the first conscious act of abandonment. Above this deposit, a series of mixed fills incorporated Period 3 artefacts: fill **24085** included sherds of hand-built vessels as well as Campanian and Baetican amphora, Gaulish mortaria dated AD65–100+ and imported coarseware fabricated in Periods 2 and 3; above this, the only artefacts in fill **24306** were 13 fragments of pellet mould (RF11497; Landon, Chapter 7); then deposit **24307** included a further seven pellet mould fragments (RF11460), sherds of mortaria dated after AD55, and coarseware of the same vintage (see Chapter 5). Fragments of glass (RF11499, not catalogued; Appendix G) were less diagnostic, but their presence was commensurate with activity during the AD60s (Cool, Chapter 5). Penultimate fill **24308** yielded four of the earliest examples of *imbrex* (Antink, Chapter 7) from

Figure 3.60: Scotch Corner: Field 246, view across north-east corner of workshop enclosure, facing south-west.

Scotch Corner, which were found with sherds of hand-built pottery; however, the nearest identifiable roof that they were likely to have adorned was located 33m to the south and belonged to a rectangular building (Structure 40, group **15574**) dated to the early Period 4 by artefacts in its rectangular enclosure ditch (see Chapter 4). Top fill **24086** of the 'well' included hazel and oak charcoal with charred cereals, weeds and possible fodder, as well as imported coarseware pottery of Period 2 and 3 date. More notable, however, were 95 pellet mould fragments (RF10183) found amongst a silty deposit rich in oak and hazel charcoal, charred barley and possible fodder. This also included an assemblage of fired clay and industrial waste, along with a small fragment of casting mould and some slag that was possibly associated with metallurgical processes (Mackenzie, Chapter 7).

It is inopportune that the integrity of upper fills in the vicinity of the 'well' remains suspect, since a provable primary deposit of pellet moulds and associated manufacturing waste at this point in the stratigraphic sequence could signify a number of important and chronologically sensitive occurrences, such as a resurgence in pellet manufacturing by unknown practitioners, uptake or development of a different activity using old or newly fabricated pellet moulds made in the traditional way, or the comprehensive and possibly imposed ending of any activities involving their use. While this aspect of the process could not be confirmed, it should not be overlooked that the used pellet moulds contained within their ceramic fabric a meaningful volume of precious metal (see Chapter 7), which in lean times might have warranted retrieval and could explain their reappearance at the top of the sequence and one of the reasons for disproportionate loss of edge pieces (Landon, Morley-Stone and Ponting, Chapter 7).

The north-east enclosure boundary

The steep-sided V-shaped profile of ditch group **31262** (ditches **16312**=**24081**=**24128**) was up to 1.6m wide and 0.5m wide along its course between 'well' **24297** and the western limit of the excavation area (Fig. 3.59). From there, a corresponding geophysical anomaly arced to the south-west, presumably delimiting the unexposed north-east side of the workshop enclosure. Near the 'well', lower ditch fills **24124** and **24862** included sherds of hand-built pottery, while imported vessels were absent, except for a few undiagnostic sherds of Roman wheel-thrown coarseware in primary fill **24129** near the centre of the excavation area. Additional pottery of traditional hand-built form came from secondary fill **16369** near the western edge, while upper fills near the 'well' demonstrated more material of continental origin in fill **24884**, where imported pottery of Neronian date was found with fragments of possible *imbrex* (Antink,

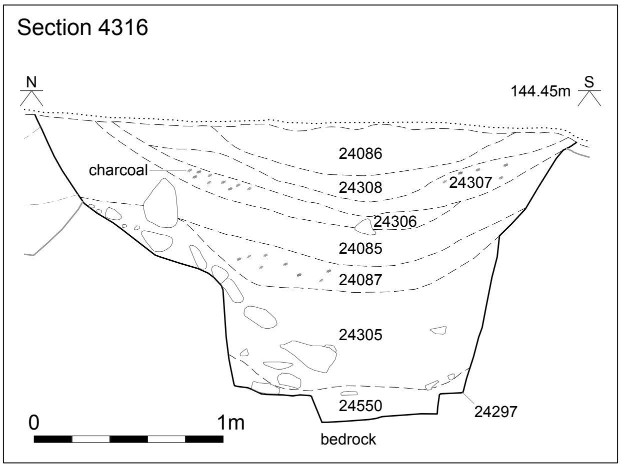


*Figure 3.61: Scotch Corner: Field 246, section of 'well' **24297**.*

Figure 3.62: Scotch Corner: Field 246, 'well' ***24296****, facing north-east.*

Figure 3.63: Scotch Corner: Field 246, 'well' ***24296*** *inundated with water from connected workshop enclosure ditches, facing south-west.*

Chapter 7), sherds of undated amphorae, and fragments of clay that could once have been hearth lining (Mackenzie, Chapter 7). The presence of 14th-century pottery in the same deposit was testament to disturbance and was perhaps introduced by a land drain that crossed the feature. Above this, a barren deposit was sealed by top fill **24886**, which included animal bone, sherds of hand-built pottery and a ceramic crucible or cupel (Cat. no. 892) with residues of copper alloy. A cone-shaped bronze object (Cat. no. 903) recovered from fill **15513** of overlying plough furrow **16042** matches the shape (Mackenzie, Chapter 7). The rare inclusion of a crucible makes the absence of pellet mould debris and paucity of imported coarseware pottery in the ditch fills more obvious, since it suggests that metalworking was still undertaken at this time. While the paucity of domestic refuse might be a result of convention, deposition in the ditch could have been discouraged by the presence of an inner bank. Alternatively, was the ditch perhaps kept clean to minimise contamination of 'well' **24297** as part of the precious metal retrieval system?

A similar absence of ceramic or glass vessel sherds was observed in the fills of ditch recut (**15884**=**24193**), which traced the north-east side of group **31262** once it had filled in, and unlike its predecessor, dog-legged north-east along the south-east enclosure boundary, cutting along Period 2 gully **16202**=**24537** (see Fig. 3.18). Aside from a small quantity of animal bone in deposit **24149**, the lower fills were notably free of discarded objects and refuse. The first important assemblage came from tertiary fill **24317** and comprised 42 fragments of pellet mould (RF11469), although these could have been redeposited from pit **24296**, which the ditch truncated (see above; Fig. 3.59). Above this, dark silty deposit **24140** included a small clot of vivid pink material, which is believed to be a sample of powdered pigment or dye made from rose madder (Foulds, Chapter 6; Badreshany, Chapter 9), whereas the subsequent deposit (**24311**) contained only sherds of Iron Age tradition pottery. The presence and survival of another pigment in addition to the Egyptian blue from Structure 47iv (see above) certainly enhances the potential significance of both discoveries, particularly when the suite of features apparently dedicated to water management and retention, and to precious metalworking and pellet production, is considered.

Finally, ditch group **31283** (ditches **16146**=**24309**=**15353**) was cut along the same course as its predecessor, and also dog-legged to the north-east (Fig. 3.59). Distinct patterns were evident in the discarded material discovered along its course. Near the western edge of the excavation area, a simple sequence of fills suggested that primary silting was not accompanied by discard of any cultural materials, but the more voluminous upper fills included sherds of traditional hand-built pottery, samian ware dated to AD45–90 and imported coarseware predominantly of Period 2 period fabrication, including early examples. A single, presumably redeposited, fragment of pellet mould (RF11536) was found in fill **16353** near a small deposit of fuel ash slag and fired clay, with other sherds amongst a charcoal- and charred plant-rich fill (**16147**). The segment of the ditch that was central to the excavation area was devoid of any cultural material, whereas in the area adjacent to 'well' **24297**, secondary fill **24214**=**24265** included a combined assemblage of 79 fragments of pellet mould (RF10199, RF11454 and RF11459), slag (RF11462, not catalogued; Appendix I), bronze casting debris (Cat. no. 891; Mackenzie, Chapter 7) and fired clay within an organic-rich deposit with hazel and poplar or willow, ash and pomaceous charcoal, as well as charred barley and weeds. Occupation debris also came from top fill **24204**, which contained 10 pellet mould fragments (RF10195), a relatively large assemblage of Period 3 samian ware including sherds of an Rt.8 cup (Cat. no. 22) and a Dr.27 cup (Cat. no. 23), Roman coarseware and glass sherds (Cat. no. 626) from a vessel type in circulation from the 1st to 3rd century AD; this last example evidently came from the earlier end of that range.

Despite their potential disturbance, the proximity and compositional similarities between secondary fill **24214**=**24265** of the ditch and top fill **24086** of 'well' **24297** warrants further consideration, particularly with reference to the relatively large assemblages of pellet mould fragments, manufacturing waste, fired clay and co-occurrence of hazel charcoal. Accepting a small assemblage of traditional and imported Period 2 and 3 pottery in deposit **24265**, it was notable how little material associated with food and drink and food production accompanied the adjacent Period 2–3 features that were rich in manufacturing waste, and how those deposits were located to the north-east and in the corner of the enclosure; this pattern was also recognised at the south-west enclosure corner, where the volume of pellet moulds far exceeded those recovered from Period 2 contexts (see below and Chapter 7). This observation leads us to acknowledge the undeniable possibility that pellet manufacturing continued into Period 3, experienced a strong revival at that time, or that prospection in the ditches for spent moulds and retrieval of precious metals was fervent and highly effective, with the result that the majority of mould fragments were unearthed and then redeposited.

The south-east enclosure boundary

Evidence for the north-east enclosure boundary in the time spanning Periods 2 and 3 was restricted near the north-east enclosure corner to ditches **15866** and **24818** (Fig. 3.59). The feature extended to the north-east beyond the enclosure corner and was truncated by later recuts of the boundary. The dispositions and range of artefacts and environmental material demonstrated a familiar pattern for the area around 'well' **24297**. Apart from some sherds of hand-built pottery and two pellet mould fragments (RF11491) in secondary fill **24219** by the 'well', the ditch fills were devoid of materials associated with food production and consumption. Yet, where the ditch abutted **24297**, the silty lower fill was sealed by secondary fill **24303**, which contained sherds of hand-

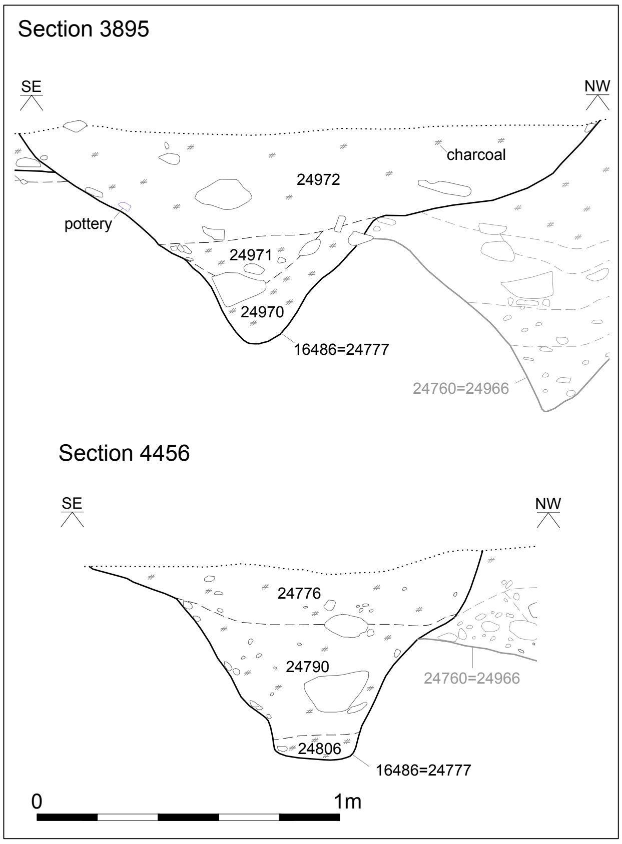


*Figure 3.64: Scotch Corner: Field 246, sections of ditch **16486**=**24777**.*

built pottery and fragments of fired clay that may once have been parts of a hearth lining (Mackenzie, Chapter 7), with upper fill **24082** comprising an organic-rich deposit with hazel charcoal, charred goosefoot and grasses, and 26 fragments of pellet mould (RF10182), fired clay and manufacturing waste. Amongst these remains were sherds of undated amphorae and coarseware with production dates spanning Periods 2 and 3, with some possible evidence for early Period 4 vessels at the surface (Leary, Chapter 5). Two additional fragments of pellet mould (RF11508) in the upper fill of ditch **24818**, adjacent to the 'well', add further support to the notion of a significant depositional event at this time.

There was no evidence for continued reworking and deposition in the central portion of the south-east enclosure boundary at this time, although such activity was marginally better represented near the south-west enclosure corner. Here, ditch **16486=24777** was typically c.1m wide by 0.7m deep, and its fills demonstrated a pattern of discard similar to that observed at the north-east enclosure corner (Fig. 3.64, sections 3895, 4456; Fig. 3.65). Primary fill **24970** included amphora and coarseware of Period 2 production, as well as sherds of samian ware dated c.AD45–90 and hand-built vessels, whereas nothing came from the upper fill. Investigation of another section revealed barren lower fills and a middle fill (**24790**) with hand-built pottery, imported coarseware of Neronian date and 46 fragments of pellet mould (RF12902, RF12903, RF12904 and RF12905); the last example included possible fragments of casting mould or hearth lining, although no metal residues were evident (Mackenzie, Chapter 7).

*Figure 3.65: Scotch Corner: Field 246, workshop enclosure ditches including **16486**=**24777**, facing east.*

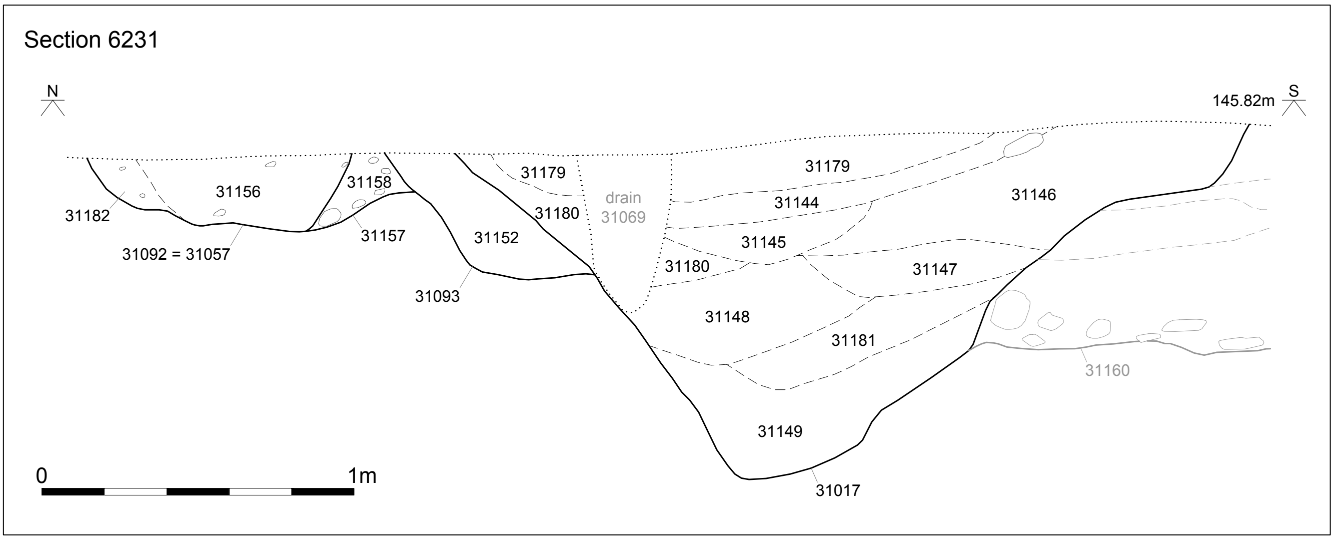


*Figure 3.66: Scotch Corner: Field 246, section of ditch **31017**.*

The south-west enclosure and RW5 boundary

Defining the north-east side of RW5, trackside ditch **31057=31092** was truncated considerably along its south-west side by subsequent reworking of the boundary but would originally have been at least 1.5m wide and probably around 1m deep (Fig. 3.59). Its surviving lower fills contained no artefacts, whereas top fill **31156** included hand-built pottery sherds and imported coarseware of probable Neronian period production, as well as a broken cobble with a slightly smoothed face (Cat. no. 708), which might have once been a tool of uncertain purpose (Croom, Chapter 6); these materials were probably included in a deposit that subsided into the top of the infilled ditch.

A major episode of refurbishment at the south-west enclosure boundary took the form of ditch **31017**, which was the largest iteration of the boundary ditch, measuring c.2.5m wide and c.1m deep, with a V-shaped profile (Fig. 3.66, section 6231; Fig. 3.67). Aside from some Iron Age tradition pottery and animal bone, few finds were recovered from its lower fills. The first appearance of pellet mould was a single fragment (Cat. no. 708) found with amphorae and fired clay in deposit **31147**. Following two further episodes of silting, a very similar assemblage of finds in fill **31144** included another lone fragment of pellet mould (RF12924), whereas top fill **16275=16299=31179** contained another 10 pellet

*Figure 3.67: Scotch Corner: Field 246, ditch **31017**, facing south-east.*

*Figure 3.68: Scotch Corner: Field 246, clay deposit **31007**, facing east.*

mould fragments (RF11522), some unidentifiable ceramic building material, undateable coarseware and an iron nail. An equivalent top fill (**16281=31000**) included sherds of hand-built vessels including a vertical-rim jar (Cat. no. 9) and imported coarseware vessels, as well as fuel ash residue and 541 pellet mould fragments, by far the largest individual assemblage from the A1 scheme (Landon and Morley-Stone; Mackenzie, Chapter 7). The mould fragments were gathered in a concentrated mass within an organic-rich matrix that included elm, alder, ash, oak, heather and hazel charcoal, together with a wide range of charred cereals, domestic waste and possible fodder. As the hazel was thought to have been associated directly with pellet manufacture, a sample from **31000** was selected for radiocarbon determination, which provided a date range of 50 cal BC–cal AD80 (95.4% probability; SUERC-83984), which was altered little by Bayesian modelling, although the centre point of the graph's peak around AD40 (Hamilton, Chapter 9) apparently supports Landon's proposal that much of the pellet manufacturing debris in Period 2–3 features was redeposited from deposits originating in Periods 1 and 2 (see Chapter 7).

Another intriguing component in ditch **31017** was a yellowish-orange clay (**31007**) cylinder that was 0.14m in diameter and the same thickness, which had been placed in the upper ditch fill (Figs 3.59 and 3.68). Its composition and appearance were unlike anything else at Scotch Corner. It was apparently free of inclusions and resembled refined potting clay that had been heat-affected, perhaps rendering it unusable. The qualities and context of the material raised the question of its provenance and whether it was associated with local pottery and/or pellet mould production, which it may be possible to investigate through petrographic examination in the future.

Structure 44 (group 31223)

Structure 44 was central to the workshop enclosure and had been constructed over the infilled remains of Structure 46, and possibly Structure 45 (Figs 3.69 and 3.70). However, its sequential relationship with the drip gully of Structure 47 was less certain on account of the similarity of their fills and the indistinct cut lines where they intersected, leaving open the possibility that Structure 44 was extant from early in Period 2, a possibility supported by the pottery assemblage (Leary, Chapter 5). The structural trench (**16395=16438**) was c.0.4m wide and c.0.25m deep with vertical sides and a flat base in the manner of a hurdle or palisade trench, although no evidence of posts survived as settings in the base or post-pipes in the dark silty fills. The discontinuous feature enclosed an interior space with a projected diameter of c.10m and incorporated a probable east-facing entrance that may have been up to 3.3m across, far wider than for a roundhouse doorway; another possible entrance was evident on the southern arc, although its opposite terminal fell outside the excavation area leaving its width unknown.

A very small assemblage of imported pottery in fill **16300** of the trench and fill **16490** of interior posthole **16488** included sherds of a butt beaker, Italian wine amphorae and a Dressel 20 oil amphora neck, all produced during Period 2 (see Chapter 5). In addition to the animal bone and oak charcoal recovered from the trench fills, secondary fill **16396** included hazel and pomaceous charcoal, a single fragment of pellet mould (RF11554) and charred barley that provided a radiocarbon date range of 170 cal BC–cal AD20 (95.4% probability; SUERC-83967), and presumably represented a redeposited component of agricultural produce from Period 1 or before, although Bayesian modelling refined its proposed deposition to a c.50 year period centred on the beginning of the 1st millennium AD (Hamilton, Chapter 9).

Interior postholes **16431** and **16488** were approximately equidistant from the structural trench and presumably represented a circuit of upright timbers, although the birch charcoal in fill **16432** of posthole **16431** probably

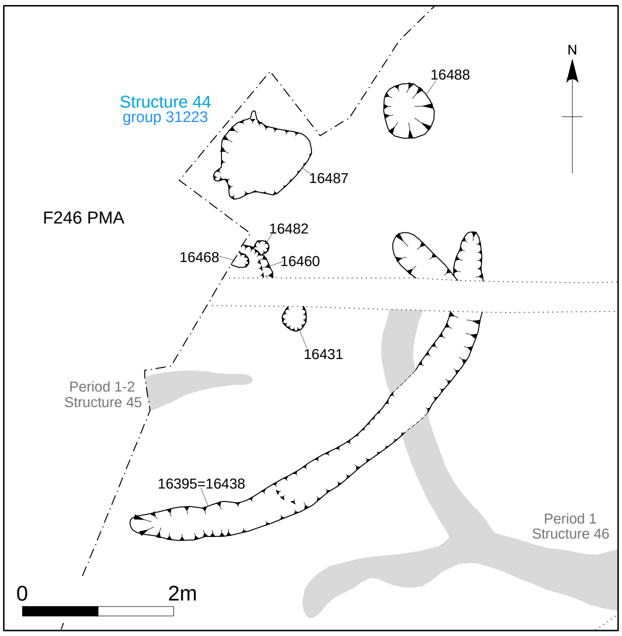


Figure 3.69: Scotch Corner: Field 246, Structure 44.

Figure 3.70: Scotch Corner: Field 246, Structure 44, facing west.

derived from deliberate combustion rather than in-situ burning of the post (Fig. 3.69). A cluster of small features, which included shallow pits **16460** and **16468** and stakehole **16482**, were unlikely to have been significant structural components, and might feasibly have been associated with activity focused around the central hearth (**16487**; Fig. 3.71). Without a stone setting, the hearth spread across an uneven area that was 1m across (Fig. 3.72). Its primary fill evidently comprised in-situ burnt material that included animal bone and the charcoal from ash, pomaceous, guelder-rose, oak and hazel. The second definable layer (**24647**) included ash and pomaceous charcoal, fragments of slag possibly derived from metal production, in addition to sherds of amphorae produced before the eruption of Vesuvius and coarseware of Period 2 and 3 fabrication. Amongst this material, a sample of calcinated animal bone provided a radiocarbon date range of 40 cal BC–cal AD125 (95.4% probability; SUERC-75376), which was commensurate with the proposed date of activity and supports the allocation of Structure 44 to Period 2–3 despite the paucity of Neronian period ceramic imports in the fills of its structural components. The top layer (**16363**) of ash and debris in the hearth also included a range of charcoal and charred spelt and animal bone, but any remaining notion that Structure 44 was strictly domestic was challenged by a scrap of copper alloy (RF11548, not catalogued; Appendix I), perhaps destined for reuse, as well as two fragments of corroded ferrous metal and some fired clay (Mackenzie, Chapter 7) that might pertain to recycling of metals in Period 2–3.

Other features in the workshop enclosure

On the north-west side of the south-east boundary, a cluster of features, including a pit, postholes and stakeholes (groups **16313** and **16315**), represented

*Figure 3.71: Scotch Corner: Field 246, hearth **16487** in Structure 44, facing east.*

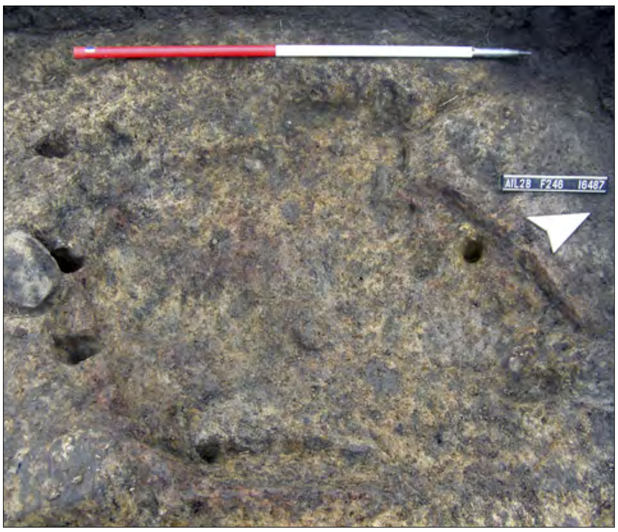


*Figure 3.72: Scotch Corner: Field 246, hearth **16487**, facing west.*

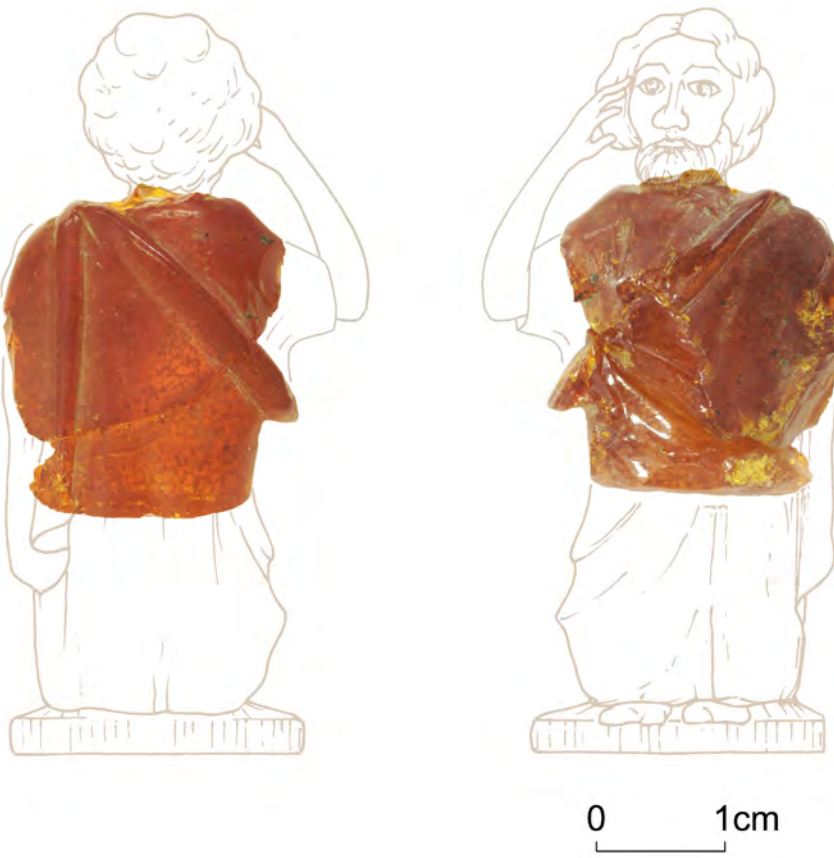


Figure 3.73 Scotch Corner: Field 246, amber statuette (Cat. no. 774) (reconstruction by Roger Simpson).

continued activity along the fringe of accumulating occupation deposit **24409** (Fig. 3.59). The fill (**24609**) of posthole **24608** included various species of charcoal and some animal bone but had also been used as a receptacle for charred cereals, including a relatively rare example of emmer. This cereal variety was far less common than spelt, wheat and barley, and was primarily associated with refuse disposal during Period 4 in pit group **28131** in Field 258 (see Chapter 4), although the few examples were spread evenly across Periods 1, 2 and 3.

Feature **24574** also warrants comment, being a large pit with a cobble-lined base. Above the stones, primary fill **24575** was rich in charcoal and charred cereals but contained very little pottery, while the initial deposit **24573** in recut **24561** incorporated sherds of imported Period 2 and 3 pottery. Above this was an empty layer, followed by a charcoal-rich top fill (**24562**) with animal bone and a possible pantile fragment (Antink, Chapter 7) that, along with the pieces of *imbrices* at the north-east enclosure corner, demonstrates the tentative adoption of Roman building materials at the settlement (see above). Following the theme of structural evidence, features similar in form to **24574** were interpreted as reinforced post foundations for possible early 1st-century AD, two-storey buildings (LS1 and LS2) at the Tofts, Stanwick (Haselgrove 2016, 411–14). However, this example at Scotch Corner was found in isolation from any comparable structural remains. Consequently, a comparison with nearby cisterns, such as **24642**, was more pertinent, although it was notable that **24574** did not retain water, having been cut into sandy drift geology. This fundamental flaw may have prompted its adoption as a refuse pit. A similar case for repurposing was recorded in group **31217** to the north, and its associations were equally elusive (see below).

Towards the south-west corner of the enclosure, an east to west recut curving ditch (group **31272**; Fig. 3.59) of uncertain function contained a disparate collection of occupation materials including oak charcoal, a discarded broken cobble that had been burned or heat-damaged (Cat. no. 712), sherds of samian and coarseware produced during Periods 2 and 3, fragments of pellet mould (RF12917), and sherds of vessel glass. A line of three postholes (**31083**, **31084** and **31085**) with diameters of c.0.3m traced the south side of the feature, which suggested an association, although in the absence of dateable material they might equally belong with any iteration of Structure 48. It was in a disturbed deposit (**16272**), located above these seemingly unimportant features, that the torso of a miniature male actor statuette was discovered (Cat. no. 774; Croom, Chapter 6; Fig. 3.73). While parallels are known at Pompeii, it is currently the only example found in Britain and was probably carved from Baltic amber in the workshops of Campania sometime in the 1st century AD (*ibid*.). Having presumably survived the ordeal of a long and arduous journey to the north-west frontier, the valuable and rare piece may have arrived as a treasured possession, as part of a consignment of prestigious objects to support a mission or negotiation, for public display, or simply as a high-value commodity. Its broken state precludes identification of the stock acting character, and thus its associated meaning. What is certain is that its fate was bound to that of the workshop enclosure, which was in the process of being abandoned and levelled by the time the statuette was accidentally or deliberately broken and placed, discarded, or lost, either by a Briton or a Roman.

RW3: the south–north routeway corridor and two possible rectilinear enclosures
The Iron Age antecedent of Dere Street recognised as hollow-way **31728** at the junction in Field 265 (see Chapter 2) and suggested as the reference for Structure 59 to the north of the workshop enclosure, was also respected by the alignments of two new possible enclosures introduced along the south-east side of the workshop enclosure (Fig. 3.59). The south side of the southern enclosure appears to have been lost to later activity, but perhaps endured in ditch **24042=24269**, which was infilling during Period 3. The north side barely survived as a discontinuous boundary, represented by posthole **15712** and gullies **15723** and **15688**, which were interpreted as a fence-line. A sherd of samian ware dated AD140–180 in fill **15689** of the last was apparently incorporated later. Inside the enclosure, a possible internal subdivision, represented by gully **15552**, was aligned approximately with the enclosure sides and extended for c.7.5m, while another short gully (**15619**) and adjacent pit (**15782**) were of unknown function and yielded only undateable coarseware pottery. In addition to the high degree of truncation in certain areas, the absence of dateable finds and environmental material precluded any fruitful insights into activity inside the enclosure.

The north side of the southern enclosure doubled as the south side of the northern enclosure, while the putative east and north sides lay beyond the edge of the excavation area. In an area badly truncated by ploughing, a possible remnant of the east side survived as gully **31804**, which contained a sherd of glass dated from the late 1st century to the mid-2nd century AD that was presumably intrusive. Inside the enclosure were the heavily truncated vestiges of Structure 41.

Structure 41 (group 31255)
An arc of three postholes (**15690**, **15751**, and **15749**) was tentatively interpreted as the remains of a sub-circular structure with a minimum diameter of 5.5m (Fig. 3.59). Posthole **15690** was a round-cornered triangle with 0.68m-long axes. It was 0.35m deep with steep sides and fills that contained neither charcoal nor diagnostic finds. Posthole **15751** was 0.37m in diameter and 0.15m deep with a fill (**15752**) that contained a possible ceramic tile fragment, while at the edge of the excavation area, posthole **15749** measured 0.35m in diameter and was less than 0.1m deep with no dateable finds.

While the features that represent the enclosures and structure were seemingly unimportant, in combination they imply that an occupied system of rectilinear enclosures was laid out along the side of the south–north routeway before the more extensive and enduring system introduced in Period 4 (see Chapter 4). Their alignments seem to represent a developmental stage that referenced

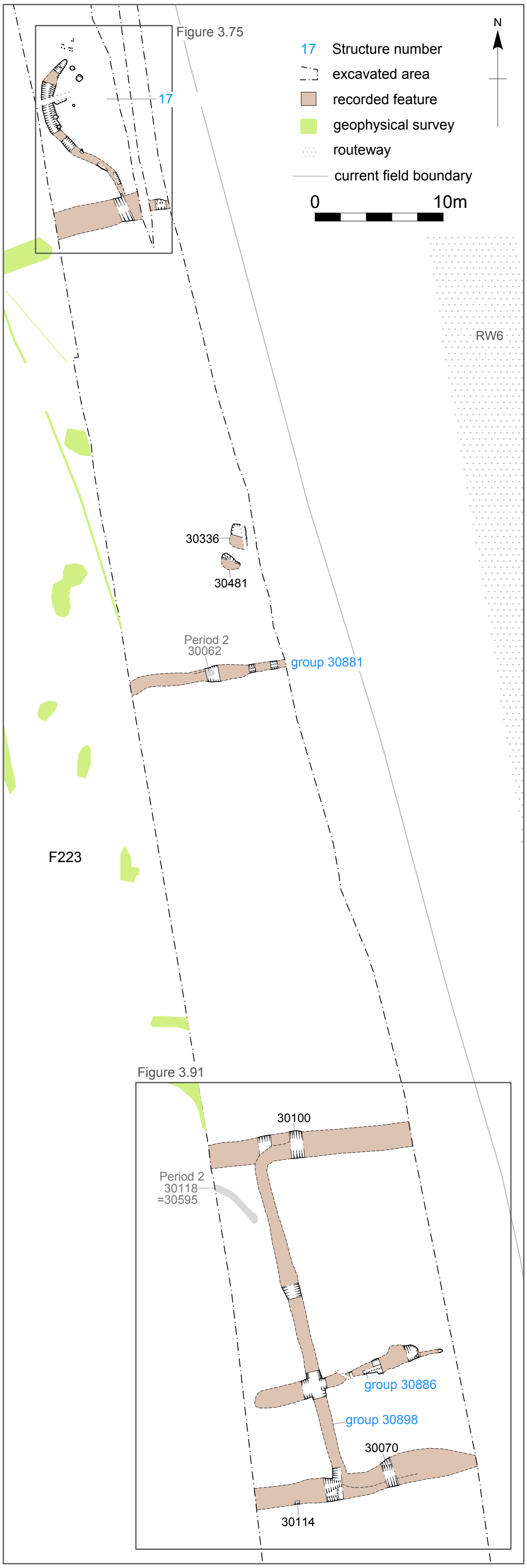


Figure 3.74: Scotch Corner: Field 223: overview of central and northern areas Period 2–3 features.

the north-east and south-west workshop enclosure boundaries, even as its original function was abandoned. In effect, they represented a bridge between prevailing Iron Age traditions and the burgeoning influence of Rome at the settlement.

Field 223: the west–east coaxial enclosure system

The central and northern areas

Overall activity in the coaxial enclosures contracted in the time spanning Periods 2 and 3, becoming focused in the central and northern areas, with no evidence for continuing habitation to the south, nor in Field 220. Deviating from the coaxial form, a substantial enclosure was developed between Period 2 enclosure ditch group **30889** and hollow-way **30252** (see above; Fig. 3.74). During Period 2–3, the new enclosure was reworked and reconfigured but retained its 25m width and its south and north boundaries, defined to the north by 2m-wide and 0.8m-deep ditch **30100**, and to the south by ditches **30070** and **30114**. During this period, a perpendicular internal boundary (group **30898**) was introduced at the same time as a parallel interior boundary (group **30886**), effectively dividing the interior into four areas, none of which contained substantial features, unless Period 2 curving gully **30118=30595** was still in use. The artefactual and environmental assemblages were also sparse but reflected the continuum of nearby occupation; ditch **30100** included limited ash charcoal and Period 2 coarseware in lower fill **30102**, while upper fill **30101** included sherds of Gaulish amphora (GAL AM2; Cat. no. 236) and imported coarseware pottery sherds of Period 3 date (Griffiths and Williams; Leary, Chapter 5). A similar pattern was observed in group **30898**, where lower fills included sherds from Iron Age tradition pottery including jars (e.g. Cat. no. 7) and fill **30074** of the recut southern boundary **30070** included hand-built pottery, as well as samian ware dated to c.AD50–70 and imported coarseware of Period 3 production (see Chapter 5).

Approximately 37m north of the enclosure ditch, group **30881** was a recut of ditch **30062**, which represented one of the Period 2 coaxial boundaries (see above). The refurbished feature continued to perform this function in Period 2–3 but was evidently not viewed as a suitable receptacle for refuse, containing only sherds of a butt beaker rim or small jar fabricated during period 2 or 3 (Leary, Chapter 5). Pits **30481** and **30336** (see Chapter 2) continued to be focus of disposal in the former food production zone; these must have remained open and presented an opportunity for refuse disposal, as represented by their upper fills, which contained charcoal, charred cereals and weeds, sherds of Dressel 20 MK31 amphora (Cat. no. 234) and coarseware pottery dated to Periods 2 and 3 (Griffiths and Williams; Lear, Chapter 5).

Structure 17 (group 30875)

Thirty-five metres further north of ditch group **30881**, a wide west–east boundary ditch (**30539=30749**) narrowed to the east as ditch **30506**; the change was coincident with a connection to the curving gully of Structure 17, which extended to meet it (Figs 3.75 and 3.76). The absence of domestic refuse in the ditch was in stark contrast to every feature associated with Structure 17, except for the fill of gully **30788** where the two connected. It seems reasonable to assume that these features operated together for drainage, the ditch probably maintained while the structure was occupied, a process that perhaps led to its final silty fills overlapping the south end of gully **30788**.

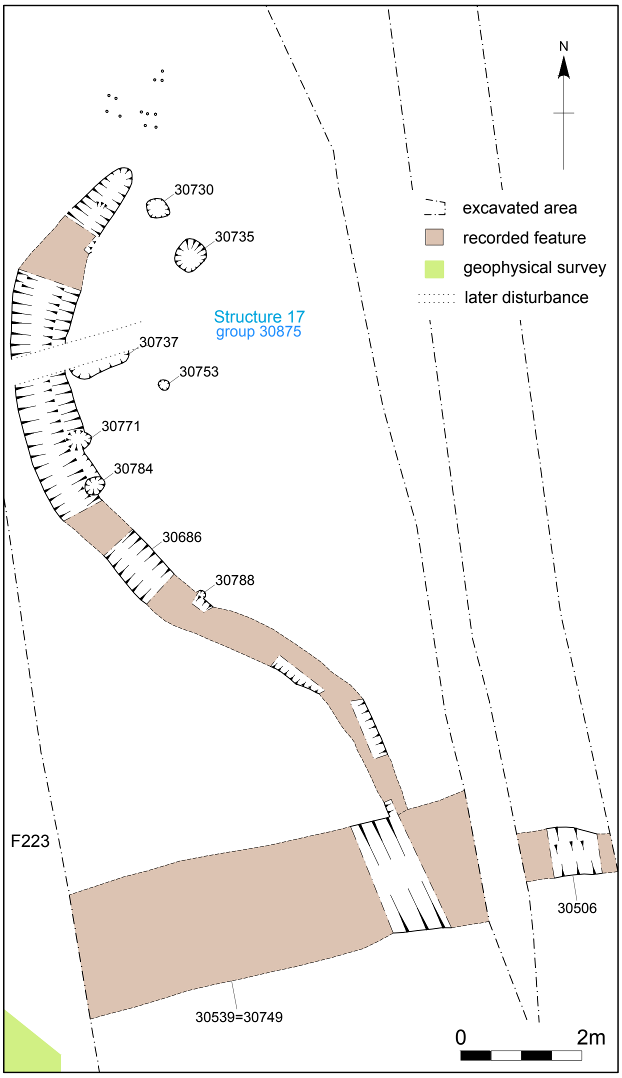


Figure 3.75: Scotch Corner: Field 223, Structure 17.

The curving gully of Structure 17 was up to 1m wide and 0.32m deep and probably represented a drainage feature with at least three structural postholes along the inside edge. The small size of the postholes suggested a substantial windbreak rather than a roundhouse, a deduction supported by the south-west arc of an incomplete circuit and the presence of an elliptical hearth (**30737**) very close to the presumed hurdle that shielded it. Artefacts and environmental remains were abundant in the gully fills, which contained field maple, birch and ash charcoal, with charred hazelnut shells, barley and spelt in fill **30687**, and traditional hand-built jars, imported coarseware and amphora sherds of Period 2 and 3 production in upper fill **30764**. Fill **30785** of the middle posthole (**30784**) in the windbreak included hand-built sherds, whereas upper fill **30773**

Figure 3.76: Scotch Corner: Field 223, Structure 17, facing east.

of posthole **30771** contained amphora and a large, flat oval stone, possibly representing a tool (Cat. no. 710; Croom, Chapter 6), which comfortably fits the palm and could have been used for pounding or grinding some of the cereals roasted in the hearth. The southern posthole (**30788**) potentially marked the end of the windbreak and was devoid of dateable materials.

Hearth **30737** survived as a sub-rectangular area of heat-affected natural clay that contained charred wheat and spelt grains amongst charcoal exclusively from birch. Good heat and a rapid burn might have been particularly desirable properties were birch chosen specifically for the activity at Structure 17. This possibility is made more likely by the variety of species represented in other features, such as the alder or hazel, ash and oak in fill **30754** of adjacent small posthole **30753**, and the oak in fill **30736** of posthole **30735**, which also contained charred spelt and wheat from the hearth, as well as soft rye, brome and grasses, and sherds of hand-built pottery. The only example of stonefruit charcoal came from fill **30731** of adjacent posthole **30730**, which, along with **30735**, perhaps represented an extension of the windbreak to shelter the north side. The form of Structure 17 was very similar to that of OA roundhouse 14001 at site SCA15 (Zant *et al*. 2013b, 60–1), which was associated with features that contained a similar mixture of traditional and imported vessels dating from after AD65.

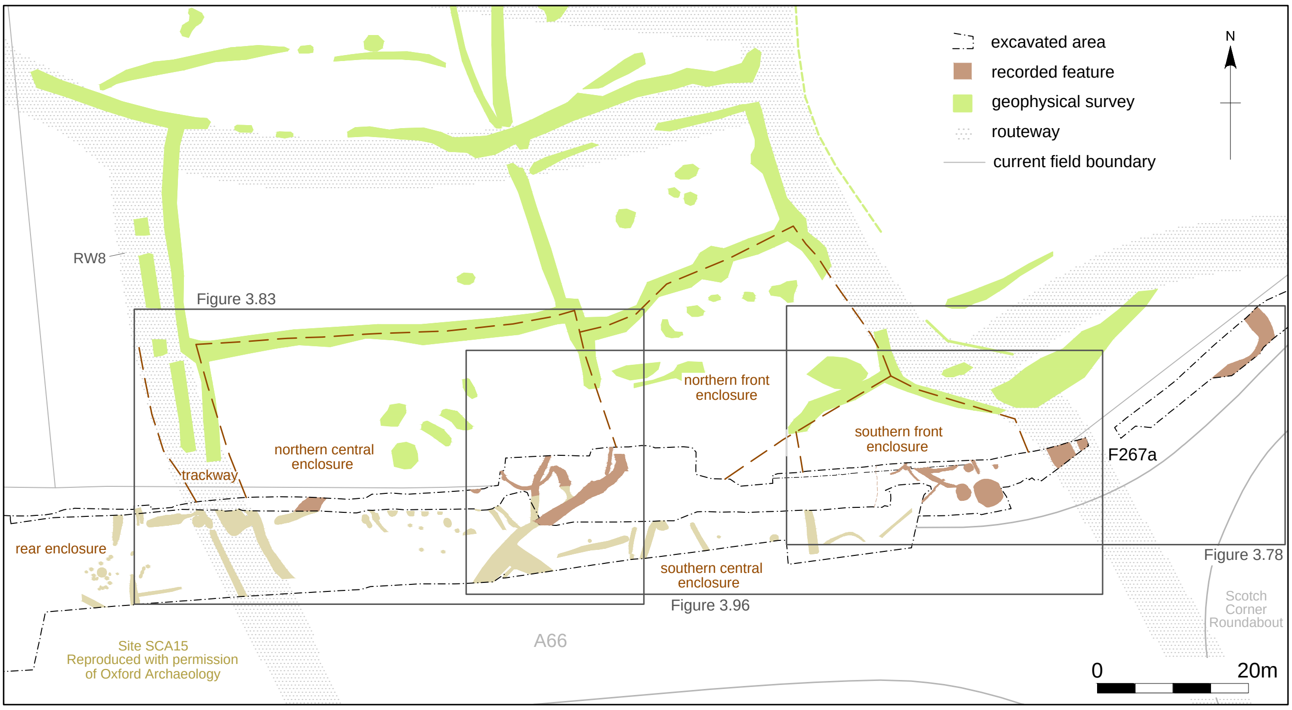


Figure 3.77: Scotch Corner: Field 267a, overview of Period 2–3 and Period 3 features.

The only evidence for activity in the coaxial enclosures north of Structure 17 came from samian ware and imported coarsewares recovered from the top fill (**30829**) of west–east aligned ditch **30826** (Fig. 3.41), at the very north end of Field 223. This feature probably originated in Period 2, as suggested by the exclusively Period 2 imported coarseware in secondary fill **30831**, and continued infilling into Period 3, although the source of the material remains unknown.

Field 267a: the nucleated enclosures

The southern front enclosure

In the otherwise empty area to the east of the southern front enclosure, hollow-way **32465** (RW7; Fig. 3.1) was probably still in use when the eastern enclosure boundary was recut as ditch **32468**, which remained open into Period 4 (Fig. 3.78). The ditch was used increasingly for the disposal of domestic refuse; only charred barley came from its lowest fill, while secondary fill **32472** included hazel and dogwood or guelder-rose charcoal and imported coarseware pottery that was either of mid-1st century AD production. Upper fill **32471** included ash and guelder-rose charcoal, a rare example in the nucleated enclosures of samian ware dated after c.AD45, sherds of imported pottery produced in Periods 2, 3 and 4. But most instructive was the possible metalworking waste in a pit, and the charred barley, spelt and spelt chaff, found with unidentifiable cereals and grass.

The origin of the manufacturing and domestic refuse and cereal processing remains was probably Structure 24 (group **33106**) a short distance to the west, although other potentially associated features were clustered around well **31848**, which was contemporary with a disturbed soil horizon (**32402**). The horizon was rich in organic remains including charcoal, charred spelt and spelt chaff, barley, vegetable remains and possible

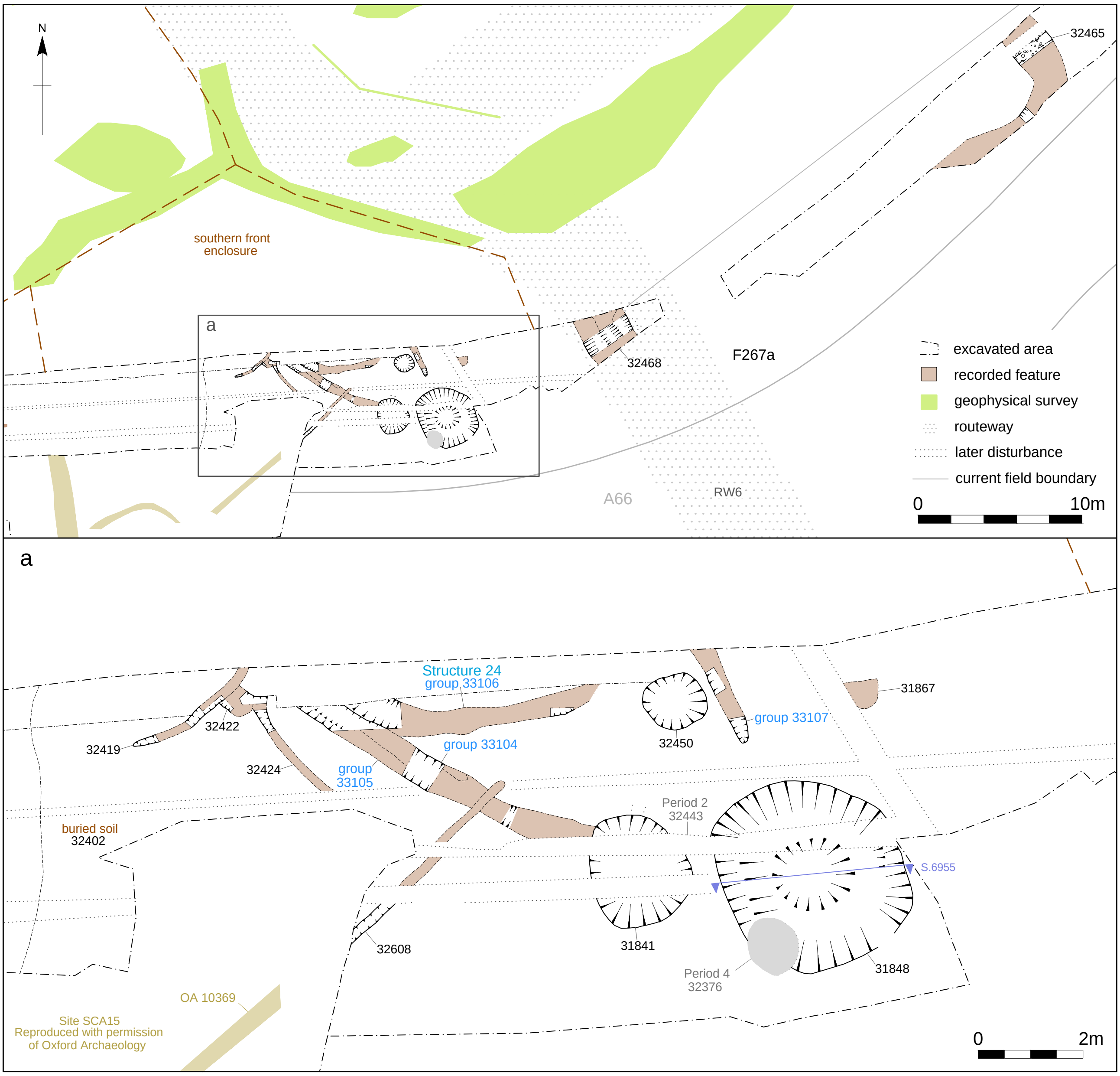


Figure 3.78a–b: Scotch Corner: Field 267a, southern front enclosure, Period 2–3 features.

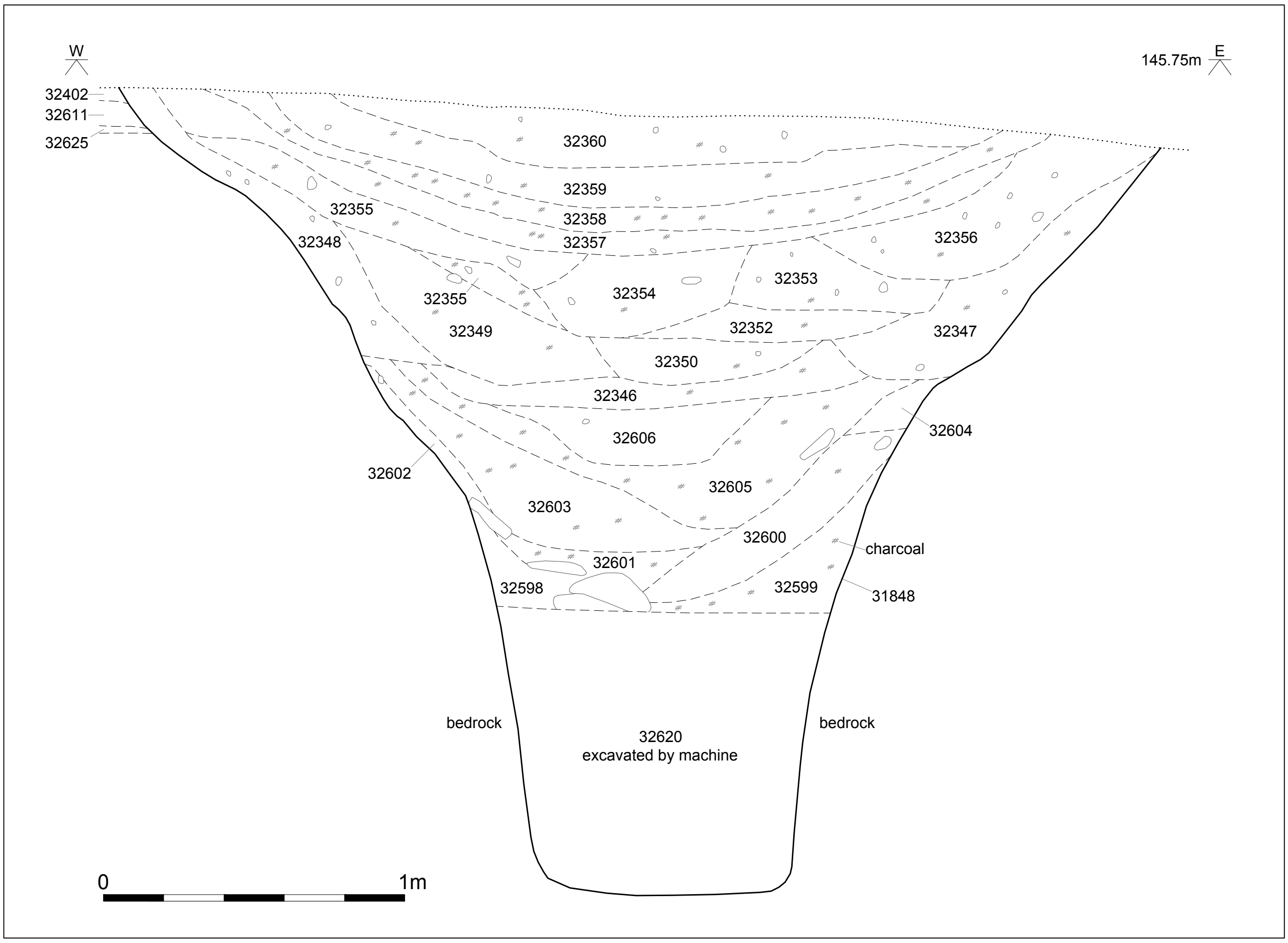


*Figure 3.79: Scotch Corner: Field 267a, section of well **31848**.*

fodder, and also contained pottery sherds including examples from Cam139v 'black sand' amphorae (Cat. no. 232) produced in the Bay of Naples between 20BC and AD80 (Griffiths and Williams, Chapter 5). The spread indicates that the area around the well was a focal point of habitation and food production in the southern front enclosure; it was presumably the frequency of use that prompted the occupants to consolidate the surrounding ground with gravel (**32555**).

Well 31848 and associated features

Well **31848** probably originated with the development of the nucleated enclosures in Period 2 (see above), but infilling continued into Period 3 with occupation of the enclosure (Figs 3.78, 3.78a). The sub-square feature was 3.5m across at ground level. It had steeply sloping sides that reached a near-vertical sub-circular shaft cut through the natural boulder clay and penetrated the water table at a depth of 2.6m (Fig. 3.79, section 6955; Fig. 3.80). The deepest clay-silt deposits were machine-excavated, but some animal bone and charred grass were recovered. Additional animal bone was accompanied by sherds of imported Period 2 pottery, which appeared one-third of the way up the sequence in fills **32603**, **32605** and **32346**. Above these, small quantities of charcoal came from **31850** and more animal bone in **32352**, while Period 2, 3 or even early 4 production was incorporated into fill **32354**, along with sherds of hand-built vessels. Subsequent deposits contained only Period 2 pottery. On the south-west arc of the well, refuse pit **32376** was cut into the upper fills (Fig. 3.78a). It was approximately circular, with a diameter of 1m and depth of 0.45m. Primary fill **32377** included charred spelt, and upper fill **32378** contained imported Period 2 and 3 coarseware pottery.

Another feature close to the well was a possible hearth base of burnt natural clay (**31867**) that lay a short distance east of shallow flat-bottomed pit **32450**, which was c.1m sub-square and contained one of the densest assemblages of combusted organic remains at the settlement. The primary fill (**32449**) included heather charcoal, which might have once been used for kindling, but the dark colour was mostly cause by charred spelt and spelt chaff, barley, sedge, rye, other foodstuffs and weeds (Fig. 3.81). In addition to the evidence for processing and food production waste, the deposit contained undiagnostic slag that probably derived from a metallurgical process and fragments of fired clay (Mackenzie, Chapter 7). Upper fill **32435** contained an even richer mix, including heather and hazel charcoal, charred wild oat, spelt and sprouted spelt, barley, and a hazelnut shell, amongst a plethora of other plant remains and coarseware pottery of the period.

A deep, approximately circular pit (**31841**), with a diameter of 2.1m and depth of 1.4m, was located immediately west of the well (Figs 3.78a, and 3.82). The steep sandy sides had collapsed once it had been

*Figure 3.80: Scotch Corner: Field 267a, well **31848**, facing north.*

partially infilled, but otherwise the deposits demonstrated episodic disposal of animal bone interspersed with periods of silting or backfilling. This was, perhaps, the only instance of purposeful animal bone disposal without accompanying pottery in the Late Iron Age settlement, which suggests that the pit was designated for processed animal remains, particularly sheep in secondary fill **31617**. A feature of similar form and with equally organic-rich fills was observed in a service trench cut across the northern central enclosure and seemed to accompany the focus of occupation within that area (not illustrated; NAA 2020). Pit **31841** was connected to a drainage system that incorporated gully groups **33105**, which declined from Structure 24 towards the well, and gully group **33107** to the east, while fence-line **32608** (OA 10369) ran from gully **33105** to the south-west. This fence-line was perhaps a replacement or addition to Period 2 gully group **33103**, which probably connected with a roundhouse (OA 10370; see above) and formed an insubstantial subdivision of the enclosure's interior. On the north-west side of the well, another section of palisade trench (**32443**, group **33104**) also contained

*Figure 3.81: Scotch Corner: Field 267a, base fill **32449** in pit **32450**, facing east.*

*Figure 3.82: Scotch Corner: Field 267a, pit **31841**, facing north.*

Period 2 pottery in fill **32445**, the only remaining deposit in the original feature that later extended north-west to connect with the drip gully of Structure 24 and spanned Periods 2 and 3.

Structure 24 (group 33106)

The southern arc of Structure 24 was represented by curving drip gully **33106**, which looped from the northern edge of the excavation area and measured 0.82m wide by 0.28m deep (Fig. 3.78). Upper fill **32457** contained a rich assemblage of charcoal and charred plant remains that was similar in composition to those in contemporary features around the well. The presence of spelt chaff indicated occupation at the time of cereal processing, while the sherds of butt beaker, Dressel 20 amphora and Italian wine amphorae demonstrated the inhabitants' ability to occasionally acquire imported commodities to supplement their traditional staple diet (see Chapter 5). Immediately west of Structure 24, pit **32422** cut through buried soil **32402**. It was in turn cut by narrow north-west to south-east aligned gully **32424**, and to the west by curving gully **32419**, both of which could have once been fence-lines; the curve of the latter was suggestive of an association with a putative roundhouse outside the excavation area.

The northern central enclosure

Recutting of the north-east corner of the central northern enclosure was represented by ditch group **32648** (Fig. 3.83; OA 10377), which probably continued the course of its Period 2 predecessor (ditch **32290**; see above). The ditch was filled initially with redeposited natural clay, perhaps derived from a former adjacent bank, but primary fill **32276** included heather and oak charcoal, and a range of charred foodstuffs, cereals, and processing remains in the form of spelt chaff. Upper fills **32282** and **32291** also contained charcoal, charred cereals and arable weeds, but no chaff, while fill **32282** included animal bone and imported coarseware of Period 2 production. The domestic debris deposited in the ditch presumably came from the occupants of Structure 27 (group **32643**), which was constructed on the cleared plot of Period 2 Structure 26 (see above). Gully **32240** traced the curving west side of ditch group **32648** and may once have been associated with a structure of uncertain form. Fill **32285** included oak charcoal, charred spelt grains and the only briquetage from the A1 scheme excavations in Field 267a (Britton, Chapter 5), although other discoveries of the same material came from nearby features from site SCA15 on the A66 scheme (see above; Zant *et al*. 2013b, 82–3) and at the adjacent Scotch Corner Hotel site (Willis 1995), which was nearer the concentration of briquetage in Field 223 (see above and Chapter 2).

Structure 27 (group 32643)

Only the south side of Structure 27's hurdle trench (group **32643**) fell within the excavation area and no drip gully was evident (Fig. 3.83). The interior had a projected internal diameter of c.7m and no surviving post settings. Charcoal and charred plant remains were consistent with assemblages of the area as was the modest selection of samian ware sherds and imported coarseware produced in the Periods 2 and 3, examples of which came from fill **32205**. The same deposit also contained fragments of fired clay and some slag (RF13382, not catalogued; Appendix I) that potentially derived from ferrous metal production (Mackenzie, Chapter 7). Considered with the possible metalworking waste in pit **32450** (see above), the material indicates that the range of activities in the nucleated enclosures diversified in the time spanning Periods 2 and 3, any evidence for metalworking in previous periods being concentrated in the workshop enclosure in Field 246.

At the same time as Structure 27 was occupied, the eastern side of Period 2 Structure 26 appears to have been recut as feature **32229** (OA 10378), with a northern terminal that coincided with a possible east-facing

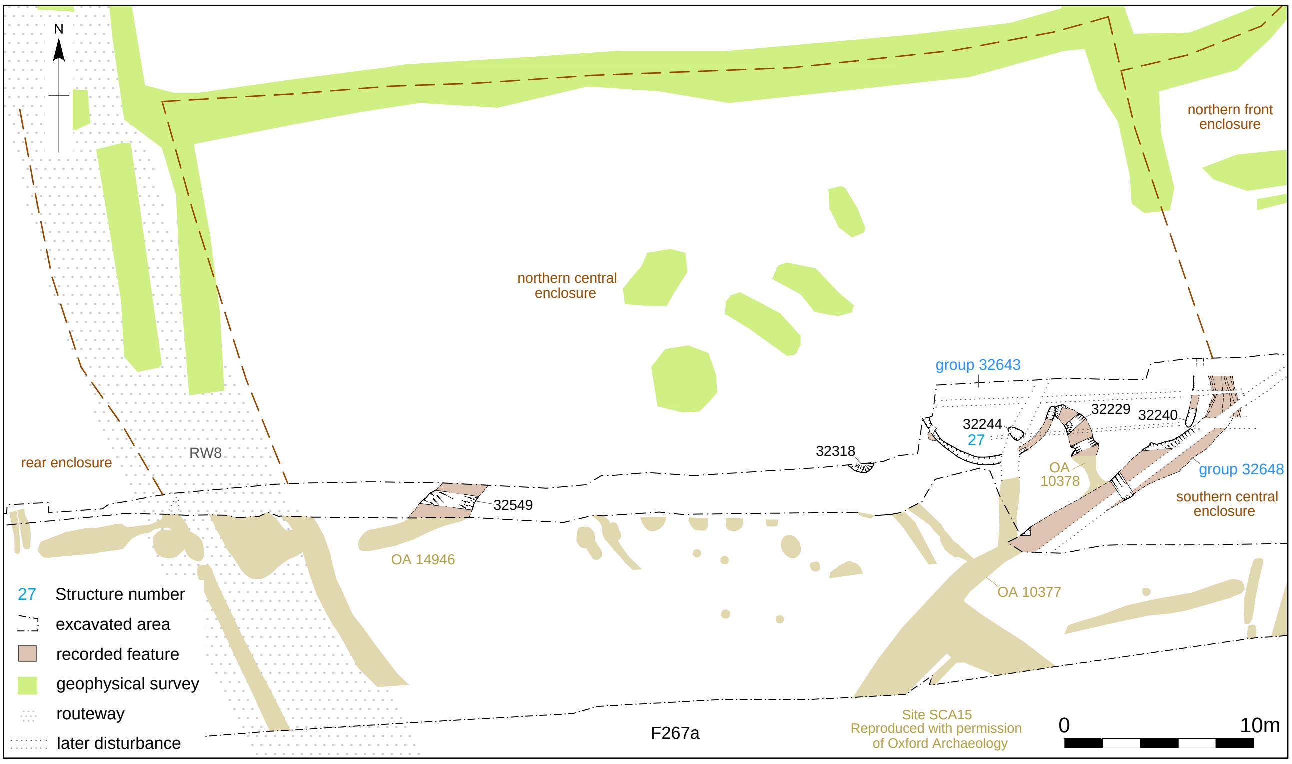


Figure 3.83: Scotch Corner: Field 267a, northern central enclosure Period 2–3 features and routeway RW8.

entrance terminal of Structure 27. From there, feature **32229** continued the former drip gully's course and incorporated a layer of stones that was introduced to consolidate the widened and flattened base. Zant *et al.* (2013b, fig. 57) showed that, in the A66 excavation area, this feature narrowed before it connected with enclosure boundary ditch group **32648** (OA 10377), although there was no certainty regarding its purpose. For whatever reason, use of the consolidated surface does not appear to have lasted long, as demonstrated by the dumps of burnt material that filled it, which presumably related to food production for inhabitants of the adjacent roundhouse or others nearby. The bottom organic-rich fill (**32256**) included charred weeds and unidentifiable cereal grains mixed with oak, pomaceous and heather charcoal, the latter providing a radiocarbon date range of 60 cal BC–cal AD80 (95.4% probability; SUERC-84006), which was refined in the Bayesian model to the first half of the 1st century AD. Upper fill **32228** contained Period 2 imported pottery, including sherds of butt beaker and a round bodied beaker, as well as animal bone, and ash and oak charcoal, along with a rare addition of beech. The charred plant remains also demonstrate that barley processing and food production occurred nearby as both grains and chaff were present, as was spelt and rye and other incidental inclusions. Proximity to the structure and the density of charred remains might be taken as evidence that feature **32229** was somehow directly related to processing; the pebble base was perhaps used as a threshing or washing floor, with the unwanted residue issuing into the boundary ditch.

Inside the circuit of Structure 27, charcoal and charred barley and spelt in fill **32257** of pit **32244** was likely to be directly associated with occupation and food production. Less than 4m to the west, pit **32318**, measuring 1.4m in diameter and 0.68m deep, was also evidently used as a repository for domestic refuse from Structure 27, with oak charcoal present in each of its fills. The primary silty fill (**32321**) included charred spelt, legumes, cereals and grasses, while the second (**32322**) also included charred barley, as well as Period 2 and 3 coarseware pottery sherds, and sherds of mortaria from Northern Gaul and Scotch Corner (Griffiths and Williams, Chapter 5). Charred spelt and barley were present in upper fill **32323**.

Disposal of domestic refuse continued into Period 3 at the rear of the central northern enclosure, where charcoal, charred food remains and sherds of Period 2 and 3 imported pottery were deposited variously in upper fills **32309**, **32311** and **32313** of curving ditch **32549** (OA 14946). The feature was probably already in use as a subdivision during Period 2 (see above), and presumably continued to be a convenient receptacle for domestic waste produced in the space between it and the east side of trackway **32327** (RW8; see above).

PERIOD 3 (c.AD55–c.AD70)

The relatively small number of features attributed to Period 3 demonstrate how activity relating to habitation, metalworking and food production appears to have contracted inside the A1 scheme excavation area, although the short period witnessed increasing consolidation and formalisation of the routeway infrastructure, commensurate realignment of some enclosures, and the introduction of a proto-ladder system respecting routeway alignments. The pottery arriving during Period 3 represented a move away from the Gallo-Belgic imports that characterised Period 2, towards importation of distinct Roman forms, which belonged to assemblages that were essentially military in character (Leary, Chapter 5) and potentially represent early troop deployments. Ceramic deposition was common in the coaxial enclosures in Fields 223 and 228 and the nucleated enclosures in Field 267a, although it was clear from the types of vessels present that activity at these locations was now peripheral to any focus of activity (*ibid*.). The largest pottery assemblages came from Field 246, which was characterised by a substantial increase in the number of wine and oil amphorae arriving at Scotch Corner, and a demonstrable shift from Italian to Gaulish wine (Griffiths and Williams, Chapter 5).

At the same time, the first mortaria known at the settlement arrived from Gaul, and others were also possibly produced locally in the same style. Their presence and provenance are crucial for understanding production and supply mechanisms at Scotch Corner in the AD60s, which appear to reflect and respond to Roman military presence (*ibid*.), which is supported by the Bayesian chronological model (Hamilton, Chapter 9). The same phenomenon was also evident in the increasing and diversifying vessel glass assemblage, which could also reflect Roman military presence in the later years of Nero's reign. However, as pointed out by Cool (Chapter 5), any Roman presence from the Claudian conquest onwards at Scotch Corner was likely to have been military, even if in an administrative or diplomatic role. While changes in the imported goods and supply mechanisms perhaps signify Roman military presence in the AD60s, this need not represent military conquest, although it may have been associated with a weakening client arrangement, commensurate intensification of activity at Stanwick, and increasing civil unrest in the wake of the Boudican revolt in AD60/61.

Field 246

Decline of the workshop enclosure and development of a ladder system

The decline of pellet production and other crafts in the workshop enclosure was commensurate with reconfiguration of the area into a developing ladder enclosure system during Period 3. Although there were few definable cut features, artefactual assemblages signify that nebulous activity continued in the form of refuse disposal and redistribution of soils rich with artefacts and environmental remains deposited earlier. The definable developments included extension of the south-east enclosure boundary as ditch and parallel hollow-way **24042=24269** (RW4; Figs 3.84 and 3.85), and refurbishment of the workshop enclosure's north-east side, represented by ditch **15859**; Fig. 3.84). RW4 joined with the north-east side of the north-west routeway corridor (RW5; groups **31285** and **31286**), which curved to the north-west (Fig. 3.85) and connected with the first aggregate iteration of the south–north routeway (RW3), a precursor of Dere Street to the north (RR10; see Chapter 4). This junction and network of routeways formed the framework for the proto-ladder enclosure system that developed alongside them and superseded the former workshop enclosure.

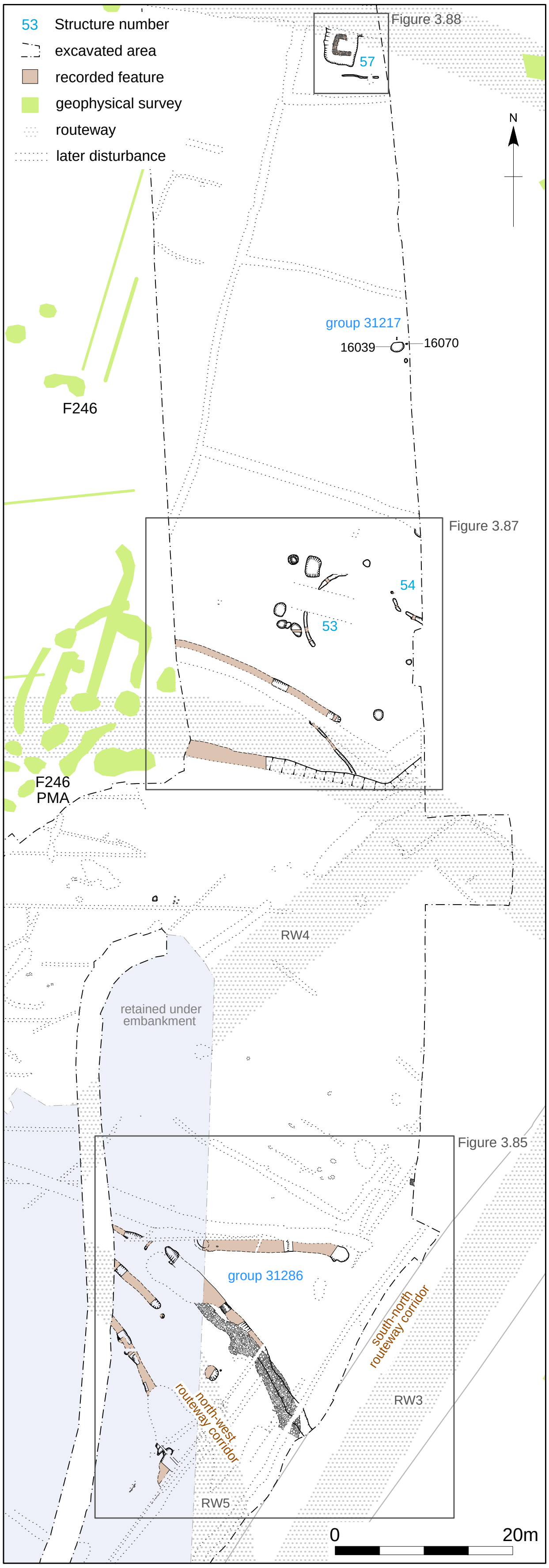


Figure 3.84: Scotch Corner: Field 246, overview of Period 3 features.

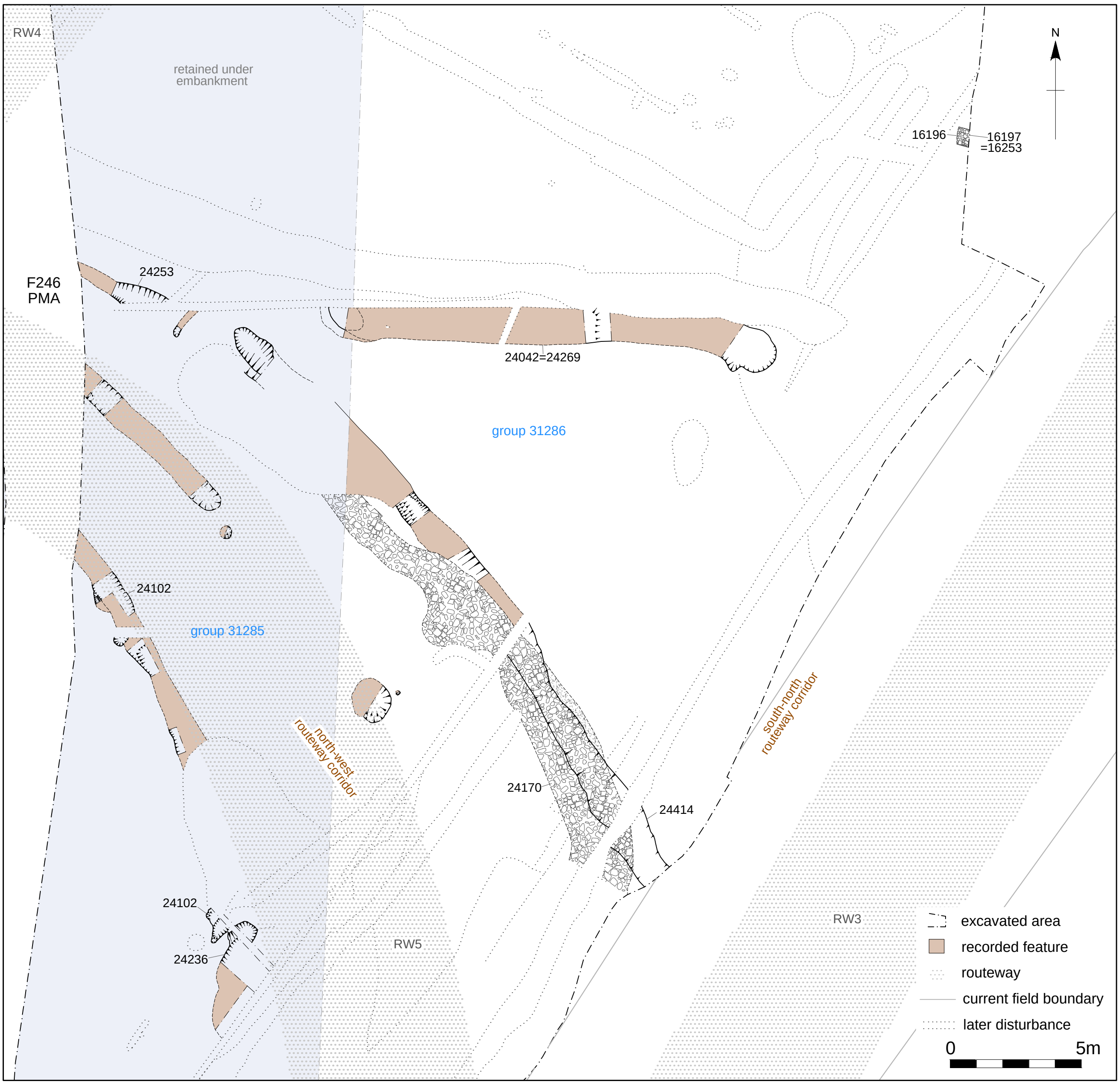


Figure 3.85: Scotch Corner: Field 246, routeways RW3 and RW5.

RW5: the north-west routeway corridor

A routeway to the north-west (RW5) had existed for as long as the workshop enclave and enclosure (see Chapter 2, and above). Its expansion and maintenance during Period 3 confirmed the increasing significance of transportation within the settlement and between Scotch Corner and its destinations, which were presumably Melsonby and Stanwick. The importance of this route continued during and after the Roman conquest when it was formalised as road RR7 (see Chapter 4). During Period 3, the extant boundary and hollow-way **24042=24269** became the north-east limit of a routeway junction (group **31285**; Figs 3.85 and 3.86) that widened from c.10m to c.16m to connect with the Period 3 south–north routeway (RW3; **16196** and **16197=16253**; see below). The south-west side of the routeway junction was similarly formed with ditches, hollow-ways and gravel and cobbled surfaces, which survived in patches across the widening junction. Amongst the trampled, truncated and mixed deposits associated with RW5, one of the associated ditch terminals (**24253**) included a sealed context (**24254**) containing charred wheat and charcoal suitable for radiocarbon dating; a sample of ash charcoal provided a date range of 50 cal BC–cal AD90 (95.4% probability; SUERC-84014), which was refined in the Bayesian model to a c.50 year period around the mid-1st century AD (Hamilton, Chapter 9). Sherds of a mid-1st century blue/green Hofheim cup (Cat. no. 640; Cool, Chapter 5) came from fill **24248** of adjacent ditch **24102**, while the wider group (**31285**) was characterised by hazel, oak and ash charcoal and Period 3 pottery, including flagon sherds, Dressel 20 amphora and samian sherds dated to AD45–90 (see Chapter 5).

The best-preserved example of a continuous routeway surface was a ribbon of aggregate (**24170**; Fig. 3.85), which was the only iteration that survived sufficiently unscathed to demonstrate a sharp southward curve where it joined the precursor of Dere Street in the south–north routeway corridor (Fig. 3.84). At the junction there was frequent evidence for deposition

*Figure 3.86: Scotch Corner: Field 246, routeway RW5, hollow-way group **31285**, facing south-east.*

of occupation materials and imported vessels, which were incorporated into many of the features lining the routeways, and sometimes into the fabric of aggregate tracks and roads. It has been suggested by Leary (Chapter 5) that the imported ceramic wares developed a Roman military character during Period 3. Such a distinction was perhaps also apparent in the arrival of the glass Hofheim cups, which probably travelled with the incoming Roman contingent, rather than with Period 2 imports destined specifically for native inhabitants (Cool, Chapter 5). The early association between Period 3 vessels and the routeways, at a time when they were being reinforced and formalised, suggests Roman influence and presence, although the form and intention remain uncertain.

RW3: the south–north routeway corridor

It was evident from the Period 1–3 hollow-way **31728** that struck north-east from the junction in Field 265 (see Chapter 2), and from small-scale investigations in Field 246, that the antiquity and sequence of development of the south–north routeway (RW3) was complementary with that of the routeway to the north-west (RW5; Fig. 3.84), representing an evolving network. In Period 3, the surface of the RW3 was refurbished with gravel aggregate **16197**=**16253** (Fig. 3.85), which was adopted as the foundation for Roman Dere Street to the north a short time later (RR10; see Chapter 4). In addition to an iron staple (Cat. no. 845; Croom, Chapter 6), sherds of ceramic vessels were incorporated into the fabric and surface of the Period 3 routeway during this crucial phase in the development of the south–north routeway. The assemblage included sherds of Gallic wine amphora and Dressel 20 oil amphora and small very abraded scraps of samian Dr.27 cups, and two Dr.18 dishes (Griffiths and Williams and Monteil, Chapter 5), most of which were produced between AD45 and AD90, while the Gallic amphora may give a *terminus post quem* of c.AD60, as they are usually dated after the Boudican revolt in Britain (Griffiths and Williams, Chapter 5). This unusual opportunity means it is possible to propose that, like the north-west routeway, the south–north routeway was both refurbished and used at a time when artefacts usually associated with the Roman military were being used and discarded, and Nero was Emperor.

The north-east side of the workshop enclosure

On the north-east side of the workshop enclosure, ditch **15859** followed the course of the Period 2–3 iteration of the boundary (Fig. 3.87), kinking north-east along the south-east boundary as it passed the location of 'well'

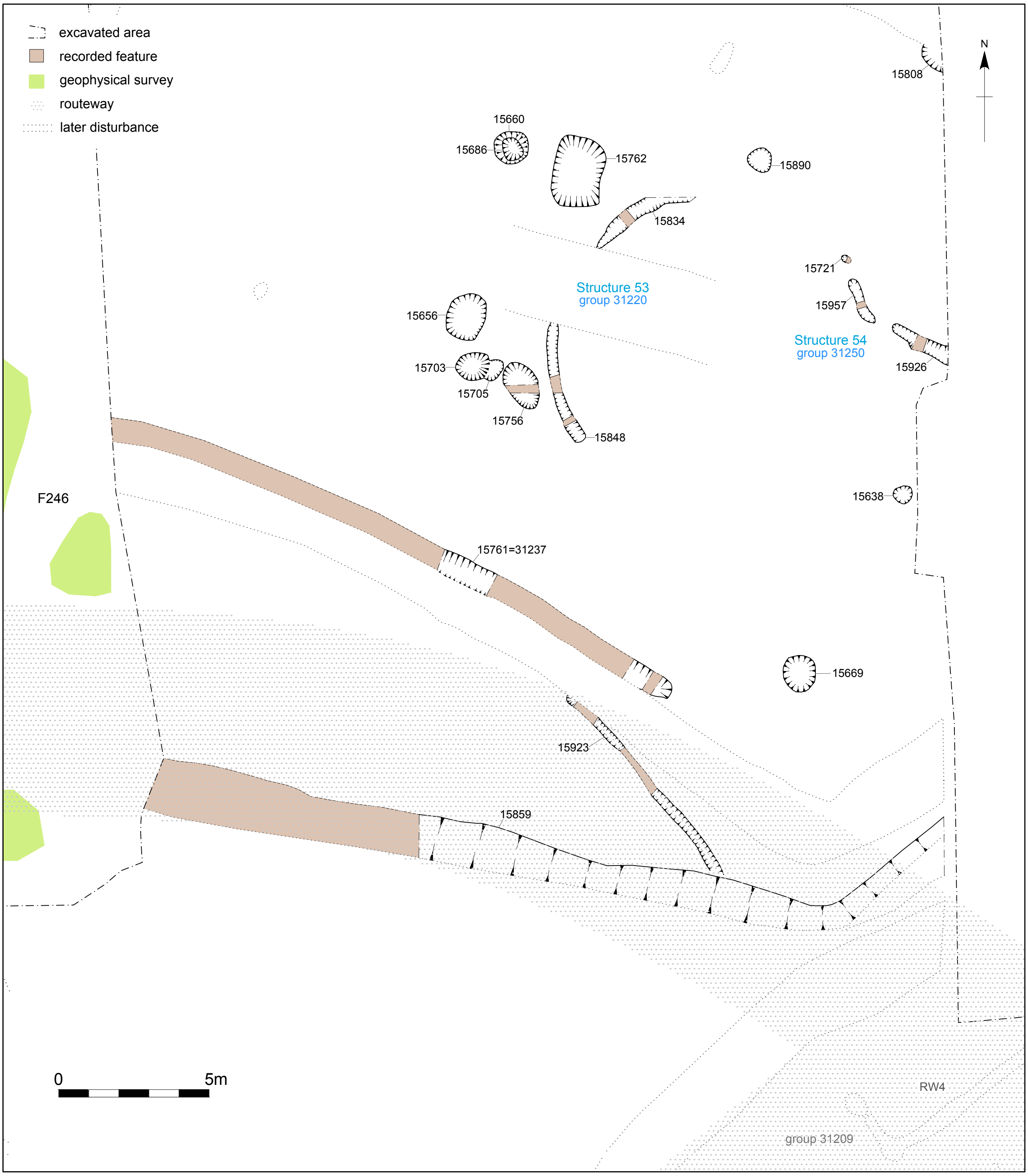


Figure 3.87: Scotch Corner: Field 246, Structures 53 and 54 and associated features.

24297. In common with earlier features, sections of ditch **15859** excavated near the western edge of the excavation area contained fewer artefacts and less by way of charred environmental remains. Concentrations of finds were greatest over earlier pellet mould pit **24296** (see above), where fill **24299** included fragments of pellet mould (RF11458). Equivalent deposit **24201** contained additional pellet mould, as well as fragments of fired clay and industrial waste (RF10194, not catalogued; Appendix I), while **24298** included a small sample of natural azurite (Beeby, Chapter 9) which could have been purposefully collected, and also boasted a wide range of Baetican Dressel 20 amphora, samian ware and coarseware vessel sherds, in addition to fragments of undiagnostic ceramic building material, fired clay, animal bone, residual pellet mould fragments (RF11517), a lead loop (Cat. no. 854), and fragments of the substantial part of a blue/green ribbed mould blown cup (Cat. no. 614), with additional sherds (Cat. no. 614) recovered from overlying mixed layer group **31207**, which incorporated Period 4 materials (Cool, Chapter 5).

Imported coarsewares and sherds of a Dr.30 decorated samian ware bowl (Cat. no. 18; Monteil, Chapter 5) produced between AD45 and AD110 were found in fill **15897** beyond the dog-leg to the north-east, along with a small quantity of possible metallurgical slag (RF10157, not catalogued; Appendix I), pieces of fired clay, and a large assemblage of pellet mould fragments (RF10142, RF10157 and RF10159). A complete samian ware Dr.18R plate (Cat. no. 24) stamped with 'Severus iii', the maker's name, was found in upper fill **15505** and dated from c.AD65–95 (Monteil, Chapter 5), which certainly suggests that upper fills were starting to receive refuse that was produced in the latest years of Period 3 and were capped with deposits derived from Period 4 activity (see Chapter 4).

Structure 53 (group 31220)
Increasing adoption of rectilinear enclosures along the south–north routeway corridor during Period 3 was demonstrated immediately north of the workshop enclosure around Structures 53, 54 and 57. Delimiting the south-west side of their enclosure, south-east to north-west aligned ditch **15761=31237** represented a deviation from the system of rectilinear enclosures introduced south-east of the workshop enclosure in the Period 2–3 transition (see above), with a new 'roadside' alignment running almost perpendicular to the routeway corridor that was to become Dere Street. It might be significant that ditch **15761=31237** terminated before reaching the corridor, as if representing the first tentative steps towards the new system, the boundary being extended by fence-line trench **15923** (Fig. 3.87).

However, ditch **15761=31237** not only set the precedent for the later roadside enclosures but also for the approximate dimensions of their boundary ditches, which were typically far less substantial than those of the workshop enclosure and many of those forming the nucleated and coaxial enclosures. The ditch dimensions, which were widely adopted in the enclosure systems of Period 4, measured c.1m wide and c.0.3m deep, with steeply sloping sides (see Chapter 4). No finds were recovered at the north-west rear side of the enclosure, but near its south-eastern terminal, closer to Structure 53 and 54, silty clay fill **24615** included Period 3 coarseware and sherds from a 'carrot' amphora (Cat. no. 287) produced in the Eastern Mediterranean between AD20 and AD100 (Griffiths and Williams, Chapter 5).

The trench of fence-line **15923** extended from ditch **15761=31237**, arcing towards the south as if to meet right-angled fence-line and posthole group **31209** beyond the former north-east corner of the workshop enclosure. In combination, these fence-lines contained coarseware pottery of Period 3 production and relate to the contemporary enclosure around Structures 53 and 54, but evidently became incorporated into the Period 4 roadside system (see Chapter 4). The undamaged large millstone grit rubber (Cat. no. 866) in fill **15924** of fence-line **15923** belonged to the regional prehistoric tradition and had possibly experienced some secondary reuse as a saddle quern (Cruse, Chapter 6). Its position in the boundary fence-line suggests that it derived from activity in Structure 53 or 54, although evidence for cereal-based food production was minimal; the charred wheat found with animal bone and charcoal in fill **15639** of pit **15638** was one of the few examples. Also, close to the south-west boundary, pit **15669** was 1.5m long by 0.9m wide and 0.26m deep. Primary fill **15670** contained sherds of samian ware dated to AD45–90 and contemporary coarseware, while upper fill **15671** included Period 3 coarseware, fragments of fired clay, charcoal, and charred remains of the edible leaf, goosefoot; the latter was strangely common in the enclosure.

The structural evidence for Structure 53 was restricted to two segments of curving gully (**15834** and **15848**, group **31220**) on the north-western arc of a roundhouse (Fig. 3.87). Both gully segments were badly truncated, but the remaining profile suggested a drip gully, which accorded with the projected diameter of c.11m. What remained of the fills contained Period 3 coarseware pottery sherds and a small quantity of daub, while the dominant charcoal species were ash and pomaceous wood, with an example of oak. Charred goosefoot found here and in adjacent pits might suggest its inclusion as a leaf vegetable in the diet, rather than as incidental inclusions. Other substantial assemblages of occupation debris came from 11 pits in the enclosure, eight of which (**15656**, **15660**, **15686**, **15703**, **15705**, **15756, 15762** and **15890**) were located outside the north-west arc and were thought to be directly associated with the occupation of the structure.

To the immediate north, sub-circular pit **15890** was c.0.8m across and 0.12m deep with a fill (**15891**) that contained oak charcoal, charred grass and Period 3 coarseware sherds. The largest pit was **15762**, which was sub-rectangular in plan, measuring 2.3m long by 1.6m wide and 0.5m deep, with steeply sloping sides. Primary fill **15763** contained an assemblage of coarseware vessel sherds of probable Neronian period production, fragments of animal bone, oak and ash charcoal, some charred sedge and barley grains, which provided a radiocarbon date range of cal AD1–130 (95.4% probability; SUERC-84013), which was refined in the Bayesian model to a c.50 year period centred on the mid-1st century AD (Hamilton, Chapter 9). Secondary fill **15783** also contained coarseware of the same date, animal bone, an iron nail and glass sherds of a blue/green 1st-century AD pillar-moulded bowl of a variety that was apparently more popular before c.AD60 (Cat. no. 611; Cool, Chapter 5). The upper fill (**15764**) contained more domestic debris, including sherds of samian ware of Neronian period production and a sherd of Scotch Corner type mortaria (Cat. no. 306; Griffiths and Williams, Chapter 5).

Approximately 1m to the north-west, pit **15686** was oval, measuring 0.77m long by 0.64m wide. Its remaining fill (**15687**) was devoid of dateable finds. The upper part of the feature had been mostly removed by pit **15660**, which was shallower at 0.32m, but had a larger diameter of 1.14m and was located centrally over pit **15686**. Its primary fill (**15668**) had inclusions of charcoal and contained fragments of slag and undiagnostic ceramic building material, as well as pieces of animal bone and terrestrial molluscs which were diagnostic of humid environments (Russ, Chapter 8). By the time secondary fill **15661** was deposited, the molluscs demonstrate that both dry and humid environments were experienced locally, with grass and woodland nearby (*ibid*.). The same deposit contained animal bone and additional remains of charred goosefoot. On the south side of a medieval plough furrow, pit **15756** was a 1.7m long irregular oval shape that was 0.22m deep. An assemblage of pottery was recovered from its single fill (**15757**), which contained charred ribwort plantain, a weed of cultivated land and presumably an incidental inclusion when cereals were roasted elsewhere.

To the immediate north-east, pit **15705** was 0.8m long and had been cut by later pit **15703** on its west side. The earlier feature contained only charred goosefoot, whereas pit **15703** was larger, measuring 1.1m long by c.1m wide by 0.42m deep. Its fill (**15704**) contained flecks of ash, oak and pomaceous charcoal, pieces of animal bone, and an iron nail, as well as Period 3 coarseware and sherds of locally produced Scotch Corner G237v form mortaria made between AD60 and AD90 (Cat. no. 305; Griffiths and Williams, Chapter 5). Approximately 0.5m to the north was pit **15656**, which was large in plan (1.58m long by 1.3m wide) but only 0.2m deep, with a flat base and a single fill (**15657**) that contained Period 3 coarseware and samian ware dated to AD45–90, charred barley grains, some goosefoot and weeds. Fragments of pomaceous wood, elm, and oak charcoal were accompanied by stonefruit, which provided a radiocarbon date range of 40 cal BC–cal AD130 (95.4% probability; SUERC-84012), which was refined in the Bayesian model to a c.50 year period centred on the mid-1st century AD (Hamilton, Chapter 9).

Structure 54 (group 31250)

In the absence of a demonstrable north-east boundary for the enclosure, it is possible that pit **15808** was a component in an informal boundary that subsequently influenced the course of the Period 4 roadside enclosure boundary ditch, which partially removed the pit (see Chapter 4). The position of the pit suggested an association with Structure 54, which was presumably the source of discarded sherds of a samian ware Dr.27 cup (Cat. no. 26) produced c.AD45–110 (Monteil, Chapter 5) and coarseware pottery sherds in upper fill **15809**. Structure 54 (group **31250**; Fig. 3.87) was represented by two curving gullies (**15926** and **15957**) and a posthole (**15721**). The features formed a discontinuous arc with a projected diameter of c.11m. The putative structure had a marginal overlap with the projected circuit of Structure 53, making coexistence unlikely, given the interpretation of the curving gullies as drainage features rather than structural trenches, but not impossible. As might be expected from the severely truncated fills, finds were scarce in the gully and restricted to sherds of samian ware dated to AD45–90, undiagnostic Roman coarseware and fragments of ash, oak and pomaceous charcoal, as was the case around Structure 53.

Although constructed in the roundhouse tradition, Structures 53 and 54 differed in several respects; they were amongst the only examples associated with the evolving rectilinear enclosures system, and they were the only structures with adjacent refuse pits containing evidence for occupation when imports of Period 3 production were in circulation at Scotch Corner. Paired with the absence of hand-built pottery, which was in rapid decline during Period 3 (Cumberpatch and Leary, Chapter 5), the presence of fine tablewares, glass, iron nails, and ceramic building materials, suggest that, for a short time at least, the occupants enjoyed access to certain luxuries that were commensurate with their location between the old economic metalworking heart of the settlement and a possible shrine (Structure 57; see below). The preponderance of goosefoot was surely evidence for its consumption by the occupants, although this would not in any way have sustained them, however elevated their status. The paucity of charred cereal grains in otherwise comprehensive environmental assemblages might suggest that the inhabitants no longer relied on previously staple crops, but it seems more likely that cereal processing and preparation were undertaken away from the dwellings, possibly c.20m to the north at post setting and oven group **31217**.

Post setting and possible oven (group 31217)

Outside the circuit of former Structure 55 (see Chapter 2, Fig. 2.45), six features of probable structural function were interpreted during fieldwork as components of a projecting porch for the earlier structure, although this was challenged by the inclusion of imported Roman vessels and the scale of the central feature, which was disproportionate to the rest of earlier Structure 55 (Fig. 3.84). The group was therefore reconsidered as a possible oven with an associated structure of uncertain from, although the interpretation is not conclusive.

Pit **16039** was elliptical in plan, measuring 1.5m long by 1m wide and c.0.4m deep, with stepped sides and a flat base. Its lowest fills contained no dateable materials and appeared to represent natural colluvial erosion, whereas the top three deposits were primarily rounded and angular cobbles, which were pressed together as if to form a foundation in the manner of post setting **24574** in the former workshop enclosure, and at Stanwick (see discussion of **24574**, above). The soil matrix around the lowest cobble layer (**16188**) included ash and oak charcoal, as well as pieces of animal bone. Above this, layer **16141** contained ash charcoal, charred weeds and fragments of fired clay, while top layer **16106** was devoid of charcoal, but incorporated charred spelt, legumes, onion couch tuber and goosefoot, as well as animal bone, fired clay and sherds of imported glass (RF10154, not catalogued; Appendix G). The surrounding stakeholes presumably housed supports for a lost oven structure, their association further supported by the presence of ash and elm charcoal and scraps of imported Roman pottery in fill **16071** of stakehole **16070**. The combination of attributes feasibly represents the adaptation of a substantial structural setting as a repository or source of domestic cooking

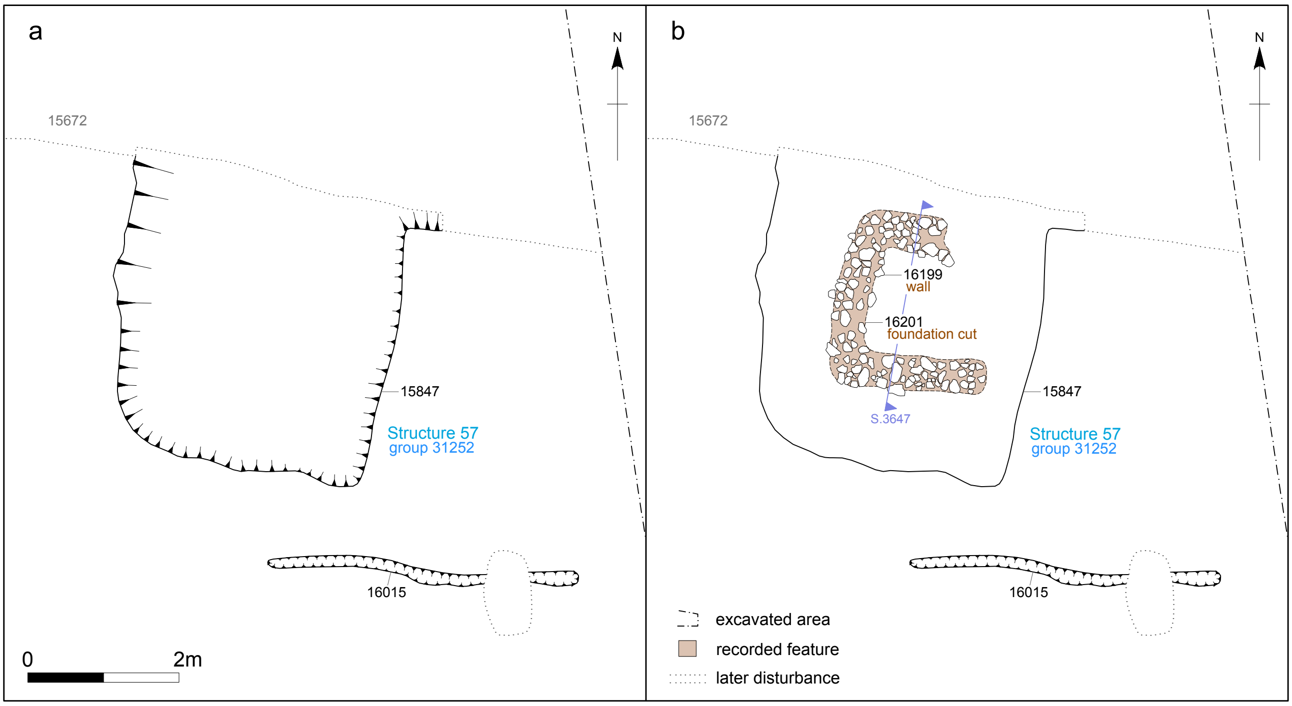


Figure 3.88a–b: Scotch Corner: Field 246, Structure 57.

waste and was perhaps the site adopted by the occupants of Structures 53 and 54 for food production.

Structure 57 (group 31252)

Both the sunken rectangular form of foundation trench **15847** and the straight-sided stone walls of structure **16199** immediately set Structure 57 apart from earlier building traditions at Scotch Corner (Fig. 3.88). While the size and form of the trench were replicated in Period 4 pit **15215** in Field 258 (see Chapter 4), and the dimensions and construction technique of the interior sub-circular stone structure were similar to those of Structure 64 at Gatherley Villa (see Chapter 2), neither incorporated the same combination of attributes as Structure 57, which had the appearance of a repurposed sunken-featured building or Grubenhaus and assemblages of pottery that suggest occupation in Period 3, or perhaps very early in Period 4 (Leary, Chapter 5; Chapter 10). It was also apparent, based on its alignment, that Structure 57 respected the south–north routeway a short distance to the east and influenced the ladder enclosure system that was beginning to develop alongside it.

The earliest component of Structure 57 was a sub-rectangular flat-bottomed trench (**15847**), which was 0.75m deep, 3.75m wide, and 3.9m long, with near-vertical sides (Fig. 3.89, section 3647; Fig. 3.90). The north end had an uncertain relationship to the earliest iteration of a substantial north-west to south-east aligned ditch (**15672**, group **31281**), which either coincided with or cut away the north side (Figs 3.88 and 3.89; see Chapters 4 and 10). A heavily truncated fence-line (**16015**) traced the south side, perhaps a remnant of a surrounding fence (Fig. 3.88). There was no evidence that trench **15847** functioned as a cellar or partly subterranean room, although its form was highly suggestive of this. If there ever was such a feature, it was soon decommissioned with the introduction of compacted clay foundation **16226**, which occupied the north half of the feature, and equivalent deposit (**16251**) on the south side. Both deposits contained animal bone and coarseware pottery of Neronian period production, while examples of samian ware dated to AD45–90 and a fragment of ceramic tile also came from these layers.

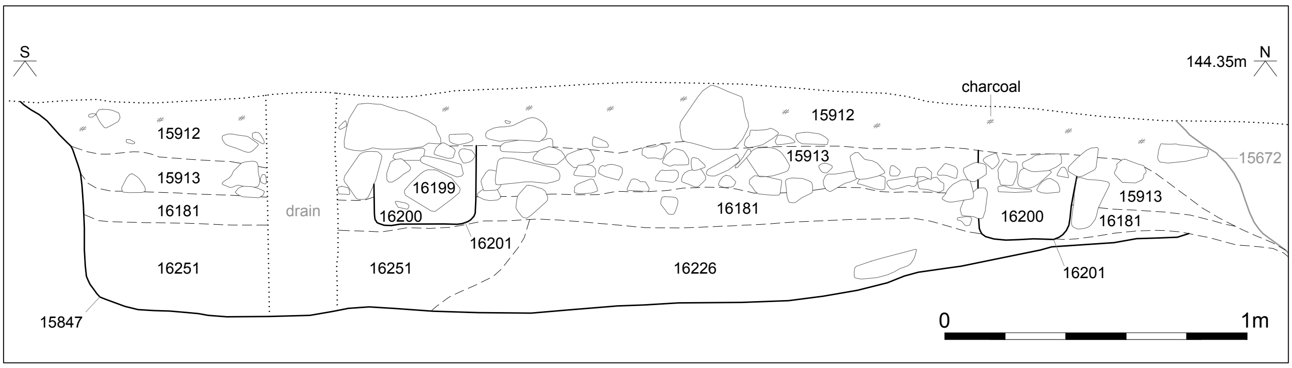


Figure 3.89: Scotch Corner: Field 246, Structure 57.

Figure 3.90: Scotch Corner: Field 246, Structure 57, facing south.

The cut (**16201**) of wall foundation **16199** respected the alignments of the foundation trench (**15847**) and survived as an east-facing, open-sided 'almost' square, measuring 2.13m by 2.34m, with a neat square-ended terminal on the south side and disturbed equivalent on the north side. The cut was 0.46m wide by c.0.1m deep, with vertical sides and a flat base. A thin layer of clay (**16200**), which contained sherds of a 1st-century AD blue/green glass bottle and animal bone, had been packed into the base of cut **16201**, presumably in preparation for construction. The structure survived as a truncated or robbed foundation (**16199**), which mostly comprised flat stones and stood two courses high in places. The foundation deposits were capped by deposit **16181**, which extended across the whole trench and comprised silty clay, as well as a dense deposit of disordered stones that lay predominantly inside the footprint of the structure and presumably originated from its collapse. The artefacts from this layer, which included amphora sherds, samian ware, and hand-built vessel sherds, presumably derived from activity that was contemporary with the stone structure, but also contained later Roman pottery introduced by a land drain.

There was no direct evidence for the height or function of the walled structure, but a significant quantity of stone was concentrated in overlying deposits **16165** and **16164**, which represented the collapse of the structure and suggested that it was not predominantly timber-built. Above this, the depression left by the abandoned and collapsed structure was infilled with clay containing occupation debris. Fill **15913** contained Period 3 coarseware pottery and Dressel 20 oil amphora sherds, as well as animal bone, daub, and fragments of ceramic building material that could be brick (Antink, Chapter 7). An attempt to obtain a radiocarbon determination from animal bone in top fill **15912** failed, but it did incorporate similar Period 3 pottery as lower layers, some ceramic brick or tile (Cat. no. 909) and charred goosefoot, an edible leaf that seemingly became popular in this part of the settlement during Period 3 (see above). A possible beam-slot (**16015**) to the south respected the same alignments as the structure and probably represented part of an ancillary structure built with a technique that was more commonly recorded in structures associated with Period 4 activity (see Chapter 4).

Fields 223, 228 and 258: the west–east coaxial enclosure system

Field 223

Refurbishment of the south–north interior boundary and domestic refuse deposition continued in the substantial enclosure that was approximately central in Field 223 (see above; Fig. 3.91). At the northern intersection with the west–east boundaries, fills **30169** and **30170** of recut **30058** contained concentrations of Gallic amphorae (e.g. Cat. nos 238 and 239) produced after AD50 (Griffiths and Williams and Leary, Chapter 5), evidently discarded shortly after breakage. Aside from the clay backfill that may derive from a bank, there were no other defining features of the enclosure boundaries, nor was there any evidence for contemporary activity inside the enclosure, which presumably occurred outside the excavation area at this time. The final act of throwing away an imported vessel probably coincided broadly with the end of domestic habitation and food

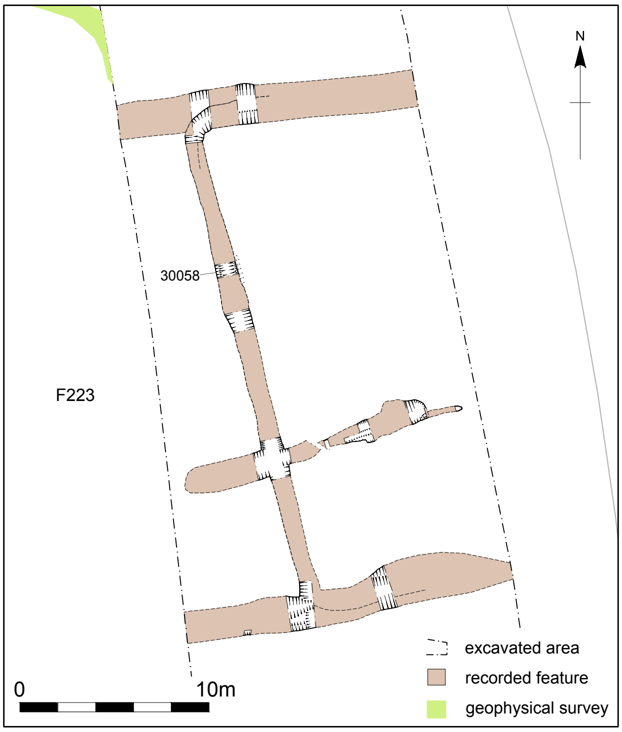


Figure 3.91: Scotch Corner: Field 223, central area, Period 3 features.

production in the coaxial enclosures of Field 223, while the same system appears to have extended northwards into Field 228 and the south end of Field 258 on the east side of the south–north routeway (RW3; Fig. 3.1).

Fields 228 and 258

The coaxial enclosures in Field 228 and the south end of Field 258 appeared to be contiguous with the equivalent system in Field 223 to the south, and also with the nucleated enclosures in Field 267a to the west, the areas being divided by contemporary routeways and subsequent roads (Fig. 3.1). In common with Field 223, the transect excavated across the west–east coaxial enclosures in Field 228 approximately coincided with a south–north axis of dwellings, although the excavation area here was heavily disturbed by later cart tracks leading to and from the limestone quarry at Crookacre Plantation, the turnpike and Great North Road, and by modern road construction associated with the A1 (Fig. 3.92). The limited excavation area of Field 228 exposed part of Structure 29 and all of Structure 30, which occupied adjacent enclosures; the latter was accompanied by the only inhumation discovered in the Iron Age and Early Roman settlement at Scotch Corner (Fell and Speed 2019, 365–71). It seems likely that additional structures occupied enclosures north and east of the excavation area, but these await discovery. The enclosures contained very few interior features and were delimited typically by steep-sided ditches with U-shaped profiles that were c.1m wide by c.0.3m deep. Coarseware pottery assemblages from the ditches were modest, but the vessels unusually spanned Periods 2 and 3, and sometimes extended into Period 4. Inside the boundary ditches, samian ware was notably rarer than coarseware pottery, whereas amphorae and mortaria were completely absent. Vessel glass was restricted to a single example, while animal bone and charcoal were rare.

Due to the lack of fine resolution in the typological dating of infilling features, five radiocarbon determinations were secured for features across the enclosure system, which Bayesian modelling refined to a period spanning the 1st century AD (Hamilton, Chapter 9). There were no querns, but the small assemblages of charred plant remains were generally dominated by common cereals, whereas a single grape pip might be a rare example of imported food. Instances of slag and hammerscale attest to small-scale ferrous metalworking, which was certainly more widely practised in late Period 3 and Period 4. While activity in this part of the coaxial enclosure system appears to have been less intensive than in Field 223 during Periods 2 and 3, occupation in Fields 228 and 258 outlasted that on the southern slope of the settlement and the contiguous nucleated enclosures in Field 267a. The northerly coaxial enclosures in Fields 228 and 258 were adapted and incorporated into the planned enclosure systems of the Period 4 settlement, perhaps because of their proximity to the developing Roman road junction (see Chapter 4).

Structure 29 (group 28463)

At the southern end of Field 228, ditch group **28451** delimited the south side of a c.13m-wide enclosure, which was occupied centrally by Structure 29 (group **28463**; Fig. 3.92). In the area south of this, and in line with Structures 29 and 30, the very western arc of a curving gully (**28360**) may have been part of an additional ring-gully, most of which was outside the excavation area; the inhabitants of this possible dwelling and Structure 29 presumably contributed to the disposal of domestic refuse in boundary ditch group **28451**, where the artefacts were restricted to Period 3 or early Period 4 coarseware, while pomaceous charcoal from primary fill **28259** provided a radiocarbon date range of cal AD1–130 (94% probability; SUERC-83963), which was refined by Bayesian modelling to the mid-late 1st century AD (Hamilton, Chapter 9). Along with the examples of pomaceous charcoal, hazel and oak identified in fill **28259** feasibly derived from combustion in oven and corn drier **28256=28284** inside the enclosure (see below).

The remains of the structure comprised a segment of the north-western arc of a structural trench (**28288**) with a rather small projected internal diameter of c.4.5m. Upper fill **28287** contained an coarseware assemblage of probable Neronian period production, sherds of samian ware dated after AD45, an iron nail (RF12612, not catalogued; Appendix H), fragments of oak charcoal, and charred barley and spelt. No interior features were observed, although very little of the feature was exposed. On the southern arc, posthole **28365**, contained packing stones (**28374**), but no dateable finds. The arc of another curving gully (**28344**) was connected to Structure 29. Its full width was not determined, but its depth was at least 0.2m,

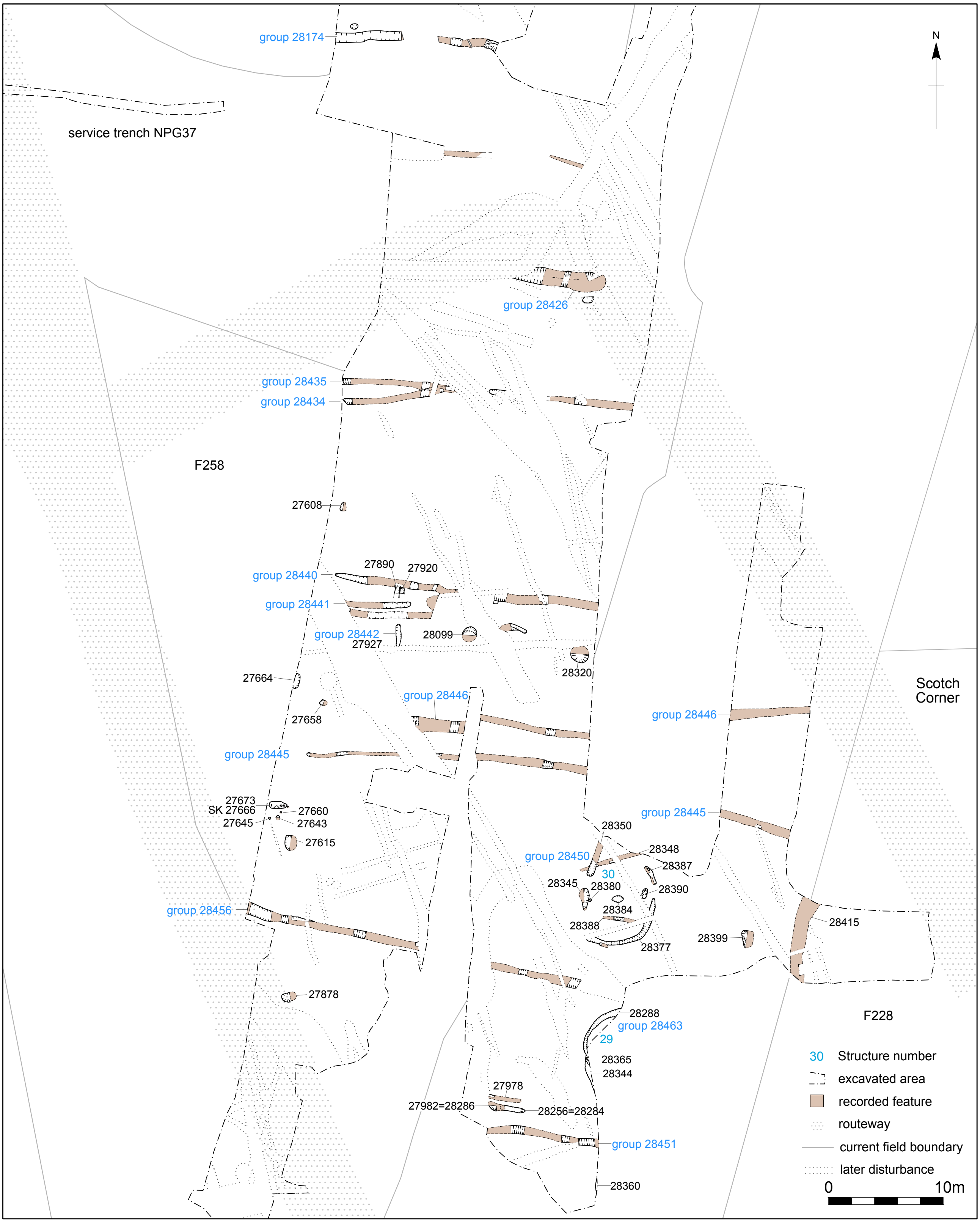


Figure 3.92: Scotch Corner: Fields 228 and 258, Period 2–4 features.

with a disturbed secondary fill (**28343**) that contained discarded coarseware pottery sherds dated after AD70, as well as sherds of hand-built and samian ware (Monteil and Leary, Chapter 5). A small quantity of undiagnostic industrial residue in the same deposit may have originated from the same source as hammerscale in oven and corn drier **28256=28284**, located c.6m to the south-west in the same enclosure (Fig. 3.93).

The oven and corn drier were cut into an existing short ditch (**27982=28286**), which lay between the southern enclosure boundary and a parallel gully (**27978**) of indeterminate function, although an association seems likely given its position, dimensions, and Period 3 pottery assemblage in fill **27979** (Fig. 3.92). The initial cut for short ditch **27982=28286** was 1.9m long by 0.4m wide and 0.15m deep, and its primary fill included no artefacts

*Figure 3.93: Scotch Corner: Field 228, oven **28256**=**28284**, facing south.*

or environmental remains. Primary fill **28262** of oven **28256=28284** included charred spelt, blackthorn and unidentifiable cereals and grasses, as well as stonefruit charcoal that provided a radiocarbon date range of 60 cal BC–cal AD80 (95.4% probability; SUERC-83964), which was refined to the second half of the 1st century AD in the Bayesian model (Hamilton, Chapter 9). The same context contained an assemblage of samian ware, including one sherd with a possible range of AD70–110, and coarseware sherds of Period 3 and 4 date (Monteil and Leary, Chapter 5).

An iron blade or file (RF12611, not catalogued; Appendix H) accompanied the assemblage and was presumably related to wood working. Above this, **28255** and **28267** included a richer assemblage of combusted materials, including alder or hazel, ash, pomaceous and stonefruit charcoal. The charred plant remains comprised spelt, barley, a hazelnut shell, and some meadow plants. Burnt animal bone was also found, as well as Period 3 and 4 coarseware and samian ware, and hand-built vessel sherds. A small quantity of hammerscale that related to ferrous metal production was also recovered (Mackenzie, Chapter 7). Top fill **28263** included coarseware pottery of mid-1st century date, pomaceous charcoal and spelt. The combined evidence suggests that the feature endured as the site of food preparation for the inhabitants of Structure 29. A nearby pit (**27878**) included only hand-built pottery from fill **27879** but is assumed to relate to occupation of the coaxial enclosures because of the absence of evidence for earlier activity in the vicinity.

It is possible that burnt materials from the oven and corn drier also found their way into the northern boundary (group **28456**) as it was infilling, although a proportion of the waste there also presumably came from Structure 30 and gives some indication of the range of raw foodstuffs and imports that were familiar to the inhabitants of both structures. Staple cereal crops appear to be consistent with earlier periods, while the assemblage of samian ware included sherds of a Dr.16 plate (Cat. no. 25) produced between c.AD40 and AD70 (Monteil, Chapter 5), which was deposited with coarseware also produced in Periods 3 and 4. A lead strip (RF12609, not catalogued; Appendix H) of indeterminate function from tertiary fill **27969** was a very rare example of a material found only in the coaxial enclosure in Field 228 in Periods 3 and 4 (see Chapter 4).

The scarcity in Field 228 and absence elsewhere at Scotch Corner perhaps reflects how exploitation of lead in the Yorkshire Dales only commenced under Roman instigation once conquest was underway (Davies 1979, 164; Jones and Mattingly 1990, 179). While there is no certain evidence that the material was mined and worked in the Late Iron Age, its occurrence at Scotch Corner, Melsonby and Thorpe Thewles in very Early Roman contexts, and in trace quantities in crucibles at Stanwick, indicates that pre-Roman exploitation potentially occurred (Haselgrove 2016, 424 and 444).

Structure 30 (group 28450)

Elliptical Structure 30 was situated centrally within a 17.5m-wide enclosure. The south side of the enclosure was represented by ditch group **28456** (see above), the north side by group **28445**, and a possible interior subdivision or eastern enclosure boundary by ditch **28415**, which was disturbed by a modern hedgerow (Fig. 3.92). The northern enclosure boundary was c.0.6m wide by 0.2m deep and the fills included pomaceous charcoal, charred spelt, sedge and grasses, fired clay, burnt animal bone, and small assemblages of samian and coarseware of Period 3 and 4 production, all consistent with occupation of Structure 30. A perpendicular enclosure subdivision (ditch **28350**), which terminated halfway across the enclosure, was added after Structure 30 was abandoned and included coarseware pottery dated to after AD70.

The remains of Structure 30 comprised a discontinuous elliptical structural trench with a 1.2m-wide east-facing entrance and a group of features that occupied the 7m by 5.7m interior. Part of the northern arc may have been represented by or incorporated into gully **28348**, which was aligned south-west to north-east. Fill **28349** contained a fragment of lead (RF12614, not catalogued; Appendix H), Period 2 and 3 coarseware and samian, and charred spelt. Immediately north of the entrance, a segment of the structure (**28387**) was devoid of finds, while on the southern arc, upper fill **28378** of trench **28377**, which was up to 0.5m wide and 0.2m deep, included charred spelt and barley, an assemblage of Period 2, 3 and 4 courseware and samian vessel sherds, fragments of fired clay and hammerscale related to ferrous metal production (Mackenzie, Chapter 7). Poplar or willow charcoal provided a radiocarbon date range of cal AD50–220 (94.5% probability; SUERC-83966), although the potential end range was refined by Bayesian modelling to the very early 2nd century AD (Hamilton, Chapter 9). The western segment of the trench (**28345**) incorporated ash charcoal and sherds of Period 2 and 4 pottery in fill (**28346**), while Period 2 and 3 coarseware sherds came from fill **28389** of the curving west–east gully (**28388**). This gully crossed part of the south side of the interior with some evidence for posts set along its base, presumably forming an internal division. Also, inside Structure 30, small posthole (**28380**) was one of three equally spaced internal features, along with **28384** and **28390**. Oak charcoal and Period 3 coarseware pottery came from fill **28381** of posthole **28380**, whereas the vessels represented in fill **28391** of pit **28390** were from period 4 (Leary, Chapter 5).

Less than 10m east of Structure 30, the contemporaneity of shallow bowl-shaped pit **28399** was implied by Period 3 coarseware pottery sherds, which were found in its fill with birch, heather and oak charcoal, and fragments of fired clay and undiagnostic slag, with some fuel ash slag. Considered with other examples in the coaxial enclosures of Field 228, this waste is arguably evidence for increasing access to the necessary raw materials and technology for working ferrous metals, which increased in Period 4 (see Chapter 4).

Grave 27673

At the west side of Structure 30's enclosure, and central to it, west–east Grave **27673** occupied a cut that was 1.55m long by 0.6m wide and 0.22m deep (Fig. 3.92). The skeleton (Skeleton **27666**) was semi-flexed, lying on its left side beneath backfill (**27668**) that consisted primarily of redeposited natural boulder clay (Fig. 3.94). Multiple attempts at obtaining a radiocarbon determination for the burial failed, and dating relies solely on the presence of four residual Roman pottery sherds, which included two reduced coarseware sherds from the base of a jar and two undiagnostic brown sandy ware sherds in an early fabric of a type found elsewhere at Scotch Corner in Period 3 and 4 forms (Fell and Speed 2019, 365–71). A collection of features found close to the grave included posthole **27660**, pit **27643**, hollow **27645**, and pit **27615**, none of which was certainy associated with it (Fig. 3.92).

The position of the grave, in an enclosure containing a roundhouse, supports the interpretation that the burial was contemporary with it, and perhaps even the final resting place of a former occupant of Structure 30. In contrast with this presumed association, the most remarkable aspect of Grave **27673** was its apparent isolation from other inhumation or cremation burials, and their absence from other enclosures. Although the burial rite at Scotch Corner was comparable with examples at Stanwick where Late Iron Age burials were placed adjacent to occupied areas rather than in a dedicated cemetery (Haselgrove 2016, 442), there was great disparity in the comparative number of recorded examples between the two sites. In this respect, Stanwick appears to be the exception for Late Iron Age major settlements, whereas Scotch Corner corresponds more closely with large Late Iron Age and Early Roman large settlements in 1st-century AD southern Britain.

Additional enclosures and occupation

A series of west–east boundaries were located north of Grave **27673**, Structure 30 and their northern enclosure boundary (group **28445**). The first ditched boundary (group **28446**) was a little over 2m to the north and formed a narrow passage that was open to the west and widened increasingly to the east in the manner of a funnel. It contained little cultural material, although the samian and coarseware pottery sherds spanned Periods 2, 3 and 4, which demonstrated activity before and during Roman military presence in the vicinity (see Chapter 5). The paucity of material supports the possibility that the passage was for stock management, rather than occupied

*Figure 3.94: Scotch Corner: Field 228, Grave **27673** and Skeleton **27666**, facing east.*

*Figure 3.95: Scotch Corner: Field 228, pit **28320**, facing north-east.*

by humans. Near the narrow western end of the passage, pits **27658** and **27664** were devoid of artefacts and obvious function, aiding little in establishing the purpose of the enclosure.

The next enclosure was delimited to the south by ditch group **28446**, and c.9m to the north by a succession of intercutting ditches (groups **28440** and **28441**) with typical charcoal and coarseware and samian pottery assemblages spanning Periods 2, 3 and 4. The west–east boundaries connected with a series of probable interior enclosure subdivisions (gullies **27890**, **27920**, **27927** and group **28442**), which appear to have been added later, if the presence of Period 4 and absence of any Period 2 and 3 coarseware is indicative. The most remarkable find was a single grape pip in upper fill **28245**, which was deposited with charred spelt, some undiagnostic industrial waste and an iron nail. Baines (Chapter 8) is duly cautious about interpreting the single example as indicating that grapes were imported, but the possibility remains.

Near the eastern edge of Field 228, and close to the projected line of structures, pit **28320** had a diameter of 1.55m and was 0.6m deep (Fig. 3.95). The primary silty fill was devoid of finds, although secondary fill **28318** contained pieces of animal bone and grains of charred spelt that were selected as a sample for radiocarbon dating but failed to produce a date. Sherds of samian pottery in tertiary fill **28317** post-dated AD45, while similar vessels were accompanied in top fill **28316** by sherds of coarseware produced in Period 4, demonstrating infilling during the lifetime of occupation in the enclosures. Additional evidence for reliable access to water was demonstrated by the presence of another pit or cistern (**28099**), which was also central to the long axis of the enclosure (Fig. 3.92). The feature measured 1.3m in diameter by 0.67m in depth, with steep sides. Its primary fill (**28082**) contained pieces of animal bone and sherds of Period 2 or 3 samian pottery, as well as a length of narrow copper-alloy edging (Cat. no. 694) that probably originated from a scabbard. Late Iron Age examples of such a feature are rare in the north of Britain (Croom, Chapter 6), and the object may have been associated with an Early Roman presence. Additional pottery of Period 2, 3 and possibly 4 production in top fill **28098** demonstrates a similar lifecycle to pit or cistern **28320**.

North of this was a c.17m-wide enclosure that was delimited to the south by ditch groups **28440** and **28441**, and to the north by group **28435**, which was recut as group **28434**. The initial northern boundary was cut by numerous later features, but enough survived to establish its dimensions and examine its fills. The ditch was up to 0.9m wide by 0.35m deep; primary fill **27623** contained animal bone and a brass globule (Cat. no. 897) and some undiagnostic metallurgical slag of uncertain provenance (Mackenzie, Chapter 7). Animal bone was relatively frequent, charcoal was mainly oak, and an iron nail came from fill **27796**. Coarseware and samian pottery found along the feature spanned Periods 2, 3 and 4, and secondary fill **27633** included charred wheat, and pomaceous charcoal that provided a radiocarbon date range of 90 cal BC–cal AD70 (94% probability; SUERC-83962), which Bayesian modelling refined to a range between the very beginning of the 1st century BC and the late 1st century AD (Hamilton, Chapter 9). The presence of slag from a possible iron-smithing hearth provided further evidence for ironworking in the vicinity (Mackenzie, Chapter 7), although a much more substantial assemblage was recovered from the upper fill of adjacent ditch group **28434**, which replaced group **28435** and diverged from it, terminating near the west edge of the excavation area.

At the terminal ditch of group **28434**, deposit **27637** produced birch, dogwood, ash, pomaceous and oak charcoal, and charred spelt. Period 3 and early Period 4 samian and coarseware pottery sherds, metal artefacts, including an iron binding (RF12598, not catalogued; Appendix H), and waste materials associated with metalworking were also found. The lead rivulet (RF12599, not catalogued; Appendix H) was one of only three lead objects found at Scotch Corner, all of which originated from Field 228, while the possible fuel ash slag and clinker were presumably associated with metallurgy, as were over 30 fragments of fired clay, including examples with slagged surfaces from a possible hearth, kiln, or furnace lining (Mackenzie, Chapter 7). The concentration of waste ferrous metalworking materials is strongly suggestive of a source somewhere very close by, although none were identified inside the excavation area. It was unlikely that the only nearby discrete feature (pit **27608**) was related to the processes in any way.

Amid an area that was considerably disturbed by later activity, west–east boundary ditch group **28426** formed the north side of a c.9.5m-wide enclosure, delimited to the south by ditch groups **28435** and **28434** (see above). North of these ditch groups, another approximately parallel boundary formed the north side of a 9.1m-wide empty enclosure, and the south side of another that was c.9.2m wide. The north side of this second enclosure was represented by ditch group **28174**, which effectively marked the northern limit of the coaxial enclosure system that spanned Periods 2, 3 and 4; those to the north were apparently first cut in the latter period. A possible continuation of the ditch was observed as Feature 14 in service trench NPG37 along the eastern edge of Field 267a, where it was overlain by the remnants of Dere Street (RR6; see Chapter 4, Fig. 4.2). Although an extrapolated connection between group **28174** and Feature 14 was not confirmed in the narrow trench, the same course was continued by a strong geophysical anomaly in the adjacent survey area to the west, which suggested that the coaxial system extended into Field 267a and presumably connected with the nucleated enclosures. As with the ditched boundaries of the coaxial system to its south, the earlier origins of group **28174** were demonstrated by fills, such as **27579** and **27472**, which contained coarseware pottery produced in Periods 2 and 3. Period 4 material was absent, unless the samian ware was late in its date range of c.AD45–85 and c.AD45–110.

Field 267a nucleated enclosures

RW7: the south–north routeway

The west side of the south–north routeway corridor (RW7; a possible continuation of RW6; Fig. 3.1) was formed with ditch **32489**, which fell mainly outside the excavation area (Fig. 3.96). The only sherds of samian ware and coarseware recovered from fill **32488** could have been incorporated any time after AD45. To the immediate west of the ditch, infilled Period 2–3 ditch **32468** was partially capped with a layer of compacted crushed limestone (**32486**), which was in turn overlain by a disturbed layer of flat stones (**32485**) that probably formed part of a floor or foundation for a structure or road that lay outside the excavation area to the north. Examples of amphorae, mortaria, samian ware, and coarseware pottery recovered from the surrounding soil were of Period 3 or 4 production, but little else could be discerned in the narrow excavation area.

The northern central enclosure

In the northern central enclosure, former Structures 26 and 27 were cut across by ditch **32222** (OA 10379), which was apparently introduced as a subdivision of the enclosure or a reconfiguration of the area, presumably in response to changing tenure or activity in the area, occupation having mostly ceased (Fig. 3.96). Fill **32245** included a range of charcoal and charred cereal and plants that were consistent with earlier periods but may represent redeposited material derived from the fills of features associated with earlier habitation and food processing. This rather ignominious act of redefining a single boundary marked the end of occupation in the nucleated enclosures, which were abandoned at around the same time as the coaxial enclosures in Field 223.

DISCUSSION

Between the end of Period 1 and beginning of Period 4, fundamental changes in the character of the settlement and supply of resources were implemented and experienced by the inhabitants of Scotch Corner, apparently because of radical developments in civil politics and the concomitant impact of growing interaction with Rome. Before Period 2 began, native habitation was supported by traditional staple goods and regional exchange, which was made evident by the objects and environmental remains discovered in and around the dispersed dwellings on the south-facing shallow slopes exposed in Fields 220 and 223 and in other dwellings on the crest of the low ridge in Field 246. High-value production was restricted to the small enclave in Field 246, which defined the zone dedicated to a group of metalworkers who manufactured precious and semi-precious pellets and possibly coins, perhaps operating under the auspices of nearby Stanwick, which was already conspicuously connected with the Roman world.

The transition between Periods 1 and 2 represented seismic political, economic and social changes at Scotch Corner, whereby the population began to benefit substantially from gifts associated with diplomatic missions and the same exchange economy and international connections that were already operational at Stanwick. As a result, exotic continental objects including vessels and comestibles were imported on an unprecedented scale with a commensurate impact on local prosperity. Activity of this nature perhaps prompted consolidation and expansion of the routeway network that served

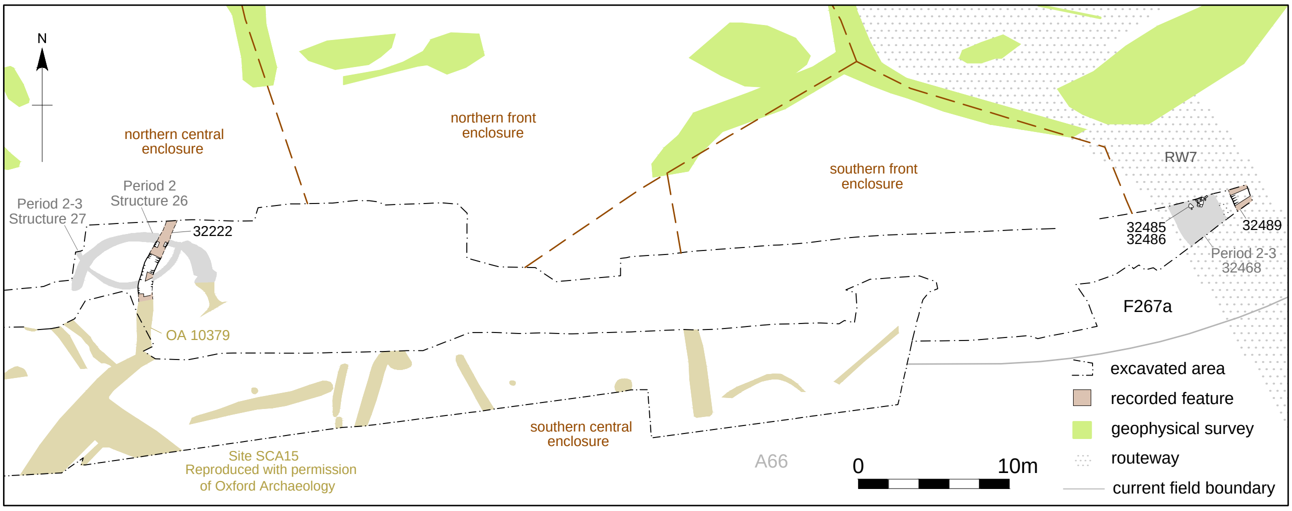


Figure 3.96: Scotch Corner: Field 267a, Period 3 features.

the settlement interior and connected Scotch Corner with communities and merchants from further afield. With respect to the routeways, Scotch Corner's interior layout was reorganised comprehensively: metalworking increased and the workshops were enclosed with an irregular ditched boundary, planned enclosure systems included the coaxial system in Fields 223, 228 and 258, and the contiguous nucleated enclosures in Field 267a. The burgeoning trend for enclosure at the settlement seems to have taken place in conjunction with increasing societal stratification that was presumably accelerated by growing disparities in wealth and influence.

This trajectory was interrupted at the beginning of Period 3, when occupation declined in the coaxial and nucleated enclosures, leading ultimately to abandonment and possibly to relocation within the wider settlement at Scotch Corner, perhaps in response to increasing Roman influence on the settlement layout and structure. Meanwhile, there was growing evidence in Field 246 for Roman military influence in the suite of imported materials, and also in the configurations of enclosures, buildings and routeways. Metalworking and possible coin production ceased in the former workshop enclosure, where the earthworks were levelled in preparation for a new regular ladder system of enclosures set out along the increasingly formal routeways. While the remaining inhabitants would have been keen to maintain or enhance their newly acquired wealth and status, they would also have recognised that new political circumstances were evolving at Scotch Corner and in Brigantian lands more generally.

The precariousness of the Brigantian situation was amply demonstrated by the consequences for the Iceni people of Boudica's revolt in AD60/61, which triggered swift and violent redress by Roman forces in central and eastern England. Tacitus asserts that after Queen Cartimandua betrayed Caratacus to Ostorius Scapula in the early AD50s, her consort Venutius increasingly adopted an aggressive stance, leading to estrangement and ultimately to schism and political instability (see Chapters 1 and 10). Venutius' alleged rebellion was sufficiently threatening to Roman interest and investment in the client relationship that they deployed a rescue mission (or possibly more) into Brigantia, which might feasibly represent the increasing Roman presence and military influence witnessed at Scotch Corner during Period 3, while the possible deployment of auxiliary troops could partly explain the continuing native signature. However, another interpretation of Tacitus proposes that civil unrest between Venutius and Cartimandua was not serious until his successful rebellion in AD69, meaning that events during the late AD50s and AD60 were not the pretext for Roman intervention and activity at Scotch Corner, where changes experienced in Period 3 may simply reflect alterations in Roman diplomatic policy and concomitant economic activity. This ambiguity is revisited in Chapter 10, although it is appropriate to conclude here that however strong and stable the well-connected inhabitants of Scotch Corner believed their agreement with Rome to be, they probably suspected that the destabilising effect of civil unrest might lead ultimately to annexation, and recognised that this might be imminent.

CHAPTER 4
CONQUEST

David W. Fell

INTRODUCTION

After decades of growing influence, Period 4 witnessed the Romans establish control of Scotch Corner, apparently with the intention of conquering the north and assimilating its population and resources. Although closely dateable ceramics attribute the beginning of conquest to c.AD70, Bayesian modelling suggests that Roman military supply networks began to dominate between AD50 and AD70 (at 68% probability), by which time the settlement and wider region, along with its native rulers and inhabitants, were probably well known to Roman diplomats, traders, surveyors, map makers, and perhaps even soldiers and auxiliary troops. From the early AD60s in Period 3, Roman practices were manifested increasingly in the consolidation of routeways and adoption of rectilinear enclosures and building forms at Scotch Corner (see Chapter 3). While some native traditions continued, aspects of Roman culture were embraced as the prospect of formal inclusion in the province must have suited a significant proportion of the native population who espoused the putative client arrangement. Yet throughout the period of political concord and economic prosperity in the mid-1st century AD, military conquest was presumably the Romans' default *modus operandi* should imperial policy change, civil unrest escalate, or the client relationship fail. Although history records that Venutius' successful revolt of AD69 ultimately triggered annexation, it is unclear what other factors contributed to the change in Roman policy. Despite the absence of substantial assemblages of military equipment or definitive evidence for a fort, we can be reasonably certain that conquest had a profound impact on the settlement layout, buildings and material culture at Scotch Corner at least from the beginning of the Flavian period, if not before.

Depopulation or relocation of the native population in Period 3 was evident primarily in the gradual abandonment of the nucleated and southerly coaxial enclosures, and the concomitant reduction in construction and occupation of roundhouses. A resurgence and intensification of activity from the beginning of Period 4 was focused immediately around the existing routeway junction, primarily on its eastern side, where earlier occupation was absent. The most obviously diagnostic Roman constructions were the engineered roads, which sometimes perpetuated earlier native routeways (Figs 4.1 and 4.2). In support of the early northward campaign, a primary road from the south headed north-west across the Pennines via Stainmore (Margary road 82; 1973, 433–6), while a connected route extended north towards Melsonby and Stanwick. Once any threat posed by Stanwick was neutralised, the course of the northward road was moved east to the enduring course of Dere Street, bypassing Stanwick on its course towards Scotland (Margary roads 8b and 8c; *ibid*., 427–33). Consolidation and control of the road junction and network would have been strategically vital for dominating the region, and for manoeuvring troops and maintaining supply lines in the northwards campaign, at least until the North Pennines were surrounded, the frontier secured along the Stanegate and consolidated with Hadrian's Wall, and the network of forts established. The earliest fort and camps around *Cataractonium* presumably provided a base for much of the Flavian period and later activity around Scotch Corner (Ross and Ross in prep.).

Roman influence and presence at Scotch Corner was expressed not only in the road network, but also in reconfiguration of the settlement and roadside hinterland where tenure was reorganised with sympathy for the native settlement. At the road junction, Roman organisation was evident in three consecutive planned Enclosure Systems (ES1–3; Fig. 4.3), which conjoined the remaining northerly coaxial enclosures and native-occupied roundhouses on land that was previously unoccupied. Adjustments made to the alignments of the new planned enclosure systems appeared related to the changing orientation of Roman roads and the developing infrastructure network associated with the process of conquest and annexation. The enclosures were designed both for human habitation and livestock, and in service of the occupants, a system of drainage and water storage was installed to exploit excesses and help mitigate the absence of a running water supply.

With the introduction of the planned enclosure systems came a range of buildings that expressed the Roman preference for rectangular forms, and most of which were constructed with standardised dimensions and outside ovens, as if built to a blueprint or standard (Fig. 4.4). A possible apsidal structure (Structure 33) was potentially unique to the region at this date, while the refuse from more conventional rectangular structures reflects an investment in Roman dining culture. An aisled building with wing(s) (Structure 31) occupied one of the enclosures nearest the road junction and possibly served an administrative purpose, as was demonstrated by the concentration of glass gaming and/or accounting counters and iron styli. A nearby stable or slaughterhouse (Structure 38) built in Roman military style was constructed over middens containing evidence for butchery of mature cattle which was characteristic of Roman livestock management for dairy and traction. Horse tack and bones also became more common during Period 4, and an increase in barley consumption is interpreted as provision for more livestock in roadside

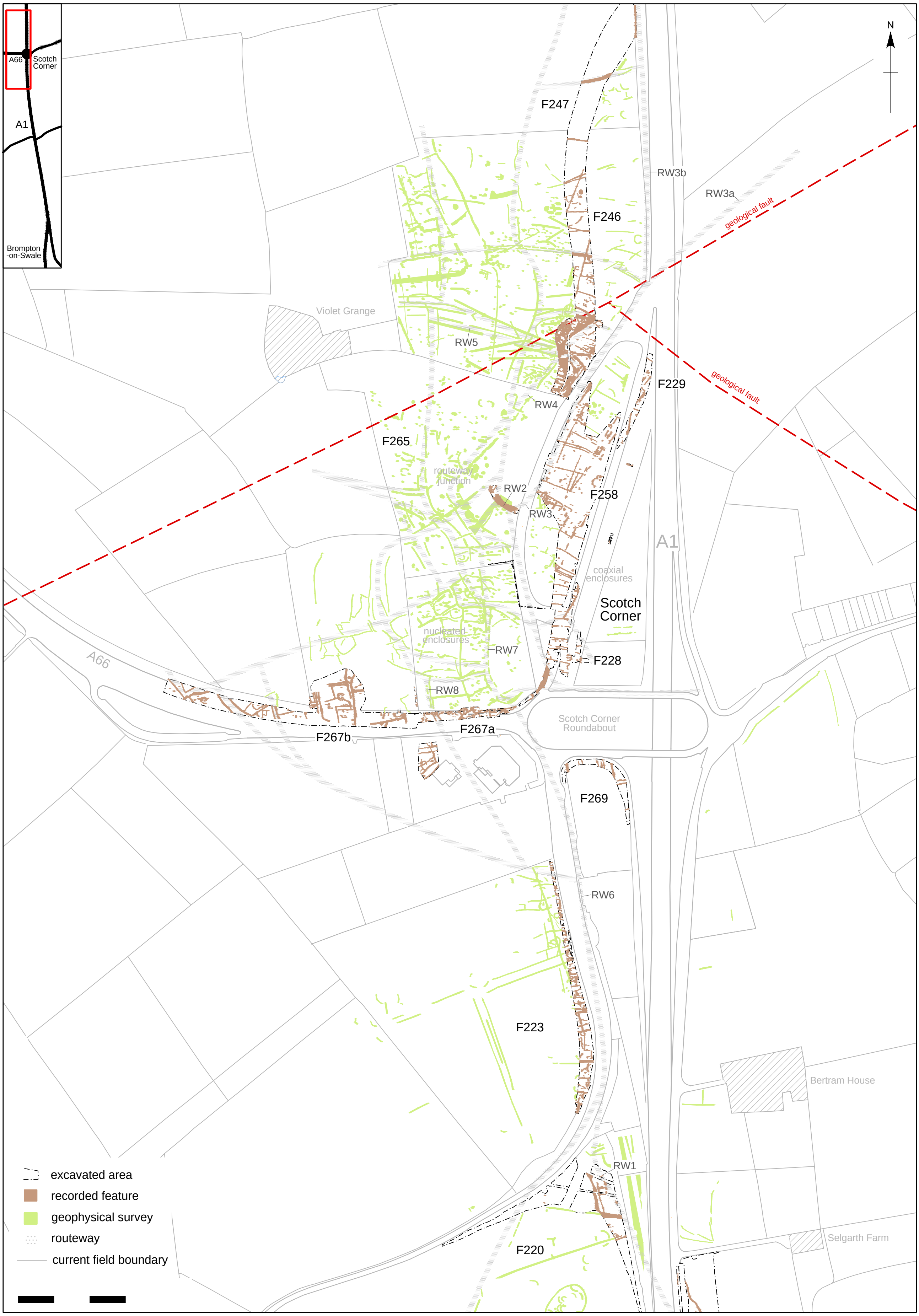


Figure 4.1: Scotch Corner: overview of prehistoric routeways.

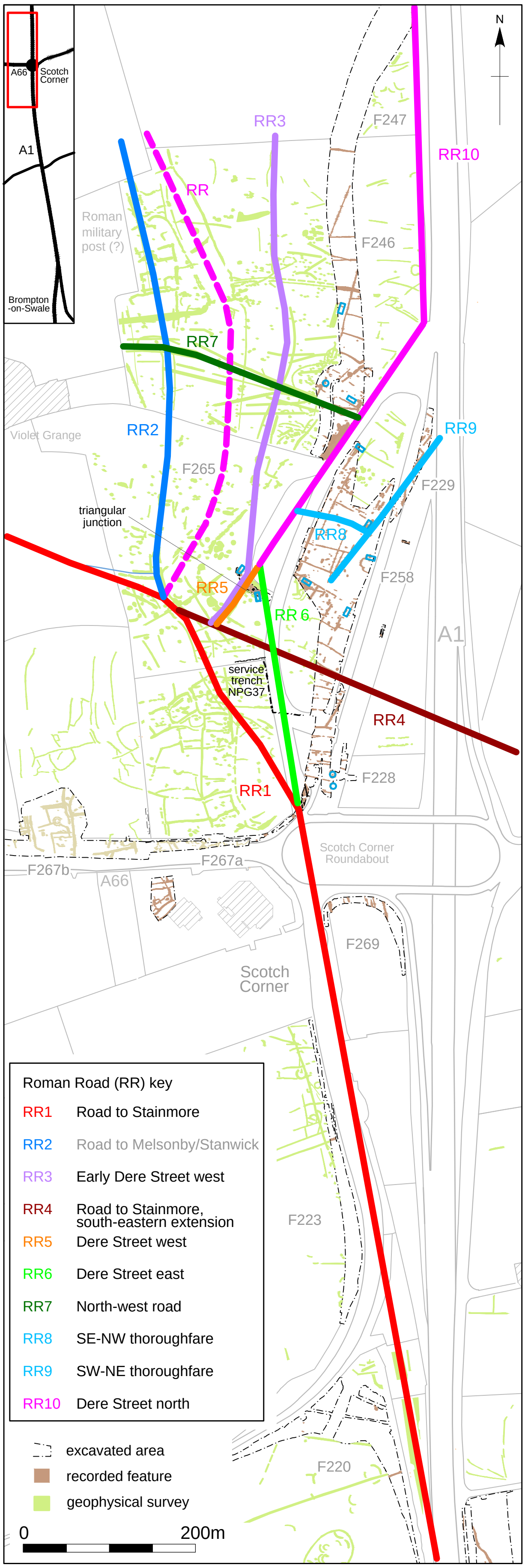


Figure 4.2: Scotch Corner: overview of Roman roads.

enclosures north of the junction. Generally, arable regimes altered little, although large surpluses were presumably required to help feed and supply the military and it seems possible that the road network facilitated the export of grain under Roman control, perhaps via a wharf at Piercebridge on the River Tees. In addition to imported lava querns which accompanied the army, the occupants adopted the new technology, making querns and millstones from gritstone and sandstone sourced locally. Subsequent local reproduction of objects favoured by the army appears to have been an effective way for natives to infiltrate the Roman supply chain.

The active lives of the Roman-built enclosures and buildings were brief, however; they either fell into disrepair or were demolished, and the associated ditches and pits were backfilled rapidly with material that included rich assemblages of discarded artefacts which typified the new military supply mechanisms. Amongst the late Period 4 closure deposits were remains of a large suite of chronologically diagnostic and distinctive coarseware pottery forms including Gallic imports and vessels produced at potteries around *Verulamium*. There was also a vast increase in the importation and use of closely dateable south Gaulish samian ware, olive oil amphorae from a range of production sites around the Mediterranean, locally made and imported mortaria and glass vessels, most of which travelled to Scotch Corner shortly after production in the late Neronian and early Flavian periods. The mode of deposition and types of artefacts were often suggestive of feasting and drinking with some evidence for purposeful deposition of the resulting broken vessels, along with chosen objects such as Vespasianic coins dating from the early and late AD70s, and more exotic and prestigious personal and/or votive items such as a miniature sword and finger-rings. Glass and faience beads, brooches and mirrors are amongst the prestigious objects cleared into open ditches and pits along with building debris in the period leading up to abandonment of the settlement, which probably occurred as early as AD85/90, but was certainly complete by c.AD150, by which time imports and local production had ceased. The proto-small Roman town or *vicus* that was developing at Scotch Corner evidently did not warrant a permanent Roman administrative presence and was abandoned before it developed an urban native population, leaving behind a legacy of important roads, a Roman outpost at the junction, and roadside field systems beyond.

PERIOD 4 (c.AD70–c.AD85/90)

The network of native routeways inherited by the Romans at Scotch Corner simultaneously provided opportunities to adopt existing infrastructure and secure expedient transport links, but also presented certain considerations and spatial constraints for the settlement planners and road builders (Fig. 4.1). While the Roman road network was in the process of being constructed and adjusted to suit changing political and military objectives and circumstances (RR1–10; Fig. 4.2), three Enclosure Systems (ES1–3; Fig. 4.3) introduced for occupation by the human population and livestock appear to have

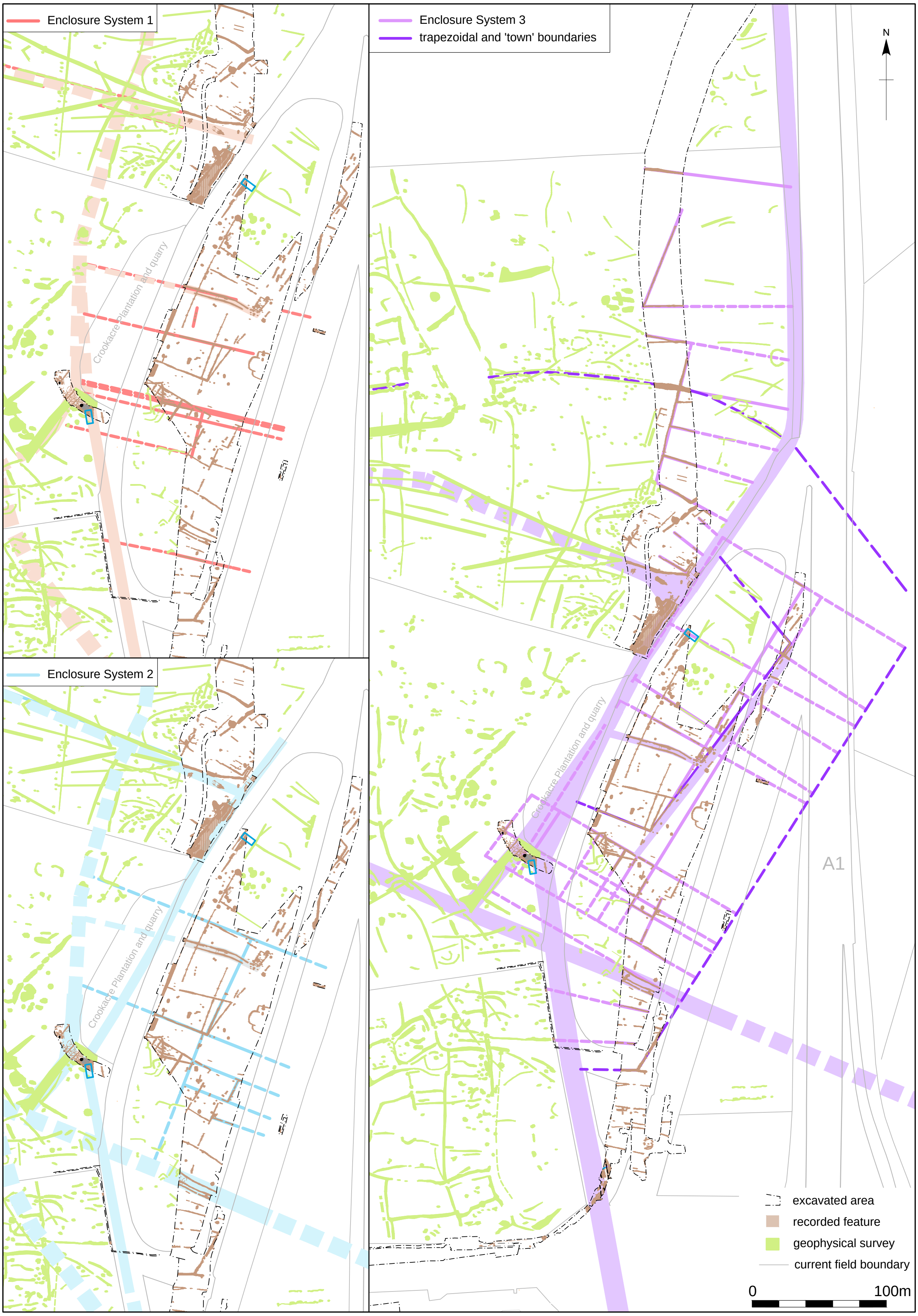


Figure 4.3: Scotch Corner: overview of Periods 4 and 5 with Enclosure Systems 1–3.

Figure 4.4: Scotch Corner: overview of Periods 4 and 5 with Structures.

been developed with reference to the dominant road alignments and modifications made at their junctions.

The shape of the A1 scheme development area and truncation in the intervening centuries both meant that complex palimpsests of features associated with intense activity during Period 4 were mostly recorded in isolation, precluding investigation of surviving stratigraphic connections. In spite of excellent temporal resolution provided by typological artefact dating, radiocarbon dates and Bayesian modelling, dating was insufficiently fine to correlate activity across the separate areas for a period which perhaps lasted no more than 20 years between c.AD70–c.AD85/90. Consequently, an attempt has been made to equate activity based on its changing intensity, the character of remains and artefactual assemblages, and extrapolated common alignments. In conjunction with the stratigraphic sequence and chronology, the archaeological remains pertaining to the transport and settlement infrastructure at Scotch Corner proved the most useful framework for understanding and presenting the archaeological evidence for activity during Period 4.

OVERVIEW OF THE ROMAN ROAD NETWORK

The trans-Pennine road to Stainmore (RR1; Fig. 4.2) and beyond appears to have been one of the first engineered Roman roads to connect with and pass through Scotch Corner, being a reference for all subsequent roads, and possibly contemporary with contiguous road RR2 heading towards Stanwick (see below). The primary role of RR1 in troop movement to the north-west at the beginning of conquest in Brigantian territory is well attested and receives further comment in Chapters 1 and 10. It is not certain to what extent the road survived in the A1 excavation area, although there are reasonable grounds for supposing that sections of road exposed in Fields 269 and 267a represented its southern approach, parts of which were perpetuated by subsequent roads. Additional evidence for the course of RR1 came from a range of other sources including: Maclauchlan's (1849) earthwork survey, the First Edition six-inch Ordnance Survey map of 1857 (Chapter 1, Fig. 1.4), aerial photographs (Google Earth) and the previously unpublished 2015 NAA geophysical survey in Fields 265 and 267a. Appended to the north-west curve of RR1 an apparently contemporary ditched route (RR2) ran northwards and seemingly connected with a possible Roman military post, although the interpretation of these geophysical anomalies is untested by excavation. The same road appears to exit the ditched installations on a north-westerly route towards Melsonby and Stanwick, indicating that a link between the native stronghold and the Romanised south was considered important at least from the beginning of Period 4, and could even relate to interaction during the client arrangement or perhaps to activity undertaken during the successful Venutian rebellion of AD69 (see Chapters 1 and 10). While RR2 may not represent an early iteration of 'north-bound' Dere Street, it is possible that it connected with routes through Stanwick that exited its north-east side *en route* to the River Tees crossing or wharf near Piercebridge (see Chapter 10). Immediately east of RR2, another route joining RR1 was also only recorded in geophysical survey, where it traced the east side of the putative Roman military post and turned towards Melsonby and Stanwick, suggesting that it could have been RR2's successor.

While RR1 evidently remained an important route for communication and troop movements to the north-west during the conquest period and beyond, RR2 and the adjacent route possibly waned in strategic importance after any threat from Stanwick was neutralised, its population dispersed and frequent interaction ceased. The focus of northwards roads then appears to have shifted to the east with the construction of RR3 on a course that bypassed Melsonby and Stanwick, making it the first definable iteration of Dere Street and possibly associated with initial northwards campaigns in the early AD70s. The junction of RR3 and RR1 lay a short distance to the east of the existing junction with RR2 and formed the focus of transportation links subsequently. RR6 (Dere Street east) was then apparently introduced to bypass the T-junction between RR3 and RR1, and to smooth out south–north movement along Dere Street. While the junction was evolving, the projected course of RR1 was extended to the south-east as RR4, which corroborated Maclauchlan's survey of earthworks or 'entrenchments' that were extant in 1849 (Chapter 1, Fig. 1.10), but lost to agriculture and road construction in the intervening years. There were also alignment changes and formalisation of the existing native north-west routeway (RW5; Fig. 4.1), which was adopted as RR7 and may have connected the centre of the Period 4 settlement with the putative Roman military post (Fig. 4.2).

A phase of realignment saw further reconfiguration of the junction between RR1 and Dere Street to form a triangular junction; on its west side, a new road (RR5; Dere Street west) was constructed obliquely over RR3 and connected with the final route of Dere Street (RR10), which perpetuated the kinked course of the RW3 between Fields 246 and 258 and connected also with thoroughfare RR9 via thoroughfare RR8 (see below; Figs 4.1 and 4.2). RR7 was realigned and upgraded where its junction with RR10 was widened to form a bell-mouth. Existing RR6 was also subsequently upgraded and adopted as the east side of the triangular arrangement, which connected the southern approach of RR1 in Field 228 with RR10 to the north, thus maintaining a smooth south–north transportation route. Having migrated eastwards during Period 4, the final configuration of Dere Street through Scotch Corner therefore incorporated the southern approach of RR1, the east side of the triangular junction represented by RR6, and northwards route RR10. Once the final route of Dere Street was established north of the junction (RR10), the angle of the road was incorporated as a primary reference for the Period 4 enclosure systems and buildings. The enduring sinuous 30° eastward dog-leg and an equal reverse curve in the final course of Dere Street as it passed through Scotch Corner, was interpreted by Margary (1973, 429) as a Roman surveying error, and was perpetuated in the 18th-century turnpike and the overlying Great North Road. This ‘anomaly’ was only bypassed in the 1970s when the A1 dual carriageway was constructed, the original course of Dere Street then represented by a short section of the A1 and the B6275 to Piercebridge and beyond.

OVERVIEW OF ENCLOSURE SYSTEMS 1–3 AND THE CONTEMPORARY BUILDINGS

Periods 4 and 5 witnessed continuous activity around the junction of the road to Stainmore (RR1) and Dere Street (RR5, RR6, RR10), as well as the introduction of planned enclosure systems with Roman-style buildings in parts of Fields 229 and 258 that were previously uninhabited (Figs 4.3 and 4.4). The new enclosure systems were appended to the existing coaxial enclosures in Field 228, where native habitation in roundhouses apparently continued. Perhaps because of the paucity of surviving intercutting boundary features, the accumulated networks of ditches and gullies delimiting the enclosure systems first appeared to represent ad hoc development for human and livestock occupation with apparent, but ill-defined reference to the Roman roads. However, close scrutiny of common alignments indicated that components may have belonged to three planned and surveyed enclosure systems, which were extrapolated to inform ES1–3. In this model, existing boundaries were often incorporated into subsequent enclosures, resulting in a palimpsest system that included components conforming to all three broad alignments. Comparison between enclosure alignments and Roman roads suggested that episodes of reconfiguration and lesser modifications made to the enclosure layout could have been implemented with respect to changes in the road network and its alignments, although it should be recognised that there is no proof of a direct or causal relationship.

As was proposed for the roads (see above; Fig. 4.2), the enclosure alignments apparently shifted from an almost cardinal alignment during ES1, to one that was oriented south-west to north-east during ES3. Enclosure System 1 (ES1) was appended to, and respected, the nucleated and coaxial enclosure systems in the native settlement (see Chapter 3, and below) and was consequently introduced in previously unoccupied areas on the outside curve of the road to Stainmore (RR1) in Field 258. Its alignment was c.13° east of north, appearing to reference the adjacent coaxial enclosures, the first iteration of Dere Street (RR3), and road RR7, which adopted the approximate course of native RW5 to maintain a connection across the north end of the settlement. Enclosure System 2 (ES2) was also probably of limited scale, yet the new alignment of c.20° east of north was aligned precisely with the road to Stainmore (RR1) and its south-eastern extension (RR4), and also with RR7, which may have been realigned to correspond with the new system. Otherwise, there was little evidence for features associated with ES1 or ES2 beyond the central northern area of Field 258, perhaps because the northern route of Dere Street (RR10) was not yet established on the course between Field 258 and 246. ES3 was aligned c.32° east of north and represented the final and largest enclosure system. The slight adjustment from the ES2 alignment appears to have been made in reference to a new alignment of the northward extension of Dere Street (RR10) north of the junction, which by then had adopted a triangular form and incorporated RR5 on its west side and RR6 to the east. Thoroughfare RR8 was aligned to accommodate Structure 34 and connect with perpendicular thoroughfare RR9, which coincided with the inner of two possible trapezoidal boundaries introduced after ES3 was established. The putative outer trapezoidal ditch perhaps represented an insubstantial settlement boundary that possibly continued on the west side of RR10 and connected with the possible Roman military post, while a ladder system and associated fields flanked the west side of Dere Street.

During Period 4, any sub-circular buildings were peripheral to the planned settlement and enclosure systems (Fig. 4.4); Structures 29 and 30 were situated centrally within native coaxial enclosures in Field 228 and may still have been occupied, (see Chapter 3), while putative Structure 49 was located behind the ladder enclosure in the former workshop enclosure along the west side of RR10 (see below). In a field to the rear of the ladder enclosures, large rectangular Structure 58 was aligned with an adjacent field boundary and was perhaps associated with agricultural pursuits. Whereas, in the settlement core, Enclosure Systems 1–3 were accompanied by a dispersed suite of seven buildings (Structures 32, 34, 35, 37, 38, 39 and 40), each with rectangular footprints, commonly used dimensions and some with outside ovens and evidence for the structural use of lead and Roman-type iron nails. Artefactual assemblages associated with the buildings indicate that most were used primarily for habitation with abundant evidence for dining in the Roman tradition. Structure 38 at the road junction appears to have been used for methodical cattle butchery and food production, perhaps for sale or supply. A nearby possible winged building (Structure 31) incorporated the same dimensions and was accompanied by rich assemblages including evidence for conspicuous dining, literacy, and leisure pursuits. The annexe of a possible apsidal building (Structure 33) also conformed to the standard dimensions and may have been uniquely important at the settlement. The alignments of the buildings appeared to conform to the enclosure system that was dominant when they were constructed, further demonstrating the planned nature and organisation of the settlement in Period 4. As might be expected in such a short-lived settlement, it is likely that most of the buildings remained in use from their construction to the time of abandonment around AD85/90.

Roman roads south of the junction

South of the road junction, the location and alignments of roads in Fields 269, 267a and 228 indicated that the remains represented sections of RR1 and RR6 near their point of divergence from a combined southern approach to Scotch Corner (Fig. 4.2). In the absence of adjacent contemporary settlement remains and closely dateable artefacts, it is not currently known how these roads related chronologically to the enclosure systems investigated in Fields 258, 229 and 265 around the road junction. It was inferred from the available evidence, however, that the remains in Field 267a relate to the primary road to Stainmore (RR1) that connected with RR2 to Stanwick, denoting an early construction date in Period 4, possibly before the enclosure systems were set out (Fig. 4.3). An early iteration of RR6 in Field 228 was perhaps introduced with ES1 or ES2, and three carriageways built above it could have been constructed subsequently in conjunction with occupation from the time ES3 was introduced. Following descriptions of these disparate elements, the chapter presents the features of more certain date recorded nearer the road junction, which represented a central reference during the development of settlement at Scotch Corner, and also for the discussion of archaeological remains.

RR1/RR6: the road to Stainmore/Dere Street east in Field 269

Immediately south of Scotch Corner roundabout, the archaeological horizon in Field 269 was truncated drastically by ploughing and levelling associated with modern road construction, yet it contained the most southerly tangible evidence for the south–north Roman road corridor inside the settlement at Scotch Corner (Fig. 4.2). The remains of an aggregate routeway (group **32696**) measured c.3m wide and 0.25m deep and included two well-worn wheel ruts spaced c.1.5m apart (Fig. 4.5). Its course was aligned precisely with the Roman roads at the boundary of Field 267a and Field 228 (see below) and the road junction to the north in Fields 265 and 246. East of routeway group **32696**, a series of truncated parallel gullies and ditches probably represented the bases of enclosure divisions, track-side ditches or wheel ruts. Most were thought to have extended all the way across the site prior to truncation, an exception being the eastern-most ditch, which terminated in the middle of the site underneath a hollow-way. At the east side of the field, hollow-way group **32697** was oriented north to south and measured c.2.3m wide and 0.2m deep. It was worn into the top of undated ditch **32657** and had been partially metalled on the base before it had filled with colluvial silts. No artefacts were recovered, but a Late Iron Age or Early Roman date is likely given the alignment and context, and it is possible that the heavily truncated remains represented the eastern edge of RW1 or RR6 (Figs 4.1 and 4.3).

RR1: the road to Stainmore in Field 267a

Approximately 250m south of the Roman road junction, and immediately north of Scotch Corner roundabout, a narrow excavation area almost connecting Field 267a with 228 bisected the c.35m-wide corridor containing five roads near the point where the course of later road RR6 diverged from that of RR1 (Figs 4.2 and 4.6). In spite of the complex of service trenches and land drains, and numerous episodes of modern road construction in Field 267a, the western edge of early road RR1 survived sufficiently for investigation. It survived partially as a 0.12m-thick, cambered, concreted deposit of sandstone and limestone pebbles and cobbles (**32575**) set on a 0.2m-thick *agger* of compacted sand and gravel (**32584**, not illustrated), which contained a single sherd of pottery that was too abraded for identification (Fig. 4.7). A shallow side ditch (**32634**, recut as **32636**) following the same alignment was recorded to the immediate west. The original feature (**32634**) was over 1.2m wide by 0.28m deep. Its fill (**32635**) contained fragments of animal bone, but no dateable artefacts. The orientation of the road and side ditches was more acutely north-west than the adjacent carriageways of Dere Street (RR6) in Field 228 and corresponded with a sinuous linear feature, which appeared in the geophysical survey to cut across the north-east nucleated enclosures and represent the primary road to Stainmore.

A small amount of additional evidence for occupation came from a short distance to the west of the roads in Field 267a where the latest identifiable activity in the former nucleated enclosures (see Chapter 3) was also potentially associated with the Roman road corridor (Fig. 4.7). Once

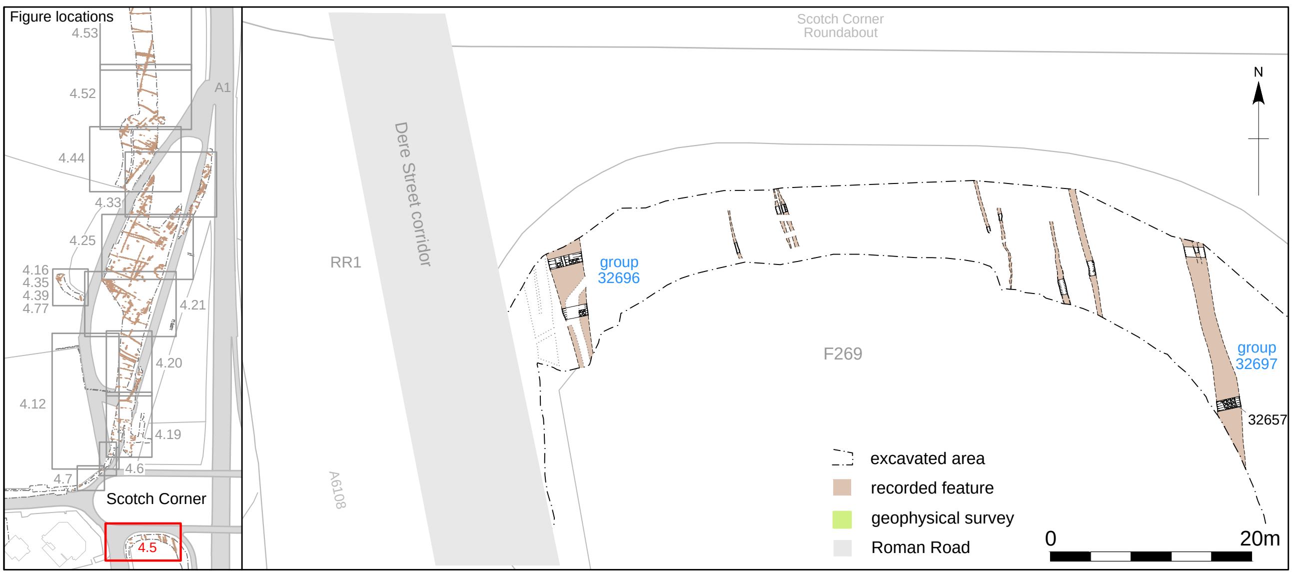


Figure 4.5: Scotch Corner: Field 269, the corridor of Roman roads RR1 and RR6 (Dere Street), and hollow-ways.

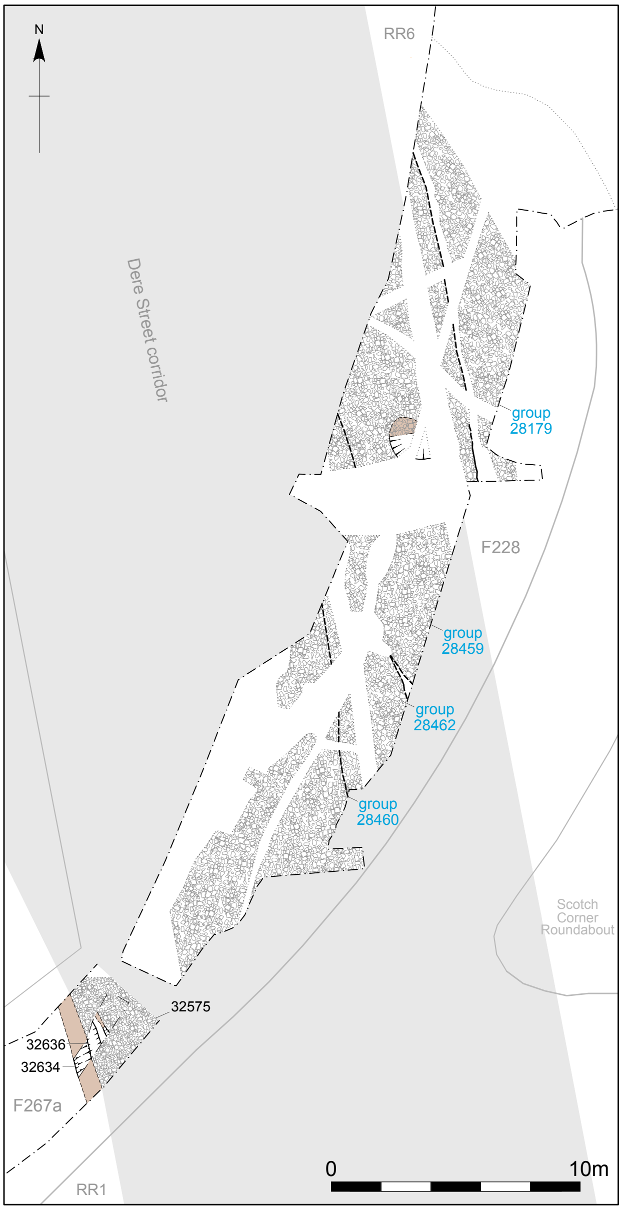


Figure 4.6: Scotch Corner: Fields 267a and 228, Roman roads RR1 and RR6 (Dere Street).

eastern nucleated enclosure ditch **32468** had infilled, it was capped with a layer of compacted crushed limestone containing charcoal (**32486**), which was overlain by a disturbed layer of flat stones (**32485**; Fig. 4.8) which were interpreted as a surface, though it was not clear whether it represented part of a road, yard, or structure. Amongst the soil matrix around the stone components, sherds of samian ware from the second half of the 1st century AD were mixed with mortaria and amphorae sherds from vessels produced in Period 4. Additional activity in the immediate area was represented by Period 4 pottery in fills which had subsided into well **31848** (Chapter 3, Fig. 3.78), and in pit **32376** (Chapter 3, Fig. 3.78), where an imported fine ware beaker from Lyon was part of a modest suite of vessels which represented tableware, vessels for food preparation and storage, and perhaps amount to casual dispersal along the roadside rather than proximate habitation (Leary, Chapter 5). Small assemblages of pottery recovered from a service trench extending along the south and west sides of Field 267a have yet to be published, but initial assessment indicates that habitation in the nucleated enclosures was concentrated in Period 2 and diminished through Period 3 into early Period 4 (NAA 2020; Leary pers. comm.)

RR6: Dere Street east in Field 228

In Field 228, the remains of four roads heading directly towards the secondary road junction in Field 265 followed the final course of Dere Street (RR6) through Scotch Corner (see above; Fig. 4.2). The earliest road in Field 228 (group **28461**; Fig. 4.9) was sealed beneath three parallel carriageways constructed on the same alignment (see below). The complete profile of road group **28461** was never exposed, but it was possible to discern a shallow-cambered aggregate surface, which had been pressed into the natural boulder clay. In the absence of dateable artefacts, its stratigraphic position beneath three later carriageways of the same road demonstrate that it was the earliest iteration of the final route of Dere Street towards the junction and may have been introduced shortly after RR1.

Above this early version of Dere Street east (RR6), the north-east road (group **28459**) may have been the earliest of three parallel carriageways constructed on layers of imported sand and gravels. The road was c.6m-wide and had been worn into a shallow hollow-way that was consolidated with aggregates (Fig. 4.6). Fragments of fired clay and sherds of an early Flavian rusticated jar and mortaria had been crushed into the surface (**27750**) as well as some vessel glass and undiagnostic ceramic building material in equivalent layer **27751**. On the north-east side of road group **28459**, a heavily rutted aggregate hollow-way (group **28179**; Fig. 4.10) appeared to have been added to the existing carriageway. The date of this addition is uncertain, as neither the fabric nor surface included any dateable material. Its form, however, did appear to represent a retrograde construction technology.

The central road (group **28462**) ran along the south-east side, their cambers sloped towards each other to create a central drain. It was c.5m wide and flanked by kerb stones that were integrated into the road matrix. Unlike road **28459**, it comprised a cambered sandy clay *agger*, on which the 0.13m-thick cobbles and pebble fabric was constructed, with no dateable objects in the fabric or on the surface. At the edge of the excavation area, beyond the areas badly affected by modern services, the possible remains of a flagged road surface were adjacent to the north-eastern kerb. In parts where the surface survived less well, numerous parallel wheel ruts confirmed the orientation of the road.

The south-west road (group **28460**) was the best-preserved iteration of Dere Street (RR6) at this location, and also possibly the latest. It was at least 8m wide and comprised a c.0.3m-thick cambered *agger* of sandy clay, which provided the foundation for a c.0.2m-thick compacted fabric of rounded and angular cobbles and pebbles (Fig. 4.11). Overlying this were surviving patches of the road surface, which comprised smaller pebbles and gravel.

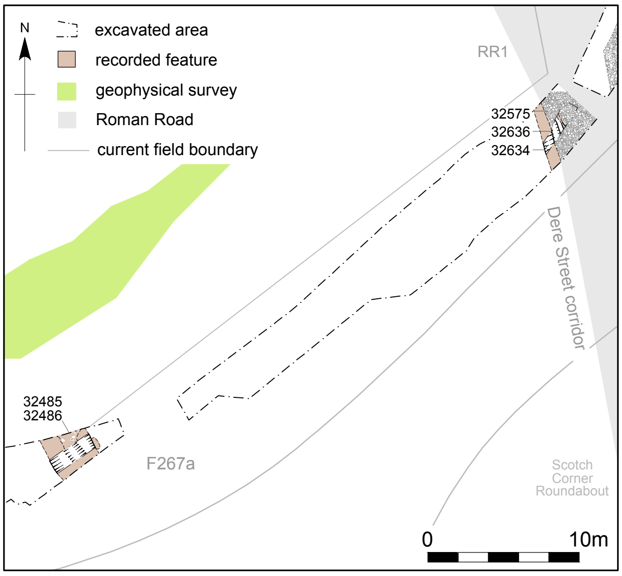


Figure 4.7: Scotch Corner: Field 267a, Roman road RR1 and side ditches.

*Figure 4.8: Scotch Corner: Field 267a, surface **32485**, facing west.*

Agger material **27783** contained pieces of animal bone, while **27760** represented part of the road fabric and contained sherds of pottery produced abroad either in the Neronian or Early Flavian period. The form and scale of this road were sufficiently distinctive to indicate that its continuation was observed in service trench NPG37, which crossed the course of Dere Street in a heavily disturbed area c.100m to the north (see below). Above the Roman roads in Field 228 was a heavily disturbed horizon (**27742**) containing a range of cultural material emanating from Period 4. Amongst the sherds of mortaria, amphorae, samian ware, fragments of ceramic building material and iron nails was a lead strip and a range of Early Roman copper-alloy objects including a brooch (RF12605, not catalogued; Appendix H) and a copper-alloy and iron button (RF12603, not catalogued; Appendix H). An equivalent deposit (**27748**) contained a copper-alloy

*Figure 4.9: Scotch Corner: Field 228, Roman road RR6, road group **28461**, facing south.*

Figure 4.10: Scotch Corner: Field 228, Roman road RR6, hollow-way group ***28179****, facing north-east.*

Figure 4.11: Scotch Corner: Field 228, Roman road RR6, road group ***28460****, facing south-east with Scotch Corner roundabout behind.*

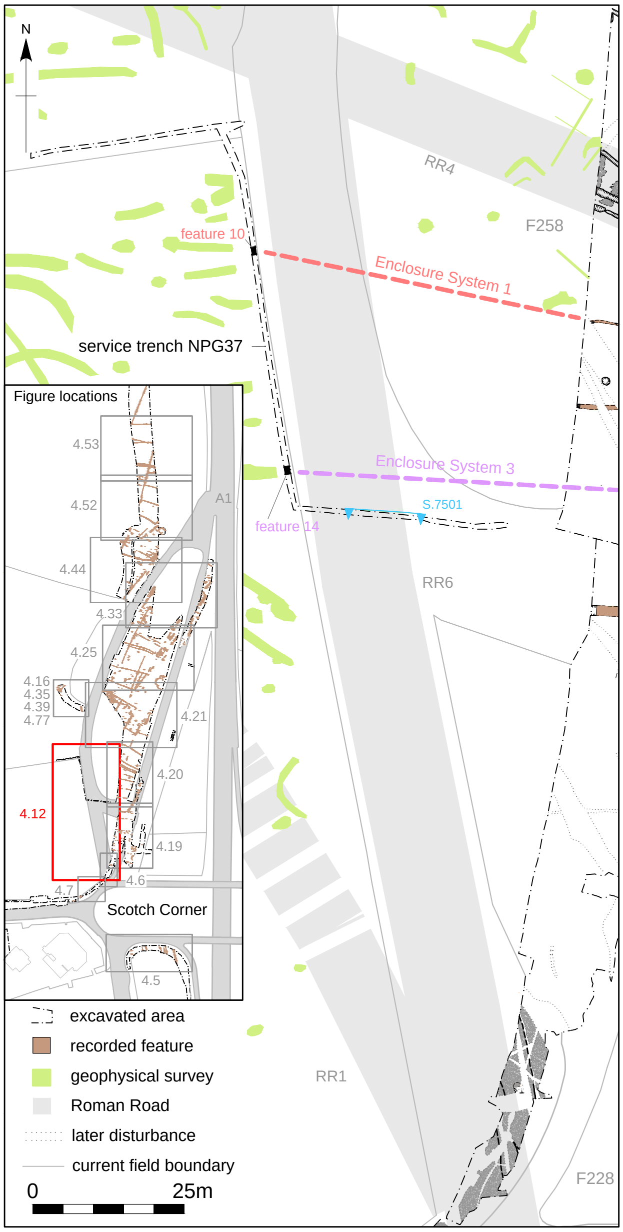


Figure 4.12: Scotch Corner: Fields 267a and 228, location of service trench NPG37 and relevant features.

pin head (Cat. no. 827), all of which suggested either proximate occupation, or that items were frequently lost along this portion of Dere Street during Period 4.

In the absence of convincing stratigraphic relationships between the three parallel roads, it was not possible to confidently determine which was the earliest, nor was it possible in the excavation area to confirm how any of the iterations related stratigraphically to the coaxial enclosure ditches in Field 228, which were probably occupied before the first Roman roads were constructed, and apparently remained so for a short period afterwards (see Chapter 3 and below). However, it is likely that numerous iterations were ultimately in use at the same time. A similar scenario was discovered at Healam Bridge, c.24km to the south along the same road (Ambrey *et al*. 2017, 47–51, 62–5), where carriageways had been added in response to changing courses, increasing demand and deteriorating surfaces.

RR6: Dere Street in service trench NPG37

Service trench NPG37 cut across the course of Dere Street (RR6) on its approach to the Roman road junction (Figs 4.2 and 4.12). The complete span of the Roman road corridor was not accessible in the trench, but one of the later surviving iterations was at least 5m wide and 0.25m thick near the centre, with a cambered *agger* formed from limestone and sandstone cobbles with a sandy gravel matrix (Fig. 4.13, section 7501; Fig. 4.14). The fabric had effectively fused together, creating a hard-wearing surface, which had been constructed on a soil and turf horizon and/or imported deposits of silty sand. Accompanying recut north–south ditches ran along the east side of the road. The underlying deposits, form and composition of the road were very similar to those associated with road group **28460** in Field 228, c.100m to the south (see above), while the remains of the turnpike road only survived here because this segment of the Great North Road was isolated when the dual carriageway was constructed in the 1970s.

Enclosure System 1 (ES1) and associated Roman roads

From the beginning of Period 4 (c.AD70), it is probably reasonable to propose that Roman road construction and occupation at Scotch Corner were associated directly with conquest of the north and suppression of any lingering civil rebellion inside Brigantian territory. The first hypothesised enclosure system (ES1) in Field 258 perhaps represented the earliest stages of Roman planned settlement, which

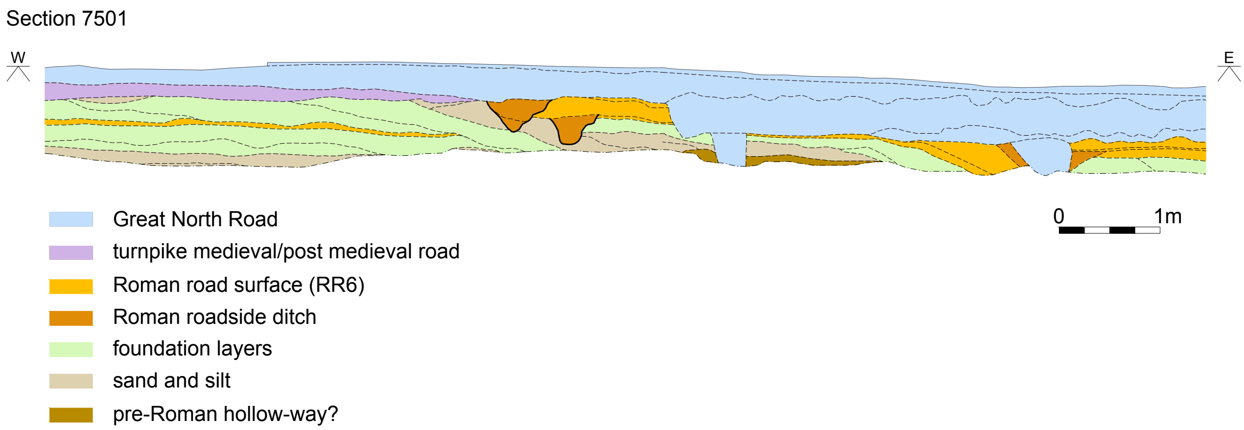


Figure 4.13: Scotch Corner: Field 228, sequence of road surfaces and deposits in service trench NPG37.

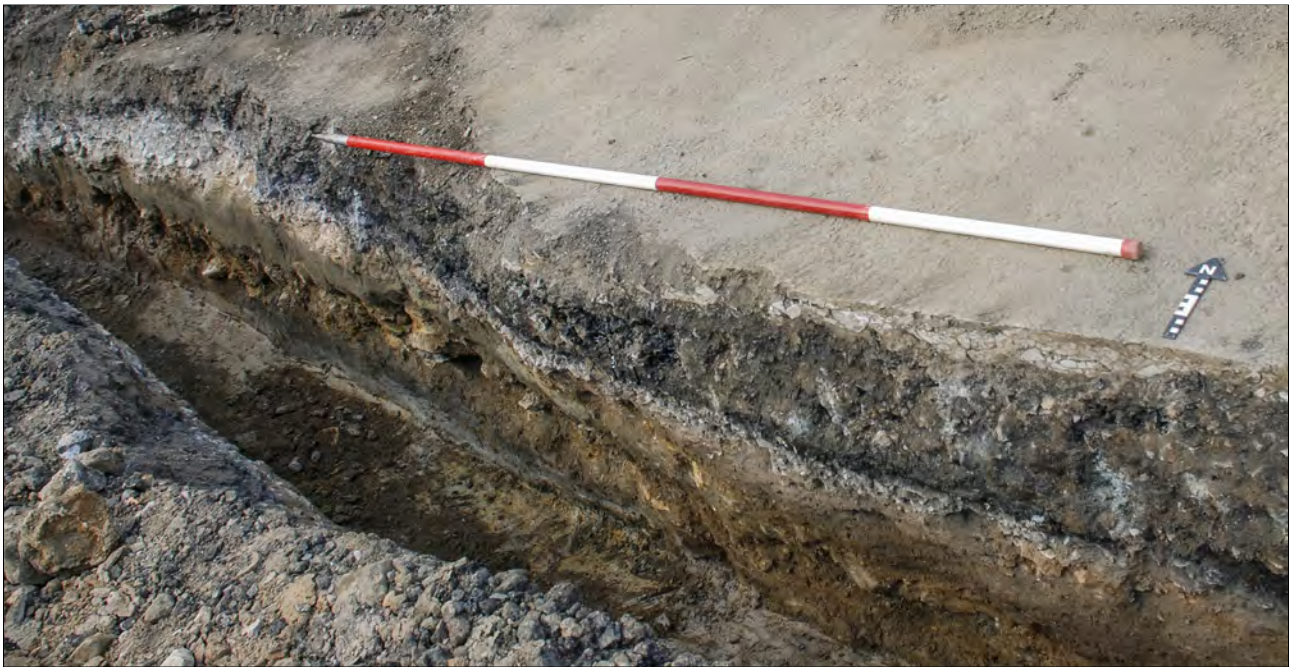


Figure 4.14: Scotch Corner: service trench NPG37, Roman road RR6, turnpike and Great North Road following same course, facing north-west.

was apparently surveyed with reference to the first iteration of road RR3 (group **29964**; Fig. 4.2), and to RR7, a first engineered iteration of former native routeway RW5 (Fig. 4.1). The new route represented by RR3 (Fig. 4.2) probably joined with the road to Stainmore (RR1) approximately 35m to the south of the excavation area in Field 265, a short distance south-east of the point where the road to Melsonby and Stanwick (RR2) connected with it. North of the road junction, the projected alignment of RR3 remained outside the A1 scheme excavation area; its possible continuation was suggested by parallel geophysical anomalies west of Crookacre Plantation (Figs 4.3 and 4.15). Although the putative course was lost further north, it is certainly feasible that it represented the precursor of the enduring route of Dere Street towards Piercebridge, and possibly beyond. To the east of RR3, RR6 was probably introduced to smooth south–north movement, presumably connecting with RR3 inside the area now lost to the quarry in which Crookacre Plantation has grown. The sunken interior of a possible structure (**15215**; Fig. 4.15) occupied a small central sub-enclosure and was reminiscent of Period 3 Structure 57 (see Chapter 3), while possible apsidal Structure 33 was constructed within a central zone with little evidence for activity.

The Roman road junction (Field 265)

RR3: Early Dere Street (group 29964)

Much of the activity associated with road construction in ES1 at the junction occurred above the pre-Roman junction of routeways RW2 and RW3 in Field 265 (Fig. 4.1), where a period of abandonment allowed for the accumulation of a mixed colluvial deposit (group **29972**; Fig. 4.16). The material was thickest and most extensive at the lower east side of the excavation area and probably incorporated materials associated with the demolition of Period 1 four-post Structure 36 (group **31535**, not illustrated), which may have been a grain store (see Chapter 2). In addition to the domestic refuse represented by charred cereals, charcoal, animal bone, fired clay, iron nails, hand-built pottery and sherds of Period 4 coarseware, the accumulated deposits included a trio of artefacts which exemplified the coexistence of native and Roman traditions at Scotch Corner immediately prior to road construction. A copper-alloy dumb-bell toggle (Cat. no.692) of native design may have been used on horse harness (Croom, Chapter 6), and there was also a possible equine connection with a faience melon bead (Cat. no. 755) of a type which had various uses in the Roman world, including decoration of horse harnesses (Foulds, Chapter 6). Although unremarkable in isolation, the spherical Roman copper-alloy pin/tack head (Cat. no. 828) from the same deposit was further evidence for Roman contact or presence immediately prior to road construction.

Above this layer of colluvium in the approximate centre of the excavation area of Field 265, road **29964** followed a north-north-east to south-south-west course and survived to a maximum width of 7.8m (Fig. 4.17). Three distinct layers included a silty sand foundation layer, a stone fabric which had been used to create a cambered agger, and an aggregate running surface, all of which included sherds of imported pottery produced in the Neronian and early Flavian periods (Leary, Chapter 5). Foundation layer **31588=31716** (not illustrated) had been deposited in a swathe approximately 7.8m wide and 0.1m thick, from which ash charcoal provided a radiocarbon date range 40 cal BC–cal AD130 (95.4% probability; SUERC-83997), which was refined through Bayesian modelling to the second half of the 1st century AD (Hamilton, Chapter 9). Above this, road fabric **31700** (not illustrated), was c.5m wide and consisted of a single layer of sub-angular limestone pieces up to 0.3m long that had been laid along the middle of the road to create a shallow camber with a possible eastern kerb. The fabric included domestic

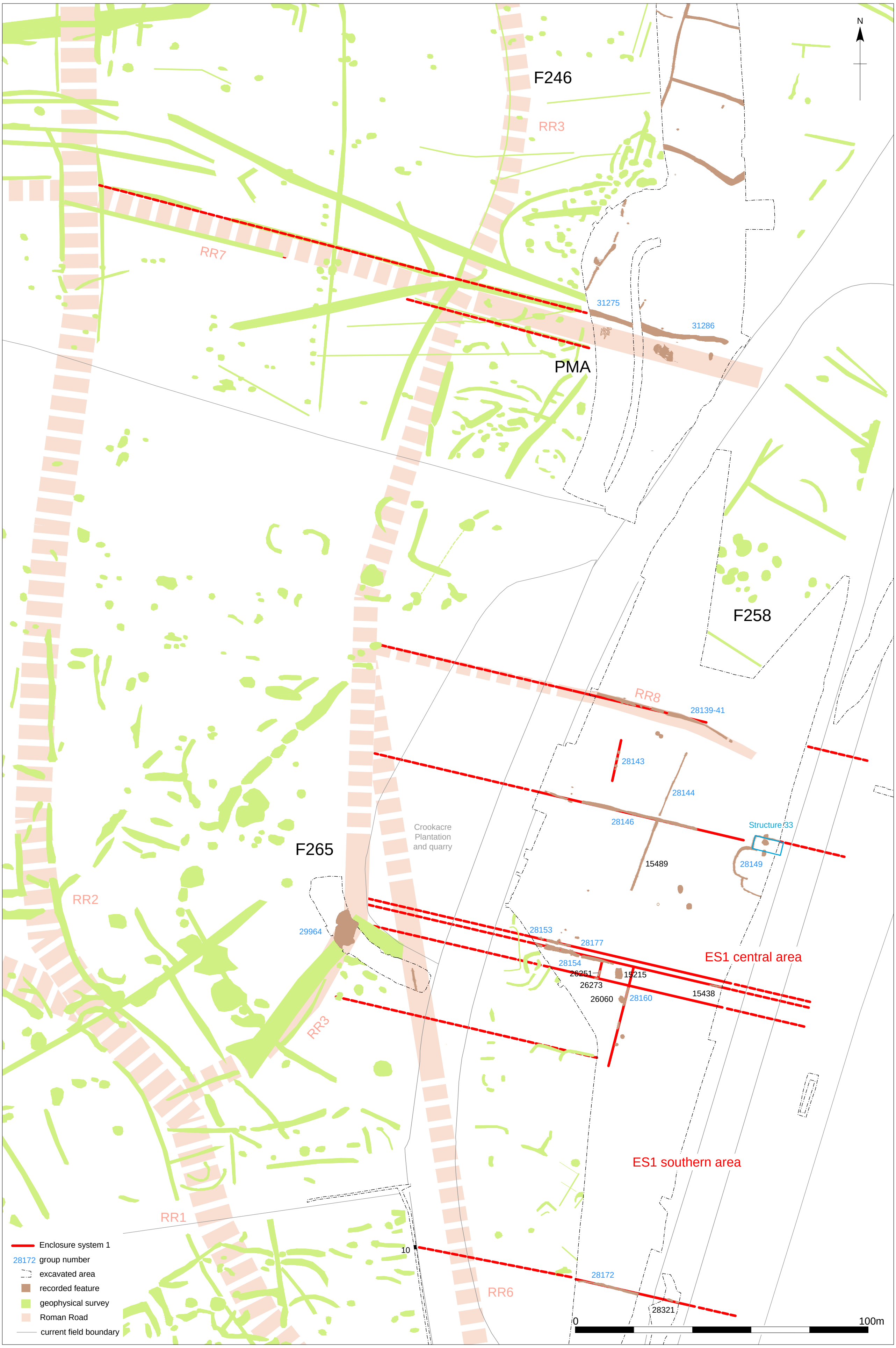


Figure 4.15: Scotch Corner: Enclosure System ES1 and associated Roman roads.

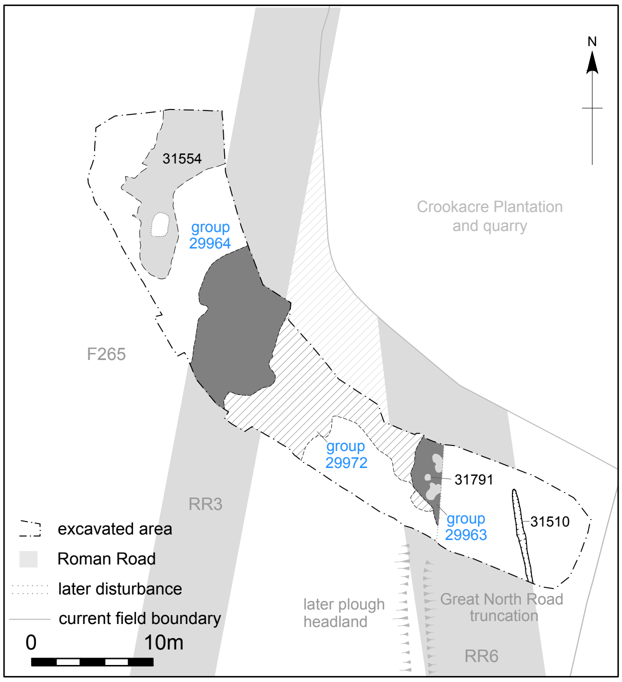


Figure 4.16: Scotch Corner: Field 265, junction of Roman roads RR3 and RR6 with Enclosure System ES1.

refuse, which comprised an iron nail and a fragment of an upper disc quern (Cat. no. 878), which was made of local stone in the fashion of a Roman lava quern and perhaps represents local production and supply to Roman troops (Cruse, Chapter 6); three other examples of this tradition found in broadly contemporary contexts in Field 246 represent a distinct shift towards technologies associated with Roman and military practices in Period 4. Above the fabric layer, the road's running surface (**31699**, not illustrated) was a 0.1m-thick layer of crushed stone within a grit-sand matrix, which had been disturbed by later activity, but had originally been at least 6m wide. It seems likely that cobble trackway **31554** represented part of this road before considerable use and refurbishment included its repurposing as a yard associated with a roadside enclosure (see below), and much later with a flag-stone floored building (Ross and Ross in prep.).

RR6: Dere Street east (group 29963)

Ill-defined stratigraphic relationships observed during excavation led to a tentative conclusion that RR6 (group **29963**) was introduced shortly after RR3 (group **29964**) and following inception of ES1 (Fig. 4.16). As stated previously, it seems likely that this early version of RR6 was designed to connect with RR3 and bypass the T-junction with RR1, thus creating a slip road that expedited south–north movement.

Midden-like material was spread over the east side of the excavation area and represented intense activity

*Figure 4.17: Scotch Corner: Field 265, Roman road RR3, group **29964** sealed beneath RR5, which followed a diverging alignment, facing south.*

*Figure 4.18: Scotch Corner: Field 265, Roman road RR6, group **29963** truncated to east, facing south.*

immediately prior to construction of the first iteration of RR6 (group **29963**). Part of the material survived as patches (**31791**), which were particularly rich in organic remains and represented residues associated with food preparation (Baines, Chapter 8), but very little pottery that might usually accompany such refuse. A radiocarbon date on hazel charcoal of cal AD1–140 was modelled to a c.25-year window in the later 1st century AD (95.4% probability; SUERC-84003; Hamilton, Chapter 9), which provides the best-supported estimate for the construction of Dere Street at the junction. In the same layer, a complete copper-alloy headstud brooch with enamel decoration and a small fragment of foxtail chain (Cat. no. 723) was of a type typically worn by women to fasten their tunics and belonged to a continental costume tradition that was adapted in some parts of southern England in the Late Iron Age, but only became widespread in the north with the arrival of the Romans (Croom, Chapter 6).

Lying directly on top of deposit **31791**, RR6 (group **29963**; Fig. 4.18) was substantially truncated by post-medieval and modern activity associated with quarrying at Crookacre Plantation and development of the turnpike and Great North Road, making its full dimensions impossible to ascertain, although if contemporary, the position of roadside ditch **31510** indicates an approximate width of c.6m. The very base of ditch **31510** included artefactual material that was consistent with the domestic refuse from deposit **31791**, but of particular note was a pottery disc (Cat. no. 808) interpreted as a lid by Leary (Chapter 5), although Croom (Chapter 6) proposes its possible use as a tally or for accounting, which would be more in keeping with the collection of styli and glass counters associated with ES3 activity immediately east of the road junction in Field 258 (see below).

The remaining foundation layer (**31788**) of road **29963** measured 0.1m thick and was formed with laminated sand layers, which had gleyed as a result of periodic waterlogging. The material included refuse from a domestic setting, as was demonstrated by objects such as an iron nail, fragments of fired clay and a scrap of vessel glass. The charcoal assemblage was primarily native deciduous hardwood and the wide range of charred plant remains was dominated by cereals and food remains, which also implied nearby habitation. The aggregate road surface (**31786**, not illustrated) was composed mainly of crushed and fragmented stones up to 0.1m in diameter, with occasional cobbles up to 0.15m in diameter. The material had been tightly packed to form a layer approximately 0.15m thick, and it was thought that this represented an original, albeit heavily disturbed running surface.

ES1 southern area (Field 258)

The remains of ditched boundaries attributed to ES1 were vestigial and only survived in areas with deep ploughsoil. In addition to their alignments, a notable shared attribute was the paucity of cultural material in ditch fills, whereas features inside the enclosures were more productive. Appended to the coaxial enclosure system introduced in Period 2 in Field 228 (see Chapter 3; Fig. 4.19), the most southerly boundary to align with ES1 was ditch group **28172** and ditch **28321** (Figs 4.15 and 4.20), which together may have been incorporated,

Figure 4.19: Scotch Corner: Field 228, Period 2–4 and Period 5 features.

adapted and maintained once ES1 was developed; effectively, the boundary connected the existing native enclosures with those first introduced in Period 4 and was almost certainly adopted by ES2 and ES3, implying some degree of continuity in the layout and community of the settlement. The course of ditch group **28172** was traced c.55m to the north-west, in service trench NPG37, where a possible continuation of the ditched boundary (Feature 10; Figs 4.12 and 4.15) was overlain by patches of aggregate roads that survived in pockets beneath a roadside hedge-line and probably represented the vestiges of RR6.

Approximately 108m to the north of ditch group **28172** and ditch **28321**, parallel south-east to north-west ditch and gully groups **28177**, **28154** and **28153** crossed the western corner of Field 258, having been mostly ploughed away to the east (Figs 4.15 and 4.21). The earliest boundary was formed by group **28177**, which had been cut away on its south-east side by the recut group **28154**, but was at least c.0.4m wide by 0.25m deep. The only artefacts and environmental remains were an iron nail, and small quantity of oak charcoal in deposit **26256**, while fill **26122** included hand-built pottery sherds and an assemblage of imported coarseware pottery produced in the late Neronian or early Flavian period, as well as sherds of glass that came from vessel forms in use from the 1st to the 3rd-century AD (Cool and Leary, Chapter 5). Ditch group **28154** was cut along the same course as **28177** and was marginally wider and deeper. As might be expected during a period of road construction and activity around the road junction, there was a commensurate increase in artefactual remains in the ditch fills in enclosures near the roads and junction. Sherds of coarseware and samian vessels produced in the Neronian and early Flavian periods were more frequent than in group **28177**, and hand-built forms were scarce.

The presence of three lead rivulets (RF10009, RF10011, and RF10012, not catalogued; Appendix H) demonstrate structural use of the material, which was absent in earlier periods (see Chapter 3), while the single black glass counter (Cat. no. 801) in fill **27093** was one of 23 counters discovered in the vicinity of Structure 31 and believed to be associated either with administrative accounting, and/or with board games, as well as carrying military associations (see below and Croom, Chapter 6). At the eastern edge of Field 258, gully **15438** continued the course of groups **28177** and **28154** after a c.26m gap, which demonstrated that ES1 probably extended east of the excavation area. Its fill (**15439**) included sherds of samian ware and coarseware vessels that were consistent with activity in later Period 3 and early Period 4. Immediately north of groups **28177** and **28154**, the same enclosure boundary was represented by gully group **28153**, which was only 11.4m long, 0.5m wide and 0.1m deep and contained oak and ash charcoal, although no dateable finds were recovered. Parallel gully **26313** (not illustrated) to the immediate south was also devoid of finds. Some of the postholes around the south-west end of the gully may have been associated with the boundary, but could also have represented components of rectilinear Structure 31, which occupied ES3 (see below).

From gully group **28153**, the discontinuous vestiges of a perpendicular enclosure boundary represented by gully group **28160** extended for c.24m to the south, beyond which point it was lost entirely to later activity and ploughing (Fig. 4.21). Two perpendicular segments of sub-enclosure gullies (**26273** and **26251**; Fig. 4.22) from the same system were closer to the activity focus near the road junction, which their contents reflected. As in ditch group **28154**, fill **26274** of gully **26273** contained a lead rivulet (RF12529, not catalogued; Appendix H), which probably derived from Roman structural use (Croom, Chapter 6), as well as sherds of Period 4 samian ware and alder or hazel charcoal. Fill **26252** of gully **26251** included Period 3 and Period 4 coarseware pottery and samian, and an incomplete copper-alloy tack (Cat. no. 826) of Roman design, which may have been decorative, or a rivet to attach mounts (*ibid*.). The deposit also contained hazel charcoal and fragments of fired clay that potentially derived from a hearth, kiln, or mould (Mackenzie, Chapter 7). The absence of metal residues suggests that they were associated with domestic activity, and possibly came from nearby oven **26307** (see below).

Feature 15215

The alignments of the ES1 enclosure ditches were referenced approximately by a substantial sub-rectangular interior feature (**15215**), which occupied the north-east corner of the enclosure defined by groups **28153**, **28154** and **28177** on the north side (Fig. 4.22), and group **28160** on the east side, but apparently outlived ES1 (Fig. 4.21). The flat-bottomed cut of **15215** was c.3.5m long by 2.35m wide, with near-vertical sides (Fig. 4.23). A small patch of stones (**15238**) along the west side of the exterior was presumably laid to consolidate frequently trodden ground. Inside the feature, the base of a possible posthole (**15367**) or part of a beam-slot occupied the north-east corner and was the only discernible, is unconvincing, structural component (Fig. 4.21). In the absence of any other putative structural features, it was not appropriate to interpret the remains as a 'sunken-feature building', although it was similar in size and morphology to the foundation cut of Period 3 Structure 57 before the latter was backfilled with clay and the stone structure built (not illustrated; see Chapters 3 and 10).

While the clay-rich layers in feature **15215** did not provably provide a foundation, as for the stone iteration of Structure 57, they were rich with discarded artefacts, which signified adjacent occupation and deposition of Roman-derived accoutrements. Fragments of local deciduous charcoal were abundant in primary fill **15242**, which also contained charred barley and wheat grains and a (?)placed copper-alloy coin (Cat. no. 677) minted in AD77–8 for Titus under Vespasian in Lyon (Brickstock, Chapter 6). The same deposit also contained sherds of Scotch Corner mortaria produced locally before c.AD70 (Hartley, Griffiths and Williams, Chapter 5), stamped samian ware dated from c.AD60–85 and c.AD50–75,

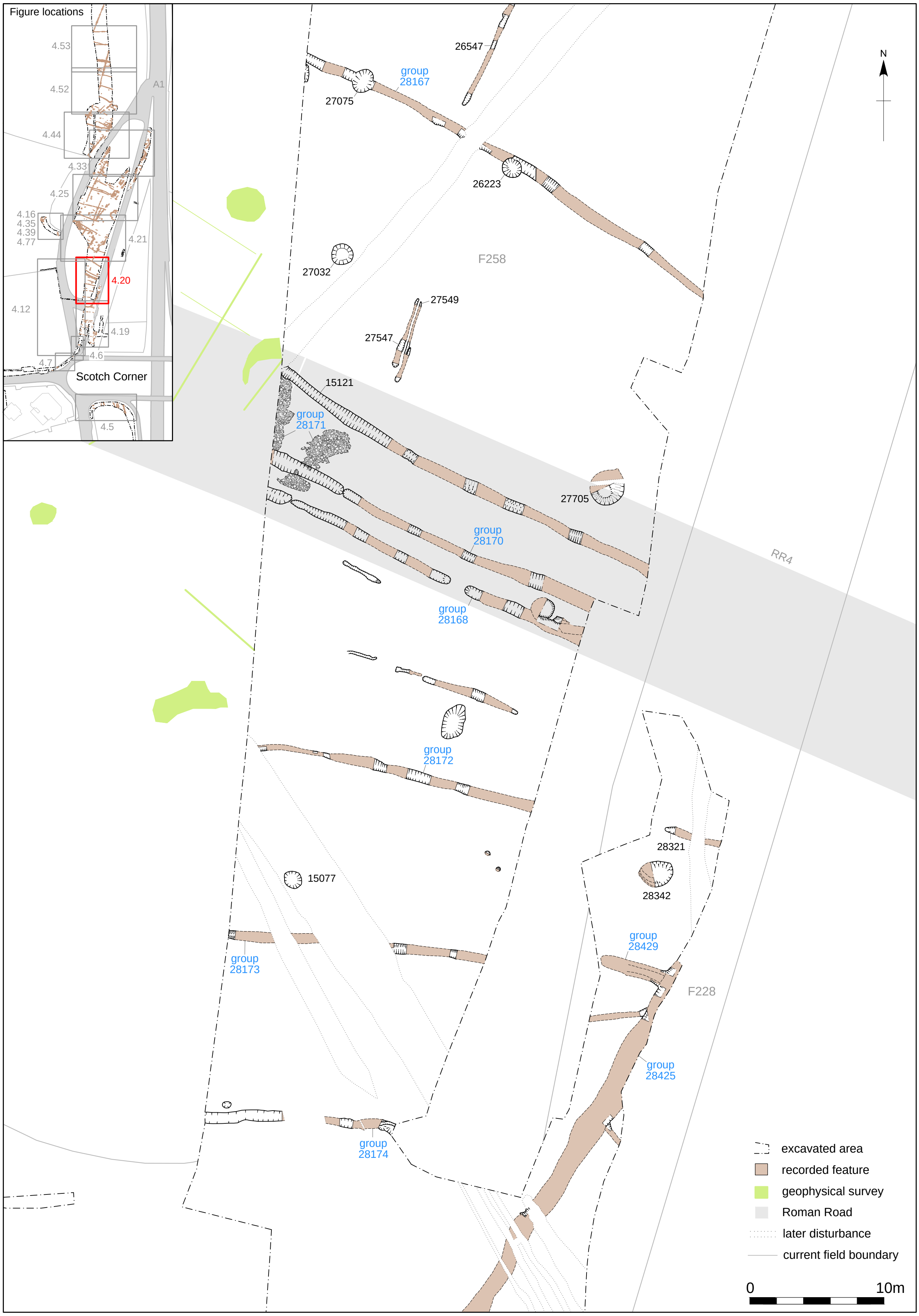


Figure 4.20: Scotch Corner: Fields 228 and 258 southern area, Period 4 and Period 5 features.

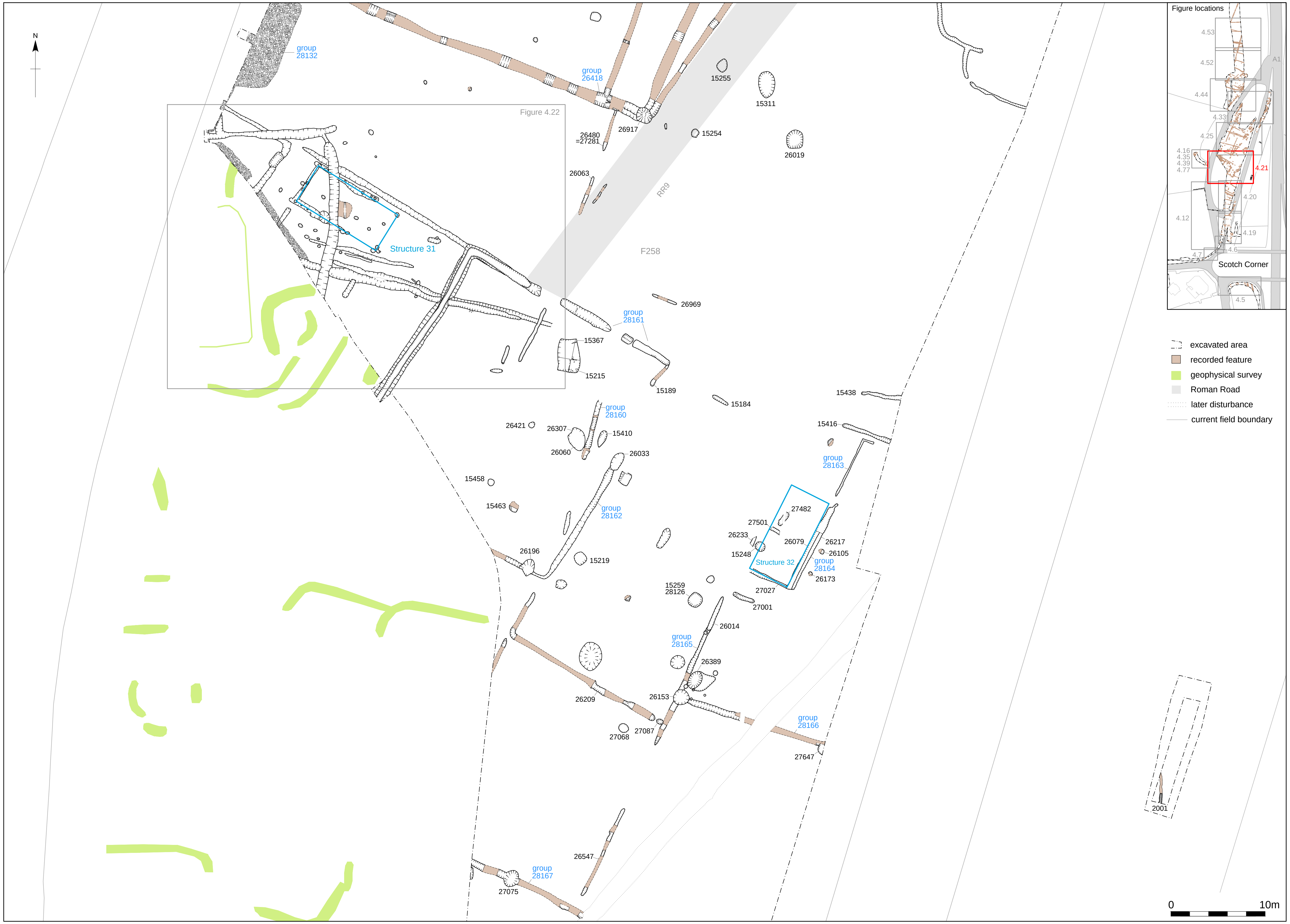


Figure 4.21: Scotch Corner: Field 258 south and central areas, Period 4 and Period 5 features.

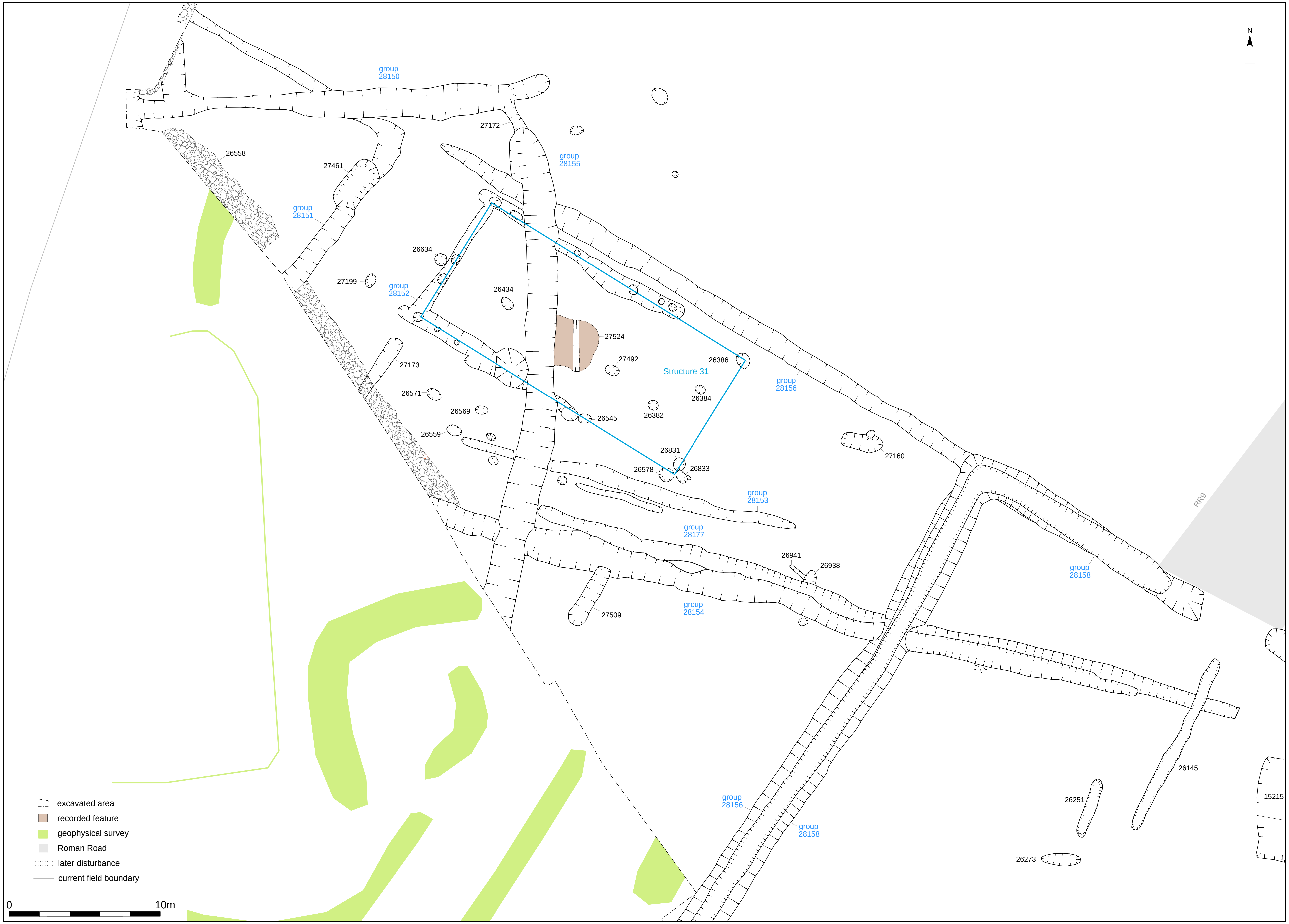


Figure 4.22: Scotch Corner: Field 258 central area, rectilinear enclosures and Structure 31.

*Figure 4.23: Scotch Corner: Field 258 central area, feature **15215**, facing south-east.*

and a rare occurrence of 'carrot' amphorae (Cat. no. 286), which may have been used to transport exotic fruit, possibly dates, from the eastern Mediterranean, although whether their contents made it as far north as Scotch Corner remains unknown (see Monteil and Griffiths and Williams, Chapter 5). Sherds of Baetican Dressel 20 olive oil amphora in the same fill were synonymous with the military character of vessels in Period 4, which was also exemplified by the coarseware bowls, flagons and jars (Leary, Chapter 5) and complemented by sherds of blue/green bottle glass. The range of recovered materials demonstrate that the material used for infilling feature **15215** was primarily associated with reasonably conspicuous consumption, although animal bone and

*Figure 4.24: Scotch Corner: Field 258 central area, oven **26307**, facing north-east.*

fired clay was also present. Additional examples of iron nails, vessel glass, coarseware, samian ware and amphora were found with animal bone, charred cereals and charcoal in secondary fill **15308**, and tertiary fill **15216**, which followed the same pattern of discard observed towards the end of ES3 when much of the settlement was backfilled (c.AD85/90; see below).

Approximately 6m to the south of feature **15215**, and adjacent to the eastern enclosure boundary, oven **26307** was the only potential evidence for food preparation inside the rectilinear ES1 enclosures at the western corner of Field 258 (Fig. 4.24). It had been constructed on top of pit **26060** once the earlier feature was infilled with Period 3 and 4 imported pottery, vessel glass, charcoal, charred cereal grains, animal bone and some undiagnostic non-ferrous slag (Mackenzie, Chapter 7). Aside from the modest evidence for metalworking, the assemblage suggested that initial refuse disposal in the enclosure reflected deposition in the boundary ditches, which included luxury items and typically Roman objects pertaining to the elevated status of the individuals living in the settlement. Oven **26307** was teardrop-shaped and measured 2.2m long by 1.3m wide. It was 0.3m deep in the bowl, which was lined with roughly hewn, small limestone slabs, which demonstrated signs of in-situ burning. Once its primary function ceased, it had been filled with domestic refuse that included Period 3 and 4 samian and coarseware, vessel glass, animal bone, and a relatively large collection of fired clay fragments and charred cereal grains reflecting continued cultivation and/or import of spelt and barley. Charcoal fragments of imported silver fir in upper fills **26128** and **26192** were the only occurrence of the species in any period at Scotch Corner and potentially represented parts of a broken barrel or bucket, or the oven's timber structure (Baines, Chapter 8). In a location where deciduous hardwoods were commonly available for firewood, any of the stated options might represent appropriate use of the exotic coniferous wood.

ES1 central area (Field 258)

Near the centre of Field 258 were additional boundaries associated with ES1 (Figs 4.13 and 4.21), some of which were incorporated into ES2 and ES3 (see below). In the area north of boundary groups **28153**, **28154** and **28177**, the south-east side of a c.38m-wide rectilinear enclosure was defined by ditch **15489** (Figs 4.15 and 4.25). The ditch was typically c.1m wide by c.0.5m deep with steeply sloping sides, and contained very modest quantities of hardwood charcoal, as well as Period 3 and 4 pottery sherds and animal bone. It connected with a perpendicular and contemporary boundary represented by ditch groups **28145** and **28146** (Fig. 4.25), which in ES1 extended for c.36m across the field and terminated c.17m north-west of Structure 33 (see below). The pottery recovered from enclosure ditch group **28145** was characterised by vessels dating from after c.AD65 (Leary, Chapter 5), including mortaria from c.AD60 and AD90 (Griffiths and Williams, Chapter 5). Also typical of Period 4, vessel glass dating from the mid-1st century was present, as were iron nails and fired clay, but only very small amounts of oak and alder charcoal and charred spelt, which perhaps indicates that food production was not a primary activity in the enclosures that were central to Field 258, a possibility which was corroborated by the poor artefactual and environmental assemblages from ditch group **28146**. The only notable environmental material in group **28146** was a rare example of charred emmer in fill **26710**, which was not unknown in earlier periods, but certainly was more common in Period 4, and potentially a result of a Roman presence. A more certain signifier of Roman influence was a coin fragment (Cat. no. 681), possibly an *as* of early Flavian date (Brickstock, Chapter 6), found at the north-west end of the ditch near the 5.2m-wide entrance between groups **28145** and **28146**, where a possible gatepost on the north-west side indicates controlled access for livestock between enclosures.

There were few features inside the rectangular enclosure to the north, the most distinctive being a line of four postholes (group **28143**; Fig. 4.25), which represented the only surviving indication of interior structural features. Occupation was inferred from assemblages of charred barley, wheat and spelt were mixed with sherds of samian and imported coarseware pottery of Period 3 and 4 production in the posthole fills, while another example of a copper-alloy vessel came from fill **15335** in north-eastern posthole **15334** where part of a handle (Cat. no. 778) could signify bathing apparatus, but was more likely part of a dining service (Croom, Chapter 6). A rivulet (RF10080, not catalogued; Appendix H) of the same material in fill **15355** is a reminder that non-ferrous metalworking was formerly a defining aspect of Scotch Corner before the introduction of the enclosure system and may have been assimilated by the Romans if the increasing use of copper alloy reflects local production in Period 4. The enclosure was defined on its south-east side by ditch group **28144**, with steep-sides that were suggestive of a fence-line, which terminated c.7.5m short of the north-east side of the enclosure, though this may be due to truncation rather than being intrinsic to design and function.

On the north-east side, the original boundary was formed by groups **28140** and **28141**, which incorporated a 4.6m-wide entrance with a central posthole (**27295**), allowing (and presumably controlling) access between the enclosures. The small amounts of samian and coarseware produced after c.AD70, and the lead sheet (RF14563, not catalogued; Appendix H) from fill **27294** of group **28141** were in keeping with Roman type activity, as were the iron nails, which could have been used in boundary fences or structures.

Structure 33 (group 28149); a possible apsidal building

In an open area at the south-east side of Field 258, an arrangement of connected gullies respecting the alignments of ES1 represented either a very unusual small enclosure or more probably the remains of an apsidal structure with side annexes (Figs 4.15 and 4.23). The central arcing gully had an internal diameter of c.10m and was flanked to the north by an L-shaped gully, which

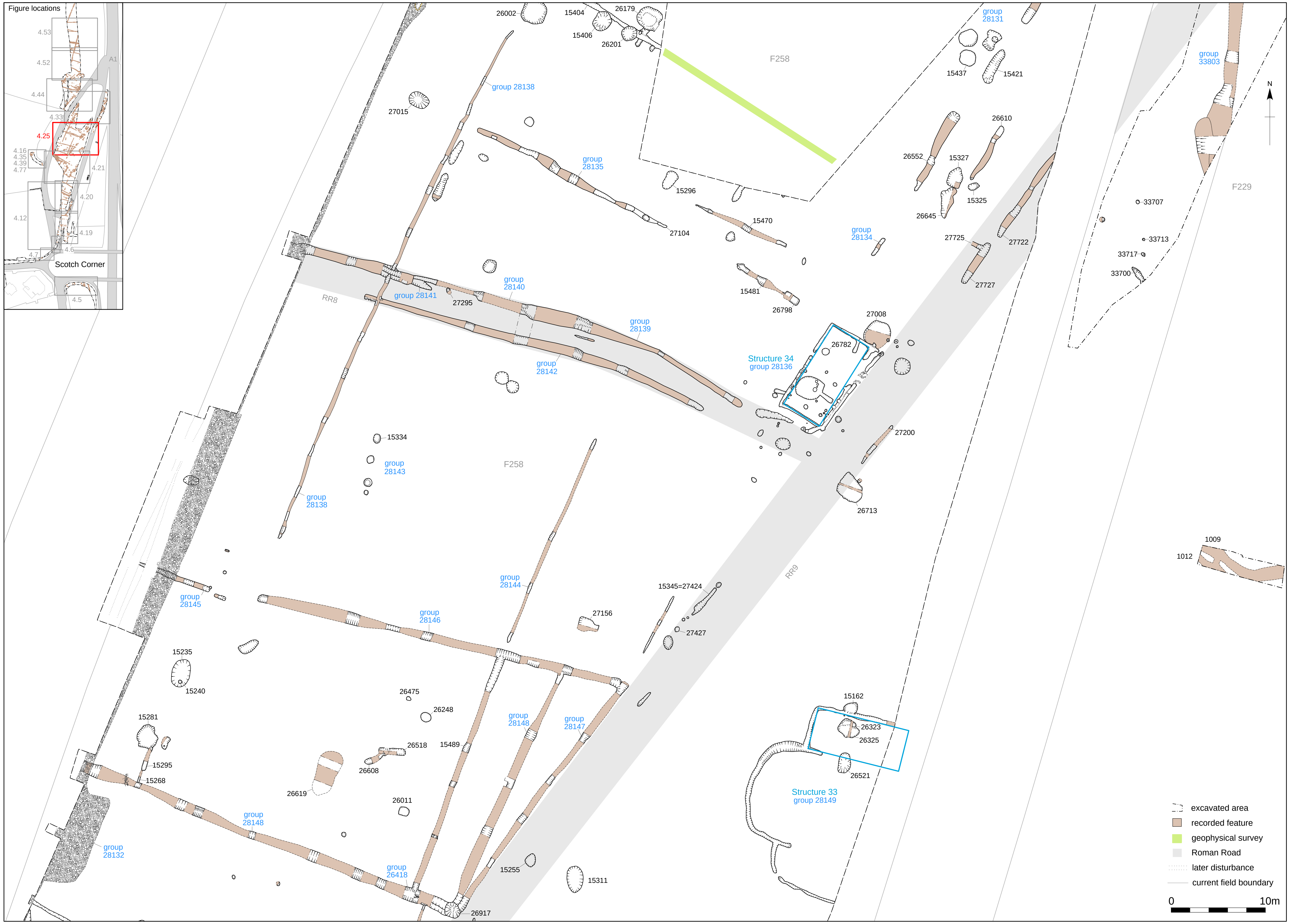


Figure 4.25: Scotch Corner: Field 258 central and northern areas, Period 4 and Period 5 features.

defined a 4.5m-wide annexe that corresponded with standardised dimensions of 9.9m and 4.5m employed in most rectangular structures at Scotch Corner (see Structures 31, 32, 34, 35, 37, 38, 39 and 40 below; Fig. ; Chapter 10). Another curving gully to the south defined a similarly-sized annexe, the complete interior width of the structure being 19.5m. The 'apse' survived best on its north side where it measured 1.1m wide by 0.5m deep, with steeply sloping sides but no diagnostic structural features. In the absence of any postholes, an iron nail in fill **26082** was the only potential remnant of timber components, meaning that any standing building was constructed with techniques that were new to Scotch Corner. However, while there is no certainty about the form of Structure 33, the frequency and character of closely dateable ceramics were apparently indicative of occupation or use by wealthy individuals who discarded pottery produced between c.AD70–90 (Leary and Monteil, Chapter 5) and produced very little charcoal and animal bone, and no charred cereals which might arise from daily food production.

Amongst the lower fills was a copper-alloy coin (Cat. no. 667) from fill **15303,** probably a 'Claudius I' *as* minted in Rome between AD41 and AD54 (Brickstock, Chapter 6), which potentially arrived at the site during Periods 2 or 3. Use of the structure in the earliest stage of Period 4 Roman occupation was indicated by a glass medallion (Cat. no. 631) discovered in fill **27061**. The medallion apparently depicts Bacchus, the Roman god of wine and protector from death, and may originally have adorned a wine jug, but was removed and reworked into an amulet which was probably carried as a personal possession (Fig. 4.27; Cool, Chapter 5). Cool highlights a tradition of similar medallions found at other British Late Iron Age trading centres and oppida, usually in contexts associated with Roman military presence in the mid-1st century AD. There were other suggestions of Roman contact in and around Structure 33: three substantial pits (**26521**, **26323**, and **15162**; Fig. 4.25) were either marginally earlier than or contemporary with the structure, and included discarded artefacts which pertain to the same period and range of activities represented in Structure 33 and the enclosure ditches of ES1.

The northernmost pit (**15162**) in the line of three was irregular in shape, measuring c.1.5m across and 0.4m deep. Sherds of samian pottery in fill **15163** spanned the period from AD45–110 and could have been imported in Period 2 or 3, whereas a lead rivulet (RF10024, not catalogued; Appendix H) was far more likely to have been associated with Period 4 Roman structural features (Croom, Chapter 6), as was the possible evidence for ferrous production which survived as micro-residues incorporated into fragments of fired clay (Mackenzie, Chapter 7). To the immediate south, pit **26323** had been recut as **26325**, which was 1.5m long by 1m wide and 0.5m deep. Primary fill **26326** included sherds of Period 4 coarseware, while upper fill **26328** contained oak and pomaceous charcoal, sherds of a blue/green glass bottle (Cat. no. 663; Cool, Chapter 5), an iron nail, and part of

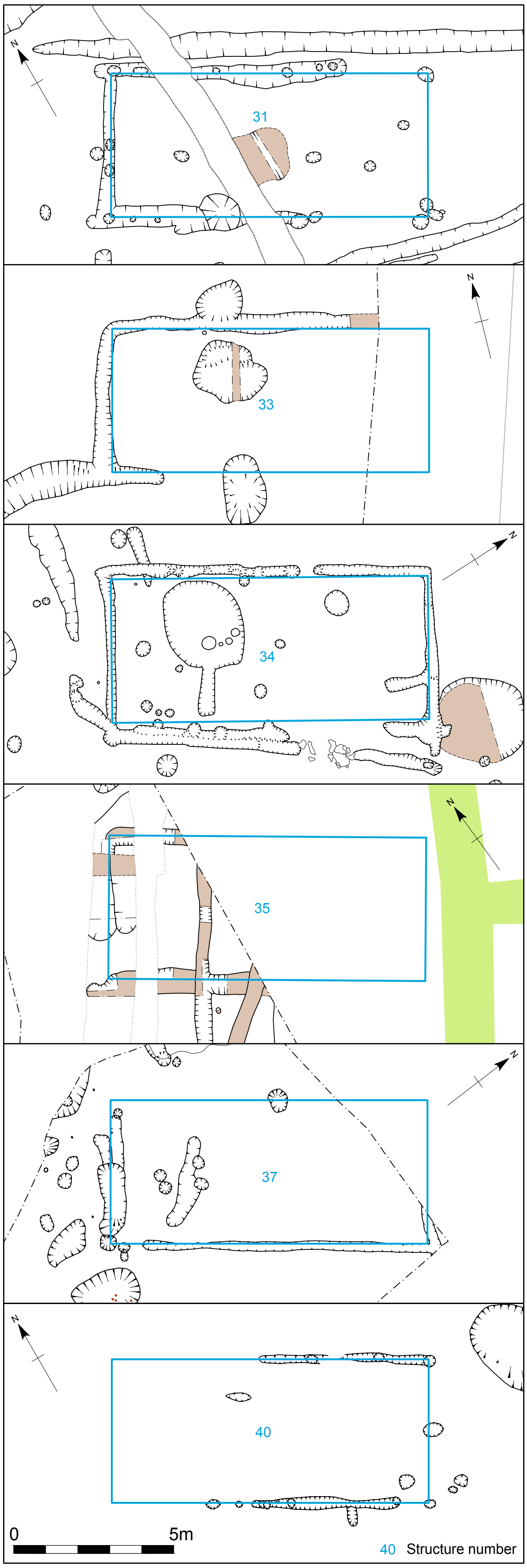


Figure 4.26: Scotch Corner: selected structures with common dimensions – Structures 31, 33, 34, 35, 37, 40.

Figure 4.27: Scotch Corner: medallion formed from a glass head of Bacchus (Cat. no. 631) from Structure 33, and plaster cast.

a 1st–2nd-century AD Roman faience melon bead (Cat. no. 750) with bright turquoise glaze (Foulds, Chapter 6).

The southern pit (**26521**) was c.2m long by 1.1m wide and 0.42m deep, with gently sloping sides. Fill **26522** included animal bone, fired clay, an iron nail, and Flavian period samian ware, but was also the receptacle for a possible piece of slagged hearth bottom (Mackenzie, Chapter 7) with no obvious source, but the co-occurrence with metalworking waste in the northern pit suggests that it came from nearby. A stone smoother (Cat. no. 704; Croom, Chapter 6) was equally devoid of specific origin or function but hinted at manufacturing, while a lead loop (Cat. no. 855) further emphasised the increased use of the metal during Period 4 at Scotch Corner. A very small fragment of a 1st-century AD copper-alloy mirror (Cat. no. 768) represented a class of valuable objects which in Roman contexts are usually associated with both male and female grooming and leisure time, and found more commonly in southern England (Croom, Chapter 6). Two additional examples were associated with ES3 in the west part of Field 258 (see below).

A few pits of similar size and with comparable cultural assemblages occupied the open area west of Structure 33. Pit **26019** was sub-circular, with a diameter of c.1.8m and depth of 0.4m and gently sloping sides. Primary fill **26021** included two possible fragments of brick (Antink, Chapter 7), and samian and coarseware pottery sherds probably produced after c.AD70. Upper fill **26020** contained additional sherds of similarly dated samian ware, fragments of fired clay, and an iron nail, as well as sherds of a blue/green glass bottle (Cool, Chapter 5). Pit **15311** (Fig. 4.21) was slightly larger and equally rich in artefactual material. Its single fill (**15312**) contained sherds of Period 4 coarseware pottery, sherds of deep blue mid-1st-century vessel glass and a glass counter (Cat. no. 803; Croom, Chapter 6). A very abraded basal fragment from a ceramic cheese press was commensurate with the expected suite of specialist vessels which might accompany the Roman military (Leary, Chapter 5), and was one of only two examples at Scotch Corner—the other being from ditch group **28158** near Structure 31 (see below).

While it may not be possible to demonstrate the full range of activities undertaken in and around Structure 33, it was apparent from its enigmatic shape, its avoidance by successive enclosure boundaries, and the character of the artefacts in proximate features, that it was held in high regard, and that the people associated with it had access to objects diagnostic of Roman adornments, grooming, decoration, dining, games and possibly accounting. While the identities and ethnicities of the occupants is ambiguous, it is evident that they subscribed to Roman traditions and maintained contact with the Roman military. It is almost certain that the building stood for the duration of Roman occupation at Scotch Corner, as respect for its setting was maintained through ES2, and with the introduction of ES3 its position was evidently near the centre of the enclosure system (Fig. 4.3). The artefacts deposited in and around the structure also suggest that it may have been purposefully closed, perhaps in the same episode that witnessed similar treatment at other important locations towards the end of Period 4 (see below).

Enclosure System 2 (ES2) and associated Roman roads

The new enclosure system alignment represented by ES2 was a 7° clockwise rotation from the alignment of ES1 to an orientation that respected the existing road to Stainmore (RR1) and its newly introduced south-eastern extension (RR4; Figs 4.2 and 4.3). Outside ES2 in Field 246, geophysical anomalies suggest that RR7 was realigned precisely with RR1, RR4 and the ES2 alignment, although this was impossible to determine or demonstrate inside the excavation area where its junction with the Period 3 south–north routeway (RW3; Fig. 4.1) was too heavily disturbed to allow distinction between iterations. Despite being allied to such substantial features, ES2 was evidently a short-lived alteration to the axial alignment, which was appended to the existing ES1 boundaries and consequently incorporated deviations. Some of the new rectilinear enclosures introduced with ES2 incorporated a system of water management and also contained the first certain rectangular timber structures at Scotch Corner (Structures 32 and 35).

The Roman road junction (Field 265)

At the main road junction in Field 265, it appears that the ES1 alignments of RR3 (group **29964**) and RR6 (group **29963**) were maintained and the same roads continued to be used in conjunction with ES2 (Fig. 4.16). There was no certain evidence at this time for the development of Dere Street north (RR10) in Field 246, where the Period 3 hollow-way (**16196** and **16197=162531**; RW3; Fig. 4.1) was presumably still in use. The proposed absence of an engineered road is further supported by the observation that enclosures adhering to the system alignments in Field 258 and Field 229 were yet to develop along its projected south-east side at the north end of the field, and only appeared there with the introduction of ES3, when a regular system of roadside enclosures was also introduced along the north-west side of RR10 in Field 246 and Field 265 (see below).

RR4: the road to Stainmore, south-eastern extension

RR4 connected the existing coaxial enclosure system with the ES1 and new ES2 rectilinear enclosure system to the north (Figs 4.2 and 4.28). The new road was constructed over ditch group **28170** (Fig. 4.20), which may previously have defined the northern extent of the coaxial system and included pottery produced during or after c.AD65 rather than the purely Flavian material, which supports the proposal that it belonged to a system that pre-dated the road (Leary, Chapter 5). The remains of the road comprised a plough-damaged c.6m-wide cobbled fabric and surface (group **28171**), of which only the base survived. To its immediate north-east was continuous side ditch **15121**, while the south-west ditch (group **28168**) had been dug in sections, with a 1.3m-wide causeway left for access (Figs 4.29 and 4.30).

The features associated with the road contained a greater number of dateable finds than the earlier coaxial enclosure ditches, which was presumably representative of discard and loss associated with travel along the road and increased activity to the north within the enclosures. Both the south-west ditch (group **28168**) and the north-east ditch (**15121**) contained animal bone, fired clay, and a range of samian and coarseware produced in Periods 3 and 4 (Fig. 4.20). In an upper fill (**15123**) of the ditch characterised by charcoal and fired clay, a small copper-alloy dumb-bell toggle (Cat. no. 691) of a native variety may once have adorned a horse harness (Croom, Chapter 6). The lost toggle perhaps is derived from a horse travelling along the road to the south-east (RR4), en route past two rectangular buildings with Roman-style floor plans 1.8km away in a field south of Middleton Tyas (MNY32350 and MNY32351; NZ 2326 0495). Contributors to the Roman Roads Research Association website suggest that this route crossing the Vale of Mowbray had early origins, and a possible precursor that ran c.100m to the south between Greta Bridge and Bullamoor, Northallerton (Roman Roads Research Association 2018), where it presumably joined with 'Cade's road' which traced the east side of the Vale of Mowbray (Margary road 80a; 1973, 431–3).

ES2 southern area (Field 258)

The south side of a large livestock enclosure was delimited by the south-eastern extension of the road to Stainmore (RR4), which determined the alignment of the enclosure system. The south-west corner of the livestock enclosure was lost to truncation, but the north-west side survived in reduced form as gullies **27547** and **27549** (Fig. 4.20), then possibly as ditch **26547** and ditch group **28165** (Fig. 4.21). In an attempt to maintain regularity in an irregular space, the north-east boundary defined by ditch group **28166** lay c.32m south of ES1 boundary ditch groups **28153**, **28154** and **28177** and gully **15438** (Fig. 4.15), and possibly connected with a perpendicular gully (2002) observed in an evaluation trench c.35m to the east (NAA 2017h). The absence of cultural material in the south-west and north-west enclosure boundaries of the long livestock enclosure was consistent with the lack of evidence for structures or ovens in the excavated area, meaning that activity in the enclosure was unlikely to have been directly associated with human habitation. However, the presence of a well, a well/cistern, and a smaller cistern indicate that water provision was considered important. Near to the south-east boundary, well **27705** (Fig. 4.20) was 2m deep and had a surface diameter of 2.5m, which tapered to 1m near its base where traces of wattle lining survived along with a modest collection of coarseware pottery sherds typical of Period 4 assemblages. At the edge of the excavation area, cistern **27647** (Fig. 4.21) punctuated the course of enclosure boundary group **28166** and may have been an occasional water source for livestock in adjoining enclosures, as it was evidently not used for human refuse. At the north-west corner, well/cistern **26153** was also accessible from the livestock enclosure, and from the occupied enclosure to its north.

The enclosure connected to the north side of the livestock enclosure was 32m long and may also have housed livestock while simultaneously being the site of human habitation in rectangular Structure 32 (see below). The north-east side of the enclosure was delimited by ditch **15416**, which included an assemblage of samian pottery with a *terminus post quem* of c.AD70 and small quantities of ash and oak charcoal, which presumably derived from occupation of Structure 32. Artefacts and

Figure 4.28: Scotch Corner: Enclosure System ES2 and associated Roman roads.

Figure 4.29: Scotch Corner: Field 258 southern area, Roman road RR4, side ditches, facing north-west.

environmental remains were negligible at the south end of the enclosure in ditch group **28166**, which was shared with the livestock enclosure, while they were abundant in features around Structure 32. At the south-west corner of the enclosure, the south-east boundary ditch (group **28166**) and north-west boundary ditch (group **28165**) both connected with well/cistern **26153**, which was an example of the new water network which provided groundwater in the manner of a well, and also collected run-off from the connected boundary ditches and gullies in the manner of a cistern during times of heavy rain (Fig. 4.31). It was 1.6m in diameter and 1.5m deep with vertical sides that had been consolidated with applied natural clay, and would probably have been cleaned out frequently, meaning that in-situ basal deposits might be confidently associated with occupation of adjacent

Figure 4.30: Scotch Corner: Field 258 southern area, Roman road RR4, facing north-west.

*Figure 4.31: Scotch Corner: Field 258 central area, well **26153** and gully groups **28165** and **28166**, facing west.*

Structure 32. Heather charcoal from secondary fill **26162** provided a radiocarbon determination of cal AD70–240 (95.4% probability; SUERC-83988), which was later than expected in its raw state, but was refined through Bayesian modelling to c.40-year range centred on c.AD100 (Hamilton, Chapter 9). In addition to the animal bone, the pottery assemblage from the feature included samian and coarseware sherds from Period 4 vessels, while upper fill **26010** contained an approximately semi-circular lead casting (Cat. no. 850) designed to support or protect something organic, which was probably associated with a structural feature made in a Roman tradition (Croom, Chapter 6), and feasibly with Structure 32. The group of five postholes on the north side of well/cistern **26153** perhaps housed timber uprights for a hoist or light structure, and might also have functioned with adjacent pit or latrine **26389**, which measured c.2m long by c.1.4m wide by 0.8m deep (Fig. 4.21). In addition to late Period 3 and Period 4 pottery sherds, a small assemblage of undiagnostic ceramic building material and an iron nail from upper fill **26390** probably came from Structure 32. An adjacent deposit (**26269**, not illustrated) contained part of the rounded rim of a 1st-century Roman copper-alloy pan or bowl that was probably used for wine drinking in Structure 32 (Cat. no. 777; Croom, Chapter 6).

In the excavated segment of north-west enclosure boundary ditch group **28165** that was appended to the north side of well/cistern **26153**, the assemblages of artefacts and environmental remains probably derived from occupation of Structure 32 (Fig. 4.21). The fills contained oak and ash charcoal, charred grains of barley and wheat, and fragments of fired clay, as well as Period 3 and 4 samian and coarseware pottery, and sherds of a green glass Hofheim cup (Cat. no. 629), which probably arrived at Scotch Corner via Roman supply networks and perhaps with a Roman contingent (Cool, Chapter 5). Similarly, a rim fragment (Cat. no. 779) from a small, cast, copper-alloy wine ladle produced in the 1st century AD, was of Roman origin (Croom, Chapter 6), and part of a faience melon bead with bright turquoise glaze, which was also typical of Roman supply networks and presence (Cat. no. 748; Foulds, Chapter 6), came from beam-slot or gully (**27001**), which aligned with Structure 32 and defined the south side of a 2.5m-wide access along Structure 32. Beyond a 0.8m-wide enclosure entrance on the north-east side of Structure 32, L-shaped feature (group) **28163** continued the alignment of the north-east side of the building and probably represented a boundary fence-line, which perhaps incorporated the standardised building measurements of 9.9m and 4.5m.

Structure 32 (group 28164)

Much of the north-west side of rectangular Structure 32 was lost to plough truncation, however enough survived to establish that it was c.9.9m long by 5.5m wide, with a lateral internal division (**27501**) and no evidence of a north-eastern gable (Fig. 4.21). The north-east and south-west sides were represented by 0.4m-wide steep-sided flat-bottomed trenches or beam-slots (**26217** and **27027** respectively), which contained the remnants of crushed mortar, presumably used as a foundation for stone and/or timber walls, which had been removed entirely (Fig. 4.32). The south-east side had been reinforced or refurbished as **26079** on the interior side of the original (**26217**), while the north-west side survived as a short section of a foundation trench or beam-slot (**26233**), which had lost its presumed connection to the internal division. There were no postholes along the wall-lines, whereas two small exterior postholes (**26173** and **26105**) were set at equal distances from the south-east side of Structure 32, and are likely to have represented supports for an appended roof, perhaps to cover a short south-east facing veranda. While Structure 32 was marginally earlier than most other rectangular structures at Scotch Corner, and seems to have a unique interior floorplan, it is seen as an early example of the standardised Roman building form, which was based on a c.9.9m-long alignment and c.4.5m-wide gables (Fig. 4.26).

Few artefacts came from structural features, although the small pottery assemblage suggests occupation in Period 4, while an iron nail and fragments of fired clay relate to structural components and a domestic hearth. Inside Structure 32, pit **15248** contained fragments of oak charcoal, grains of charred barley, and fragments of fired clay, while additional fired clay came from pit **27482**. As described above, most of the debris was finally deposited in features surrounding the dwelling and represents compelling evidence for occupation by people with close links to the Roman contingent and joined in with the consumption of wine, and also adopted their building techniques and forms. The favourable circumstances appeared to last beyond the introduction of ES3 when Structure 32 possibly became the primary building associated with an enclosure developed to its west (see below). Outside Structure 32, an oven (**28126**) cut into a pit may have been introduced shortly after the building was constructed, but could equally have represented activity associated with continued use of the structure with ES3 (see below).

ES2 central and northern areas (Fields 258 and 229)

In the heavily truncated central area of ES2, the boundaries maintained, adapted and extended ES1 enclosures for the new system where occupation was implied by the artefactual assemblages despite the absence of structural remains. Preserved remnants of boundaries included gully **26969** (Fig. 4.21), which contained only a small quantity of oak charcoal, and appears not to have been directly associated with habitation. It was, however, perpendicular with contiguous gullies **26063** and **26480=27281**, which included a few sherds of samian ware dated between AD45 and 110, and probably once defined a boundary for the same enclosure (Monteil, Chapter 5). To their immediate north, a south-west enclosure boundary defined by a precursor of ditch group **28148** precisely bisected an ES1 enclosure to create two c.25m-wide enclosures. The earliest iteration of ditch group **28148** extended c.5m beyond the previous south-east side of the enclosure, turned a right-angle and joined

*Figure 4.32: Scotch Corner: Field 258 central area, Structure 32, wall foundation group **28164**, facing north-east.*

an equal extension of boundary ditch group **28146** on the north-east side (Fig. 4.25).

It is possible that with the introduction of ES2, the earlier ES1 enclosure was adopted and adjusted with the introduction of a new north-west boundary represented by gullies **15268** and **15295**; the remaining course marked with pits, which lined up with an access point on the north-east boundary. The materials deposited in the later enclosure boundaries indicate that activity diversified and intensified with the adoption of ES2, and the iron nails found along the boundaries potentially suggest the use of wooden fences to provide additional demarcation of boundaries; a necessary component if livestock were present. Animal bone was discarded in group **28148** along with abundant samian and coarseware assemblages that were typical of post-c.AD70 dining (Leary and Monteil, Chapter 5), while the small assemblage of Baetican Dressel 20 amphorae in fill **26874** was consistent with the significant increase in the supply of olive oil probably associated with Roman military supply in Period 4 (Griffiths and Williams, Chapter 5).

Environmental evidence included alder, ash and oak charcoal, and small quantities of charred spelt and some wild oat. Although neither were present in sufficient quantities to indicate food production in the immediate vicinity, such activity was made more

Figure 4.33: Scotch Corner: Field 258 central area, Field 246 southern area, and Field 229, Period 4 and Period 5 features.

likely by the inclusion in fill **15342** of fragments from the upper part of an imported lava hand quern (Cat. no. 874), which was one of only three examples at Scotch Corner and perhaps arrived with Roman troops, although the tradition was soon copied by fabrication in local sandstone (Cruse, Chapter 6). The same context contained a lead rivulet (RF10076, not catalogued, Appendix H) and fragments of possible undiagnostic metallurgical slag with traces of fired clay (RF10080, not catalogued; Appendix H; Mackenzie, Chapter 7), both of which demonstrate metalworking in Period 4, which was supported by the inclusion of a possible slagged hearth lining with traces of red fired clay in fill **15294** of boundary gully **15295** (*ibid*.).

In addition to the material in the surrounding boundaries, evidence inside the enclosure pertained to dining and food production. At the north-west corner, pit **15281** was irregular in shape and only 0.18m deep, though its fill (**15282**) contained sherds of Period 4 pottery, fragments of fired clay, iron nails, and a fragment of Roman faience melon bead (Cat. no. 740) of a variety that was popular during the 1st and 2nd centuries AD (Foulds Chapter 6) and may originally have adorned horse bridles. Approximately 5m further along the boundary, pit **15235** was 3m long by 2m wide, had a maximum depth of c.0.2m and cut posthole **15240**, which was apparently an isolated example. Fill **15236** from the pit contained a Period 4 assemblage of pottery sherds that included samian and coarseware, as well as ash charcoal and charred remains of sprouted spelt. Near the centre of the enclosure, a large natural feature (**26619**) had the appearance of an infilled depression with no apparent cut, although the fill contained an assemblage of pottery including samian ware with production date ranges that spanned Periods 3 and 4 (Leary and Monteil, Chapter 5). In the south-east side of the enclosure, short gullies **26608** and **26518** were approximately central to an arc of pits. At the north end, pit or posthole **26475** was sub-circular with steep sides, a flat base and no cultural material. Pit **26248** was 1.2m in diameter and c.0.3m deep with oak charcoal and a rich assemblage of charred waste from food production which included spelt that was yet to germinate, as well as sprouted spelt. There were also incidental remains of meadow weeds in upper fill **26249** with sherds of Period 4 pottery. Sprouted spelt was also found with charred barley and ash charcoal in the upper fill of pit **26011**, which had a basal fill (**26024**) formed predominantly with fired clay.

To the north, an ES1 enclosure continued to be maintained with some minor modification made to the boundaries (Fig. 4.25). On the south-east side, pit **27156** occupied the projected course of boundary group **28148** and its antecedents, and contained charcoal, charred cereals and pottery that were consistent with food production in Period 4. North of this, the only boundary respecting the new alignment was narrow gully **15470**, which only survived plough truncation for a short distance. The most substantial reference in this part of the settlement appears to have been RR7, which may have been re-orientated from the ES1 alignment to accord with ES2 and the distant parallel course of RR1 and RR4. It is possible that some of the rectilinear enclosures on the north-west side of the existing south–north routeway corridor (RW3) in Field 246 may have been contemporary with ES2 (see below), and were perhaps under development at the same time as the occupied enclosure on the north-west side of Dere Street west at the junction.

Structure 35 (group 28178)

The remains of rectangular Structure 35 were severely truncated by the refurbished roadside ditches which flanked Dere Street north (RR10) between Fields 258 and 246 and could have been cut through the structure with the introduction of ES3 in Period 4, or afterwards (Fig. 4.28; see below). The resulting disturbance produced a spread of debris (**27230**), which presumably derived from deposits associated with the structure and contained sherds of samian and coarseware pottery, in addition to some vessel glass (Fig. 4.33). While the full extent of Structure 35 was not exposed within the excavation area, a width of c.4.5m was established. The long alignment was at least 5.8m, but feasibly extended to c.9.9m beyond the edge of the excavation area. It therefore seemed likely that the structure adopted the standard dimensions for rectangular buildings at Scotch Corner (Fig. 4.26). The long sides of Structure 35 were formed by flat-bottomed trench **27326** to the north-east, and trench **27484** with an associated posthole (**27486**) to the south-west, which represented a door pivot. The north-west end was represented by two parallel and possibly redefined gullies (**27561** and **27539**), which both terminated part way across the gable, creating a 1.2m-wide north-west facing entrance with direct access to the routeway corridor (RW3), which was occupied by Dere Street shortly afterwards. The artefacts and environmental material recovered from the fills of structural features included modest amounts of stonefruit charcoal, sherds of hand-built vessels, imported Roman coarseware of Period 3 and 4 production with a *terminus post quem* of c.AD70 (Cumberpatch and Leary, Chapter 5), and a small, deep-blue body fragment of a ribbed glass drinking cup from the mid-1st century AD (Cool, Chapter 5; Cat. no. 617).

Most of the surviving material culture associated with habitation in Structure 35 was deposited in the remains of a small oven and/or kiln (**27529**) identified c.1m to the north-east; its exterior position in relation to the dwelling conformed to a practice also observed at Structures 32 and 37. Like the structure, oven **27529** had been heavily truncated, but parts of its fired-clay and stone-lined bowl and flue remained intact. In the bowl, primary fill **27599** included fragments of fired clay which demonstrated exposure to temperatures consistent with hot works (Britton, Chapter 7), as well as fragments of oak and pomaceous charcoal, and charred grains of an unidentifiable cereal species. Above this, deposit **27589** included charcoal from the same species as well as fragments from alder or hazel and birch. Food remains were absent, but a larger assemblage of well-fired clay was accompanied by the undiagnostic metallurgical slag (Mackenzie, Chapter 7), and coarseware pottery sherds. Above this in fill **27538** there was little evidence that the feature was used for anything other than domestic purposes, which included use and discard of a carinated bowl in a fabric that was unique to Scotch Corner and probably locally in Period 3 and 4 (Leary, Chapter 5), whereas sherds of a silty ware vessel from upper fill **27530** perhaps signified continued importation from the continent (*ibid*.). Birch and oak continued to provide fuel, and spelt was the only cereal present in the last episode of refuse disposal.

Enclosure System 3 (ES3) and associated Roman roads

The initial reference for the 12° clockwise rotation from ES2 to ES3 appears to have been introduction of both Dere Street west (RR5; Figs 4.2 and 4.3), and contiguous road RR10, which represented the route of Dere Street north between Fields 246 and 258 over the existing south–north native routeway (RW3; Fig. 4.1). Accompanying side ditches were cut along the north-west side of RR10 in Field 246, and along its south-west in Field 258. The primary reason for adjusting the course of RR5 may have been to further reshape the junction into an isosceles triangular configuration and, in doing so, remove the need to negotiate acute bends when changing direction (Figs 4.2 and 4.34). While the introduction of Dere Street east (RR6) in conjunction with RR3 went some way to achieving this, further adjustments were also apparently required for accommodating a greater volumes of traffic associated with transportation and troop movements along Dere Street, which presumably related to an intensified stage of campaigning in the north between the mid-AD70s to the mid-AD80s and a more concerted attempt to develop and populate the settlement at Scotch Corner (see Chapters 1 and 10)

Development of the northern route of Dere Street (RR10) and road junction expedited movement through Scotch Corner, the contemporary introduction of ES3 was associated with a surge in occupation and activity at Scotch Corner. Rectangular Structures 31, 34, 37, 38, 40, and possibly also Structure 58 were built at this time and represent a range of activities associated with habitation, food production, dining and feasting, leisure activities and also possibly administration and livestock stabling (Fig. 4.4). Enclosing the new buildings, ES3 was larger and more comprehensive than preceding systems, prompting the construction of interior thoroughfares RR8 and RR9, which expedited movement across the settlement along its opposing axes. The latter route traced the outside of a series of linear features that appear to have been adapted to form a trapezoidal boundary appended to the south-east side of RR10. This feature potentially corresponded with another of similar form that delimited the outer ES3 settlement boundary, and prompted comparison with important boundaries observed at very Early Roman settlements elsewhere in Britain (see Chapter 10). On the north-west side of Dere Street (RR10), a series of ladder enclosures related to roadside occupation and the junction of RR7 and RR10 was widened to form a bell-mouth, which demonstrated the ongoing importance of access across the north end of the settlement.

The triangular Roman road junction (Field 265)

Throughout the lifespan of ES3, activity at the road junction was intense. In conjunction with development of roadside enclosures to the north and east, on the north-west side of Dere Street west in Field 265, a roadside enclosure was occupied by Structure 37 and an oven, group **29971** (Figs 4.34 and 4.35). Once ES3 was introduced, both Dere Street west (RR5) and Dere Street east (RR6) were upgraded three times, the final iterations falling within Period 5 (see below). The inside angle of the junction was consolidated with aggregate layers which also provided a yard and connection to the roads for Structure 38 (see below), which was the source of midden material rich in butchered bone and perhaps represented a commercial venture at the heart of the settlement. Once Structure 38 fell out of use in Period 4, a stable or slaughterhouse (Structure 39) built in a Roman military style was constructed over the debris, and occupied a prime position at the junction with unhindered access to roads in each direction during Period 5 (see below).

RR5: Dere Street west (group 29957)

Road group **29957** (Fig. 4.35) represented a substantial upgrade of its precursor (RR3; above) and was constructed directly over it, but on a new alignment, which represented a c.25° eastward rotation from the original. The new road alignment complemented that of Dere Street north (RR10) some 220m north-east in Field 246 (see below), and it was possible that road group **29957** was contiguous with the first engineered road (group **31259**), or possibly the upgraded version (group **31257**) in that location, meaning that an engineered road to the north on the final course of Dere Street was probably established through Scotch Corner while ES3 was developing.

Road group **29957** was a more sophisticated construction than its predecessor, and comprised two parallel kerbs, a foundation layer, two different grades of stone fabric, and an aggregate surface (Figs 4.36 and 4.37). The kerb trenches (**31646** and **31714**) were set approximately 6m apart, were 0.3m wide and 0.2m-0.4m deep, and occupied by sandstone and limestone kerbstones **31659** and **31693**, which were set on their narrow edges (Fig. 4.35). A slight north-west to south-east slope had necessitated a thicker road construction along the south-eastern side, which required an elevated kerb. Road foundation layer **31695** had then been installed between the kerbstones, and served as bedding for coarse fabric **31706**, which formed the *agger*. Finer fabric **31673** was then added to fill the gaps to complete the cambered profile. Aggregate deposits **31643**=**31672** had been packed over the fabric, creating a running surface that marginally overlapped the kerbstones.

Most of the dateable material incorporated into road group **29957** came from substantial foundation layer **31659**, which was up to 0.6m thick at the centre of the

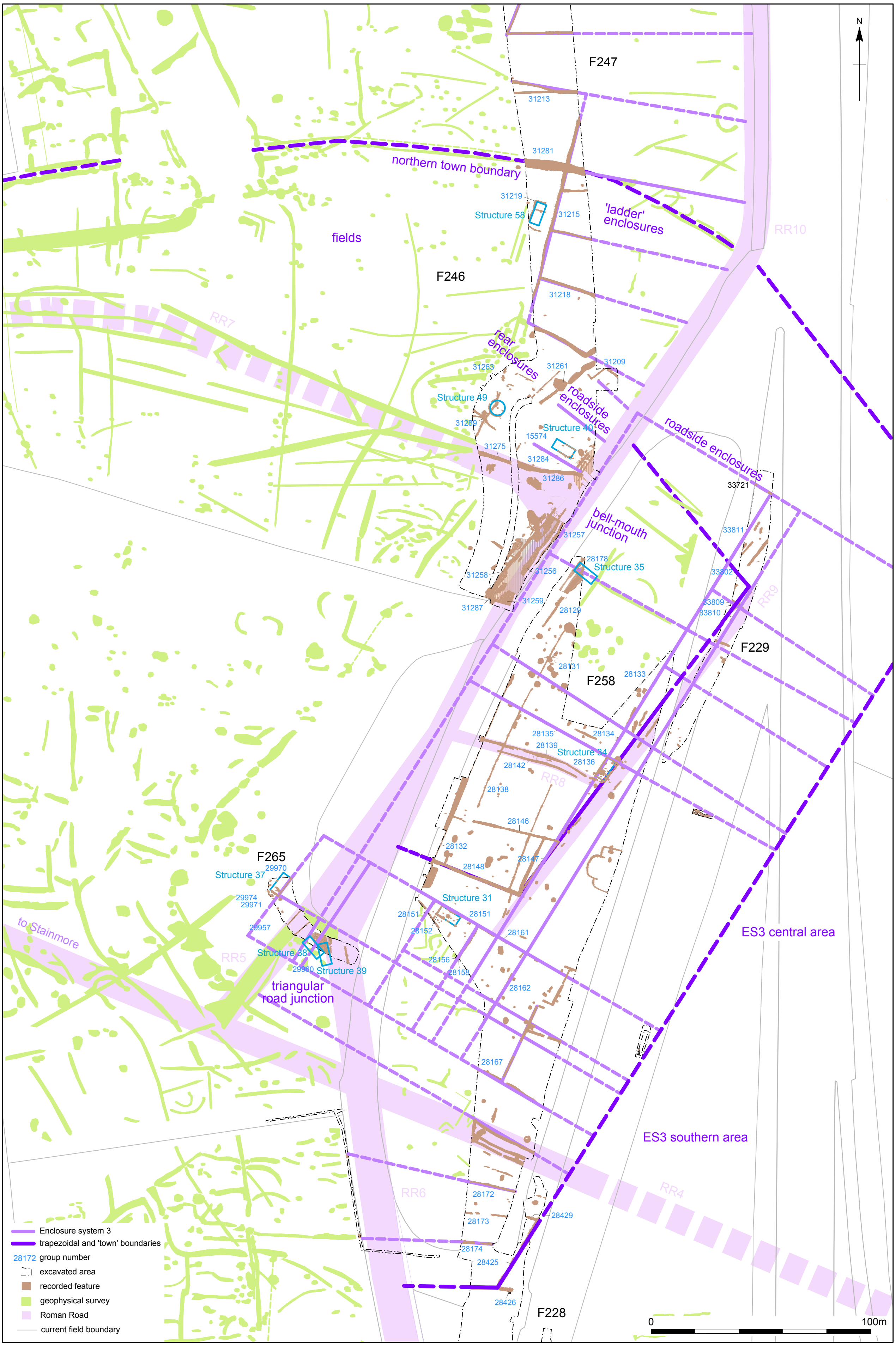


Figure 4.34: Scotch Corner: Enclosure System 3 (ES3) and associated Roman roads.

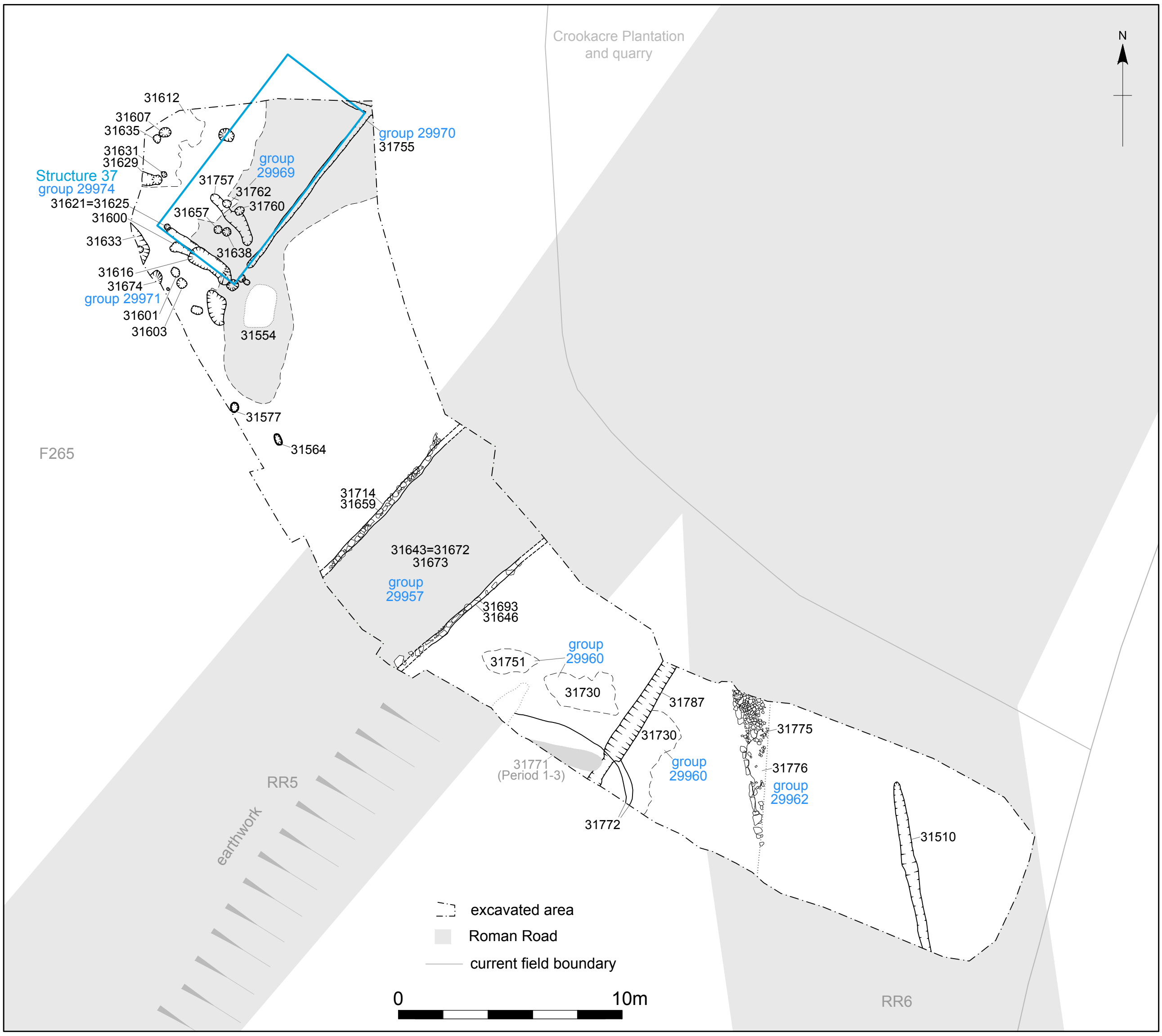


Figure 4.35: Scotch Corner: Field 265, junction of Roman roads RR5 and RR6, Structure 37 and associated Enclosure System ES3 features.

camber and incorporated fragments of brick or tile as well as samian and coarseware sherds with a *terminus post quem* of AD70 (Leary and Monteil, Chapter 5). The same layer included charred barley grains, which provided a radiocarbon determination of cal AD50–220 (95.4% probability; SUERC-83995, GU49915), which was refined in the Bayesian model to the second half of the 1st century AD (Hamilton, Chapter 9). A small copper-alloy pick with an incomplete suspension loop and a patterned blade (Cat. no. 769) came from a Roman tradition, and could have been a toilet implement from a chatelaine set (Croom, Chapter 6), while other copper-alloy fragments (RF13072; RF13073, not catalogued; Appendix H) were less diagnostic, but further evidence for the abundance of copper alloys at Scotch Corner. Remnants of additional copper-alloy objects in upper road layers continued the trend, but were too fragmentary to reveal anything about their functions or origins.

In addition to the new alignment adopted by Dere Street west (group **29957**) the road was now defined by a c.26m-wide corridor, delimited by ditch **31787** to the south-east and enclosure gully **31755** (group **29970**) to the north-west, which was comparable to that of Dere Street north in Field 246 (see below), and also functioned as a boundary for an occupied enclosure. Ditch **31787** measured up to 1m wide by 0.4m deep and had apparently been positioned with reference to the terminal of ditch **31771**. The latter ditch was cut along a hollow-way earlier in the century but contained organic material in upper fill **31770** which provided a radiocarbon determination of cal AD20–140 (95.4% probability; SUERC-84002) (see Chapter 2). Fills of the same feature also included a flat, circular copper-alloy stud attached to a thin sheet or strip of the same material (Cat. no. 835), which was likely to have come from an item of military equipment, such as a belt or harness fitting (Croom, Chapter 6). The dark organic and artefact-rich fill (**31746**) of ditch **31787** perhaps derived from an overlying midden and yielded relatively large amounts of split and shattered animal bone, charcoal from a range of tree species, charred cereals amongst other plant remains. In addition, there were sherds of coarseware manufactured in Periods 3 and 4, and samian vessel

*Figure 4.36: Scotch Corner: Field 265, Roman road RR5, group **29957** with 2m scale in kerb trenches, and underlying Roman road RR3, facing south-west.*

*Figure 4.37: Scotch Corner: Field 265, Roman road RR5, group **29957**, facing south-west.*

forms produced as early as Period 2, but with a *terminus post quem* of c.AD70 (Leary and Monteil, Chapter 5). A copper-alloy binding (RF13220, not catalogued; Appendix H) was indistinct, while a loop of the same material (Cat. no. 731) was potentially a finger-ring or an attachment loop, or a convenient way to store a length of wire (Croom, Chapter 6). The most diagnostic object was part of a copper-alloy belt plate (Cat. no. 836), which was probably part of a 'female' strap fastener from Roman horse harness that was typical of 1st-century style (*ibid*.). Its loss or discard by the road being entirely consistent with activity at the time.

Structure 37 (groups 29969, 29970 and 29974) and oven (group 29971)

Plough-truncated features in the north-west end of the Field 265 excavation area beside RR5 (group **29957**; see above) represented the vestiges of rectangular Structure 37 and an oven and with possible superstructure (Fig. 4.35). Oven group **29971** included a fire pit, rake-out grooves and three sets of paired postholes associated with a surrounding superstructure or windbreak. On the south-west side of the feature group, the exposed part of fire pit **31674** measured over 0.5m long by 0.5m wide and 0.15m deep, and was filled with scorched clay (**31675**), which was probably associated with oven **31616**, some 1.5m to the north-east or a feature outside the excavation area. The cut of oven **31616** was sub-rectangular with near-vertical sides and a flat base. It measured approximately 2.2m long, by 0.8m wide and 0.5m deep with lightly scorched base and sides, rather than the well-fired surface one might expect to see created under direct heat. This may indicate that either the oven sides were originally clad in stones which had been robbed out prior to abandonment, or that the oven was infrequently fired and only to a low temperature.

The earliest oven fill (**31665**) yielded fired clay, burnt animal bone, Period 3 or 4 coarseware, an iron nail, some charred barley grains and ash charcoal which provided a radiocarbon date range of 40 cal BC–cal AD130 (95.4% probability; SUERC-83994), which was refined through Bayesian modelling to the second half of the 1st century AD (Hamilton, Chapter 9). Medium to large limestone fragments had been tipped onto **31665** from the western side before the pit was further infilled with deposit **31619** and the mixture of animal bone, fired clay, daub, Period 3 and 4 coarseware pottery, charcoal and a wide range of charred plant remains that accompanied it. The appearance of emmer grains in addition to barley and wheat perpetuated a trend recognised in Period 4. The remains of combustion and food production were even more prolific and varied in upper fill **31580** of the oven, which also included sherds of samian ware produced between AD40 and AD90, Period 3 and 4 coarseware, and sherds of blue/green bottle glass of a type produced between the late 1st and mid-2nd century AD (see Appendix G). The fills did not appear to represent specific episodes of firing, as charcoal flecks and fired clay were fairly evenly distributed across all fills and potentially derived from nearby midden or demolition material backfilled into it.

Three pairs of postholes arranged in a triangular configuration around oven **31616** probably represented a related structure such as a drying floor or shelter. The northern pair of postholes (**31638** and **31657**) contained displaced packing stones and yielded fragments of animal bone and charred barley and wheat. The other postholes were less productive, but stones in **31601** and **31603** possibly represented displaced packing. An adjacent pit (**31633**) and later posthole had uncertain relationships to Structure 37 and oven, but the charred grains of barley and wheat, as well as an iron nail in the fill of the former, suggested an association with the complex of features in the roadside enclosure.

Structure 37 had been placed to take advantage of existing aggregate surface **31554**, which may formerly have been part of RR3 (see above), and now acted as hard-standing for part of the building. Inside, another surviving patch of the same layer (**31612**) perhaps formed the interior floor surface. At least seven postholes (groups **29969** and **29974**) presumably once housed supporting timbers, and hurdle walls would have been set within the surrounding trenches and beam-slots (group **29970**). Structure 37 probably conformed to the standard Scotch Corner rectangular building dimensions on account of its long axis measuring 9.9m (Fig. 4.26). Its parallel alignment with nearby RR5 suggested that it was constructed with reference to the road and ES3.

The south and north-east sides of Structure 37 were represented by trench **31755** (group **29970**), which was cut c.0.1m into surface **31554**. Its fills contained sherds of coarseware pottery dated to Periods 3 and 4, as well as fragments of hand-built vessels. The south-west gable end was represented by small postholes at either end of beam-slot **31621**=**31625**, which cut along the infilled oven and consequently contained a suite of redeposited materials. Inside the structure, an irregular shallow gully (**31757**) and two postholes (**31760** and **31762**) immediately north of the terminal of gully **31755** formed feature group **29969**, which was probably an interior enclosure partition or domestic feature. The artefactual material in the irregular gully fills was consistent with boundary gully **31755**, although the greater variety and quantity of charred barley and spelt and weeds represent domestic food production and presumably reflect proximity with the oven, as did the fired clay and pomaceous charcoal. Set within a hollow worn through buried soil **31626**, the aggregate interior surface (**31612**) was composed of small, sub-angular limestone fragments surviving within an area measuring c.3.5m long, 2.6m wide and up to 0.1m thick. The configuration of postholes **31607**, **31631** and **31635** was of limited value for deciphering the building's form, but some of the fills included artefacts that related to structural materials. In addition to those already described, an iron nail from posthole **31607** could derive from timber components, while a fragment of a ceramic tile recovered from posthole **31631** probably represents adoption of Roman building traditions.

To the immediate north-west of Structure 37, part of another possible structure was represented by beam-slot or wall trench **31629**, which measured 0.56m wide by 0.2m deep, with steep sides and a flat base. It extended from the north-west for approximately 1m and terminated at a posthole. Their combined fill (**31630**) contained fragments of fired clay and possible daub, as well as sherds of Period 4 coarseware pottery, an iron nail, and fragments of oak and ash charcoal, presumably derived from proximate occupation. To the south of Structure 37, postholes **31564** and **31577** formed a possible fence-line that was aligned with the structure and lay perpendicular to RR5, probably having been introduced to subdivide the area between them (Fig. 4.35).

RR6: Dere Street east (group 29962)

The second iteration of Dere Street east (RR6; group **29962**; Fig. 4.35) was constructed directly over, and on the same alignment as its predecessor (group **29963**; see above; Fig. 4.16), but instead of connecting with RR3, the road now probably connected with RR5 to form the triangular junction (see above). The south-west stone kerb (**31775**) confirmed that the carriageway was widened slightly on the west side to meet RR5, while the remaining aggregate and sand fabric (**31776**) was substantially lost to truncation on the east side, which denied any chance of confirming the overall width of the road (Fig. 4.38). However, it is possible that the north-east side of Dere Street east (RR6) was still defined by ditch (**31510**), which would indicate that the road was 6–7m wide at this time.

In the angle between Dere Street west (RR5; group **29957**) and Dere Street east (RR6; group **29962**), sand and clay deposits **31730** and **31751** (group **29960**) were imported to infill and level the depression caused by the underlying hollow-way, presumably in an attempt to maximise the space available for transport and roadside buildings, including Structure 38 (see below). The deposits contained an iron nail, animal bone and sherds of blue/green bottle glass as well as sherds of Period 4 coarsewares dating from c.AD65 or afterwards (Leary, Chapter 5). Amongst the Roman pottery was a fine-grained calcareous sandstone whetstone (Cat. no. 824) with a rectangular cross-section was the only certain example of the tool at Scotch Corner and displayed signs of use on its two long narrow faces, although the specific applications were not discernible (Croom, Chapter 6). On the west side of the road, ditch **31772** had been cut along the inside of the new junction. It appeared as a recut in the top of earlier infilled ditch **31771** (see Chapter 2 and above), but was more substantial at 1.4m wide, and up to 0.5m deep where it extended beyond the earlier infilled terminal and cut across ditch **31787**. At this point it turned south-south-east, parallel to the course of road **299062**, and extended beyond the south-western limit of the excavation area. The pottery assemblage was typical of Period 4 and included samian ware dating from AD70–90 (Monteil, Chapter 5) as well as unidentifiable amphorae sherds, an iron nail and animal bone.

RR6: Dere Street east (group 29961)

As a result of the same extensive truncation which affected previous iterations of Dere Street east, the third discernible upgrade to the road (group **29961**; Figs 4.39 and 4.40), which directly overlay its predecessor and seems to have been constructed shortly after it, survived in a section

*Figure 4.38: Scotch Corner: Field 265, Roman road RR6, group **29962** truncated to east, facing south.*

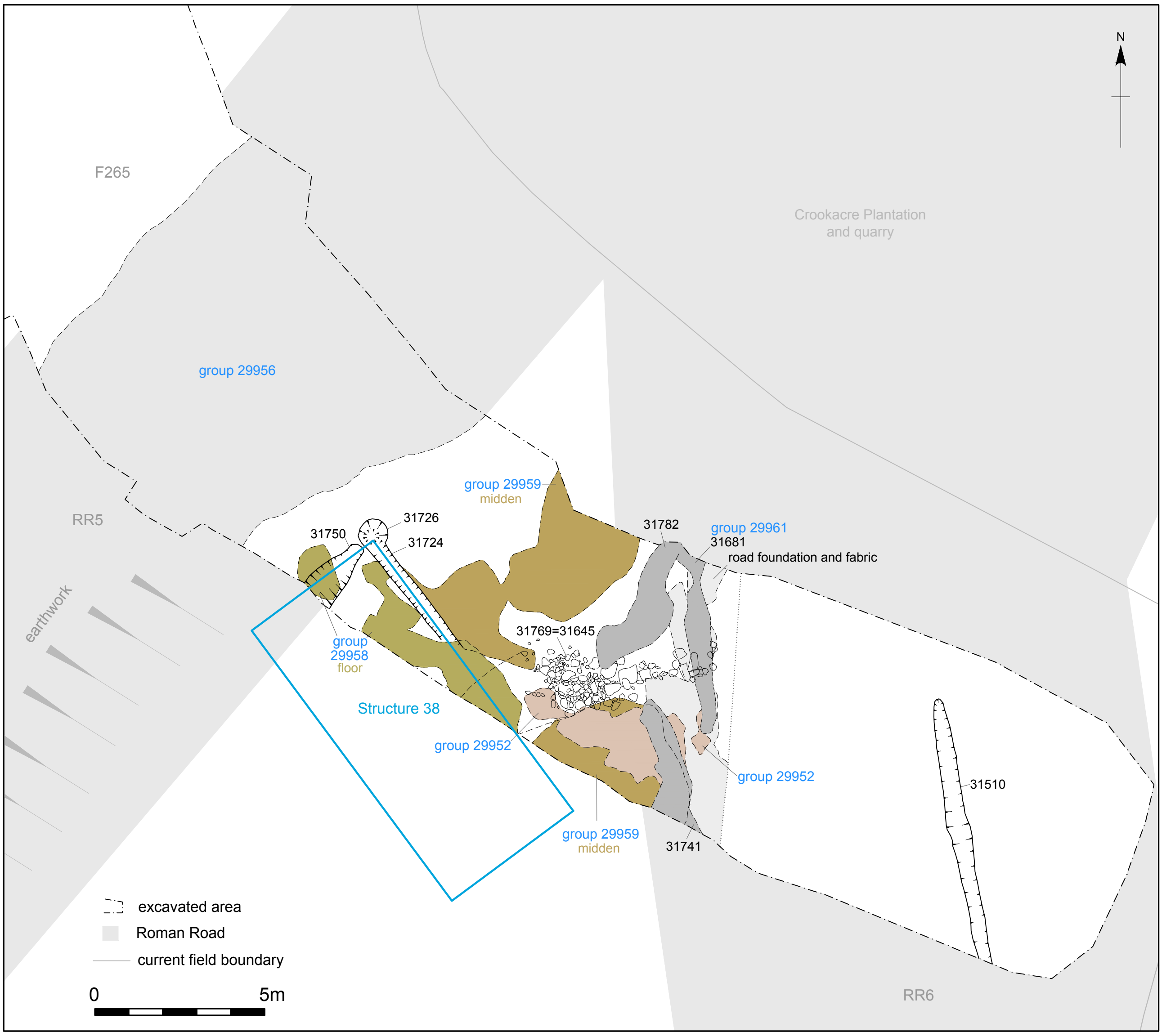


Figure 4.39: Scotch Corner: Field 265, junction of Roman roads RR5 and RR6, Structure 38 and associated Enclosure System ES3 features.

that was only c.8.4m long and c.2m wide, except for the addition of a stone causeway which connected it with Structure 38 (see below). The road was composed of foundation layer **31754=31767=31774** and fabric **31744=31745** (not illustrated), tumbled fabric **31741** and **31782**, and running surface **31681** (Fig. 4.39); the first and last components contained artefacts that were highly chronologically and typologically diagnostic. The samian and coarseware from both layers provided a *terminus post quem* of c.AD70, but incorporated stamped samian sherds which may date from as early as Period 2 (Leary and Monteil, Chapter 5). In addition to pottery sherds, the foundation layer yielded fragments of fired clay and animal bone as well as metalworking slag that was undiagnostic of a specific process (Mackenzie, Chapter 7), and nearly half of a faience blue melon bead with traces of bright blue glaze in the voids created by the ribbing (Cat. no. 754; Foulds, Chapter 6). Above the inert fabric constructed with a compacted layer of limestone fragments, the 0.1m-thick running surface **31681** was a compacted layer of sand with a small amount of crushed stone, which contained an iron ferrule (Cat. no. 834) that was probably originally heat-shrunk to a wooden shaft. It is likely that the tool was employed for some civilian purpose. Amongst the running surface materials were fragments from two querns which exemplify the duality of native and Roman influence at the settlement. Two adjoining pieces of a well-used imported lava upper disc quern (Cat. no. 875), demonstrate Roman importation and food production, whereas a fragment from an upper disc quern of local sandstone (Cat. no. 879) represented local simulation of the same technology with faithful reproduction of some features found on the lava querns (Cruse, Chapter 6).

A proportion of the disturbance caused to the road fabric and surface probably resulted from traffic turning onto a c.5.3m long and 2m wide, crescent-shaped causeway (**31645=31769**), which connected the west side of Dere Street east with Structure 38. The same feature may also have enabled movement between both roads, effectively forming a crossing that still suffered from subsidence caused by the underlying hollow-way. The Period 4

*Figure 4.40: Scotch Corner: Field 265, Roman road RR6, group **29961** truncated to east, facing south-east.*

samian pottery from the causeway had sherd joins with midden group **29959** and the floor of Structure 38 (see below and Monteil, Chapter 5), which was indicative of intense activity, deposition and disturbance inside the road junction at this time. Ground consolidation in the area was also achieved with the introduction of a compacted layer of silty clay with crushed stone inclusions (group **29952**), which incorporated abraded sherds of Period 4 samian and coarseware pottery, sherds of amphorae produced between c.AD70 and c.AD120 (Griffiths and Williams, Chapter 5), fragments of animal bone and other incidentals.

Structure 38 (group 29958); a roadside butchers' or shop

The exposed part of rectilinear timber Structure 38 (group **29958**) was aligned with Dere Street west (RR5), although direct access from Dere Street east (RR6) via causeway **31645=31769** appears to have been a primary consideration for its location (Fig. 4.39). The remains of the structure comprised beam-slot (**31724**), posthole (**31726**), and post trench (**31750**), and an earthen floor incorporating many individual deposits and layers associated with intense use. The exposed remains suggested a rectangular floorplan with a northern gable between 4 and 5m wide, which feasibly conformed to the standard Scotch Corner building dimensions of 9.9m x 4.5m (Fig. 4.26). Beam-slot **31724** represented the north-eastern wall, which was c.5m long by 0.45m wide, and 0.2m deep (Fig. 4.39). After removal or rotting of the beam, the void had filled with mixed material from above, the only notable artefacts being sherds of a purple and white polychrome pillar moulded bowl (Cat. no. 597) produced in Period 2 or 3 and of a style favoured by natives, arriving at Scotch Corner directly from the continent or via southern Britain. The posthole (**31726**) at the north-west end of beam-slot **31724** represented the northern corner of the structure. The original diameter of c.0.4m, was widened to 0.9m when the post was removed, and packing stones displaced. The north-western wall was formed with post trench (**31750**), which terminated at posthole **31726**. It measured up to 0.7m wide and 0.3m deep, and like the beam-slot, had infilled with midden and floor material which incorporated charcoal, charred cereals, animal bone and a range of Period 3 and 4 amphorae, samian and coarseware.

The earthen floor of Structure 38, which spilled out beyond the south-east facing entrance, was a colourful tapestry of sand, clay, lost items and refuse, all compacted together by the tread of those using it (Fig. 4.41). The material (group **29958**) was contiguous with midden group **29959** (see below) outside the structure and arguably represented refuse derived from the more unpleasant and odorous activity undertaken inside, which appears predominantly to have been cattle butchery (Fig. 4.39). In addition to this apparent commercial aspect, the remains of many plant taxa inside the structure indicate comprehensive exploitation of crops and natural habitats, which perhaps suggests a domestic setting (Baines, Chapter 8), or perhaps preparation of food for redistribution or sale. The Period 3 and 4 coarseware assemblage inside Structure 38 was dominated by Baetican Dressel 20 olive oil amphorae

*Figure 4.41: Scotch Corner: Field 265, Structure 38, floor deposits in group **29958**, facing north-east.*

and bowls and jars, whereas dishes, cups, beakers and flagons were more common in the midden outside (Griffiths and Williams, and Leary, Chapter 5), though why this should be so is difficult to determine.

A worn Republican *denarius* (Cat. no. 665) of L. Thorius Balbus minted in 105BC from the earthen floor of Structure 38 (group **29958**) may have arrived decades before final deposition (Brickstock, Chapter 6), and could conceivably signify continued use, but was most probably residual. At least 20 hobnails (Cat. no. 766; Croom, Chapter 6) certainly indicate loss or discard of part of a Roman shoe. Literacy is suggested by an incomplete plain iron stylus (Cat. no. 809) from the same deposit. The stylus was one of six similar examples that were concentrated in broadly contemporary features in Fields 265 and 258 (see below; Croom, Chapter 6) and appear to be focused immediately east of the road junction around Structure 31 and its boundaries (see below). A pierced lead disc (Cat. no. 860) may also have been used as a tally or accounting token but might also be a line weight or have some purpose in textile manufacturing (*ibid*.). An incomplete and rare copper-alloy 'paper-clip' patch (Cat. no. 780) once used to mend a metal vessel (*ibid*.) came from the same deposit, which also included further evidence for metalworking in the form of undiagnostic metallurgical slag, which was common to both the structure floor and exterior midden (Mackenzie, Chapter 7), and micro slag, both of which may represent some of the processes undertaken in Structure 38.

Sherds from a very dark translucent purple glass pillar moulded bowl with opaque white speckles (Cat. no. 597) were found in the primary filly of gully/beam-slot 31724. Four sherds from an exquisite, colourless handled shallow glass bowl with high-relief decoration produced in the later Neronian or Flavian period were recovered from the floor deposit (deposit **31707**; Cat. no. 636; Fig. 4.42; Cool, Chapter 5). Other sherds representing much of the same colourless bowl were found in midden group **29959** (see below) and two adjacent deposits, which suggests dispersal and disturbance of the midden. The value, rarity and significance of such an object at Scotch Corner is considered in detail by Cool (*ibid*.), who cites three of the few known comparanda at Pompeii and possibly Silchester, as well as a pre-AD75 context at Fishbourne Palace, where a royal connection is proposed; this style of vessel was clearly associated with elite natives across the early Province, and its presence at Scotch Corner suggests that the potential status of the bearer, trader or diplomat, and eventual owner of such a prestigious object cannot therefore be overstated. The value and significance of the vessel, therefore, contrast with its apparent casual discard in a layer of refuse that was sufficiently rich in organic material to require further consolidation. The aggregate surface (**31649**) laid over the floor outside the entrance of Structure 38 represented a continuation of the track over causeway **31645=31769**, which had been constructed out of finer fabric in this area. A small amount of bone between the stones demonstrated continuation of animal butchery in and around Structure 38, while in the manner of the colourless glass bowl, the relatively high incidence of pottery sherd joins, particularly the samian ware (Monteil, Chapter 5) across deposits in the immediate area are testament both to a shared source and reworking.

The butchers' or shop keeper's midden (group 29959)

Midden group **29959** had been deposited around the north side of Structure 38 and the causeway connecting it to Dere Street east (group **29961**; Fig. 4.39). In addition to the large and varied assemblage of pottery (which included several adjoining sherds of samian ware; Monteil, Chapter 5), and a substantial proportion of the high-relief glass bowl described above, the deposit contained a Neronian *as* minted around AD66 in Lyon (Cat. no. 670), which supports the vessel *terminus post quem* of c.AD70 (Brickstock, Chapter 6). There were also scraps of unidentifiable copper-alloy objects, iron nails, pieces of lead, fragments of fired clay and stone, and pieces of undiagnostic metalworking debris which included metallurgical slag (Mackenzie, Chapter 7), which possibly reflected sall-scale metalworking in the vicinity of Structure 38.

While the artefacts recovered from the midden and floor surface of Structure 38 reveal a great deal about when the material accumulated and what resources and objects were available at Scotch Corner, the animal bone and charred plant remains provided a unique insight into activity in and around Structure 38 specifically. Baines (Chapter 8) highlights examples of foods prepared inside Structure 38, citing the co-occurrence of garden peas in the floor and in the midden group **29959** outside it. He also proposes consumption of various fruit and nuts, while suggesting that cereals and weeds in the midden possibly derive from crops sown in the autumn. Accepting that some of the material might be redeposited, the sealed midden deposit displayed no sign of later intrusion, and was consequently appropriate for radiocarbon sampling. The determination obtained from a charred barley grain from deposit **31742** provided a date range of cal AD20–140 (95.4% probability; SUERC-83998), which was refined significantly in the Bayesian model to the last quarter of the 1st century AD (Hamilton, Chapter 9). Being one of the largest assemblages of animal bone at Scotch Corner, midden group **29959** also contained the majority of butchered remains, with more than one third of the cattle bones displaying some form of butchery (Wright, Chapter 8). The bone assemblage is interpreted as the product of specialist carcass processing which belongs to a Roman urban tradition rarely encountered in rural settings and is, perhaps, best explained as a process associated directly with the Roman military and their exploitation of cattle for labour (*ibid*.). It is tempting to connect the activity in and around Structure 38 with an iron ox-goad (Cat. no. 857) found in the same midden. This specialist piece of equipment used for droving cattle or guiding draught animals is of a type often found on Roman sites (Croom, Chapter 6), but is one of only two possible examples

Figure 4.42: Scotch Corner: Field 265, shallow handled colourless glass bowl with high-relief decoration (Cat. no. 636).

discovered at Scotch Corner, the other being in the ES3 enclosure system at the north end of neighbouring Field 258, although this may be part of a Roman candlestick (see below). While the associations may be fortuitous, both were found in appropriate locations; the former at a cattle butchery site and the latter in the boundary of an enclosure that probably counted livestock containment amongst its functions.

RR5: Dere Street west (group 29956)

At the same time as Structure 38 (group **29958**) was in use and midden group **29959** was accumulating, Dere Street west (RR5) was upgraded as a marginally wider carriageway on the same approximate course as previous iterations. There was also a concurrent south-westerly expansion of the junction, which improved access onto the road, especially from inside or across the junction. Much of the fabric of road group **29956** was lost to later truncation and it survived in a fragmentary state. Foundation layer **31594=31652** was composed of a quarried silty sand, which had been deposited alongside the south-eastern kerb of the road, in a strip approximately 3.5m wide and included sherds of samian ware produced before c.AD90 (Monteil, Chapter 5), scraps of amphorae and sherds of coarseware dating from Periods 3 and 4. The surviving road surface (**31648** and **31649**, not illustrated) comprised a compacted layer of crushed limestone which had survived to a width of approximately 2.2m. Like the previous iteration of Dere Street west (RR5; group **29957**) introduced with ES3, group **29956** projected a course that aligned with Dere Street north (RR10) c.160m to the north-east, at the opposite end of Crookacre Plantation in Field 246.

Figure 4.43: Scotch Corner: Fields 246 and 247 under excavation (© JV and Highways England).

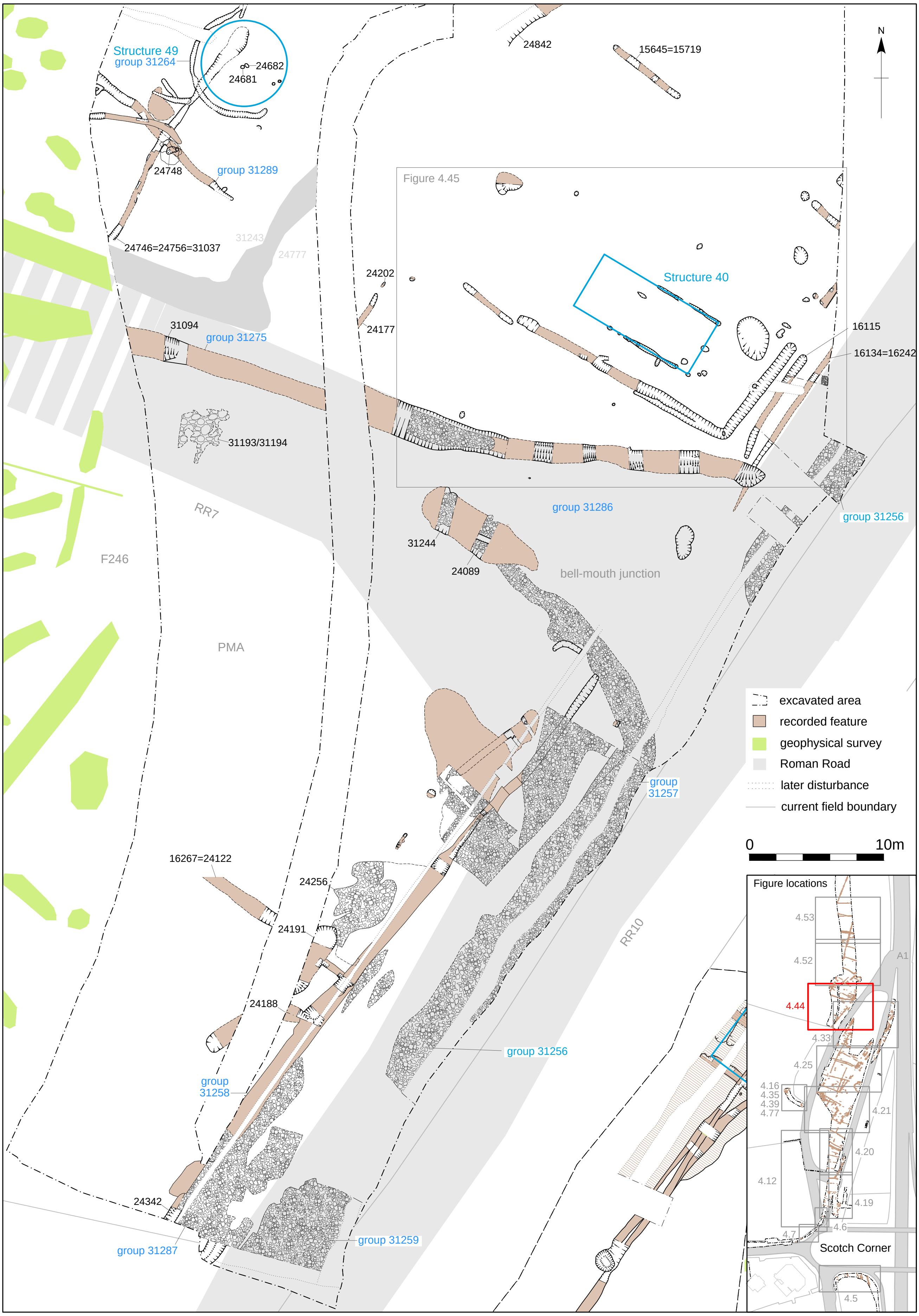


Figure 4.44: Scotch Corner: Field 258 northern end and Field 246 southern area, Period 4 and Period 5 features.

RR10: Dere Street north (Fields 246 and 258)

The remains of Dere Street north were partially preserved beneath and partially damaged by a substantial post-medieval hedge-line that simultaneously defined the south-east side of Field 246 and the north-western edge of the modern Great North Road corridor (Fig. 4.43). On the south-east side of the hedge, continued use and widening of the road corridor had resulted in loss of the south-east side of the Roman road, meaning that the complete span of Dere Street was lost at this location. While there was no stratigraphic connection between Dere Street north in Field 246 and the roads at the junction in Field 265, it was deduced from the alignments that the former might have been first constructed over the existing hollow-way at the same time as ES3 was introduced and Dere Street west (group **29957**) and Dere Street east (group **29961**) were constructed on their final alignments (see above). During the lifespan of ES3 there were two identifiable iterations of Dere Street north (RR10); the first represented by group **31257** (Fig. 4.44), and the second by groups **31256** and **31259**, which were flanked by road corridor ditch group **31258** and ditches **24342**, **16134**=**16242** and **16115** to the north-west (Fig. 4.45), and parallel ditch group **28129** on the south-east side in Field 258, which was c.28m distant (Fig. 4.33). A later adjusted alignment of the road represented by group **31287** (Fig. 4.44) was added in Period 5, but being the iteration closest to the plough horizon, it was badly disturbed, and its dating is cautious (see below).

The existing Period 3 curving junction between native routeway RW3 and the north-west routeway (RW5) was maintained and developed in conjunction with the development of Dere Street north (RR10) during Period 4. The former hollow-way junction was converted into an approximately symmetrical bell-mouth which was defined by side ditches including group **31275**, and refurbishment of the surface (group **31286**), both of which may have originated in ES1. Once the bell-mouth junction was established, roadside enclosures were developed to its south-west and north-east. On account of being largely retained under a new embankment, partial investigation of the road corridor meant that relationships with roadside enclosures were not always available to examine, hence their separate discussion.

RR10: Dere Street north (group 31257) (Field 246)

The first iteration of Dere Street north was only exposed in a central sondage excavated across the roads, where it was found to directly overlie native routeway RW3 (**16197**=**16253**; Fig. 4.1) and its junction with the north-west routeway (RW5; group **31285**; Fig. 4.1). Although the full width of road group **31257** (Fig. 4.44) remains unknown, it was certainly the earliest road at this location to incorporate distinct constructed layers which performed different functions and conformed to Roman construction principles, yet it was noticeably less robust than any of the roads at the junction in Field 265, presumably because they experienced heavier traffic and may have conveyed something of the prestige of buildings and activities at that important location (Fig. 4.46). Deposit **15966** in the foundation layer incorporated a sherd of samian ware produced between AD70 and AD90 (Monteil, Chapter 5), which provided a *terminus post quem* for construction. In addition to the sherds of Period 3 and 4 coarseware in equivalent layer **16023**, fragments of hazel, oak and pomaceous charcoal and charred goosefoot feasibly derived from earlier activity around the workshop enclosure (see Chapters 2 and 3), while the notable absence of charred cereals perhaps indicates that the immediate area was devoid of food production and habitation when the road was built. The gravel fabric and surface of the road were devoid of cultural material, which reinforced the possibility that Dere Street north was constructed through an area where habitation and manufacturing had declined in Period 3.

RR10: Dere Street north (groups 31259, 31256, 28129, and 31258, and side ditches 24342, 16134=16242 and 16115) (Fields 246 and 258)

Constructed directly above and on the same course as its predecessor, the second iteration of Dere street north was a more sophisticated construction and side ditches defined a 28m-wide corridor that was comparable to that defining Dere Street west (RR5; group **29957**; see above). This construction appears to have endured beyond Period 4, and was probably in use for a considerable time. A conjoining section of widening carriageway was added during Period 5 along its north-west side (group **31287**; see below) suggests that this road was never superseded. At this location, Dere Street north (RR10) had suffered the same pattern of truncation caused by continued use of the routeway and was investigated in trenches located to investigate the road sequence, rather than along its exposed length. At the south-west corner of Field 246, the road was represented by group **31259** (Fig. 4.44), which included cobble and aggregate foundation and fabric layers and a short surviving section of stone kerb (Fig. 4.47). The shallow camber of the road at this location suggested that its surviving width of c.6.2m represented approximately two-thirds of the original span. Large fragments of Baetican Dressel 20 olive oil amphorae incorporated into the surface were the only cultural material, although their production date of c.AD15–150 only confirmed the date of road construction within very broad parameters. At the north-east end of the exposed road segment, group **31256** was more extensively truncated but was constructed with the same two layers, in which artefacts were equally scarce. Sherds from a deep blue monochrome glass vessel (Cat. no. 624) in foundation layer **15746** was perhaps imported during Period 2 or 3 (Cool, Chapter 5), and the coarseware pottery assemblage from an equivalent layer also possibly incorporated vessel sherds from Period 3 (Leary, Chapter 5).

Adjacent to road group **31259**, the north-west side of the road corridor was defined by ditch **24342** and ditch group **31258**, which extended to the south-west side of the bell-mouth junction with the north-west road RR7 and probably also defined the south-east sides of roadside enclosures. On the north-east side of the bell-mouth, the course of the roadside ditch continued as ditch **16134=16242** (Fig. 4.45), which was parallel

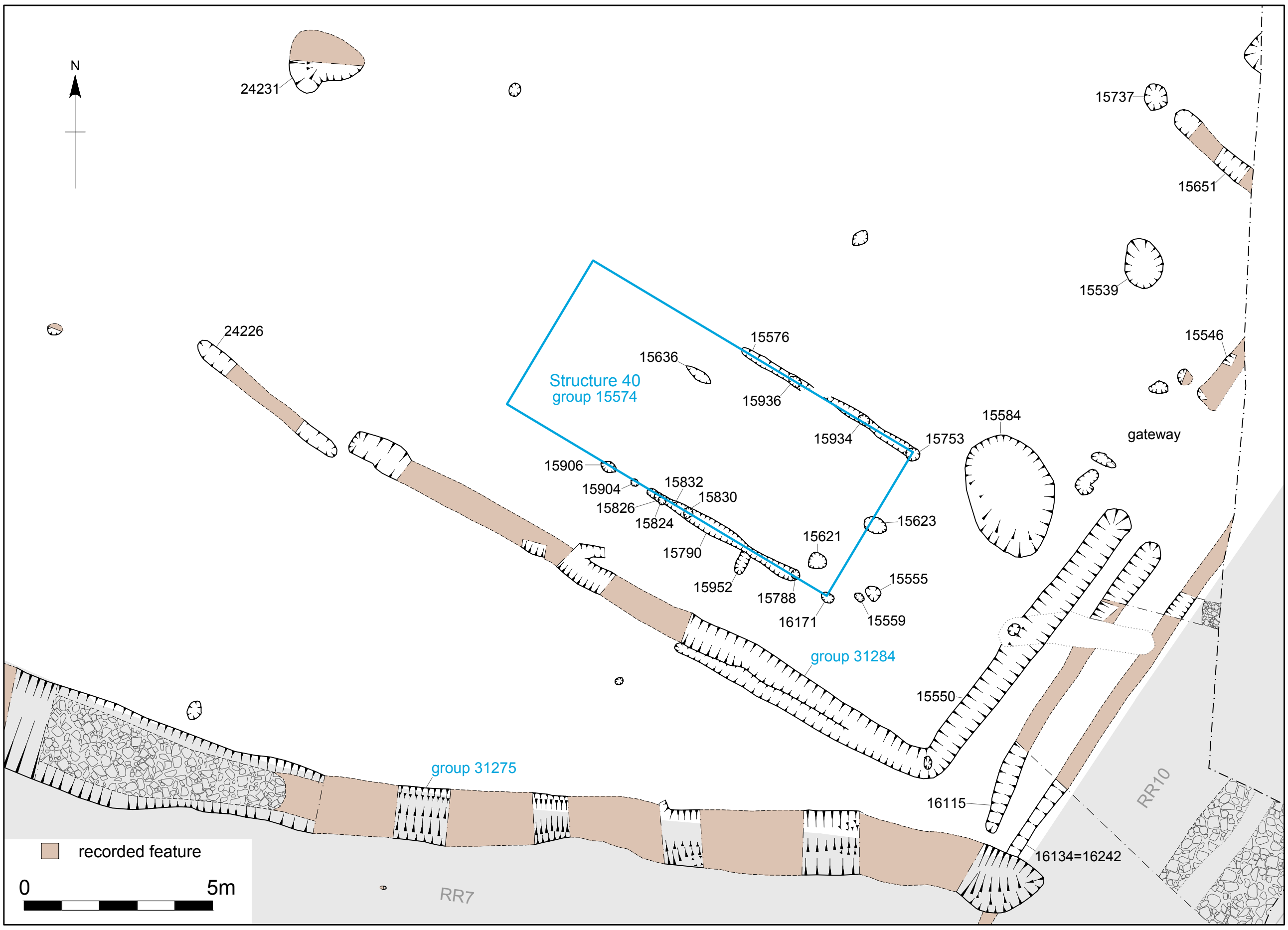


Figure 4.45: Scotch Corner: Field 246 southern area, Structure 40 and its enclosure.

*Figure 4.46: Scotch Corner: Field, Roman road RR10, group **31257**, facing north-east.*

*Figure 4.47: Scotch Corner: Field 246 southern area, Roman road RR10, groups **31256** and **31259** with kerb/drain along north-west side, facing north-east.*

with adjacent boundaries defining another roadside enclosure (see below). The contents of ditch group **31258** indicate that very little activity occurred in the adjacent areas, although the modest assemblage of coarseware was sufficiently diagnostic to determine infilling during Period 4 (Leary, Chapter 5), and a fragment of undiagnostic ceramic building material indicates the use of Roman materials nearby. North-east of the bell-mouth junction, ditch **16134**=**16242** was marginally more productive. The hazel and ash charcoal, charred sedge and sherds of samian ware produced between c.AD45 and AD110 derived from nearby occupation after the Claudian conquest, but the absence of charred cereals which were commonly found in the adjoining enclosure and structure indicate perhaps that the road and its side ditches were in use before the roadside enclosures and interior structures were developed. Immediately north-west of ditch **16134**=**16242** and parallel with it, ditch **16115** was c.0.5m wide and 0.2m deep. Its north-east end corresponded with the entrance to the adjacent enclosure defined by ditches **15550** and **15546**, although this coincidence does not prove whether the gully was an early iteration of the enclosure at its roadside entrance, or a roadside gully with a causeway for the enclosure entrance. The fact that its fills contained no dateable finds suggest that it pre-dated the enclosure and was primarily associated with the road corridor.

The ditches flanking the south-east side of the road cut across the subterranean remains of rectangular Structure 35, which was probably constructed during the time of ES2 and potentially still occupied when ES3 was introduced, but must have been abandoned by the time the second iteration of Dere Street north was constructed in conjunction with developments during ES3. Ditch group **28129** (Fig. 4.33) underwent several episodes of refurbishment, having presumably infilled rapidly with sediment from the road carriageway, which was upslope. Assemblages of chronologically and culturally diagnostic artefacts were small, although in combination the samian and coarseware provided a *terminus post quem* of c.AD70 (Leary and Monteil, Chapter 5), whereas the sherds of hand-built pottery were unable to provide precise dates for production. The small amount of hazel and alder charcoal could have come from any earlier or contemporary nearby source, and the absence of charred cereals, other foodstuffs and weeds supported the proposal that habitation was focused elsewhere while the side ditches infilled.

A copy of a Claudian *as* (Cat. no. 668) in top fill **27169**, if correctly identified, points to pre-Flavian occupation; these coins produced c AD 54–68 were rapidly driven from circulation with the introduction of Vespasianic coinage in the early AD70s (Brickstock, Chapter 6). In isolation, the coin might be taken to represent a short period of activity in late Period 2 or Period 3, but its depositional context relegates it to being residual in Period 4. The roadside ditch re-emerged 25m to the south-west as recut gullies **27605** and **27186**, both following the projected course of group **28129**. Amongst their disturbed fills, Period 4 samian and coarseware were accompanied by sherds of hand-built vessels, charcoal and charred cereals pertaining to food production and domestic refuse disposal, the material perhaps derived from the same source as the redeposited midden used to backfill pit group **28131** (see below).

RR10: Dere Street north (Field 247)

Dere Street north was identified in Field 247, approximately 0.5km north of the section exposed in Field 246, by which point it had returned to a south–north alignment. Modern road construction associated with the A1 had removed most of the Roman road and any predecessor on the east side, while ploughing had the same effect on its west, but preserved beneath the hedge-line, a 44m-long narrow ribbon of aggregate surface survived along the north-eastern edge of Field 247 (Fig. 4.48). The fabric of the Roman road (**24063**, **24075**, **24079**, not illustrated) comprised a layer of compressed cobbles and clay that survived to a width of c.2m and incorporated parallel wheel ruts. No diagnostic finds were recovered, although small tree holes beneath the surface possibly suggested vegetation clearance in advance of road construction. The course of Dere Street in Field 247 represented the final alignment, which was contemporary with ES3, and was confirmed by surviving sections of Dere Street in Field 242 2km to the north at a segment of the road that connected with the B6275 towards Piercebridge (not illustrated).

RR7: the north-west road and bell-mouth junction (group 31286 and side ditch group 31275 and ditch 31094) (Field 246)

The north-west road was originally a native hollow-way (RW5) developed in conjunction with the workshop enclosure in Period 2 and continued in use during Period 3 as group **31285**, which either extended west, or curved south-west around the north-west side of the manufacturing zone(s) (Fig. 4.1). During Period 4, the eastern end of the routeway was adopted, but realigned and upgraded to a stone and aggregate construction as RR7. Reconfiguration included the construction of a bell-mouth junction (group **31286**; Fig. 4.44) with Dere Street north (RR10) where its boundaries provided reference for roadside enclosures which were added along the road corridor. Inside the excavation area, the south-west side of the RR7 appears to have incorporated the curving route of the earlier iteration and experienced little alteration, whereas the north-east side was developed on a new course. The final configuration of RR7 widened from c.10m inside the Private Means of Access (PMA) and further north-west as geophysical anomalies, to c.25m at the bell-mouth junction with RR10.

The primary boundary on the north-east side of RR7 was substantial curving ditch (group **31275**; Fig. 4.45), which extended into the PMA as ditch **31094** (group **31275**) and was cut with a steep-sided V-shaped profile, which was 0.7m deep (Fig. 4.49). The ground surface width of the ditch was c.1.4m and it narrowed to c.0.3m wide at its base. The ditch shallowed on its approach to Dere Street north and terminated in line with roadside ditch **16134**=**16242** (see above). In common with the ditches flanking Dere Street north, artefacts were rare in

Figure 4.48: Scotch Corner: Field 247, truncated and rutted remnant of Roman road RR10, facing south.

*Figure 4.49: Scotch Corner: Field 246, ditch group **31275**, facing south-east.*

the lowest fills, but the rim of a coarseware jar or beaker in primary fill **16138** was produced during Period 3 or 4 (Leary, Chapter 5). Above this, the assemblages increased with successive infilling. Fragments of ash and birch charcoal were found with pieces of animal bone, but there was a notable absence of charred grains which might signify nearby food production. Samian ware, coarseware and amphorae became more common, while an iron nail in deposit **15531** came from the same horizon as two examples of *tegula* (in deposits **24045** and **31139**) and a piece of *imbrex* in fill **24026** (Antink, Chapter 7); the collection potentially indicative of Roman buildings in the vicinity. A section excavated half-way along ditch group **31275** revealed a segment backfilled to the ground level with large boulders and cobbles (**24209**=**24259**; Fig. 4.50). While their origin was unclear, their probable function was to provide access across the boundary, which proved to have been useful if the assemblage of Period 4 samian ware, amphorae and coarseware assemblage from between the stones is considered indicative of elevated activity levels.

The patchy state of the north-west routeway surface (group **31286**; Fig. 4.44) near its junction with Dere Street north was testament to centuries of ploughing. Despite this, it retained some original features, such as the wheel ruts (**24089**), which traced the curving course of carts branching off to the north-west, or arriving at Scotch Corner from that direction. Part of the routeway

*Figure 4.50: Scotch Corner: Field 246, ditch group **31275**, upper fill of stones **24209**=**24259**, facing north-west.*

defined by hollow-way **31244** incorporated a wide range of discarded artefacts trampled or rolled into the aggregate surface. Sherds of samian ware came from vessels produced after c.AD45, although a samian bowl indicated deposition after c.AD65, which corroborated the coarseware (Leary and Monteil, Chapter 5). An incomplete copper-alloy bolt from a lock for a Roman box or small cupboard (Cat. no. 782) in deposit **24091** was of a relatively sophisticated design, and is evidence for transportation or securing of valuables by the incoming population.

Glass vessels were abundant in features associated with routeway group **31286** and effectively demonstrate the behavioural transition expressed between objects associated with Periods 2 and 3 activity, to those indicative of Period 4. Earlier preferences and imports were evident in the sherds from a blue/green pillar-moulded bowl (Cat. no. 662) and the blue/green flask or unguent bottle in deposit **24091**, whereas the colourless facet-cut beaker (Cat. no. 633) in deposit **24267** and the blue/green bottles found in deposits **24091** and **24093** (RF11455, not catalogued; Appendix H) became increasingly popular from the end of the Neronian period and were indicative of Period 4 at Scotch Corner (Cool, Chapter 5). The same deposit included fragments of fired clay and some copper-alloy metal casting debris (Cat. no. 901 Mackenzie, Chapter 7), which was potentially redeposited, but its appearance here demonstrates renewed activity in the routeway. There was also circumstantial evidence for proximate habitation, which took the form of some undiagnostic ceramic building material, and frequent fragments of oak, ash and pomaceous charcoal and a diverse range of charred cereal and food remains. A short distance to the north-west along the routeway in the PMA, a small patch of the upgraded routeway avoided the degree of plough damage experienced nearer the junction with Dere Street north. A contemporary road comprising aggregate foundation (**31194**) and cambered cobble fabric (**31193**) was, perhaps, the only surviving remnant of the road (Fig. 4.51).

Geophysical anomalies crossing the unexcavated part of Field 265 to the west follow at least two alignments. While it cannot be currently proven, it is proposed that the southern course of the north-west routeway was the first because it corresponds with the alignment of ES1. Furthermore, it may then have been realigned on the putative northern course, which was parallel with the road to Stainmore and respected ES2. In both iterations, the routeway probably connected with the route that followed a sinuous course between the road to Stainmore and Melsonby/Stanwick. There was no obvious realignment associated with ES3, perhaps because by that time the north-west routeway and its connection with the road to Melsonby and Stanwick had diminished in importance, both as a consequence of Stanwick's demise, and the change in alignment of Dere Street north further east of the former native power centre.

Roadside, rear and ladder enclosures, and fields in Field 246

Once Dere Street north (RR10) was established in conjunction with the development of ES3 in Fields 258 and 229 (see below and Fig. 4.34), a series of enclosures was developed along its north-west side in Field 246. Any attempt to achieve absolute regularity in their dimensions and alignments was precluded by the need to accommodate a relatively sharp northward curve in the road as it returned to a direct south–north course outside the core of the settlement, as demonstrated in Field 247 (see above). In adhering to this new system and respecting the constraints, the Period 4 roadside and rear enclosures subsumed the area of the former workshop enclosure, and superseded the short-lived rectilinear enclosures introduced along the south–north routeway

*Figure 4.51: Scotch Corner: Field 246, Roman road RR7, group **31193**, facing south-east.*

Figure 4.52: Scotch Corner: Field 246 central area, Period 4 and Period 5 features.

(RW3) in Period 3 (see Chapter 3). In addition to the new enclosures which flanked the immediate north-west side of the road corridor, a separate series of enclosures conformed to a ladder formation, while large enclosures, or fields, extended north and west from their outer boundaries (Figs 4.52 and 4.53). Some of the boundaries continued for a short distance west as geophysical anomalies, notably group **31281** (Fig. 4.53), which traced a shallow curve both to the west and the east, and could feasibly have formed a northern outer boundary that corresponded with the outer trapezoidal boundary on the south-east side of Dere Street (see below). At the south end of Field 246, rectangular Structure 40 occupied a roadside enclosure (Fig. 4.45), while the last sub-circular construction (Structure 49) occupied an adjacent rear enclosure, which exhibited signs of continued occupation (Fig. 4.44). In a large enclosure to the north-west, Structure 58 was the most northerly Period 4 rectangular building discovered at Scotch Corner, which appears to define the extent of human or livestock occupation or storage in the excavation area (Fig. 4.52).

Roadside enclosures south-west of the bell-mouth junction

There was sufficient combined evidence from the limited excavation area, from unexcavated features identified within the area retained under embankment, and from the geophysical survey to propose that roadside enclosures were developed immediately south-west of the bell-mouth junction in Field 246 (Fig. 4.44). While it was sometimes difficult to determine whether boundary ditches were paired, to the south-west of the bell-mouth it is feasible that the north-east side of one enclosure was defined by ditch **16267**=**24122**, which was perpendicular to Dere Street north, and possibly replaced an earlier boundary defined by ditch **24188**. The south-east side was probably delimited by ditch group **31258**, which was shared with the road corridor (see above). A zone of aggregate surface (**24256**) potentially facilitated access between the road and an irregular area between the enclosure and the north-west routeway. While there was minimal investigation of the enclosure, the fills of ditch **16267**=**24122** included samian ware from Periods 2, 3 or 4, and coarseware with a fabric that appeared to indicate Period 4 production (Leary, Chapter 5). Coming from a such a small excavated sample, it is probably safe to assume that the broken vessels derive from occupation in the enclosure.

Roadside enclosures north of the bell-mouth junction

Most of the diagnostically Roman features and discarded artefacts were concentrated in the roadside enclosures closest to the settlement core at the south end of Field 246, while any structural remains further north were probably nearer the road corridor of Dere Street and therefore east of the A1 excavation area. The first roadside enclosure was c.20m wide and contained rectangular Structure 40 (group **15574**; Fig. 4.44). It was clearly delimited with linear ditches, which incorporated a central access to Dere Street north (RR10). The wide linear depression caused by the former south-east workshop boundary ditches and track (RW3; Fig. 4.1), appears to have been adopted as a shared north-west boundary between the roadside and rear enclosure, presumably because the earthworks were not yet completely infilled, and any accompanying banks may still have been extant in diminished form. Access between the roadside and rear enclosure was maintained via a stone raft (see below), and appears not to have been hindered by insubstantial interior boundaries which were common to the enclosures.

Structure 40 (group 15574) and its enclosure

Structure 40 occupied the south-eastern quadrant of the enclosure's interior and was c.5m from the entrance to the road corridor (Fig. 4.45). The structural remains were interpreted as a single episode of construction, which comprised two parallel foundation trenches with associated post settings and eight additional postholes that were the only evidence for gable ends (Fig. 4.54). The precise dimensions of Structure 40 were uncertain, but the north-west to south-east sides were at least 6.9m long, and spaced c.4.5m apart, suggesting that it probably conformed to the Scotch Corner standard dimensions (9.9m x 4.5m; Fig. 4.26). The north-east side comprised foundation trench **15576** (Fig. 4.45), which was 5.5m long and up to 0.1m deep with a flattish base and probably housed hurdles supported with structural posts. The south-east terminal was formed by posthole **15753**, which was marginally wider than the foundation trench, and was mirrored by posthole **15788** at the end of the south-west side (**15790**); both clearly representative of posts at the ends of the side walls. Posthole **15934** was c.1.2m along the wall-line and, after a 1.7m gap, posthole **15936** was the last in the line.

The south-west side was formed by foundation trench **15790**, which was 4.6m long, up to 0.4m wide and 0.14m deep. It was punctuated with four postholes and a stakehole. As with the north-east side, trench **15790** probably housed hurdles supported with structural posts. A perpendicular feature (**15952**) projecting 0.6m to the south-east from trench **15790** was likely to be integral to the structure, situated c.1.2m from the south-east wall end represented by posthole **15788**, thus reflecting the spacing of upright structural components on the north-east side. A further 1.65m along the wall foundation, posthole **15830** occupied a position that corresponded with posthole **15936** on the north-east side. Stakehole **15832** was a minor structural feature, and the wall trench ended marginally beyond posthole **15826**, which had been recut as posthole **15824**. In this instance, there was no evidence for a corresponding posthole on the north-east side of the structure. Posthole **15904** extended the line of the wall foundation to the north-west, and posthole **15906** represented another structural feature associated with Structure 40, from which an iron nail was recovered (in fill **15907**). These additional postholes extended the length of the side to 7.2m.

A single shallow posthole (**15636**) lay between the parallel wall trenches and was interpreted as evidence for the north-west gable end. The south-east gable was connected with postholes **15753** and **15788** at the south-east ends of the wall trenches (see above). Two additional

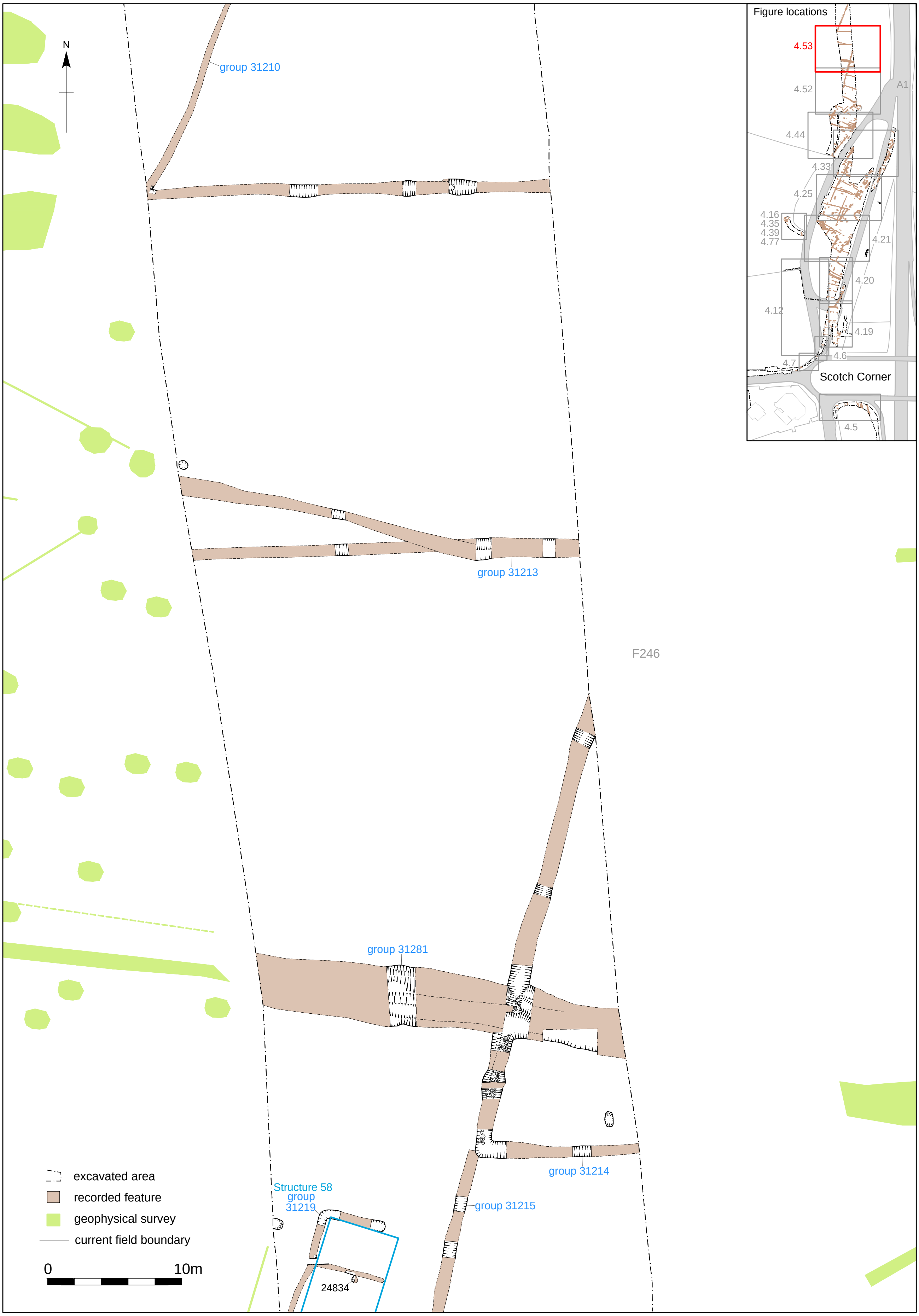


Figure 4.53: Scotch Corner: Field 246 northern area, Period 4 and Period 5 features.

Figure 4.54: Scotch Corner: Field 246, Structure 40 and its enclosure fronting Roman road RR10, facing south-east.

postholes (**15621** and **15623**) could represent timber uprights associated with the gable, although they suggest a shallow apsidal form, perhaps with its apex at posthole **15623**, and this arrangement may better be explained as an exterior feature. A more pronounced exterior feature may have been formed by postholes **16171**, **15559**, and **15555** on the south-west side, although they had no surviving counterparts on the north-east side. However, despite uncertainty regarding the form of the north-west gable and full extent of the long alignment, the width of Structure 40 probably corresponded with the standard rectangular building dimensions of 9.9m x 4.5m recognised at Scotch Corner, and therefore represents robust evidence for Roman construction.

There was little evidence in the fills of structural features for the activities undertaken inside. Small quantities of charcoal from typical species were accompanied by minute assemblages of charred wheat and goosefoot, along with sherds of Roman coarseware pottery produced during Periods 2 or 3 as well as some undated pieces (Leary, Chapter 5). The most informative artefact was a possible fragment of ceramic tile in fill **15556** of posthole **15555**, which alone might be incidental or redeposited, but when considered with seven additional undiagnostic fragments of ceramic building material and a fragment each of *imbrex* and tile in the fill of adjacent enclosure ditch group **31284** (Antink, Chapter 7), there is a strong possibility that Structure 40 included Roman building materials, particularly when there was no evidence of an alternative source for the material.

As was suggested by the disparity in deposited building materials, most of the cultural material from Structure 40 and its associated activity became incorporated into the fills of surrounding enclosure ditches and nearby pits. A large pit (**15584**) was positioned incongruously between Structure 40 and the enclosure entrance. It was an irregular ellipse measuring 3.3m long by 2.3m wide and c.0.5m deep, and was rich with artefacts relating to domestic occupation during Period 4, although there was potential evidence for earlier imports such as the Baetican Dressel 20 amphora in tertiary fill **15592**, which was produced between c.AD15 and c.AD70 (Griffiths and Williams, Chapter 5), and much of the samian and coarseware which possibly spanned Periods 2, 3 and 4. Fired clay, animal bone and ash charcoal were present, but charred cereal grains were notably absent. A small number of charred wheat grains were recovered from the fill of pit **15339** to the north-east, which also contained domestic refuse that included sherds of a hand-built rusticated jar (Cumberpatch, Chapter 5) and Roman coarseware dated to Periods 3 and 4 along with animal bone and charcoal.

A short segment of Structure 40's enclosure was defined on the south-west side by ditch **24226**, while ditch group **31284** formed most of the south-west side, the south corner, and south-east side up to the access point with Dere Street north. The access point was defined primarily by the 3.4m-wide causeway between enclosure ditches, but it was embellished with a 0.6m-wide gateway formed with two pairs of postholes, the outer ones presumably connected with the boundary ditch to provide a continuous barrier. On the north-east side of the access, the roadside aspect of the enclosure continued as ditch **15546** up to the edge of the excavation area and contained typically domestic refuse from Period 4 occupation. The plough-truncated north-east side was defined by ditch **15651**, feature **15737**, and ditch **15645=15719** (Fig. 4.44). A paucity of artefacts in ditch **24226** contrasted with the abundant assemblages from ditch group **31284** (Fig. 4.45), which arguably derived from the occupation of Structure 40 and were concentrated near the south-west entrance terminal. Amongst the fills of the ditch, which was typically c.1m wide by 0.25m deep with steeply sloping sides, the hazel, oak, birch and ash charcoal presumably represent domestic heating and cooking, which included foods produced with meat, barley and spelt. The samian ware assemblage included forms that could have been produced in the mid-1st century, but mixed with others with an earliest date of c.AD70 (Monteil, Chapter 5). Some of the Baetican Dressel 20 olive oil amphora sherds from fill **16031** were of a type produced between AD70 and AD120, and represent the supply of olive oil through Roman military mechanisms during Period 4 (Griffiths and Williams, Chapter 5). Similarly, sherds of mortaria produced after c.AD50 in fill **16024** were presumably indicative of food preparation during the early part of the wide date range, while those found in fill **16025** derived from the form that was unique to Scotch Corner and may have been produced locally between AD60 and AD90, probably to a specification designed for the Roman military and/or its entourage (*ibid*.).

The inner north-west boundary of the enclosure was discontinuous, appearing to incorporate pit **24231** and extend between the terminal of ditches **24226** and **15645=15719** (Fig. 4.44). Its course continued to the south-west as gullies **24177** and **24202**, which potentially represented the rear boundary of a small irregular enclosure bound to the south west by the north-west routeway ditch (group **31275**; Fig. 4.45). The boundary appears to have presented a notional barrier that allowed relatively free access between areas, particularly with the adjacent rear enclosure to the north-west, which contained Structure 49 (see below).

The second roadside enclosure to the north-east of the junction shared a boundary with the first, while the south-east side lay beyond the excavation area limit, as might any structural remains. Defining the north-east side of the enclosure's c.21m span, gully **31810** (Fig. 4.52) contained modest assemblages of coarseware pottery sherds from vessels produced in Periods 3 and 4 and some vessel glass. The course of gully **31810** was complementary to that of a major ditch (**15643**) and probably formed the equivalent boundary for a rear enclosure, which was separated by a notional division formed by central pit **15665** and posthole **15653** and replicated the arrangement observed between the adjacent enclosures to the south-west. Access between the roadside and rear enclosures was maintained by a substantial raft fabricated from cobbles and boulders with surface gravels and sands (group **31261**; see below), which formed a causeway across the former south-east workshop boundary, which had evidently not infilled completely by that time. It is possible that the raft had earlier origins and continued to be used in Period 4, although incorporation into the fabric of an upper beehive quern stone (Cat. no. 871) and a nearly complete upper beehive roughout (Cat. no. 872; Fig. 4.55), both of which were far from exhausted, present convincing evidence that native technologies and traditions were actively superseded at the time the raft was constructed (Cruse, Chapter 6).

Habitation was probably also the primary function of the adjacent enclosure to the north-east, although only a small proportion was exposed in the excavation area (Fig. 4.52). Part of its boundaries formed by ditches **31806**, **31816** and group **31209** contained ceramic and vessel glass assemblages that were typical of Period 4 occupation. Possible fragments of brick in fill **31807** of ditch **31806**, and a single-spiked loop (Cat. no. 849) used in masonry walls rather than timber (Croom, Chapter 6) attest to Roman construction techniques, while a native-style spindle-whorl (Cat. no. 698) in fill **31817** of ditch **31816** represented continuation of native traditions.

Rear enclosures north-east of the bell-mouth junction

North-west of the roadside enclosures, an enclosure with a fenced interior sub-enclosure occupied the former site of the workshop enclosure (Figs 4.44 and 4.52). The evidence for activity in this area during Period 4 was ill-defined, although it evidently resulted in extensive disturbance to earlier deposits, particularly around the stone raft (group **31261**; see above; Fig. 4.52), which provided access across the former south-east workshop

*Figure 4.55: Scotch Corner: Field 246, upper beehive quern Cat. no. 872 roughout, reused in raft group **31261**.*

enclosure boundary to the adjacent roadside enclosures. Inside the rear enclosure, curving Structure 49 was of uncertain form and function, but appeared little suited to habitation. It is possible therefore, that much of the activity in the enclosure was undertaken by people who lived elsewhere.

The north-western boundary of the rear enclosure was indecipherable from the palimpsest of geophysical anomalies recorded west of the excavation area, meaning that its north-western extent was unclear. By contrast, the distinct north-east side (ditch **15643**; Fig. 4.52) was shared with the ladder enclosures described below, and apparently received much of the detritus produced and redeposited inside the rear enclosure. The south-west side of the enclosure was delimited by ditch group **31275** (Figs 4.44 and 4.45), which also functioned as the side ditch for the north-west routeway (RR7; Figs 4.2 and 4.44; see above), while the partially infilled earthworks that previously defined the south-east boundary of the workshop appear to have been repurposed for the rear enclosure in Period 4. Specifically, near the north-west routeway, ditches **24777** and **31243** (Fig. 4.44) were yet to infill fully, and continued to receive pellet mould fragments and metalworking debris such as casting moulds and hearth lining, which derived from deposits that were disturbed while Structure 49 was in use. Further north-east along the same boundary, ditches **24842** and **15869** (Fig. 4.52) appear to represent Period 4 recuts, which terminated on either side of raft group **31261**. On the south-west side of **31261**, ditch **24842** contained a variety of redeposited and contemporary refuse; in addition to the residual pellet mould fragments, a scrap of Period 4 coarseware amongst the otherwise earlier assemblage in primary fill **24437** demonstrated the age of the feature, while upper fill **24413** included a single redeposited fragment of briquetage, sherds of a flagon dated to the late 1st or early 2nd century (Leary, Chapter 5), and manufacturing debris came from top fill **24852**, where there was possible metallurgical slag as well as fuel ash slag, hearth bottom slag, fired clay and daub (Mackenzie, Chapter 7). On the north-east side of stone raft **31261**, ditch **15869** cut through the former north-east corner of the workshop enclosure and 'well' or tank **24297** (not illustrated, see Chapters 2 and 3), which was formerly a major setting for activity and deposition of refuse associated with manufacturing and craft. Consequently, its fill included large assemblages of redeposited pellet moulds and manufacturing waste, including some possible waste from copper-alloy working (Cat. no. 900) in top fill **24052**. Amongst the material from Periods 1–3, however, the fragments of *tegulae* and *imbrices* pertain to Period 4 buildings (Antink, Chapter 7); sherds of *Verulamium* wares in top fill **15857** carry the same temporal associations (Leary, Chapter 5), as does a possible waster sherd of Scotch Corner type mortaria (Cat. no. 333), and implied nearby production (Griffiths and Williams, Chapter 5).

Along the north-west side of ditch **15869**, a contemporary cobble and gravel surface (**16177**=**24016**; Fig. 4.56) occupied the same linear depression and perhaps represented the edge of another causeway across the boundary or perhaps continued use of RW4 (Fig. 4.1).

*Figure 4.56: Scotch Corner: Field 246, cobble and gravel surface **16177**=**24016**, facing north-east.*

Like the fills of the adjacent ditch, organic-rich soil layers (group **31208**, not illustrated) which sealed the surface incorporated ceramic building material, redeposited fragments of pellet mould and pottery of all classifications ranging in date from undated hand-built examples to Period 4 imported vessels. The most arresting inclusion, however, was a very small fragment of gold sheet (Cat. no. 696) from deposit **15898**, which had cut marks on two edges and probably derived from sheet-gold working on the site, or was kept as a piece of scrap for recycling (Croom, Chapter 6), and was possibly associated with precious metalworking in the workshop enclave or enclosure (see Chapters 2, 3, 7 and 10).

In the same area, much of the cultural material in deposits above stone raft **31261** (Fig. 4.52), and particularly in layer **24147** (not illustrated), seemed to derive directly from earlier deposits containing coarseware and samian forms pre-dating Period 4 (Leary and Monteil, Chapter 5). Undiagnostic waste from hot works were also present, as well as a wide range of charred plant remains and ash charcoal. A mid-1st-century light-green pillar moulded bowl (Cat. no. 600) would be in keeping with later Period 3 or 4 fashions and provincial consumers (Cool, Chapter 5), and equivalent deposits included material typical of Period 4; Baetican olive oil amphorae produced between c.AD70 and c.AD120, *Verulamium* form mortaria from c.AD60–90 (Griffiths and Williams, Chapter 5), and samian and coarsewares with a *terminus post quem* of c.AD80 or after (Monteil and Leary, Chapter 5). Before fragmentation, an amber bead (Cat. no. 737) might originally have been imported into the native settlement, but is more likely to have arrived through trading or with the Roman contingent in Period 4 (Foulds, Chapter 6). Similarly, miscellaneous fragments of ceramic building material in deposits **24159** and **24333** were unremarkable in isolation, but more informative when considered with the small collection of *imbrices*, *tegulae* and tile retrieved from an adjacent mixed occupation layer (group **31207**, not illustrated) overlying the former workshop enclosure corner and north-east part of the stone raft (Antink, Chapter 7). This modest concentration of Roman building material accords well with the proximity of Structure 40 (see above) and the potential for other Roman-style structures outside the excavation area.

In addition to the building material, group **31207** was rich in artefacts, many of which attested to earlier activity in the same zone, whereas other material related to Early Roman occupation; a small chipped white glass counter (Cat. no. 788; Croom, Chapter 6) was one of only two found outside Fields 258 (the other was in Field 229), but was potentially part of the same set as those concentrated in ES3 boundaries (see below). Sherds of locally produced mortaria of the Scotch Corner type were found with Baetican olive oil amphorae sherds (see Griffiths and Williams, Chapter 5), blue/green bottle glass came from deposits **15968** (RF10146, not catalogued; Appendix H) and **24146**, while manufacturing waste materials in the same deposit may have been associated with ferrous metal production, which was absent in earlier periods (Mackenzie, Chapter 7). In the same area, subsoil **15502** contained an abundance of occupation and manufacturing debris. This included a *denarius* of Vitellius (Cat. no. 671) minted between January and June of AD69 that exhibited very little circulation wear, and was probably deposited in the first half of the AD70s. A *sestertius* of Vespasian minted in AD71 (Cat. no. 673) was also recovered, and both coins provided compelling numismatic evidence for early Flavian occupation at Scotch Corner (Brickstock, Chapter 6).

The interior sub-enclosure was formed with a network of fence-lines, including feature **24114**, which traced the north-west side of the former workshop enclosure boundary, and was devoid of cultural material, as were the components of a short perpendicular subdivision defined by group **16361** (Fig. 4.52). An equally insubstantial north-east boundary delimited by fence-line **16378** included a basal sherd from a deep blue pillar moulded bowl (Cat. no. 599) in fill **16381**, but no pottery. On the other side of a c.1m-wide access point, perpendicular fence-line **16383** began a course which was continued near Structure 49 by gully or fence-line **16480**, which included some typical occupation debris. Feature group **31289** (Fig. 4.44) represented the south-west side of the same c.25m-wide enclosure; the sides broadly corresponding to the those of the adjacent roadside enclosure containing Structure 40, which flared a little to the north-west. The fills of gully group **31289** contained little cultural material, although the small assemblages of coarseware spanned production in Periods 2, 3 and 4 (Leary, Chapter 5), and presumably derived from a combination of earlier deposits and contemporary occupation. A lateral subdivision of the enclosure (ditch **24746=24756=31037**) was probably later than Structure 49, although the relationship was uncertain. Outside the circuit of the structure there were few artefacts in the ditch fills, but inside, where the ditch cut into the circuit of former Structure 48 (see Chapters 2 and 3), fill **24757** combined sherds of hand-built pottery with Period 4 samian ware and coarseware of the mid-1st century. The same fill included a residual fragment of pellet mould (RF11596, not catalogued; Appendix J), some fired clay and two possible fragments of casting mould or hearth lining with slag residues (Mackenzie, Chapter 7). While it is tempting to argue the case from the Period 4 material for the former workshop enclosure being the site of continuing non-ferrous metalworking, the evidence is ambiguous, and there is no reason why all of the associated waste was not redeposited, as was presumably the case for the earlier pottery.

Structure 49 (group 31264)

Inside the fenced sub-enclosure, Structure 49 occupied an area that had been the site of short-lived sub-circular structures refurbished on numerous occasions (see Chapters 2 and 3). Aside from Structures 29 and 30 in the coaxial enclosures in Field 228 (Figs 4.19 and 4.20; see Chapter 3), Structure 49 was the only sub-circular building at Scotch Corner to have been constructed or occupied in Period 4, when rectangular structures came to dominate the zone around the road junction. While the earlier structures and earthworks were mostly flattened, areas of activity and recently disturbed soil were probably apparent when Structure 49 was erected. Indeed, the recent history of the site was demonstrated by residual fragments of pellet mould (RF11563 and RF11564, not catalogued; Appendix J) in fill **31047** of the wall trench of Structure 49, which was 0.4m wide by c.0.2m deep, with steeply sloping sides. Its east-facing southern terminal coincided with a series of earlier intercut features, apparently defining an east-facing open-sided interior that was c.8m across. Postholes **24681** and **24682** (Fig. 4.44) were approximately central to the interior and may have helped to support a light roof, but these represented the only evidence for structural uprights. The coarseware pottery in the wall trench included sherds of Baetican Dressel 20 olive oil amphorae produced between c.AD50 and c.AD70 and deposited in fill **31047** (Griffiths and Williams, Chapter 5), and grey-ware sherds from a vessel produced after c.AD70 (Leary, Chapter 5). In addition to fragments of animal bone and fired clay were pieces of hazel, ash, oak and pomaceous charcoal, while the charred barley and spelt indicate food production nearby. A radiocarbon determination of cal AD60–230 from charred barley in fill **31082** was modelled to a date range between c.AD70–130 (95.4% probability; SUERC-83985; Hamilton, Chapter 9). A small copper-alloy rod (RF11530, not catalogued; Appendix H) from fill **16279** in the wall trench of Structure 49 was insufficiently diagnostic to date and was probably redeposited, although there was a possibility that small-scale metalworking was undertaken around a small hearth (**24748**) located immediately south-west of Structure 49. Despite being largely removed by later truncation, it appears to have originally been a raised ellipse of heated clay (**24771**, not illustrated) containing some industrial waste (Cat. no. 906), and possibly concreted metal fragments (Mackenzie, Chapter 7). There were other hints that metalworking and other manufacturing processes took place inside the enclosure during Period 4. While the specific locations are unclear, the type and quantity of ferrous metal residues points to small-scale iron smithing (Mackenzie, Chapter 7), suggesting that the industrial heritage of the area continued in a modified form and at a reduced intensity. Interpretation of this material is cautious given the high degree of reworking in the area, which was evident in layers such as those which subsided into the top of Period 2 trench **16410** (not illustrated, see Chapter 3) and overlay adjacent areas. A large oval stone (Cat. no. 706) in deposit **16435** may have been a pounder (Croom, Chapter 6), of unknown purpose and possible earlier origin, but an association with manufacturing and craft in Period 4 cannot be ruled out. Similarly, fragments of briquetage from the same context may have been redeposited from underlying layer **16411** (not illustrated; see Chapter 3), as might the sherds of an Italian-style sigillata platter (Cat. no. 19; Monteil, Chapter 5) produced between 10BC and AD25.

Traces of undisturbed occupation deposits, such as **16335** (Fig. 4.52), were found in small pockets inside the enclosures, while a short distance north-east of Structure 49, a series of features incorporated earlier material included three pits or postholes (**16493**, **16476** and **16427**), which had an indecipherable relationship to short north-west to south-east gully (**16420=24729**) that formed a projected right angle with gully group **31263**. Cut into the top of infilled Period 2 trench **16410** (see Chapter 3), pit **16493** contained a rich mixture of animal bone, charred foods and charcoal. Ash charcoal from secondary fill **16494** returned a radiocarbon date of 170 cal BC–cal AD30 (95.4% probability; SUERC-83974), which appeared early for the period of activity and therefore represented residual material, but was realigned in the Bayesian model to c.AD50–125 (Hamilton, Chapter 9). The fills of associated gully **16420=24729** contained sherds of coarseware pottery produced after AD70, as well as fragments of fired clay and a possible casting mould in fill **24936** (Mackenzie, Chapter 7). More potentially redeposited material was incorporated into the fill of the features making up group **31263**, where some possible metallurgical slag came from fill **16401** and a small quantity of manufacturing waste (Cat. no. 902) from a fill (**16280**), along with a possible fragment of Roman ceramic tile from the same context. Sherds from a blue/green Hofheim glass cup came from deposit **16339**, while animal bone was found with sherds of hand-built vessels and samian and coarseware pottery produced in Periods 3 and 4.

Ladder enclosures north of the bell-mouth junction (Field 246)

North of the roadside enclosures and the rear enclosures, a regular series of rectilinear 20m- to 24m-wide ladder enclosures shared a common north-west boundary formed by 76m-long ditch group **31215** (Fig. 4.52) and extended for a short distance as a geophysical anomaly west of the excavation area. It produced little occupation debris, presumably because it was posterior to the areas of habitation. The south-west side of the ladder was defined by ditch **15643**, which formed the north-east boundary of the rear enclosure, and cut along the Period 3 boundary **15761=31237**, but also extended beyond its infilled terminal and turned northward along the line of the former south-east workshop enclosure boundary, which evidently remained a physical presence. By the time the ladder enclosures were occupied and the ditches receiving samian and coarseware pottery dated after c.AD70, the roundhouses represented by Structures 53 and 54 (see Chapter 3) had been abandoned and there and there was no evidence for Period 4 structures, although continued habitation to the east was attested by plentiful artefactual evidence concentrated at the eastern parts of the boundary ditch fills near the south end of Field 246, and far less to the north where habitation probably petered out.

At the south-west end of the ladder series, ditch **15643** was much larger (c.1.7m wide by c.0.7m) than any others, which emphasised the separation between the ladder series and enclosures to the south. The earliest of its organic and artefact-rich fills included hazel nutshells, ash, oak and pomaceous charcoal, animal bone, and sherds of samian and coarseware produced in Periods 3 and 4. Secondary fill **15635** contained a possible pantile fragment and part of a Roman copper-alloy headstud brooch with a hinged pin (Cat. no. 722) designed to fasten tunics worn by women in the late 1st century AD (Croom, Chapter 6). Additional diagnostic Early Roman material was concentrated in the upper fills; top fill **15515** contained a Roman socketed artillery bolt head (Cat. no. 831) of a type that was common elsewhere in the Britain and the empire, but was unique at Scotch Corner (Croom, Chapter 6). Single fragments of tile and *imbrex* accompanied the Period 3 and 4 samian and coarseware and vessel glass (Cat. no. 621) in top fill **15894**. Amongst the assemblages of domestic refuse, there was also a greater volume of material associated with lead working and use, perhaps derived from structural features. Top fill **15522** included a lead rivulet (RF10123, not catalogued; Appendix H), with another (RF10124, not catalogued; Appendix H) recovered from equivalent fill **15523** with the base of a hand-built jar (Cat. no. 11), and additional lead debris was ploughed into the overlying furrow (**16042**), which also contained a copper-alloy bow brooch (RF10115, not catalogued; Appendix H). All sign of metalworking and personal adornment ended at this latitude, although the contents of parallel ditch group **31218** on the north-east side of the enclosure also included fragments of *imbrices* and *tegulae* (Antink, Chapter 7) in addition to the Period 4 pottery assemblages and sherds of vessel glass. The next enclosure division (ditch **16183**) was represented to the east of the excavation area by a linear geophysical anomaly. Its excavated section contained domestic refuse and a small quantity of potentially metallurgical slag in fill **16192** (Mackenzie, Chapter 7), and other fills included sherds of Scotch Corner type mortaria (Cat. no. 325) and others from a vertical-rim globular jar (Cat. no. 15), which represented the small-scale manufacture and use of finer vessels in the local pottery tradition, even though Roman table and fine wares were widely available (Cumberpatch and Leary, Chapter 5). Similarly, adjoining enclosure boundary groups **31214** and **31215** (Fig. 4.53), an associated recut of group **31218**, included domestic refuse but none of the Roman building materials or personal accoutrements enjoyed further south. The abundance of cobbles in ditch group **31215** in the area adjacent to former Structure 57 (see Chapter 3) indicated that much of its stone fabric had been levelled and was pushed into the enclosure boundaries, but there was no evidence to suggest its continued use.

The northern outer 'town' boundary? (ditch group 31281)
A short distance north of boundary group **31214**, a multi-ditched boundary (group **31281**; Fig. 4.53) bisected the ladder enclosure and was recorded outside the excavation area as parallel substantial geophysical anomalies with gentle angles, which extended both to the east and west. Inside the A1 excavation area, the ditched boundary comprised three consecutive iterations, each measuring c.2m wide by c.1m deep and containing fills with no dateable artefacts. It is possible that this substantial boundary, which was unlike any others in the area, once represented a continuation on the north-west side of Dere Street of the putative outer limit for the trapezoidal boundary represented by corresponding ditch group **28425**, which had the same dimensions (Figs 4.19 and 4.34). The effect of this would be to create an outer earthwork that spanned c.510m from south to north. To the north of outer boundary group **31281** in the excavation area of Field 246, a final approximately parallel boundary was represented by ditch group **31213**, beyond which the enclosure system became less regular and possibly incorporated a third row of enclosures to the north-west of ditch group **31210**.

Fields north of the bell-mouth junction (Field 246)
To the west and north of the rear and ladder enclosures lay an area of fields delimited by ditches that could be traced as intermittent geophysical anomalies in the unexcavated part of Field 246. It seems likely that this was a mixed arable and pastoral zone, the latter suggested by a wide funnel arrangement defined by boundary group **31281** to the south (Fig. 4.53), and ditches **16060** and **16063** to the north (not illustrated), which together might feasibly have been used to direct livestock driven from the east into an enclosure to the west.

Structure 58 (group 31219) and its field
To the north-west of the ladder enclosures, a large field shared boundary ditch group **31218** (Fig. 4.52), and was defined on its north-east side by substantial boundary ditch group **31281** (Fig. 4.53). It is possible that its south-west side was formed by the north-west routeway (RR7) and its accompanying ditches, which were represented by geophysical anomalies. Inside the field, large rectangular Structure 58 shared the alignments of the enclosures, and was also visible outside the excavation area as two additional parallel linear anomalies that extended for c.18m. Inside the excavation area, the structural remains comprised a network of shallow impressions interpreted as beam-slots, but which survived merely as impressions and contained no cultural material. The single posthole (**24834**; Fig. 4.52) was similarly devoid of dateable artefacts, whereas sherds of samian ware produced in the second half of the 1st century AD came from fill **24841** of adjacent pit **24840** (Monteil, Chapter 5), which also contained fragments of oak charcoal, charred weeds and some undiagnostic industrial waste. It is difficult to determine the nature of activity in and around Structure 58. Occupation is a possibility, but it seems equally likely that the charcoal, industrial waste and pottery came from midden material used for soil improvement and that Structure 58 served agricultural functions. What is certain is that contemporary ES3 enclosures and structures positioned at an equal or greater distance from Dere Street north on its south-east side in Fields 229 and 258 incorporated far richer assemblages of refuse associated with habitation and livestock management in Period 4.

Overview of trapezoidal boundaries

On the south-east side of Dere Street (RR10), the settlement area of ES3 was delimited by a putative outer trapezoidal boundary, while an inner trapezoidal boundary was appended to existing interior enclosure boundaries (Fig. 4.34). The outer boundary spanned Fields 228 in the south, central Field 258 (the main focus for occupation during Period 4) and Field 229 in the north, where the slight curve in the enclosure alignment was evidently adapted to the course of RR10. On the north-west side of RR10, it is possible that the projected course of the outer trapezoidal boundary continued as a substantial gently angled pair of geophysical anomalies and ditch group **31281**, effectively creating an outer 'town' boundary on the north side, which was represented in the excavation area by a c.2m-wide by c.1m-deep ditch with at least two recuts (see above and Fig. 4.53). At the south end of Field 258, the outer trapezoidal boundary was represented by a similarly sized ditch (group **28425**; Figs 4.19 and 4.34), which turned a c.125° corner to meet Dere Street (RR6) south of the triangular junction.

The north-east side of the inner trapezoidal boundary was formed with steep-sided ditch group **33802** in Field 229 (Fig. 4.33). Following a 115° angle, its south-east side corresponded with parallel thoroughfare RR9, which survived in patches of subsided aggregate surface, wheel ruts, flanking ditches and gullies and the south-east side of Structure 34, and extended to the rectangular enclosures in the central area of Field 258, where Structure 31 was located at the focal point of activity in the zone adjacent to the triangular road junction (see below and Fig. 4.25). The inner trapezoidal boundary and thoroughfare RR9 continued along the same course and shared new boundary group **28147**, which group **28146** was extended to meet. RR9 parted company with the inner trapezoidal boundary ditch where it pivoted 115° around cistern **26917** and continued along the line of existing boundary ditch group **28148** to maintain its right-angle with RR10.

Individual components of the putative boundaries are discussed in more detail as they are encountered in the following narrative. But, it is worthwhile stating here that, while there is no certainty about their form or the degree of intention underpinning their creation, their introduction could represent a fundamental change in the organisation of the settlement and might reflect the changing character, and status of the community. Specifically, it appears that the boundaries may represent references to similar features introduced during the Later Neronian and Flavian periods at Roman establishments to the south, perhaps demonstrating a shared aspiration for the establishment of a small-town or *vicus* (see Chapter 10).

ES3 northern area (Fields 258 and 229)

In the northern area of ES3 on the south-east side of Dere Street north, the infilling of pit group **28131** occurred concurrently with continuing modifications made to ES1 and ES2 boundaries and development of ES3 roadside enclosures (Fig. 4.34). While ES3 evolved along with the road network, rectangular Structure 35 was abandoned and subsumed by the road corridor of Dere Street north (RR10), while rectangular Structure 34 occupied the junction of thoroughfares RR8 and RR9, which traced the inner trapezoidal boundary and appeared to represent the south-eastern limit of ES3 enclosures in this area.

At the north end of Field 229, a south-east to north-west ditch perhaps represented one side of a roadside enclosure extending between thoroughfare RR8 and Dere Street north (RR10). The putative enclosure was probably contemporary with enclosures on the north-west side of the road (see above), marginally pre-dating the trapezoidal boundaries. The fills of ditch **33798** (Fig. 4.33) included oak, ash and stonefruit charcoal, but no charred plant remains, an aspect that was common to contemporary features on the immediate north-west side of Dere Street and similarly signifies that this was not primarily an area of food preparation. There was, however, an abundance of coarseware and samian sherds as well as fragments of fired clay and some possible pieces of hearth or kiln lining in deposit **33722** (Mackenzie, Chapter 7). The recut (ditch **33721**) also contained industrial residues, and coarseware potentially dated to the early 2nd century AD (Leary, Chapter 5). To the south-west, the heavily truncated vestiges of ditches (group **33811**) perhaps once formed the south-east sides of the same enclosure and incorporated an access point to adjacent thoroughfare RR9, which ran along the rear (see below). An alternative explanation for the group is that the parallel gullies, spaced 1.4m apart, were in fact wheel ruts from a thoroughfare that ran parallel to the inner trapezoidal boundary.

The inner trapezoidal boundary was represented at the north-east corner by ditch group **33802**, which was 1m wide by 0.3m deep. Aside from a small amount of intrusive medieval or post-medieval material, the modest assemblage of abraded pottery further suggested that this location was peripheral to habitation during Period 4 (Leary, Chapter 5.) The phenomenon of minimal cultural material in the trapezoidal boundaries was also noted at the southern outer ditch (group **28425**; see below), and may signify that they were not considered suitable receptacles for refuse. On the RR9 thoroughfare side of ditch group **33802**, another linear feature (group **33810**) ran parallel for c.16m, and may have been a relic of the thoroughfare. The small quantity of hammerscale in fill **33750** does potentially reinforce the case for nearby ferrous metalworking, either in Field 246 (see above; Mackenzie, Chapter 7), or perhaps at a possible kiln to the south in Field 229 (see below). On the same course as group **33810**, fire pit **33736** may have been associated with a domestic function, although no proximate structure was evident in the narrow excavation area. Primary fill **33760** included oak and elm charcoal as well as charred hazelnut shell and bedstraw, whereas subsequent fill **33749** included fragments of fired clay and some possible pieces of hearth or kiln lining. Ditch group **33802** had an uncertain relationship with perpendicular ditch group **33809**, which followed the

ES3 alignment and fitted with the enclosure spacing, but was perpetuated by a later boundary hedge, which introduced modern artefacts to the humic fill.

A short distance to the south, and on the south-east side of thoroughfare RR9, ditch **33758** was the very base of an ES3 enclosure boundary that corresponded with the alignment of abandoned roadside Structure 35 (see above). The only corresponding features in this part of the settlement were a cluster of pits (**33733**, **33734**, **33742** and **33748**), which included small assemblages of ceramic and glass vessel sherds dated to Period 4 and presumably pertained to habitation outside the excavation area to the south-east. Also, on the south-east side of thoroughfare RR9, and in an area that had been heavily truncated by modern road construction, another group of pits and postholes did not obviously form a structure. However, the southern-most feature (**33700**; Fig. 4.25) appeared to be a kiln with a secondary fill (**33719**), which contained industrial waste comprising possible fuel ash slag or undiagnostic metallurgical slag (Mackenzie, Chapter 7). Flakes of hammerscale came from fill **33718** of adjacent posthole **33717**, which may have formed a fence-line with postholes **33713** and **33707** to the north.

To the north-west, the ES3 boundaries appeared to delimit the south-eastern extent of pit group **28131** and were perhaps infilled with some of the same material used to backfill the pits (see below). In particular, there were similarities with the fills of ditch group **28133** (Fig. 4.33), which with ditches **15421**, **26552** and group **28134** (Fig. 4.25) also delimited the north-east side of a 50m-wide enclosure that was defined on its south-west side by a series of discontinuous features including ditch group **28135**, gully terminal **27104**, ditch **15481** and pit **26798**. Between this rectangular enclosure and thoroughfare RR9, a wedge-shaped area widened from the north-east gable of Structure 34 (see below) and was delimited on its south-east side by ditches **27722** and **27727**, which formed a causewayed boundary that was shared with the adjacent thoroughfare and facilitated access between them. The north-east side of the wedge enclosure was represented by ditch **15060** (Fig. 4.33), which was devoid of cultural material. The approximate long central alignment of the wedge was marked with a series of linear features (**26645**, **15327**, **15325**, **26610**) and pits, which contained modest assemblages of Period 4 domestic refuse. Activity in the interior is therefore difficult to determine, but the spatial association with Structure 34 and the access to perpendicular thoroughfares and the enclosures indicates that the area could have been useful for stock management.

The contents of enclosure boundary ditch group **28133** deserve mention because of their apparent association with pit group **28131** and the insights into the population afforded by the artefacts within the features. With a *terminus post quem* of c.AD70, the samian and coarseware from group **28133** included sherds of vessels manufactured in Period 3, in addition to northern Gaulish mortaria made after c.AD65, and other mortaria produced in central Gaul between c.AD50 and c.AD85 (Griffiths and Williams, Leary and Monteil, Chapter 5). The vessel glass was similarly dated, but some forms were popular until the mid-2nd century AD (Cool, Chapter 5). While the ceramics and glass vessels signify broad chronological similarities with the contents of pit group **28131**, the brooches suggest further cultural connections and contribute to the concentration at the north end of Field 258 in Period 4 (Croom, Chapter 6). A copper-alloy Aucissa brooch (Cat. no. 718) from fill **15064** was certainly pre-Flavian and possibly pre-dated Roman presence in Britain (Croom, Chapter 6), as was a brooch recovered from one of the pits in group **28133** (see below). The bow brooch in enclosure ditch **28133** was of a type that was first brought to Britain by the Roman military from the Continent and may have been worn by female civilians with connection to the army (Croom, Chapter 6). In fill **26231**, a copper-alloy trumpet brooch with red enamel decoration (Cat. no. 724) was a Roman variety and was probably worn by a woman (*ibid*.) Croom goes on to emphasise that at least five of the nine Roman brooches at Scotch Corner were probably female items, which is not unusual given that, unlike men, women typically wore more than one at a time. While the available information falls short of definitively confirming the identity of the wearers, in combination with the Roman beads in pit group **28131** (see below), the items of personal adornment highlight the presence of an identifiable and visible female contingent (Croom and Foulds, Chapter 6).

The presence of horses at Scotch Corner during Period 4 was amply demonstrated by elevated levels of horse bones (Wright, Chapter 8), by the equine paraphernalia in pit group **28131**, and potentially also by the concentration of the faience melon beads in Field 258 and at the triangular road junction in Field 265, where the connection between horses and transport was maintained in Period 5 by the construction of a Roman military stable (see below). In an attempt to help horses gain traction on poor and slippery surfaces, particularly when pulling loads around Scotch Corner, the Romans attached hipposandals. Two fragments (Cat. no. 818; Cat. no. 817; Croom, Chapter 6) were recovered from fill **27098** of boundary ditch group **28133**, and another from the surface of Period 5 road group **28132** along the north-west side of Field 258 (Fig. 4.25), while others were redeposited in layers above the road junction in Field 265. This concentration around the road junction is hardly surprising, and may support the documentary record from Vindolanda tablet 343 (*Tab. Vindol.* II 343) alluding to the poor state of the road between Vindolanda and *Cataractonium* during the late 1st and 2nd centuries AD.

The only notable diversion from the ES3 alignment in the northern area was ditch group **33803** (Figs 4.25 and 4.33), which followed an approximately south–north orientation amongst the ES3 enclosures. It measured up to 2.8m wide by c.0.5m deep and traced the north-east edge of limestone pavement, which was covered by a thin deposit of sandy glacial soil (Fig. 4.57). The ditch was evidently a feature that was maintained at least until Scotch Corner was depopulated; its fills included part of a copper-alloy brooch (RF15000, not catalogued; Appendix H), a glass counter (RF15001, not catalogued; Appendix H) that fell outside the concentrated distribution area of other examples in Field 258 (see above), Period 4 mortaria, amphorae, samian ware dated c.AD70–110, and some hammerscale and possible fragments of hearth or kiln lining (Mackenzie, Chapter 7), which potentially derive from kiln **33700** (see above). The alignment and dating of ditch **33803** places it at odds with ES3, and also with thoroughfare RR9, which is not easily explained. An approximately perpendicular pair of features (**1009** and **1012**) in the northern DVSA evaluation trench (see Chapter 1; NAA 2017h) could feasibly represent an associated enclosure boundary, or perhaps a continuation of thoroughfare RR8. In either scenario, the position and alignment of ditch **33803** may have been determined more by outcropping limestone than by the enclosure alignments.

Pit group 28131

The rich anthropogenic material used to infill pit group **28131** at the north end of Field 258 (Figs 4.25 and 4.33) contained some of the most arresting and informative artefacts discovered at Scotch Corner. Yet, the pits were not apparently intended as receptacles for refuse, having originated at a time before any substantial Roman presence, when copper prospection and storage appear to have been their purpose (see Chapter 3). The pottery assemblage was one of the most substantial and significant in Period 4, and included several forms of samian ware, amphora and mortarium dated after c.AD70; despite being accompanied by earlier ceramic vessel types with minimal sign of abrasion, their presence in the basal fills upwards demonstrates that infilling commenced no earlier than Period 4 (see Chapter 5). Unless there was a notable delay in delivery of vessels to the site, the most narrowly dated ceramic forms suggest that the deposits received no material after c.AD90 (Leary, Chapter 5), whereas the numismatic evidence and Bayesian model indicate that this could extend to as late as c.AD150 (Hamilton, Chapter 9). Consequently, it is apparent that infilling and closure of pit group **28131** certainly occurred in Period 4 or shortly after, so it is this final aspect of their lifecycle that is considered here.

There was conclusive evidence from the artefactual and palaeoenvironmental remains that much of the infilling occurred rapidly with organic-rich anthropogenic deposits of midden material, which formed near the pits and probably incorporated refuse from previous activity in Field 246, as well as new refuse from nearer the road junction. The rapid deposition of relatively undisturbed material was further implied by the instances of samian ware joins between sherds recovered from different fills and between neighbouring features, and also by large sherds and complete vessel profiles (Monteil, chapter 5). There were strong parallels with many of the artefacts

*Figure 4.57: Scotch Corner: Field 229, ditch group **33803**, facing south-east.*

found in a row of enclosures associated with Structure 31 by the road junction, which may have been a source of much of the material, yet there the earlier ceramics were absent (see below). The process of deposition in pit group **28131** was not indiscriminate; inclusion of coins minted under Vespasian in four proximate pits surely denotes symbolic placement, which might also have been a motivation for the deposition of several prestigious items. The fills of group **28131** also included one of only three substantial bone assemblages at Scotch Corner, and also one of the best-preserved, although multiple gnaw marks demonstrate that the bones were accessible at some point before the pits were sealed (Wright, Chapter 8). In contrast with the preponderance of mature cattle remains in the butchers' midden (group **29959**) at the road junction (see above), group **28131** was dominated by the remains of young sheep exploited for their meat and possibly milk, and also had the best representation of chicken and a diverse range of species (*ibid*.). In addition to the unusually prolific terrestrial animal bone assemblage, group **28131** also provided the only surviving evidence for fish remains at Scotch Corner, which included modest amounts of small European eel bones from pits **15437** and **26201**, and juvenile salmonids from pits **15437**, **26201** (Fig. 4.25), **15439** and **26582** (Fig. 4.33), both species probably obtained from nearby water (Russ, Chapter 8).

In addition to the detritus from conspicuous consumption and the remains of animals, some components of the fired clay assemblage demonstrated repeated exposure to extremely high-temperature activities, which might include industrial processes as well as cooking (Britton, Chapter 7), and potentially imply that the midden was used by more than one group. Building materials were also discovered but never in concentrations; iron nails, an iron structural staple, lead sheets, fragments of *tegulae* and daub were present, as was undiagnostic ceramic building material. Dominated by ash, oak and pomaceous charcoal, the assemblage comprised locally available hardwoods useful for the full range of structural, domestic and hot works. Amongst the rich charred plant remains, large seeded grasses and numerous chaff remains of emmer, spelt and one floret base of wild oat represent food production (Baines, Chapter 8). Food preparation was also demonstrated by the presence of mortaria sherds, which included locally made types, as well as imported vessels. One of the few stamped examples at Scotch Corner came from fill **15181** in the larger 'quarry' pit at the north end of the group (feature **15180**=**15245**=**15429**). Three sherds were also identified from a mortarium attributed to the workshop of 'Albinus', which may have operated from multiple locations in the regions around *Camulodunum* and *Verulamium* (Hartley, Chapter 5). Sherds from comparable mortaria came from ditch group **28156** surrounding Structure 31 (Fig. 4.22; see below), which suggests that some of the material derived from the same source.

Certain patterns were detected in the contents of the pits; most notably, those containing Vespasianic coins were clustered at the west side of the group, and incorporated some of the most prestigious objects. Near the north-west edge of the field, pit **15349** (Fig. 4.33) was the finest example of the group (Figs 4.58 and 4.59), and c.1.3m below ground level in deposit **15418** at its base was an *as* minted in AD77–8 for Titus under Vespasian (Cat. no. 710; Brickstock, Chapter 6). Some possible glass slag came from the same deposit, which was rich

*Figure 4.58: Scotch Corner: Field 258, group **28131**, pit **15349**, facing north.*

*Figure 4.59: Scotch Corner: Field 258, group **28131**, organic- and artefact-rich fill in pit **15349**, facing north.*

with and organic material and vessel sherds; a charred grain of spelt returned a radiocarbon determination of 7cal AD60–240 (95.4%; SUERC-83987), which was refined in the Bayesian model to c.AD80–150 (Hamilton, Chapter 9). Sherds of stamped mortaria (Cat. no. 353; Hartley, Chapter 5), produced between AD65 and AD100 came from secondary fill **15356**, were found amongst a pottery assemblage with a collective end date of c.AD90, which implies an approximate 10-year duration for accumulation of the midden and its deposition. Burnt sherds from a rare Campanian Pompeian red platter in tertiary fill **15363** of the same pit were of the same form as another example in fill **27313** of the enclosure ditch group **28156** around Structure 31 (Fig. 4.22), and invites further comparison between the two assemblages (see below; Leary, Chapter 5).

Approximately 9m to the south of pit **15349**, pit **26582** (Fig. 4.33) was another example of the rock-cut form, with a primary fill that included no cultural material and may derive from erosion of the boulder-clay sides, which perhaps occurred if the pits were used for storage (see Chapter 3). Above this, deposit **26660** of the midden material contained some charred spelt chaff and food production remains, as well as the base of a small lathe-turned copper-alloy ladle or cup. The object had been deliberately cut down into a disc (Cat. no. 776) but was originally intended for use at the table in the Roman manner, perhaps for serving wine (Croom, Chapter 6). The shank from a copper-alloy pin or cosmetic implement (Cat. no. 770) in upper fill (**26661**) continued the Roman luxury theme, as did part of a possible lift-key for a door latch (Cat. no. 781), and an incomplete iron finger-ring (Cat. no. 732) with small oval intaglio in opaque red jasper showing a leaping lion (Cat. no. 735), which carried Roman symbolism (Croom, Chapter 6), with potential military associations. Amongst the discarded material were sherds of samian ware including stamped examples (Cat. no. 44) produced after AD70 and a silver *denarius* (Cat. no. 672) minted in Rome for Vespasian between January and July AD70 (Brickstock, Chapter 6) had been placed deliberately. The soil matrix of deposit **26661** also included some possible limestone fragments that might have been roasted deliberately to extract ore (Mackenzie, Chapter 7), and which had been deposited with charred spelt grains and charcoal pertaining to domestic activity. Less than 5m to the south-west, pit **27005** was one of the few that had surviving evidence for a lining during its use for storage (see Chapter 3). Aside from a barren primary silt fill, the pit was empty when infilling began in Period 4 with a mixture of food remains, charcoal, ceramic and glass tableware, as well as a sheet of lead (RF12524, not catalogued; Appendix H) and sherds of a blue/green globular jug or jar produced in the late 1st or early 2nd century (Cool, Chapter 5). Directly above the primary fill, an *as* minted in Lyon (Cat. no. 679) in AD77–8 was dedicated to Titus under Vespasian (Brickstock, Chapter 6), and its deposition immediately preceded backfilling.

Some 2m to the south-east, pit **26002** (Fig. 4.60) contained an outstanding assemblage of artefacts as well as rare evidence for cereal cleaning, which took the form of a corncockle seed (Baines, Chapter 8). The lowest deposit of midden material (**26004**) was embellished with a collection of placed objects, which included a *dupondius* of Vespasian minted in AD71 (Cat. no. 675), and an *as* of Titus under Vespasian (Cat. no. 678) from AD77–8 (see Brickstock, Chapter 6). A black glass counter (Cat. no. 799) accompanied the material, as did a very rare and incomplete copper-alloy, hinged

*Figure 4.60: Scotch Corner: Field 258, group **28131**, pit **26002**, facing north-east.*

Colchester derivative 'dolphin' brooch (Cat. no. 720) produced during the second half of the 1st century AD (Croom, Chapter 6). However, the preeminent offering was a miniature sword (Cat. no. 830; Fig. 4.61), which is the only complete example from Britain of a miniature iron-bladed sword in a copper-alloy scabbard, and with a ribbed bone hilt (*ibid*.) The object combines British and Roman influences, representing a hybrid British/Roman weapon, reflecting the distinctive short-lived fashion for Roman soldiers to use hybrid swords during the conquest period in Britain up until the Flavian period (Croom, Chapter 6). Furthermore, the sword was considered by Croom likely to have been a personal item belonging to someone who had bought or made it when living in southern Britain, but the purpose of such objects is uncertain, particularly when the form of the blade is unknown. The *gladius* could have been used occasionally for cutting, but another possibility is that they were made for votive purposes, perhaps in reference to a soldier past or present. Nearby pit **26179** (Fig. 4.33) also contained a narrow-bladed iron pen-knife with copper-alloy decorative binding (Cat. no. 815), although this example was incomplete, and was thought to serve a different purpose to the miniature sword (Croom, Chapter 6). The pen-knife was one of two examples associated with ES3 activity in Field 258, (the other being in enclosure ditch group **28162**; see below). Like the concentration of iron styli from the boundaries of ES3 enclosures around Structure 31 (see below), the knives are associated with literacy, both examples of a type used for sharpening reed pens, which were used for writing on ink-tablets. While none of the tablets survived, it is possible that two copper-alloy fittings accompanying the pen-knife may have been decorations on a sheath (Croom, Chapter 6).

The deposits in pit **15336** were particularly rich in vessel glass that spanned Periods 2, 3 and 4, including sherds of a mid-1st-century polychrome globular jug (Cat. no. 619), a blue/green pillar moulded bowl of the same vintage, and sherds of blue/green bottle glass (Cat. no. 753) of a type produced from the late 1st century AD. The sherds belonged to the wider group **28131** assemblage, which was characterised by the blue/green pillar moulded bowls and blown tablewares in polychrome, blue/green and light green glass that was believed to be favoured by the native population (Cool, Chapter 5) and probably accumulated during Periods 2 and 3. Some fragments of mortar were an unusual inclusion (Antink, Chapter 7),

*Figure 4.61: Scotch Corner: Field 258, group **28131**, pit **26002**, miniature sword Cat. no. 830.*

*Figure 4.62: Scotch Corner: Field 258, group **28131**, pit **15336**, acorn-shaped seal box Cat. no. 784 with beeswax.*

which hint at use of Roman masonry. Other examples of mortar from Structure 32 (see above), and ditch group **28156** (see below) were more convincingly attributable to known buildings, while near pit group **28131**, two fragments from a Roman mortared gutter stone (Cat. no. 913) incorporated into the surface of RR10 in Field 246, but since disturbed in deposit **24148** (Croom, Chapter 7), may be the only surviving masonry from the settlement.

In addition to another small circular black glass counter (Cat. no. 804), pit **15336** (Fig. 4.33) contained a very rare type of copper-alloy acorn-shaped seal box with tinned and punched feather decoration, which may reference the eagle associated with Jupiter and the Roman state (Cat. no. 784; Croom, Chapter 6; Fig. 4.62). The compartment contained beeswax (Badreshany, Chapter 9), which is considered to be integral to the widely accepted purpose of the objects as decorative seals for the twine used to bind leather or cloth pouches containing money or other valuables when in transit (Croom, Chapter 6). The Scotch Corner seal box has few known comparisons and seems to represent a short-lived design of late-1st to early 2nd-century AD date (*ibid*.).

To the immediate south, pit **15386** was one of the largest examples and contained a typical array of refuse as well as the only beads in the group (Fig. 4.33; Fig. 4.63). A small portion of a 1st-2nd-century AD faience melon bead of Roman type (Cat. no. 742) was found in the same deposit as approximately half of a translucent cobalt blue annular bead (Cat. no. 757; Foulds, Chapter 6). An incomplete piece of copper-alloy appears to have once been part of a horse harness (Cat. no. 838). A short distance to the south, pit **15406** had a diameter of 2.3m and was 1.1m deep with near-vertical sides and a flat base. Sherds of Baetican olive oil amphorae dated c.AD70–120 came from middle and upper fills, along with sherds of northern Gaulish mortaria produced after c.AD65 (Griffiths and Williams, Chapter 5). Deposited with the ceramic assemblages, the burnt materials and glass vessels, a very small fragment of gold sheet (Cat. no. 697) came from upper fill **26771**, and may derive from the same recycling activity as the other piece of gold sheet discovered in group **31208**, at the rear enclosure in nearby Field 246 (see above). In addition to the fragments of gold, it was evident that most of the brooches at Scotch Corner came from features in the same area (Croom, Chapter 6 and below). The example in pit **15406** was an incomplete copper-alloy bow brooch (Cat. no. 719), probably of a pre-Flavian Hod Hill type first brought over from the continent by the Roman army, and rarely found north of the River Humber (*ibid*.).

Adjacent pit **26201** was almost circular and 1.6m in diameter, with near-vertical sides and a 1.1m-deep base cut into the bedrock (Fig. 4.33; Fig. 4.64). The lowest fills were not especially rich in artefactual or organic remains but, above these, deposits **26203** and **26204** contained more material including cereal processing waste in the form of charred spelt chaff. A grain of spelt from the latter deposit returned a radiocarbon determination of cal AD50–230 (95.4% probability; SUERC-83992), which was refined in the Bayesian model to a period between c.AD80–150 (Hamilton, Chapter 9), but arguably was grown and charred during the early years of the range. An incomplete antler loop (Cat. no. 852) was the only identifiable artefact made from the material, its form and the pattern of wear

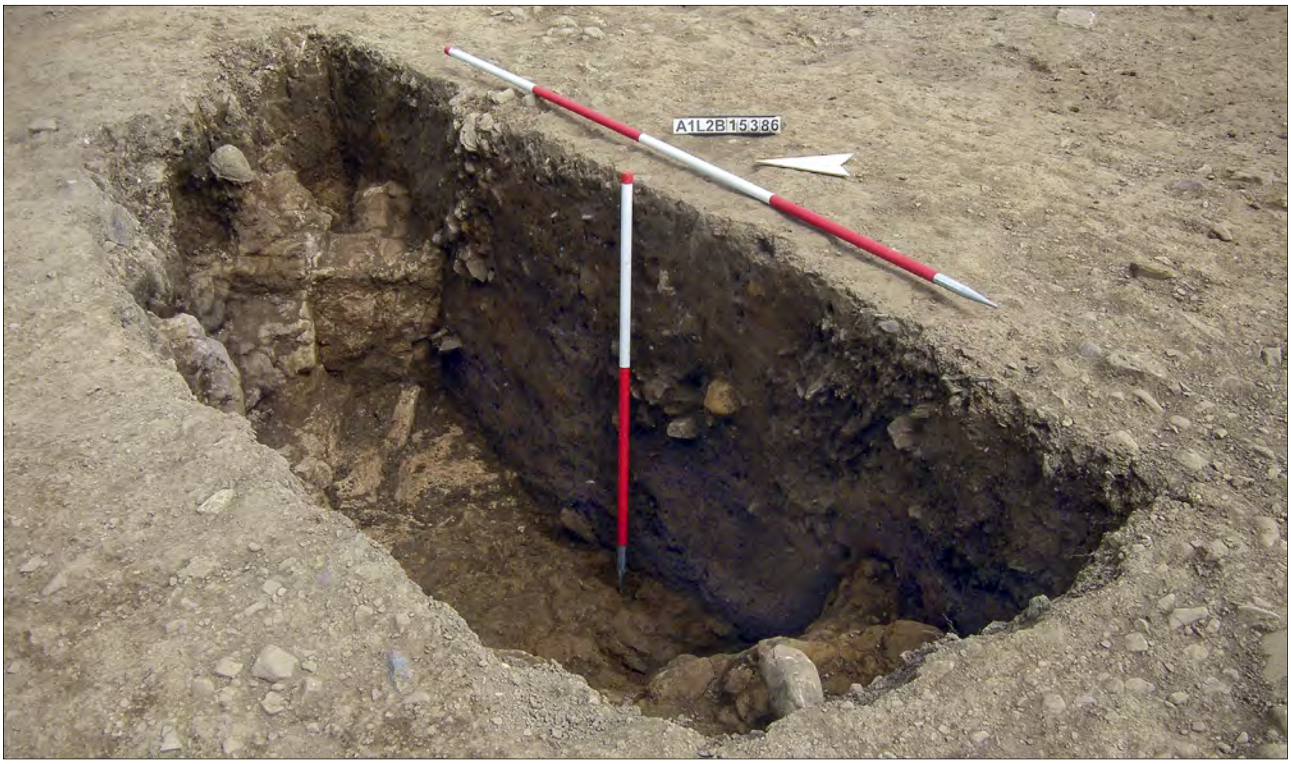


*Figure 4.63: Scotch Corner: Field 258, group **28131**, pit **15386**, facing east.*

indicate that it was a connecting loop for two opposing leather straps (Croom, Chapter 6), and could feasibly have been for a belt. In the same pit, half of a translucent cobalt blue annular bead (Cat. no. 758; Foulds, Chapter 6) was of a similar type to that found in nearby pit **15386** and emphasises the greater occurrence of beads in pit group **28131** than in surrounding features; a quality which perhaps accords with the concentration of Roman brooches in the same area (Croom, Chapter 6). Upper fill **26205** included a rim sherd from a Dr.37 samian ware bowl (Cat. no. 27) produced between AD65/70 and AD85 (see Monteil, Chapter 5), which was one of the most closely dateable objects in the pit group and potentially related to closure of the features.

Outlying pit **27015** (Fig. 4.25) was situated c.15m south-west of the main group. It was elliptical in shape, 2.2m long by c.1.6m wide and 0.9m deep. Its base coincided with the limestone bedrock, and above a thin layer of primary silting, secondary fill **27016** contained at least two artefacts that potentially related to transport: part of an iron rod (Cat. no. 822) may have been from the handle of pincers or tongs used in metalworking or possibly as a horse 'twitch', a device used to retain and calm a horse, possibly during veterinary procedures (Croom, Chapter 6). In the same context, a cast copper-alloy vehicle fitting (Cat. no. 693) was probably part of a cart or chariot linch-pin that bore strong resemblance to a type common in Iceni territory during the 1st century BC to the mid-1st century AD (*ibid.*). A large iron loop (Cat. no. 853) in pit **15432** in the north-east corner of the field might have been a handle, tethering loop, or part of a horse harness (*ibid.*). Near the centre of Field 258, pit **15296** (Fig. 4.25) was a shallow irregular outlying example with a base that coincided with the limestone bedrock. Fill **15076** contained a fragment of a very dark green, high-tin copper-alloy Roman mirror (Cat. no. 767), very similar to another fragment (Cat. no. 767) found in the ES3 enclosure ditch (group **28156**) surrounding Structure 31 (see below), and possibly belonged to the same mirror (Croom, Chapter 6). Although such items are more common in southern Britain, its decoration is consistent with an example from the nearby fort at Roecliffe, where vanity also appears to have afflicted the military and Romanised society (*ibid.*).

At the time of backfilling, pit group **28131** appears not to have been formally enclosed on its south-west and north-west sides (Fig. 4.33), although, once infilled, the area they occupied was incorporated into ES3 enclosures and some of the surrounding ditches included materials either redeposited from pit fills, or from the same midden material. This was particularly evident at the boundaries on the south-east side of the pit group, and most notably in ditch group **28133** (see above). Once the pits were all infilled, there was some refinement of ES3 in the area, which amounted to the addition of a narrow south-east to north-west enclosure boundary (gullies **15404** and **27725**; Fig. 4.25). In conjunction with the excavated sections, a corresponding linear geophysical anomaly indicated that the boundary extended from the south-east side of the excavation area up to perpendicular gully group **28130**, which lined up with gully group **28138** to the south-west and together traced the curving course of Dere Street at a distance of c.9m from the road edge. It seems likely that the boundary was introduced to delimit the corridor of Dere Street within the settlement, and in keeping with other examples further north, it was correspondingly poorly furnished with discarded domestic, farming or

*Figure 4.64: Scotch Corner: Field 258, group **28131**, pit **26201**, facing south-east.*

manufacturing refuse, save for some sherds of samian ware produced between c.AD70 and c.AD90 in fill **15451** and a few examples of Period 3 or 4 samian and coarseware (Leary and Monteil, Chapter 5). In contrast, the artefacts recovered from enclosure boundary gully **15404** at its north-west end reflect the fact that it cut across the deeper pits **26201** and **15406** in group **28131** (Fig. 4.33), but amongst the Period 3 and 4 ceramic vessels, charcoal and charred cereal grains, an ox-goad or part of a candlestick (Cat. no. 856; Croom, Chapter 6) could relate to interior lighting or livestock management, although the former would be more in-keeping with the pit group **28131** assemblages, and the latter if the object was first deposited in an open enclosure boundary where livestock were kept.

So-called 'ritual infilling' or closure of former storage pits is a well-known phenomenon in Late Iron Age southern Britain (e.g. Cunliffe 2005, 570–1), although the material is usually of native origin, and arguably selected and deposited by the occupants (see Chapter 10). The Scotch Corner pits differ in this respect; they incorporate earlier exotic material imported by various means to the settlement, yet because of the co-occurrence of native Britons and Romans, it is uncertain which group were the end users, and which deposited the material. Was it a Roman military contingent moving onwards and clearing up behind them, or a native population relieved of the burden on their arable resources and keen to erase the memory of their presence?

RR8: the south-east to north-west thoroughfare (groups 28139 and 28142)

In the northern area of ES3, an earlier south-east to north-west enclosure boundary formed by ditch groups **28140** and **28141** was recut as ditch group **28139** to form the north-east side of a ditched 3m-wide thoroughfare with wheel ruts (RR8; Fig. 4.25). The south-west side of the thoroughfare was represented by parallel ditch group **28142**. The course of RR8 remained true to the ES1 enclosure boundaries near its junction with RR1, but deviated around Structure 34 (group **28136**), where it joined with perpendicular thoroughfare RR9 (see below). In common with the enclosure boundaries to the south-west, artefacts and environmental material were limited in the side ditches. The fills of ditch group **28142** included a single very dark green glass counter (Cat. no. 805) in fill **15387** (Croom, Chapter 6), which presumably derived from the same source as those concentrated around Structure 31 in the western corner of Field 258 (see below; Fig. 4.21). The cultural material from ditch group **28139** (Fig. 4.25) was far more prolific: sherds of an imported blue/green pillar moulded glass bowl in fill **26922** came from a Claudio-Neronian (Periods 2 and 3) tradition (Cool, Chapter 5), while the pottery assemblage dated infilling of the ditch to a time immediately after c.AD70, when Roman supply mechanisms were established and food was being produced in the Roman style with mortaria (Griffiths and Williams and Leary, Chapter 5). Part of a lathe-turned and grooved copper-alloy bowl or cup (Cat. no. 775) in upper fill **26541** was also thought to have been associated with fine dining in the Roman tradition (Croom, Chapter 6), and its presence in an upper ditch fill so near to Structure 34 is perhaps suggestive of an association, particularly given the rarity of such items at Scotch Corner.

Structure 34 (group 28136)
Rectangular Structure 34 was probably first built in conjunction with RR8 and RR9 (Fig. 4.25); its south-east side corresponded with the course of the inner trapezoidal boundary. In its original rectangular form, the interior of Structure 34 was c.9.9m long by c.4.5m wide, and consequently conformed to the standard Roman rectangular building footprint at Scotch Corner (Fig. 4.26). The building was constructed with c.0.3m-wide, steep-sided beam-slots, punctuated by irregularly spaced postholes, with diameters of c.0.2–0.4m (Fig. 4.25). A 0.4m-wide gap on the north-west side was opposite a 3m-wide entrance on the original south-east side, which was subsequently re-orientated, creating an irregular floor plan with a 5.6m-wide north-east gable and a 1.6m-wide flagged entrance in approximately the same position as before (Fig. 4.65). Structure 34 adapted appears not only to have been a Roman-style residence, but also to have formed part of an arrangement for facilitating and controlling access between the developing enclosures. This was demonstrated by its incorporation into the boundaries by a gated access on the north-west side and by a series of intercutting features at the south-east corner that probably related to a connection between thoroughfares RR8 and RR9 (Fig. 4.25).

The modest assemblage of ceramic building material from the structure and associated features included eight fragments of brick or tile, which are considered unlikely to have been employed in the structure on account of their paucity (Antink, Chapter 7), but this must remain one of their possible applications. Iron nails found in several of the nearby pits and boundary ditches presumably also pertain to timber frameworks associated with the structure, and also possibly with enclosure fences. As might be expected, the fills of structural components were not rich in dateable materials, although the limited pottery assemblages included vessels produced after c.AD70 but before c.AD90, much like in pit group **28131** a short distance to the north (Leary and Monteil, Chapter 5). Nor was charcoal abundant, but the fragments of ash and oak presumably came from domestic application and suggests that the building was not lost to fire.

Despite this, Structure 34 evidently witnessed sufficient activity to become a focus for pits and postholes which collected greater volumes of refuse with domestic material that was diagnostic of Period 4, particularly in the area round the south-east facing entrance. Amongst the multitude of associated features, sub-circular pit **26782** included a rivulet of copper alloy (RF12555, not catalogued; Appendix H), which was a by-product of working the material, perhaps at an earlier time. Beneath the north-east gable, infilled pit **27008** contained fragments of possible copper-alloy casting waste (Cat. no. 899; Mackenzie, Chapter 7) in addition to assemblages of pottery. The ceramics included sherds of Northern Gaulish mortaria produced after c.AD65 (Griffiths and Williams, Chapter 5) and samian and coarseware that might collectively belong with Period 3 assemblages, hence the evidence for copper-working at Structure 34 may represent earlier activity. An *as* of Vespasian (Cat. no. 676; Brickstock, Chapter 6) in primary fill **26715** of pit **26713** also potentially spoke of activity early in Period 4, and may have been intentionally placed in the same tradition as those recovered from four pits in nearby group **28131** (see above).

Figure 4.65: Scotch Corner: Field 258, Structure 34, facing north-east.

RR9: the south-west to north-east thoroughfare

The c.5m-wide south-west to north-east thoroughfare (RR9) traced the course of the inner trapezoidal boundary and extended on the same alignment to the entrance of a rectangular enclosure in the central/southern area of ES3, near the road junction. It joined with perpendicular thoroughfare RR8 at the south-west side of Structure 34, which effectively connected it with the parallel route of Dere Street (RR10). Thoroughfare RR9 was delimited variously by segments of enclosure boundary ditches and gullies which it shared with the adjacent enclosures, while along its course, several wheel ruts and patches of aggregate surface (**15254** and **15255**; Fig. 4.21) survived by virtue of subsiding into soft spots in the natural clay. At the north-east end, discontinuous segments of wheel ruts with impressed stones were evident in the same alignment as the thoroughfare, whereas it was better defined in Field 258 where the south-east side incorporated gullies **27722**, **27727**, and **27200**, while the north-west side included a line of postholes and gully **15345**=**27424** (Fig. 4.25).

South-west of these components, RR9 traced the south-east side of the enclosures that had been made irregular by the introduction of the trapezoidal boundary, represented here by shared boundary group **28147**. The artefacts in the ditch included assemblages of samian and coarseware that were consistent with Period 4 occupation, although neither mortaria nor amphorae were represented. The pottery assemblage in the south-west stretch of ditch group **28148** included sherds of Baetican Dressel 20 olive oil amphorae produced between c.AD70–110 (Griffiths and Williams, Chapter 5), but ceramic evidence for food transportation and preparation was otherwise absent from the enclosure. In conjunction with the introduction of the inner trapezoidal enclosure boundary, and possible recutting of the south-west enclosure side as group **28148**, a cistern (**26917**) with a cobble-lined base had been incorporated into the south-west enclosure corner at its lowest point, evidently positioned to collect run-off water from the open ditches, much in the manner of ES2 and ES3 enclosures to the south (see above and below), and in earlier times in the workshop enclosure at Structures 47 and 48 (see Chapters 2 and 3), leading us to consider whether the feature was introduced by natives, or by a Roman contingent who had observed or been educated in the best ways to manage water in the local environment. In either case, its use was attested by the vestiges of a pebble surface around the accessible arcs of the rim, and infilling included charcoal, charred emmer grains, ceramics and vessel glass that were symptomatic of Period 4 occupation.

ES3 central area (Field 258)

The course of RR9 led to south-west to a causeway in the north-east boundary that was shared by a row of rectangular enclosures adjacent to the road junction and in use during ES3 (Fig. 4.21). To the north-west, an extension of the same boundary corresponded with the north-east sides of at least two additional enclosures, the first of which contained Structure 31, which included components that corresponded with the standard dimensions for rectangular buildings at Scotch Corner (Fig. 4.26), and seemed to have been a site of high-status activity during Period 4. The ditches surrounding these enclosures contained some of the richest evidence found at Scotch Corner for conspicuous dining and disposal of the resultant waste, as well as objects associated with literacy, numeracy and possibly also administration. The assemblages shared several compelling attributes with those in pit group **28131** c.100m to the north (see above; Figs 4.25 and 4.33), and was arguably the source of some material, but not the earlier ceramics, which probably came from adjacent Field 246.

There were also notable similarities between the enclosure boundary assemblages and the butchers' midden (group **29959**; see above) less than 60m to the west at the triangular road junction, although that was uniquely endowed with the butchered cattle bone assemblage and also therefore from a combination of sources. To the south-east of thoroughfare RR9, the vestiges of the shared north-east enclosure boundary connected a row of high-status enclosures with the surviving ES1 and ES2 enclosures, which incorporated Structure 32 and the integrated system of water management (see above). South of this, ES3 was obliged to adapt to increasingly oblique existing boundaries, so became more trapezoidal in form before apparently giving way to an adapted form of the adjacent coaxial system, now subsumed by the outer trapezoidal boundary and aligned both with it and Dere Street (RR6 and RR10). This area around the south-east extension of the road to Stainmore (RR4) appears to have been largely dedicated to livestock and was served with a network of water cisterns, which collected and stored run-off from the boundary ditches and the wells inside the enclosures.

Rectangular enclosures by the road junction and Structure 31 (group 28152), a possible aisled and winged building

The rectilinear enclosure appended to the north-west side of Structure 31's enclosure would have been next to the east side of Dere Street (RR6/RR10) at the triangular junction, yet only its north-east corner was exposed in the A1 scheme excavation area so most of it was unavailable for investigation (Figs 4.22 and 4.66). The boundary ditch (group **28151**) measured 0.4m wide by 0.2m deep, with a U-shaped profile and incorporated, on its south-east side, a vertical-sided rectangular latrine pit (**27461**, Fig. 4.67), which was 1.8m long by 1m wide and 1.9m deep. To establish the earliest dates for the infilling of the enclosure ditches, samples were selected from three undisturbed fills associated with occupation and episodes of deposition in the enclosures (see below). From ditch group **28151** (Fig. 4.22), a radiocarbon date of cal AD20–130 from a charred grain of spelt from fill **15392** (95.4% probability; SUERC-84046) was modelled to a time between c.AD70 and the mid-2nd century (Hamilton, Chapter 9); the first half of the range is most likely as it better fits with the other dateable materials. The artefactual and environmental material was also consistent with Period 4 activity. The lowest fills of the latrine were appropriately greyish green and silty, the only artefact being a piece of copper-alloy wire (RF12840, not catalogued; Appendix H). The upper fills were contiguous with those of the boundary ditch, which included animal bone, iron nails, birch, oak, elm and stonefruit charcoal, a variety of charred cereals and a few weeds. The samian and coarseware pottery was consistent with the Period, while the Baetican Dressel 20 in fill **15392** indicates importation of olive oil in association with the Roman military and its entourage. The upper latrine fills and adjacent enclosure ditch fills also shared ironworking debris in common; ditch fill **27231** contained iron spheres and flakes, while upper latrine fill **27460** contained spheres and flakes and fragments of possible slagged hearth lining (Mackenzie, Chapter 7). This material is unlikely to have been transported far from the metalworking site, which could feasibly have been by the adjacent road junction and was perhaps associated with blacksmithing, which was almost certainly practised subsequently inside the road junction around a Roman stable (Structure 39, see below).

Like 'apsidal' Structure 33 a short distance to the east (Fig. 4.25), a combination of the location, form and discarded artefacts associated with Structure 31 make it abundantly clear that it was regarded as special by the population of Scotch Corner. It would have been conspicuous not simply because of its relatively large scale and Roman form, but its position at the road junction would have ensured that it was acknowledged by anyone stopping or passing through, which cannot have been unintentional. The material in the surrounding ditches suggest that it was, perhaps, dedicated to a range of elite-level activities, not least of which were administration and lavish celebration, both probably carried out with equal rigour.

Figure 4.66: Scotch Corner: Field 258, central area, rectilinear enclosures and Structure 31, facing south-east.

Figure 4.67: Scotch Corner: Field 258, latrine ***27461*** *with basal deposits in situ, facing north.*

Structure 31 was constructed on complementary alignments to its c.22m-wide enclosure and adjacent to the shared recut north-east boundary (Figs 4.22 and 4.68). The structural remains exposed in the excavation area represented a rectangular north-west 'wing', and a wide perpendicular corridor, which was only partially revealed. The geophysical survey in the area to the south-west is dominated by components of a later compound (ditch group **28150**; see Period 5, below) and a possible building, with no sign of the winged building or its enclosure, hence its complete footprint remains unknown, but preserved for future investigation. The south-west to north-east range was 9.9m wide and was defined by two parallel beam-slots (**27173** and **27509**). A number of interior postholes including **26569**, **26571**, and **26559** displayed no discernible pattern, but presumably related to interior divisions, perhaps denoting aisles.

The perpendicular wing was c.9.9m long by 4.5m wide with a line of postholes (**26634**, **26434**, and **27492**) central to its long alignment, and others that might have functioned structurally (Fig. 4.68). The west half of the wing comprised beam-slots with integrated postholes, while the south-east end gable seems initially to have extended between posthole **26386** and one of a group of three postholes (**26831**, **26833**, and **26578**), which created a footprint that corresponded to the width of the range and conformed to the standard dimensions for rectangular buildings at Scotch Corner. The wing was potentially extended to measure c.15.6m long, with new corners represented by a refurbished pair of postholes (**27160** and **26938**), and as previously, it was devoid of surviving evidence for a gable, although this is not unusual for rectangular buildings at the settlement (see Structures 32 and 40, above). The vestiges of a possible foundation extended west from posthole **26938** as gully **26941**, and three postholes (**26831**, **26833**, and **26578**) occupied the junction of the wing and corridor. The foundation trench or beam-

Figure 4.68: Scotch Corner: Field 258, Structure 31, facing south-east.

*Figure 4.69: Scotch Corner: Field 258, south-west to north-east side of the rectilinear enclosure defined by ditch groups **28158** and **28156**, facing south-west.*

slot continued west from posthole **26545**. Interior postholes **26382** and **26384** perhaps related to an interior feature or alternate configuration of ceiling or roof support, while shallow pit (**27524**) may have been associated with the building. A single posthole (**27199**) continued the south-west corridor wall line into the space between the enclosures, although the function of this extension was not clear. Amongst the few diagnostic artefacts recovered from structural features were sherds of vessels that were comparable to fabrics found at *Cataractonium*, which was potentially an early sign of contemporary occupation (Leary, Chapter 5).

Although the floorplan of Structure 31 was not revealed in its entirety, the surviving components suggest that it may be categorised as an aisled building with a wing, and most probably wings. Hingley (1989, 39) follows Richmond (1969) in proposing that aisled buildings of the 1st and 2nd centuries AD are comparable with some Pre-Roman Iron Age constructions, although few native examples have been investigated. Limited studies demonstrate that early iterations of the buildings are sometimes timber, which may be replaced with a stone construction (Hingley 1989, 41; Richmond 1969). Furthermore, buildings with similar floorplans

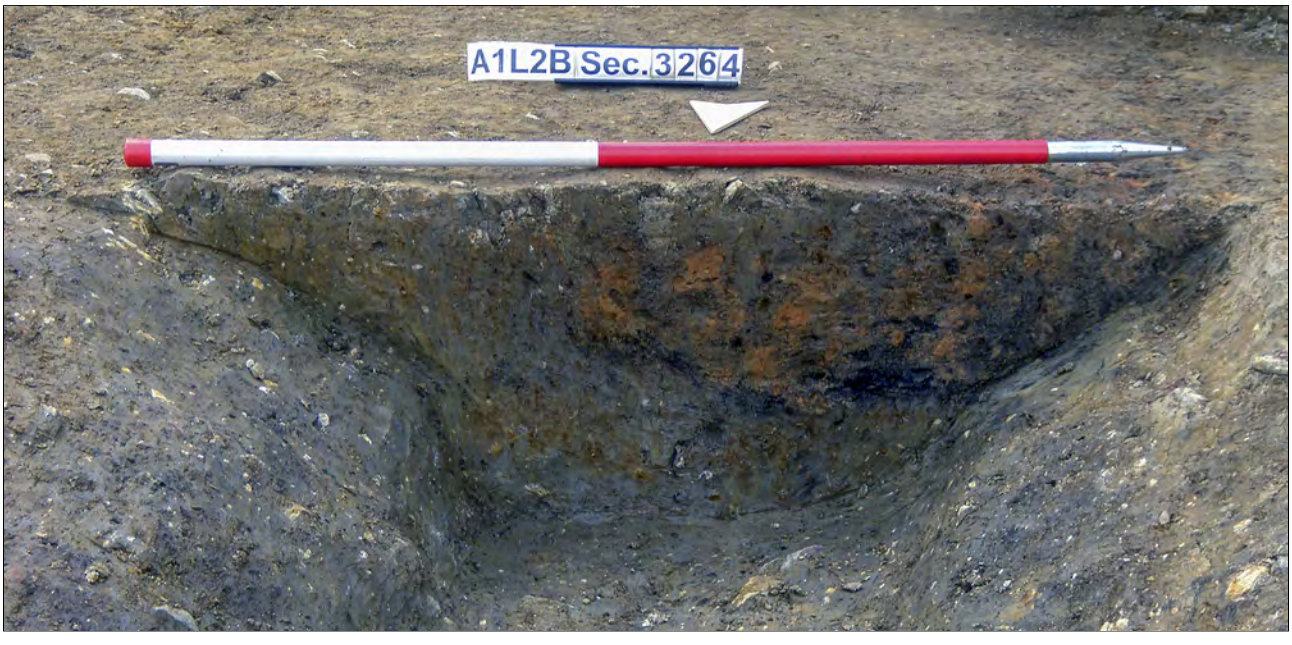


*Figure 4.70: Scotch Corner: Field 258, ditch group **28158** recut by ditch group **28156** containing burnt material, facing south-west.*

to Structure 31 have been found in a range of contexts, sometimes in association with villas; the form was evidently sufficiently versatile to accommodate a wide range of functions including storage and industrial activities, but the majority were apparently dwellings (Hingley 1989, 39). The form of Structure 31 potentially incorporated native and Roman designs, while the activities and users represented by materials discarded in the surrounding ditches appear to reflect a strong connection with Romanised behaviours.

The earliest surviving boundary on the south-east side of Structure 31's enclosure was defined by ditch group **28158**, which also potentially continued as the north-east side, and that of the adjacent enclosure to the south-east before they were universally replaced with ditch group **28156** (Figs 4.22, 4.69 and 4.70). The steep-sided U-shaped profile of ditch group **28158** was least truncated near the edge of the excavation area and included rich assemblages of cultural material relating to the use of Structure 31 and the adjacent enclosure to the south-east. A higher concentration of ceramic building material including fragments of bricks and *tegulae* was recovered from both phases of enclosure boundary ditches around Structure 31 than from any other location in any other Period at Scotch Corner, which presumably pertains to their use in the aisled building and others nearby (Antink, Chapter 7). Iron nails were few in number, and charcoal was restricted to the staple species of oak, pomaceous and birch, and ash; from fill **26617**, the last taxa included

*Figure 4.71: Scotch Corner: Field 258, ditch group **28158**, hobnails from a Roman shoe (Cat. no. 765).*

a suitable sample for radiocarbon dating, which returned a date range of 50 cal BC–cal AD130 (95.4% probability; SUERC-83993), which was refined in the Bayesian model to c.AD70–130 for its combustion, followed swiftly by infilling of the ditch (Hamilton, Chapter 9).

Fragments of imported abraded lava disc querns from fills **15280** and **26441** in ditch group **28158** were testament to flour production using Roman technology (Cruse, Chapter 6), although only very small quantities of charred barley and spelt suggest that the earliest stages of food preparation in the immediate vicinity were carried out elsewhere. This proposition was supported by the focus on drinking and dining expressed in the amphorae, samian ware and coarseware assemblages (Griffith, Leary and Monteil, Chapter 5), while a fragment of a ceramic cheese press base in deposit **26943** pertains to specialist Roman food preparation, which is expected in the suite of ceramics associated with Period 4 (Leary, Chapter 5). Elite-level consumption was also suggested by an extensive range of glass vessels, which included bowls, cups and bottles of types favoured by natives and the Roman military (Cool, Chapter 5). At least 37 iron hobnails (Cat. no. 765; Fig.4.71) came from a discarded Roman shoe, which was one of a small number of examples that were concentrated around the road junction (Croom, Chapter 6).

The recutting of enclosure ditch group **28158** with ditch group **28156** involved refurbishment of the north-east boundary shared by Structure 31's enclosure and the adjacent enclosure that connected with thoroughfare RR9; material recovered from ditch group **28156** therefore probably derived from both enclosures, although there was little evidence for intense activity in the south-eastern of the two. Once the boundaries were recut, little time elapsed before backfilling began.

The fills of ditch group **28156** incorporated one of the richest artefactual assemblages at Scotch Corner, and like pit group **28131** (see above), some of the material appeared to have been deposited in a manner that carried meaning and perhaps represented abandonment and closure. In the south-west to north-east section of ditch group **28156**, which separated the adjacent enclosures, a distinctive layer of ash and oak charcoal and charred silty clay lined the base of the feature and may derive from domestic food preparation and heating, but might equally be associated with the loss or demolition of Structure 31 by fire. The fills also included one of the highest concentrations of ceramic building materials with a small amount of mortar (Antink, Chapter 7). The large assemblage of fired clay, particularly in the upper fills, frequently displayed signs of exposure to very high temperatures such as vitrification and burning (Britton, Chapter 7). Burnt sherds of samian ware were noted amongst the assemblage, as well as being present in group **28158** and **28161** (Monteil, Chapter 5), which formed part of the adjacent enclosure (see below). In terms of function, the ceramics from group **28156** were dominated by vessels related to food preparation and cooking, although amphorae and

*Figure 4.72: Scotch Corner: Field 258, ditch group **28156**, artefacts in abandonment and 'closure' deposits, facing south-east.*

flagons and glass vessels were still common, and several examples appeared to have been discarded in the north-east section of the boundary during a single episode (Fig. 4.72). In contrast with the glass from pit group **28131** (see above), the assemblages from boundary group **28156** (and nearby groups **28161** and **28162**, see below) was characterised by the blue/green bottles favoured by the Roman contingent (Cool, Chapter 5).

The same phase of backfilling included a remarkable cache of mortaria in top fill **15194**=**26852** of group **28156** (Fig. 4.73), all of which were produced between c.AD60–90, while three examples included stamps from the workshop of 'Albinus', which was one of the most prolific native producers (Cat. nos 342, 350, 351; Hartley, Chapter 5). Except for the sherds in 'quarry' pit **15180**=**15425**=**15429** (group **28131**; see above), those recorded in ditch group **28156** were the only stamped examples at Scotch Corner, which further demonstrate the similarities of materials discarded in both sets of 'closed' features in Field 258. In addition to the precision that identification of the stamps and fabric and forms bring to the dating and origins of the mortaria, their presence alone supports Leary's assertion that the assemblage in group **28156** was testament to a shift from drinking and dining to food preparation, which may have been an event, rather than a protracted episode. Querns from ditch group **28156** are equally suggestive of a change in operating procedure at Scotch Corner during the latter stages of Period 4. In addition to a featureless fragment of imported Roman lava disc quern in fill **26852**, which

*Figure 4.73: Scotch Corner: Field 258, ditch group **28156**, cache of mortaria including 'Albinus'-stamped examples (Cat. nos 342 and 343).*

was expected for the Period and location, the ditch also contained two millstone fragments, which at very least suggest an intention to utilise Roman engineering to power mechanically driven grinding equipment at Scotch Corner, whether or not this was actually achieved (Cruse Chapter 6).

Two technologies were represented in the stones; the first (Cat. no. 880; fill **27299**) is potentially the earliest known example of a 'bow-tie' type in Britain (*ibid*.), while the second (Cat. no. 881; fill **15213**) also represented advanced technology that was certainly imported from the Romanised Continent, and if employed at Scotch Corner, presumably required the labour of livestock or slaves in the absence of running water. Notwithstanding the question over how they were powered, Cruse proposes that their arrival in ES3 suggests that, somewhere nearby, there had been a short-lived episode of large-scale cereal processing that was associated with the Roman army. Military presence was also potentially implied by a socketed iron projectile with a narrow flat blade (Cat. no. 832) in fill **27313**, although it could feasibly have been a medical spatula (Croom, Chapter 6), whereas (Cat. no. 833) in deposit **26437** was probably an arrowhead or a very light artillery bolt-head (*ibid*.). In the same deposit, a complete translucent dark blue segmented bead (Cat. no. 759) was probably worn by culturally Romanised women (Foulds, Chapter 6), which prompts further comparison with the fills of pit group **28131** with its collection of 'female' brooches and beads (see above). However, the complete absence of brooches in the row of enclosures was, potentially, a revealing omission given their concentration in the pit group and nearby enclosure boundary group **28133**, and may hint at divergent sources for some of the material, or areas with different demographics.

Amongst the building debris, burnt materials, ceramic and glass vessel sherds in ditch group **28156** were scores of objects that are interpreted as indicative of conspicuous dining and administrative or civic activity in and around Structure 31 (Fig. 4.22). The fills were a primary repository for glass counters. Of the complete assemblage comprising 13 white, and nine 'black' glass counters at Scotch Corner, ditch group **28156** contained nine and was the epicentre of their final distribution mainly across Field 258. As stated above, the counters may have been used for Roman games, but might equally have been used for accounting (Croom, Chapter 6), which was part of a suite of administrative tasks undertaken in tandem with recording on wax tablets, such as might have been used in Structure 31. While there was no certain evidence for these, five utilitarian iron styli came from the fills of ditch group **28156**, while a pen-knife (Cat. no. 816) found in upper fill **27408** of ditch group **28162** from the neighbouring enclosure (see below; Fig. 4.21) to the east was designed for sharpening reed-pens used for writing on ink tablets (*ibid*.); the only other example at Scotch Corner came from pit group **28131** (see above). Further similarities between the fills of pit group **28131** and those of features around Structure 31 were demonstrated by the presence in the latter of fragments of a copper-alloy mirror (Cat. no. 767) in fill **15178**. The fragments were part of the same mirror as another fragment found in pit **15296** (see above) and similar to an example found in pit **26521** in Structure 33. In all cases, the mirror fragments allude to leisure time and investment in personal appearance, which was common to both sexes in the Roman world (see above; Croom, Chapter 6).

Evidence for activity inside the enclosure accessed by thoroughfare RR9 during ES3 was limited, even if some of the features, such as 'sunken' feature **15215** (Fig. 4.21) and oven **26060,** endured from ES1 (see above). The apparent absence of contemporary structures built in the Roman style was attested by the paucity of ceramic building remains in boundaries other than the one shared with Structure 31. The enclosure was approximately rectangular and comparable to that of Structure 31, measuring c.23m wide by c.26m long with its north-east side by ditch group **28161**, which was contiguous with ditch group **28156** (Fig. 4.22). The south-east side comprised a short section of gully (**15189**), a possible entrance, and ditch group **28162**, which turned north-west to form the south-west side of an adjacent enclosure and incorporated a cistern or well **26196** (Fig. 4.21). Despite the paucity of interior features, the fills of the boundary were rich in discarded objects, particularly on the north-east side. In ditch group **28161** there was no discernible charred food waste, whereas the charcoal assemblage was more varied than in the adjacent enclosure of Structure 31; it included fragments of pomaceous, alder, hazel, oak, ash and elm charcoal; a sample of elm from primary fill **15028** returned a radiocarbon date range of cal AD50–220 (95.4% probability; SUERC-83986), which was refined in the Bayesian model to c.AD70–140 (Hamilton, Chapter 9).

The same context included sherds of Scotch Corner mortaria produced between c.AD60 and c.AD90 (Cat. no. 328; Griffiths and Williams, Chapter 5). In common with ditch group **28156**, the coarseware pottery assemblage mainly comprised vessels related to food preparation and cooking, which included some burnt examples of samian ware (Leary and Monteil, Chapter 5). Finds of independent significance, were, however, comparatively scarce in group **28161**. A copper-alloy strip (RF10000, not catalogued; Appendix H) was undiagnostic, and a loop of the same material (RF12534, not catalogued; Appendix H) served only to confirm its continued use. A lone complete turquoise faience melon bead (Cat. no. 749; Foulds, Chapter 6) carried Roman and possible equine associations and would solicit no further comment were it not for the collection of five similar examples (Cat. no. 759; Cat. no. 746; Cat. no. 745; Cat. no. 744, and Cat. no. 743; *ibid*.) found together in fill **15411** of interior elliptical feature **15410** near a possible access point on the south-east side, and another two in a paddock a short distance to the south (see below; Fig. 4.21). There was no evidence that the beads were threaded as might be found on a piece of jewellery worn by humans or on a horse bridle, but their co-occurrence in a single feature with other examples found in adjacent paddocks certainly indicates a connection between melon beads and the paddocks where horses are likely to have been husbanded. Added to this, the concentration of horse-related equipment around the road junction and in pit group **28131** strongly indicate that equine husbandry was an important activity near the core of the settlement and would have been controlled by the elite.

Adjacent to feature **15410**, the south-east boundary of the enclosure was delimited by feature **26033** which was 2m long by 1m wide by 0.43m deep with steep sides and a flat base and some apparent association with the access point between enclosures (Fig. 4.21). Connected to the south-west end, the south-east enclosure side was formed with ditch group **28162**, which turned through a right-angle to form the south-east enclosure corner and incorporated 0.7m-deep vertical-sided well/cistern **26196.** Located at a low point where the ditch extended north-west, this presented another example of the integrated system of water collection and storage that spanned native and Roman style occupation and characterised the enclosure system to the immediate south-east. The fills of ditch group **28162** included samian and coarseware pottery sherds from vessels made during Periods 3 and 4, but which dated as a group after c.AD70 (Leary, Chapter 5), and included sherds of Scotch Corner mortaria from c.AD60–90 in fill **27091** (Griffiths and Williams, Chapter 5) and a well-made pierced pottery disc (Cat. no. 773) in upper fill **26199** of the well/cistern, which was perhaps used as a spindle-whorl (Croom, Chapter 6), or possibly as a strainer (Leary, Chapter 5). Aside from feature **15410**, the enclosure contained gully **26145** (Fig. 4.22), which aligned with the centre of the north-east-facing entrance and along the alignment of thoroughfare RR9. Although this feature may represent little more than a deep wheel rut containing incidental refuse, material recovered included fired clay and possible fragments of a hearth or kiln (Mackenzie, Chapter 7). A single salmonid vertebra was also identified in the deposit, which is only paralleled in pits **15439** and **15437** of group **28131** (Russ, Chapter 8) inviting further parallels with activity in the enclosures around Structure 31, if only as an accident of transport.

Set c.6m apart, postholes **26421** and **15458** (Fig. 4.21) were equally insubstantial but together adopted the alignment of the enclosure and feasibly once represented components of a structure or fence which perhaps created an interior division, although its form and purpose cannot be ascertained. Occasional charcoal flecks, charred cereal, sherds of Period 3 and 4 samian and coarseware pottery, glass and the occasional hand-built vessel came from the postholes and nearby pit **15463**, all of which was commensurate with cultural material in the surrounding enclosures and therefore added little to an understanding of specific activity zones.

Structure 32 (group 28164) and its enclosure

On the south-east side of boundary group **28161**, the row of enclosures was continued by a c.22m-wide and c.33m-long trapezoidal enclosure, which was adapted to incorporate the boundaries of the ES2 enclosure containing Structure 32, which originated with ES1, but apparently survived to the time the settlement was abandoned (Fig. 4.21). The trapezoidal enclosure was delimited to the north-east by the last vestiges of the shared north-east boundary, represented here by gully **15184**. While most of the feature was lost to ploughing, fill **15132** included a redeposited samian ware dish (Cat. no. 211) stamped centrally with the name 'Crestio i', which dates its production to AD45–75 and is one of the earliest stamped vessels at Scotch Corner (Monteil, Chapter 5). The south-east boundary was shared with the adjacent enclosure and it is possible that ES2 well/cistern (**26153**) remained accessible and operational. A segment of the boundary represented by gully **26014** was probably recut at this time and contained fragments of fired clay, charcoal and sherds of Period 4 coarseware pottery and an emerald green Hofheim glass cup (Cat. no. 629; Cool, Chapter 5) in fill **26015**. There was also a fragment from a small cast copper-alloy vessel with a triangular grooved rim (Cat. no. 779), was probably part of a wine ladle (Croom, Chapter 6), which perhaps derived from continued occupation in adjacent Structure 32.

Aspects of activity nearby and inside the enclosure were well-represented by the surviving features, although there was no sign of any buildings other than Structure 32, which may have been part of the same tenurial unit in addition to the adjacent enclosure introduced with ES2 (see above). Approximately 5m south-west of Structure 32, sub-circular, pit **15259** had a diameter of 1.5m and depth of 0.6m, with steeply sloping sides (Fig. 4.21). At its base, an AD71 copper-alloy *sestertius* (Cat. no. 674) minted for Vespasian in Rome had been placed in sandy fill (**15400**). Brickstock attributes the degree of wear or corrosion on the coin to circulation that lasted into the 2nd century AD (see Chapter 6), although the absence of ceramics from this period potentially contradicts this. Once the coin was deposited, the pit was repurposed as an oven (**28126**), which was lined with clay and flat stones and sealed by domestic refuse. The oven was then refurbished with a new clay lining (**15285**), and eventually another stone lining (**15322**), demonstrating longevity and investment in a feature that used ash and pomaceous charcoal to produce foods containing spelt and sprouted spelt, barley, wheat and emmer (Baines, Chapter 8). Oven **28126** appears to conform to a practice of locating ovens a short distance away from buildings (see Structures 35 and 37, above).

In nearby latrine pit **15219** (Fig. 4.22), cereal processing was attested by a large fragment of an upper disc quern (Cat. no. 876; Fig. 4.74) made locally from millstone grit but in the Roman tradition (Cruse, Chapter 6). A non-standard groove pattern may have been made to facilitate a certain operating mode, but might equally denote functions other than cereal grinding, such as

*Figure 4.74: Scotch Corner: Field 258, latrine pit **15219** with upper disc quern (Cat. no. 876) to the right, facing south-east.*

crushing malted barley or de-husking grain (*ibid*.). The remaining pits and possible postholes inside the enclosure included domestic assemblages of refuse that were commensurate with occupation during Period 4 and reflect the high living standards enjoyed around the road junction.

The south-west side of the enclosure (ditch **26209**; Fig. 4.21) contained notably less cultural material than other boundaries, and effectively represented the limit of Romanised human occupation at Scotch Corner during Period 4. Access between enclosures surrounding it was facilitated through entrance points where boundaries stopped short of one another; at the south-east corner, posthole **27087** may have represented the position of a gate, which implies that access was controlled to some degree.

ES3 southern area (Fields 258 and 228)

Between the rectangular enclosures by the junction and the south-eastern extension of the road to Stainmore (RR4) was a tessellated network of connected paddocks with no sign of structures (Fig. 4.20). The water supply was maintained with a network of deep cisterns along some of the boundaries, which were often finally infilled with assemblages of Period 4 domestic refuse probably derived from the abandonment of the occupied area nearby. South of the Stainmore south-eastern extension was an area where some of the northernmost coaxial enclosure boundaries adopted during ES1 were enclosed by the outer trapezoidal boundary of ES3, and subsequently incorporated into the system. Wells and cisterns in this area had also been infilled finally with cultural material from the wealthy occupied areas a short distance to the north-west, a process or episode that is interpreted as closure of the settlement.

Paddocks between the rectangular enclosures and the south-eastern extension of the road to Stainmore RR4

The paddocks were the least regularly shaped enclosures in ES3 because they effectively conjoined the rectangular occupied enclosures to the north-west with existing ES2 enclosures to the north-east and the coaxial enclosures to the south, while referencing the south-east extension of the road to Stainmore and the outer trapezoidal boundary. In the first row of paddocks, cultural material was very sparse in the single pit (**27068**) and absent from longitudinal boundary gully **26547** (Fig. 4.21). The southern boundary defined by ditch group **28167** was far more productive and incorporated two cisterns (**27075** and **26223**) that were accessible from all four adjacent paddocks (Fig. 4.20). The pottery and vessel glass from ditch group **28167** was similar to that recovered from features near Period 4 structures to the north. They included sherds from vessels produced in Periods 3 and 4, as well as a possible fragment of brick and approximately a quarter of a faience melon bead with traces of bright turquoise glaze (Cat. no. 752) in fill **27082** (Foulds, Chapter 6). Another faience melon bead with traces of turquoise glaze (Cat. no. 751, *ibid*.) came from deposit **26488**, a shared upper fill of the enclosure boundary and cistern **26223**, while an equivalent deposit (**26396**) included a white glass counter (Cat. no. 792; Croom, Chapter 6), which arguably came from Structure

31 (see above). In addition to the bead and counter, the upper fills of the cistern included domestic refuse, whereas most of its lower fills were devoid of artefacts and it appears to have silted up with alluvium. The same barren fills were noted in cistern **27075**, which was marginally deeper (c.1.5m) with a larger diameter of 1.8m and vertical sides. A group of stakeholes (**27563**, not illustrated) marked the circumference of the base, and presumably once housed upright supports for a wattle lining.

South of ditch group **28167** were two enclosures which flanked the south-eastern extension of the road to Stainmore. In common with the enclosures to the north, the south-west to north-east interior division included no diagnostic artefacts, which was also the case for the colluvial deposits that filled much of well **27032** inside the north-western enclosure (Fig. 4.75). The well was 1.6m in diameter and excavation was stopped at a depth of 1m due to the instability of the sides. The lowest of the fills excavated contained few dateable finds, but the upper fills held more material: animal bone was found in deposit **27584**, fill **27043** was rich in charcoal fragments, and a dished layer of small sandstone slabs (**27047**) separated deposits **27044** and **27045**, perhaps forming a bowl to aid water collection, or cleaning out. Above this, the latest period of infilling included rich assemblages of ceramic and glass vessels associated with lavish occupation and food production. Fragments of a wattle lining survived in the base of 2m-deep well **27705**, which prompted comparison with nearby cistern **26223** (see above). Another common attribute was the paucity of cultural materials in the lower fills, while coarseware produced in Period 4 came from the upper fills and strengthens the case for a widespread episode of infilling.

The southern trapezoidal outer boundary and coaxial enclosures

A series of existing coaxial enclosures and their ditched boundaries were sandwiched between the outer trapezoidal boundary and the south-eastern extension of the road to Stainmore and were consequently incorporated into the ES3 settlement. It is argued above that boundary group **28172** and corresponding ditch **28321** (Fig. 4.20) had already been referenced in ES1 for a larger livestock enclosure stretching north, which might suggest abandonment of the coaxial system, but activity appears to have revived. In common with the enclosures and paddocks to the north, there was a focus on water collection and storage, and also commensurate evidence for the ES3 closing episode recognised further north, but not to the south of the trapezoidal boundary (see Chapter 3).

The trapezoidal boundary was defined on the south and south-east sides by ditch group **28425**; Figs 4.19, 4.20 and 4.76), which turned through an angle of c.125° within the excavation area. Respecting the existing coaxial system, the 2m-wide by 1m-deep steep-sided boundary ditch cut along the course of its Period 2–4 predecessor (group **28426**, see Chapter 3). The

*Figure 4.75: Scotch Corner: Field 258, well **27032**, facing north.*

*Figure 4.76: Scotch Corner: Field 258, ditch group **28425**, facing west.*

artefactual contents of ditch group **28425** were minimal, comprising only small quantities of animal bone and coarseware pottery of Period 3 or 4 production (Leary, Chapter 5). The low incidence was consistent with most of the other components of the ES3 trapezoidal inner and outer boundaries described above, and feasibly reflect different treatment.

North of the southern outer trapezoidal boundary, the first coaxial boundary gully was too badly truncated to investigate, but its spacing was consistent with those to the south and immediate north (Fig. 4.20). The next boundary north (group **28174**) was probably introduced during Period 2 (see Chapter 3), and apparently extended west beyond the road corridor, having been identified as a west–east ditch with charcoal-rich fill in the side of service trench NPG37 (Feature 14; Fig. 4.12), and potentially also as a linear geophysical anomaly adjacent to the west. North of ditch group **28174**, the next coaxial boundary incorporated into ES3 was represented by contiguous ditch groups **28173** and **28429** (Fig. 4.20). The small number of artefacts included sherds of samian ware dated AD70–90 in primary fill **15116**, and coarseware produced after c.AD70 in fills **28014** and **28324** (Leary and Monteil, Chapter 5). At the same time as the enclosure ditches were infilling for the final time, the same episode was evident in the fills of well **15077**, which measured 1.3m in diameter and c.1m deep, with vertical sides, and was similar in form to other wells and cisterns found along enclosure boundaries and within enclosures to the north. Well **15077** differed, however, in that it incorporated a wide range of charred plant remains and had been used to discard or place vessels from the primary fill upwards, which demonstrates that it had not begun to infill, or had been cleaned out recently.

The outstanding assemblage was a collection of stamped samian ware cups in primary fill **15113**, which appear to have been discarded or placed together. Amongst the remains of eight vessels made before c.AD90 were two complete Dr.27 cups with stamps by Iovius (Cat. no. 209) and Memor (Cat. no. 210), and a complete Dr.37 cup (Cat. no. 28; Monteil, Chapter 5). In addition to the cups in the closing deposit, a Lyon colour-coated beaker was discarded (Leary, Chapter 5) as well as a well-used iron-socketed mortise chisel (Cat. no. 819) of a common Roman form, which had continued to be used after breakage (Croom, Chapter 6). The same deposit also contained charcoal, charred cereals, bedstraw and meadow weeds as well as fragments of fired clay and possible residues of ferrous metalworking. A possible crucible fragment in the subsequent fill (**15111**) potentially connects material deposited here with evidence for nearby ferrous metalworking in the coaxial enclosures to the south (see Chapter 3). In the same enclosure, well **28342** was 2.6m long by 1.7m wide, though it narrowed to a sub-circular shaft, which was 1.6m deep and may once have been lined with wicker if the preserved stake was a remnant of such a feature. The deposits at the bottom were waterlogged and contained numerous diagnostic objects including a piece of copper-alloy edging (Cat. no. 695). The object may have been rim binding from a tankard or tub made in a native style during the Early Roman period and potentially relates to feasting (Croom, Chapter 6), which was a pastime that appears to have waned rapidly towards the end of Period 4 and seems to have coincided with departure of the population with its military connections and ambitions for a provincial town.

PERIOD 5 (c.AD85/90–c.AD135/150)

Period 5 was characterised by a significant contraction in occupation following backfilling and closure of several important zones of the settlement with material dating from Periods 3 and 4, and some earlier imports from Period 2 (see above). Departure from the site is dated by Bayesian modelling to the period between cal AD100–35 (68% probability) and cal AD90–150 (95% probability; Hamilton, Chapter 9). The main focus of activity during Period 5 was the triangular road junction, which was further maintained and upgraded. The angle between the converging routes of RR5 and RR6 became the setting for a small stable or slaughterhouse constructed in a Roman military style. The same phase of construction witnessed further consolidation of the road network, which appears to have continued following departure of the Romanised population. There was a commensurate reduction in material discarded and deposited during Period 5; the pottery assemblages included many of the same types, although the range diminished and the vessels demonstrate increasing wear, perhaps partly because pottery made locally during Periods 3 and 4 was no longer produced after the focus of military-related activity moved away from Scotch Corner (Leary Chapter 5). One of the most visible and lasting legacies of the road network and the planned settlement was their influence on the pattern of fields along the corridor of Dere Street, particularly to the south where perpendicular boundaries are fossilised in the landscape to this day.

The triangular Roman road junction (Field 265)

Period 5 witnessed extensive refurbishment of the area around the road junction, which represents the ultimate focus of activity towards the end of conquest-period occupation at Scotch Corner. The latest iteration of RR5 (group **29956**, see above) appears to have remained in use during Period 5 and received some minor refurbishments (Fig. 4.77). In contrast, RR6 was substantially upgraded, and the area inside the junction was further consolidated. A stable or slaughterhouse built in a Roman military style (Structure 39, group **29955**) was constructed on the inside of the junction over the former Period 4 butchers' (Structure 38, group **29958**; Fig. 4.39) and the associated midden (group **29959**). A deep pit that cut through the north-west side of RR5 may originate during Period 5, but was perhaps contemporary with a flagstone floored building (group **29951**, not illustrated) and a new enclosure which occupied the junction during the 3rd and 4th century AD (Ross and Ross in prep.).

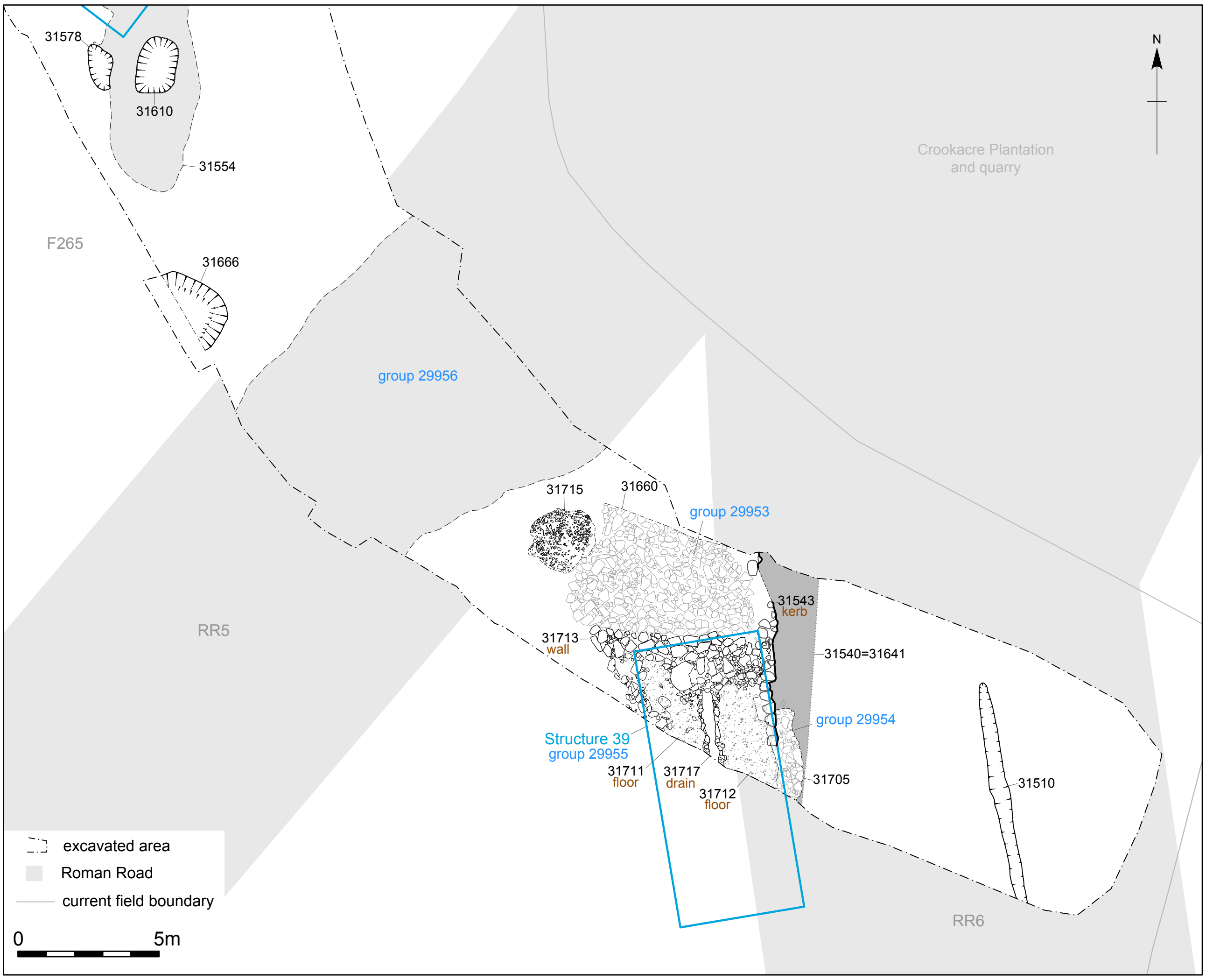


Figure 4.77: Scotch Corner: Field 265, junction of Roman roads RR5 and RR6 with Structure 39 and associated Period 5 features.

*Figure 4.78: Scotch Corner, Field 265, Structure 39, central soakaway or drain **31717**, facing north-west.*

Structure 39 (group 29955): a possible small stable or slaughterhouse

Above the remains of Structure 38 and its associated midden, a small and well-built stable or slaughterhouse was constructed adjacent to RR6 (group **29954**, see below) with direct access both to it, and across the junction to RR5 (group **29956**, see above) via a short aggregate ramp (**31715**). The building comprised a foundation layer **31542**=**31663**=**31682** (not illustrated) with a footprint that was c.7m wide, and continued south beyond the 9m-long alignment exposed in the excavation area. Above the foundation deposit, stone fabric **31660** was robust and supported an interior surface of crushed limestone (**31711** and **31712**), which sloped towards a free-draining urine or blood soakaway pit (**31717**) central to the long alignment (Fig. 4.78). The lowest course of a wall (**31713**) was contiguous with fabric **31660** and survived around parts of the structure, while a line of kerbstones (**31543**) separated it from RR6, but later truncation made the extent and location of a putative eastern wall unknowable (Fig. 4.77). Despite the uncertainty over the precise floorplan, it seems likely that above the level of the stone foundations, the walls and roof were constructed from timber, and potentially extended north as well as south.

Foundation layer **31542**=**31663**=**31682** yielded significant assemblages of artefacts, but of primary importance was a *dupondius* (Cat. no. 683) probably minted in Rome for Trajan between AD98 and AD117 (Brickstock, Chapter 6), which provided a *terminus post quem* for the stable and was perhaps placed prior to its construction. In addition to the coin, the deposit included a fragment of undiagnostic building material, fragments of fired clay, some non-ferrous metalworking slag (Mackenzie, Chapter 7) and a small ceramic disc (Cat. no. 807) may have been used as a counter (Croom, Chapter 6), which would complement the assemblage or objects relating to accounting deposited around Structure 31 to the east of the road junction at the end of Period 4 (see above). Sherds of samian and coarseware produced before c.AD110, and of Northern Gaulish mortaria manufactured between c.AD65 and AD110 or afterwards (Griffiths and Williams, Monteil and Leary, Chapter 5), represented the largest single ceramic assemblage from Period 5, but cross-joining sherds with the underlying Period 4 midden group **29959** suggests that some of the foundation assemblage derived from redeposited earlier materials.

Above the foundation layer, fabric **31660** was composed mainly of large limestone and sandstone boulders, measuring up to 0.6m in diameter. Amongst the stones and grit and a small assemblage of samian and coarseware pottery, was part of a Roman iron finger-ring with a setting designed for an intaglio, which was missing (Cat. no. 734; Croom, Chapter 6). The rest of the structural components included little artefactual material, whereas the central urine or blood soakaway pit (**31717**) included the first deposits that were arguably associated with the use and abandonment of the building. Primary fill **31710** included charred barley grains and brome, an iron nail, fragments of fired clay, animal bone, amphorae sherds and Period 4 samian and coarseware sherds, some of which may have been mistaken for midden deposits (group **29959**) underlying the building. Upper fill **31704** was more certainly contemporary, however, and one of the charred barley grains from here, perhaps a remnant of fodder, returned a radiocarbon determination of cal AD70–240 (95.4% probability; SUERC-83996), which was modelled to the first quarter of the 2nd century AD (Hamilton, Chapter 9). This corresponds well with the Trajanic coin beneath Structure 39. Vessel glass and amphorae sherds from the same deposit demonstrate that Roman imports were still available at the junction and perhaps relate to their use in the stable.

With easy access to all the routes converging on Scotch Corner, Structure 39 could have functioned effectively either as a stable or slaughterhouse. While the form was unparalleled at Scotch Corner, very similar examples of stables with similar dimensions are known at the early 2nd-cenury AD cavalry barracks in *Segedunum* fort at Wallsend, where it is proposed that the soakaway was usually covered with planks or a door to avoid injuring the animals, which were tethered in bays along the walls (Hodgson 2003, 71–121). A Roman military stable at the road junction perpetuated the trend for horse-related artefacts being concentrated in Field 265 and to the immediate east in Field 258 (Croom, Chapter 6), although none of the finds were associated directly with it. Once abandoned, however, a horse skull placed on the floor of the building was perhaps intended to confirm its former function and revere the animal and its associations.

RR6: Dere Street east (group 29954)

The fourth iteration of RR6 (group **29954**) was constructed on the existing course, maintaining access with Structure 39 (Fig. 4.77). The road represented a major investment and probably reflected the fact that movement between south and north along the eastern side of the triangular junction was more frequent, greater in volume than other routes, and potentially therefore more important. Road group **29954** comprised flagstones **31705** (Fig. 4.79), crushed limestone **29977** (not illustrated), and aggregate surface **31540**=**31641** with a line of kerbstones (**31543**), which also distinguished the road from Structure 39. As with its antecedents, the road had been largely cut away by post-medieval activity in the south-east of the site, and only an 8.2m-long by c.1.3m-wide stretch survived in the excavation area. Amongst the stone fabric (**31705**), pieces of animal bone were found with Period 3 and 4 coarseware pottery and sherds of mortaria made after c.AD65 (Griffiths and Williams and Leary, Chapter 5), whereas mid- to late-Roman vessel sherds crushed into the surface of the road attest to its continued use and suggest that from the early 2nd century AD, it was never comprehensively refurbished, which was not the case for RR5, which experienced one final top-quality upgrade (group **31799**, not illustrated) after the mid-2nd century (Ross and Ross in prep.).

*Figure 4.79: Scotch Corner: Field 265, Roman road RR6 group **29954**, truncated to the east, facing south.*

Figure 4.80: Scotch Corner: Field 265, consolidated junction between Roman roads RR5 and RR6, facing south-west.

Once Structure 39 had been abandoned, road group **29954** remained in use, and an extensive layer of cobbles (group **29953**; Fig. 4.80) had been deposited around the inside of the road junction, expanding the area consolidated with aggregates and cobbles. Construction of this layer evidently incorporated artefactual and environmental material first discarded during Period 4, although it also contained the latest Roman coin at Scotch Corner, a silver *denarius* (Cat. no. 684) minted in Rome for Antoninus Pius between AD145 and AD161. The degree of wear indicates that it was probably not in circulation for very long before deposition, which may have occurred late in his reign (Brickstock, Chapter 6), and provides a relatively short window of time for the episode of road refurbishment, shortly after which it fell out of use.

A large sub-square pit (**31666**) measuring over 3m in diameter and c.1.5m deep had been cut through the south-west side of road group **29954** and extended beyond the western limit of the excavation area. The pit contained eight fills, characterised by an initial alluvial layer, followed by deposits containing materials derived from occupation during Periods 4 and 5, which were sealed by colluvial layers that accumulated in the mid-2nd century AD as demonstrated by the sherds of black burnished ware (Leary, Chapter 5). Above the primary silting, diagnostic artefacts contemporary with occupation at the junction came from secondary fill **31669**, which contained animal bone and Roman pottery sherds of a samian ware Dr.18R plate produced between AD60 and AD90 (Cat. no. 218; Monteil, Chapter 5) possibly from the same vessel as sherds from midden **29959**. Above this, tertiary pit fill **31677** included a body sherd from a Dr.37 bowl dated AD70–85/90 (Cat. no. 167; *ibid*.) amongst other domestic refuse.

A short distance to the north, pits **31578** and **31610** cut through aggregate surface **31554**; the latter seemingly

*Figure 4.81: Scotch Corner: Field 265, pit **31610**, facing east.*

*Figure 4.82: Scotch Corner: Field 258 central area, wheel ruts along Roman road RR10 group **28132**, facing south-west.*

represented an act of closure that was comparable with the large-scale episode defining the end of Period 4. Pit **31610** (Fig. 4.81) measured approximately 2m long by 1.4m wide, and c.0.3m deep, and contained two fills. Primary fill **31591** contained a rich assemblage of domestic refuse, amongst which were: a copper-alloy *as* of Nero (c.AD65–6; Cat. no. 669; Brickstock, Chapter 6), a *dupondius* of Trajan (AD98–117; Cat. no. 682; *ibid*.), a simple and rare variety of silver finger ring (Cat. no. 729; Croom, Chapter 6), and an incomplete iron ring (Cat. no. 733; *ibid*.) with an intaglio depicting a pastoral scene of grazing cattle (Cat. no. 736). Upper fill **31611** was less productive but did include rim sherds of a Dressel 20 amphora produced between AD70 and AD110 (Cat. no. 291; Griffiths and Williams, Chapter 5).

A compound east of the road junction (groups 28150 and 28155) (Field 258)

To the immediate east of Dere Street (RR6), ditch groups **28150** and **28155** (Fig. 4.22) formed the north-east corner of a small trapezoidal enclosure with curved corners and an interior that was originally consolidated with a compacted aggregate surface (**26558**), which survived along the edge of the excavation area. The compound (group **28155**) was only partially exposed and its continuation into the unexcavated part of Field 258 was represented as geophysical anomalies. The compound was constructed on a new alignment over the infilled remains of Structure 31 and the row of associated rectangular enclosures. The east side of the compound was c.1m wide by 0.4m deep, and after initial silting had been filled with large angular stones, though not obviously as a foundation, nor as supports for a palisade. Rather than being associated with the function of the boundary, the stones may have been associated with abandonment and infilling, which may have been when sherds of Roman pottery dating from the mid- or late 2nd century AD became incorporated in fill **26687** with redeposited structural and domestic materials (Leary, Chapter 5), and also when a fragment of lava disc quern was included with upper fill **26685**. At the north-east curving corner, a c.1m-wide causeway was bridged by narrow gully **27172**, which was associated with the entrance, beyond which the north side defined by ditch group **28150** was up to 0.9m wide by 0.3m deep. The fills were devoid of large stones, and artefacts were less numerous, although fill **26858** did contain parts of a nailed Roman shoe with at least 26 iron hobnails (Cat. no. 763), and another 26 hobnails (Cat. no. 764) came from adjacent fill **15314**, which together represented a large proportion of the total number from Scotch Corner, many of the others coming from nearby Period 4 enclosure ditch group **28158** (Croom, Chapter 6). In spite of the small sample, the concentration of discarded footwear close to the road junction brings to mind the disposal of unwanted or worn-out shoes once an overnight stop or destination had been reached. There is no evidence that new shoes were available to purchase, nor little to suggest that expert repairs were a service provided at Scotch Corner. The only tool possibly related to leatherworking was an iron awl (Cat. no. 823) in fill **27428** of posthole **27427**, which helped define the side of RR9 a little over 60m away (Fig. 4.25).

RR10: Dere Street north(?) (group 28132), and corridor gully group 28138 (Field 258)
The crest of a south-west to north-east aggregate road (group **28132**), which followed the south-east side of Dere Street north's projected course, was preserved beneath the western field boundary hedge in Field 258, whereas the edges of the *agger* had been removed by the Great North Road along its north-west side, and by ploughing to the south-east (Fig. 4.25). Some of the aggregate surface of the road overlay infilled enclosure ditches from ES1, ES2 and ES3; however, it was apparent from the absence of intervening deposits that the period between creation of the enclosures and construction of the latest road was brief, and that the road traced the same curve as corridor gully group **28138**, which was c.9m distant and appeared to have been introduced late in the life of ES3 (see above). Considering the disposition of the road, its stratigraphic relationships and the artefactual assemblages, it seems possible that road **28132** was introduced late in ES3 and was either a parallel side street, or a widened section of Dere Street north, which flared in the area immediately east of the road junction. Towards the north end of Field 258, a short section of road overlying Period 4 gullies **27186** and **27605** (Fig. 4.33) was sufficiently protected from ploughing to retain a short section of kerbstones, north of which its route was crossed obliquely by the Great North Road and associated services causing road **28132** to be removed entirely.

One of the more notable aspects of road group **28132** was the series of parallel wheel ruts preserved in the section exposed in the central area of Field 258 (Fig. 4.82). Part of an iron hipposandal (Cat. no. 818) incorporated into the surface (**15237**) spoke directly of horse-drawn carts and the transportation of resources in and around the settlement, which is discussed further with reference to similar finds in ditch group **28133** and pit group **28131** (see above).

RR10: Dere Street north (group 31287) (Field 246)
At the south-west end of Field 246, the partial remains of an additional carriageway or area of widened road (group **31287**) flanked the north-west edge of RR10 (group **31259**, see above), which was constructed during Period 4 (Fig. 4.44). It was not clear from the limited area and degree of truncation whether the additional surface represented a converging road with conjoining kerbstones, or an additional carriageway with a central drain or culvert (Fig. 4.83). The only artefact recovered from fabric **15887** was a small lead spindle-whorl (Cat. no. 859), which was probably lost en route, or redeposited from a Period 4 context, the immediate area having been largely abandoned by this time. An elongated pit (**24191**) on the north-west side of the road observed its alignment and contained a small assemblage of very abraded hand-

*Figure 4.83: Scotch Corner: Field 246 southern area, Roman road RR10 group **31287** with kerb, and road group **31259**, facing south-east.*

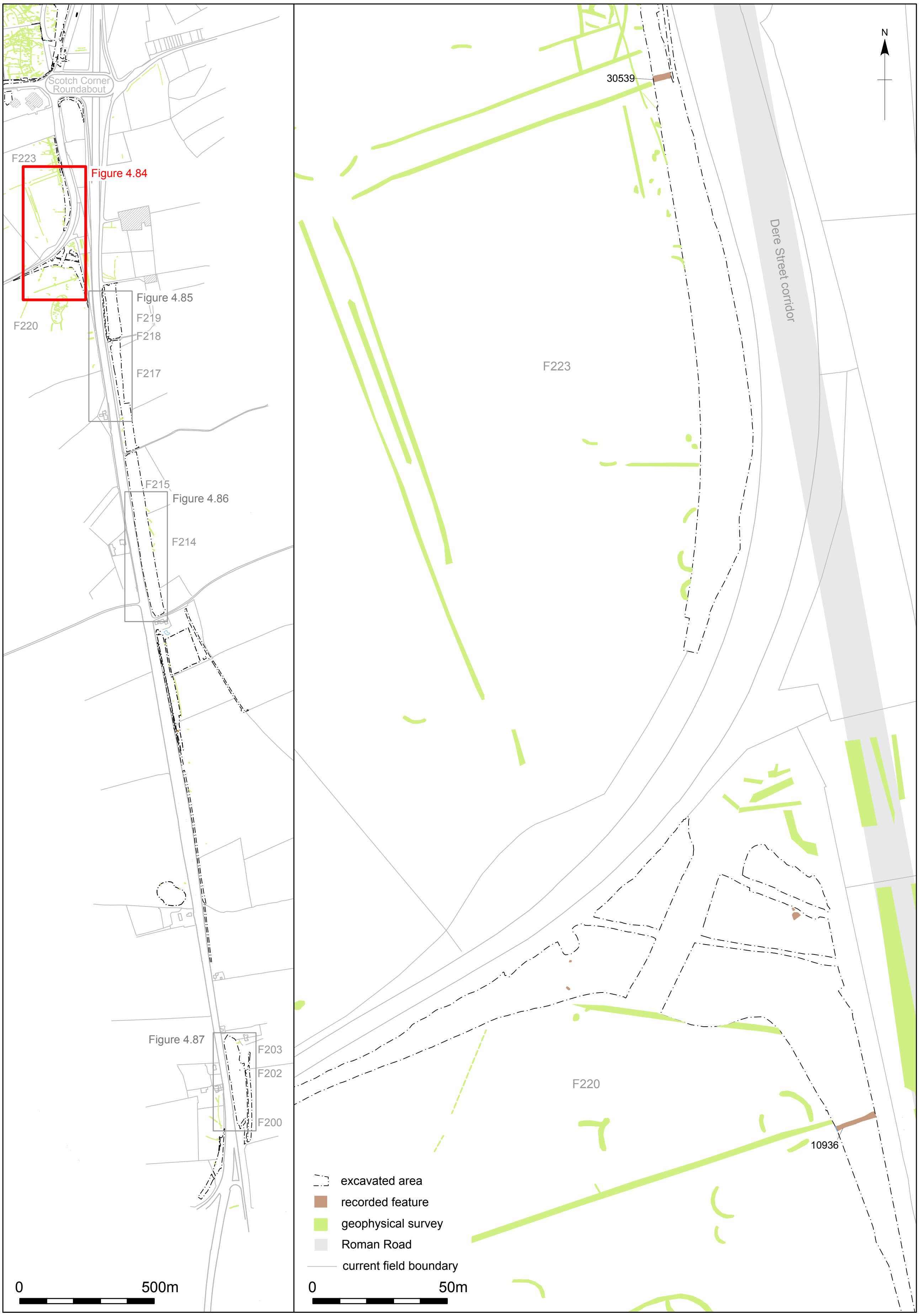


Figure 4.84: overview of Roman field boundaries between Scotch Corner and Cataractonium, Fields 220 and 223.

built ceramic vessel sherds, as well as Period 3 and 4 samian and coarseware in similarly poor condition.

Dere Street and the roadside field systems south of Scotch Corner

North of the triangular road junction, the cumulative effect of new road alignments and Enclosure Systems presented a multitude of references for subsequent tenurial arrangements, which is reflected in the fields immediately north and west of Scotch Corner. South of Scotch Corner, however, the course of the south–north routeway appears to have changed little over many centuries and the introduction of Dere Street simply straightened and formalised the existing course (see Chapter 2). The direct and unchanging route of Dere Street prompted introduction of a perpendicular field system. Some of the earliest components of this field system were exposed and investigated during the A1 scheme, outside which many related boundaries are fossilised in the modern farmed landscape.

Fields 223 and 220

In the approximate centre of Field 223, beyond the A1 scheme excavations, geophysical anomalies appear to indicate a T-junction of probable ditched tracks, which are aligned approximately parallel with, and perpendicular to, Dere Street (Fig. 4.84). Their linearity is highly suggestive of a Roman date, which was not confirmed in the excavation on account of extensive truncation, although Period 2–3 hollow-way **30252** (Chapter 3, Fig. 3.40) may have been a precursor, which would be entirely consistent with Roman adoption of existing routeways observed elsewhere at Scotch Corner. If the tracks in Field 223 are ever demonstrated to be of Early Roman origin (Headland Archaeology forthcoming), they may be interpreted as additional infrastructure inside an area that was probably dedicated to agriculture from the time the Romans arrived at Scotch Corner. In the A1 excavation area at the south end of Field 220, ditch **10936** had been tentatively attributed to Period 1 (see Chapter 2), but it may have been extended and incorporated into the Roman field system once Dere Street was established to its immediate east. Its continued course as a linear geophysical anomaly was parallel with one track in Field 223 to the north, which suggests that they could be components of the same system.

Bertram House (Fields 217, 218, 219)

On the east side of Dere Street at Bertram House, sections of parallel wheel ruts (e.g. **6802=6806**, **6804=6819**) ran c.1.4m apart on an approximate south to north course along the western edge of the excavation area (Fig. 4.85). Straight gullies such as **7132** and **7257**, and group **7385**, and a long linear gully with a bowed section (group **12203**) cut across the Late Iron Age field systems described in Chapter 2 and were probably associated with transportation along the east side of Dere Street (RR1). There was a concentrated area of ill-defined activity around aggregate hollow-way **6825**, which was approximately perpendicular to the Roman road and may have connected with it. A sinuous outer hollow-

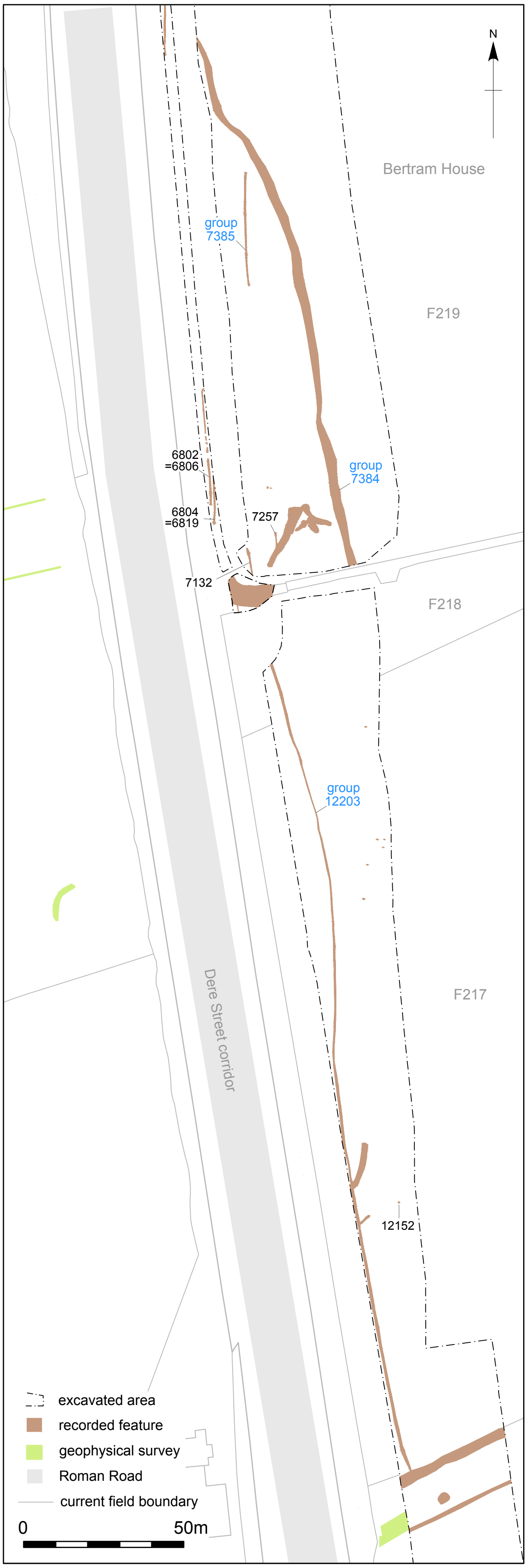


Figure 4.85: Bertram House, plan of features.

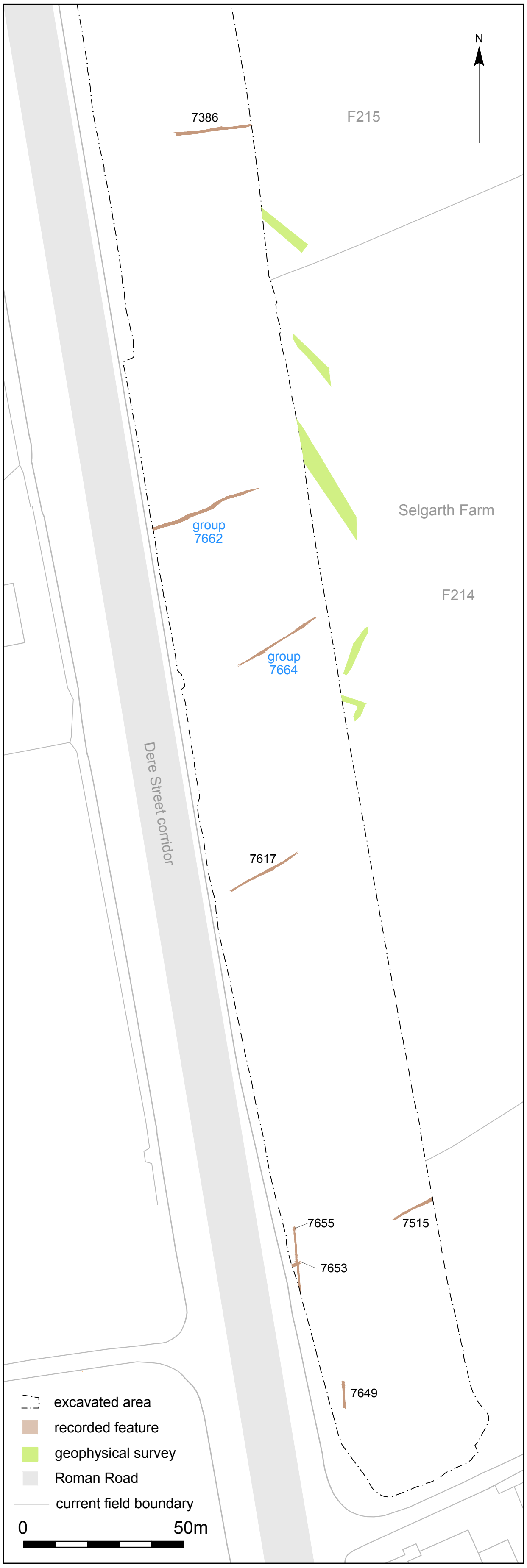


Figure 4.86: Selgarth Farm, plan of features.

way (group **7384**) in Field 219 appeared to represent an informal route around whatever roadside activities were occurring in that area, which judging by the paucity of Roman cultural material, was almost certainly associated with agriculture. Aside from the few sherds of samian ware with production dates that spanned c.AD45 to c.AD200 in upper fills of features at the south end of Field 219, the only material signs of occupation and exotic material comprised five flakes of amber fragments (Cat. no. 863; Foulds, Chapter 6) of unknown date, recovered from small pit **12152**. The flakes presumably derived from the same object, such as a bead, although the purpose or means of its deposition are unknown.

Between the south end of Field 217 and Field 215 there was no artefactual material to demonstrate that existing field boundaries had their origins in the Early Roman period. As described above, however, several of the alignments indicate that the field boundaries were created with reference to Dere Street, although this could have occurred at any time since the road's introduction.

Selgarth Farm (Fields 213, 214, 215)

At Selgarth Farm, disturbed layers of aggregates at the western edge of the excavation overlying the former native south–north routeway (RW1; Fig. 4.1), were interpreted as the east side of Dere Street (RR1; Fig. 4.86). A series of perpendicular field boundaries cut across earlier features, beginning at the north with gully **7386**, then after c.162m, group **7662** exploited the edge of an earlier and larger infilled enclosure ditch. Approximately 49m to the south, gully group **7664** continued the series, which ended c.60m to the south with gully **7617**. In Field 213, gullies **7653** and **7515** delimited the south side of a c.110m-wide field, while parallel gullies **7655** and **7649**, spaced c.13.5m apart, may represent a temporary diversion or redundant course of the Roman road.

Gatherley Villa (Fields 200, 201, 202, 203)

Two phases of enclosures at Gatherley Villa respected the alignment of Dere Street and its eastern corridor ditch in the A1 excavation area (Fig. 4.87). The earlier putative system was delimited by ditch **6232** in the north, and an unnumbered ditch c.55m to its south, both of which extended further west than the later corridor ditch, perhaps because when they were introduced the road corridor was less formally delineated. The early system was superseded by a series of connected enclosures appended to the east side of the eastern corridor ditch, which had been recut on many occasions and corresponded with a western ditch that was visible in the geophysical survey. The northern field was c.123m wide and its southern side coincided with a c.6m-wide ditched trackway perpendicular to Dere Street. South of this, the next field was c.134m wide, beyond which the system continued beyond the excavation. In the absence of diagnostic finds, dating can only be conjectural, but on typological grounds it can be proposed that the first system was contemporary with that found at Selgarth Farm, and perhaps dated to the Early Roman period. The later system was also effectively undated, but samian

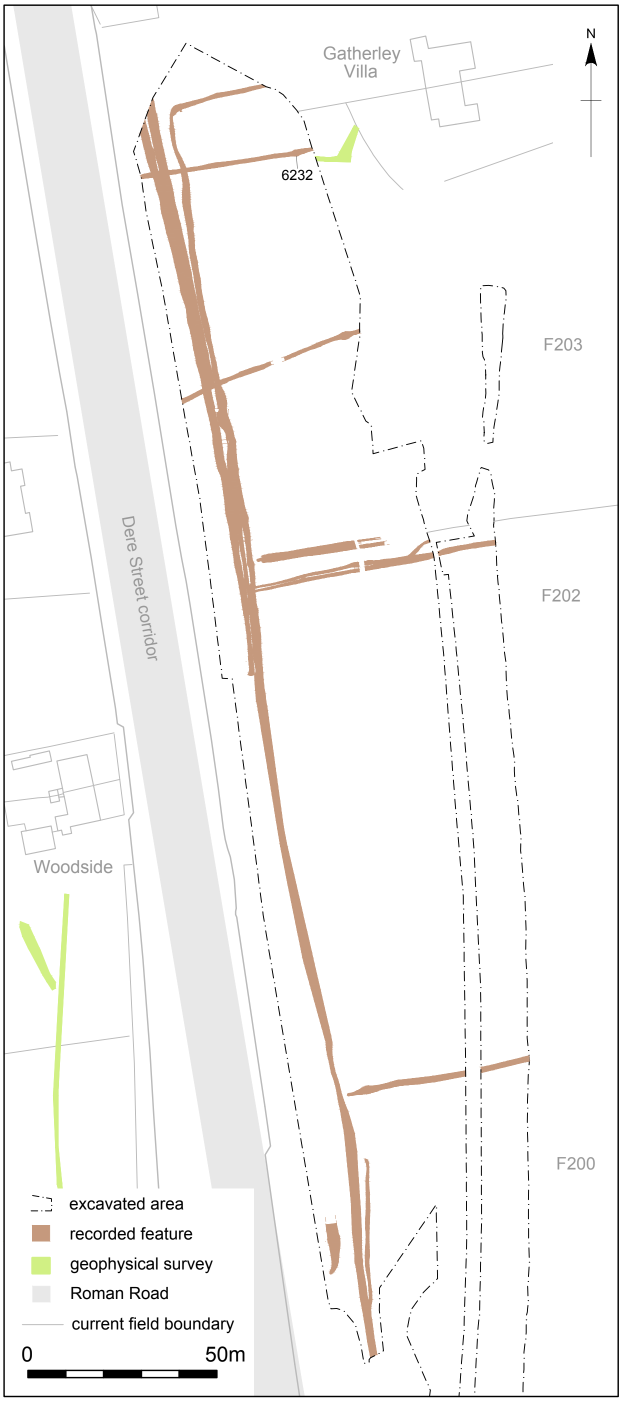


Figure 4.87: Gatherley Villa, plan of features.

and coarseware pottery recovered from subsoil (**6016**) indicate that it may have been in use during the 3rd to mid-4th centuries AD, and probably represented agriculture at the periphery of the Roman fort and town of *Cataractonium* (Ross and Ross in prep.).

DISCUSSION

The Boudican revolt of AD60/61 had demonstrated vividly the non-compliant character of native Britons who were responding with increasing vigour to exploitative client arrangements in the province. Against this backdrop, Venutius' rebellion of AD69 presumably alerted Rome to worsening disorder within their most northerly region and presented an opportunity to rescue the displaced loyal queen, dissolve the failed arrangement and embark upon military conquest. Success in achieving this appears to have been rapid and perhaps even uncontested, resulting in a c.50 year-period (Periods 4 and 5) of Roman and native co-occupation at Scotch Corner, lasting from the outset of conquest (c.AD70) to abandonment of the Roman-built settlement (c.AD85/90) and demise of occupation at the junction by c.AD135–50.

Effective and reliable transportation was evidently a primary consideration for the Roman military once conquest began around Scotch Corner. Road construction was a political and military statement of capability and intent and was presumably one of the tasks carried out by the army, whose first objectives appear to have been consolidation of a north-west frontier along the route to Stainmore and beyond, and to forge a road directly towards Melsonby and Stanwick. In conjunction with development of the roads, Roman surveyors quickly introduced planned enclosure systems, delimiting new regular tenurial units while respecting the remaining areas of native occupation in the northern coaxial enclosures. Soon after the planned settlement was introduced, a new road bypassing Stanwick perhaps represented the first campaigning foray on a direct northward course towards Scotland via the crossing point of the River Tees near Piercebridge.

Subsequent stages of growth at Scotch Corner involved refurbishment and further development of the road network, which now represented major communication and military routes to the northern borderlands along the Tyne–Solway isthmus. As the third iteration of the enclosure system was introduced, roadside enclosures spread along the sides of Dere Street to the north. Formalisation of the settlement possibly reached a peak with the introduction of inner and outer trapezoidal boundaries on the south-east side of Dere Street. A large multi-angular ditch may have been intended to define the boundary on the northern arc and perhaps further proclaim the proto-small town status of Scotch Corner. Inside the settlement, buildings with rectangular forms and standardised dimensions suggested Roman design and construction, which may be a unique feature of Early Roman Scotch Corner. Exuberant drinking and dining inside the buildings led to disposal of exceptional ceramic and glass vessels, along with objects relating to games, literacy, accounting and leisure pursuits. Between the buildings, livestock husbandry was probably the primary purpose of a network of enclosures where wells and cisterns collected and stored run-off water from connected enclosure gullies. Paddocks inside the settlement signify the importance of livestock, and particularly horses, at Scotch Corner; the road junction seems an obvious place for travellers and soldiers to rest and resupply, presumably drawing on resources supplied locally by native Britons.

The Roman military and official administrative signature of materials arriving at Scotch Corner indicate that troops were sometimes quartered close by, yet the area examined during the A1 scheme was evidently occupied by a more diverse community including women who conspicuously embraced Roman culture and opportunities. Indeed, the artefactual diversity and paucity of military accoutrements might lead us to wonder whether natives displaced from Stanwick and other vulnerable areas might have been encouraged or compelled to settle at the road junction where they could be monitored.

Whatever their demographic composition, the population of Scotch Corner clearly experienced a time of lavish excess, but around c.AD85–90, after only c.15–20 years, most of the community departed, leaving a small contingent at what became an outpost by one of the most strategically important road junctions in the province. Roman withdrawal from Scotland (c.AD86) and the recall of Agricola was symptomatic of reallocation of troops to counter rebellions on the Continent, leaving areas recently brought into the province sparsely defended. Until construction of Hadrian's Wall, infrastructure was strengthened to help defend the vulnerable northern frontier, resulting in a dense network of forts and camps around Scotch Corner. This time coincided with the dispersal of any remaining native population, who probably migrated towards the *vici* and emerging markets at *Cataractonium*, Bowes, Piercebridge and Binchester. Neither the invaders, nor the displaced natives ever returned to their settlement at Scotch Corner, which survived as the junction of arterial transport routes that are used to this day.

CHAPTER 5
POTTERY, BRIQUETAGE AND VESSEL GLASS

Ruth Leary, Gwladys Monteil, Chris Cumberpatch, David G. Griffiths, H. E. M. Cool and Charlotte Britton with contributions from Kay Hartley, David F. Williams, Roger Tomlin and Rachel S. Cubitt

INTRODUCTION

Rachel S. Cubitt

This chapter details the pottery and glass vessels from the excavations, and discusses their character, date and the contribution they make to the understanding of contemporary life, economy and activity. The ceramic vessel assemblage is particularly large and important, and the in-depth study of the material permits many of the research questions posed in Chapter 1 to be addressed. Not least, the assemblage has provided the foundation for the Periodisation that is integral to the narrative Chapters 2–4. The chapter also includes comment on the modest but nonetheless significant collection of briquetage from the excavations, which is the largest known from the region and situates Scotch Corner within a broad regional trade network in the 1st century AD.

POTTERY

Ruth Leary

The pottery dated from the Pre-Roman Iron Age (PRIA) to the Flavian period, with small numbers of later sherds dating up to the mid-2nd century. A total of 17,698 sherds (225kg; 153.36 estimated vessel equivalents (EVEs)) was fully catalogued, of which 16,730 (213.6kg; 146.18 EVEs) were assigned to Periods 1–5/5+. Periods 1 and 2 were before the Roman occupation of the region. Of note are a range of imported ceramics from Periods 1 and 2, including Italian wine amphorae, Spanish oil amphorae, Italian-style sigillata, Claudian samian ware, Gallo-Belgic platters, cups, beakers and flagons, and Italian platters. The wide range of imported fabrics and forms is unparalleled in the region, although it can be compared with the assemblages from Stanwick. This is followed by activity (Period 3) that apparently dates to the Neronian or very early Flavian period, part of which may date prior to the accepted date for the Roman occupation of the region and span the preliminary period of contact between the native population and Romans. The evidence for this is scarce and relatively insubstantial but seems to indicate a period when Italian and Gallo-Belgic vessels relating to drinking were replaced by the full range of Roman wheel-thrown vessels, including mortaria, with Gallic wine amphorae rather than Italian. The pottery from Period 3 also includes small groups of wares not recognised elsewhere in the region. These wares may have formed part of the earliest ceramic supply to the Romans and are suggestive of an early stage of conquest of this region prior to local potteries being established and trade networks safeguarded. Their precise source could not be established using scientific analyses within the scope of the A1 scheme. As these wares could not be separated into distinct stratigraphic groups, their significance is not entirely clear but this interpretation fits very well with the evidence from elsewhere in Roman Britain. In Period 4, the settlement form changed profoundly, and the ceramic repertoire became much closer to the type of assemblage found on Early Roman military or military-related sites elsewhere in Britain. In particular, the range of imports is very impressive and indicates access to pottery otherwise limited to military sites in the region. Period 4 is well-dated by the imported fine wares to the early Flavian period, finishing c.AD85/90. It is followed by roadside settlement with a more restricted range of ceramics reflecting the change in site function.

METHODOLOGY

The ceramics were examined and catalogued by four contributors. Ruth Leary catalogued the coarse pottery, except for the amphora and mortarium sherds, which were catalogued by David Griffiths; Gwladys Monteil catalogued the samian; and Chris Cumberpatch catalogued the hand-built pottery of insular Iron Age tradition. Ruth Leary catalogued all other pottery and incorporated sections from each report into Chapter 5. Authorship is indicated where appropriate throughout. Full details of the methodologies used, the full archive catalogues and the original individual reports as submitted, as well as a comprehensive guide to the fabrics and forms discussed, are available via the ADS as Appendices D, E and F and should be consulted alongside this chapter.

Pottery from superficial, post-Roman and disturbed contexts was excluded from the quantification tables and was, in the case of the coarse pottery, scanned and summarised only. The pottery from samples was treated in the same way, except in the case of burial ceramics, since the small sherd recovery from samples distorts the sherd count and weight analyses. All Cam numbers in the report refer to the *Camulodunum* type series in Hawkes and Hull (1947). Gillam 237 and Gillam 238 refer to Gillam's (1970) mortarium types 237 and 238.

IRON AGE TRADITION POTTERY

Chris Cumberpatch

Introduction

Approaches to analysis of the hand-built pottery of northern and eastern Yorkshire (and neighbouring areas) have been somewhat arbitrary over the years. The nature of the pottery, and the fact it is hand-built and rarely decorated, has led most researchers to consider it of little value for the construction of chrono-typological frameworks and the calibration of stratigraphic sequences, an attitude fostered by the focus on the remarkable funerary evidence from East Yorkshire, which rarely included pottery. Recently, landscape survey in East Yorkshire has drawn attention to large-scale land divisions and, paradoxically, away from the individual rural settlements and evidence for the domestic economy. Only with the advent of commercial archaeology and the excavation of large areas for linear infrastructure projects (gas and water pipelines and construction associated with offshore wind-power schemes) and housing projects, has it been possible to tackle big and informative pottery assemblages that include hand-built pottery from both pre-Roman and Roman period sites. While the assemblages discussed in this chapter are smaller and less informative than some of those from Holderness and other parts of East Yorkshire, they nevertheless form a significant part of the overall picture and one that has yet to be fully reconciled with the situation at the regional level. The discussion here is, in many senses, preliminary and the full significance of the material, its local context and its association with wheel-thrown wares of Roman and Romano-British type, will emerge only once there is opportunity to compare the situation on sites of different types and with different histories across the wider region and, most importantly, to understand the nature of the relationships between sites in the pottery-using areas of modern northern and eastern Yorkshire with the aceramic areas of modern South and West Yorkshire, the Pennines and the Cheshire Plain. Therefore, what follows is a report on one specific situation with some conclusions and suggestions that will, no doubt, change rapidly as and when further infrastructure and other projects produce more and larger pottery assemblages from excavated sites.

Table 5.1: concordance of Stanwick fabric series (Willis 2016) with A1 scheme hand-built fabric series.

Type code	Type code (Willis 2016, table 11.8)
H1	–
H1 Calcite	101, 122
H1 Shell	–
H1 Chalk	–
H2	–
H2 Fine Quartz	–
H2 Fine Quartz and Mica	–
H2 Fine Quartz and Rock	105, 111, 115, 123
H2 Quartz	102, 103, 108, 109, 110, 120
H2 Coarse Quartz	–
H2 Coarse Quartz and Rock	–
H2 Rock	113, 117, 126
H2 Coarse Rock	–
H2 Hyper–coarse Rock	–
H2 Flint	–
H2 Red grit	121 (?)
H2 Slag	104
H2 Grog	(116), 124
H2 Mica	–
H3	107, 114, 118, 119, 125
H4	–
H type	–

Vessel fabric

In terms of fabric classification, the scheme used by Willis in his assessment of the material from Stanwick and that used here are compatible, although it appears that Willis's approach owes more to Evans's (1995) work than it does to that of Didsbury (2004; 2009a; 2009b; unpublished, n.d.-a), with the converse being true in the case of Cumberpatch. Willis employs many of the same distinctions as Didsbury and Cumberpatch, although he offers a more detailed breakdown of the rock-tempered fabrics than do the latter writers (Willis 2016b, 227–9, tables 11.1, 11.8. and 11.9). A broad concordance linking the two schemes is presented in Table 5.1. The principal differences are the use of grain size by Cumberpatch to sub-divide individual categories and Willis's rather more precise identification of igneous rock types to subdivide his categories. Willis is also somewhat more confident in his discussion of regionality and its relationship to tempering types. This may reflect the different datasets used. This author has seen material primarily from rural settlements and field systems cut by linear infrastructure projects that include substantial Pre-Roman Iron Age components, as well as Roman contexts, while Willis's comparative dataset comes mainly from sites published prior to the increase in the excavation and publication of such sites. Willis references Evans's (1995, 48–9, fig. 5.2) discussion, in which he proposed a degree of sub-regionality in the distribution of different types of temper across north-east Yorkshire. The current author's work draws on a wider geographical area that encompasses much of the East Riding of Yorkshire as well as parts of North Yorkshire and neighbouring areas. The proposed unity of this larger area is conferred by the demonstrable similarity in vessel form and manufacturing technique, as well as the fact that the same fabric series has been used successfully for sites across the region.

For the A1 scheme excavations discussed here, the representation of different fabric groups is summarised in Table 5.2 using the ENV (estimated maximum number of vessels) figure, with the total of individual groups expressed as percentages of the total assemblage. An aggregated percentage figure summarises the proportions for the larger, inclusive, fabric groups (H1, H2, H3 and H4). Overall, H2 wares were clearly the most common, representing 78.2% of the total with H3 and H4 wares representing 11.1% and 9.99% respectively. The very small proportion of H1 Calcite wares, when compared with the much higher proportion of vesicular H4 wares, suggests that acidic ground water conditions played a significant part in the chemical weathering of the susceptible proportion of the assemblage. Within the

H2 category, Quartz was the most common type of temper, although rock-tempered fabrics were very well represented. A notable absence was the very coarse or hyper-coarse fabrics, typically containing large angular rock fragments, noted in Holderness.

Other analyses have used parallel but individual fabric type series. Willis's analysis of the assemblage from Pegswood Moor near Morpeth identified six distinct 'fabric varieties', all of which were tempered with quartz, basaltic/doleritic rock and clay pellets either alone or in various combinations. No calcite tempered fabrics were present (Willis 2009a, 44).

Excavations at Faverdale, near Darlington, produced an assemblage of local hand-built and Roman wheel-thrown wares dating to the 1st century AD and later. Eleven fabrics were identified amongst the hand-built wares (Gerrard 2012, 77, appendix 1). Fabrics included a range of types that are broadly familiar. One was calcite tempered (LHMW4) and equivalent to H1 Calcite as defined here. Three were primarily tempered with quartz (LHMW1, LMHW2 and LHMW6) and four were tempered with Quartz and Rock (LHMW 3, LHMW5, LHMW8 and LHMW9). These equate to the H2 and H3 types defined here. LHMW7 also contained Quartz and Quartzite, as well as muscovite, recalling the mica-rich H2 fabrics identified amongst the A1 scheme assemblage. LHMW10, a grass-tempered fabric, has no obvious parallel here or amongst the fabrics defined and described from elsewhere in North and East Yorkshire, although grass-tempering is a feature of the fired clay and briquetage found widely alongside hand-built pottery.

In general, it seems probable that the proportions of different fabrics and the distinction between the H1/H4,

Table 5.2: summary of hand-built fabrics present.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentage
H type	5	0.45	–
H1 Calcite	1	0.09	0.09
H2 Coarse quartz	31	2.8	–
H2 Coarse quartz and biotite	4	0.36	–
H2 Coarse quartz and rock	6	0.54	–
H2 Coarse rock	88	7.9	–
H2 Fine quartz	177	15.9	–
H2 Fine quartz and biotite	10	0.9	–
H2 Fine quartz and rock	14	1.2	–
H2 Fine type	1	0.09	–
H2 Quartz	363	32.7	–
H2 Quartz and biotite	11	0.99	–
H2 Quartz and coarse rock	1	0.09	–
H2 Quartz and grog	1	0.09	–
H2 Quartz and muscovite	5	0.45	–
H2 Quartz and red grit	1	0.09	–
H2 Quartz and rock	100	9	–
H2 Quartz and slag	1	0.09	–
H2 Rock	49	4.4	–
H2 type	2	0.18	78.1
H3 Fine quartz and vesicles	46	4.1	–
H3 Flint and vesicles	3	0.27	–
H3 Quartz	2	0.18	–
H3 Quartz and calcite	2	0.18	–
H3 Quartz and vesicles	67	6	–
H3 Quartz, rock and vesicles	1	0.09	–
H3 Rock and vesicles	2	0.18	–
H3 type	1	0.09	11.2
H4	111	10	10
U/ID	1	0.09	–
Total	**1107**	**99.49**	**99.39**

H2 and H3 types (or their equivalents) on individual sites relates to the local availability of tempering material and the character of the local clays. However, given the clear distinctions between the textures (conferred by grain size and the density of inclusions) of the different fabrics and the apparent use of deliberately added crushed stone, other explanations cannot be ruled out (for example, see Didsbury n.d.-a, 22–3; Woodward 2002).

Some indication of the degree of variation in the representation of different fabric groups on an alternative selection of sites to those considered by Willis can be seen in the following examples. On the excavations for the Easington to Ganstead (EAG) gas pipeline in Holderness, the proportion of H1 and H4 fabrics rarely rose above 20% of the total (Cumberpatch 2016, 105). At Sewerby Cottage Farm, H1 and H4 fabrics constituted 42.5% of the total (Didsbury 2009b, table 69), while an assemblage from Heslerton consisted of over 95% vesicular (i.e. H4) wares (Rigby 1986).

The archaeological investigations of the Burstwick to Rimswell (BRP) water pipeline scheme in Holderness (Cumberpatch 2018) showed a degree of local diversity, with one area dominated by H3 fabrics, while H2 fabrics were much more common in all other areas. This data, combined with that presented by Willis and Evans, suggests that the representation of fabrics can vary considerably across relatively small areas for reasons that are currently obscure.

Tables 5.3–5.12 show the figures for the A1 scheme assemblages discussed here by Period, while Table 5.13 summarises the figures using the basic fabric groups. The data show a changing pattern of representation over time, with H1/H4 wares (in practice, all calcite tempered to judge by the shape and size of the voids or vesicles left by the dissolving crystals) reaching a peak in Period 2 but declining swiftly thereafter, being absent from Period 3 contexts, constituting 1.8% of the total in Period 4, and absent again in Period 5. The proportions of the H2 and H3 groups also vary considerably over time but the H3 wares decline rapidly in Period 4 and are absent from Period 5 contexts. This pattern of variation is difficult to explain, particularly given the evidence for significant differences between sites, noted above. It may reflect local variations in the types of clay used by the potters but, to assess this, local sampling of suitable clay sources would be required (cf. Cootes 2012), as it is unclear how great local variations in the type, composition and quality of clays (the result of factors including glacial and fluvial activity) are in the vicinity of the sites. Only once this has been investigated will it be possible to start to distinguish between raw material variability, availability and cultural preferences as the drivers of variation in the representation of the fabrics.

One small group of sherds was of particular note: those tempered with slag derived from high-temperature pyro-technologies. Slag tempering has been noted in other assemblages, notably Dalton Parlours (Buckland *et al*. 1990), Stanwick (Willis 2016b, 229 along with other examples) and the BRP pipeline (Cumberpatch 2018). It seems to have been particularly common at Stanwick, with 17 examples (although these might have been from a single vessel). The practice was investigated specifically for the EAG pipeline after several sherds were identified by assessment (Cumberpatch 2016, 108; Pitman and Doonan 2016, 171–3). Although the conclusions were less specific than initially anticipated, it was 'certain that these inclusions derive from a high temperature process'

Table 5.3: hand-built vessel fabrics from Period 1 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H type	1	0.86	–
H2 Coarse quartz	2	1.7	–
H2 Coarse quartz and rock	1	0.86	–
H2 Coarse rock	20	17.2	–
H2 Fine quartz	3	2.6	–
H2 Fine quartz and rock	1	0.86	–
H2 Fine type	1	0.86	–
H2 Quartz	43	37	–
H2 Quartz and coarse rock	1	0.86	–
H2 Rock	4	3.4	66.3
H3 Fine quartz and vesicles	10	8.6	–
H3 Quartz and vesicles	13	11.2	–
H3 Rock and vesicles	1	0.86	–
H3 type	1	0.86	21.5
H4	14	12.1	12
Total	**116**	**99.82**	**99.8**

Table 5.4: hand-built vessel fabrics from Period 1–2 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentage
H2 Coarse rock	8	7.2	–
H2 Fine quartz	13	11.7	–
H2 Fine quartz and biotite	10	9	–
H2 Fine quartz and rock	2	1.8	–
H2 Quartz	12	10.8	–
H2 Quartz and muscovite	1	0.9	–
H2 Quartz and rock	36	32.4	–
H2 Rock	9	8.1	81.9
H3 Fine quartz and vesicles	8	7.2	–
H3 Quartz and vesicles	7	6.3	13.5
H4	4	3.6	3.6
U/ID	1	0.9	0.9
Total	**111**	**99.9**	**99.9**

Table 5.5: hand-built vessel fabrics from Period 2 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H2 Coarse quartz	2	2	–
H2 Coarse quartz and rock	5	5.1	–
H2 Coarse rock	1	1	–
H2 Fine quartz	15	15.3	–
H2 Fine quartz and rock	4	4	–
H2 Quartz	18	18.3	–
H2 Quartz and rock	15	15.3	–
H2 Quartz and slag	1	1	62.2
H3 Fine quartz and vesicles	12	12.2	–
H3 Quartz and vesicles	4	4	–
H3 Rock and vesicles	1	1	17.3
H4	20	20.4	20.4
Total	**98**	**99.6**	**99.9**

(Pitman and Doonan 2016, 173) and it was deemed probable that this process involved iron metallurgy rather than non-ferrous metallurgy. The sample was, however, a small one and, given the difficulty of identifying slag temper in hand specimens (Cumberpatch 2016, 108), it is clear that further analytical work on suitable sherds from sites across the region is required before it will be possible to investigate the precise relationship between pottery manufacture and metallurgy.

Only one example of slag-tempered ware was identified in the A1 scheme assemblage. This was from fill **32543** of pit **32532** (Field 267a). The sherd was not identifiable to a specific vessel type.

One sherd from fill **33752** of ditch **33754** (Field 229) was tempered with grog (crushed fired clay or ceramic fragments). Like the use of slag, this can be viewed as either the use of a readily available and stable tempering medium or as the incorporation of waste products into a new vessel for symbolic reasons. A second sherd from compacted sand layer **28220** over south-north trackway **28217** and south-west to north-east trackway **28218** (Field 228) may also have been tempered with grog, although there is room for ambiguity in this identification. The use of grog was noted at Stanwick and analysis of comparative data suggested that its use was 'infrequent in this region during later prehistory, in contrast to south-east England' (Willis 2016b, 229).

Vessel types

The typological scheme used here is, like the fabric series discussed above, based on the one developed for the EAG gas pipeline (Cumberpatch 2016) with minor modifications and additional types added after the analysis of other assemblages (Leary and Cumberpatch 2016; Cumberpatch 2018; 2019; n.d.-a). Where relevant, Rigby's types have been cited but the scheme used here as a whole owes more to Willis's (2016, 230–5)

Table 5.6: hand-built vessel fabrics from Period 2–3 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H2 Coarse quartz	10	4.3	–
H2 Coarse quartz and biotite	4	1.7	–
H2 Coarse rock	30	13	–
H2 Fine quartz	24	10.4	–
H2 Fine quartz and rock	3	1.3	–
H2 Quartz	69	30	–
H2 Quartz and biotite	6	2.6	–
H2 Quartz and rock	6	2.6	–
H2 Rock	3	1.3	–
H2 type	1	0.4	67.8
H3 Fine quartz and vesicles	8	3.4	–
H3 Flint and vesicles	3	0.86	–
H3 Quartz and vesicles	2	0.9	5.6
H4	61	26.5	26.5
Total	**230**	**99.26**	**99.9**

Table 5.7: hand-built vessel fabrics from Period 2–4 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H2 Fine quartz	1	5.8	–
H2 Quartz	8	47	–
H2 Quartz and rock	7	41.1	94.1
H3 Quartz and calcite	1	5.8	5.8
Total	**17**	**99.7**	**99.9**

Table 5.8: hand-built vessel fabrics from Period 3 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H2 Fine quartz	3	7.8	–
H2 Fine quartz and rock	2	5.2	–
H2 Quartz	7	18.4	–
H2 Quartz	2	5.2	–
H2 Quartz and biotite	1	2.6	39.4
H3 Quartz and vesicles	23	60.5	60.5
Total	**38**	**99.7**	**99.9**

description of the Stanwick assemblage: although based on a smaller sample of identifiable vessels, it covers some of the same ground.

Willis's discussion of the difficulty of producing a typological scheme for hand-built vessels and the difficulties of applying such a scheme to real assemblages is a useful one. Elements of his scheme (summarised in Willis 2016b, table 11.10 and 11.11) are consistent with Cumberpatch's scheme, although his emphasis on bowls as one of the two principal shapes may owe more to the unusually high proportion of this form at Stanwick than it does to the wider occurrence of this type (discussed in more detail below). Willis has opted for an aggregative approach in which an alpha-numeric system of codes describes the basic vessel form with modifying criteria to define a specific form. Cumberpatch is inclined to a more explicitly qualitative approach, in which major vessel forms are described and deviations are discussed on an individual basis. This was possible only because the large assemblages recovered from infrastructure projects permitted the direct comparison of numerous examples, many of them well preserved and including complete vessel profiles. Given the rather limited range of forms identified in the A1 scheme assemblage (in contrast to the situation in eastern Yorkshire), rather than attempting to devise an all-encompassing concordance

Table 5.9: hand-built vessel fabrics from Period 4 contexts.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H type	4	1.2	1.2
H2 Coarse quartz	13	3.9	–
H2 Coarse rock	10	3	–
H2 Fine quartz	104	31.8	–
H2 Quartz	110	33.6	–
H2 Quartz	2	0.6	–
H2 Quartz and biotite	2	0.6	–
H2 Quartz and red grit	1	0.3	–
H2 Quartz and rock	32	9.7	–
H2 Rock	22	6.7	90.5
H3 Fine quartz and vesicles	1	0.3	–
H3 Quartz and calcite	1	0.3	–
H3 Quartz and vesicles	18	5.5	–
H3 Quartz, rock and vesicles	1	0.3	6.4
H4	6	1.8	1.8
Total	**327**	**99.6**	**99.9**

Table 5.10: hand-built vessel fabrics from Period 4–5 contexts.

Type	Estimated (maximum) number of vessels	% of total
H2 Coarse quartz	3	27.2
H2 Coarse rock	3	27.2
H2 Quartz	2	18.1
H2 Quartz and muscovite	1	9
H2 Rock	2	18.1
Total	**11**	**99.6**

Table 5.11: hand-built vessel fabrics from Period 5 contexts.

Type	Estimated (maximum) number of vessels	% of total
H2 Fine quartz	8	13.7
H2 Quartz	46	79.3
H2 Quartz and biotite	1	1.7
H2 Quartz and rock	2	3.4
H2 Rock	1	1.7
Total	**58**	**99.8**

Table 5.12: hand-built vessel fabrics from Period 5+ contexts.

Type	Estimated (maximum) number of vessels	% of total
H2 Fine quartz	1	25
H2 Fine quartz and rock	2	50
H2 Rock	1	25
Total	**4**	**100**

Table 5.13: hand-built vessel fabrics subdivided by Period.

	Fabric (%)		
Period	H1/H4	H2	H3
1	12	66.3	21.5
1–2	3.6	81.9	13.5
2	20.4	62	17.3
2–3	5.6	67.8	26.5
2–4	–	94.1	5.8
3	–	39.4	60.5
4	1.8	91.7	6.4
4–5	–	99.6	–
5	–	99.8	–

linking Willis's scheme with that employed here, examples from Stanwick are referred to in the relevant sections below. The diversity of vessel forms in the A1 scheme assemblage is summarised in Table 5.14.

Barrel jar (BJ)

Only one example of a barrel jar was identified amongst the material considered in this report. This came from fill **25547** of gully **25546** in Structure 60ii (Period Middle Iron Age-1) and was made from a coarse, rock-tempered fabric, similar to that used for two of the bowls discussed below.

Barrel jars have a history stretching back to the Bronze Age and although Rigby (2004) dates their occurrence in East Yorkshire to the period 900–400BC, their widespread occurrence on later sites suggests that the type continued in use through the Late Pre-Roman Iron Age and into the Late Roman period. Didsbury (n.d.-b, 25) has noted that 'the form is of little diagnostic value, being widespread in Iron Age regional assemblages, particularly from the third century BC' while Challis and Harding (1975, 74) also saw the type as having a much longer lifespan than that suggested by Rigby.

Barrel jars were a common form on the EAG pipeline sites, and examples were recovered from contexts that spanned the later Iron Age and the Roman periods, with examples from Burton Constable associated with pottery of 4th-century AD date (Cumberpatch 2016, 135–41). At Westermost Rough, barrel jars formed only a small proportion of the total, but the majority were associated with wheel-thrown pottery of 2nd century AD date and later (Leary and Cumberpatch 2016). Barrel jars were also amongst the types identified at Stanwick, with examples first appearing in period 3 (Willis 2016b, 212–13, fig. 11.3, nos 8 and 9; see also Wheeler 1954, 29), and showed a degree of variation in terms of the degree of inturn and thickening on the rim.

Bowls

Three possible bowls were identified amongst the assemblage, all from Field 246 (fill **24921** of penannular ditch **16452**, fill **31082** of penannular gully **24772** and fill **24082** of ditch **15866**). They are considered here with

Table 5.14: summary of hand-built vessel forms.

Type	Estimated (maximum) number of vessels
Barrel jar	1
Bowl?	3
Bowl/Open jar	1
Everted-rim globular jar type	2
Everted-rim jar	9
Everted-rim jar type	1
Everted-rim jar?	2
Everted-rim open jar	1
Everted/Funnel-rim jar	1
Flat-rim open jar	1
Funnel-rim jar	3
Funnel-rim jar type	1
Hollow ware	913
Inturned-rim bowl?	1
Jar	5
Large jar	10
Lid-seated rim jar	1
Open jar	6
Open jar type	2
Open jar type?	7
Open jar?	7
Pedestal jar	1
Small jar	2
Triangular-rim jar type	6
U/ID	94
Vertical-rim globular jar	5
Vertical-rim globular jar type	1
Vertical-rim jar	4
Vertical-rim jar coarse-short	1
Vertical-rim jar narrow-bodied	2
Vertical-rim jar type	5
Vertical-rim jar type?	2
Vertical-rim jar?	1
Vertical-rim open jar	1
Wedge-rim globular jar	1
Wedge-rim jar	1
Wedge-rim jar type	2
Total	**1107**

a further example, which may have been the rim of an open jar (from fill **24311** of ditch **15884**). One of these was particularly distinctive and included a prominent internal flange (Cat. no. 13). This is shown in Figure 5.1.

Didsbury (n.d.-b, 24) has noted that bowls are a rare form in Iron Age assemblages from eastern Yorkshire and do not appear to have been a significant part of the local hand-built pottery tradition. It is notable that Rigby (2004) does not include any bowl forms in her general typology, although in her account of the coarsewares from Rudston Roman villa she refers to hand-built bowls in both Fabric 1 (=H2) and Fabric 2 (=H1/H4) in addition to wheel-thrown examples (Rigby 1980, fig. 28, no. 16, fig. 30, no. 29, fig. 34, no. 82 and fig. 52, no. 302). In contrast, Willis (2016a, 230–3) has suggested that the form is one of the two basic sub-divisions that can be seen in the hand-built pottery from Stanwick (see also Wheeler 1954, fig. 12, nos 28 and 31). It is unclear how far the small Stanwick assemblage is typical of the wider region and to what extent Stanwick differs from other types of site, notably the rural sites to the east and south that are the basis of Didsbury and Cumberpatch's work, which produced much larger assemblages of hand-built pottery. There is also the issue of the classification of rim sherds that lack a substantial part of the body, and in which the subjective preferences of the author may play a significant role in determining which category a sherd may belong to.

The examples from the assemblage currently under consideration all suggest that the adoption of this type of vessel in a hand-built form is one of the few examples of the local potters adopting an alien vessel type (see also Gerrard 2012, 78 and 80, fig. 53), perhaps in response to a change in diet or method of serving food (Meadows 1997).

Everted-rim jars (ERJ and ERJ type)

With the exception of the amorphous 'large jar' category (see below), everted-rim jars (ERJ) were the most common single type identified in the A1 scheme assemblage (nine examples; Table 5.14) and examples from the features considered here are discussed in context below.

The diversity within the ERJ category renders it difficult to use as a chronological marker and, while it is possible that a more rigorous, statistical approach to the typology might yield information pertaining to change over time, it is far from clear that this will be the case, given the minor variations in form that are inevitable with hand-built pottery. The cases noted below indicate no clear date range for the type, which appears to span the later prehistoric and Roman periods generally.

In general terms, parallels were noted for the type amongst Rigby's (2004, 38–41, figs 6 and 7) pear-shaped jar, chamfered jar, necked jar and necked storage jar forms and there may also be some overlap with her shapeless jar group. Other assemblages also reflect the degree of variety in this type, including High Wold, Bridlington (Didsbury 2009a, fig. 22, no. 7, fig. 23, no. 30 and fig. 24, no. 50), Atwick (Challis and Harding 1975, fig. 29, nos 2 and 4), South Cave (Challis and Harding 1975, figure 36, no. 7), Driffield Aerodrome (Challis and Harding 1975, fig. 38, no. 1), Faxfleet 'A' (Challis and Harding 1975, fig. 39, nos 1–2), Sewerby Cottage, Bridlington (Didsbury 2009b, fig. 176, nos 2–3 and 14 and fig. 177, nos 37–38), Melton (Didsbury and Vince 2011, fig. 131, nos 1–2, fig. 132, no. 6 and fig. 135, nos 1, 6, and 14–17), Wharram Percy (Didsbury 2004, fig. 102, nos 23 and 43, fig. 103, no. 50 and fig. 104, no. 92–3 and 100) and the A1 Dishforth to Barton road-widening scheme (Cumberpatch n.d.-b). The type was widespread on sites excavated for the EAG gas pipeline, which included Old Ellerby, Burton Constable, Brandywell, Nuttles, Lelley, New York, Braemere Hill, Patrington, Bluegate Corner, Scorborough Hill and Gilcross (Cumberpatch 2016, 110–1). It was also common at Westermost Rough, where examples were noted in H2, H3 and H4 fabrics (Leary and Cumberpatch 2016, fig. 22, nos 14a–c).

At Stanwick, everted-rim jars appear to have formed a substantial proportion of the total assemblage and the descriptions of the variation within the class recall the degree of variation seen across the wider region within this broad type (Willis 2016b, table 11.11; see also Wheeler 1954, fig. 12, nos 17–18, 21 and 24). The same is true of Thorpe Thewles, where one of Swain's (1987, 57, fig. 44, no. 113, fig. 45, nos 26, 36 and 39) three basic vessel form categories was that of the 'everted rim'. The form was also represented at Faverdale (Gerrard 2012, fig. 52, nos 3, 6–7 and 9) but was rare at Pegswood Moor, where the majority of vessels seem to have been barrel-shaped or vertical rim types (Willis 2009a, figs 30 and 31).

Everted-rim open jar (EROJ)

Only one example of this type was identified in the A1 scheme assemblage (buried soil horizon **32402**, Field 267a) which, perhaps significantly, came from a feature in Period 2–3.

Although everted-rim open jars do not seem to be a common form they did occur regularly in the EAG excavations (Cumberpatch 2016, 115). The single example from Old Ellerby was from a context forming part of a structure dated to the Late Pre-Roman Iron Age or Early Roman period. At Burton Constable, they were most common in contexts associated with the Late Pre-Roman Iron Age settlement. Examples were also recovered of a later feature although they were absent from other Roman-period features.

In general terms, the EROJ type may be similar to Rigby's 'shapeless jar' category, although this is a broad group and the apparent lack of care in manufacture noted by Rigby (2004, 38) was not a general characteristic of the EROJ type as defined here.

Two EROJ rims were identified in the assemblage from Brandywell, with one example from Structure 1 dated by the wheel-thrown pottery to the period between the mid-1st and mid-2nd centuries and the other from the mid-/late 1st century to early/mid-2nd century. At Nuttles, the type was limited in its occurrence to contexts associated with the Late Iron Age settlement with a radiocarbon date between 348 and 50 cal BC. The site at Lelley produced two examples, one from a structure and the other from a pit dated by the associated wheel-thrown pottery to the late 1st to 2nd century AD. Further examples were found at New York and Braemere Hill, while the excavation at Burstwick produced two examples, both from a pit that appeared to pre-date the appearance of wheel-thrown pottery. The same was true of the Hull Road site, but sherds were associated with Early Roman pottery at Scorborough Hill. One example with rather thick walls and a small everted rim is illustrated by Gerrard (2012, fig. 52, no. 17) from Faverdale, although examples from Stanwick seem to have more rounded bodies, putting them in the ERJ class.

Everted rim globular jar (ERGJ)

Two ERGJ examples were identified, from fill **24728** of penannular gully **24727** (Period 1–2) and oven or kiln **28256** (Period 4).

Parallels for the ERGJ group are not numerous but include examples from the Reighton by-pass (Cumberpatch 2007, fig. 23, no. 61) and East Field (Rigby 2004, fig. 26, no. 1), as well as two sites on the EAG pipeline, Lelley and Patrington (Cumberpatch 2016, 118). Rigby dates the form to between c.100BC and c.AD100, and the dating of the examples from Lelley and Patrington does not wholly contradict this, although that from Patrington came from an ambiguous context containing late 1st- to 2nd-century AD pottery that was radiocarbon dated to 380–190 cal BC. Examples were also identified at Westermost Rough (Leary and Cumberpatch 2014, figs 15–17) and were considered to be of Early Roman date.

Flat-rim open jar (FROJ)

Fill **24699** of penannular gully **16417** (Period 1, Structure 46, Field 246,) produced a hitherto unknown type of vessel, termed a flat-rim open jar (Cat. no. 2). This resembled a clubbed-rim open jar (Cumberpatch 2016, 115), a rare form but one that seems to date to the 1st to 2nd century AD, at least in Holderness, and may be similar to the flat-rim jar (Cumberpatch 2016, 111; Leary and Cumberpatch 2016, 47), also a late form (1st century AD to 3rd century AD). The example discussed here may be slightly earlier, given its presence in a Period 1 context.

The vessel, shown in Figure 5.1, Cat. no. 2, had a flattened rim with internal and external flanges and, despite its parallels with smaller, finer vessels, had a rather coarse fabric with prominent angular quartz grains up to 7mm in size and very clear coil-line fractures.

Funnel-rim jar (FRJ)

Two FRJ examples were identified (fill **15523** of ditch **15643** and fill **24083** of ditch **15869**, both in Field 246). A further probable example (Cat. no. 1) came from fill **11053** of C-shaped gully **11051** (Structure 4, Field 220), with an ambiguous example from fill **30074** of ditch **30070** (Field 223). All were from later Periods and the number was rather low in comparison to other sites.

Funnel-rim jars (FRJ) are amongst the most distinctive type of hand-built vessel from eastern Yorkshire. Parallels for them are numerous and the form seems to have been both a popular and a long-lived one, both factors which may account for the high degree of diversity in the rim shape and vessel size. Examples have been published from Pale End, Levisham Moor A and Levisham Moor D (Challis and Harding 1975, fig. 46, nos 1 and 4, fig. 49, no. 2 and fig. 50, no. 11). The form resembles three of Rigby's types; the flared-rim shouldered jar (Rigby 2004, 39, fig. 6), the deep-flared shouldered jar (*ibid.*, fig. 7) and possibly the necked jar (*ibid.*, 40, fig. 7). Didsbury has published examples similar to the type defined here from High Wold, Bridlington (with a distinctive internal flange on the lip) and Sewerby Cottage (Didsbury 2009a, fig. 23, no. 23; 2009b, fig. 177, nos 30 [H4] and 36 [H2]). At Shiptonthorpe, the degree of variation was specifically noted (Evans 2006), while similar vessels are referred to from Hawling Road, Market Weighton (Evans and Creighton 1999, fig. 7.17, nos G28–J01 and fig. 7.18, nos G60–J03).

Funnel-rim jars were identified on many of the EAG sites (e.g. Old Ellerby, Burton Constable, Brandywell, Nuttles, Lelley, Burstwick, Bluegate Corner, Scorborough Hill and Gilcross). The largest numbers came from Old Ellerby and Burton Constable where the type was identified in contexts that spanned the Late Iron Age to the later Roman period (Cumberpatch 2016, 116–17).

Lid-seated-rim jar (LSJ)

The single example of a lid-seated jar (Cat. no. 7) in the assemblage came from fill **30074** of ditch **30070** (Period 2–3, Field 223) and is shown in Figure 5.1.

Regarding the date range of these vessels, an earlier Pre-Roman Iron Age date has been suggested by Didsbury (2011, 196), although there seems to be evidence that the form was somewhat longer-lived elsewhere (Didsbury n.d.-b, 27).

Examples of vessels with lid-seated rims include those from Rudston Roman villa (Rigby 1980, fig. 27, no. 1), Melton (Didsbury and Vince 2011, fig. 137, nos 6–7) and Creyke Beck (Didsbury n.d.-b; 27, fig. 20, no. 34, fig. 22, no. 73, fig. 23, nos 76 and 86).

Sherds from dated contexts amongst the EAG sites were limited to the examples from Burton Constable and Scorborough Hill (Cumberpatch 2016, 119–20, fig. 95, nos 74–5 and fig. 98, no. 154). The example from Burton Constable was from a context with a radiocarbon date of between 54 cal BC and cal AD71, while that from Scorborough Hill was from a pit fill dated to the 1st century AD. In both cases, the assemblages included residual material, so some caution is needed in using them as dated parallels.

Willis has published three examples from Stanwick (2016, fig. 11.4, nos 20–2), citing parallels with Thorpe Thewles (2016, 215) where they form one of Swain's (1987, 57) three basic vessel types. Examples are also known from Faverdale (Gerrard 2012, fig. 52, nos 20–21), although not from Pegswood Moor (Willis 2009a).

It is notable that ceramic lids are extremely rare, although one example was identified at Out Newton Road (Cumberpatch 2016, fig. 99, no. 171) and a second was tentatively identified amongst the material from Westermost Rough (Leary and Cumberpatch 2016, fig. 24, no. 42). Two examples from Faverdale have been illustrated by Gerrard (2012, fig. 53, nos 1–2), where the author suggests that they are a Roman-period innovation. The scarcity of lids (which, being relatively thick and robust, ought to survive well) might imply that wooden lids were more commonly used to seal lid-seated jars.

Open jar (OJ)

Open jar and open jar type vessels were very well represented, with six definite examples and 16 possible examples (as detailed in the data tables and discussed in context below). The number of variants and OJ-type vessels demonstrates something of the high degree of variability in this most basic of vessel forms and suggests something about its ubiquity and wide range of functionality.

Parallels for the open jar form are widespread in both space and time. Examples include Danes Graves and Garton Slack (Challis and Harding 1975, fig. 31, no. 2 and fig. 33, no. 11 respectively). While they seem to encompass Rigby's (2004, 38) thick-walled, wide-mouthed shapeless jar category, the proposed early date range (900–600BC) for this form is not consistent with the evidence from other sites where the form occurs much more widely. Examples include Creyke Beck (Didsbury n.d.-b, fig. 26, no. 150), High Wold, Bridlington (Didsbury 2009a, fig. 22, no. 2), and Melton (Didsbury and Vince 2011, fig. 136, no. 1). Open jars, while never common, occurred regularly on the EAG sites, notably at Old Ellerby, Burton Constable, Nuttles, New York, Braemere Hill, Burstwick, Patrington, Bluegate Corner, Scorborough Hill, Hull Road and Dimlington. The evidence from these sites suggested that the open jars were common from at least the 2nd century BC to the Late Roman period, with an earlier radiocarbon date from Hull Road suggesting a date range of c.410–200 cal BC. In common with many of the hand-built vessel forms, there seems little doubt that it originated in the Iron Age and continued in production into the Late Roman period with very little change in shape or fabric (Cumberpatch 2016, 114–15).

The Spellowgate to Kilham (SKP) pipeline excavations also produced a substantial number of open vessels. The date range, as indicated by wheel-thrown pottery, was wide, spanning the late 1st century to the late 3rd century AD, and in one case possibly as late as the mid-4th century AD (Cumberpatch n.d.-a). It is of note that one example (pit 804, context 806) was deemed to be of Anglo-Saxon date (5th–8th century AD), although the fabric and form were barely distinguishable from earlier vessels. Only the characteristic pattern of linear or faceted burnishing on the external surface marked it out as different; late prehistoric and Roman-period vessels tend to have finer and more evenly burnished surfaces than the post-Roman examples.

Triangular-rim jar (TriRJ)

The six examples from the A1 scheme excavation, noted in the Period 2–3 discussion below, are somewhat misleading; eight sherds were identified as part of a rim from fill **30337** of pit **30336** (Field 223; Cat. no. 8) but only two joined, giving an ENV figure of six. However, it is likely that all were part of a single vessel. The presence of these sherds in Period 2–3 is broadly consistent with the evidence from elsewhere.

A possible parallel exists in Wheeler's material from Stanwick (1954, fig. 12, no. 22) with further examples included by Willis (2016b, fig. 11.1, no. 2 and fig. 11.5, no. 31), although the form does not seem to have been a common one.

The date range of the triangular-rim jar form appears to be broad, spanning the later prehistoric and Late Roman periods, with examples from Old Ellerby dated to 180–1 cal BC based on radiocarbon dates. Other examples were recovered from ditches with evidence of 3rd- and 4th-century AD activity. A similarly broad date range was seen at Burton Constable.

Three triangular-rim jars were identified from the East Coast Pipeline (ECP) and SKP excavations and in two cases were associated with wheel-thrown pottery of Romano-British type.

Vertical-rim jar (VRJ)

Sixteen examples of VRJs and variants thereof were identified, with a further six smaller, finer vertical-rim globular jars. The individual examples are discussed in context below and the principal variants are considered in more detail in the following sections.

The vertical-rim jar category is an extremely broad one and encompasses a range of diverse groups of vessel types, from large utilitarian forms to much smaller finely made and finished types. These often have burnished surfaces and might constitute something approaching a 'fine ware' category, as seen in the vertical-rim shouldered jar (VRSJ) and vertical-rim globular jar (VRGJ) described elsewhere (Cumberpatch 2016; n.d.-a).

On the EAG sites, the majority of the plain VRJ types were associated with ring ditches and Late Iron Age and Early Roman features, although some also occurred in later contexts (Cumberpatch 2016, 111–14). At Old Ellerby, for example, the type was commonest in the contexts associated with Iron Age ring ditches but was also present in the ditches and pits associated with 3rd- and 4th-century AD activity.

Vertical-rim jars were rare at New York, Braemere Hill and Churchlands although where present they were found in features of Late Iron Age or Early Roman date. At Bluegate Corner, four examples in a H4 fabric were recovered from ditches and pits dated to the 2nd to 3rd centuries AD.

The plain VRJs from Westermost Rough showed the expected degree of variation around the norm and tended, in contrast to similar vessels from the EAG sites, to have fine-textured bodies and smoothed external surfaces. All the fabrics were of H2 type with some variation in texture, although fine sandy fabrics were the commonest type. The vessels were associated most with phase 1 (Iron Age) and phase 3 contexts where they were found in association with wheel-thrown wares of late 1st- and 2nd-century AD date (Leary and Cumberpatch 2016).

The ECP assemblages from East Yorkshire produced a substantial group of vertical-rim jars totalling 28 vessels (ENV). As with the everted-rim jars, funnel-rim jars and open jars, these showed a wide range of variation in the fabrics, with H1 Calcite, H4, H2 Fine Quartz and other H2 types all well-represented. A radiocarbon date of 320–200 cal BC indicated an Iron Age origin for the type, consistent with the evidence from elsewhere, while associations with wheel-thrown pottery suggested that the form continued into the early 3rd century AD (Cumberpatch n.d.-a).

Vertical-rim open jar (VROJ)

A single VROJ example came from fill **32499** of ditch **32498** (Period 2, Field 267a) and is broadly consistent in terms of date with the examples from Burton Constable and Faverdale.

Vertical-rim open jars are a rare type, and form something of an ambiguous category between a shoulderless VRJ and the open jar type described above. The distinguishing characteristic is a very narrow shoulder and body with a slightly narrower tall vertical rim, usually with a rounded lip. The form may be related to the narrow-bodied vertical-rim jar described below.

Few parallels have been found for this form. They include Kilnsea (Challis and Harding 1975, fig. 21, no. 6), Emmotland (*ibid*., fig. 31, no. 6) and Melton (Didsbury and Vince 2011, fig. 134, no. 1). Amongst the EAG sites, the form was identified only at Burton Constable (Cumberpatch 2016, 113) and several examples were recovered from unstratified or non-phased contexts, where they were associated with Romano-British wheel-thrown pottery. This would seem to imply that the type is one of those that date to the Late Pre-Roman Iron Age or Early Roman period, but it would be hazardous to draw definite conclusions from such a sporadic distribution. An example from Faverdale (Gerrard 2012, fig. 52, no. 17), however, appears to date to the 1st century AD, which might support the tentative dating from sites to the south.

Vertical-rim jar: narrow body (VRJ-NB)

Two examples of VRJ-NB were identified, one from buried soil layer **31796** beneath RR6 (Period 1, Field 265) and the other from fill **30586** of ditch **30585** (Period 2, Field 223). These date ranges are broadly consistent with that suggested by the occurrence of the type on the EAG sites (see below).

Parallels for this form include examples from Emmotland (Challis and Harding 1975, fig. 31, no. 6), Creyke Beck (Didsbury n.d.-b, fig. 27, no. 155) and Melton (Didsbury and Vince 2011, fig. 131, nos 3 and 9). One example was also identified in the BRP water pipeline assemblage. This was a large, thick-walled vessel in a quartz-tempered fabric with large angular rock fragments. On the EAG pipeline, examples were identified at Burton Constable, Lelley, New York, Scorborough Hill, Gilcross and Out Newton Road (Cumberpatch 2016, 113).

The VRJ-NB form was not common, although examples were present in all the major features at Out Newton Road, spanning the Late Iron Age and Early Roman periods (up to the 2nd century AD; Cumberpatch 2016, 113). A slightly earlier date range is suggested by the occurrence of examples on the other EAG sites listed above.

The data from Westermost Rough tends to support the dating from the EAG pipeline, with examples from contexts dating to the mid-1st century AD and a smaller number from later, 2nd-century AD contexts, the latter consistent with the evidence from Out Newton Road.

The SKP sites included two examples of the VRJ-NB, both from pits. These were associated with wheel-thrown pottery dating to the mid-2nd to mid-3rd and 3rd to 4th century AD respectively. Unless these examples can be shown to be residual, this would seem to extend the date range of the type considerably and to suggest that it was in use throughout the Roman period, as well as during the Late Iron Age.

In contrast to the sites discussed above, examples of this form were relatively common on the Humber Gateway sites (given the much smaller size of the assemblage in contrast to those mentioned above). The form was well represented at Welwick Drain and Easington and several examples showed signs of shallow vertical scoring on the external surface, although others were smoothed and burnished. One example was decorated with finger impressions on top of the vertical rim (Cumberpatch 2019).

Vertical-rim jar: coarse short (VRJ-CS)

Only one example was identified, from the subsoil (**16272**) in Field 246, and as such was effectively unstratified. The presence of the sherd is not, however, incompatible with the general date range of the features considered here.

Parallels for the VRJ-CS sub-type are numerous and include Eastburn (Challis and Harding 1975, fig. 31, no. 7), Driffield Aerodrome (*ibid*., fig. 38, no. 2), possibly Saltshouse School (*ibid*., fig. 41, no. 3), Creyke Beck (Didsbury n.d.-b, fig. 19, nos 10 and 15, fig. 20, no. 26, 35 and 139, fig. 21, no. 49, fig. 22, no. 65, fig. 24, nos 103 and 105–6, fig. 25, no. 116 and fig. 26, no. 139), Melton (Didsbury and Vince 2011, fig. 137, no. 4), Reighton by-pass (Cumberpatch 2007, fig. 23, nos 15, 56 and 58) and Hawling Road (Evans and Creighton 1999, fig. 7.16, nos G01–J24). Examples are also known from High Wold, Bridlington (Didsbury 2009b, fig. 23, nos 28–9 and fig. 24, no. 39; the latter is in an H4 fabric).

Examples from the EAG sites included Old Ellerby, Burton Constable, Brandywell, Nuttles, Lelley, New York, Burstwick, Patrington, Scorborough Hill, Gilcross and Out Newton Road (Cumberpatch 2016, 112). The form appears to be limited largely to Late Iron Age and Early Roman (1st to early 2nd century AD) contexts except in the case of Old Ellerby and Burton Constable, where examples came from ditches and gullies dated to the 3rd and 4th centuries AD. As elsewhere, changes in land use and the absence of domestic buildings dated to the Roman period, at least on the sites excavated, may have played a part in structuring this distribution pattern.

Vertical-rim globular jar (VRGJ)

Vertical-rim globular jars were represented by at least three examples, all from Period 4 contexts (Cat. no. 14: midden deposit **31709**; Structure 39; in Field 265; Cat no. 15: fill **16192** of ditch **16183** in Field 246; and fill **28255** of oven/kiln/corn drier **28256** in Field 228). This implies a date range consistent with the later examples cited below. Given that the form is amongst the smaller and finer vessels, its presence in a later context would seem to indicate the continued manufacture of finer vessels in the local pottery tradition, even while Roman and Romano-British tablewares and fine wares were presumably widely available.

The VRGJ type is not common, although Creyke Beck appears to have produced several examples (Didsbury n.d.-b, fig. 19, no. 11, fig. 24, nos 103 and 111 and possibly fig. 23, no. 93), while another possible example comes from Melton (Didsbury and Vince 2011, fig. 135, no. 12). Examples were also identified from High Wold, Bridlington (Didsbury 2009b, fig. 22, no. 10 and fig. 23, nos 26 and 29). Numbers were low on the EAG pipeline, but examples were identified at Old Ellerby, Burton Constable, Brandywell, Nuttles and Lelley. Amongst the latter, several examples were associated with dated features, which suggested a date range from the 3rd century BC to the mid- to late 1st century AD (Cumberpatch 2016, 114). At Westermost Rough, examples were concentrated in just three contexts. Two of these were of Pre-Roman Iron Age date, while the third was dated to the mid-2nd century AD or later (Leary and Cumberpatch 2016, 53, fig. 25, no. 55).

The SKP included two examples, one of which was associated with a mixed group of wheel-thrown pottery dating to the 1st and/or 2nd century AD and the 3rd century AD. The first, earlier, vessel had a fine H1 calcite body, although the type is more commonly found in fine H2 fabrics. The second example was associated with wheel-thrown pottery dating to the mid-3rd century AD and had a more conventional quartz-tempered fabric. These results would tend to suggest that the type had a longer life that hitherto assumed and, like many other hand-built vessel forms, continued to be used throughout the Roman period.

Wedge-rim jar (WRJ) and wedge-rim globular jar (WRGJ)

Three examples of wedge-rim jars were recovered from fills **16412** and **16411** of trench **16410** in Period 2, and isolated patch of buried soil **16274** in Period 3 (Cat. no. 10), all of which were in Field 246. The only example of a wedge-rim globular jar was from subsoil **33725**.

Two jars of similar shape but different sizes from Wharram Percy were of the WRJ form (Didsbury 2004, fig. 105, nos 106–7), while other examples have been published from South Cave (Challis and Harding 1975, fig. 36, no. 2). Of the EAG sites, Old Ellerby, Burton Constable, Lelley and Bluegate Corner all produced examples, although in limited numbers. In the case of Old Ellerby, both examples were from structures dated to the Late Iron Age and Early Romano-British periods with one being radiocarbon dated to between 180–1 cal BC. The assemblage from Burton Constable produced a larger number of vessels, including examples in the vesicular H4 fabric. Most of these were from Late Iron Age and Early Roman features. The only example from a Late Roman context was an H4 rim from a ditch (Cumberpatch 2016, 115–16).

Lelley and Bluegate Corner both produced two examples of the type in H2 and H4 fabrics. The latest examples were from Lelley, where they were associated with wheel-thrown pottery dating to the late 1st to early 2nd century AD. Other examples were from poorly dated features. At Westermost Rough, the type occurred in features from the first three phases of activity (Late Iron Age to mid-2nd century AD), although it should be noted that all of the examples attributed to the earliest phase came from a single feature with an anomalously early radiocarbon date of 900–836 cal BC (Leary and Cumberpatch 2016, fig. 25, nos 56–7). The sherds from later features were associated with wheel-thrown pottery of mid- to late 1st- and 2nd-century AD date.

The wedge-rim globular jar class subsumes Rigby's (2004, fig. 7) bead-rim and wedge-rim globular jars, as the distinction between the two is not clear. Published parallels for the type include Rigby's (*ibid.*, fig. 7 and fig. 26, nos 3 and 5) wedge-rim globular jar form, which she dates to between 100BC and 100AD, and the bead-rim globular jar form with a similar date range.

Rigby's dating of the form is, in part at least, consistent with the evidence from Old Ellerby where WRGJs were associated with Late Iron Age and Early Roman ring gullies and where the form was notable by its absence amongst the large and well-dated 3rd- and 4th-century AD features. A similar pattern, although involving fewer vessels was observed at Burton Constable although here one example was also recovered from a later ditch. A similarly late occurrence was noted at Bluegate Corner. On other sites the type was associated with 1st- to 2nd-century AD features (Lelley, Scorborough Hill, New York and Gilcross).

At Westermost Rough, examples of the type were present in contexts belonging to the first three phases of activity, with phase 1 (Late Iron Age) and 3 (early to mid-2nd century AD), producing the largest number of examples (Leary and Cumberpatch 2016, fig. 25, nos 58–60). The date range of the sherds from the later phases (as indicated by the wheel-thrown pottery) was broadly consistent with the data from the EAG pipeline.

Other jars

In some cases, vessels have been identified in the data tables as 'large jar' or 'small jar'. These were identified based on the curvature of the body sherds or the size of the bases and are indicative only of vessels that deviated noticeably from the normal medium-sized vessels. In general, large jars were rather less common than on some rural sites, such as those investigated by the EAG pipeline project. How far this relates to the storage of grain or other agricultural produce is unclear and is something that might be followed up on a regional basis when considering the structure and organisation of the wider society as reflected in the role and function of different types of sites.

Fill **24728** of penannular gully **24727** (Structure 48iv; Field 246) contained a very distinctive base from a pedestal-based jar (Cat. no. 3). This had a fine finish but was finely pitted all over, the result of an unknown form of abrasion. The classification of the bases proposed elsewhere (Cumberpatch 2016, 120–1) followed the typology set out by Knight (1998), with flat bases distinguished from solid pedestal bases and both from ring-foot or hollow pedestal bases, the latter being the type in question here. The flat and solid pedestal bases were both relatively simple forms, but the ring foot and hollow pedestal bases imply rather more effort in the manufacture and finishing and belonged to the smaller, finer types of vessel rather than the larger jars (Cumberpatch 2016, fig. 95, no. 79 and fig. 98, no. 138). There would seem to be no functional or practical reason why the bases required a ring foot, and it seems probable that these were the equivalent of tablewares rather than storage jars or cooking vessels.

Parallels for the ring foot or hollow pedestal bases and splayed or pedestal bases appear to be rare in eastern Yorkshire. Rigby (2004, figs 5–7) omits them entirely from her classification and they are also absent from Challis and Harding's (1975) catalogue. Two examples were found at Patrington in a ditch that appears to have pre-dated the Roman conquest of the area, and which contained a variety of Late Pre-Roman Iron Age wares, including decorated examples (Cumberpatch 2016, 156–7, fig. 98, no. 138).

One example was identified at Stanwick by Wheeler (1954, 44, fig. 13, no. 39), who commented that 'the footstand is well made and altogether the potting is of a somewhat higher order than is normal on the site', perhaps an implicit acknowledgement of the existence of a late group of smaller, finer vessels referred to elsewhere in this section. Parallels are also known from Lincolnshire, specifically from Dragonby (May 1996, fig. 19.27, nos 141 and 157, fig. 19.35, no. 293, fig. 19.39, no. 351, fig. 19.43, no. 423 and fig. 19.62, nos 763 and 770–2), although it should be emphasised that there is no similarity in the fabrics and the North Yorkshire examples are not imports from Lincolnshire.

Decoration and surface treatment

Decoration is generally rare on hand-built vessels and, while examples of curvilinear patterns created with compasses are known from Holderness (Cumberpatch 2016, 124–5), most motifs are limited to incised lines and finger impressed vessel rims and necks. This was the case amongst the assemblage considered here and individual designs have been noted in the data tables.

Surface treatments included smoothing, which was common, and burnishing, which was considerably rarer and seems to have been limited to smaller vessels made from fine clay (typically H2 Fine Quartz) and fired to a consistent black colour. In many of the cases considered here, abrasion, pitting and mechanical weathering have severely damaged the surfaces, making it difficult to determine how far the vessels had been smoothed or burnished. The smoothing of surfaces should probably not be considered a decorative technique in the strict sense of the term and was probably a routine matter intended for primarily practical purposes.

Incised or impressed lines were amongst the most common types of decoration and were noted on sherds from Field 258 (two vessel shoulders from fill **15350** of pit **15349**), Field 265 (one ERJ rim and a body sherd from fill **31758** of gully **31757**), Field 246 (an open jar rim from fill **15635** of ditch **15643**) and Field 223 (fill **30103** of ditch **30056**). All but the last were limited to single lines, the exception being a diamond grid pattern on a body sherd.

Finger impressed rims were noted in fill **24708** of pit **24707** and subsoil **16272** (both open jar rims), fill **24868** of ditch **24867** (inturned-rim bowl) and fill **30074** of ditch **30070** (lid-seated jar rim). Fill **30074** contained a finely finished footed base with internal finger impressions.

While the patterns described above have numerous regional parallels, one group of sherds appeared to be both unusual and distinctive. These bore rusticated decoration formed of small applied pellets or scales in a manner more commonly seen on wheel-thrown wares than on hand-built types. It is possible that this technique was adopted from Romano-British wares and, if so, would be one of the few cases in which a degree of interaction between potters working in the two traditions can be suggested with some confidence. Other examples include the adoption of shallow bowls by potters working in the indigenous tradition and loop or lug-handled jars appearing in a wheel-thrown form. Examples of rusticated decoration (some of the heavily abraded) were noted in fill **31758** of gully **29969**, fill **16399** of curving gully **16398**, fill **15540** of pit **15539**, fill **24216** of ditch **15869** and possibly from fill **24757** of gully **24756**. Parallels from elsewhere include Thorpe Thewles (Swain 1987, fig. 47, no. 224).

Other decorative motifs were represented by single examples, both on vertical-rim globular jars. The example from fill **16192** of ditch **16183** (Cat. no. 15) had a burnished surface and a double line of stabbed holes on the shoulder (Fig. 5.1), while the example from fill **28255** of oven/kiln/corn drier **28256** had curved slashes on the inside of the rim.

Pot discs

Only one possible pot disc was identified from subsoil **15001** in Field 258. Although uncommon, pot discs are usually present in small numbers. However, given that their function is unclear and the rationale for making them from broken pots (rather than as objects in their own right) is obscure, it is difficult to draw any conclusions from their distribution, density, presence or absence (Cumberpatch in prep.).

Unidentified fragments

There were 17 fragments of fired ceramic that were too small and/or heavily abraded to enable identification of vessel form; however, the fabric indicates that they are likely to be derived from hand-built vessels. The find spots and fabrics are summarised in Table 5.15.

Chronology of hand-built vessels

Middle Iron Age–Period 1

Two contexts attributed to the Middle Iron Age–Period 1 (Table 5.16) contained hand-built pottery; fill **25547** of penannular gully **25546** (Structure 60ii) and fill **25540** of gully **25539**. The first produced the rim of a barrel jar in a coarse rock-tempered fabric. Barrel jars are amongst the most enduring of the hand-built vessel forms and appear to originate in the Early Iron Age and persisted into the 4th century AD. This effectively precludes their use as a means of calibrating stratigraphic assemblages, although it is highly characteristic of the conservative nature of pottery production in the region. The second context contained a small, heavily abraded flake in a fine quartz-tempered fabric.

Period 1

Contexts assigned to Period 1 produced an assemblage of hand-built pottery consisting of 134 sherds, weighing a total of 1097g and representing a maximum of 117 vessels. The data are summarised in Table 5.17. Several contexts also produced medieval and later pottery, which is discussed in Appendix D.

The assemblage was dominated by sherds in H2 fabrics (Table 5.3), with H2 Coarse Rock and H2 Quartz being the most common types (66.3%), although H3 and H4 fabrics were well represented (21.5% and 12% respectively). The absence of calcite-tempered sherds (either as H1 Calcite or H3 Calcite and Quartz and/or Rock) and the prevalence of H4 and H3 vesicular fabrics would seem to indicate the presence of acidic ground water and possibly waterlogged contexts, something that is also found in later Periods, as outlined below.

Identifiable vessel forms included open jars (fill **30451** of ditch **30434** in Field 223 and probably from fill **30482** of penannular gully **30297** of Structure 6), vertical-rim jars (fill **27879** of pit **27878** and probably **16359**) and a narrow-bodied variant (buried soil layer **31796**) and an unusual flat-rim open jar (fill **24699** of penannular gully

Table 5.15: summary of unidentified and undecorated hand-built fragments by Period.

Field	Period	Group	Feature	Context	Type	No.	Weight (g)	ENV	Date range
223	1	30895	30297	30482	Fired clay?	1	1	1	Pre-Roman Iron Age–Roman
246 PMA	1	31224	24663	24664	Fired clay	1	1	1	Pre-Roman Iron Age–Roman
223	1	–	30150	30151	Fired clay	7	45	7	Pre-Roman Iron Age–Roman
223	2	–	30273	30289	Fired clay	1	2	1	Pre-Roman Iron Age–Roman
223	2	–	30585	30586	Fired clay	3	11	3	Pre-Roman Iron Age–Roman
267	2	–	32529	32531	Fired clay	3	8	3	Pre-Roman Iron Age–Roman
265	4	29972	31728	31781	Fired clay	1	3	1	Pre-Roman Iron Age–Roman
					Total	**17**	**71**	**17**	

Table 5.16: hand-built pottery from Middle Iron Age–Period 1 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
197–199	11062	25546	25547	H2 Coarse rock	2	45	1	U/ID	U/ID	Rim	Barrel jar	Smoothed int and ext	900BC–C4thAD
197–199	25580	25539	25540	H2 Fine quartz	1	1	1	-	–	Fragment	U/ID	U/Dec	PRIA–Roman?
				Total	**3**	**46**	**2**						

16417, Structure 46), which currently lacks parallels. In terms of chronology, none of these types are particularly closely dated. Open jars have an extremely long lifespan that covers virtually the entire Pre-Roman Iron Age and Roman period, and as such are more of an indication of stability or conservatism in practice than they are of change. The currently available evidence suggests that the vertical-rimmed vessels span the Middle Iron Age (c.400BC) to the Mid- to Late Roman period. This distinction between vessels spanning the whole of the Pre-Roman Iron Age and the Roman period and those that seem to appear in the Middle Iron Age, is also seen in later Periods, as outlined below.

The hand-built pottery assemblage from Period 1 can be described as an undistinguished one. The sherds tended to

Table 5.17: hand-built pottery from Period 1 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
265	29973	Buried soil	31737	H2 Rock	1	2	1	–	–	BS	Hollow ware	U/Dec (no surfaces)	Pre-Roman Iron Age (PRIA)–Roman
265	29973	Buried soil	31796	H2 Coarse rock	6	14	6	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29973	Buried soil	31796	H2 Coarse rock	3	56	1	U/ID	U/ID	Rim	Vertical-rim jar-Narrow-bodied	U/Dec	C3rd/2ndBC–C3rd/4thAD
265	29973	Buried soil	31796	H3 Quartz and vesicles	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29973	Buried soil	31796	H3 Rock and vesicles	2	12	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	30873	30671	30672	H2 Quartz	3	11	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	30873	30671	30672	H2 Quartz	18	39	18	–	–	BS/ fragments	U/ID	U/Dec	PRIA–Roman
223	30877	30434	30451	H2 Fine quartz and rock	1	4	1	–	–	BS/Flake	Hollow ware	U/Dec	PRIA–Roman
223	30877	30434	30451	H2 Quartz	2	23	1	–	–	Rim	Open jar	Smoothed int and ext	900BC–C4thAD+
223	30877	30434	30451	H3 Fine quartz and vesicles	3	6	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	30895	30297	30482	H2 Fine quartz	1	4	1	U/ID	U/ID	Rim	Open jar?	U/ID	900BC–C4thAD+
223	30895	30297	30482	H2 Quartz	1	15	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246	31216	15609	15610	H2 Quartz	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31265	16417	16484	H2 Coarse rock	1	31	1	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman
246 PMA	31265	16417	24699	H2 Coarse quartz	3	70	1	U/ID	U/ID	Rim	Flat-rim Open jar	Flat rim w/ int and ext bulge	LPRIA–Roman
246 PMA	31265	16433	16291	H2 Coarse quartz	1	32	1	–	–	Base	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31269	PH	24792	H2 Quartz	16	61	15	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31280	16306	16298	H3 Quartz and vesicles	12	93	12	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman

Table 5.17: hand-built pottery from Period 1 contexts (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 PMA	31280	16306	16310	H2 Rock	1	7	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31280	16306	16359	H2 Quartz	1	14	1	–	–	Rim	Vertical-rim jar type?	Smoothed int and ext	C4thBC–LC3rd/C4thAD
246 PMA	31280	16338	16339	H2 Rock	1	47	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
214	–	7570	7571	H4	13	22	13	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24642	24644	H2 Quartz and coarse rock	1	38	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	24784	24785	H2 Coarse quartz and rock	1	88	1	–	–	Base	Hollow ware	Smoothed int and ext	PRIA–Roman
228	–	27878	27879	H2 Quartz	1	8	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
228	–	27878	27879	H2 Quartz	1	28	1	15	12	Rim	Vertical-rim jar	Smoothed int and ext	C4thBC–LC3rd/C4thAD
223	–	30150	30151	H type	1	10	1	–	–	BS?	Hollow ware	U/Dec	PRIA–Roman
223	–	30307	30435	H2 Quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30406	30407	H3 type	1	3	1	–	–	BS?	Hollow ware	U/Dec	PRIA–Roman
223	–	30406	30407	H4	1	3	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30491	30488	H2 Fine type	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30491	30488	H3 Fine quartz and vesicles	16	257	7	–	–	Base and BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30573	30574	H2 Fine quartz	3	8	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30803	30805	H2 Rock	1	15	1	–	–	Base	Hollow ware	U/Dec	PRIA–Roman
223	–	30810	30811	H2 Coarse rock	12	52	12	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	Buried soil	30520	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
				Total	**134**	**1097**	**117**						

be small and were often abraded and weathered, suggesting that in many cases they had been exposed on the surface before being incorporated into the fills of cut features. The range of vessel forms (as represented by rim fragments) was restricted to medium-sized utilitarian vessels that offer little in the way of chronological resolution, either relative or absolute. The absence of what might be described as the 'fine ware' component of regional pottery assemblages (the smaller, finer-textured vessels, with elaborate profiled and burnished surfaces) suggests that they were derived from everyday domestic contexts, while large, storage-jar-sized vessels were notable by their absence. It is also significant that the overall quantity of pottery was low. While this may have many causes, both pre- and post-depositional in nature, it seems to contrast with the situation on sites to the south and east.

Period 1–2

Contexts assigned to Period 1–2 produced a total of 148 hand-built sherds, which weighed a total of 2211.5g and represented a maximum of 111 vessels. The results are summarised in Table 5.18.

As in Period 1, H2 fabrics formed the largest part of the assemblage (81.9%), although there was a significant presence of H3 and H4 fabrics (13.5% and 3.6%; see Table

5.4). The absence of crystalline calcite suggests that acidic ground water was present in contexts containing pottery. A distinct pattern was notable amongst the H2 fabrics. Two types (H2 Fine Quartz and Rock and H2 Quartz and Muscovite) were found in very small quantities, while H2 Quartz and Rock was almost twice as common as the remaining five variants (when considered individually).

Identifiable vessel types were relatively limited in number but included two bowls that may be a relatively late form and owe something to the popularity of wheel-thrown bowls of Roman type. The everted-rim globular jar from fill **24728** of penannular gully **24727** (Structure 48iv) may also be relatively late, given these can date between 2nd century BC to 2nd century AD, as might the hollow pedestal jar base from the same context. However, other forms are less readily dateable and span the whole of the Pre-Roman Iron Age and Roman periods (e.g. open jars, everted-rim jars) or date from the Middle Iron Age to the later Roman period (vertical-rim jars).

In summary, the hand-built pottery from Period 1–2 displays many of the same traits as Period 1, notably the small size of the assemblage as a whole and the incidence of severe fragmentation and abrasion affecting all types of hand-built sherds. The presence of bowl rims and

Table 5.18: hand-built pottery from Period 1–2 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	30880	30708	30709	H2 Fine quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	30888	30112	30113	H3 Fine quartz and vesicles	6	46	6	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30897	30467	30468	H3 Fine quartz and vesicles	1	33	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 LAR	31206	15863	16209	H2 Rock	3	55	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31206	24760	24769	H2 Quartz	1	0.5	1	–	–	Fragment	U/ID	U/Dec	PRIA–Roman
246 PMA	31206	24966	24974	H2 Quartz	1	7	1	–	–	BS	U/ID	U/Dec	PRIA–Roman
246 PMA	31206	24966	24977	H3 Quartz and vesicles	1	75	1	–	–	Base	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	31224	24622	24646	H2 Quartz and rock	1	9	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31224	24663	24664	H2 Fine quartz	2	5	2	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
246 PMA	31224	24663	24664	H2 Quartz and muscovite	1	7	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31224	24686	24700	H2 Quartz and rock	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31224	24689	24690	H2 Quartz	2	1	2	–	–	Flakes	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31266	16442	16443	H2 Quartz	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31266	16452	24921	H2 Coarse rock	1	16	1	U/ID	U/ID	Rim	Bowl?	U/Dec	LC1st–C4th AD
246 PMA	31266	16452	24921	U/ID	2	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31266	24633	24634	H2 Coarse rock	19	217	1	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman
246 LAR	31266	24650	24651	H2 Coarse rock	1	39	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman

Table 5.18: hand-built pottery from Period 1–2 contexts (contintued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	31266	24650	24651	H2 Quartz	1	33	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31271	24727	24728	H2 Fine quartz	7	114	1	U/ID	U/ID	Rim and body	Everted-rim Globular jar type	Smoothed ext w/ thick black deposit	C2ndBC–C2ndAD
246 PMA	31271	24727	24728	H2 Fine quartz and rock	1	69	1	–	–	Hollow pedestal base	Pedestal jar	Smoothed int and ext; fine finish	LPRIA – Roman
246 PMA	31271	24727	24728	H2 Rock	1	25	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	31271	24988	24984	H2 Coarse rock	2	57	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31271	24988	24984	H2 Quartz	1	175	1	25	12	Rim	Everted-rim jar type	U/Dec	EPRIA–C4thAD
246 PMA	31271	31240	24989	H2 Coarse rock	3	83	3	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	31271	31240	24989	H2 Coarse rock	1	221	1	–	–	Base	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	31271	31240	24989	H2 Fine quartz	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31271	31240	24990	H2 Quartz and rock	19	43	19	–	–	BS/Flakes	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16413	16414	H2 Quartz	1	11	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	24867	24868	H2 Quartz and rock	13	149	11	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	24867	24868	H2 Quartz and rock	1	32	1	25	8	Rim	Inturned-rim Bowl?	Fingertip/ nail imps on ext of flat rim	LC1st – C4th AD
246 LAR	–	24867	24868	H2 Rock	3	218	3	–	–	Base	Hollow ware	U/Dec	PRIA–Roman
223	–	30068	30069	H2 Rock	2	23	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30164	30165	H2 Quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30164	30165	H2 Quartz and rock	1	19	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30299	30257	H3 Fine quartz and vesicles	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30299	30267	H4	2	25	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30299	30314	H2 Quartz	1	25	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	–	30299	30314	H2 Quartz	1	13	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	–	30299	30315	H2 Fine quartz	2	11	2	U/ID	U/ID	Rim	Everted-rim jar?	Smoothed surfaces	EPRIA–C4thAD

Table 5.18: hand-built pottery from Period 1–2 contexts (contintued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	–	30322	30439	H2 Rock	4	21	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	–	30322	30439	H3 Quartz and vesicles	7	130	5	–	–	BS	Large jar	Smoothed int and ext	PRIA–Roman
223	–	30357	30360	H2 Quartz	2	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30471	30475	H4	1	6	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30580	30581	H2 Fine quartz	1	12	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30833	30839	H2 Fine quartz	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30833	30839	H2 Quartz and rock	1	8	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30833	30839	H2 Quartz and rock	1	41	1	U/ID	U/ID	Rim	Open jar	Smoothed int and ext	900BC–LC4th AD+
223	–	30833	30840	H2 Fine quartz	2	5	2	–	–	BS	U/ID	U/Dec	PRIA–Roman
223	–	30833	30840	H2 Fine quartz	1	42	1	–	–	BS?	Hollow ware	Smoothed ext	PRIA–Roman
223	–	30833	30840	H2 Fine quartz and biotite	10	26	10	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	30833	30840	H2 Fine quartz and rock	1	4	1	U/ID	U/ID	Rim	Vertical-rim jar type?	Smoothed surfaces	C4thBC–LC3rd–C4th AD?
223	–	30833	30840	H3 Quartz and vesicles	1	21	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	30834	30841	H4	3	7	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Deposit	24930	H2 Fine quartz	1	1	1	–	–	Rim?	Hollow ware	U/Dec	PRIA–Roman
				Total	**148**	**2211.5**	**111**						

the everted-rim globular jar appear to indicate an Early Roman date, but the dating framework for the hand-built pottery is currently skeletal at best and requires further work before it can be considered reliable.

Period 2

The assemblage from contexts assigned to Period 2 consisted of 124 sherds, weighing 1139g and representing a maximum of 98 vessels. The data are summarised in Table 5.19. As in the earlier Periods, the fabrics were split between H2 types, which formed the majority (62.2%), and H3 and H4 types (37.7%). Crystalline calcite was absent, again pointing towards acidic ground conditions.

Vessel forms were split between types with very long lifespans (open jars) and Middle Iron Age to Late Roman types (vertical-rim jars and related types). Period 2 also marks the first appearance of wedge-rimmed jars (from fills **16411** and **16412** of trench **16410**), the earlier dates for which remain to be identified, although they seem to have remained popular into the 3rd century AD.

Period 2–3

Period 2–3 contexts contained 271 hand-built sherds, weighing 4042g and representing a maximum of 230 vessels. The data are summarised in Table 5.20.

The fabrics follow a similar pattern to that seen in Period 2, with H2 fabrics constituting 67.8%, and H3 and H4 fabrics forming 32.1% (Table 5.6). Sherds containing visible biotite (in combination with coarse and regular Quartz) were present as a discrete group, and the effects of acidic ground water were identified via the absence of crystalline calcite from the H3 and H4 sherds.

In summary, Period 2–3 displayed several distinctive traits. The presence of bowl rims, a type of vessel that seems to have been inspired by wheel-thrown examples, would seem to indicate a date for the Period after the start of wheel-thrown ware production and tends to confirm the abundant evidence from sites across the region for the continuation of hand-built pottery manufacture into the Roman period.

There is some evidence for suggesting that contexts of Period 2–3 date contain slightly more vessels in H2 Fine Quartz fabrics with burnished external surfaces than in earlier Periods. This would seem to be consistent with the evidence from elsewhere that such vessels appeared late in the Pre-Roman Iron Age and continued into the Roman period. If so, then this might imply a change in the character of the pottery industry and its products and in the ways that pottery was regarded. The extent to which this was the result of 'exotic' wheel-thrown wares arriving prior to conquest of the area and was a change initiated by purely indigenous factors is unclear. One indication that the latter might be the case is the apparent expansion in the range of vessel types produced in the 4th century BC, prior to which a more limited range of simpler shapes appears to have been the norm.

Period 3

The contexts assigned to Period 3 produced a small assemblage consisting of 49 vessels weighing 402g and representing a maximum of 38 vessels (Table 5.21). The estimated maximum number of vessels is probably an over-estimate, as it seems likely that the 23 sherds of pottery from fill **16181** of sunken-featured building **15847** (Structure 57; Field 246) came from the same vessel. A further complication is that the two sherds from isolated patch of soil **16274** may also have come from the same vessel: a finely finished wedge-rim jar. In the former case, this observation also has significant implications for the representation of fabrics in the assemblage, as summarised in Table 5.8. If the figures are taken at face value, the H3 fabric is considerably more common than the more diverse H2 fabrics (which again include an example containing visible biotite), but if all 23 sherds came from a single vessel then the situation is much closer to that seen in Periods 1 and 2, with H2 fabrics more common than H3 fabrics.

In addition to the wedge-rim jar mentioned above, the assemblage included a small jar, although it was not possible to identify the form more closely.

In summary, the small size of the assemblages from features assigned to Period 3 precludes drawing any definite or far-reaching conclusions. However, many of the characteristics seen in earlier Periods continued into

Table 5.19: hand-built pottery from Period 2 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	30871	30611	30612	H2 Fine quartz	1	18	1	-	-	BS	U/ID	Smoothed ext	PRIA–Roman
223	30874	30513	30517	H2 Fine quartz and rock	1	24	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30874	30751	30752	H2 Fine quartz and rock	4	30	2	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30876	30690	30691	H3 Fine quartz and vesicles	3	14	3	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30876	30690	30691	H4	5	14	5	U/ID	U/ID	BS and Rim	Open jar?	U/Dec	EPRIA–C4thAD
223	30889	30072	30177	H2 Quartz	2	28	1	-	-	Base	Hollow ware	Smoothed ext	PRIA–Roman
223	30889	30072	30177	H2 Quartz	1	4	1	-	-	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	30889	30072	30177	H2 Quartz	1	10	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30889	30072	30177	H2 Quartz	1	9	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30889	30072	30177	H2 Quartz and rock	2	11	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30890	30502	30535	H3 Fine quartz and vesicles	1	20	1	-	-	Base	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31267	16464	16472	H2 Fine quartz	4	23	1	U/ID	U/ID	Rim	Open jar?	Smoothed int and ext	EPRIA–C4thAD
267	32645	32275	32295	H4	1	24	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	32646	32427	31883	H3 Quartz and vesicles	5	24	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman

Table 5.19: hand-built pottery from Period 2 contexts (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
267	32701	32364	32363	H2 Quartz	1	2	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	33103	32569	32570	H2 Fine quartz	1	4	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	-	16410	16411	H2 Fine quartz	2	68	1	U/ID	U/ID	Rim	Wedge-rim jar type	Smoothed ext	LPRIA–C3rdAD
246 PMA	-	16410	16412	H2 Quartz	1	24	1	18	10	Rim	Wedge-rim jar	U/Dec	LPRIA–C3rdAD
246 LAR	-	24422	24429	H2 Fine quartz	1	5	1	-	-	BS	Hollow ware	Smoothed ext	LPRIA–Roman
246 LAR	-	24422	24429	H2 Quartz	2	2	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24422	24429	H2 Quartz	3	37	1	17	8	Rim	Vertical-rim jar	U/Dec	C4thBC–C3rd/4thAD
246 LAR	-	24708	24708	H2 Coarse quartz	1	17	1	U/ID	U/ID	Rim	Open jar type	Finger impressed flat-topped rim	900BC–LC4thAD+
246 LAR	-	24708	24708	H2 Coarse quartz and rock	5	46	5	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24708	24708	H2 Fine quartz	3	18	1	-	-	BS	Hollow ware	Smoothed ext	LPRIA – Roman
246 LAR	-	24708	24708	H2 Fine quartz	2	5	2	U/ID	U/ID	Rim	Open jar	Flat-topped rim, slightly thickened	900BC–LC4thAD+
246 LAR	-	24708	24708	H2 Quartz	1	34	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24708	24708	H2 Quartz and rock	2	93	2	-	-	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	-	30062	30063	H3 Rock and vesicles	1	6	1	-	-	Base	Hollow ware	U/Dec	PRIA–Roman
223	-	30109	30055	H2 Fine quartz	2	5	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30109	30055	H2 Fine quartz and rock	1	13	1	-	-	Base	Hollow ware	U/Dec	PRIA–Roman
223	-	30109	30055	H2 Quartz	1	13	1	-	-	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	-	30109	30055	H3 Fine quartz and vesicles	3	33	3	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	-	30109	30055	H3 Fine quartz and vesicles	2	8	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30109	30055	H3 Fine quartz and vesicles	2	22	1	-	-	Footed base	Hollow ware	U/Dec	PRIA–Roman
223	-	30122	30232	H4	1	2	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30273	30289	H2 Fine quartz	1	19	1	-	-	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	-	30279	30054	H2 Quartz	4	22	4	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30279	30296	H4	5	14	5	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30322	30440	H2 Fine quartz	1	1	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30401	30402	H4	1	3	1	-	-	BS?	U/ID	U/Dec	PRIA–Roman
223	-	30480	30441	H2 Quartz and rock	1	16	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman

Table 5.19: hand-built pottery from Period 2 contexts (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	-	30585	30586	H3 Fine quartz and vesicles	1	17	1	-	-	Rim	Vertical-rim jar Narrow-bodied	Smoothed ext	C3rd/ C2nd BC–C3rd/4thAD
223	-	30585	30586	H3 Quartz and vesicles	1	10	1	-	-	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	-	30650	30685	H2 Fine quartz	4	4	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30706	30707	H3 Fine quartz and vesicles	4	41	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	-	30715	30716	H2 Coarse rock	1	21	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
267	-	32498	32499	H2 Quartz	1	23	1	14	5	Rim	Vertical-rim Open jar	Smoothed int and ext	C2ndBC–C4th AD
267	-	32519	32520	H4	8	45	7	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	32529	32531	H2 Coarse quartz	3	58	1	-	-	Base	Hollow ware	Smoothed ext	PRIA–Roman
267	-	32529	32531	H2 Fine quartz	1	1	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	32529	32531	H2 Quartz and rock	1	9	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	32529	32531	H2 Quartz and rock	5	20	5	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	32532	32543	H2 Quartz and slag	1	4	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
267	-	32532	32546	H2 Quartz and rock	4	26	4	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
267	-	32532	32546	H3 Quartz and vesicles	1	6	1	U/ID	U/ID	Rim	Vertical-rim jar	Smoothed int and ext	C4thBC–LC3rd/ C4thAD
267	-	32532	32548	H2 Quartz	1	33	1	-	-	BS	Hollow ware	Burnished ext, smoothed int	PRIA–Roman
246 LAR	-	Layer	24409	H2 Fine quartz	1	8	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	Layer	24409	H2 Quartz	2	15	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	Layer	24409	H3 Quartz and vesicles	1	13	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
				Total	**124**	**1139**	**98**						

Period 3, most notably in the small size and abraded nature of the individual sherds.

Period 2–4

A small number of contexts were assigned to Period 2–4 (Table 5.22). The assemblage consisted of 18 sherds, weighing 76g and representing a maximum of 17 vessels. The range of fabrics was smaller than in the Period groups described above, although this may be the result of the much smaller size of the assemblage, and it would be unwise to base any far-reaching interpretations on such a small quantity of pottery. It is interesting to note that the single sherd of H3 type included crystalline calcite within the body, suggesting a rather different burial environment than that seen in other contexts.

Few conclusions can be drawn from the contexts assigned to Period 2–4 other than to note similar traits to those discussed previously, i.e. sherds tended to be small and abraded and showed distinct signs of having been exposed to weathering agents prior to incorporation into the fills of cut features.

Period 4

Contexts assigned to Period 4 contained a substantial assemblage of hand-built pottery, comprising 402 sherds that weighted 3675g and represented a

Table 5.20: hand-built pottery from Period 2–3 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	30875	30686	30764	H2 Quartz	2	17	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30875	30686	30764	H2 Quartz	2	7	1	U/ID	U/ID	Rim	Vertical-rim jar type	U/Dec	C4thBC–LC3rd-C4th AD
223	30875	30735	30736	H2 Quartz	15	57	15	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30875	30735	30736	H2 Quartz and rock	2	11	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30875	30784	30785	H2 Quartz	16	100	13	-	-	Base and BS	Hollow ware	Smoothed ext	PRIA–Roman
223	30886	30075	30076	H2 Quartz and biotite	6	46	4	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30898	30056	30103	H2 Fine quartz and rock	1	5	1	-	-	BS	Hollow ware	Impressed lines forming diamond pattern ext	PRIA–Roman
223	30898	30070	30074	H2 Coarse quartz and biotite	5	134	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	30898	30070	30074	H2 Fine quartz	1	19	1	11	15	Rim	Everted/Funnel-rim jar	Smoothed int and ext	EIA–C4thAD
223	30898	30070	30074	H2 Fine quartz	1	18	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	30898	30070	30074	H2 Quartz	6	66	1	-	-	Foot-ed base	Hollow ware	Smoothed underside; finger impressions int	LPRIA–Roman
223	30898	30070	30074	H2 Quartz	1	114	1	28	10	Lid-seated rim	Lid-seated rim jar	Smoothed int and ext w/ finger-marks int	LPRIA–Roman
246 PMA	31262	16312	16369	H2 Quartz	3	15	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31262	16312	16369	H2 Quartz	1	7	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31262	16312	16369	H2 Rock	1	20	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31262	24081	24124	H2 Coarse quartz	1	144	1	-	-	Base	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31262	24081	24124	H2 Coarse quartz	1	46	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31262	24081	24124	H2 Coarse quartz	7	15	7	-	-	BS/ Flakes	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31262	24081	24862	H2 Coarse rock	2	471	1	-	-	Base	Large jar	U/Dec	PRIA–Roman
246 LAR	31262	24081	24862	H2 Coarse rock	4	311	4	-	-	BS	Large jar	U/Dec	PRIA–Roman
246 LAR	31262	24081	24886	H2 Coarse rock	12	113	11	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31262	24081	24886	H2 Coarse rock	12	262	12	-	-	Base	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31272	24773	24780	H2 Quartz	3	20	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31283	16352	16367	H2 Fine quartz	11	78	11	-	-	BS	Hollow ware	Burnished ext	LPRIA–Roman
246 LAR	31283	24309	24265	H2 Fine quartz	1	5	1	-	-	BS/ Flake	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31283	24309	24265	H2 Quartz	2	12	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	15866	24219	H2 Coarse quartz	1	61	1	-	-	Base	Hollow ware	Smoothed ext	PRIA–Roman

Table 5.20: hand-built pottery from Period 2–3 contexts (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	-	15866	24303	H2 Fine quartz	2	4	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	15866	24303	H2 Rock	1	37	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	15884	24311	H2 Coarse quartz and biotite	1	69	1	U/ID	U/ID	Rim	Bowl/Open jar	Pinched and impressed rim	LC1st–C4thAD
246 LAR	-	15884	24311	H2 Coarse rock	1	98	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	16486	24970	H4	2	7	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	16486	24970	H4	1	3	1	-	-	BS	Hollow ware	Shallow grooves ext	PRIA–Roman
246 LAR	-	24297	24085	H2 Quartz	2	22	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24085	H2 Quartz	1	8	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24085	H2 Quartz	2	6	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24085	H2 Quartz	3	9	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24085	H4	1	8	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 LAR	-	24297	24086	H2 Quartz	3	36	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24086	H2 Quartz and rock	1	41	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 LAR	-	24297	24086	H2 Quartz and rock	1	5	1	-	-	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
246 LAR	-	24297	24086	H3 Quartz and vesicles	6	90	1	U/ID	U/ID	Rim	Vertical-rim jar?	Smoothed int and ext	C4thBC–LC3rd/C4thAD
246 LAR	-	24297	24087	H3 Flint and vesicles	3	5	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24297	24308	H2 Quartz	3	7	3	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	24777	24790	H2 Quartz	2	16	2	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	-	15866	24082	H2 Coarse rock	1	65	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 LAR	-	15866	24082	H2 Quartz	5	90	1	U/ID	U/ID	Rim	Bowl?	Smoothed int and ext	LC1st–C4thAD
246 LAR	-	15866	24082	H4	1	36	1	-	-	Rim	Vertical-rim jar type	U/Dec	C4thBC–LC3rd/C4thAD
223	-	30100	30101	H2 Fine quartz	1	60	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30100	30101	H2 Quartz	6	18	6	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30100	30101	H3 Quartz and vesicles	2	12	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30100	30102	H2 Fine quartz and rock	1	25	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	-	30100	30102	H2 Quartz	2	9	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30100	30102	H2 Quartz	1	23	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	-	30100	30102	H2 Quartz	1	30	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman

Table 5.20: hand-built pottery from Period 2–3 contexts (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
223	-	30336	30337	H2 Fine quartz	1	4	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	-	30336	30337	H2 Quartz and rock	1	4	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
223	-	30336	30337	H3 Fine quartz and vesicles	8	117	6	15	12	Rim	Triangular-rim jar type	Smoothed int and ext	C2ndBC–C2ndAD
176	-	31017	31000	H2 Fine quartz	1	17	1	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	-	31017	31000	H2 Fine quartz	1	3	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31000	H2 Fine quartz	2	3	2	-	-	Flake	U/ID	U/Dec	PRIA–Roman
246 PMA	-	31017	31000	H2 Quartz	1	5	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31000	H2 Quartz	1	3	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31000	H2 Quartz	1	4	1	-	-	Frag-ment	U/ID	U/Dec (no surfaces)	PRIA–Roman
246 PMA	-	31017	31000	H2 Quartz and biotite	1	63	1	18	15	Rim	Vertical-rim jar	Smoothed int and ext	C4thBC–LC3rd/C4thAD
246 PMA	-	31017	31000	H2 type	2	1	1	-	-	Frag-ment	U/ID	U/Dec	PRIA–Roman
246 PMA	-	31017	31000	H3 Fine quartz and vesicles	1	49	1	14	16	Rim	Everted-rim jar	Smoothed int and ext	EPRIA–C4thAD
246 PMA	-	31017	31000	H3 Fine quartz and vesicles	1	37	1	-	-	Base	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	-	31017	31000	H4	43	470	43	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	-	31017	31000	H4	3	94	3	-	-	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	-	31017	31000	H4	9	17	9	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31144	H2 Quartz	7	39	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31144	H2 Quartz and biotite	1	4	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31017	31149	H2 Quartz and rock	1	32	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	-	31084	31100	H2 Fine quartz	1	4	1	-	-	BS/ Flake	U/ID	U/Dec (no surfaces)	PRIA–Roman
246 PMA	-	31092	31156	H2 Quartz	1	13	1	-	-	Rim	Open jar	U/Dec	900BC–C4thAD
267	-	31848	32354	H2 Fine Quartz and rock	2	22	1	-	-	BS	Hollow ware	Burnished ext, smoothed int	PRIA–Roman
267	-	32240	32285	H4	1	2	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	Buried soil	32402	H2 Fine quartz	1	10	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
267	-	Buried soil	32402	H2 Quartz	1	10	1	U/ID	U/ID	Rim	Everted-rim open jar	U/Dec	LC4thBC–C3rdAD
267	-	Buried soil	32402	H2 Rock	1	2	1	-	-	BS	Hollow ware	U/Dec	PRIA–Roman
				Total	**271**	**4042**	**230**						

maximum of 326 vessels. The data are summarised in Table 5.23.

The representation of the fabrics is summarised in Table 5.9 and shows a rather different pattern to that seen in earlier Periods, with a marked reduction in the H3 and H4 fabrics and a corresponding rise in the number of H2 fabrics. The majority of the former were vesicular in nature, although calcite survived in one sherd, while biotite was visible in two of the H2 sherds.

The range of vessel forms from Period 4 contexts is summarised in Table 5.24. As in earlier Periods, everted-rim jars and open jars were relatively common and included examples with simple incised decoration (group **29970** in Field 265 and fill **15635** of ditch **15643** in Field 246). The larger, coarser types of vertical-rim jar were scarce, although the smaller, finer vertical-rim globular jars were found in larger numbers (for example, see midden deposit **31709**, Structure 39; Cat. no. 14) and included one example with curved slashes on the inside of the rim (fill **28255** of oven/kiln/corn drier **28256**). A second decorated example came from fill **16192** of ditch **16183** and bore a double line of stabbed holes at the base of the small vertical rim (Cat. no. 15). This was listed as a vertical-rimmed globular jar, although the type overlaps with the rather similar vertical-rim shouldered jar, highlighting the occasional ambiguity in the typological scheme. More significant, perhaps, is the fact that both types form part of the finer end of the ceramic spectrum, being small, finely finished, burnished vessels dating to the later Iron Age and the Early to Mid-Roman period. The same may be said of the everted-rim globular jar (fill **15523** of ditch **15643**, Field 246).

Period 4 is also notable for the presence of three funnel-rim jars, normally one of the more common vessel types in hand-built pottery assemblages, but which appears rather scarce in those considered here. A single possible bowl (fill **31082** of penannular gully **24772**; Structure 49) attests to the continued popularity of the type in both hand-built and wheel-thrown forms.

Table 5.21: hand-built pottery from Period 3 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	31252	15847	16181	H3 Quartz and vesicles	23	37	23	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
267	32643	32204	32205	H2 Fine quartz	2	55	1	–	–	BS	Hollow ware	Burnished ext surface	LPRIA–Roman
246 LAR	–	15859	15897	H2 Fine quartz and rock	11	31	1	U/ID	U/ID	Rim and BS	Small jar	U/Dec	PRIA–Roman
246 LAR	–	15859	24298	H2 Fine quartz	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15859	24298	H2 Quartz	1	1	1	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
246 LAR	–	15859	24298	H2 Quartz	1	3	1	–	–	BS	U/ID	U/Dec (heavily abraded)	PRIA–Roman
246 LAR	–	15859	24298	H2 Quartz	1	13	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15859	24298	H2 Quartz	1	41	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 LAR	–	15859	24299	H2 Quartz and biotite	1	18	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
223	–	30058	30169	H2 Fine quartz and rock	1	15	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
267	–	32549	32309	H2 Quartz	1	84	1	–	–	Base	Hollow ware	Smoothed int and ext	PRIA–Roman
267	–	32549	32313	H2 Fine quartz	2	25	2	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
267	–	32549	32313	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	–	Buried soil	16274	H2 Quartz	1	35	1	–	–	BS	Jar	Burnished ext	PRIA–C3rdAD
246	–	Buried soil	16274	H2 Quartz	1	30	1	U/ID	U/ID	Rim	Wedge-rim jar type	Burnished ext	LPRIA–C3rdAD
				Total	**49**	**402**	**38**						

Table 5.22: hand-built pottery from Period 2–4 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
228	28441	27905	27906	H2 Quartz	3	2	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	28450	28377	28378	H2 Quartz and rock	7	34	7	–	–	BS	U/ID	U/Dec	PRIA–Roman
228	28451	28258	28259	H2 Quartz	3	11	3	–	–	BS/Flake	Hollow ware	U/Dec	PRIA–Roman
228	28456	27918	27969	H2 Fine quartz	1	2	1	U/ID	U/ID	Rim	Vertical-rim jar type	Smoothed int and ext	C4thBC–LC3rd/C4thAD
228	28456	27918	27969	H2 Quartz	1	9	1	–	–	BS	U/ID	U/Dec	PRIA–Roman
228	28456	27918	27969	H3 Quartz and calcite	1	3	1	U/ID	U/ID	Rim?	Vertical-rim jar type	U/Dec	C4thBC–LC3rd/C4thAD
228	–	27983	27985	H2 Quartz	1	13	1	–	–	BS	Hollow ware	Smoothed int and partially ext	PRIA–Roman
228	–	27983	27985	H2 Quartz	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
				Total	**18**	**76**	**17**						

Table 5.23: hand-built pottery from Period 4 contexts.

Field	Group	Feature	Context	Type	No.	Weight(g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
258	28129	27168	27169	H2 Quartz	1	1	1	–	–	Fragment	U/ID	U/Dec (heavily abraded)	PRIA–Roman
258	28131	15349	15350	H2 Quartz	1	47	1	–	–	BS/Shoulder	Hollow ware	Double impressed lines on shoulder	PRIA–Roman
258	28131	15349	15350	H2 Quartz	1	27	1	–	–	BS/Shoulder	Hollow ware	Double impressed lines on shoulder	PRIA–Roman
258	28131	15349	15350	H2 Quartz	2	9	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28131	15386	15358	H2 Quartz	1	9	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28131	15386	15360	H2 Quartz	1	12	1	–	–	BS/Shoulder	Hollow ware	Smoothed ext	PRIA–Roman
258	28131	15386	15360	H type	4	3	4	–	–	Fragments	U/ID	U/Dec	PRIA–Roman
258	28131	15386	15360	H2 Quartz	8	39	7	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28131	15465	15467	H2 Quartz and rock	1	9	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28131	26911	26918	H2 Fine quartz	2	8	1	–	–	BS	Hollow ware	App dec ext?	PRIA–Roman
258	28131	26911	26918	H2 Quartz and rock	2	3	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28131	27005	27006	H2 Rock	1	3	1	–	–	BS	U/ID	U/Dec (heavily abraded)	PRIA–Roman
258	28131	27005	27006	H2 Rock	1	3	1	–	–	BS	U/ID	U/Dec (heavily abraded)	PRIA–Roman
258	28131	27005	27054	H2 Quartz and rock	1	5	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28131	27005	27054	H2 Rock	1	11	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
258	28131	Pit	15432	H2 Fine quartz	1	12	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28131	Pit	15432	H2 Fine quartz	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28133	15063	15064	H2 Fine quartz	6	5	5	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28139	27396	27397	H2 Fine quartz	2	1	1	–	–	Fragment	U/ID	U/Dec (heavily abraded)	PRIA–Roman
258	28142	27234	27235	H2 Rock	7	27	7	–	–	Fragments	U/ID	U/Dec	PRIA–Roman
258	28145	26998	26999	H2 Fine quartz	1	2	1	10	10	Rim?	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28146	26029	26062	H2 Fine quartz	1	1	1	–	–	Flake	U/ID	U/Dec	PRIA–Roman
258	28148	15258	26417	H2 Fine quartz	10	25	10	–	–	Base and BS	Hollow ware	Burnished int and ext	PRIA–Roman
258	28149	15302	27086	H2 Quartz	2	18	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28154	Ditch	26188	H2 Quartz and rock	1	7	1	–	–	BS	U/ID	U/Dec	PRIA–Roman
258	28154	Ditch	26188	H2 Fine quartz	4	4	3	–	–	BS	U/ID	U/Dec	PRIA–Roman
258	28154	Ditch	27093	H2 Rock	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28156	Ditch	15182	H2 Quartz	1	15	1	–	–	Base?	Hollow ware	Smoothed surfaces	PRIA–Roman
258	28156	Ditch	15213	H2 Fine quartz	1	4	1	–	–	BS/shoulder	Hollow ware	Smoothed ext	PRIA–Roman
258	28156	Ditch	26828	H2 Coarse quartz	13	130	13	–	–	BS and Base	Hollow ware	U/Dec	PRIA–Roman
258	28156	Ditch	26852	H2 Quartz	1	2	1	–	–	Flake	Hollow ware	U/Dec	PRIA–Roman
258	28156	Ditch	26852	H2 Rock	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28158	Ditch	26441	H2 Quartz	1	1	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28158	Ditch	26441	H2 Quartz and rock	1	8	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	28158	Ditch	26441	H2 Quartz and rock	1	11	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28158	Ditch	26441	H2 Fine quartz	2	4	1	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
258	28158	Ditch	26943	H2 Coarse rock	2	33	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28161	15027	26377	H2 Quartz	1	25	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28162	26035	27378	H2 Quartz	1	7	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28162	26196	26199	H2 Quartz and rock	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28177	Ditch	26122	H2 Quartz	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28178	27359	27526	H2 Coarse rock	1	37	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28178	27359	27526	H2 Rock	1	13	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28434	27635	27637	H2 Quartz	1	2	1	–	–	BS/Flake	Hollow ware	U/Dec	PRIA–Roman
258	28434	27635	27637	H2 Quartz and rock	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	28434	27635	27637	H2 Quartz	2	9	2	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
228	28434	27635	27637	H2 Quartz	12	165	7	–	–	Rim and BS	Open jar type?	Smoothed int and ext	900BC–C4thAD
228	28434	27797	27801	H2 Quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	28434	27797	27801	H2 Quartz	2	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	28434	27810	27809	H2 Quartz	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29959	Midden	31709	H2 Quartz	1	2	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
265	29959	Midden	31709	H2 Quartz	1	3	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
265	29959	Midden	31709	H2 Quartz and rock	1	10	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
265	29959	Midden	31709	H2 Quartz	2	169	1	6	35	Profile	Vertical-rim globular jar	Smoothed int and ext	C3rdBC–C3rdAD
265	29959	Midden	31709	H2 Quartz	3	62	3	6	5	Rim and BS	Vertical-rim globular jar	Smoothed int and ext	C3rdBC–C3rdAD
265	29969	31757	31758	H2 Fine quartz	1	10	1	14	12	Rim	Everted-rim jar	U/Dec	EPRIA–C4thAD
265	29969	31757	31758	H2 Fine quartz	1	21	1	14	14	Rim	Everted-rim jar	Fine incised lines on shoulder	EPRIA–C4thAD
265	29969	31757	31758	H2 Fine quartz	1	13	1	–	–	Base	Hollow ware	U/Dec	LPRIA–Roman
265	29969	31757	31758	H2 Quartz	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29969	31757	31758	H2 Quartz and rock	1	9	1	–	–	BS	Hollow ware	U/Dec	LPRIA–Roman
265	29969	31757	31758	H2 Fine quartz	2	3	2	–	–	BS	Hollow ware	Fine incised lines ext	LPRIA–Roman
265	29969	31757	31758	H2 Fine quartz	3	22	2	13	16	Rim	Everted-rim jar	Burnished ext	EPRIA–C4thAD
265	29969	31757	31758	H2 Fine quartz	3	6	3	–	–	BS	Hollow ware	U/Dec	LPRIA–Roman
265	29969	31757	31758	H2 Quartz	3	7	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29969	31757	31758	H2 Fine quartz	10	56	10	–	–	BS	Hollow ware	Burnished ext	LPRIA–Roman
265	29969	31757	31758	H2 Fine quartz	27	161	27	–	–	BS	Hollow ware	Rusticated decoration ext	MC1stAD
265	29969	31760	31761	H2 Quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29969	31762	31763	H2 Quartz	5	7	5	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29970	31755	31756	H2 Quartz and rock	1	9	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
265	29972	31728	31781	H2 Quartz	3	13	3	–	–	Fragments	U/ID	U/Dec	PRIA–Roman
265	29972	31728	31790	H2 Quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29972	31728	31790	H2 Fine quartz	2	43	2	–	–	Recessed base	Hollow ware	Smoothed ext w/ turned base	LPRIA–Roman
265	29972	31728	31790	H2 Fine quartz	2	27	2	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
246 LAR	31207	31240	24146	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	31207	Over ditch	15578	H2 Quartz and rock	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31207	Over ditch	24109	H2 Quartz	4	89	2	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	31208	Layer	15899	H2 Quartz	2	6	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31214	15804	16098	H2 Quartz and rock	2	19	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	31215	15682	15683	H2 Quartz	1	1	1	–	–	BS/Flake	U/ID	U/Dec	PRIA–Roman
246 LAR	31218	15829	16013	H2 Fine quartz	1	0.5	1	–	–	Flake	U/ID	U/Dec (no surfaces)	PRIA–Roman
246	31218	16179	16180	H2 Quartz	1	4	1	U/ID	U/ID	Rim	Vertical-rim jar type	U/Dec	C4thBC–LC3rd/C4thAD
246 LAR	31261	Buried soil	24147	H2 Quartz	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31261	Levell-ing	24159	H2 Rock	3	47	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31263	16398	16399	H2 Fine quartz	1	3	1	–	–	BS	Hollow ware	Possible rusticated decoration ext	MC1s tAD+
246 PMA	31263	16400	16423	H2 Quartz	1	13	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31264	24772	31082	H2 Coarse rock	1	29	1	U/ID	U/ID	Rim	Bowl?	Smoothed int and ext	LC1st–C4th AD
246 PMA	31264	24794	31047	H2 Quartz	1	21	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31275	15530	15531	H2 Quartz	1	16	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	31284	15537	15654	H2 Fine quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	31284	15537	15654	H2 Fine quartz	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	31284	15537	15654	H2 Fine quartz	1	1	1	–	–	Flake	U/ID	U/Dec	PRIA–Roman
246	31284	15537	15654	H2 Fine quartz	1	0.5	1	–	–	Flake	U/ID	U/Dec	PRIA–Roman
246	31284	15537	15654	H3 Quartz and calcite	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31284	15537	16028	H2 Quartz	1	14	1	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman
246 LAR	31284	15550	15667	H2 Quartz	2	35	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31284	15550	15667	H4	2	6	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	31284	15550	16027	H2 Quartz	2	16	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	15217	15218	H2 Fine quartz	1	6	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
258	–	15463	15464	H2 Quartz	2	22	1	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman
258	–	15481	15482	H2 Fine quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	15489	26709	H2 Quartz	2	5	2	–	–	BS	U/ID	U/Dec	PRIA–Roman
246	–	15539	15540	H2 Quartz	1	7	1	–	–	BS	Hollow ware	Rusticated decoration; applied lobate scales	MC1stAD+

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246	–	15539	15540	H2 Quartz	2	7	1	–	–	BS	Hollow ware	Rusticated decoration; applied lobate scales	MC1stAD+
246 LAR	–	15643	15523	H2 Quartz	1	1	1	U/ID	U/ID	Rim	Everted-rim jar	U/Dec	EIA–C4th AD
246 LAR	–	15643	15523	H2 Quartz	1	7	1	U/ID	U/ID	Rim	Funnel-rim jar	Smoothed int and ext	PRIA–C3rd/ C4thAD
246 LAR	–	15643	15523	H2 Quartz	4	91	1	14	18	Rim	Everted-rim globular jar type	Smoothed int and ext	C2ndBC– C2ndAD
246	–	15643	15523	H2 Fine quartz	11	336	1	–	–	Thick base	Jar	Burnished int and ext	PRIA–Roman
246 LAR	–	15643	15635	H2 Quartz and rock	1	10	1	18	7	Rim	Open jar type	Smoothed int and ext w/ groove below rim	EIA–C4th AD
246 LAR	–	15869	15857	H2 Fine quartz	1	6	1	–	–	BS	Hollow ware	Smoothed ext	LPRIA– Roman
246 LAR	–	15869	16212	H2 Quartz and rock	5	59	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24083	H2 Quartz	2	5	1	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
246 LAR	–	15869	24083	H2 Quartz	3	22	2	U/ID	U/ID	Rim	Funnel-rim jar	U/Dec (heavily abraded)	PRIA–C3rd/ C4thAD
246 LAR	–	15869	24110	H2 Quartz	2	6	1	–	–	BS/Flake	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24126	H2 Quartz	2	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24216	H2 Quartz	1	25	1	–	–	BS	Hollow ware	Prominent rustication ext	MC1stAD+
246 LAR	–	15869	24216	H2 Quartz and rock	1	11	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24216	H4	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24216	H2 Rock	4	64	4	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	15869	24216	H3 Quartz and vesicles	5	7	5	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246	–	16183	16192	H2 Fine quartz	17	50	1	U/ID	U/ID	Rim and BS	Vertical-rim Globular jar	Burnished w/ double line of stabbed holes on shoulder	C3rdBC– C3rdAD
246 PMA	–	16390	24917	H2 Quartz	1	13	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Fine quartz	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Quartz	1	14	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Quartz and rock	1	34	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 PMA	–	16410	16435	H2 Rock	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Rock	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H2 Quartz and rock	2	33	2	U/ID	U/ID	Rim	U/ID	U/Dec (abraded surfaces)	PRIA–Roman
246 PMA	–	16410	16435	H2 Quartz	3	42	1	U/ID	U/ID	Rim?	U/ID	U/Dec	PRIA–Roman
246 PMA	–	16410	16435	H4	4	281	3	–	–	Base	U/ID	Smoothed int and ext	PRIA–Roman
246 PMA	–	16410	16491	H2 Rock	1	27	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
246 PMA	–	16480	16481	H2 Quartz and rock	1	12	1	13	8	Rim	Everted-rim jar	Smoothed int	EIA –C4th AD
246 PMA	–	16480	16481	H2 Quartz	3	20	2	–	–	BS/Flake	U/ID	U/Dec	PRIA–Roman
246 PMA	–	16480	16481	H2 Quartz	7	25	6	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24668	16287	H2 Coarse rock	2	34	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Quartz	1	7	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Quartz and rock	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Rock	1	15	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Quartz	2	6	1	–	–	BS	Hollow ware	?Rusticated ext	MC1stAD
246 PMA	–	24756	24757	H2 Quartz and rock	2	7	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24756	24757	H2 Quartz and rock	7	12	7	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24777	16303	H2 Fine quartz	2	13	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24777	24776	H2 Quartz	3	50	3	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
246 LAR	–	24842	24413	H2 Fine quartz	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	24842	24413	H3 Fine quartz and vesicles	1	17	1	–	–	Base	Hollow ware	U/Dec	PRIA–Roman
246 LAR	–	24842	24852	H2 Quartz	1	15	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
246 LAR	–	24842	24852	H3 Quartz and vesicles	14	138	13	–	–	Base and BS	Hollow ware	U/Dec	PRIA–Roman
258	–	26599	26600	H2 Fine quartz	3	3	3	–	–	BS	U/ID	U/Dec (heavily abraded)	PRIA–Roman
258	–	26713	26717	H2 Coarse rock	1	10	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	27260	27261	H2 Fine quartz	1	2	1	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman

Table 5.23: hand-built pottery from Period 4 contexts (continued).

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
258	–	27260	27261	H2 Fine quartz	1	1	1	–	–	Fragment	U/ID	U/Dec (heavily abraded)	PRIA–Roman
228	–	27780	27781	H2 Quartz and biotite	2	19	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	–	28256	28255	H2 Fine quartz	1	7	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
228	–	28256	28255	H2 Quartz	1	8	1	U/ID	U/ID	Rim	Vertical-rim globular jar type	Curved slashes on inside of rim	C3rdBC–C3rdAD
228	–	28256	28255	H2 Quartz and rock	1	2	1	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
228	–	28256	28255	H2 Quartz	2	16	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
228	–	28256	28255	H2 Coarse Rock	5	43	4	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	–	28256	28263	H2 Quartz	1	27	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
228	–	28256	28263	H2 Quartz	1	3	1	–	–	BS	Hollow ware	Smoothed surfaces	PRIA–Roman
228	–	28256	28263	H2 Quartz	2	4	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	24759	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	24759	H2 Quartz	2	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	24972	H2 Fine quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	24972	H2 Quartz and red grit	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	31032	H2 Fine quartz	1	22	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	31243	31032	H3 Quartz, rock and vesicles	3	26	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
267	–	31848	32360	H2 Fine quartz	4	4	4	–	–	BS	Hollow ware	Burnished int and ext	PRIA–Roman
267	–	32376	32378	H2 Quartz	1	23	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
267	–	32376	32378	H2 Quartz	3	11	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
				Total	**402**	**3675**	**326**						

In addition to the fine incised and impressed linear decoration seen on various vessels (e.g. from group **28131** and fill **31758** of gully **31757**), several sherds bore 'rusticated' decoration similar to that seen on some classes of wheel-thrown ware. This does not appear to be an indigenous technique or design and was probably copied from the wheel-thrown examples. Such copying seems to have been a rather haphazard process that happened only in occasional cases. Certainly, there was no wholesale adoption of Roman models for either utilitarian wares or the finer wares, and most hand-built vessel forms remained distinctive into the later 3rd and 4th centuries and may have outlasted the Romano-British pottery industry. The rationale behind the occasional copying of non-local forms or types of decoration remains unknown; a similar process might be seen in the occasional appearance of decorated vessels in the pre-Roman period, which employ both techniques and motifs more familiar elsewhere. Are these occurrences evidence of the exchange of marriage partners or captives between groups with different ceramic traditions, or simply an indication that the cultural rules around the manufacture of pottery were sufficiently relaxed to allow those making the pots to indulge in more-or-less whimsical self-indulgence regarding the finish of

Table 5.24: hand-built vessel forms from Period 4 contexts.

Form	Estimated (maximum) number of vessels
Bowl?	1
Everted-rim globular jar type	1
Everted-rim jar	6
Funnel-rim jar	3
Hollow ware	259
Jar	1
Open jar type	1
Open jar type?	7
Vertical-rim globular jar	5
Vertical-rim globular jar type	1
Vertical-rim jar type	1
Unidentified	41
Total	**327**

vessels? Currently, it is difficult to be certain, although the limited number of vessels that display evidence of such imitative behaviour seems to indicate that it was not standard practice and that traditional vessels with plain smoothed or burnished bodies remained more popular than decorated examples.

In summary, many of the traits seen in earlier Periods were also apparent in Period 4. Sherds were small and, to varying degrees, abraded, while the range of vessel forms was split between the standard, long-lived utilitarian types and some of the smaller, finer and apparently later types. The limited number and range of identifiable vessels and vessel forms and the small size of individual assemblages precluded any attempt to refine the chronology of individual types much further than has been possible to date.

Period 4–5

Contexts assigned to Period 4–5 were limited in number and contained just 11 sherds of hand-built pottery that weighed 197g (Table 5.25). All of these were plain body sherds in H2 fabrics containing Quartz, Rock and muscovite in various combinations. Few general conclusions can be drawn from this small assemblage.

Period 5

Contexts assigned to Period 5 contained an assemblage of hand-built pottery consisting of 66 sherds that weighed 891g and represented a maximum of 58 vessels. The data are summarised in Table 5.26. All the fabrics were of H2 type, with various combinations of Quartz, Rock fragments and biotite identified (Table 5.11).

Only one vessel was identifiable to type. This was a funnel-rim jar from fill **11053** of C-shaped gully **11051** (Structure 4; Field 220). This had a slightly shorter rim than is usual for the type but displayed the same distinctive profile. The long date range for the type, which spans the Pre-Roman Iron Age and much of the Roman period, means that it makes little contribution to the question of the chronology of the site, but its presence in a late context does reinforce other data that support its long duration.

The trends seen in Period 4 seem to be reflected in Period 5, albeit poorly, given the small size and fragmentary nature of the assemblage.

Table 5.25: hand-built pottery from Period 4–5 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 PMA	31222	Buried soil	16389	H2 Rock	1	9	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31222	Stone raft	16293	H2 Coarse quartz	3	67	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	31222	Stone raft	16293	H2 Quartz and muscovite	1	49	1	–	–	Base	Hollow ware	U/Dec	PRIA–Roman
229	33803	33743	33727	H2 Coarse rock	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
229	33803	33743	33727	H2 Rock	1	17	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	24748	16285	H2 Coarse Rock	1	26	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Stone surface	31003	H2 Coarse rock	1	8	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Stone surface	31003	H2 Quartz	1	3	1	–	–	BS/ Flake	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
246 PMA	–	Stone surface	31003	H2 Quartz	1	12	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
				Total	**11**	**197**	**11**						

Table 5.26: hand-built pottery from Period 5 contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
220	11060	10933	10935	H2 Quartz	3	53	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	10933	10935	H2 Quartz and biotite	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	11051	11053	H2 Fine quartz	4	1	4	–	–	Flakes	U/ID	Smoothed surfaces	PRIA–Roman
220	11060	11051	11053	H2 Quartz	5	280	1	26	27	Rim	Funnel–rim jar type	Smoothed ext	PRIA–C3rd/4th AD
220	11060	11051	11053	H2 Quartz	14	192	10	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	11051	11053	H2 Quartz	3	28	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	11051	11053	H2 Quartz	26	276	26	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	11051	11056	H2 Fine quartz	2	7	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11060	11051	11056	H2 Fine quartz	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
220	11061	10948	10949	H2 Rock	1	17	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29955	Foundation	31663	H2 Quartz	2	10	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29955	Foundation	31663	H2 Quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29955	Foundation	31663	H2 Quartz and rock	2	9	2	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	29955	Pit	31704	H2 Fine quartz	1	4	1	–	–	BS	Hollow ware	Burnished ext	LPRIA–Roman
				Total	**66**	**891**	**58**						

Table 5.27: hand-built pottery from Period 5+ contexts.

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	–	24191	24247	H2 Fine quartz	1	1	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
258	–	27186	27189	H2 Fine quartz and rock	2	10	2	–	–	BS	Hollow ware	U/Dec (heavily abraded)	PRIA–Roman
258	–	Layer	26959	H2 Rock	1	12	1	–	–	BS/ shoulder	Jar	U/Dec	PRIA–Roman
				Total	**4**	**23**	**4**						

Period 5+

One context from Field 246 (fill **24247** of ditch **24191**), and two from Field 258 (fill **27189** of ditch **27186** and layer **26959** overlying the aggregate surface of Dere Street) were assigned to Period 5+ and contained just four sherds of hand-built pottery. Three of these were heavily abraded body sherds, while the other was from the shoulder of a jar of undetermined type and was also abraded. All were in H2 fabrics of various kinds (Table 5.27). Context **27198** also included a sherd of late 13th- to 14th-century pottery and this, together with other medieval sherds, is discussed elsewhere (see Appendix D.

Contexts not assigned to Period

A number of subsoil contexts, and a 'natural' deposit (**15002**, Field 258), contained quantities of hand-built pottery. The details are summarised in Table 5.28 and the range of fabrics in Table 5.29. Although the effectively unstratified nature of these sherds and groups of sherds renders them harder to interpret than the stratified material, it is of interest to note that the general pattern of representation reflects that in the stratified assemblages, with H2 fabrics (including Quartz and Muscovite and Quartz and Biotite) forming 79.4% of the total and H1, H3 and H4 fabrics comprising 20.5%. As elsewhere, vesicular fabrics

Table 5.28: hand-built pottery from contexts not assigned to Period.

Field	Group	Feature	Context	Type	No.	Wt (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
258	–	Natural	15002	H2 Coarse rock	1	12	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	Natural	15002	H2 Fine quartz	1	8	1	–	–	BS/ Shoulder	Jar	U/Dec	PRIA–Roman
258	–	Natural	15002	H2 Fine quartz	2	1	1	–	–	Flake	U/ID	U/Dec	PRIA–Roman
258	–	Subsoil	15001	H2 Coarse Rock	2	8	2	–	–	BS	U/ID	U/Dec	LBA/EIA?
258	–	Subsoil	15001	H2 Quartz	4	28	4	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	Subsoil	15001	H2 Rock	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
258	–	Subsoil	15001	H4	2	6	1	–	–	BS	U/ID	U/Dec	PRIA–Roman
246 LAR	–	Subsoil	15502	H2 Coarse rock	3	86	1	16	17	Rim	Everted–rim jar	U/Dec	EIA–C4thAD
246 LAR	–	Subsoil	15502	H2 Coarse rock	7	258	7	–	–	BS and Base	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Coarse quartz	1	60	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Coarse rock	2	15	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz	10	56	10	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz	4	19	4	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz	1	8	1	–	–	BS	Hollow ware	U/Dec (abraded)	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz	1	72	1	U/ID	U/ID	Rim	Open jar	Smoothed int and ext w/ finger impressed, flat–topped rim	900BC–LC4th
246 PMA	–	Subsoil	16272	H2 Quartz	1	15	1	U/ID	U/ID	Rim	Vertical–rim jar coarse–short	Smoothed int and ext; short, flat–topped rim	C4thBC–C3rd/C4th AD
246 PMA	–	Subsoil	16272	H2 Quartz and biotite	1	10	1	–	–	BS	U/ID	U/Dec (heavily abraded)	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Quartz and muscovite	3	60	3	–	–	BS	Hollow ware	Smoothed ext	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Rock	1	12	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Rock	1	10	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H2 Rock	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16272	H3 Quartz	2	6	2	–	–	BS	U/ID	U/Dec	PRIA–Roman
246 PMA	–	Subsoil	16278	H2 Quartz	1	5	1	–	–	BS/Flake	U/ID	U/Dec (no surfaces)	PRIA–Roman
246 PMA	–	Subsoil	16278	H2 Rock	1	0.5	1	–	–	BS/Flake	U/ID	U/Dec (no surfaces)	PRIA–Roman

Table 5.28: hand-built pottery from contexts not assigned to Period (continued).

Field	Group	Feature	Context	Type	No.	Weight (g)	ENV	Diam.	% Rim	Part	Form	Decoration	Date range
246 LAR	–	Subsoil	24892	H2 Quartz	1	25	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	Subsoil	30052	H2 Coarse rock	3	75	3	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	Subsoil	30052	H2 Fine quartz	1	39	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
223	–	Subsoil	30052	H2 Quartz	1	19	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
223	–	Subsoil	30052	H2 Quartz	2	13	2	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
265	–	Subsoil	31501	H2 Quartz	1	2	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	–	Subsoil	31501	H2 Quartz	1	3	1	–	–	BS	Hollow ware	U/Dec (abraded surfaces)	PRIA–Roman
265	–	Subsoil	31501	H2 Quartz and rock	1	9	1	–	–	BS/ Shoulder	Jar	U/Dec (abraded surfaces)	PRIA–Roman
265	–	Subsoil	31501	H2 Quartz and rock	1	1	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	–	Subsoil	31501	H3 Fine quartz and vesicles	1	6	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	–	Subsoil	31501	H3 Fine quartz and vesicles	7	30	6	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
265	–	Subsoil	31501	H4	1	16	1	I/ID	U/ID	Rim	Everted–rim jar	Burnished int and ext	EIA–C4thAD
265	–	Subsoil	31501	H4	2	5	2	–	–	BS	Hollow ware	Burnished int and ext	PRIA–Roman
267	–	Subsoil	32401	H4	1	25	1	–	–	Base	Hollow ware	Smoothed ext	PRIA–Roman
229	–	Subsoil	33725	H2 Quartz	1	5	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
229	–	Subsoil	33725	H2 Quartz and grog	1	14	1	17	8	Rim	Wedge–rim globular jar	U/Dec	LPRIA–C3rdAD
229	–	Subsoil	33725	H2 Rock	1	4	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
229	–	Subsoil	33725	H4	1	3	1	–	–	BS	Hollow ware	U/Dec	PRIA–Roman
202	–	Subsoil	6016	H1 Calcite	1	15	1	–	–	BS	Hollow ware	Smoothed int and ext	PRIA–Roman
				Total	**84**	**1078.5**	**78**						

were more common than fabrics containing extant calcite, with the latter limited to just one sherd. Two small sherds from context **15502** may be of an earlier (Late Bronze Age) date, given the distinctive 'muddy' textured fabric and coarse grit.

Vessel forms included two everted-rim jars, an open jar with a finger-impressed rim, a vertical-rim jar with a short rim, and a wedge-rim globular jar, the latter in an unusual grog-tempered fabric. This combination of vessel forms is consistent with the general picture of the co-occurrence of long-lived forms and forms dating from the Middle Iron Age, both of which then seem to persist into the 3rd and 4th centuries AD.

The remaining sherds were body sherds with no diagnostic traits other than a variety of surfaces, including smoothed and burnished finishes, although in many cases abrasion had damaged the surfaces considerably.

Table 5.29: hand-built vessel fabrics from contexts not assigned to a Period.

Type	Estimated (maximum) number of vessels	% of total	Aggregate percentages
H1 Calcite	1	1.3	1.3
H2 Coarse quartz	1	1.3	–
H2 Coarse rock	15	19.2	–
H2 Fine quartz	3	3.8	–
H2 Quartz	30	38.4	–
H2 Quartz and biotite	1	1.3	–
H2 Quartz and grog	1	1.3	–
H2 Quartz and muscovite	3	3.8	–
H2 Quartz and rock	2	2.5	–
H2 Rock	6	7.7	79.4
H3 Fine quartz and vesicles	7	8.9	–
H3 Quartz	2	2.5	–
H4	6	7.7	19.2
Total	**78**	**99.7**	

Interpretation and research themes

As may be clear from the foregoing description and discussion, the assemblages of hand-built pottery do not lend themselves to any far-reaching interpretations. The overall picture was of relatively small quantities of pottery, scattered amongst a wide range of cut features across the excavated areas. The numbers of vessel types were limited and, while there is some suggestion that the smaller, finer vessels become more common later, the chronological resolution provided by the date ranges attached to the various vessel forms is a long way from being fine enough to allow the type of detailed periodisation offered by the wheel-thrown wares. In part, this is an artefact of the history of research. Roman pottery studies in Britain have a history almost as long as that of archaeology itself. In contrast, studies of the hand-built pottery of northern and eastern Yorkshire have remained extremely limited. Wheeler (1954, 39) was able to cite only a handful of parallels for the material from the first excavations at Stanwick, many of them from sites with uncertain relationships with North Yorkshire generally or Stanwick specifically. Despite the work of Didsbury and the author on assemblages from commercially excavated sites, other researchers have continued to regard the hand-built pottery as essentially uninformative and indicative of, at best, semi-amateur household production.

The vessel form type series used here was developed in 2014 and published in 2016. It still lacks validation or verification in the form of peer-review and, while the reasonably high degree of consistency with Willis's analysis of the Stanwick material is encouraging, this is just the first step in validating the scheme as a whole and its many implications for understanding the domestic economy and structures of practice that constitute later prehistoric and Roman society in the area. The fabric type series, having been developed by Didsbury, has a somewhat longer history, but again has not been widely adopted and Halkon's (2013, 111) characterisation of the fabrics as primarily calcite-tempered may require further revision.

Catalogue of hand-built pottery

1. Incomplete funnel-rim type jar. Short, slightly everted rim with angular lip. Sooted exterior. Fabric: H2 Quartz. Count: 5, Weight: 280g, RE: 27%. Late Pre-Roman Iron Age to 4th century AD. Field 220; Structure 4; Group **11060**; Context **11053**; second fill of C-shaped gully **11051**. Period 1. Figure 5.1.

2. Incomplete flat-rim open jar. Flat rim with internal and external bulge. Thick black deposit externally. Fabric: H2 Coarse Quartz. Count: 3, Weight: 70g, RE: 0%. Late Pre-Roman Iron Age to Roman. Field 246; Structure 46; Group **31265**; Context **24699**; fill of penannular gully **16417**. Period 1. Figure 5.1.

3. Incomplete pedestal jar. Smoothed internally and externally with a fine finish. Fabric: H2 Fine Quartz and Rock. Count: 1, Weight: 69g, RE: 0%. Late Pre-Roman Iron Age to Roman. Field 246; Structure 48iv; Group **31271**; Context **24728**; fill of penannular gully **24727**. Period 1–2. Figure 5.1.

4. Incomplete everted-rim globular jar. A very small everted rim on a round globular body. Smoothed externally with a thick black deposit. Fabric: H2 Fine Quartz. Count: 7, Weight: 114g, RE: 0%. 2nd century BC to 2nd century AD. Field 246; Structure 48iv; Group **31271**; Context **24728**; fill of penannular gully **24727**. Period 1–2. Figure 5.1.

5. Rim sherd, probably from a bowl. Flat-topped rim with internal and external flanges. Fabric: H2 Coarse Rock. Count: 1, Weight: 16g, RE: 0%. Late 1st century AD to 4th century AD. Field 246; Structure 47ii; Group **31266**; Context **24921**; fill of penannular ditch **16452**. Period 1–2. Figure 5.1.

6. Rim sherd, probably from an inturned-rim bowl. Fabric: H2 Quartz and Rock. Count: 1, Weight: 32g, RE: 8%. Pre-Roman Iron Age to Roman. Field 246; Context **24868**; fill of ditch **24867**. Period 1–2. Figure 5.1.

7. Incomplete lid-seated rim jar. Everted rim with prominent internal flange. Fabric: H2 Quartz. Count: 1, Weight: 114g, RE: 10%. Late Pre-Roman Iron Age to Roman. Field 223; Group **30898**; Context **30074**; fill of ditch **30070**. Period 2–3. Figure 5.1.

8. Incomplete triangular-rim jar. Tall curved rim with clubbed triangular lip. Fabric: H3 Fne Quartz and

vesicles. Count: 8, Weight: 117g, RE: 12%. 2nd century BC to 2nd century AD. Field 223; Context **30337**; second fill of pit **30336**. Period 2–3. Figure 5.1.

Table 5.30: average weight (g) of samian by Field.

Field	Average Weight (g)
201	3.20
217	2.00
219	4.05
220	2.00
223	7.28
228	2.77
229	7.11
246	8.55
258	12.95
265	8.43
267	6.84
All	10.35

9. Rim sherd from a vertical-rim jar. Flat-topped vertical rim on sloping shoulder. Fabric: H2 quartz and biotite. Count: 1, Weight: 63g, RE: 15%. 4th century BC to late 3rd or 4th century AD. Field 246; Context **31000**; eighth fill of ditch **31017**. Period 2–3. Figure 5.1.

10. Incomplete wedge-rim jar. Burnished exterior. Fabric: H2 quartz. Count: 1, Weight: 30g, RE: 0%. Late Pre-Roman Iron Age to 3rd century AD. Field 246; Context **16274**; isolated patch of buried soil. Period 3. Figure 5.1.

11. Base from a jar. Very thick base (20.5mm). Fabric: H2 Fine Quartz. Count: 11, Weight: 336g, RE: 0%. Pre-Roman Iron Age to Roman. Field 246; Context **15523**; fill of ditch **15643**. Period 4. Figure 5.1.

12. Rim sherd from an open jar type vessel. Smoothed internally and externally with a groove below the rim. Fabric: H2 Quartz and Rock. Count: 1, Weight: 10g, RE: 7%. Early Iron Age to 4th century AD. Field 246; Context **15635**; second fill of ditch **15643**. Period 4. Figure 5.1.

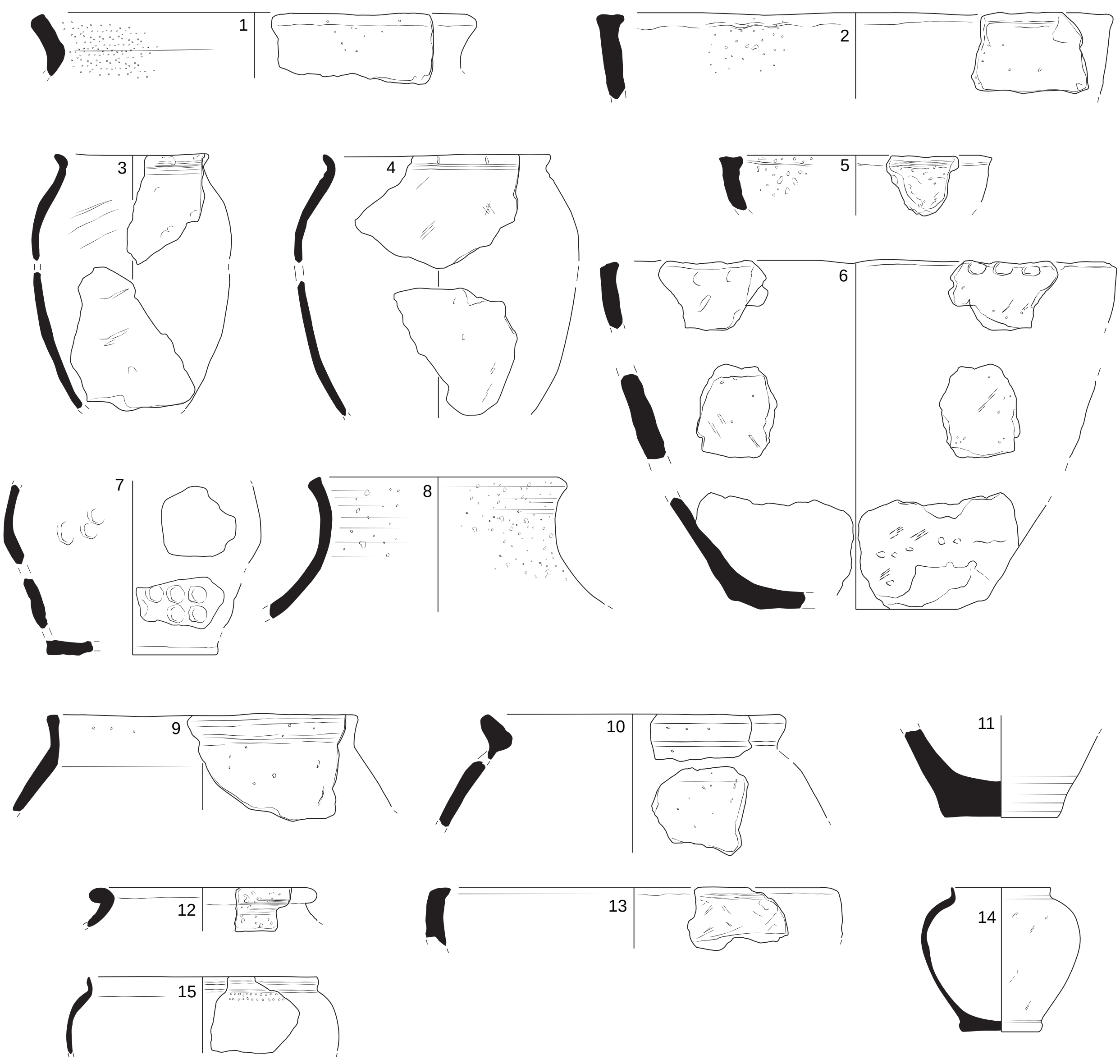


Figure 5.1: Iron Age tradition pottery, Cat. nos 1–15. All vessels are illustrated at 1:4 unless stated otherwise.

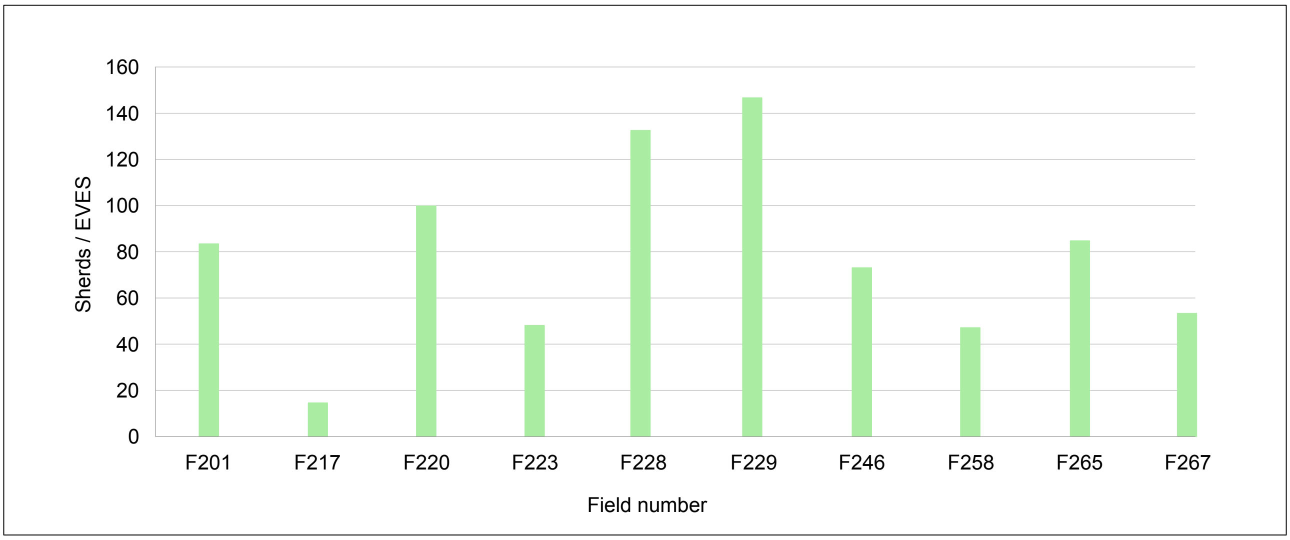


Figure 5.2: brokenness index by Field (sherds/EVEs).

Table 5.31: archaeologically complete samian vessels (number of vessels by Field and Period).

Field	Period 2	Period 3	Period 4	Period 4–5	Period 5+	Total
223	1	–	–	–	–	1
246	–	1	3	1	–	5
258	–	–	14	–	1	15
Total	**1**	**1**	**17**	**1**	**1**	**21**

13. Rim sherd, probably from a bowl. Inturned rim with prominent internal flange. Smoothed internally and externally. Fabric: H2 Coarse Rock. Count: 1, Weight: 29g, RE: 0%. Late 1st century AD to 4th century AD. Field 246; Structure 49; Group **31264**; Context **31082**; fill of penannular gully **24772**. Period 4. Figure 5.1.

14. Incomplete vertical-rim globular jar. Small high-shouldered jar with a small-footed base. Fabric: H2 quartz. Count: 2, Weight: 169g, RE: 35%. 3rd century BC to 3rd century AD. Field 265; Structure 39; Group **29959**; Context **31709**; midden deposit below structure. Period 4. Figure 5.1.

15. Incomplete vertical-rim globular jar. Burnished with a double line of stabbed holes on shoulder. Fabric: H2 Fine Quartz. Count: 17, Weight: 50g, RE: unidentifiable. 3rd century BC to 3rd century AD. Field 246; Context **16192**; fill of ditch **16183**. Period 4. Figure 5.1.

SAMIAN

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Introduction

A total of 1948 samian sherds were recorded, 1701 of which were stratified in deposits assigned to Periods 1–5+; the others came from medieval or post-medieval layers, subsoil and topsoil.

The fabric of each sherd was examined, after taking a small fresh break, under a x20 binocular microscope, and the whole assemblage was fully quantified. The samian vessels were recorded following some of the codes developed at the Museum of London Archaeology Service (Tomber and Dore 1998). Each archive entry consists of a context number, fabric, form and decoration identification, condition, sherd count, MNV (Maximum Number of Vessels), rim EVEs (Estimated Vessel Equivalents), rim diameter, weight, notes and a date range.

The decorated samian and the stamps were the subject of further analysis and detailed catalogues are provided in Appendix D. Rubbings of the decorated fragments and stamps were taken, mounted and scanned for use as illustrations.

Table 5.32: burnt samian (sherd count by Field and Period).

Field	Period 2	Period 2–3	Period 2–4	Period 3	Period 4	Medieval –post-medieval	Subsoil	Total
228	–	–	3	–	1	1	–	5
246	3	1	–	1	11	–	1	17
258	–	–	–	–	38	–	–	38
265	–	–	–	–	4	–	2	6
267	1	–	–	–	–	–	–	1
Total	**4**	**4**	**3**	**4**	**54**	**1**	**3**	**67**

The analysis of the decorated material proved without doubt that several vessels were dispersed across the excavations, and several cross-context joins were identified. The calculation of the maximum vessel numbers takes these joins into account, although it was not always possible to positively assign fragments in a similar style to one bowl. The MNV entries with cross-Period joins or links were assigned to the earliest Period in which that vessel occurred.

Functional categories based on MNV and comparable to the ones used by Willis (2005a) were favoured to assess the samian profile by Period when possible. The fragments for which it was not possible to identify a form were removed from the calculation; this does weaken the statistical reliability of the graphs but makes the results comparable to Willis (2005a) and others, although only a limited number of groups are large enough, fully quantified and/or published to be comparable. The fragmented nature of the group and the uniformity of the plain vessels represented mean that estimating an accurate number of vessels is difficult and it is likely that the MNV is overly high. Whenever possible, rim equivalent (RE) and MNV are used for comparative analysis.

Condition

Overall, the assemblage was very fragmented, with a low average sherd weight (c.10g; see Table 5.30) and a high brokenness index (sherds/EVEs=57). The samian is more fragmented in some Fields than others (Fig. 5.2); the groups from Fields 220 and 228 were particularly affected.

Most of the samian suffered from the soil conditions and the sherds displayed heavily worn surfaces and in some cases were completely excoriated, which at times hindered identification, especially of the decoration and stamps. Some of the fragments were assigned relatively long date ranges as a result, mostly because they were small, abraded and relatively undiagnostic. It also means that recording wear patterns in any consistent manner proved impossible.

Twenty-one archaeologically complete profiles were recovered, mostly from Field 258 and in deposits assigned to Period 4 (Table 5.31).

Sixty-seven samian fragments presented evidence of burning, most of them from Period 4 contexts (Table 5.32). The four fragments from Period 2 included three sherds from the same Italian-style platter in trench **16410** (Field 246) and a body sherd from a South Gaulish Dr.27 cup from the eighth fill of pit **32532** (Field 267a). The Period 2–4 burnt material comes from two features in Field 228: the second fill of penannular gully **28377** in Structure 30 and the primary fill of ditch **28350**.

For Period 4, small concentrations of burnt samian material were apparent in Field 258 from ditch groups **28158** (10 sherds), **28156** and **28161** (four sherds each), as well as pit group **28131** (13 sherds), midden group **29959** (Field 265) and Structure 48 (four sherds). The rest of the burnt material from Period 4 occurred as single sherds in various features, most of which were ditches.

Samian fabrics and key types

Except for a few Central and East Gaulish pieces (11 sherds) and five fragments from Italian-type sigillata, the samian is from La Graufesenque and dates to the 1st century AD. Because of the exceptional nature of the site, the key samian types found and their current dating are discussed below.

Italian-style sigillata

The earliest samian vessel recovered from Scotch Corner came from Field 246 (primary and tertiary fills of trench **16410**) and consisted of five fragments of Italian-style sigillata, most probably from the same vessel. The fragments were slightly burnt but in a very fine pale fabric, with barely any inclusion visible. The slip was brownish and an Italian origin seems likely (perhaps Pisa; Bird, pers. comm.).

None of the fragments join but all are very flat and similar in thickness, which suggests that they come from the base of the same very large platter. Only one has a distinctive feature: an internal cordon without a corresponding external step. None of the forms published by Ettlinger *et al*. (1990) provide a satisfactory match for the example from Scotch Corner, but Consp form 19.3.2 has an internal step without an external one and is a large platter for which variations are apparently acceptable (Kenrick, pers. comm.).

Based on the current evidence from Britain, the main period of Italian-type sigillata imports is between c.10BC and AD25 (see Bird 2018 for an up-to-date and detailed overview of the evidence) and the platter from Scotch Corner likely dates to that period. There is a remote possibility that the platter arrived later than AD25, since production continued at Pisa after that date, but there is as yet no evidence for Tiberian Italian imports in Britain.

South Gaulish

The bulk of the assemblage is South Gaulish in origin and from La Graufesenque. Most of the surfaces are heavily eroded, which precludes relying too heavily on the quality of the slip as a chronological indicator, something that is especially useful in identifying Neronian material. Some differences in South Gaulish fabrics were nevertheless noticed. The 'pale fabrics with matt glazes, which are most characteristic of the period before AD55' (Hartley 1974, 91) are present at Scotch Corner, albeit in small quantities and only in Fields 223 and 246. However, the 'pink or reddish sherds with tolerably high glaze of the kind commonest c.50–75' (*ibid*.) dominate the assemblage.

Dr.16

A rim from third fill **28214** of ditch **28211** (Field 228) was identified as a possible Dr.16 form dish, an early type that is very rare but not unknown in Roman Britain (nos 36 and 37 in Dannell 1971; no. 5 in Pengelly *et al*. 2001; see also 'SGLG16 query' in Willis (2005a) for a useful list of the type's occurrence in Britain).

Dr.17?/early Dr.15/17

A dish with an S-shaped profile, inner quarter moulding and sharp carination was recovered from occupation/activity layer **24409** (Field 246) and was identified as a Dr.17 and dated to AD40–55. Its attribution to the Dr.17 form is not strictly correct, since these do not normally bear an inner quarter moulding (for examples from Vechten see Polak 2000, fig. 6.27), which the example from Scotch Corner has, and the walls are straighter (*ibid*.). The closest parallels are found at Fishbourne, where they are described as early Dr.15/17 (Dannell 1971, fig. 123, nos 41–43).

The girth of the remaining body sherd suggests that this may be a large version and the drawings by Polak (2000, fig. 6.36) for Dr.15/17R provide good parallels. The fabric is pale with abundant white inclusions and the dating of the vessel as Claudian was confirmed by Dannell.

A Dr.17 was also identified at Stanwick site A, where it was given a pre-Claudian date (Hartley and Fitts 1988; Willis and Millett 2016).

Dr.27 and Dr.18

A large proportion of the South Gaulish group is made up of these common types of cups and dishes. Some show early features more typical of pre-Flavian examples, e.g. small bead, pronounced offset, rounded wall for the Dr.18, and flat-topped rim and thin wall for the Dr.27.

Flavian forms

Several contexts have examples of typically 'Flavian' forms (Dr.35, Dr.36, Cu.11, Dr.37, De.67 and Kn.78). These were developed in the AD60s and tend to be predominantly found in Flavian deposits (AD70+).

De.67

This form is classified as a decorated beaker in the functional analysis (see below). A De.67 was found in a 'late context' at Stanwick (Willis and Millett 2016, table 11.17). According to the authors, the form 'is precedented in later Neronian levels elsewhere' (*ibid*., 237), although they failed to provide references to said levels. Millett's (1987b) article on the dating of Neronian samian lists a De.67 in the St Swithin's House group in London and in the first Colchester pottery shop.

Kn.78

This form is a moulded small cup (classified as a decorated cup in the functional analysis) and is normally dated to the Flavian period (AD70–100), although some are known in Neronian contexts. Two were found amongst the Leaholme Fort ditch group dated AD55–65 (D57 and D58 in Hartley and Dickinson 1982), where they are described as having 'rounded carinations rather than the angular ones of Flavian-Trajanic examples'. Another example with a stamp by Germanus was recorded in a context assigned to phase I at 'the Lunt', Baginton (no. 5 in Hartley and Dickinson 1969).

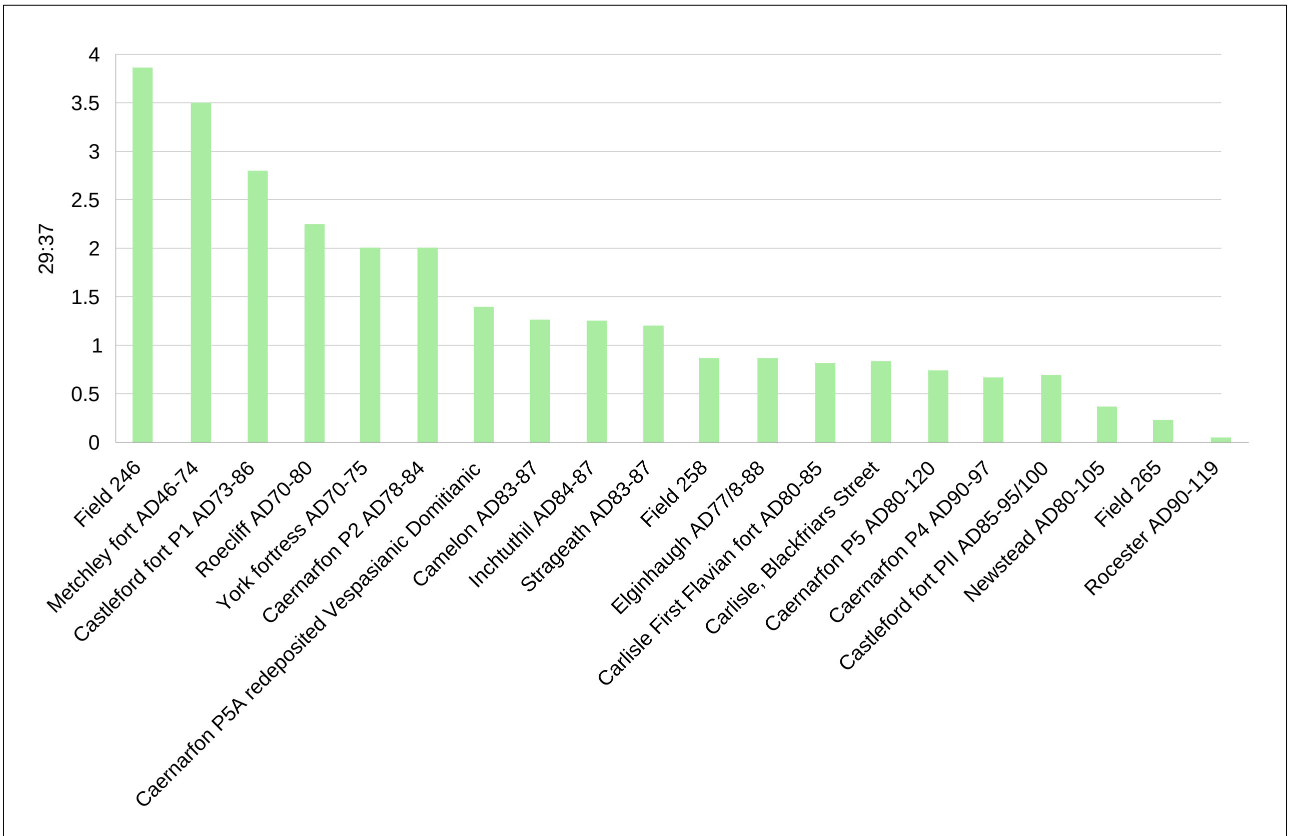

Figure 5.3: Dr.29 to Dr.37 ratios (based on MNV). Sources: Metchley fort (Willis 2005b); Castleford fort PI and PII (Dickinson and Hartley 2000, table 2); Roecliffe (Dickinson 2005); York fortress (Dickinson and Hartley 1993, where they also provide comparative ratios for Camelon, Strageath, Newstead and Inchtuthill); Elginhaugh (Hartley 2007); Caernarfon (King and Millett 1993); Carlisle Flavian fort and Blackfriars street (Dickinson 1992); Rochester (Willis 2005a).

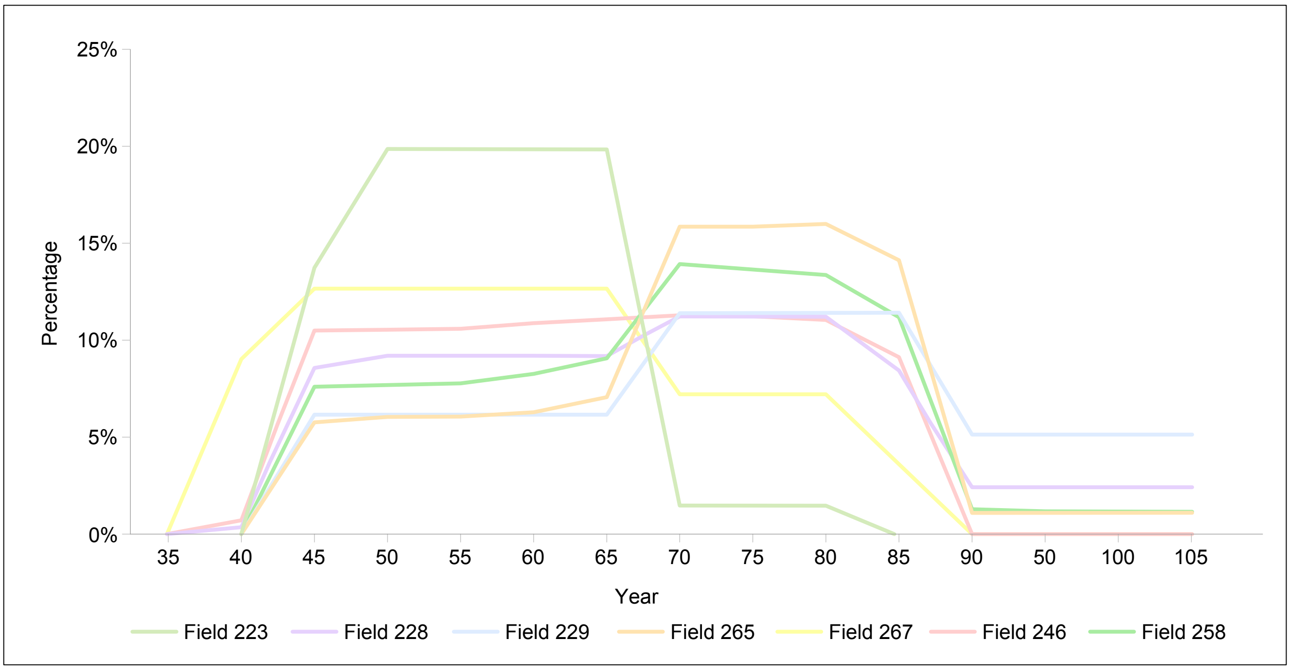

Figure 5.4: chronological distribution of the South Gaulish samian recovered in each field (based on MNV and shown as % of the total in each field to be comparable).

Dr.29
The examples of form Dr.29 with rims are all somewhat flared, some more so than others. Examples with a straight profile more characteristic of the Claudian period and earlier are absent. None of the cordons are rouletted (though few survived intact), something that is common on Tiberian bowls but quickly disappears under Claudius. Decoration provided the greatest definition in dating.

Dr.37
While this type was developed in the AD60s, the current evidence from Britain suggests that South Gaulish Dr.37s did not become part of the archaeological record until the AD70s (Hartley 2007, 383). There is a single South Gaulish Dr.37 in the samian assemblage from Kingsholm (D18 in Wild 1985), which is a Neronian group; the vessel is 'a typologically early example of the form, with zonal decoration' (*ibid*., 62). However, it came from a later phase (4.4) and there is some difficulty in deciding whether it arrived at the site in the latest pre-Flavian period or later.

Three sherds of Dr.37 are listed in the inventory of the shop assemblage from One Poultry in London (Rayner 2011, table 25), which was destroyed in AD60/1, although no mention of them or their presence within the shop group is made in the report. Assuming they were correctly identified, then perhaps they did arrive in London as part of the shop consignment just before the Boudican revolt. Had they been sold rather than destroyed in the fire, they would have remained in use for several years before being discarded. In his review of Neronian samian dating, Millett (1987b, 112, appendix

Table 5.33: samian types from Period 2 contexts.

	Italian type			**La Graufesenque**			
	No.	MNV	Weight (g)	No.	MNV	RE	Weight (g)
Cup	–	–	–	1	1	–	3.0
Dish	2	1	14.0	2	2	–	9.0
DR 15/17	–	–	–	1	1	0.01	1.0
DR 17	–	–	–	1	1	–	15.0
DR 18	–	–	–	2	2	0.01	11.0
DR 24	–	–	–	5	1	–	6.0
DR 24/25	–	–	–	6	2	0.32	21.0
DR 27	–	–	–	1	1	–	1.0
DR 29	–	–	–	13	9	0.03	73.0
Unidentified	–	–	–	14	14	–	8.6
Total	**2**	**1**	**14.0**	**46**	**34**	**0.37**	**148.6**

II) lists five examples of the form from secure Boudican contexts in London, Colchester and *Verulamium*.

Some of the examples from Scotch Corner display early characteristics: three examples of form Dr.37 with internal grooves (coded DR37E) were recorded, a feature of the earliest examples of the form. They are in the groups from Blake Street, York (no. 2683 in Dickinson and Hartley 1993b) and Roecliffe (Dickinson 2005, 166).

Stamps

Out of the 38 stamps recovered, one is illiterate (Cat. no. 196) and 14 are too partial or abraded to be identified. Most were from Field 258 (27 examples). A full catalogue is provided below (Cat. nos 185–222) where the dating is adopted from *Names on Terra Sigillata* (NoTS).

The stamp with the earliest date range as provided in NoTS is one by La Graufesenque potter Licinus, which was recovered from fill **24404** of stakehole **24403** in Field 246 (Period 2–3). The overall date range is AD35–65, although 'the bulk of his output is Claudian and early Neronian' (Hartley and Dickinson 2009b, 76). The stamp from Scotch Corner is on a Rt.8 form cup, the fabric of which is darker, harder and the inclusions smaller than the fabric associated with the Dr.29 from fill **16411** of trench **16410** (Field 246) or fill **24641** of penannular gully **24982** (Structure 47iv), so perhaps not necessarily too early within the range.

Three stamps have date ranges starting in AD45/50: a stamp by Crestio i from Field 258 (fill **15132** of ditch **15184**) and two by Pass(i)enus in Field 258. Pass(i)enus' career was mainly pre-Flavian, though his wares are not unknown on sites founded in the early AD70s (Hartley and Dickinson 2011a, 13–30).

The others form a remarkably homogeneous and coherent group, with most of the potters starting work in the late Neronian period: e.g. Albanus ii (AD60–80), Memor i (AD60–90), Germanus i (AD65–90), Primulus i (AD60–85; two examples), Mommo (AD60–85; two examples), Calvus i (AD65–90; three examples), Dontio (AD60–85), Quintio (AD60–85), Iovius (AD65–90) and Severus iii (AD65–95; three examples).

Only two have a starting date of AD70: Frontinus (fill **26661** of pit **26582**, Field 258) and Vitalis ii (foundation layer **31774** of group **29961**, RR6, Field 265).

Decoration

A large proportion of the decorated ware is abraded and fragmented, and often cannot be dated precisely. There is relatively little that is clearly Claudian in the decorated repertoire compared to Neronian, late Neronian–early Flavian and early Flavian examples.

Chronology of samian vessels

The assemblage consists of 1948 sherds, with 1571 from Periods 1 to 4. Perhaps the best way to first illustrate the unusual nature of the samian from Scotch Corner is to compare the ratio of two chronologically sensitive South Gaulish forms, namely the Dr.29 and Dr.37 from the three fields where both forms are present (Fields 246, 258 and 265) to key sites related to the Roman conquest in the area, Scottish forts occupied for a relatively short time in the AD80s, and other groups further afield with well-dated or well-phased assemblages. This method is quite coarse, since it does not reflect the nature and idiosyncrasies of each group; for example, a largely unused residual South Gaulish group of Vespasianic–Domitianic material in period 5A at Caernarfon (King and Millett 1993) or the discarded stock from Blake Street (Dickinson and Hartley 1993a). However, it does help visualise the chronological progression of the site and the shift in occupation from one field to another. Field 246 sits clearly on the left of Fig. 5.3 with a ratio of 3.8, a ratio much higher than the one from Metchley fort

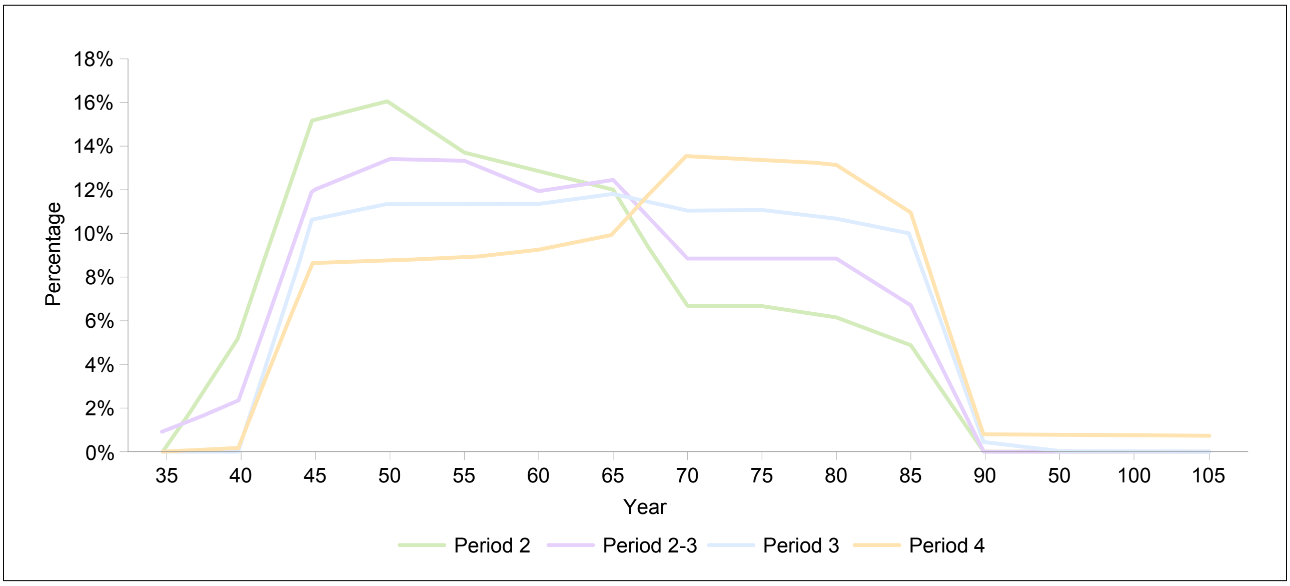

Figure 5.5: chronological distribution of the South Gaulish samian recovered in each field (based on MNV and shown as a percentage of the total in each Period for comparative purposes).

that is dated to AD46–74. The ratio for Field 258 (0.87) is similar to those from sites known to have been occupied for a relatively short time in the AD80s. Field 265 has a later emphasis and is more akin to Newstead, which was occupied until the early 2nd century AD.

When tabulated by field, the group suggests a relatively short-lived site with several episodes of deposition from the pre-Flavian period to AD85/90 (Fig. 5.4). There are very few vessels that can be attributed to the later Flavian period, and the styles normally associated with later Flavian foundations, such as *Vindolanda* (Monteil 2016b; 2017a; forthcoming) or Warrington (Dickinson and Hartley 1992), are largely absent. The latest stamps have a date range of AD70–95 (Cat. no. 10) and AD70–85 (Cat. no. 21).

One of the difficulties for this group resides in assessing whether there is distinct Neronian (AD55–70) occupation at Scotch Corner. There are undoubtedly some pre-Flavian vessels and pre-Flavian occupation at Scotch Corner, some of which cluster nicely in discrete features in Fields 246, 267a and 223. There are also several decorated bowls with styles consistent with a Neronian date, although very few were recovered without late Neronian–early Flavian material alongside them outside of Period 3. Stamps of pre-Flavian or partly pre-Flavian potters are present at York, where they have not traditionally been seen as strong evidence for occupation before AD71 (Dickinson and Hartley 1971, 131; but see Cool 1998a for a review of the glass evidence from St. Mary's Abbey, York). Equally, at Carlisle, the presence of pre-Flavian and Neronian vessels is seen as consistent with a foundation in the early AD70s (Ward 2009).

Period 1

There was very little samian associated with Period 1. Two sherds were recovered from two separate features: fill **7268** of ditch **7266** (Field 219) and fill **24541** of gully **24349** (Structure 50ii, Field 223). The decorated fragment in fill **7268** is too small and excoriated to be attributed to a potter's style or even a specific form. Both are from La Graufesenque in southern Gaul but neither presents the characteristic pale fabric of earlier material.

Period 1–2

With only two sherds, the samian recovered from features assigned to Period 1–2 precludes drawing any significant conclusions. The evidence includes a Dr.18 plate from group **31206** (fill **24977** of ditch **24966**), the rim of which suggests this may be an early example, and a Dr.27 cup from group **12200** (fill **12168** of ditch **12165**). Both are from La Graufesenque.

Period 2

The samian assemblage from Period 2 consisted of 48 sherds. These represent 35 vessels, although 14 fragments are too small to be attributed to a form (Table 5.33). Of the Period 2 samian, 35 sherds come from Field 246, while the rest come from Fields 223, 228 and 267a.

Perhaps the most surprising aspect of the assemblage from Period 2 is the presence of an Italian-type sigillata dish in the group from Scotch Corner, which was recovered from second fill **16411** of trench **16410** in Field 246 (Cat. no. 203). Only a few fragments remained; two were found in the second fill of the trench, while the rest came from a later fill (see Period 4). The find is exceptional, as this is the first of its kind to be recovered north of the Humber. A number of Italian-style sigillata vessels (from Italy and the Lyon area) have been recorded at several major sites with Late Iron Age occupation in southern Britain, including *Camulodunum* (Hawkes and Hull 1947), Silchester (Bird 2018), Chichester and Fishbourne (Dannell 1971; 1978; 1981b; 1993a; 1996), Heybridge (Bird 2015), Skeleton Green (Dannell 1981c) and Baldock (Dickinson 1986), and in sufficient quantities to demonstrate trade in these wares during the Late Iron Age (Bird 2018). Outside of this southern distribution there is a small concentration in Leicester (Dannell 1985, 61; Mills forthcoming), where both Italian types and early South Gaulish pieces are present. Beyond this, a few pieces are known from Old Sleaford (Dickinson 1997), perhaps Dragonby

Table 5.34: samian types from Period 2–3 contexts.

	La Graufesenque			
	No.	MNV	RE	Weight (g)
Dec. bowl	1	1	–	1.0
Dish	2	2	–	9.0
DR 15/17	1	1	–	5.0
DR 18	5	4	0.21	12.0
DR 18R	2	1	0.13	30.0
DR 24/25	2	1	0.14	10.0
DR 27	1	1	0.07	2.0
DR 29	1	1	–	17.0
DR 30	1	1	–	1.0
RT8	4	1	–	7.0
Unidentified	6	6	–	5.1
Total	**26**	**20**	**0.55**	**99.1**

Table 5.35: samian types from Period 3 contexts.

	La Graufesenque			
	No.	MNV	RE	Weight (g)
Dec. bowl	3	2	–	9.0
Dish	5	4	–	75.0
DR 18	7	7	0.24	21.0
DR 18R	2	1	0.42	381.0
DR 27	5	3	0.08	11.0
DR 29	1	1	0.06	5.0
DR 30	2	2	–	9.0
Unidentified	17	17	–	14.2
Total	**42**	**37**	**0.80**	**525.2**

(mentioned in Dickinson 1997, but not in Dickinson 1996) and on the Humber at Redcliff (Corder and Pryce 1938, 262). The latter solitary vessel has since been reassessed and identified by Hartley (1976, 134, note 2) as a Loeschcke form 2A, which is probably South Gaulish in origin and 'Tiberian or very early Claudian' in date.

The Scotch Corner platter either arrived on site during the Late Iron Age as part of other gift exchanges or later as a personal possession. It has been given a date range of 10BC to AD25 but was presumably found residual and burnt alongside a small but interesting group of South Gaulish vessels that were consistent with a Claudian date: two Dr.24/25 and a Dr.29 (Cat. no. 29). It is conceivable that the Dr.29 bowl recovered from trench **16410** arrived on site earlier than the Claudian period; the single but tentative parallel that can be found for the decoration is a bowl with an internal stamp that has a date range starting in AD10 (Cat. no. 30). The shape, fabric and style, however, all point to a Claudian date (Dannell, pers. comm.).

The samian recovered from Structure 47iv consisted of only three sherds but one of these, a Dr.29, has clear stylistic links to the Dr.29 bowl from trench **16410** and is likely to be from the same vessel (Cat. no. 40). The samian group from occupation layer **24409** has equally early traits: one of the examples of bowl Dr.29 has a footring with a groove located near the outside, an early characteristic of the form which suggests a date range of AD40–60. The Claudian Dr.17?/Dr.15/17 described above (Fig. 5.6) also belongs to this group. The material from Field 223 includes a Dr.29 with a pale fabric, like that from Field 246, and so likely Claudian in date, but with no decoration (fill of ditch/pit **30664**). A Dr.29 with excoriated surfaces also came from Field 223, from the fill of ditch **30198**. Its decoration points to a Neronian date (Cat. no. 31). A Dr.24/25 with a complete profile was recovered from Structure 18 (fill of gully **30633**).

Overall the chronological emphasis of the Period 2 samian appears slightly earlier than the samian assemblage recovered from Stanwick site 9 (Fig. 5.4; compare to Willis and Millett 2016, table 11.18, dated c.AD50–70); there is an Italian-type platter (though not included in Fig. 5.5) and there are more Claudian types than Neronian ones. With the exception of a Dr.27 form cup, comprising a very small body sherd recovered from the eighth fill of pit **32532** (Field 267a), all of the cups are of type Dr.24/25.

Table 5.36: samian types from Period 4 contexts.

Vessel type	Italian Type		La Graufesenque			
	No.	Weight (g)	No.	MNV	RE	Weight (g)
Beaker	–	–	3	3	–	3
Bowl	–	–	3	3	–	79
CU 11	–	–	2	2	–	8
Cup	–	–	8	8	–	31
DE 67	–	–	20	10	0.79	35
Dec. bowl	–	–	43	42	0.03	64.2
Dish	3	25	54	48	–	541
Dish R	–	–	2	2	–	11
DR 15/17	–	–	38	26	1.7	381
DR 18	–	–	258	189	8.44	2811.5
DR 18R	–	–	45	15	0.89	640
DR 27	–	–	125	102	5.36	456
DR 27g	–	–	31	17	2.24	423
DR 29	–	–	136	87	1.46	1035.1
DR 30	–	–	32	16	0.94	306
DR 35	–	–	4	3	0.35	7
DR 36	–	–	22	9	0.98	560
DR 37	–	–	173	86	3.41	1778
DR 37E	–	–	28	2	0.31	284
DR 42D	–	–	1	1	–	1
KN 78	–	–	5	4	0.08	10
RT 12	–	–	3	1	0.05	41
RT 9	–	–	5	3	0.03	25
Unidentified	–	–	353	339	–	426.8
Total	**3**	**25**	**1394**	**1018**	**27.06**	**9957.6**

Table 5.37: samian types from Period 4 contexts in Field 246.

Vessel type	No.	% sherds	Weight (g)	Average weight (g)	RE	% RE	MNV	%MNV
Cup	2	0.66	15	7.50	–	–	2	0.8
DE 67	1	0.33	3	3.00	0.08	1.86	1	0.40
Dec. bowl	7	2.30	11	1.57	–	–	7	2.8
Dish	8	2.62	78	9.75	–	–	8	3.2
DishR	2	0.66	11	5.50	–	–	2	0.8
DR 15/17	9	2.95	74	8.22	0.26	6.06	5	2.00
DR 18	35	11.48	313	8.94	1.56	36.36	30	12.00
DR 18R	3	0.98	60	20.00	0.03	0.70	2	0.80
DR 27	30	9.84	111	3.70	1	23.31	23	9.20
DR 27g	2	0.66	41	20.50	–	–	2	0.80
DR 29	46	15.08	241	5.24	0.44	10.26	31	12.40
DR 30	15	4.92	114	7.60	0.5	11.66	3	1.20
DR 37	15	4.92	216	14.40	0.42	9.79	10	4.00
Italian style platter (residual)	3	0.98	25	8.33	–	–	–	–
Unidentified	127	41.64	149.7	1.18	–	–	124	49.60
Total	**305**	**100**	**1462.7**	**4.80**	**4.29**	**100**	**250**	**100**

Table 5.38: samian types from Period 4 contexts in Field 258.

Vessel type	No.	% sherds	Weight (g)	Average Weight (g)	RE	%RE	MNV	%MNV
Beaker	2	0.21	2	1.00	–	–	2	0.31
Bowl	3	0.31	79	26.33	–	–	3	0.46
CU 11	2	0.21	8	4.00	–	–	2	0.31
Cup	5	0.52	15	3.00	–	–	5	0.76
DE 67	19	1.99	32	1.68	0.71	3.34	9	1.38
Dec. bowl	27	2.82	46.1	1.71	0.03	0.14	26	3.98
Dish	35	3.66	283	8.09	–	6.72	31	4.74
DR 15/17	28	2.93	306	10.93	1.43	30.61	20	3.06
DR 18	201	21.00	2372	11.80	6.51	3.71	141	21.56
DR 18R	35	3.66	440	12.57	0.79	19.65	10	1.53
DR 27	88	9.20	325	3.69	4.18	10.53	73	11.16
DR 27g	27	2.82	372	13.78	2.24	3.29	13	1.99
DR 29	80	8.36	715	8.94	0.7	2.07	47	7.19
DR 30	17	1.78	192	11.29	0.44	1.65	13	1.99
DR 35	4	0.42	7	1.75	0.35	4.61	3	0.46
DR 36	22	2.30	560	25.45	0.98	11.89	9	1.38
DR 37	129	13.48	1371	10.63	2.53	1.18	54	8.26
DR 37E	27	2.82	274	10.15	0.25	0.38	1	0.15
KN78	5	0.52	10	2.00	0.08	0.24	4	0.61
RT12	3	0.31	41	13.67	0.05	–	1	0.15
Unidentified	198	20.69	247.8	1.25	–	–	187	28.59
Total	**957**	**100.0**	**7697.9**	**8.04**	**21.27**	**100**	**654**	**100**

The group is small, but decorated vessels play a significant role, with nine examples of Dr.29 decorated bowls out of 19 vessels (47.4%) attributed to form, which provides a percentage slightly above that for the samian assemblage from Melsonby (39.1% based on 23 vessels; Fitts *et al*. 1999) but well below the one from Stanwick site 9 (59.4% based on 64 vessels; Willis and Millett 2016, table 11.18). However, the more unusual decorated forms recovered at Stanwick (a Hermet 15 jug at site 9 and a Dr.11 decorated crater or bowl at site A; *ibid*., table 11.17) are absent from Scotch Corner, as are plain spouted bowls (e.g. Rt.12).

Period 2–3

Twenty-seven fragments were recovered from deposits assigned to Period 2–3, although these include an intrusive Central Gaulish decorated sherd in the fill of gully **15688** (Cat. no. 33) that has been removed from the tabulation. The rest is from La Graufesenque (see Table 5.35). The range of forms is similar to Period 2 but included an additional two types: Rt.8 and Dr.30 (Table 5.34).

The chronological emphasis of the samian from Period 2–3 bears many similarities to that recovered in Period 2. The earliest material was from Field 223, namely a Dr.24/25 and a Dr.15/17, which were recovered from the fill of pit **30660**. A Neronian Dr.29 (Cat. no. 32) bowl was also recovered from group **30898** (fill **30074** of ditch **30070**) in Field 223.

In Field 246, group **31283** presents the largest sub-group in the Period, with 14 sherds (totalling nine vessels). These included a Dr.27 cup with a flat-topped rim that is more typical of the Claudian–early Neronian period from ditch **24309**, a Dr.18 and a Dr.18R. Two vessels point to a Neronian date for the samian from group **31283**; however, the Rt.8 had a stamp by Licinus, which likely dates to the early Neronian period (Cat. no. 186), while the Dr.30 had a partial ovolo, which was used by late Neronian–early Flavian potters.

Two undiagnostic flakes from well **31848** in Field 267a complete this small collection; they do not conflict with the rest of the samian group from Period 2–3 but add very little to the narrative.

Period 3

Only 42 sherds (0.8 EVEs; 37 vessels) belong to contexts attributed to Period 3. All but one of these come from deposits in Field 246. With the exception of an archaeologically complete Dr.18R form dish, the group is in poor condition, with an average weight of 4.6g and 17 fragments that are too small to attribute to a specific form (Table 5.35).

The chronological evidence provided by the group is limited and rather frustrating. Indeed, the chronological curve for the vessels in Period 3 is a flat line from AD40 to AD90 (Fig. 5.5). There are fewer types than in Period 2 and it is defined as much by what is absent as by what is present.

Table 5.39: samian functional categories in the three larger sub-groups from Period 4 contexts.

Vessel Type	Field 246				Field 265				Field 258			
	RE	% RE	MNV	% MNV	RE	% RE	MNV	% MNV	RE	% RE	MNV	% MNV
Bowl	–	–	–	–	–	–	–	–	0.05	0.24	6	1.29
Cup	1	23.31	27	21.43	0.15	11.45	7	10.77	6.77	31.93	94	20.17
Dec. beaker	0.08	1.86	1	0.79	–	–	1	1.54	0.71	3.35	11	2.36
Dec. bowl	1.36	31.7	51	40.48	0.77	58.78	33	50.77	3.88	18.3	140	30.04
Dec. cup	–	–	–	–	–	–	–	–	0.08	0.38	4	0.86
Dish	1.85	43.12	47	37.3	0.39	29.77	24	36.92	9.71	45.8	211	45.28
Total	**4.29**	**99.99**	**126**	**100**	**1.31**	**100**	**65**	**100**	**21.2**	**100**	**466**	**100**

Table 5.40: samian functional categories in four Flavian assemblages (Dickinson and Hartley 2000, tables 2 and 8; Hartley 2007, tables 10.13 and 10.14).

Vessel Type	Castleford fort phase 1		Castleford vicus phase 1		Castleford vicus phase 2		Elginhaugh	
	MNV	%MNV	MNV	%MNV	MNV	%MNV	MNV	%MNV
Bowl	4	0.77%	3	2.17%	12	3.37%	9	3.40%
Cup	139	26.63%	28	20.29%	74	20.79%	52	19.62%
Dec. beaker	6	1.15%	2	1.45%	10	2.81%	4	1.51%
Dec. bowl	151	28.93%	49	35.51%	136	38.20%	81	30.57%
Dish	222	42.34%	56	40.58%	123	34.55%	115	43.40%
Inkwell	–	–	–	–	1	0.28%	4	1.51%
Total	**522**	**100%**	**138**	**100%**	**356**	**100%**	**265**	**100%**

None of the pale fabrics associated with the Claudian examples recorded in Period 2 are present, but neither are the more typical pre-Flavian forms, such as Dr.24/25 and Dr.15/17, or the Rt.12 spouted bowl, recorded in Periods 2 and 2–3. Here, the range of plain forms is limited and only includes Dr.27, Dr.18 and Dr.18R (see Table 5.35).

The group is small, and it is therefore difficult to assess the significance of such absence. Dr.24/25 and Dr.15/17 are normally relatively well-represented in Neronian groups, whether in small assemblages recovered on native sites (e.g. Melsonby: Willis 1999, table 5; and Stanwick: Willis and Millett 2016, table 11.17) or much larger, well-dated groups further south (Wild 1985 for a more domestic group; Millett 1987b; Rayner 2011, table 24 for stock groups discarded as a result of the Boudican revolt; Hartley and Dickinson 1982, 133–42; Monteil 2018a, table 3 for dumps of unused vessels discarded by the military).

Equally, the typically Flavian forms that abound in Period 4 are completely absent. The latest diagnostic material comes from ditch **15859**: a Neronian decorated Dr.30 form bowl from primary fill **15897** (see Cat. no. 34) and a stamp, most likely by Severus iii (Cat. no. 187), providing a *terminus post quem* of AD65, although it was recovered in third fill **15505** of ditch **15859**.

Although the range of forms is poor and the group small, the functional profile is very different from that in Period 2. There are fewer decorated bowls (five of 20 vessels attributed to forms), more dishes (n=12) and a few cups (n=3). While these numbers are not suited to statistical analysis, the emphasis on dishes, with decorated bowls and cups placing second and third respectively, perhaps make this functional pattern closer to the average for a military site (Willis 2005b, chart 13) if based on the MNV. Alternatively, the strong emphasis on dishes points more to a rural profile (*ibid.*, chart 17). When based on EVEs (see Leary, this Chapter; Fig. 5.55) the evidence does indeed point more towards a rural profile for the samian from Period 3. However, it is difficult to decide either way; the profile based on EVEs includes the value of an archaeologically complete Dr.18R dish in the group (from the third fill of ditch **15859**), which is likely to bias that category.

Period 4

What is immediately apparent from Table 5.36 is that the quantities and diversity of samian ware types increase dramatically in Period 4. With a total of 1397 sherds, the vast majority of the samian assemblage from Scotch Corner comes from deposits assigned to Period 4. Some of this material is clearly residual, such as the three Italian-type fragments recovered from fill **16435** of trench **16410** or the sherds of the Claudian Dr.29 recovered from cleaning layer **24146** first deposited in Structure 47 and trench **16410** in Period 2.

Some of the Dr.15/17 dishes might be residual. One from buried soil **24147** (Group **31261**, Field 246) shows early traits (a simple profile with two grooves towards the bottom, dated to AD40–70). Another from fill **15132** of ditch **15184** (Field 258) has one of the earliest stamps recovered from the site (Crestio, AD45–75; see Cat. no. 211). However, another sherd from the same context bears a stamp by Calvus I, dated to AD65–90 (Cat. no. 201). The same applies for some of the cups; one example of a form Rt.9, a form more typical of the pre-Flavian period, also bears a stamp by Calvus i (Cat. no. 204).

There are some stark spatial differences between fields in Period 4 that are worth exploring, especially between the groups recovered in Field 246 and Field 258. Tables 5.37 and 5.38 clearly illustrate that there are higher percentages of unidentified forms and a lower average weight in Field 246 (8g; 41% of unidentified forms) than in Field 258 (13.5g; 20% of unidentified forms). The assemblage from Field 246 includes a higher proportion of residual and redeposited material.

Even accounting for the residual material from Field 246, the profile appears somewhat older, with more old-fashioned types and a Dr.29:Dr.37 ratio of 3.1 compared to 0.8 in Field 258. Flavian types are in the Field 246 group (Dr.37, a single De.67) but not the full range, as is shown in Field 258. Forms Cu.11, Dr.35 and Dr.36 are conspicuous by their absence (Table 5.37).

Functional analysis

The size of the assemblage from Period 4 means that it is the first one where functional analysis can be undertaken with some confidence, since numbers are sufficient to permit reliable percentages to be generated. The results based on MNV and RE are presented in Table 5.39, while Table 5.40 provides comparative evidence from a small selection of sites for which quantified information for the samian is available.

Table 5.39 shows that there are clear differences in samian consumption between the three main assemblages from Period 4. It is possible that some of these differences are chronological, since the range of forms and the Dr.29:Dr.37 ratio from Field 246 suggest an earlier emphasis, and the comparison is between an older mostly redeposited assemblage with one that is later, probably dating to the end of Period 4 (AD85/90), in Field 258. The differences are interesting regardless.

The relative frequency of samian functional categories from military sites in Britain is generally dominated by dish and platter forms, with decorated bowls in second place and cups in third position (Willis 2005a, chart 13 and table 35). The quantitative roles (if based on MNV) played by these three categories in the group from Field 258 fits particularly well with such profiles, with dishes making up 45% of the group, decorated vessels just above 30% and cups in third position (Table 5.39). The figures are close to the ones from Castleford fort phase 1 and Elginhaugh (Table 5.40). There are also relatively high percentages of decorated beakers from Field 258 (Table

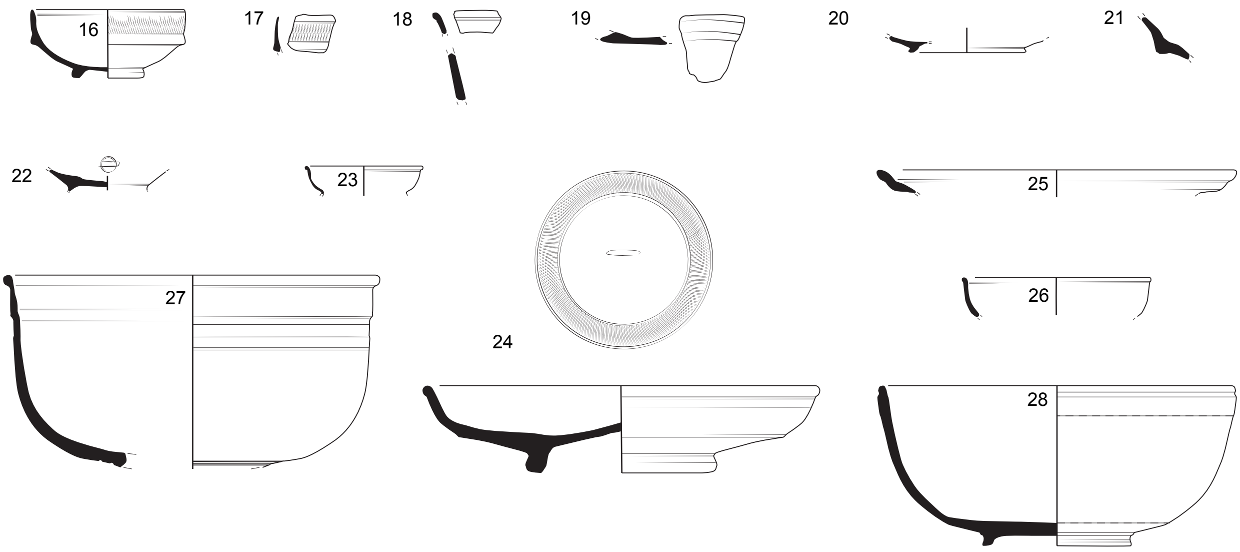

Figure 5.6: samian forms, Cat. nos 16–28. All vessels are illustrated at 1:4 unless stated otherwise.

5.39); the figures are higher than the 1.15% at Castleford fort phase 1, 1.45% from Castleford *vicus* phase 1 (figures based on Dickinson and Hartley 2000, tables 2 and 8) and 1.51% in the combined assemblage from the fort and annexe at Elginhaugh (figure based on Hartley 2007, tables 10.13 and 10.14). High percentages of De.67 were recorded at Ribchester (Dickinson 2000, 204), although the percentage from this site is provided as part of the decorated group as opposed to the whole assemblage. The South Gaulish decorated assemblage from the annexe ditch of the first Flavian fort in Carlisle and the group from the Carlisle Millennium project both had high percentages of De.67 (Dickinson 1992, table 2; Ward 2009, 551–2), with Kn.78 in the former as at Scotch Corner.

The profile for Field 246 shows a stronger emphasis on decorated vessels, at least when based on MNV with dishes in second place and cups coming third (Table 5.39). This profile is closer to what would be expected of an extramural assemblage (Willis 2005a, chart 14) and the figures from Castleford *vicus* phase 2 offers a good parallel (Table 5.40).

Even higher percentages of decorated bowls are in the Field 265 group with figures well above 50% whether based on MNV or RE (Table 5.39). High proportions of decorated ware are not unusual for a samian assemblage from a military extramural settlement/*vicus* (Willis 2005a, table 35 and chart 14 or see Castleford *vicus* phase 1 and phase 2 in Table 5.40) but these percentages are nevertheless unusually high. Those figures well above 50% are more akin to profiles recovered from 'industrial sites' such as Middlewich (Ward 2008, fig.80, 146), Healam Bridge (Monteil 2017b, though the site is 2nd century AD) and Walton-le-Dale (Wild forthcoming).

It is not possible to discuss the samian from all of the archaeological groups in detail but two deserve a brief mention.

Group 28131 (Field 258)

Totalling 356 sherds (237 vessels, weighing 28kg; RE: 6.39 RE), the samian group from Group **28131** was amongst the largest recovered from Field 258, with multiple joins between the pits, large sherds and several archaeologically complete profiles. This suggests a single event in which all the vessels were thrown away. The group makes up a large proportion of the overall assemblage from Period 4, especially that for Field 258 (Table 5.38). Several of the forms listed are in this pit group (Cu.11, Kn.78, Dr.37E, De.67 and Dr.36). The group has been interpreted as an end of occupation event/termination/domestic clearance deposit but there is evidence for some ritual or deliberate placement of at least a few samian vessels.

One of the archaeologically complete vessels is from primary fill **15360** of pit **15386** (a Dr.18) but the others in this group are all from third fills: a Dr.18 with a stamp by Passenus in fill **15363** of pit **15336** (Cat. no. 189); a Dr.18 with a stamp by Mommo in fill **15436** of pit **15437** (Cat. no. 191); a Dr.27g with a stamp by Dontio (Cat. no. 193) and a Dr.36 in fill **26183** of pit **26179**; and a Dr.27g cup (Cat. no. 195) in fill **27226** of pit **27224**. An almost complete Dr.37 with internal grooves (Cat. no. 27) was recovered from fill **26205** of pit **26201**. None of these vessels present any obvious sign of marking or mutilation, as is often found on pottery vessels in structured deposits, but there may be some suggestion of a ritual element to the closure of the pits. Other examples of similar deposits that include samian vessels are known in Roman Britain (Willis 2005a, 12.4; Monteil 2014; 2016b; 2017b).

One of the decorated bowls, of which sherds were found in fill **15356** of pit **15349**, fill **15363** of pit **15336**, fill **15418** of pit **15349** and fill **26661** of pit **26582**, is a Neronian Dr.29 with evidence of repair (Cat. no. 44).

There is a small concentration of 13 burnt sherds (3.6% total sherd count for Group **28131**). Some showing evidence of fierce burning, with fabric and slip that have turned grey. The burnt forms include dishes form Dr.18, cups form Dr.27g, two pre-Flavian decorated bowls (Cat. nos 51 and 64) but also a beaker form De.67 base which is Flavian (fill **15181** of pit **15180**).

Pit 15077 (Field 258)

The samian group from fill **15113** of pit **15077** was small, consisting of only eight vessels, six of which could be attributed to forms. Three are archaeologically complete (two cups of form Dr.27g with stamps by Iovius and Memor and a Dr.37 decorated bowl), one is a complete base from a Dr.27g cup with one of the few clear examples of internal wear, one is a large section of a fourth Dr.27 cup (RE=0.13), and one is a small section of a Dr.15/17 dish.

Period 5

A total of 26 sherds were found in Period 5 contexts, 21 of which were recovered from Field 265. The samian assemblage from Period 5 is too small to undertake much in terms of detailed analysis. The forms are similar to those recovered from Period 4.

Literacy

A single illiterate graffito was recorded: an X inscribed on the underside of a Dr.18 plate recovered from primary fill **27189** of ditch **27186** (Period 5+), described by Tomlin, below. Bearing in mind that the erosion on the surface might mean some graffiti are no longer visible, this low number fits with the rest of the Roman pottery assemblage, where no other graffito was uncovered (see Leary, this chapter) and there is no other indication of literacy, such as inkwells, in the samian assemblage. While no graffiti were recorded on the samian at Stanwick (Willis and Millett 2016) or Melsonby (Fitts *et al*. 1999), they occur frequently at sites with Flavian military occupation in the north (e.g. Carlisle: Ward 2009, table 16; Tomlin 2010, 79–80; *Cataractonium*: Tomlin 2002, 505–10; and Chester: Ward 2017 238–9, table 28).

Inscribed sherd

Roger Tomlin

Large sherd preserving the profile of a Dr.18 dish stamped OFSEV (La Graufesenque, Severus iii, die 7t, AD65–95; Cat. no. 220), preserving half the foot-stand. Scratched after firing underneath, within the footring, two intersecting lines:

X

A 'cross', as a mark of identification. Although half the base is missing, the graffito is almost certainly complete.

Repair

Only four vessels display evidence of mending or preparation for repair. This represents 0.39% of the total MNV for Period 4, in which all these vessels were recovered. Two came from Field 246: a dish was recovered from the second fill of ditch **15537** and a Dr.30 decorated bowl from the fourth fill of ditch **15869**. The others were from Field 258: a Dr.29 decorated bowl from the second fill of pit **15349** (group **28131**) and a Rt.12(?) bowl in ditch group **28158**. This low number of repairs may be related to the relatively short-lived occupation on the site or access to fresh supply. The percentage is very low, especially when compared to other assemblages from Britain (Willis 2005a, table 73), and lower than the military average of 2%. Amongst the groups listed by Willis, the closest parallel is found in the assemblage from Brough-on-Humber, although occupation carried on there until much later. Low percentages of repaired vessels were recorded in the samian assemblage from the Carlisle Millennium project (Ward 2009, 564) and the group from the Chester Amphitheatre (Ward 2017, 240). The latter two groups include 2nd-century AD material.

There is no evidence for the reuse or reworking of samian vessels at Scotch Corner. A single cup has a deliberate perforation through its base. It could be significant that this vessel came from fill **16290** of trench **16410** (Field 246), although this was assigned to Period 4, as this trench yielded an exceptional group of pottery that included the Italian-style platter. The inclusion of a samian cup with a deliberate perforation fits with the interpretation of the pottery group from trench **16410** as exceptional and potentially from a single event (see Leary, this chapter). When samian vessels are recovered from deposits interpreted as ritual or structured, they often exhibit various types of alterations, such as graffiti, notches, missing sections, repairs and/or wear (Willis 2005a, 12.4, Biddulph and Compton 2015, Monteil 2014, 2016b, 2017c, 2018b and 2018c). Using samian vessels that have often been deliberately 'mutilated' or altered as grave goods is a relatively well-documented practice in funerary contexts in Roman Britain (Willis 2005a, section 9.4; Biddulph 2006; Cool and Leary 2012) and it is not inconceivable that such alteration also took place before deposition in a structured deposit.

Catalogue of samian pottery

16. Archaeologically complete Dr.24/25 samian cup. Fabric: La Graufesenque. Count: 1, Weight: 17g, RE: 13%. AD45–70. Field 223; Structure 18; Group **30872**; Context **30634**; fill of ring-gully **30633**. Period 2. cf. potters' stamp Cat. no. 185. Figure 5.6.

17. Incomplete Dr.24/25 samian cup. Fabric: La Graufesenque. Count: 1 Weight: 2g, RE: 6%. AD45–70. Field 246; Context **16411**; second fill of trench **16410**. Period 2. Figure 5.6.

18. Incomplete Dr.30 samian decorated bowl. Fabric: La Graufesenque. Count: 1, Weight: 8g, RE: 0%. AD45–110. Field 246; Context **15897**; fill of ditch **15859**. Period 2. cf. decorated samian Cat. no. 34 for rubbing. Period 2. Figure 5.6.

19. Incomplete Italian-style sigillata platter. Fabric: Italian-type sigillata. Count: 6, Weight: 39g, RE: 0%. 10BC–AD25. Field 246; Context **16435**; third fill of trench **16410**. Period 4. Only one sherd is illustrated. Figure 5.6.

20. Incomplete Dr.29 samian decorated bowl. Fabric: La Graufesenque. Count: 2, Weight: 6g, RE: 0%. Field 246; Context **16411**; second fill of trench **16410** and Field 246; Structure 47ii; Group **31276**; Context **24641**; second fill of ditch re-cut **24982**. Period 2. Figure 5.6 Cf. Cat. nos 29 and 30, Fig. 5.7. Probably the same bowl as sherds from **16435** (not illustrated) and **24146** (Cat. no. 108, Fig. 5.14), both Period 4. Figure 5.6.

21. Incomplete Dr.17?/early Dr.15/17 samian plate. Fabric: La Graufesenque. Count: 1, Weight: 15g, RE: 0%. AD40–55. Field 246; Context **24409**; levelling layer. Period 2. Figure 5.6.

22. Base of an Rt.8 samian cup. Stamp with Licinus, a line drawing of base and rubbing of the stamp. Cf. Cat no. 186 Fabric: La Graufesenque. Count: 1, Weight: 3g, RE: 0%. AD35–65. Field 246; Context: **24204**; fourth fill of ditch **24309**; RF11464. Period 2. Figure 5.6.

23. Rim of a Dr.27 samian cup. Fabric: La Graufesenque. Count: 1, Weight: 2g, RE: 7%. AD45–110. Field 246; Context **24204**; fourth fill of ditch **24309**. Period 2. Figure 5.6.

24. Archaeologically complete Dr.18R samian plate. Fabric: La Graufesenque with stamp by Severus iii, profile and photo of stamp (rubbing is poor) cf. Cat. no. 187. Count: 2, Weight: 381g, RE: 42%. AD65–95. Field 246; Context **15505**; third fill of ditch **15859**; RF10112. Period 2. Figure 5.6.

25. Incomplete Dr.16 samian plate. Fabric: La Graufesenque. Count: 1, Weight: 4g, RE: 3%. AD40–70. Field 228; Group **28456**; Context **28214**; third fill of ditch **28211**. Period 2–4. Figure 5.6.

26. Incomplete Dr.27 samian cup. Fabric: La Graufesenque. Count: 1, Weight: 3g, RE: 8%. AD45–110. Field 246; Context **15809**; second fill of pit **15808**. Period 3. Figure 5.6.

27. Rim sherd from a Dr.37 samian bowl with internal grooves. Fabric: La Graufesenque. Count: 1, Weight: 2g, RE: 3%. AD65/70–85. Cf. profile and rubbing (Cat. no. 63) Field 258; Group **28131**; Context **26205**; fourth fill of pit **26201**. Period 4. Figure 5.6.

28. Complete Dr.37 samian bowl. Fabric: La Graufesenque. Count: 1, Weight: 490g, RE:1%. AD70–90. Field 258; Context **15113**; primary fill of pit **15077**; RF10018. Period 4. Figure 5.6.

Catalogue of samian rubbings

The following catalogue lists most of the decorated pieces recovered from the site. For South Gaulish Dr.29 and 30s it is often difficult to suggest a specific potter or even a group of potters. Some of the fragments are too small or too excoriated to permit much in terms of comments or dating but have been included because of the nature and importance of the group. The Inventory Numbers (Inv. No.) quoted as parallels are taken from the European intake of Roman Samian ceramics (www.rgzm.de/samian).

The catalogue is organised by Period then group; each entry gives the excavation context number with details of the decoration.

29. One body sherd, Dr.29, La Graufesenque, pale pink fabric with abundant chalky inclusions, little of the slip remains, what is left is matt and brownish. Lower frieze with straight gadroons, very little else, the gadroons are quite wide at the top and similar to a Dr.29 from Leicester dated AD30–45 though there the central cordon is rouletted which explains the early date range attributed (Dannell 1994, fig.44, no.1). The fabric and decoration are similar to the Dr.29 from Period 2 (**24641** Cat. no. 30), two fragments in Period 4 (**24146** Cat. no. 108) and an excoriated body sherd from Period 4 (**16435**). Claudian? Field 246; Context **16411**; second fill of trench **16410**. Period 2. Figure 5.7.

30. One body sherd, Dr.29, La Graufesenque, upper frieze with a wreath of trefoils and top of straight gadroons in lower zone. The fabric is pale with abundant white inclusions and the slip matt. The trefoil is hard to match, it has curved outer leaves which are hollow in the centre and a central bud/pistil ending in a short astragalus which is perhaps from an independent poinçon since it is centred on one example and not on the other. The beads are well-spaced and well-defined though not particularly large. A Dr.29 with an internal stamp by Bilicatus from London (Inv. No. 0004168) has a similar decoration, Bilicatus is dated AD10–50 in NoTS. The size of the beads in the borders on either side of the cordon and the overall style fit a Claudian date. Probably the same bowl as the one in Period 2 (**16411**), Period 4 (**16435**) and Period 4 (**24146**). Field 246; Structure 47iv; Context **24641**; third fill of penannular gully **24982**. Period 2. Figure 5.7.

31. Two body sherds, Dr.29, La Graufesenque, excoriated. Hardly any decoration is left but a palisade of poppy heads is just about visible in a side light. This is a motif that is often found on bowls associated with the anonymous T-1 mould maker(s) group which is Neronian (Dannell 1993b and see Inv. Nos 0003186, 0004019 for examples of such decoration). AD50–70. Field 223; Context **30199**; fill of ditch **30198**. Period 2. Period 2–3. Not illustrated.

32. One body sherd, Dr.29, La Graufesenque, excoriated. Upper frieze with a panel of leaf tips with 5

distinct barbs used as fillers, little of the lower frieze has survived, the top of a three poppy heads motif. See Inv. Nos 0001562, 0002744 with internal stamps by Labio and Inv. Nos 0000787, 0004292 with internal stamps by Niger ii for parallels. AD50–70. Field 223; Context **30074**; fill of ditch **30070**. Period 2–3. Figure 5.7.

33. One body sherd, Dr.37, Lezoux. B143, beaded border and partial bear Os.1627, likely by Cinnamus ii (Inv. Nos 0011200 and 0011204). AD140–80. Intrusive. Field 246; Context **15689**; fill of gully **15688**. Period 2–3. Figure 5.7.

34. Two non-joining body sherds, Dr.30, La Graufesenque, the small putto with a distinctive shortened arm is on a Dr.29 with an internal stamp by Cabiatus (Inv. No. 0002846) and a Dr.29 with an internal stamp by Modestus (Inv. No. 0000716). A Dr.30 has the wavy borders, a similar putto and the looped tendrils (Inv. No. 1002077) with an ovolo with again little dating information available but known on a Hermet 15 with a signature by Martialis i (Inv. No. 6000004). AD50–70. See Cat. no. 18. Field 246; Context **15897**; fill of ditch **15859**; primary pellet mould dump. Period 3. And Field 246; Context **15899**; layer overlying deposit **16177** in RW4. Period 4. Figure 5.7.

35. Two joining body sherds, Dr.29?, La Graufesenque. The surface is so abraded that it is impossible to decipher the decoration. Neronian? Field 246; Context **24254**; fill of ditch terminal **24253**. Period 3. Figure 5.7.

36. One sherd from fill **15356**, seven from fill **15418,** Dr.37, La Graufesenque, single border ovolo, stirrup leaves in festoons, wreaths of bifids, rosettes in circles. The ovolo is the one found on a bowl from Fishbourne (Dannell 1971, no. 93) where it is associated with the same two wreaths of bifids (Inv. No. 2006367). Few examples of that ovolo are known and none with a stamp or signature. The style is early and the ovolo referred to as Neronian (Dannell 1971, 296). AD65/70–80? Field 258; Group **28131**; Context **15356**; second fill of pit **15349**. Period 4. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.8 and 5.9.

37. One body sherd, Dr.29, La Graufesenque, the surface is excoriated, and the decoration is barely visible, a saltire is just about distinguishable which would suggest a late Neronian–early Flavian date. Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**. Period 4. Figure 5.8.

38. Two joining body sherds, Dr.37, La Graufesenque. Except for the medallion, which has two circles, the decoration with heart-shaped leaves in the corners and the wavy borders is very similar to the one on the Dr.37 from **15403** (see Cat. no. 45) and bowls of the early Flavian period (see for example a bowl with an internal stamp by Censor i: Inv. No. 0000319). AD70–90. Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**. Period 4. Figure 5.8.

39. One body sherd, Dr.29, La Graufesenque, chevron basal wreath as is found on Neronian bowls (Inv. No. 0002192 with an internal stamp by Ianua-i, Inv. No. 0001521 with stamp by Niger ii) but also Flavian ones (Inv. No. 0005755 with an intra-decorative stamp by Frontinus). AD65–85? Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.8.

40. One body sherd, Dr.29, La Graufesenque, partial saltire and large leaf tips fillers, see Cat. no. 53 for perhaps the same bowl and more information about the decoration. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.8.

41. One body sherd, Dr.29, La Graufesenque, burnt, and three sherds from **15418**. A Dr.29 with an internal stamp by Labio has an identical lower frieze with festoons with swirls separated by delicate beaded borders (Inv. No. 0003354). A similar decoration is also on a Dr.29 from Roecliff (Dickinson 2005, fig.21, no.127) and on a Dr.29 from Stanwick (Millett 2016, fig.11.15, no.136). AD45–75. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.8.

42. One body sherd, Dr.37, La Graufesenque. Too little of the helmet from a gladiator facing left remains for it to be matched to a specific type but such gladiators appear on early Flavian bowls (for example Severus iii—Inv. No. 0005497 or Mommo—Inv. No. 1001837). The bowl from **26553** (Cat. No.146) has a similar gladiator. AD70–90. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.8.

43. One body sherd, Dr.29, La Graufesenque, the saltire is too partial to be attributed. AD45–85. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.8.

44. One sherd from fill **15356** of pit **15349**, one from fill **15363** of pit **15336**, seven sherds from fit **15418** of pit **15349** and one joining sherd from fill **26661** of pit **26582**—Dr.29, La Graufesenque, repaired in two places. Several of the motifs (goose, the five-pronged tassel and the leaf in the small medallions) appear on bowls with stamps of Labio (Inv. Nos 0002744, 0003893, 0000611). A bowl from Carlisle with an internal stamp by Labio and dated AD50–65 shares several of the motifs (Dickinson 2010, no.17). Field 258; Group **28131**; Context **15356**; second fill of pit **15349**. Period 4. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.8.

45. One body sherd, Dr.37, La Graufesenque, the use of triple medallions and leaves used as tassels in the corners of panels is more characteristic of the later 70s and 80s as can be seen from the samian from Elginhaugh

(Hartley 2007). Dannell 1971, no.73 from Fishbourne and Inv. No. 0003167 for a Dr.29 with a Vitalis ii stamp have similar decorations. AD75–90. Field 258; Group **28131**; Context **15403**; third fill of pit **15386**. Period 4. Figure 5.8.

46. One body sherd, Dr.29, La Graufesenque. Partial lower frieze with poppy head motif under a tendril, a type of decoration pointing to the Neronian period (Inv. Nos 0000732, 0005208) though it was still in use in the later Neronian period (Inv. No. 0001040). AD50-70? Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.9.

47. Two non-joining body sherds, Dr.29, La Graufesenque. The festoon is badly applied but seems to have serrated edges which would suggest it might be as on a Dr.29 from Colchester attributed to Modestus (Dannell 1999, no.450). Perhaps pre-Flavian. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.9.

48. Two non-joining body sherds, De.67, La Graufesenque, the harpoon-shaped motif is close to the one on a Dr.29 with an internal stamp by Mommo (Inv. No. 0000758). Field 258; Group **28131**; Context **15424**; second fill of pit **15423**. Period 4. Figure 5.9.

49. One body sherd, Dr.30, La Graufesenque. The tip of the ovolo tongue is just about visible and terminates into a rosette with a clear dot in the centre. This ovolo is commonly used on Dr.30s from La Graufesenque. The ovolo is with the leaf and vertical wavy border on a Dr.30 from La Graufesenque (Inv. No. 1000197) and with a similar but perhaps not entirely identical chevron wreath on another (Inv. No. 1000198). On Dr.30s the ovolo is known for Calus ii which would suggest a late Neronian–early Flavian date. Field 258; Group **28131**; Context **15424**; second fill of pit **15423**. Period 4. Figure 5.9.

50. One body sherd, Dr.29, La Graufesenque. The large swirl is not attributable, the style is perhaps late Neronian–early Flavian. Field 258; Group **28131**; Context **15432**; fifth fill of pit **15180**, **15425**, **15429**. Period 4. Figure 5.9.

51. One body sherd, Dr.29, La Graufesenque, perhaps the same trefoil leaf wreath as the one on Cat. no. 54 from (26404) though this example is not burnt. AD60–80? Field 258; Group **28131**; Context **15432**; fifth fill of pit **15180**, **15425**, **15429**. Period 4. Figure 5.9.

52. One body sherd, Dr.37, La Graufesenque. The surface is excoriated which means none of the details are identifiable. Flavian. Field 258; Group **28131**; Context **15432**; fifth fill of pit **15180**, **15425**, **15429**. Period 4. Figure 5.9.

53. One body sherd, Dr.29, La Graufesenque, the multi-circled little medallion at the heart of the saltire is similar to one found on a bowl with an internal stamp by Bassus-Coelus (Inv. No. 0000155), a bowl with an internal stamp by Marinus i has the small medallion and perhaps the large leaf tips (Inv. No. 0004033). The large leaf tips are also on a bowl with an internal stamp by Passenus (Inv. No. 0000820). Neronian. See Cat. no. 40 from fill **15360** of pit **15386** and Cat. no. 62 from fill **27226** of pit **27224** for perhaps the same bowl. Field 258; Group **28131**; Context **15436**; third fill of pit **15437**. Period 4. Figure 5.9.

54. One body sherd, Dr.29, La Graufesenque, burnt black, upper frieze with a trefoil leaf wreath; the leaf is the one found on a Dr.30 from Barnwood Road (Monteil 2018a, Cat. no.32). The trefoil leaf is in a saltire arrangement on a Dr.30 from Mainz (Knorr 1952, 67A) attributed to the T-1 group (Dannell 1993b, 30). The trefoil leaf used back to back in one of the saltires is on Inv. Nos 1000822 and 1002624; the trefoil leaf is also on two Dr.29s with internal stamps by Niger ii (Inv. Nos 0000585 and 0000947) and one with a stamp by Regenus (Inv. No. 0001282). A similar wreath is on a bowl with an internal stamp by Mommo (Inv. No. 0000740). For perhaps a similar wreath with the trefoil and rosettes see Hartley 1972, fig.83, no.10. ?AD60–80. The partial wreath on Cat. no. 51 is perhaps the same. Field 258; Group **28131**; Context **26404**; second fill of pit **26403**. Period 4. Figure 5.9.

55. One body sherd, Dr.37, La Graufesenque. too little of the decoration remains. Flavian. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.9.

56. One body sherd, Dr.30, La Graufesenque. The ovolo is perhaps the one known for C. Iulius Sa-and found on several Dr.30s (Inv. No. 1001636). Early Flavian. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.9.

57. One body sherd, Dr.30, La Graufesenque, too little of the decoration remains. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.9.

58. One body sherd, decorated bowl, burnt, too little of the decoration remains. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.9.

59. One body sherd, Dr.37, La Graufesenque. Abraded ovolo, wreath of bifids and festoon with stirrup leaf. The tip of the tongue on the ovolo seems to be tilting right but it is difficult to match it with a specific type unless it is a poor version of one of the Pontus ovolo (Inv. No. 0005365). Regardless the overall style is reminiscent of bowls in the Pompeian hoard (Inv. No. 2003029) and fits with an early Flavian date. Field 258; Group **28131**; Context **2666**3; fifth fill of pit **26582**. Period 4. Figure 5.9.

60. One body sherd, Dr.37, La Graufesenque, very partial figured type, probably the shield of a gladiator. Flavian. Field 258; Group **28131**; Context **26771**; fifth fill of pit **15406**. Period 4. Figure 5.9.

61. One body sherd, Dr.37, La Graufesenque, the dog chasing a hare is on several pre-Flavian Dr.29s (Inv. No. 0000712 with an internal stamp by Modestus i, Inv. No. 0000763 with an internal stamp by Murranus, Inv. No. 0001448 with an internal stamp by Albus i) but also a Flavian one (Inv. No. 0000853 with stamp by Pontus i); the basal wreath is on a Dr.29 with an internal stamp by Vanderio (Inv. No. 0002753). AD70–90. Field 258; Group **28131**; Context **27226**; third fill of pit **27224**. Period 4. Figure 5.9.

62. One body sherd, Dr.29, La Graufesenque, burnt, large leaf tips filler perhaps the same as the ones on the bowl from Cat. no. 53. Field 258; Group **28131**; Context **27226**; third fill of pit **27224**. Period 4. Figure 5.9.

63. Twenty-seven sherds, Dr.37 with inner grooves below the rim and grooves below decoration as on Dr.29, La Graufesenque. The ovolo is often referred to as the predecessor to the Memor ovolo (Dannell 1999) and it is known on a bowl with a stamp by Mommo (Inv. No. 0005217). The basal wreath is not the one normally used by Memor and the figured type in the medallion is as yet unrecorded for him but is on a Dr.37 with a signature by Rufinus iii (Inv. No. 2002711) and on a Dr.29 with an internal stamp by Iucundus iii (Inv. No. 0006350) which also has the lion. The cupid is with a variant of the ovolo (Inv. No. 2002435). The ovolo and both wreaths are on a Dr.37 from Camelon with a signature by Primus iv (Inv. No. 2002358). AD70–85. Field 258; Group **28131**; Context **26205**; fourth fill of pit **26201**. Period 4. Figure 5.10.

64. Three body sherds (two illustrated), Dr.29, La Graufesenque. Field 258; Group **28133**; Context **15409**; fill of ditch **15408**. Period 4. Figure 5.11.

65. One rim sherd, Dr.37, La Graufesenque, the ovolo is too abraded to be identified. Flavian. Field 258; Group **28133**; Context **15409**; fill of ditch **15408**. Period 4. Figure 5.11.

66. One rim sherd, two body sherds from plain shoulder, two body sherds with decoration, De.67, La Graufesenque. A partial and abraded saltire is all that remains. Flavian. Field 258; Group **28133**; Context **27098**; second fill of ditch **15063**. Period 4. Figure 5.11.

67. One body sherd, Dr.37, La Graufesenque, excoriated surface. Basal chevron wreath and two vertical ones are the only clear motifs visible and although the shape of the chevrons is different this type of decoration is reminiscent of early Flavian potters (Inv. No. 2005093). Field 258; Group **28135**; Context **26151**; fill of ditch **26150**. Period 4. Figure 5.11.

68. Two joining rim sherds, Dr.37, La Graufesenque, excoriated surface. A gladiator facing left is just about visible. Flavian. Field 258; Structure 34; Group **28136**; Context **27334**; packing of posthole **27335** in structure. Period 4. Figure 5.11.

69. One rim sherd, Dr.37, La Graufesenque, excoriated surface. The wreath of bifids below the undistinguishable ovolo recalls bowls from the Pompeian hoard (Atkinson 1914, plate 9, 47; plate 16, 79). The ovolo is very unclear but has perhaps a rosette ending tongue though it is impossible to see whether the tongue is on the left or the right. AD70–90. Field 258; Group **28139**; Context **26701**, primary fill of ditch **26700**. Period 4. Figure 5.11.

70. One body sherd, Dr.29, La Graufesenque, all that remains is a leaf which is not distinctive enough to be linked to a particular potter or group of potters. Field 258; Group **28143**; Context **15353**, primary fill of posthole **15352**. Period 4. Figure 5.11.

71. One rim sherd, Dr.30, La Graufesenque. Ovolo with rosette ending tongue on the left, border, bud and arcade with a hound. Inv. No. 1000275 has a similar decoration and the ovolo is linked to Mas-ii (Inv. No. 0005062). Mas-ii is dated AD65–90. Perhaps same as Period 5+ Cat. no. 174 which despite being almost excoriated shows the hound, arcade, bud and an ovolo with a tongue on the same side. Field 258; Group **28145** Context **27263**, second fill of gully **27138**. Period 4. Figure 5.11.

72. Two rim sherds, Dr.30, La Graufesenque. The diameter is larger than Cat. no. 71 and although abraded the decoration seems different. The ovolo is possibly the same as on Cat. no. 71 and it is with a similar leaf with outer serrated edge on a Dr.37 with a signature by Mas-ii (Inv. No. 0005057). AD65–90. Field 258; Group **28145**; Context **27263**; second fill of gully **27138**. Period 4. Figure 5.11.

73. One rim sherd, Dr.30, La Graufesenque. The ovolo with a trident ending tongue is perhaps the one found on Dr.37s with signatures by Pontus (Inv. No. 0005385). Inv. No. 1000951 has the ovolo with similar arcade. AD65–95. Field 258; Group **28151**; Context **15316**; fill of ditch **15317** and **15393**. Period 4. Figure 5.11.

74. One body sherd, Dr.29, La Graufesenque, gadroons and vertical wavy borders. A bowl with an internal stamp by Fuscus i/ii shows a similar arrangement (Inv. No. 0001067). Late Neronian–early Flavian? Field 258; Group **28151**; Context **15316**, fill of ditch **15317** and **15393**. Period 4. Figure 5.11.

75. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Group

28156; Context **15177**; fill of ditch **15179**, **15183**, **15222** and **15324**. Period 4. Figure 5.12.

76. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222** and **15324**. Period 4. Figure 5.12.

77. One body sherd, Dr.37, La Graufesenque. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222** and **15324**. Period 4. Figure 5.12.

78. One body sherd, Dr.29, La Graufesenque, see Cat. no. 161 for comments. Late Neronian–early Flavian (AD65–85)? Field 258; Group **28156**; Context **15178**, fill of ditch **15179**, **15183**, **15222** and **15324**. Period 4. Figure 5.12.

79. One body sherd, Dr.37?, La Graufesenque. The decoration is too excoriated to be identified, even the form identification is uncertain. Field 258; Group **28156**; Context **15194**; second fill of ditch **15193**, **15223**, **26042** and **26886**. Period 4. Figure 5.12.

80. One body sherd, Dr.29, La Graufesenque, a blurred stag looking back on itself is all that remains; such stag is on a Dr.29 from the Fortress at York dated AD70–85 (Dickinson and Hartley 1993b, 2690) and on a Dr.29 with an internal stamp by Calvus i (Inv. No. 0003917). Late Neronian–early Flavian? Field 258; Group **28156**; Context **26616**; second fill of ditch **15193**, **15223** and **26042** between slots with section numbers **3291** and **4611**. Period 4. Figure 5.12.

81. Two body sherds, Dr.37, La Graufesenque. Several of the motifs are on Cat. nos 130 and 131 and possibly on Cat. no. 83. AD70–90. Field 258; Group **28158**; Context **15280**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.12.

82. One body sherd, Dr.29, La Graufesenque, the two small hares facing each other are on a Dr.37 from the Fortress at York (Dickinson and Hartley 1993b, 2679). The small double circle often occurs on bowls from the anonymous mould maker T-1 either with internal stamps by Niger ii (Inv. No. 0000587) or with internal stamps by Bassus ii-Coelus (Inv. Nos 0000171, 0000186) who are also known for a large running hare (Inv. No. 0005794). AD60–80? Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers **3246** and **4612**. Period 4. Figure 5.12.

83. Six non-joining body sherds (four illustrated), Dr.37, La Graufesenque. Triple medallion with cupid and festoons with stirrup leaves—Inv. Nos 2004139b and 2008761 by Pontus and Inv. No. 0007024 by Severus iii show similar arrangements. Several of the motifs are on Cat. nos 130 and 131 and possibly on Cat. no. 81. AD70–90. Field 258; Group **28158**; Context **26862**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.12.

84. One body sherd, Dr.29, La Graufesenque, infilled scroll with small medallion with a bird. This type of decoration is more typical of the pre-Flavian period. A bowl with an internal bowl by Primus iii has a similar arrangement in the upper frieze (Inv. No. 0002809) as has a bowl with an internal bowl by Modestus (Inv. No. 0004037). Field 258; Group **28158**; Context **26943**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.12.

85. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Group **28158**; Context **2694**3; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.12.

86. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Group **28161**; Context **15187**; fill of ditch **26317**. Period 4. Figure 5.12.

87. One body sherd, Dr.29, La Graufesenque, too little of the decoration remains for it to be attributed. AD45–85. Field 258; Group **28161**; Context **26294**; fill of ditch **26317** between slots with section numbers **3249** and **3256**. Period 4. Figure 5.12.

88. One body sherd, Dr.37, La Graufesenque. Panelled decoration with a griffin and a leaf at the end of a tendril. The griffin is on a Dr.29 with an internal stamp by Meddilus (Inv. No. 0002347), on a Dr.37 with a Iustus stamp (Inv. No. 0005937) and on a Dr.29 from Colchester (Dannell 1999, no.78). AD70–90. Field 258; Group **28162**; Context **26198**; third fill of pit/cistern **26196**. Period 4. Figure 5.12.

89. One body sherd, Dr.29 or 37, La Graufesenque. Thin and tall S-shaped gadroons facing left, they appear thinner than the ones known for Frontinus (Inv. No. 0004686) but the bowl is probably early Flavian. Field 258; Group **28170**; Context **15129**; second fill of ditch **27411**. Period 4. Figure 5.12.

90. One body sherd, Dr.37, La Graufesenque. The surface is excoriated and all that is visible is a basal wreath of chevrons. Early Flavian. Field 258; Group **28173**; Context **15116**; primary fill of ditch **15114**. Period 4. Figure 5.12.

91. One body sherd, Dr.29, La Graufesenque, too little of the decoration remains for it to be attributed. AD45–85. Field 228; Structure 29; Group **28463**; Context **28287**; second fill of penannular gully **28288** in structure. Figure 5.12.

92. One body sherd, Dr.29, La Graufesenque, the five-pronged leaf at the end of the tendril is on a bowl with an internal stamp by Meddilus (Inv. No. 0002335) as are perhaps the chevrons (Inv. No. 0000706). AD70–90. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of structure. Period 4. Figure 5.13.

93. Three rim sherds, three body sherds, Dr.37, La Graufesenque. The tongue ending on the ovolo is not clear, but this is probably the ovolo often referred to as the predecessor to the Memor ovolo and it is known on a bowl with a stamp by Mommo (Inv. No. 0005217). AD70–85. See Cat. no. 104 for the same bowl. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of structure. Period 4. Figure 5.13.

94. One body sherd, Dr.37, La Graufesenque. The tall S-shaped gadroons look close to the ones used by Memor (Inv. No. 0005107) and Mommo (Inv. No. 2005123). AD70–90. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of structure. Period 4. Figure 5.13.

95. One body sherd, Dr.37, La Graufesenque. Partial festoon, possibly as on Cat. no. 106, but not enough of it remains to be certain. AD70–90. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of structure. Period 4. Figure 5.13.

96. Two joining rim sherds, Dr.29, La Graufesenque. Simple upper frieze with a scroll with leaf tips in lower loops and stirrup leaves in upper loop. The style is reminiscent of Neronian potters though no parallel for such design of stirrup leaves and leaf tips used together can be found. The size and shape of the stirrup leaf is close to the one on a Dr.29 with an internal stamp by Primus iii (Inv. No. 0003419), on a bowl with an internal stamp by Calvus i (Inv. No. 0000250) and on a bowl with an internal stamp by Passienus (Inv. No. 0000017). Neronian-early Flavian? Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor of structure. Period 4. Figure 5.13.

97. One body sherd, Dr.37, La Graufesenque. Saltire, basal wreath of S-shaped gadroons, the motif with striated outer leaves in the saltire is on a Dr.37 with a Memor stamp in the Pompeii group (Atkinson 1914, pl.13, 73) and on a bowl by C. Iulius Sa- (Inv. No. 0005415). S-shaped gadroons are known for Memor (Inv. No. 0005108) but those are too partial to be certain. AD70–90. Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor of structure. Period 4. Figure 5.13.

98. Two joining body sherds, Dr.37, La Graufesenque. Blurred ovolo, S-shaped gadroons with two bands of decoration on top. The wreath looks like the one used by M. Crestio (Inv. No. 0004550), the composite bush in the band below is perhaps also on a M. Crestio bowl (Inv. No. 0004559), S-shaped gadroons (Inv. No. 0004558). AD80–110. Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor of structure. Period 4. Figure 5.13.

99. One body sherd, Dr.37, La Graufesenque. The fragment is small, but the chevrons are the same ones as on Cat. no. 105 and Cat. no. 159. AD70–90. Field 265; Structure 39; Group **29959**; Context **31709**; midden deposit below structure. Period 4. Figure 5.13.

100. One body sherd, Dr.37, La Graufesenque. The ovolo with rosette ending tongue and chevron wreath are as on Cat. no. 169. AD70–90. Field 265; Structure 39; Group **29959**; Context **31709**; midden deposit below structure. Period 4. Figure 5.13.

101. One body sherd, Dr.29, La Graufesenque. Basal wreath, a Dr.29 with an internal stamp by Primus iii (Inv. No. 0000873) has a similar wreath, another Dr.29 with an internal stamp by Modestus (Inv. No. 0002406). AD50–80? Field 265; Structure 38; Group **29958**; Context **31743**; earthen floor of structure. Period 4. Figure 5.13.

102. One body sherd, Dr.37, La Graufesenque. The basal wreath is similar to the one from Cat. no. 63 and on a bowl with a signature by Primus iv (Inv. No. 2002358). AD70–85/90. Same decoration and probably same bowl as Cat. no. 167 from fill **31677** of pit **31666**. Field 265; Structure 39; Group **29959**; Context **31742**; midden deposit below structure. Period 4. Figure 5.13.

103. One rim sherd with internal grooves, Dr.37, La Graufesenque. The ovolo and the wreath are the same as the ones on Cat. no. 63 and the parallels listed there apply. This example is thinner walled. AD65?–85. See Cat. no. 171 for a body sherd from the same vessel recovered from Period 4–5. Field 265; Structure 39; Group **29959**; Context **31742**; midden deposit below structure. Period 4. Figure 5.13.

104. One body sherd, Dr.37, La Graufesenque. As on Cat. no. 93 the tongue ending on the ovolo is not clear, but this is probably the ovolo often referred to as the predecessor to the Memor ovolo and it is known on a bowl with a stamp by Mommo (Inv. No. 0005217). AD70–85. See Cat. no. 92 from floor **31589** of Structure 38 for the same bowl. Field 265; Group **29959**; Context **31747**; midden material. Period 4. Figure 5.13.

105. One body sherd, Dr.37, La Graufesenque. Wreath of chevrons and partial festoon. The wreath is as Cat. no. 99 from **31709** and Cat. no. 159 from **31769**. AD70–90. Field 265; Group **29959**; Context **31747**; midden material. Period 4. Figure 5.13.

106. Joining sherds of a Dr.37, La Graufesenque. The ovolo and the leaf used as a tassel are together on a bowl from London (Inv. No. 2001212), the leaf in the lower frieze is together with the ovolo on Inv. No. 2005437. The ovolo, the heart-shaped leaf, the festoon and the tassel are together on a bowl from the Cala Culip group (Inv. No. 2007129). AD70–90. Field 265; Structure

39; Group **29959**; Context **31709**, midden deposit below structure. Period 4. Field 265; Context **31733**, midden material between RR5 and RR6. Period 4–5. Field 265; Structure 5; Context **31640**; cobbles north-west of structure. Period 5+. Figure 5.14.

107. Dr.37, La Graufesenque. The tall S-shaped gadroons are similar to ones found on a bowl with a stamp by Mommo (Inv. No. 2005123) and another by Memor (Inv. No. 0005107). AD70–90. Field 265; Group **29961**; Context **31767**; foundation later of RR6. Period 4. Figure 5.14.

108. One rim sherd, two body sherds, Dr.29, La Graufesenque. The surface is almost excoriated and much of the detail is lost. The trifid used in the wreath in the upper zone is particularly abraded and difficult to match, the outer leaves seem curved which perhaps make it the same as on Cat. nos 29 and 30 which also has straight gadroons in the lower zone and a similarly pale fabric and dull slip. The simplicity of the design with a wreath in the upper zone and straight gadroons in the lower one coupled with relatively large beads in the borders on either side of the cordon suggest that this is a Claudian piece. See Period 2. Field 246; Group **31207**; Context **24146**; cleaning layer over stone raft group **31261**. Period 4. Figure 5.14.

109. One body sherd, Dr.29, La Graufesenque. The plant motif is possibly the one used on a Dr.29 with an internal stamp by Passenus (Inv. No. 0004057) but also Frontinus (Inv. No. 0005931), it is on a Dr.37 from *Cataractonium* (Hartley and Dickinson 2002, fig.154, no.18). AD60–85? Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** in RW4. Period 4. Figure 5.14.

110. Five joining rim sherds and three body sherds, Dr.29, La Graufesenque. The surfaces are abraded, the rim is flared and the beaded borders not well-defined, the upper frieze has festoons with swirls or leaf tips (small arrow heads) with poppy heads tassels, little of the lower frieze remains. The small arrowhead leaves in the upper frieze are similar to the ones found on a Dr.29 with an internal stamp by Meddilus (Inv. No. 0002331) and on a Dr.29 with an intra-decorative stamp by Iustus i (Inv. No. 0004934). AD70–85. Field 246; Group **31208**; Context **15898**; layer overlying **15899**. Period 4. Figure 5.14.

111. Rim sherd, Dr.37, La Graufesenque, the ovolo and the little of the decoration that remains are abraded and hard to find links for. Early Flavian. Field 246; Group **31209**; Context **15526**; fill of L-shaped gully **15844**. Period 4. Figure 5.14.

112. One body sherd, Dr.29, La Graufesenque, lower frieze with gadroons and beaded borders, the fabric is red and different to the one from **24641**. Neronian. Field 246; Group **31214**; Context **15805**; fill of ditch **15804**. Period 4. Figure 5.14.

113. One body sherd, Dr.37, La Graufesenque, the decoration is too partial and abraded to be identified. Flavian. Field 246; Group **31218**; Context **15837**; fifth fill of ditch **15829**. Period 4. Figure 5.15.

114. Four joining sherds, Dr.37, La Graufesenque. Ovolo with trident ending tongue tilting to the right, three horizontal zones of decoration: gadroons, infilled scroll and basal wreath of bifids. The chevron leaf used in the basal wreath is on a Dr.37 from the first Flavian fort in Carlisle (Dickinson 1992, no. 9). The ovolo is perhaps the one known for Sabinus iv (Inv. No. 2004938a) or the one known for C. I. Sa- or C. Iulius Sabinus (Inv. No. 0005416). AD70–90. Field 246; Group **31218**; Context **15838**; fourth fill of ditch **15829**. Period 4. Figure 5.15.

115. One body sherd, Dr.29, La Graufesenque, partial gadroons in the upper frieze. Field 246; Group **31218**; Context **16176**; fill of ditch **16175**. Period 4. Figure 5.15.

116. Three joining rim sherds, an additional rim sherd and one body sherd, Dr.30, La Graufesenque, the ovolo is blurred but could be Inv. No. 0000011, Inv. No. 1000076 has the ovolo and what might be the same leaf in the saltire. Field 246; Group **31263**; Context **16401**; fill of curving gully **16400**. Period 4. Figure 5.15.

117. One body sherd, Dr.29, La Graufesenque, the decoration is excoriated and cannot be attributed. Field 246; Group **31275**; Context **15531**; third fill of ditch **15530**. Period 4. Figure 5.15.

118. One base sherd, Dr.37, La Graufesenque, filled scroll with leaf tips in half a panel all that is visible, the footring does not look late. AD70–90. Field 246; Group **31275**; Context **24259**; stone causeway across ditch **15530=24257**. Period 4. Figure 5.15.

119. One body sherd, Dr.29, La Graufesenque, the edge of a leaf in a scroll is just about visible but too partial to be attributed. Field 246; Group **31284**; Context **15587**; second fill of ditch **15537**. Period 4. Figure 5.15.

120. One body sherd, Dr.37, La Graufesenque, as on Cat. no. 111 the details have been lost due to abrasion, but the overall style is consistent with the Pompeian hoard. AD70–90. Field 246; Group **31284**; Context **15654**; second fill of ditch **15537**. Period 4. Figure 5.15.

121. One rim sherd, Dr.37, La Graufesenque, the ovolo is too excoriated to be identified, the wreath of chevrons below is common on early Flavian Dr.37s, several of the examples recovered from the Pompeian hoard include such decoration (Inv. Nos 2003015, 2003008, 2003011). AD70–90. Field 246; Group **31284**; Context **16024**; second fill of ditch **15537**. Period 4. Figure 5.15.

122. One body sherd, Dr.29, La Graufesenque, the decoration is barely visible and rather partial. The large infilled scroll with a small figured type and leaf

tips fillers is too partial to match exactly but the style is not particularly early and recalls several bowls in the Cala Culip wreck (Inv. Nos 0006474, 0006426). AD65–85? Field 246; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**. Period 4. Figure 5.15.

123. One body sherd, Dr.29, La Graufesenque, same two wreaths as the ones on Cat. no. 180 though this sherd is better preserved. See Inv. Nos 0000914, 0000918, 0003076 with internal stamps by Rufinus iii (AD65–90). Field 246; Group **31286**; Context **24240**; fill of hollow-way **31244**. Period 4. Figure 5.15.

124. Three rim sherds, Dr.30, La Graufesenque. The ovolo, arcade and little goose are together on a Dr.30 without a stamp or signature (Inv. No. 1000047), the ovolo is often referred to as a predecessor to the Memor ovolo (Dannell 1999) and it is known on a bowl with a stamp by Mommo (Inv. No. 0005217). A slightly amended version is on two signed bowls by Memor in the Pompeii hoard of AD79 (Atkinson 1914, nos 73 and 74). See Cat. no. 63 for a Dr.37 with the same ovolo. AD60/5–85. Field 258; Context **15111**; second fill of pit **15077**. Period 4. Figure 5.16.

125. Two joining body sherds, Dr.29, La Graufesenque. Basal wreath and very partial gadroons above, a Dr.29 with an internal stamp by Primus iii (Inv. No. 0000873) has a similar wreath, another Dr.29 with an internal stamp by Modestus (Inv. No. 0002406). AD45–75/80. Field 258; Context **15216**; third fill of pit **15215**. Period 4. Figure 5.16.

126. One body sherd, Dr.29, La Graufesenque. The decoration includes leaf tips but the fragment is too small and abraded to make links to specific potters. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.16.

127. Joining sherds from fill **15242** of pit **15215** and fill 15308 of pit **15215**—Dr.29, La Graufesenque. Panelled decoration in upper frieze, satires in lower. The griffin is close to one on a Dr.29 with Passenus stamp (Inv. No. 0000817, 0000825), see also Inv. No. 0000923 with Sabinus iii stamp, Inv. No. 0002176 with Verius stamp, the dog is also on a bowl with Sabinus iii stamp (Inv. No. 0001877), the leaf with the striated core in the lower frieze is on another bowl with a stamp by Sabinus iii (Inv. No. 0002960), for the lozenge leaf in lower frieze also with Sabinus iii (Inv. No. 0006974). Inv. No. 0004104 from Chester with an internal stamp by Silvanus is used as a parallel for the griffin and lozenge leaf on a bowl from Castleford (Dickinson and Hartley 2000, no. 43). AD60–80. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Field 258; Context **15308**; second fill of pit **15215**. Period 4. Figure 5.16.

128. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Figure 5.16.

129. Two non-joining sherds, Dr.37, La Graufesenque. Possibly the same bowl as Cat. no. 131. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Figure 5.16.

130. Two joining sherds and one additional sherd, Dr.37, La Graufesenque. Zonal decoration with basal wreath of S-shaped gadroons, festoons with stirrup leaves. The gadroons look similar to the ones used by Pontus (Inv. No. 0005385) who also used panels with diagonal wavy borders and leaf tip fillers (same bowl). He also used stirrup leaves in festoons (Inv. No. 2008761). M. Crestio is another option since he is known for the gadroons and panels with diagonal borders (Inv. Nos 0004571 and 0004555) but not the stirrup leaves or festoons. AD70–90. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Figure 5.16.

131. One body sherd, Dr.37, La Graufesenque. See Cat. no. 93 from **26862** for some of the details, especially the triple medallion with cupid though they are unlikely to come from the same bowl. AD70–90. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Figure 5.16.

132. One body sherd, De.67, La Graufesenque, a Dr.29 with a Rufinus iii internal stamp has a lower frieze with a similar palisade using that same motif (Inv. No. 0003052). AD65–90? Field 258; Context **15417**; fill of gully **15416**. Period 4. Figure 5.16.

133. One body sherd, Dr.37, La Graufesenque. The decoration is too partial to be linked to specific potters. Flavian. Field 258; Context **15422**; fill of ditch **15421**. Period 4. Figure 5.16.

134. Three body sherds (one from sample AA), Kn.78, La Graufesenque, two illustrated. The rosettes are very close to the ones on a Dr.30 from Field 265 (31546) which is late (AD80–120) but also similar to the ones on a Dr.37 with an ovolo known for Pontus (Inv. No. 2003293). Flavian. Field 258; Context **15422**; fill of ditch **15421**. Period 4. Figure 5.16.

135. One body sherd, Dr.37, La Graufesenque, abraded wreath of trifid leaves with angled outer leaves. A similar wreath is on a Dr.30 from Rottweil with an ovolo associated with Calvus i (Inv. No. 1000183) and on a Dr.37 with a stamp by Calvus i and one by Patricius i (Inv. No. 0004396a). AD70–90. Cat. no. 138 has the same wreath of trefoil leaves. Field 258; Context **15365**; third fill of pit **26011**. Period 4. Figure 5.16.

136. Nine joining sherds, Dr.37, La Graufesenque, almost complete, very little wear on footring. Single border ovolo with tongue on the left terminating into a blob. The ovolo is known but as yet unattributed, it is with the boar on a bowl from La Graufesenque (Inv.

No. 2002792) and with the archer on a bowl from the Cala Culip wreck (Inv. No. 2007185). The decoration is typical of early Flavian pieces, with three horizontal bands—wreath of bifids, a middle zone with two alternating panels—an archer facing two boars and a cupid with corner tassels and tendrils and a lower band with festoons with swirl and rosette. The lower frieze is similar to the one on Cat. nos 40 and 41 (also Dr.29). Field 258; Context **15113**; primary fill of pit **15077**, RF10018. Period 4. Figure 5.17 and 5.18.

137. One body sherd, Dr.29, La Graufesenque, the decoration is too partial. Field 246; Context **15523**; fill of ditch **15643**. Period 4. Figure 5.19.

138. One body sherd, Dr.37, La Graufesenque, same wreath of trefoil leaves as on Cat. no. 135, another wreath is here visible, one made out of poppy heads. Such a wreath is on a bowl with an ovolo related to Calvus i (Inv. No. 2000230), Primus iii is also known for a poppyhead wreath (Inv. No. 0006180) as is Mommo (Inv. No. 2002682). AD70–90. Field 246; Context **15547**; second fill of ditch terminal **15546**. Period 4. Figure 5.19.

139. One body sherd, Dr.29, La Graufesenque, the figured type under the arch is Oedipus (Hermet 1934, pl.21, no. 190), a rare motif that only appears on a Dr.30 from Narbonne (Inv. No. 1003573) with an unattributed ovolo. The size and design of the festoon used as an arch is close to one on a Dr.30 from La Graufesenque (Inv. No. 1000894) also with an ovolo as yet unattributed. The style of the lower frieze recalls bowls by Firmo i (Inv. Nos 0000496, 0000516 and 0003290). The fabric is pink. Claudian-Neronian? Field 246; Context **15700**; primary fill of ditch **15643**. Period 4. Figure 5.19.

140. One body sherd, Dr.29, La Graufesenque, the fragment is too small to be linked to known motifs. Field 246; Context **15700**; primary fill of ditch **15643**. Period 4. Figure 5.19.

141. Seven joining sherds, an additional one, small example (rim diam = 130mm). Dr.30, La Graufesenque, one half of a small round repair hole above decoration. Ovolo with large rosette ending tongue is known for Lupus ii (Inv. No. 0004953) and Sabinus iii, saltire alternating with a tree motif that includes geese and hares. A similar arrangement with the ovolo is on a bowl from Southwark (Inv. No. 1000898). Pre-AD70. Field 246; Context **15857**; fourth fill of ditch **15869**. Period 4. Figure 5.19.

142. One body sherd, probably a Dr.29, La Graufesenque, chevron basal wreath as is found on Neronian bowls (Inv. No. 0002192 with an internal stamp by Ianua-i, 0001521 with stamp by Niger ii) but also Flavian ones (Inv. No. 0005755 with an intra-decorative stamp by Frontinus). AD65–85? Field 246; Context **24084**; second fill of ditch **15869**. Period 4. Figure 5.19.

143. One body sherd, Dr.29, La Graufesenque, upper frieze with leaf tip fillers the details of which are too blurred to be identified. AD55–85? Field 246; Context **24768**, fill of gully **24676**. Period 4. Figure 5.19.

144. One body sherd, Dr.29, La Graufesenque, upper frieze with an abraded scroll, the style of which is Neronian. Field 258; Context **2602**1; primary fill of pit **26019**. Period 4. Figure 5.19.

145. One body sherd, Dr.37, La Graufesenque. basal wreath of S-shaped gadroons going left as perhaps on a bowl with a signature by Pas- (Inv. No. 0005307). AD75–90? Field 258; Context **26274**; fill of gully **26273**. Period 4. Figure 5.19.

146. Forty-two sherds and several flakes, Dr.37, La Graufesenque. The gladiator is with another ovolo (Inv. No. 1001208) and while extremely abraded this ovolo seems to have a rosette ending tongue on the left. See Inv. Nos 2004126 and 2008632 for gladiator and the ovolo, an ovolo known for Calvus i (Inv. No. 0004383). AD70–90. Field 258; Context **26553**; fill of ditch **26552**. Period 4. Figure 5.19.

147. Two rim sherds and four body sherds (one illustrated), Dr.29, La Graufesenque, the surface is excoriated and only one fragment is illustrated though none of the details is clearly visible. Field 258; Context **26564**; fill of ditch **26563**. Period 4. Figure 5.20.

148. One body sherd, Dr.29, La Graufesenque, upper frieze with a filled scroll although only the lower part of a loop is visible showing a small figured type between two rosettes. AD60–85? Field 258; Context **26689**; fill of gully **26145**. Period 4. Figure 5.20.

149. One rim sherd, Dr.37, La Graufesenque. Ovolo with rosette ending tongue, chevron wreath, running hare and small leaf tips. There is a very similar arrangement on a bowl from the Pompeian hoard (Inv. No. 2003012) and the ovolo and hare are together on a Dr.37 from Lyon (Inv. No. 3000307). The ovolo is known for Calvus i and Patricius i (Inv. No. 0004396a). AD70–90. Field 258; Context **26689**; fill of gully **26145**. Period 4. Figure 5.20.

150. One rim sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 258; Context **26944**; second fill of ditch **15232**. Period 4. Figure 5.20.

151. Two non-joining body sherds, Dr.29, La Graufesenque, body sherds with the same chevron festoon or medallion and trifid. A bowl from Pisa with an internal stamp by Mommo seems to have a similar decoration (Inv. No. 0003663) though the drawing is poor, the trifid is close to one on a bowl with an internal stamp by S- Verius (Sex. Verius) (Inv. No. 0002172), but also on a Dr.29 with an internal stamp by Crispus iii (Inv. No. 0006412). Late Neronian–early Flavian (AD65–85)?

See Cat. no. 78. Field 258; Context **26944**; second fill of ditch **15232**. Period 4. Field 258; Context **27083**; second fill of gully **26145**. Period 4. Figure 5.20.

152. One body sherd, Dr.29, La Graufesenque, arrowhead-shaped leaves similar to ones used by Iustus i (Inv. No. 0004917), Meddillus (Inv. Nos 0002331, 0000701), Mommo (Inv. No. 0002491) and found on bowls from the Fortress, 9 Blake Street, York (Dickinson, Hartley 1993, nos 2640, 2672 and 2673). AD70–85. Field 258; Context **27073**; fill of ditch **15404**. Period 4. Figure 5.20.

153. One body sherd, Dr.29, La Graufesenque, similarly arrowhead-shaped leaves occur on bowls by Iustus i (Inv. No. 0004917), Meddillus (Inv. Nos 0002331, 0000701), Mommo (Inv. No. 0002491), Rufinus iii (Inv. No. 0005788) and on bowls from Fortress, 9 Blake Street, York (Dickinson and Hartley 1993b, nos 2640, 2672 and 2673), AD65–85. Field 258; Context **27073**; fill of ditch **15404**. Period 4. Figure 5.20.

154. One body sherd, form uncertain, La Graufesenque. Partial saltire. Field 228; Context **28255**, second fill of oven/kiln/corn drier **28256**. Period 4. Figure 5.20.

155. One body sherd, Dr.37, La Graufesenque, the ovolo is too excoriated to be identified with certainty, the tongue curves around to the left which perhaps suggest it is the one known for Mommo (Inv. No. 0005217). AD70–90. Field 228; Context **28262**; primary fill of oven/kiln/corn drier. Period 4. Figure 5.20.

156. One body sherd, Dr.37, La Graufesenque, upper half of S-shaped gadroons perhaps as the ones used by Memor (Inv. No. 0005096). AD70–90. Field 228; Context **28262**; primary fill of oven/kiln/corn drier. Period 4. Figure 5.20.

157. One flake, Dr.37?, La Graufesenque. The tongue ending is missing which impedes identification. Flavian. Field 228; Context **28317**; third fill of pit **28320**. Period 4. Figure 5.20.

158. One body sherd, Dr.37, La Graufesenque. Ovolo with trident tongue going to right, perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). AD70–90. Field 265; Context **31746**; fill of ditch **31787**. Period 4. Figure 5.20.

159. One body sherd, Dr.37, La Graufesenque. As on Cat. no. 159 the ovolo with trident tongue going to right is perhaps the ovolo known for Pontus (Inv. No. 0005385) and Severus iii (Inv. No. 0005491). A bowl from La Graufesenque has the ovolo and the wreath (Inv. No. 2004313). AD70–90 The body sherds with a chevron wreath from Cat. nos 105 and 159 are probably from the same vessel. Field 265; Context **31769**; fabric of causeway below Structure 39. Period 4. Figure 5.20.

160. One body sherd, Dr.29, La Graufesenque, excoriated wreath of chevrons. Field 246; Context **31807**; fill of ditch **31806**. Period 4. Figure 5.20.

161. One body sherd, Dr.29, La Graufesenque, the decoration includes several motifs found on Dr.29s in the Cala Culip wreck with internal stamps by Iucundus iii (Inv. Nos 0006492, 0006575 and 0006370), the small bear facing left is on another bowl with an internal stamp Iucundus iii (Inv. No. 0003895). AD70–85. Field 258; Group **28174**; Context **27472**; fill of ditch **15025**. Period 2–4. Figure 5.21.

162. One body sherd, Dr.29, La Graufesenque, partial upper frieze with geese, the small goose appears on a bowl with an internal stamp by Scotnus (Inv. No. 0003727); both are on a bowl with an internal stamp by Niger ii (Inv. No. 0003672), on a bowl with Felix i internal stamp (Inv. No. 0000428 from Colchester shop). AD50–70. Field 228; Group **28456**; Context **27969**; third fill of ditch **27918**. Period 2–4. Figure 5.21.

163. One body sherd, Dr.37?, La Graufesenque, very partial infra-decorative signature (a single vertical stroke visible), leaf tip fillers in partial panel, the leaf tips are perhaps similar to the ones on a Dr29 with a stamp by Secundus ii (Inv. No. 0003474). AD70–90. Field 228; Group **28456**; Context **27969**; tertiary fill of ditch **27918**. Period 2–4. Figure 5.21.

164. One body sherd, Dr.37?, La Graufesenque. S-shaped gadroons going left, a bowl in the Pompeian hoard has such gadroons (Inv. No. 2003033). AD70–90. Field 228; Group **28456**; Context **27969**; tertiary fill of ditch **27918**. Period 2–4. Figure 5.21.

165. One body sherd, Dr.29, La Graufesenque, too little of the decoration remains. Field 228; Group **28446**; Context **28224**; fill of gully **28223**. Period 2–4. Figure 5.21.

166. Two large joining sherds making up a complete profile, Dr.37, La Graufesenque, the surfaces are excoriated and the decorated is all but gone. Flavian. Field 246; Group **31258**; Context **16067**; fill of road-side gully **16066**. Period 4–5. Figure 5.21.

167. One body sherd, Dr.37, La Graufesenque. The basal wreath is similar to the one from Cat. no. 63 and on a bowl with a signature by Primus iv (Inv. No. 2002358). AD70–85/90. Same decoration and probably same bowl as Cat. no. 102. Field 265; Context **31677**; tertiary fill of pit **31666**. Period 4–5. Figure 5.21.

168. One body sherd, Dr.37, La Graufesenque. The ovolo, border and swirl are as on Cat. no. 106. AD70–90. Field 265; Context **31725**; midden material between RR5 and RR6. Period 4–5. Figure 5.21.

169. One rim without decoration and one body sherd, Dr.37, La Graufesenque. Ovolo with rosette

ending tongue and chevron wreath as on Cat. no. 100 from **31709**. The ovolo is known for Calvus i and Patricius i (Inv. No. 0004396a). AD70–90. Field 265; Context **31733**; midden material between RR5 and RR6. Period 4–5. Figure 5.21.

170. One body sherd, Dr.37, La Graufesenque. Partial saltire. Flavian. Context **31733**; midden material between RR5 and RR6. Period 4–5. Figure 5.21.

171. One body sherd, Dr.37, La Graufesenque. Ovolo and chevrons wreath as on Cat. no. 113 from Period 4 (**31742**). AD65?–85. Field 265; Context **31733**; midden material between RR5 and RR6. Period 4–5. Figure 5.21.

172. One body sherd, Dr.29, La Graufesenque. The decoration is too partial to be identified. Field 265; Context **31591**; primary fill of pit **31610**. Period 5. Figure 5.21.

173. One body sherd, Dr.37, La Graufesenque, the fragment is small, but the chevrons are the same ones as on Cat. nos 99, 105 and 159. AD70–90. Field 265; Structure 39; Group **29955**; Context **31663**; foundation layer of structure. Period 5. Figure 5.21.

174. Two non-joining body sherds, Dr.30, La Graufesenque. Most of the motifs are on Cat. no. 61 and this is possibly the same bowl. AD65–90. Field 258; Context **26959**; layer overlying aggregate surface of Dere Street. Period 5+. Figure 5.21.

175. One body sherd, Dr.37, La Graufesenque, partial ovolo but perhaps as on Cat. nos 106 and 168. AD70–90. Field 265; Context **31523**; colluvial deposit between roads. Period 5+ Figure 5.21.

176. One body sherd, Dr.37, La Graufesenque, same festoon and tassel as Cat. no. 106 from Period 4 and Period 4–5. AD70–90. Field 265; Context **31640**; cobbles north-west of Structure 5. Period 5+. Figure 5.21.

177. One body sherd, Dr.29, La Graufesenque, the surface is extremely abraded, a wreath with two festoons with swirls below are just about visible. The style points to a pre-Flavian date but the details are too indistinct to be paralleled. Field 258; Context **27360**; second fill of ditch **27311**. Medieval–post-medieval. Figure 5.22.

178. One body sherd, Dr.37, La Graufesenque, the ovolo is too excoriated to be identified with any confidence. Flavian. Field 228; Group **28447**; Context **28092**; primary fill of ditch **28091**. Medieval–post-medieval. Figure 5.22.

179. One body sherd, Dr.37, La Graufesenque, all that remains is a small putto facing right, a widely used motif (Inv. Nos 0002262, 0005415 for a couple of examples). Flavian. Field 65; Context **31501**; subsoil. No Period. Figure 5.22.

180. Two non-joining body sherds, Dr.29, La Graufesenque, one is almost excoriated, same two wreaths as one fragment on Cat. no.133 from (24240) though this sherd is much more excoriated (no slip and loss of surface). See Inv. Nos 0000914, 918, 0003076 with internal stamps by Rufinus iii (AD65–90). Field 246; Context **15502**; subsoil. No Period. Figure 5.22.

181. Two non-joining body sherds, Dr.30, La Graufesenque, the two sherds show the same figured type Diana and deer, the details on the dress and the deer suggest this might be the figured type found on a Dr.30 with a Germanus i stamp (Inv. No. 0004700). AD60–80. Field 246; Context **15529**; subsoil. No Period. Figure 5.22.

182. One body sherd, Dr.29, La Graufesenque. Because the surface is excoriated the details of the scroll in the top frieze are hard to see though it seems to show cluster buds. Similar designs are on bowls with internal stamps by Germanus i when he used moulds from potters working in the 60s (Inv. Nos 0000445 and 0001410). AD60–85? Field 246; Context **15529**; subsoil. No Period. Figure 5.22.

183. One body sherd, Dr.30, La Graufesenque, the surface is completely excoriated. Field 246; Context **16284**; subsoil. No Period. Figure 5.22.

184. One body sherd, Dr.30, La Graufesenque, all that remains is Vulcan Os.70A, a figured type used by Masclus i (Inv. No. 0005020), Masclinus (Inv. No. 0004965), Martialis i and Germanus (Inv. No. 0004709). Probably pre-Flavian. Field 246; Context **16296**; subsoil. No Period. Figure 5.22.

Catalogue of samian potters' stamps

The following catalogue lists the potters identified in Period order. Each entry gives the excavation context number, potter (i, ii etc, where homonyms are involved), die form, form type, pottery of origin, a reference to the relevant *Names on Terra Sigillata* volume and a date range.

185. Dr.24/25 cup. Fabric: La Graufesenque. Unidentified. The area where the stamp was has been abraded away. Cf. Cat. no. 16. Period 2. Not illustrated.

186. Rt.8 cup. Fabric: La Graufesenque. Licinus, incomplete new die. It is a partial and very abraded stamp but the rubbing brings out three clear letters: LIC[followed by a gap where the slip is excoriated then another letter—either an I or the beginning of a N. The gap makes identifying the die almost impossible as there could be an I in the gap in which case the next letter is an N or the gap is the spacing between the C and the next letter. The stamp is partial and the die incomplete but can be confidently assigned to potter Licinus from La Graufesenque. This is the most northerly site where

this potter has been recorded in Britain, up until now the further north was Lincoln (Hartley and Dickinson 2009b, die 20a, 66). Cf. Cat. no. 22. Period 2. Figure 5.23.

187. Dr.18r plate. Fabric: La Graufesenque. Perhaps Severus iii, 17- a. the area where the stamp is worn from wear, two letters are visible: SEV [ ] (OF). Cf. Hartley and Dickinson 2011b, 261 for the die. Cf. Cat. no. 24. Period 2. Not illustrated.

188. Dr.18 samian plate. Fabric: La Graufesenque. Unidentified. The area where the stamp was has been abraded away. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Not illustrated.

189. Dr.18 samian plate. Fabric: La Graufesenque. Passenus, 33a', (Hartley and Dickinson 2011a, 13–30). AD50–75? Field 258; Group **28131**; Context **15363**; tertiary fill of pit **15336**. Period 4. Figure 5.23.

190. Dr.18 samian plate. Fabric: La Graufesenque. Unidentified, only the edge of the stamp remains. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Not illustrated.

191. Dr.18 samian plate. Fabric: La Graufesenque. Mommo, 8a, (Hartley and Dickinson 2010, 134–5). AD60–85. Field 258; Group **28131**; Context **15436**; tertiary fill of pit **15437**. RF10096. Period 4. Figure 5.23.

192. Dish. Fabric: La Graufesenque. Primulus i, 4j, (Hartley and Dickinson 2011a, 211–15). AD60–85. Field 258; Group 28131; Context **26003**; second fill of pit **26002**. Period 4. Figure 5.23.

193. Dr.27g cup. Fabric: La Graufesenque. Dontio, 6a, (Hartley and Dickinson 2008c, 318–20). AD60–85. Field 258; Group **28131**; Context **26183**; tertiary fill of pit **26179**. Period 4. Figure 5.23.

194. Dish. Fabric: La Graufesenque. Frontinus, 2a, (Hartley and Dickinson 2009a, 101–13). AD70–95. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.23.

195. Dr.27g cup. Fabric: La Graufesenque. Unidentified. The slip is almost excoriated and the stamp all but invisible, rubbing does not help. AD45–80? Field 258; Group **28131**; Context **27226**. Tertiary fill of pit **27224**. Period 4. Not illustrated.

196. Dr.27g cup. Fabric: La Graufesenque. Illiterate graffito. Field 258; Group **28133**; Context **27098**; second fill of ditch **15063**. Period 4. Figure 5.23.

197. Dr.18 plate. Fabric: La Graufesenque. Albanus ii, 14a, (Hartley and Dickinson 2008a, 113–19). AD60–80. The grits are still visible on the footring and the internal base, very fresh. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222**, and **1532**4, RF10027. Period 4. Figure 5.23.

198. Dr.18R plate. Fabric: La Graufesenque. Germanus i, 13a, (Hartley and Dickinson 2009a, 182–98). AD65–90. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers **3246** and **4612**. Period 4. Figure 5.23.

199. Dr.18 plate. Fabric: La Graufesenque. Quintio, 1a' (Hartley and Dickinson 2011a, 310–11). AD60–85. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers **3246** and **4612**. Period 4. Figure 5.23.

200. Dr.18R plate. Fabric: La Graufesenque. Unidentified. The slip is almost excoriated and the stamp all but invisible, rubbing does not help. Field 258; Group **28158**; Context **26862**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Not illustrated.

201. Dr.15/17 plate. Fabric: La Graufesenque. Calvus i, 5g (Hartley and Dickinson 2008b, 178–95). AD65–90. Field 258; joining sherds between Group **28158**; Context **26862**, primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** and Context **26863**; second fill of ditch **15232**. Period 4. Figure 5.23.

202. Dish. Fabric: La Graufesenque. Calvus i, 5hh (Hartley and Dickinson 2008b, 178–95). AD65–90. Field 258; Group **28161**; Context **15028**. Period 4. Figure 5.23.

203. Dr.18 plate. Fabric: La Graufesenque. Severus iii, 7e'' (Hartley and Dickinson 2011b, 251–65). AD65–95. The base is very fresh with grits on the footring and a ring of grits on the internal surface. Field 258; Group **28161**; Context **26377**; fill of ditch **15027** between slots with section numbers 3249 and 3202. Period 4. Figure 5.23.

204. Rt.9 cup. Fabric: La Graufesenque, Calvus i, 8b (Hartley and Dickinson 2008b, 178–95). AD65–90. Joining sherds from Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of Structure 38 and Group **29959**; Context **31709**; midden deposit below Structure 39. Period 4. Figure 5.23.

205. Dr.29 decorated bowl. Fabric: La Graufesenque. Vitalis ii, 8c (Hartley and Dickinson 2012, 299–321). AD70–85. Field 265; Group **29961**; Context **31774**; foundation layer of RR6. Period 4. Figure 5.23.

206. Dr.27g cup. Fabric: La Graufesenque. Unidentified. The surfaces are excoriated, a very partial stamp is barely visible and rubbing does not bring up a clear impression, perhaps two letters towards the end of the stamp are visible:]IV[. AD45–80? Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104**, **24195**. Period 4. Figure 5.23.

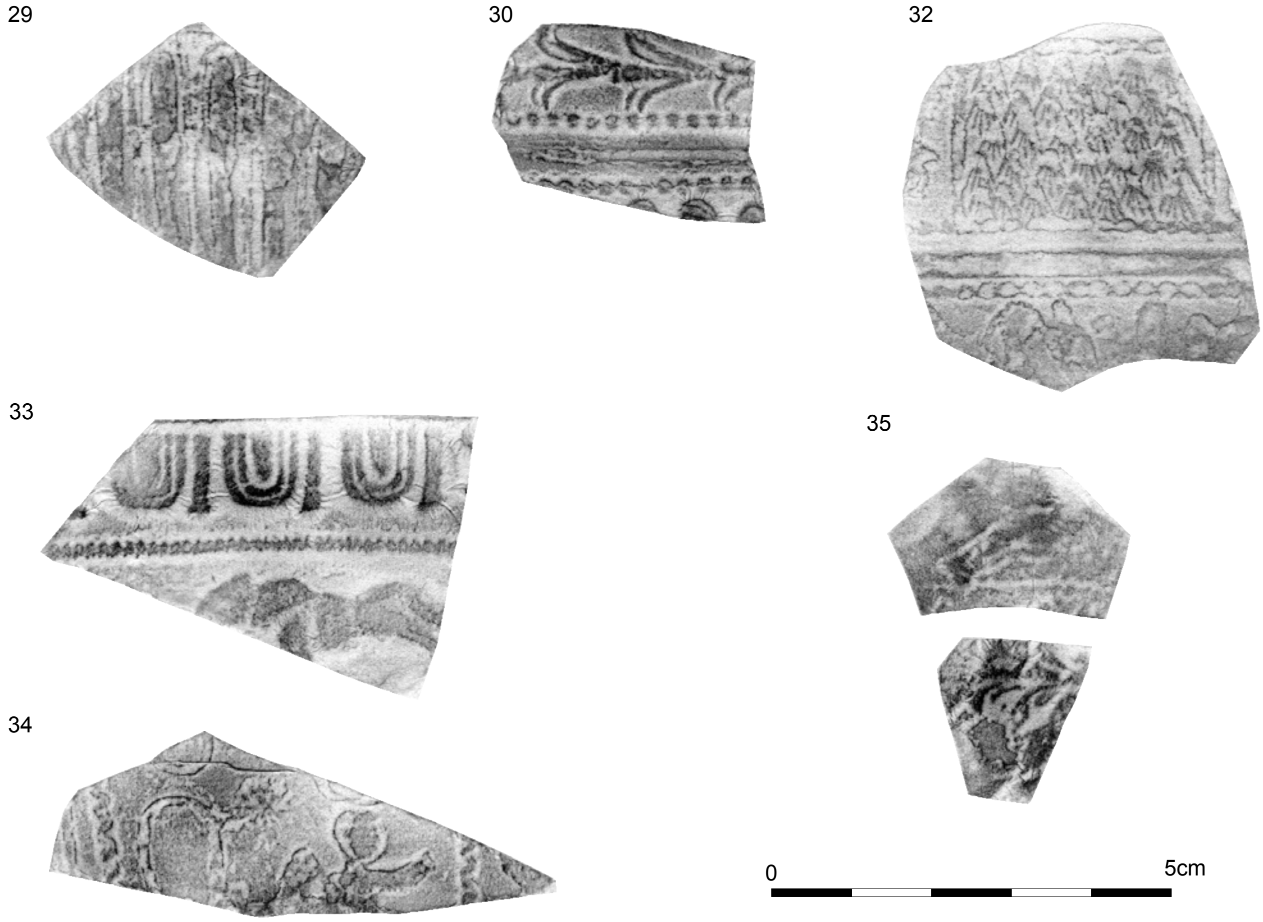

Figure 5.7: samian decoration rubbings, Cat. nos 29–35.

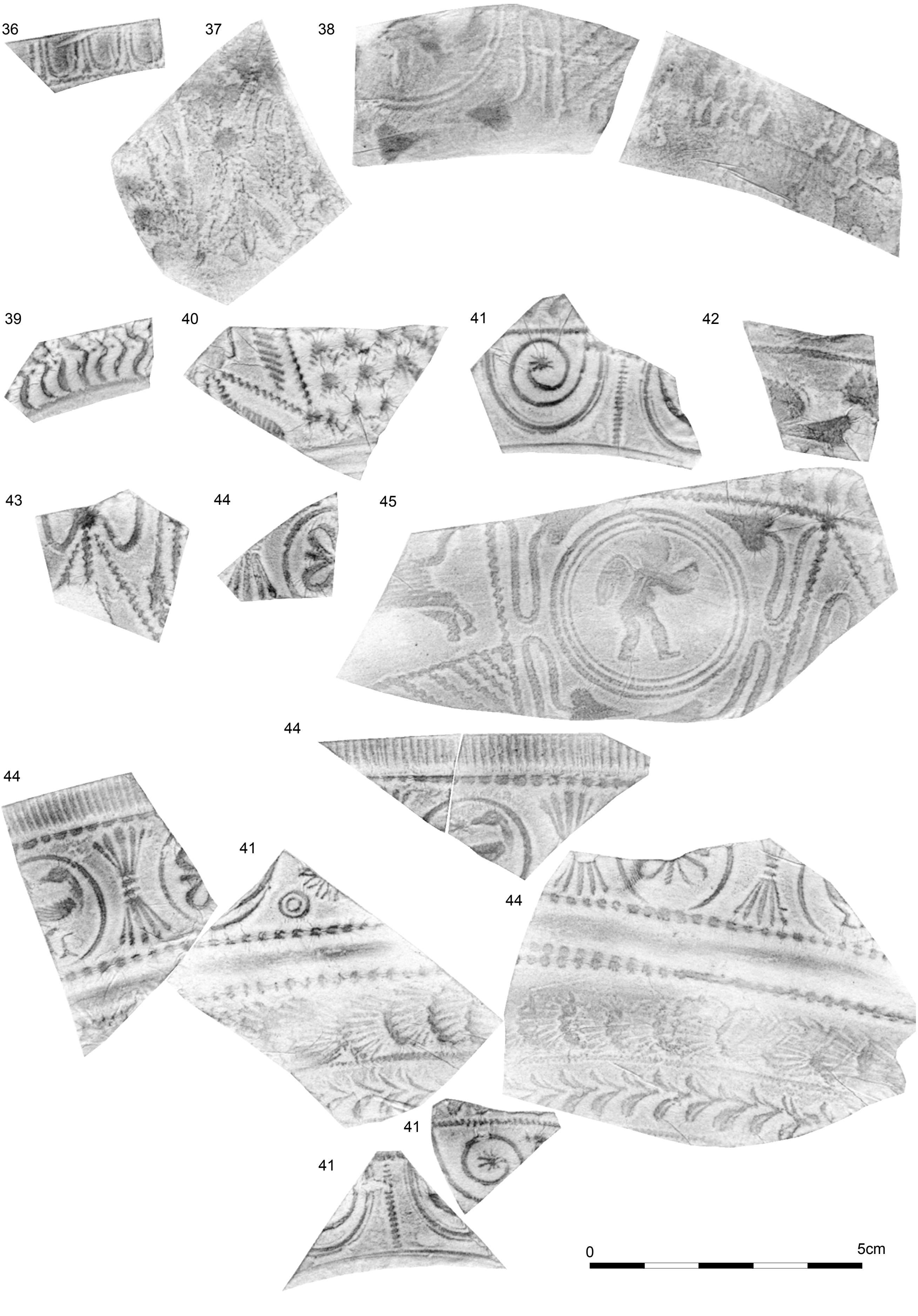

Figure 5.8: samian decoration rubbings, Cat. nos 36–45.

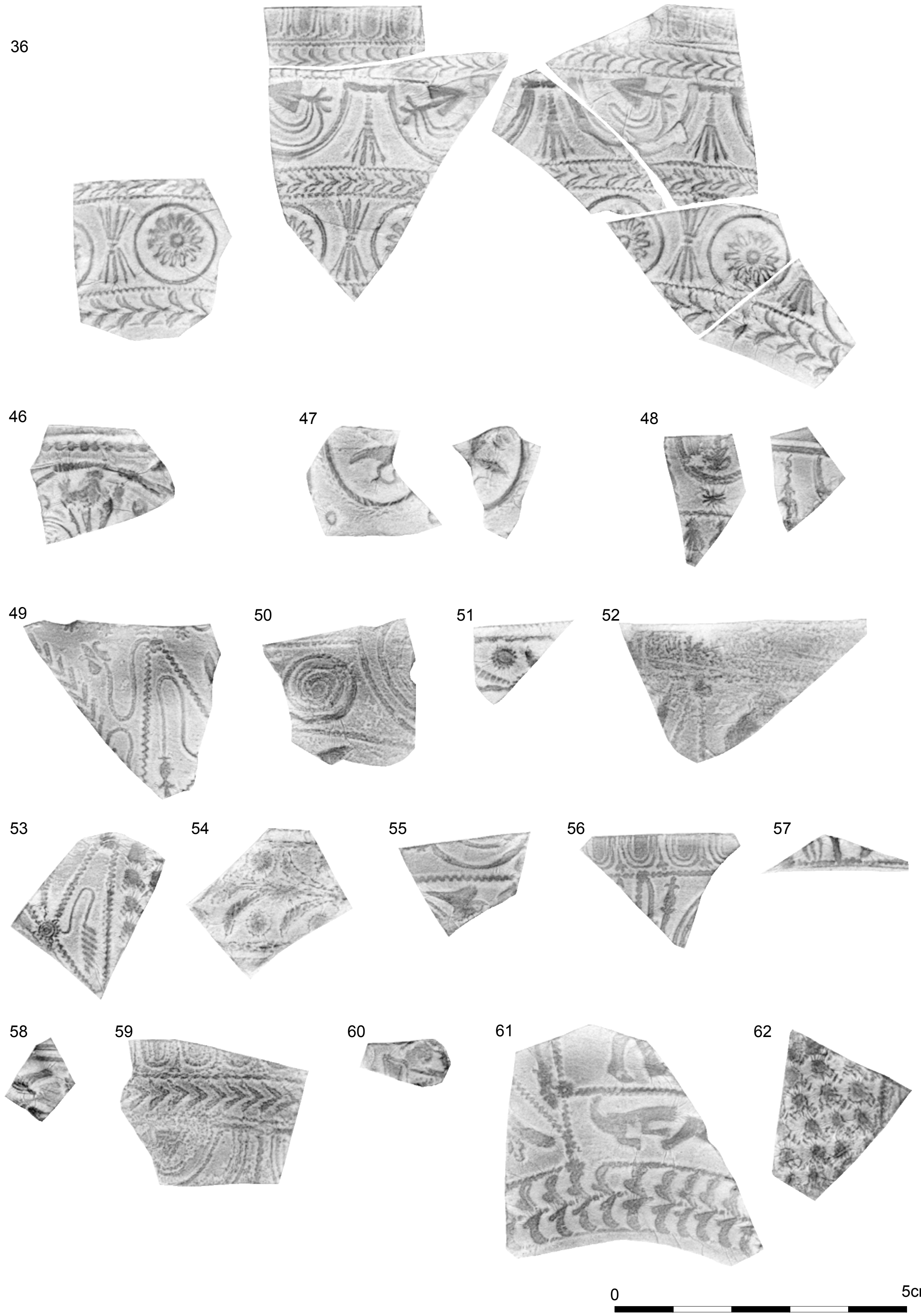

Figure 5.9: samian decoration rubbings, Cat. nos 36 and 46–62.

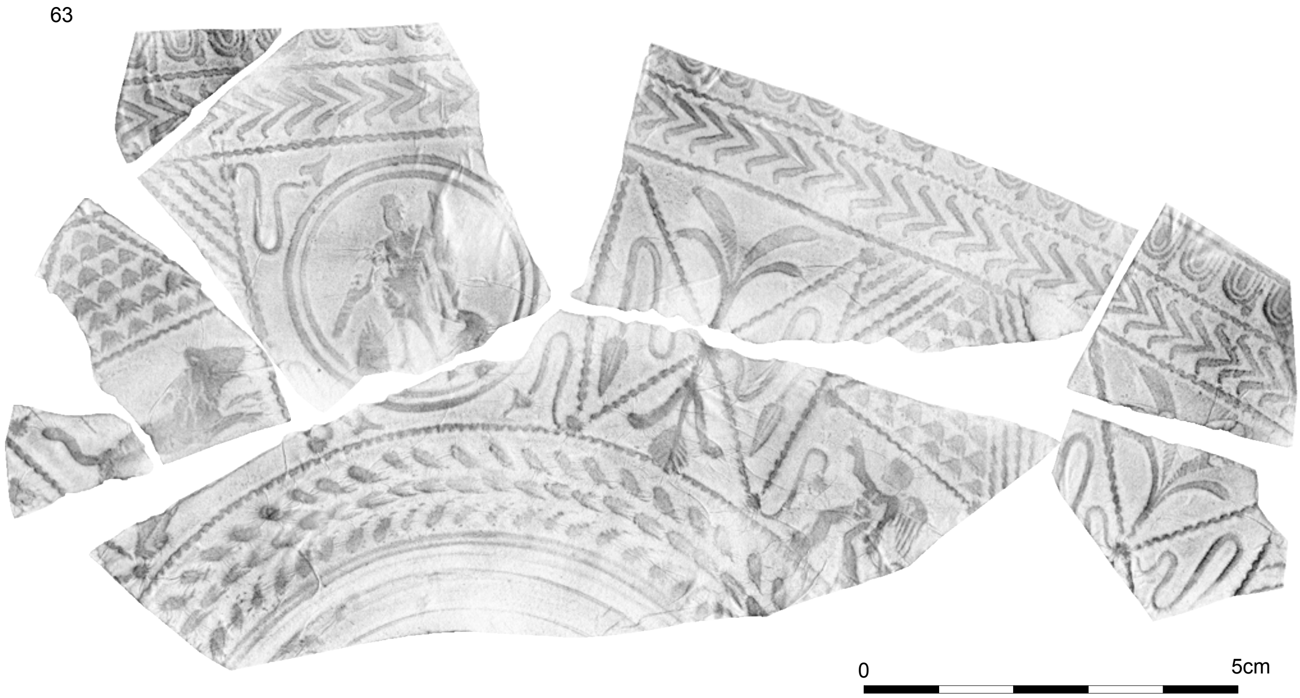

Figure 5.10: samian decoration rubbings, Cat. no 63.

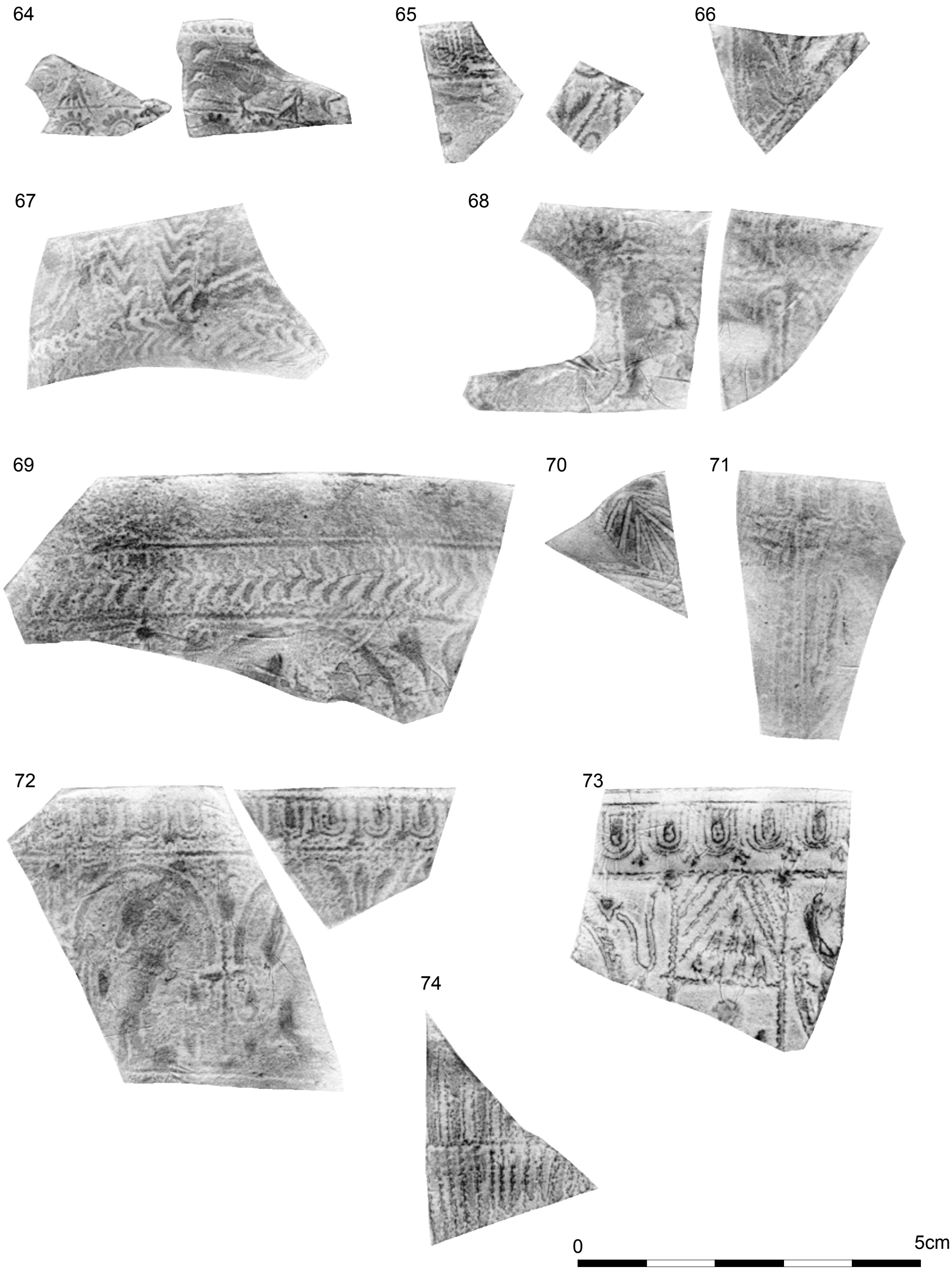

Figure 5.11: samian decoration rubbings, Cat. nos 64–74.

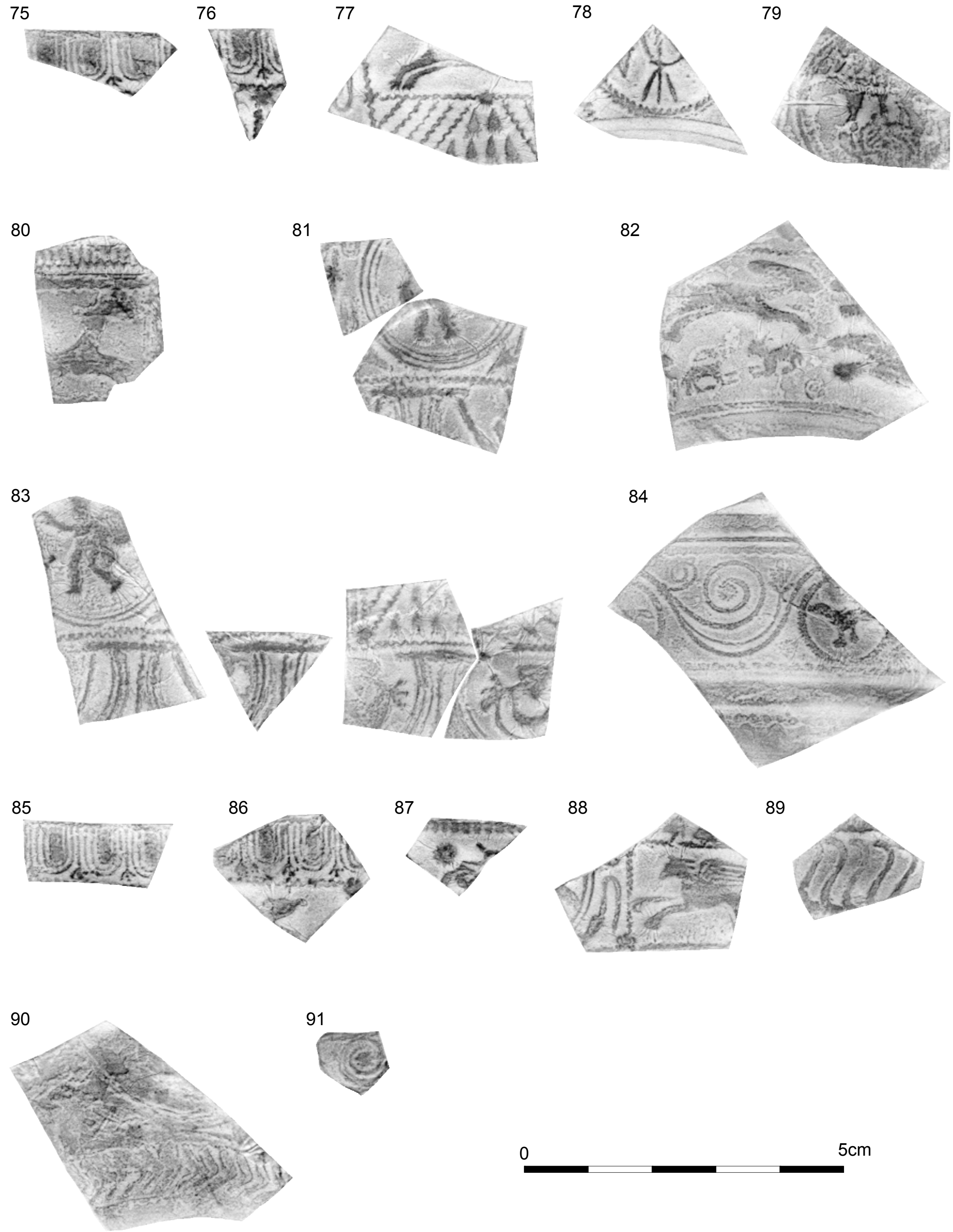

Figure 5.12: samian decoration rubbings, Cat. nos 75–91.

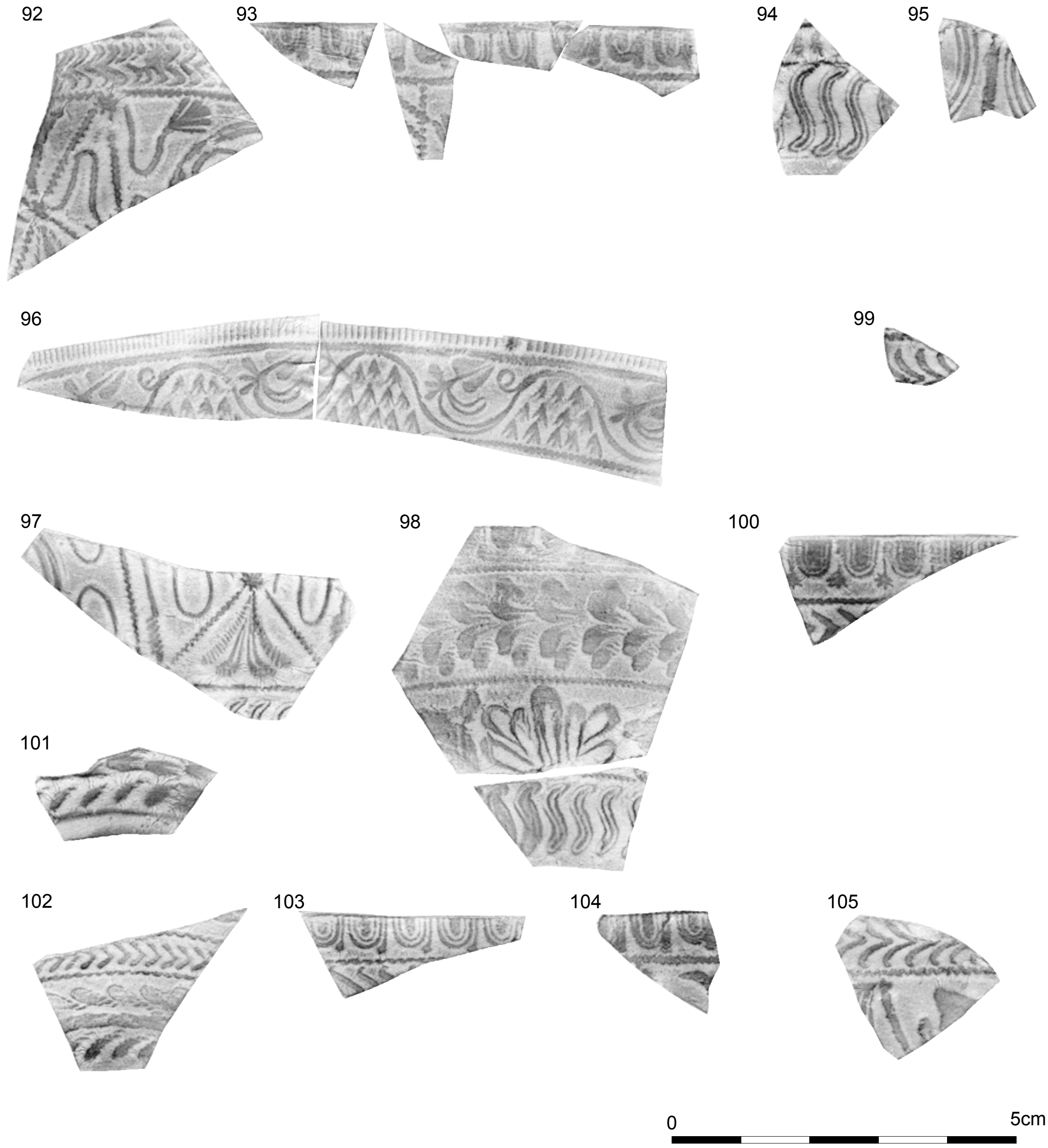

Figure 5.13: samian decoration rubbings, Cat. nos 92–105.

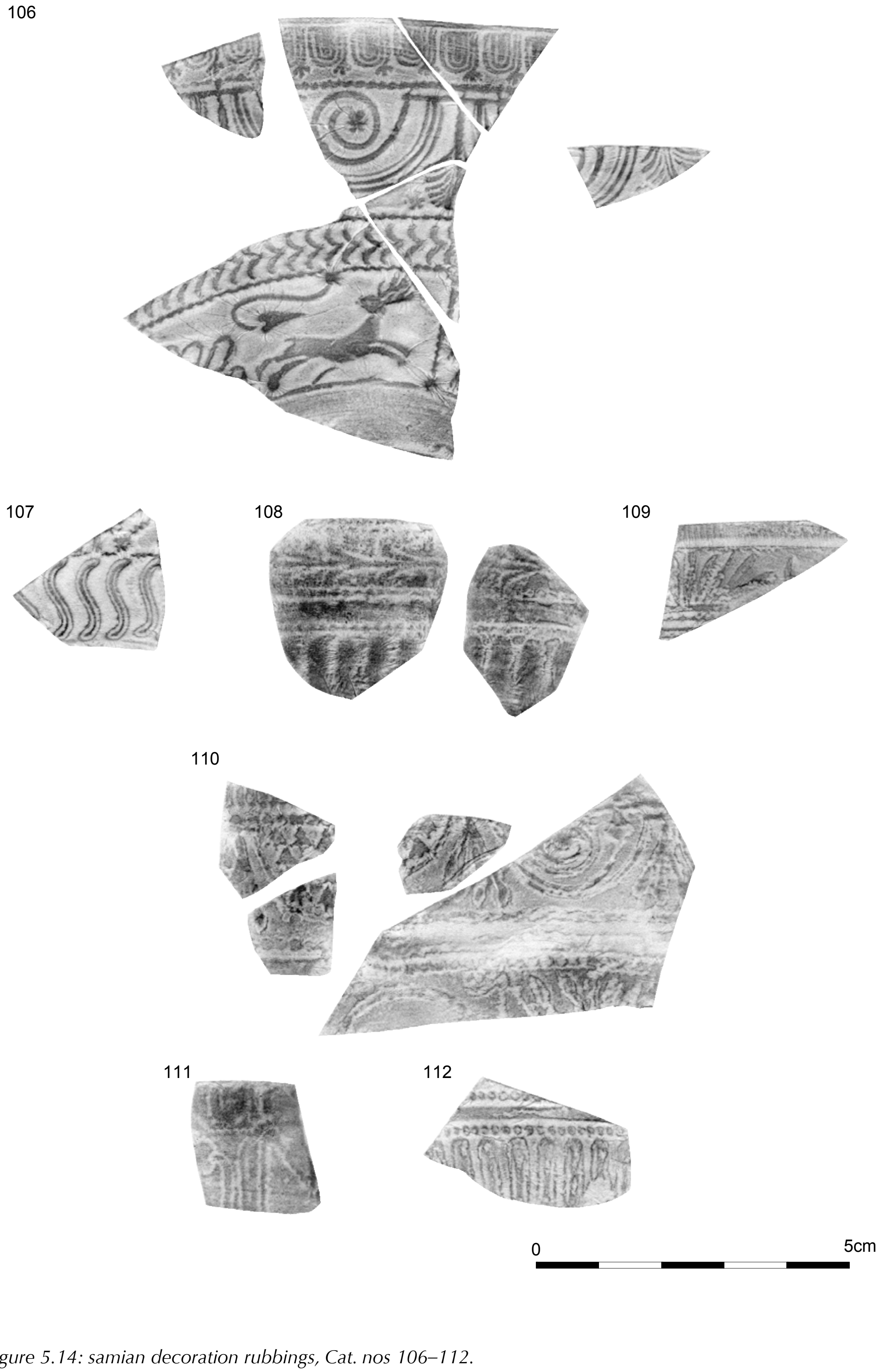

Figure 5.14: samian decoration rubbings, Cat. nos 106–112.

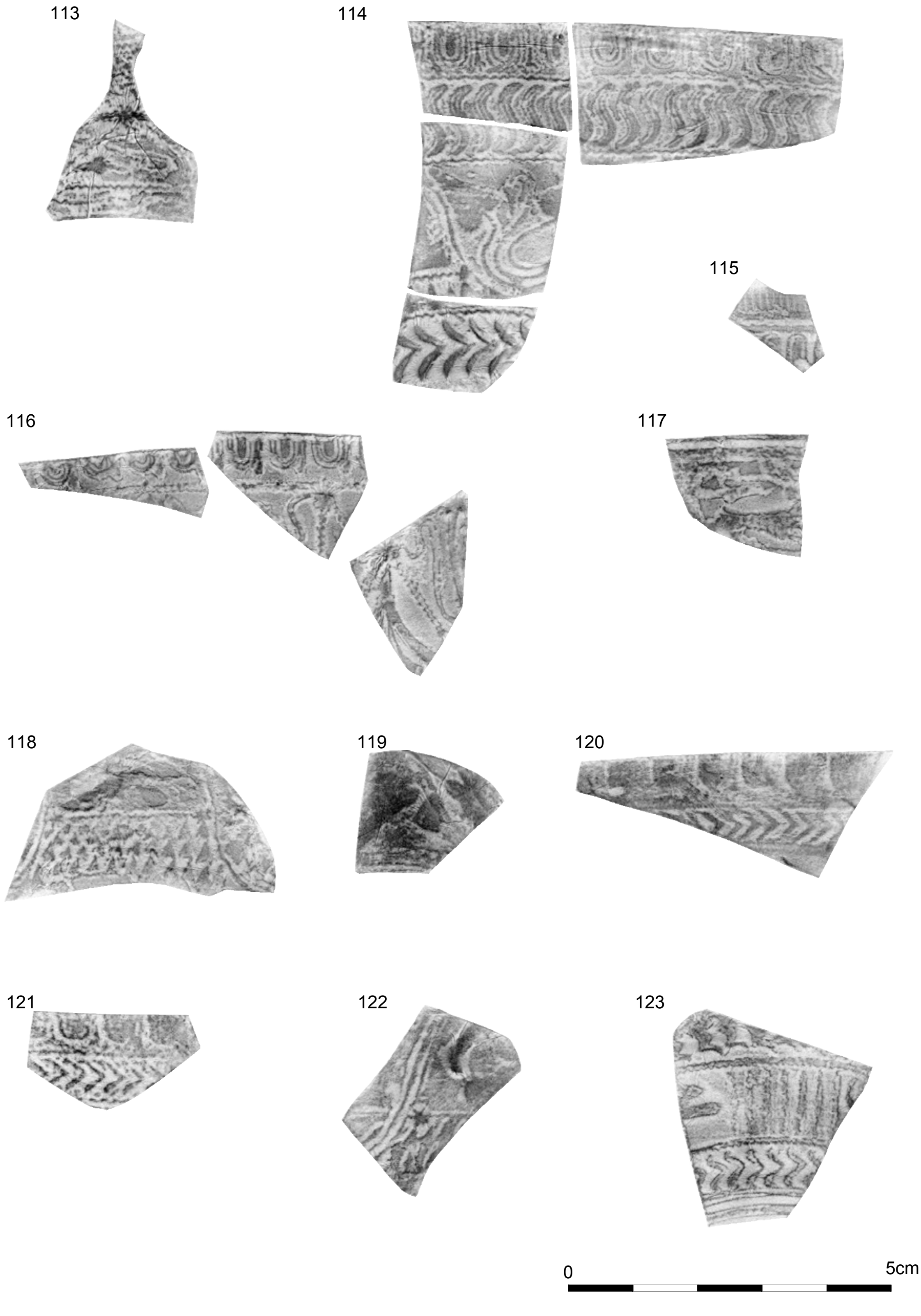

Figure 5.15: samian decoration rubbings, Cat. nos 113–123.

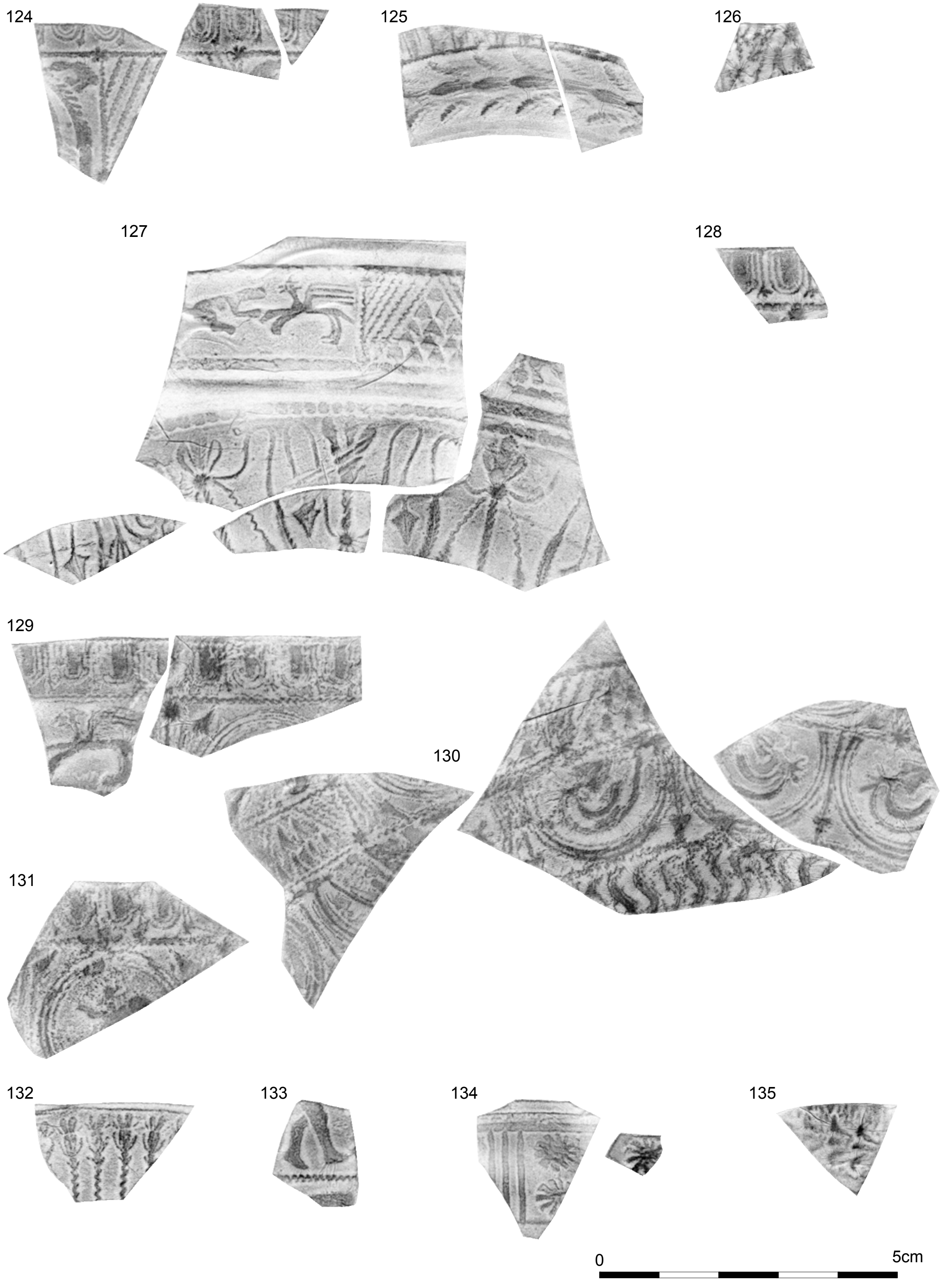

Figure 5.16: samian decoration rubbings, Cat. nos 124–135.

136

Figure 5.17: samian decoration rubbings, Cat. no. 136 (continued on Figure 5.18).

Figure 5.18: samian decoration rubbings, Cat. no. 136 (continued).

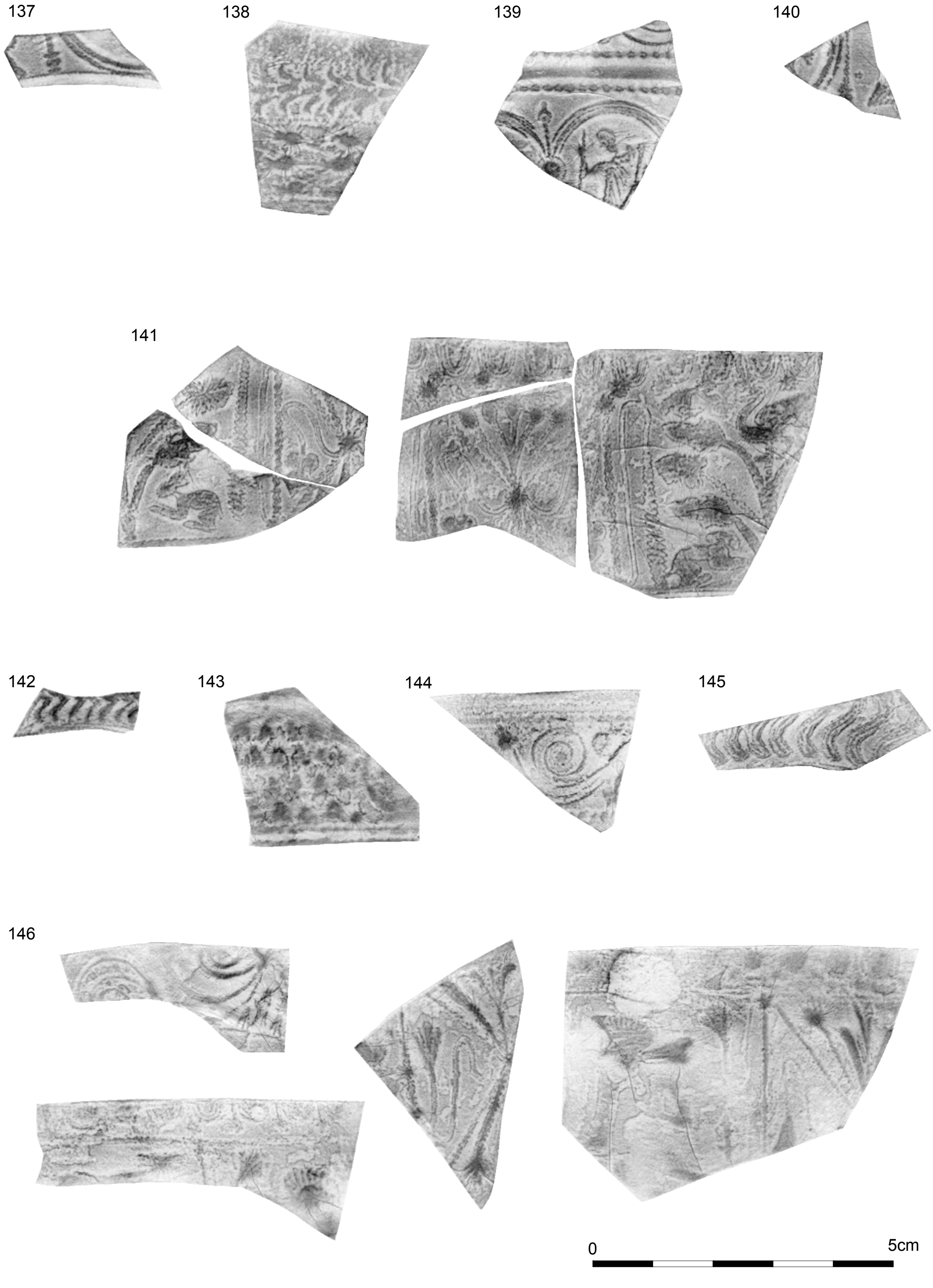

Figure 5.19: samian decoration rubbings, Cat. nos 137–146.

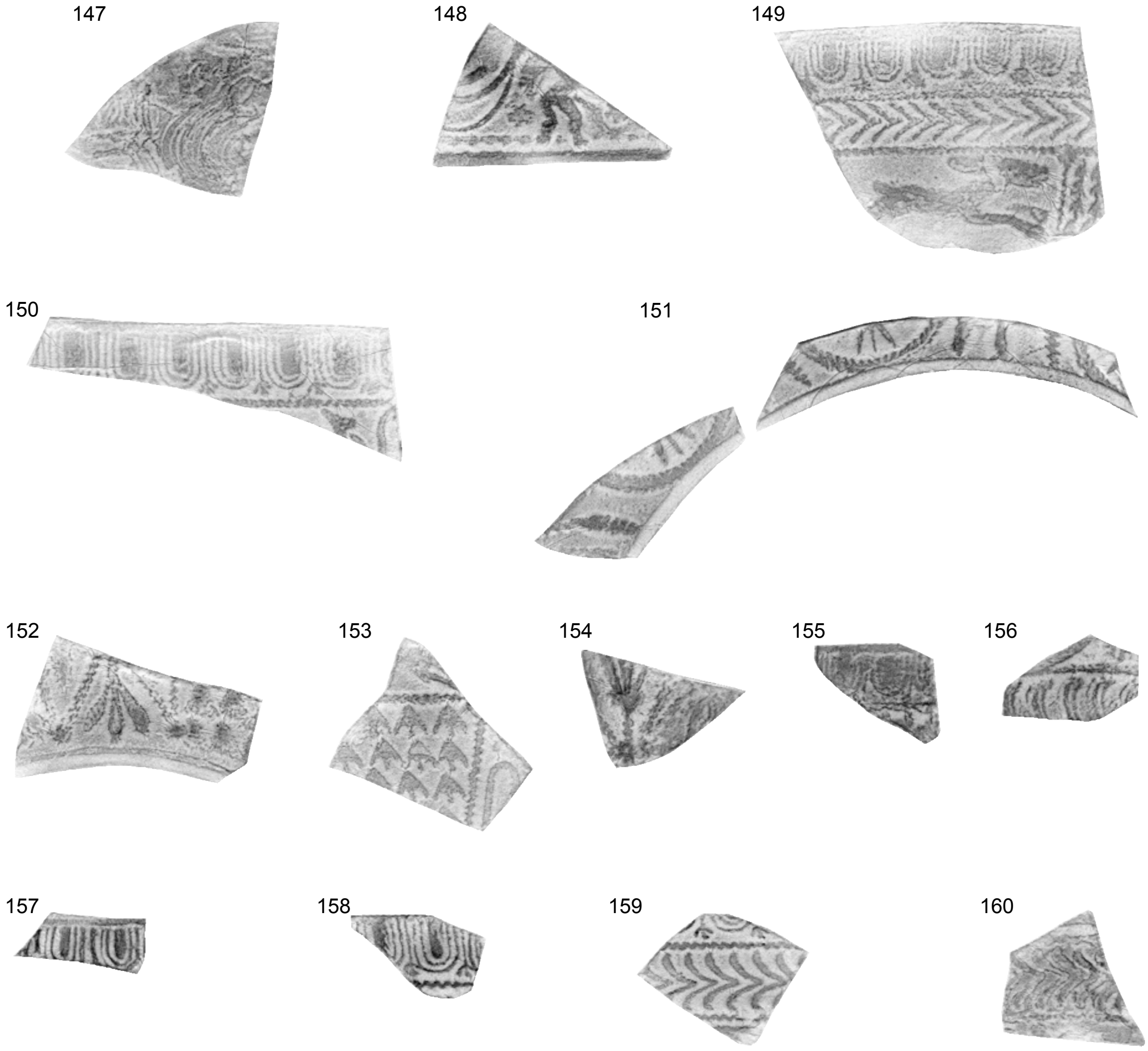

Figure 5.20: samian decoration rubbings, Cat. nos 147–160.

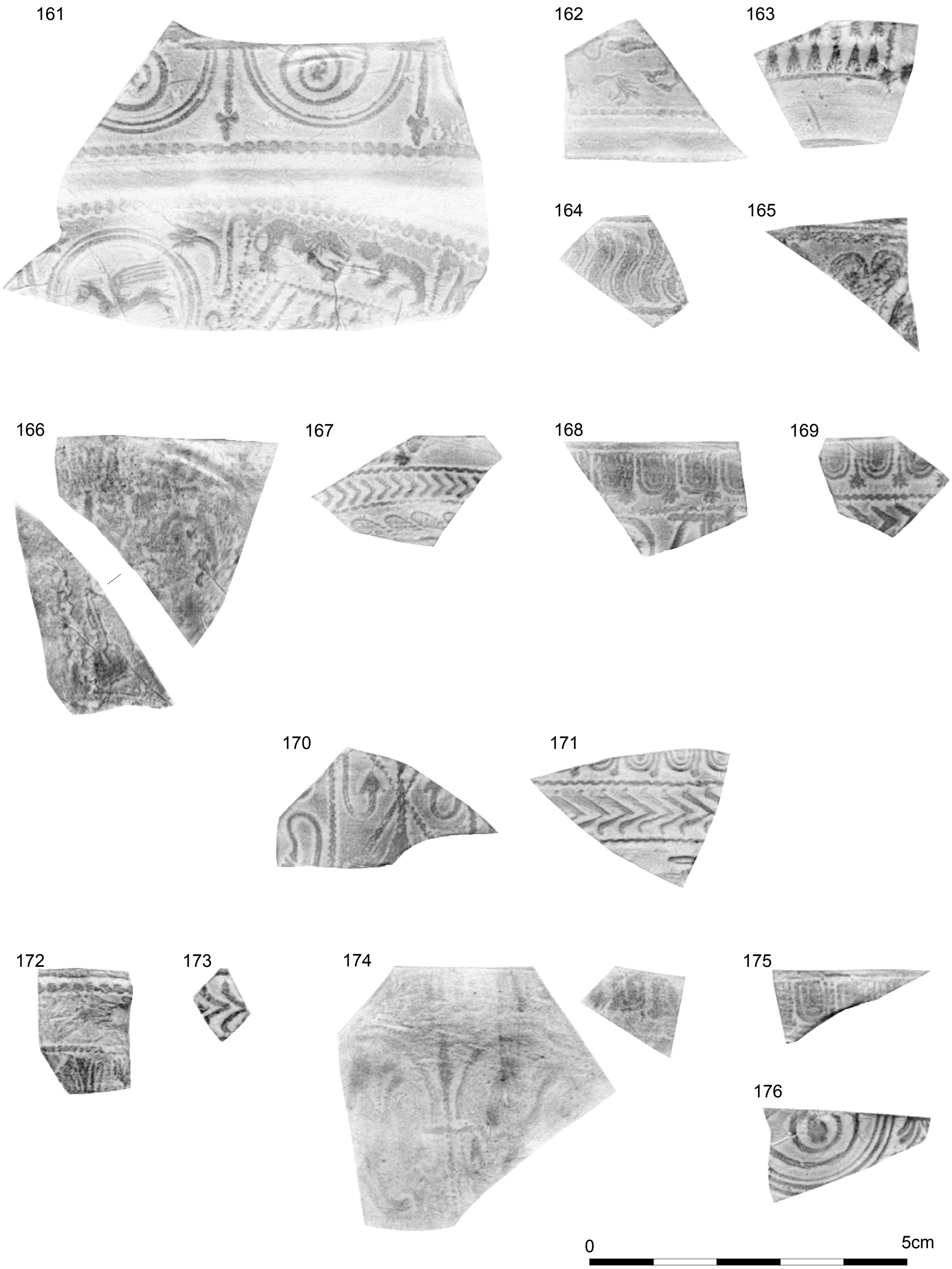

Figure 5.21: samian decoration rubbings, Cat. nos 161–176.

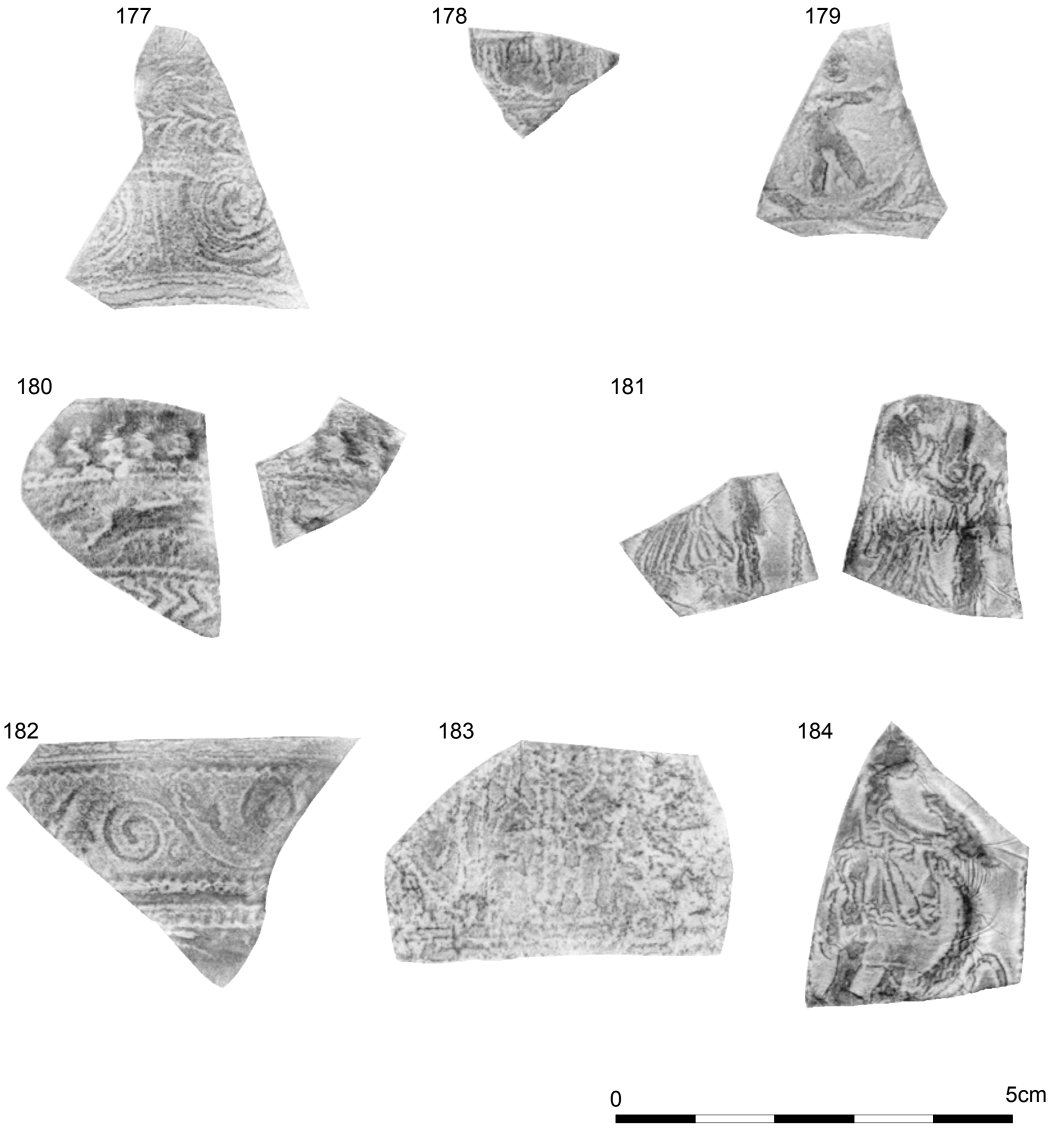

Figure 5.22: samian decoration rubbings, Cat. nos 177–184.

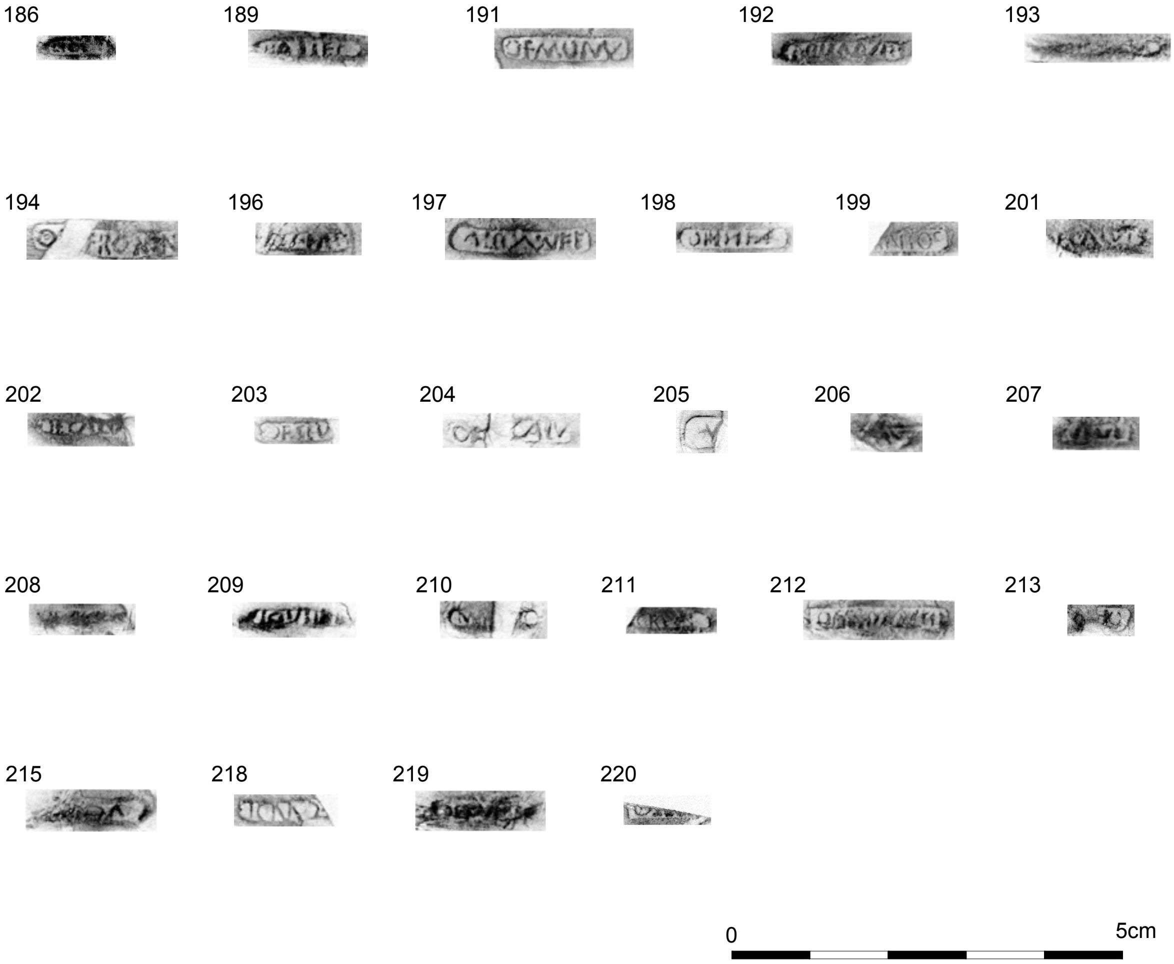

Figure 5.23: samian maker's stamp rubbings, Cat. nos 186, 189, 191–194, 196–213, 215 and 218–220.

207. Unidentified. Fabric: La Graufesenque. Unidentified. Field 246; Group **31284**; Context **16031**; second fill of ditch **15537**, RF10155. Period 4. Figure 5.23.

208. Dr.27g cup. Fabric: La Graufesenque. Unidentified. Field 258; Context **15113**; primary fill of pit **15077**, RF10020. Period 4. Figure 5.23.

209. Dr.27g cup. Fabric: La Graufesenque. Iovius, 4c (Hartley and Dickinson 2009a, 296–7). AD65–90. Field 258; Context **15113**; primary fill of pit **15077**, SF10016. Period 4. Figure 5.23.

210. Dr.27g cup. Fabric: La Graufesenque. Memor, 5a (Hartley and Dickinson 2010, 74–8). AD60–90. Field 258; Context **15113**; primary fill of pit **15077**, RF10019 and RF10022. Period 4. Figure 5.23.

211. Dr.18 plate. Fabric: La Graufesenque. Could be Crestio and probably 17c, (Hartley and Dickinson 2008c, 175–83). AD45–75. Field 258; Context **15132**; fill of ditch **15184**, RF10003. Period 4. Figure 5.23.

212. Dr.18 plate. Fabric: La Graufesenque. Primulus i, 1a, (Hartley and Dickinson 2011a, 211–15). AD60–85. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.23.

213. Dr.29 decorated bowl. Fabric: La Graufesenque. Partial stamp could possibly be Passenus, 40a. The stamp is retrograde and messily impressed, the reading seems to be: OF( )P[and the closest match is die 40a (Hartley, and Dickinson 2011a, 13). AD50–75? Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.23.

214. Dr.18 plate. Fabric: La Graufesenque. Unidentified. AD45–80? Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Not illustrated.

215. Dr.27g cup. Fabric: La Graufesenque. Mommo, 14a or a' (Hartley and Dickinson 2010, 135–48). AD60–85. Field 258; Context **26689**; fill of gully **26145**. Period 4. Figure 5.23.

216. Dr.37 decorated bowl. Fabric: La Graufesenque. Unidentified, very partial infra-decorative signature, a single vertical stroke visible. Flavian. Field 228; Group **28456**; Context **27969**; third fill of ditch **28456**. Period 2–4. Not illustrated.

217. Dr.18 plate. Fabric: La Graufesenque. Unidentified, edge of frame visible, too partial for identification. AD45–80? Field 267a; Feature 12; Context **32948**; fill of ditch **32949**. Period 2–4. Not illustrated.

218. Dr.18R plate. Fabric: La Graufesenque. Secundus ii, 6a' (Hartley and Dickinson 2011b, 170–82). AD60–90. Field 265; Context **31669**; second fill of **31666**. Period 4–5. Figure 5.23.

Table 5.41: amphorae quantities by Period and class.

Period / Fabric Class	**Count**	**Weight (g)**	**Total Rim %**
1	5	19	–
CAM AM	5	19	–
2	144	2488.9	55
BAT AM	33	1052.9	–
CAM AM	77	970.8	22.5
GAL AM	4	126.1	–
ITAL AM	8	98.2	12.5
UNID	21	129.1	20
SS AM (fish-based)	1	111.8	–
3	426	6478	104
BAT AM	109	3054.2	15
CAM AM	59	409.7	–
GAL AM	251	2913.9	79.5
ITAL AM	1	50.6	–
UNID	6	49.6	9.5
4	1785	66,642.90	468
BAT AM	1617	65013.3	447.5
CAM AM	79	607.2	–
CAR AM	4	47.7	20.5
GAL AM	44	478.7	–
ITAL AM	3	21.4	–
N CAM AM	7	39.2	–
UNID	29	390.8	–
SS AM (fish-based)	2	44.6	–
5	310	9072	54.5
BAT AM	261	8908.2	54.5
CAM AM	48	154.1	–
GAL AM	1	9.7	–
5+	87	4016.3	–
BAT AM	82	3979.7	–
CAM AM	4	13.9	–
SS AM (fish-based)	1	22.7	–
Mid–Late Roman	112	5924.8	31
BAT AM	110	5893.7	31
UNID	1	22.9	–
SS AM (fish-based)	1	8.2	–
Total	**2869**	**94,641.90**	**712.5**

219. Dr.27g cup. Fabric: La Graufesenque. Unidentified, excoriated surface, the stamp is hardly visible, rubbing brings up the two first letters: OF[…]. AD45–80. Field 258; Group **28132**; Context **26958**; aggregate surface of RR10. Period 5+. Figure 5.23.

220. Dr.18 plate. Fabric: La Graufesenque. Severus iii, 7t (Hartley and Dickinson 2011b, 251–67). AD65–95. There is a graffito on the underside of the base (Tomlin, this report). Field 258; Context **27189**; primary fill of ditch **27186**. Period 5+. Figure 5.23.

221. Dr.27g cup. Fabric: La Graufesenque. Unidentified, excoriated surface, incomplete stamp, O […]. AD45–80? Field 228; Context **27742**; sand overlying Dere Street. Medieval–post-medieval. Not illustrated.

222. Unidentified form. Fabric: La Graufesenque. Unidentified. Subsoil. No Period. Not illustrated.

AMPHORAE

David G. Griffiths, with contributions from David F. Williams

Introduction

The amphorae recovered from the A1 scheme excavations at Scotch Corner provide a unique insight into the supply of amphora-borne commodities to northern England during the 1st century AD, and especially in the first half of that century. A total of 2989 sherds, weighing c.99.5kg, were recovered, of which 2869 sherds, weighing c.94.6kg, came from securely stratified deposits associated with Periods 1–5 and two later periods of activity (Table 5.41). Identification and recording were predominantly by Griffiths with a significant contribution from Williams to identify uncertain sherds, stamps and graffiti (see discussion below). The method adopted followed that of Dore (2007, 270–1) for his study of Roman pottery from Elginhaugh Flavian fort in Scotland. The assemblage was examined by context, and all diagnostic sherds were catalogued and provided with catalogue numbers (Cat. nos). Diagnostic sherds included rims, handles and feet that allow identification of form; when considered alongside fabric type, these inform on the origin of the amphorae and potentially the origin and type of commodity being transported. Fabrics were examined under a binocular microscope (x30 magnification) and, where possible, reference was made to published classifications (e.g. Peacock and Williams 1986; Tomber and Dore 1998). Illustrated catalogues of amphora stamps and featured sherds are provided at the end of this section. A complete dataset is provided in Appendix D.

Background

There have been hints that exotic Roman-style foodstuffs were consumed close to Scotch Corner during the Late Iron Age and Early Roman periods since Wheeler's excavations at nearby Stanwick (1954); more recently, there have been tantalising glimpses from excavations at Scotch Corner Hotel (Dore 1995) and the widening of the A66 dual carriageway (Zant and Howard-Davis 2013). However, the most significant contribution comes through the recent publication of the excavations at site 9, Stanwick (Haselgrove 2016). The analysis of the Stanwick amphorae (Willis 2016b), albeit a small assemblage of 89 sherds weighing only 3kg, dramatically changed the view of contact between northern and southern England and the Continent for the later Iron Age and Early Roman periods. The origin of the vessels, but more importantly, their contents, was extensive and included wine from Iberia, the Aegean, Italy and southern Gaul, along with olive oil and fish-based products from Baetica (southern Iberia; Haselgrove 2016, 435).

Considering this research, it was immediately clear that the amphora assemblage from the Scotch Corner excavations was equally significant, perhaps even more so, as it is some 30 times greater than that from Stanwick (Willis 2016b, 209, table 11.2). The full repertoire of 'Roman' exotic products was present, including: wine from Italy, Gaul and Spain; olive oil and fish-based products (such as *garum*) from southern Spain; fruit (possibly dates), from as far away as the eastern Mediterranean; and fruit-based products (which could conceivably be *defrutum,* a sweet liquid resulting from the boiling down of must) from southern Spain. The range and quantity of amphora-borne commodities consumed at Scotch Corner is characteristic of those major Late Iron Age settlements in the south that engaged in contact with the Continent prior to the Claudian conquest and often developed into large Roman towns, for example *Camulodunum* (Hawkes and Hull 1947; Niblett 1985; Sealey 1985), *Verulamium* (Frere 1972), Skeleton Green (Partridge 1981) and *Calleva* (Fulford *et al*. 2018), as well as those 'early' military settlements (with associated civilian areas) established immediately after the Claudian conquest, such as London (e.g. Davies *et al*. 1994), Exeter (Holbrook and Bidwell 1991), Kingsholm (Hurst 1985) and Usk (Manning 1993). Such settlements from the early Flavian period include York (Monaghan 1993; 1997) in northern England, as well as Elginhaugh (Hanson 2007) and Inchtuthil (Pitts and St. Joseph 1985) in Scotland. The physical remains of the Scotch Corner settlement and artefacts recovered show clear similarities to many of these sites and, as will be explored below, the amphora assemblage is one of the clearest indicators.

Vessel types: origins, contents and chronology

The range of vessel types is organised below by commodity, with brief discussion of form, origin and chronology. The study of amphorae has been thorough and extensive over the past 30 years, and key texts with direct relevance to this assemblage provide detailed descriptions and discussion of types, origins, contents and their distribution (e.g. Sealey 1985; Peacock and Williams 1986; Willis 1993; Keay and Williams 2014).

Wine

Amphorae containing wine were transported to Scotch Corner from a variety of regions on the Continent, including Italy, Gaul and southern Spain. The evidence for each is discussed in the following sections.

Table 5.42: Period 2 relative proportions of amphorae types at Scotch Corner.

Fabric	Count	Weight	Rim %
BAT AM	22.92%	42.30%	0.00%
CAM AM	53.47%	39.01%	40.91%
GAL AM	2.78%	5.07%	0.00%
ITAL AM	5.56%	3.95%	22.73%
UNID	14.58%	5.19%	36.36%
SS AM (fish-based)	0.69%	4.49%	0.00%
Total	**100.00%**	**100.00%**	**100.00%**

Table 5.43: relative proportions of wine amphorae (percentage of weight) for Periods 1–4.

Wine	Period 1	Period 2	Period 3	Period 4
CAM AM	100	73.31	11.96	42.05
ITAL AM	0	7.42	1.48	1.39
GAL AM	0	9.52	85.11	31.14
Unidentified	0	9.75	1.45	25.42

Italy

Dressel 2–4

The Dressel 2–4 type was the most common wine amphora of the western Mediterranean of the early Empire and date from c.70BC to the early 3rd century AD (Williams 2000b, 222; Fitzpatrick 2003a, 14–15; Williams *et al*. 2005). While vessels in this form were produced in many parts of the Empire, the majority of those found at Scotch Corner were Italian in origin, predominantly from the Bay of Naples (Campania). At Scotch Corner there is variation in form: the basic shape had a simple ring-like rim, a neck which tapers inwards to a sharply defined shoulder, and a cylindrical body with a solid spike. The characteristic bifid handles (two parallel clay rods) are distinctive (Williams *et al. ibid*.). Given that Cam 139 (a single-handled amphora, more like a flagon; see below) were produced in Campania in the same clay, and both forms may be relatively thin-walled, it is difficult to identify vessel form based solely on body sherds. However, both Dressel 2–4 and Cam 139 types were used to transport wine or wine products from Italy to Scotch Corner. While Italian Dressel 2–4s continued to be made until the early 3rd century AD, production of those originating from Campania most likely ended in the late 1st century AD, with many vineyards in the region destroyed with the eruption of Mount Vesuvius in AD79 (Williams *et al*. *ibid*.).

Camulodunum 139 (Cam 139)

This type is dated to the late 1st century BC to the 1st century AD (Hawkes and Hull 1947, plate 69; Williams 2005). It is more of a flagon, with a single long rod handle, a simple beaded rim, cylindrical neck and ovoid body with a flat base (Williams 2005). A range of sherds were recovered at Scotch Corner with origins in the Bay of Naples that were made in the characteristic 'black-sand' fabric of this region (CAM AM). The vessels transported wine or wine products, with distribution from the late 1st century BC and throughout the 1st century AD (see the comment on the Vesuvian eruption, above).

Gaul

Gauloise 4

Dating from the mid-1st century AD to end of the 3rd century AD (Williams 2000, 224; Fitzpatrick 2003,15; Keay and Williams 2014), this amphora type has a very short neck with bead rim, relatively flat handles with a groove, and a narrow, flat ringed base.

Gauloise 5

This type dates from the mid-1st century AD to early 2nd century AD (Williams 2000, 224; Fitzpatrick 2003,15; Keay and Williams 2014) and has a short neck with everted rim, with relatively flat handles with central groove, and either a flat or convex ring base.

Southern Spain

Dressel 28

This amphora type has a distinctive pulley-wheel rim and short rounded handles with a shallow furrow (sometimes two), and a well-rounded body with a thick footring base. Contents of the vessels are unknown, but possibly included wine. Such vessels date from the late Augustan period to the first half of the 2nd century AD (Keay and Williams 2014).

Olive Oil

Baetica, southern Spain

Dressel 20

Dressel 20 amphorae date from the late 1st century BC to the mid-3rd century AD (Williams 2000, 223; Fitzpatrick 2003, 17; Keay and Williams 2014) and were used to transport olive oil produced at many sites along the River Guadalquivir in the southern Spanish province of Baetica. Dressel 20s were the most common amphora type imported to Roman Britain, with some examples from Late Iron Age sites. Undiagnostic body sherds are difficult to date, but there is variation in rim and handle forms that aids chronological refinement (see Martin-Kilcher 1987; Berni Millet 2008). A number of very coarse, gritty fabrics were present in the Scotch Corner assemblage, with some sherds relatively thin walled. Williams (pers. comm.) suggests this may indicate that they are early in date, in terms of the length of production of Dressel 20 amphorae. Some sherds may be from early Haltern 70 (Fitzpatrick 2003a, 18–20), but all others are most likely to be Dressel 20s.

Fish-based products

These types (see classes 16–19 in Peacock and Williams 1986) were represented at Scotch Corner by body sherds and a small handle fragment only. Williams suggests a southern Spanish origin, from where fish-based products, such as *garum*, *liquamen* and *muria*, were predominantly transported. They date from the late 1st century BC to mid-2nd century AD (Williams 2000, 224).

Fruit and fruit-based products

Carrot amphorae

Carrot amphorae are very distinctive, with a plain rim and no neck, small loop handles and a small, tapered body with horizontal rilling. The type is commonly associated with early military sites in Britain, Germany and Pannonia; they have been found in early 1st-century AD deposits at Wiesbaden and *Vindonissa* and are common at Claudian Hofheim (Reusch 1970) and Claudian-Neronian Colchester (Hawkes and Hull 1947). They are found after AD75 at Fishbourne (Cunliffe 1971c, cited in Williams 2005). Overall, they are said to date to c.AD40–100 (Williams 2000, 224; 2005). Their contents are unknown, but they potentially carried dates and originated in the eastern Mediterranean (Reusch 1970; Carreras Monfort and Williams 2002, cited in Williams 2005).

Haltern 70 (Cam 185A)

This type was possibly present in small quantities (see Dressel 20, above). Produced in Baetica and dating from c.80–60BC to the Antonine period (Fitzpatrick 2003, 18–20; Carreras Monfort 2005), undiagnostic body sherds are often indistinguishable from Dressel 20s. The type has a wide everted collar rim with oval handles displaying a deep vertical groove, a cylindrical body and solid conical spike. The vessels contained *defrutum*, which is a sweet liquid produced by boiling must (Carreras Monfort 2005).

Chronology of amphorae

Period 1

Only five amphora sherds (all Campanian) were recovered from Period 1 deposits and these were from the south of the settlement in Field 223. The presence of these sherds in Late Iron Age deposits in the north is extremely rare; however, two Italian wine amphorae sherds and a single sherd of Baetican amphora were recovered at Stanwick from Period 4 deposits dating to between 30/20BC and AD30/40 (Willis 2016b, 213–15).

Period 2

A total of 144 sherds, weighing 2488.9g (RE: 55%), was recovered from Period 2 deposits (Tables 5.41 and 5.42). The supply of continental amphora-borne foodstuffs increased dramatically from Period 1, with vessels representing olive oil (or olives) from Baetica (most likely Dressel 20s), wine from Italy and Gaul, and fish-based products from southern Spain (classes 16–19 in Peacock and Williams 1986). During Period 2, the first vessel(s) containing olive oil and fish-based products arrived at Scotch Corner. The occurrence of oil may possibly be slightly later than at Stanwick, where olive oil arrived prior to AD30/40 (Willis 2016b, 213–15). Baetican amphora sherds were recovered from across the settlement at Scotch Corner, with material from Fields 223, 246 and 267a tentatively suggesting olive oil consumption (or rubbish disposal of broken vessels) across the settlement. However, only 33 sherds were recovered, which may represent as few as two vessels.

Olive oil amphorae formed 42.3% of the assemblage from Period 2 by weight (22.92% by sherd count); the remaining vessels contained wine from a variety of sources. If one solely considers the supply of wine during Period 2, Italian products formed at least 80.73% (by weight), with 9.52% from Gaul (9.75% unidentified;

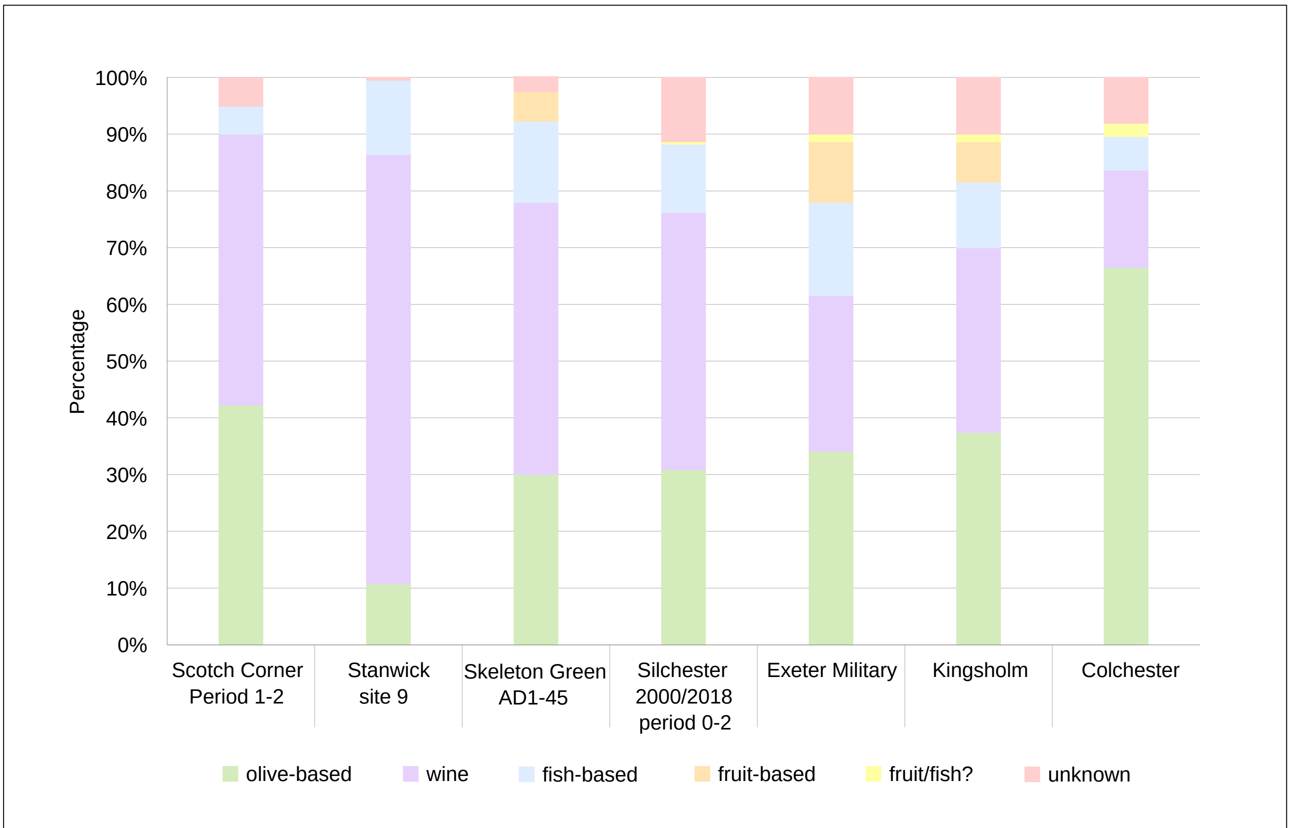

Figure 5.24: Scotch Corner Periods 1–2 comparisons (relative proportions by weight).

Table 5.44: Period 3 relative proportions of amphorae types at Scotch Corner.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
BAT AM	25.59%	47.15%	14.42%
CAM AM	13.85%	6.32%	0.00%
GAL AM	58.92%	44.98%	76.44%
ITAL AM	0.23%	0.78%	0.00%
Unidentified	1.41%	0.77%	9.13%
Grand Total	**100.00%**	**100.00%**	**100.00%**

Table 5.43). A level of caution must be acknowledged here, given the statistical analysis of such a relatively small assemblage of wine amphorae (110 sherds, weighing 1324.2g); these sherds may represent very few vessels (and small quantities of exotic foodstuffs) arriving over many years, with consumption most likely restricted. For example, the absolute quantities (by count and weight) of southern Spanish and Gaulish amphorae were one and four sherds respectively; at best, these each represent single vessels. Furthermore, the (at least) three Dressel 2–4 amphorae would have collectively transported less than 100 litres of wine to Scotch Corner (see Sealey 1985, 99 for average amphora capacities at Sheepen, Colchester).

Catalogued vessels from Period 2 deposits include a Dressel 20 olive oil amphora from Baetica (Cat. no. 228), Dressel 2–4 wine amphorae from Campania (Cat. no. 229), another (unknown) Italian source (Cat. no. 231), and a bifid handle fragment from an unknown source (Cat. no. 230). A range of Cam 139 types were also identified (Cat nos 223, 224, 225, 226 and 227).

Given the proximity of Stanwick to Scotch Corner it is logical to begin any comparison between sites and assemblages with this site (Fig. 5.24). The Scotch Corner assemblage from Period 1–2 compares closely with that from Stanwick Periods 4 (30/20BC–AD30/40; Willis 2016b, 215, table 11.6) and 5 (AD30/40–AD65/75; *ibid*., 216, table 11.7). Amphorae from Stanwick Period 4 included two types; two from Italian wine vessels and one from an olive or olive oil amphorae. Twenty amphora sherds were recovered from Stanwick Period 5, including four from a Rhodian/Cam 184 amphora, a body sherd from a Baetican Dressel 20, and sherds in two 'black sand' fabrics, both likely from Italy (probably Dressel 2–4s), and nine featureless sherds potentially from wine amphorae of Dressel 2–4 or Rhodian form. It is notable that Rhodian amphorae are completely absent at Scotch Corner, particularly since these amphorae may be associated with tribute levied by Claudius (Williams and Keay 2014) and are present not only at Stanwick but also Melsonby.

Willis (2016b, 249, fig. 11.18) compares the site 9 Stanwick assemblage with a range of Early Roman sites: Lincoln, Old Winteringham, Longthorpe II, Colchester (Culver St), Colchester (Gilberd St), London (Fenchurch St) and Redcliff. It is clear there were differences in the consumption of amphora-borne commodities between the sites considered by Willis, with wine dominating at Stanwick and Redcliff (approximately 75% and 80% by weight respectively), while at Scotch Corner (Periods 1 and 2 combined) they formed 48.77% of the assemblage. The remainder of the Scotch Corner assemblage consisted of containers for fish-based products (4.49%) and unidentified sherds (5.19%). At the other sites analysed by Willis, Dressel 20s formed the bulk of the assemblages (c.65–82%). However, amphora assemblages from some of the sites (Willis 2016b, fig. 11.18) were Flavian in date, where olive oil amphorae generally dominate. This is also the case at Scotch Corner during Periods 1–2 (Fig. 5.24). As Haselgrove (2016, 437) correctly states, comparison of Stanwick with sites in southern Britain is highly relevant and, where possible, is undertaken here in regard to Scotch Corner.

As is clear in Figure 5.24, the relative proportions of amphorae from Scotch Corner, especially wine and olive oil, are comparable with those from Skeleton Green (AD1–45), and the earliest deposits at Silchester (periods 0 to 2), Exeter (military period), and Kingsholm; however, olive oil dominates at Colchester, suggesting the data may be influenced by 'later' vessels that relate more closely to

Table 5.45: amphorae sherds (by count) by Field and Period.

	Field							
Periods	**223**	**267**	**246**	**258**	**265**	**228**	**229**	**Totals**
1	5	0	0	–	–	–	–	5
2	23	32	89	–	–	–	–	144
3	251	78	92	–	–	–	–	421
4	–	38	493	1013	199	2	8	1753
5	–	–	67	–	235	–	8	310
5+	–	–	3	13	71	–	–	87
Mid–Late Roman	–	–	–	–	112	–	–	112
Totals	**279**	**148**	**744**	**1026**	**617**	**2**	**16**	**2832**

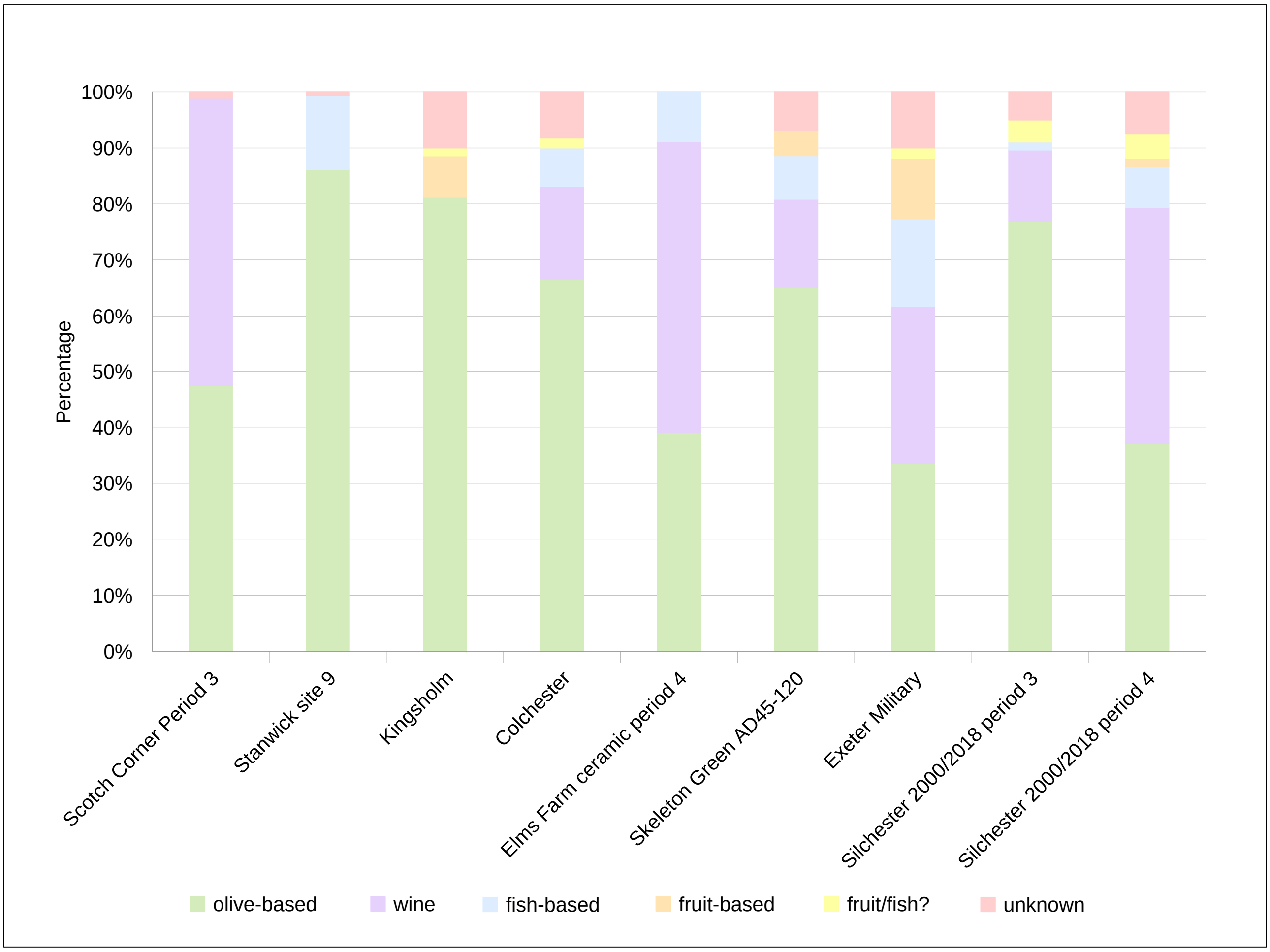

Figure 5.25: Scotch Corner Period 3 comparisons (relative proportions by weight).

Flavian (and later) military supply. What is also evident is the range of amphora-borne commodities from all sites always included wine, olive oil and fish-based products, and often exotic fruits.

Period 2–3

If one compares the amphorae assemblages of Scotch Corner Periods 2 and 3, little changed with regards to the relative proportions of wine and oil being consumed. However, absolute quantities increased substantially, with a total of 426 sherds, weighing 6478g (RE: 104%; Table 5.41 and Table 5.44). Baetican amphorae (Dressel 20s) formed the largest proportion of the assemblage, some 47.2% by weight (25.6% by sherd count), with the remainder being wine amphorae, predominantly from Italy and Gaul (52.1%), while 0.8% could not be identified.

In addition to the dramatic increase of all amphora-borne commodities to Scotch Corner, the growth in wine consumption was significant (Table 5.41 and Table 5.43). Campanian and other Italian wines were still consumed. However, the supply of Gaulish products as a proportion (by weight) increased to 85.1% (251 sherds) from 9.5%

Table 5.46: Period 4 relative proportions of amphorae types at Scotch Corner.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
BAT AM	90.59%	97.55%	95.62%
CAM AM	4.43%	0.91%	0.00%
CAR AM	0.22%	0.07%	4.38%
GAL AM	2.46%	0.72%	0.00%
ITAL AM	0.17%	0.03%	0.00%
N CAM AM	0.39%	0.06%	0.00%
Unidentified	1.62%	0.59%	0.00%
SS AM (fish-based)	0.11%	0.07%	0.00%
Total	**100.00%**	**100.00%**	**100.00%**

(four sherds). However, if one considers the actual (potential) number of vessels, this was still relatively few: three of the seven wine vessels had a Gaulish origin, three Italian and one unsourced.

The range of identifiable vessel forms in Period 3 included a Dressel 20 olive oil amphora from Baetica (Cat. no. 234 and 237) and wine amphorae types comprised a Dressel 2–4 wine amphora from an unknown source, probably Italian (Cat. no. 235), two Cam 139 flagon/amphorae (Cat. no. 232, Campanian, and Cat. no. 233, unknown source), and at least two Gaulish vessels (Cat. nos 236, 238, 239, 240 and 241).

Stanwick is again considered here (Fig. 5.25) and highlights that something different was happening there when compared with Scotch Corner, which has a greater relative proportion of vessels for olive-based products and a lesser proportion for wine, and no evidence for fish-based products in Period 2–3 (and only a single sherd from Period 2, see above). However, the Scotch Corner amphorae from Period 2–3 date slightly later than the assemblage from Stanwick, and the higher levels of olive-based products may be due in part, or a result, of increased military activity in the area. The relative proportions of amphorae at Scotch Corner in Period 3 again correspond with sites in the south that are of comparable chronology. The assemblage closely compares with Kingsholm, Elms Farm (ceramic period 4), Exeter (military period) and Silchester (period 4). Colchester, as already noted, probably includes Flavian-period material. Silchester data are included as two entries, periods 3 (AD40–50/60) and 4 (pre-Flavian), to allow for the Scotch Corner Period 3 chronology. The relative proportions from the Scotch Corner assemblage bear close resemblance to Silchester (Period 4). Skeleton Green (AD45–120) includes Flavian and later material, and therefore corresponds to relative proportions from Colchester (and Period 4 at Scotch Corner).

The largest pre-Flavian amphorae assemblage at Scotch Corner relates to Period 3 deposits and, as for Period 2, all were found in Fields 223, 246 and 267a. There were no amphorae from Fields 228, 229, 258 and 265 relating to Periods 1–3 (Late Pre-Roman Iron Age to AD70) (see Table 5.45).

Period 4

From Period 4 onwards, there seems to have been a significant shift in the location of activity in the settlement (based on the amphorae assemblage, at least), with the bulk of the amphorae recovered from Fields 246, 258 and 265. Only two sherds were recovered from Field 228, 16 sherds from Field 229, 38 sherds found in Field 267a and none from Field 223. A large proportion of the assemblage came from Field 246 (493 sherds), suggesting this area continued to be a focus of activity at the settlement during the AD70s.

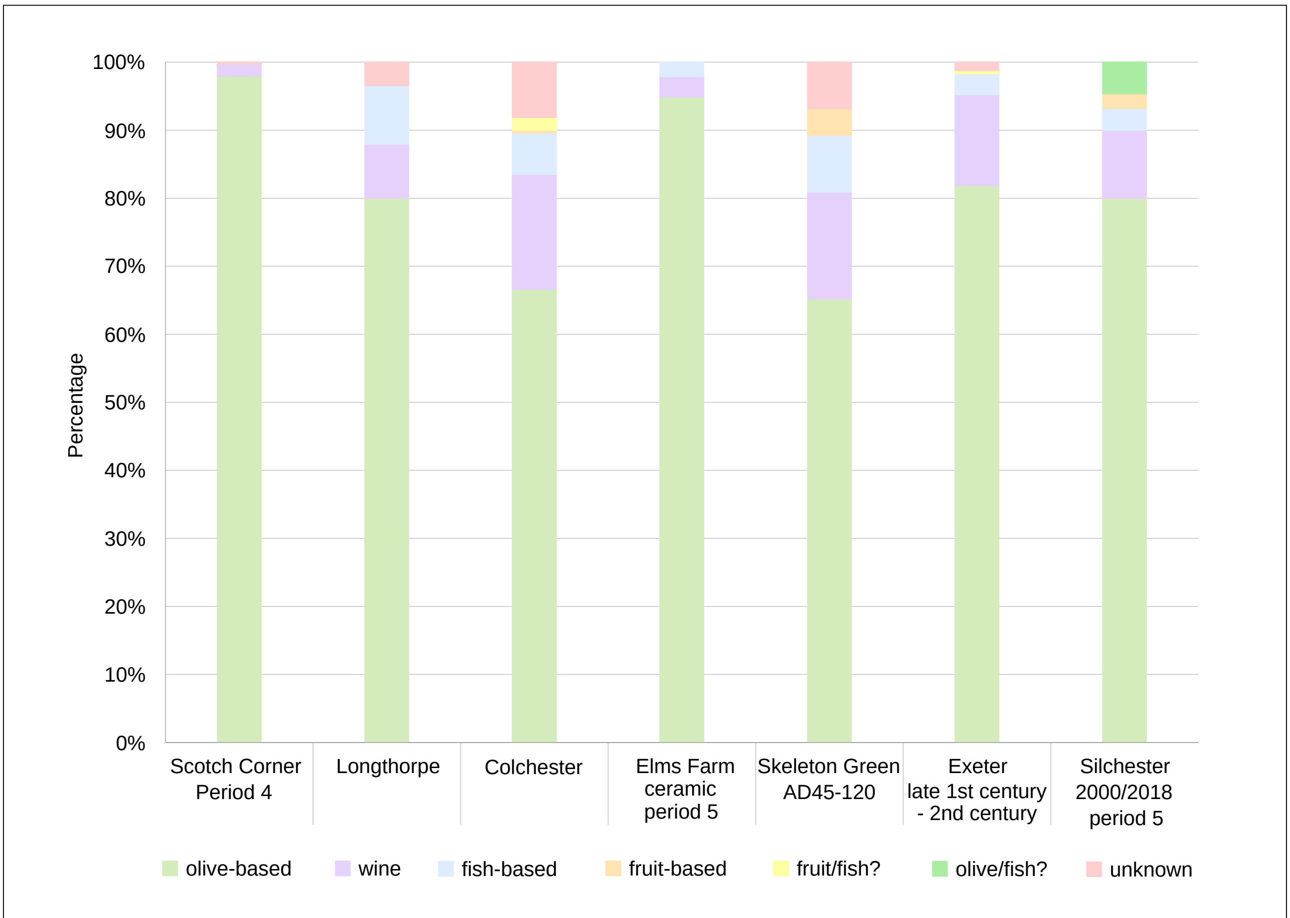

Figure 5.26: comparison of Scotch Corner Period 4 with other sites (relative proportions of amphorae by weight).

Period 4 also presents the largest group of amphorae, comprising 1785 sherds and weighing 66.6kg. It formed 70.42% by weight (62.22% by count and 65.68% by rim percentage) of all the stratified deposits (Tables 5.41 and 5.46). Baetican olive oil and wine amphorae from Italy and Gaul were present, along with two sherds from southern Spanish amphorae, indicating fish-based products. Also, the first occurrence of carrot amphorae, which suggests the import of exotic fruit, possibly dates, from the eastern Mediterranean to Scotch Corner. Sherds of this type of vessel (Cat. nos 286 and 287) were recovered from fill **24615** of ditch **15761** (Field 246) and fill **15242** of pit **15215** (Field 258); these sherds are possibly part of the same vessel.

Olive oil vessels dominate the assemblage at 97.55% by weight (Tables 5.41 and 5.46), and this is clearly indicative of the arrival of the military at or close to Scotch Corner around AD70+ (the date of many vessels is post-AD70; see catalogue of amphorae below). The remainder were wine vessels (1.72% by weight) and four sherds of 'carrot' amphora for fruit (0.07%). Southern Spanish amphorae for fish-based products (0.07%), and 0.59% were from vessels of unidentified origin and contents. The relative proportions (by all methods of quantification) of wine amphorae from Period 4 are negligible, and many wine amphorae sherds may also be residual from earlier Periods of activity. The average sherd weight of wine vessels gradually reduced from 13.4g in Period 2 to 10.8g in Period 3 and 8.6g in Period 4, suggesting disturbance and redeposition of many sherds (and possibly multiple times).

In addition to the large quantities of Dressel 20, Campanian and other Italian Dressel 2–4s (e.g. Cat. no. 285) and Cam 139s (all body sherds) were present, along with two sherds of southern Spanish amphorae (both probably residual, including Cat. no. 288), and Gallic amphorae (all body sherds but likely representing multiple vessels). Finally, and potentially the most unusual, was the Cam 189/Vipard type 3b1 carrot amphorae from Syria/Palestine (Cat. no. 287); this would have transported exotic fruit (perhaps dates amongst others), which the indigenous inhabitants of Scotch Corner were unlikely to have seen and/or tasted before.

It is clear from Table 5.41 and Figure 5.26 that there was a dramatic shift in the types and quantities of commodities consumed at Scotch Corner during Period 4. With regards to the occurrence of catalogued vessels for Period 4, a total of 34 were for olive oil and five for all other commodities (including wine, exotic fruits and fish-based products). Quantities of wine must have continued to arrive at Scotch Corner during Period 4, but at a much smaller scale than Period 3, with only 133 sherds weighing 1146.5g. Wine supply from Italy to Scotch Corner continued, forming 43.44% of the wine amphorae assemblage, with some 31.14% coming from Gaul and 25.42% remaining unidentified (Table 5.43). The relative proportion of wine amphorae sherds in Period 4 was small—7.45% (by sherd count). However, this does not mean that wine was not being transported to Scotch Corner (probably for the military, who were likely located nearby; see Chapter 4) in other containers, such as wooden barrels or skins. Wine supply during the years relating to Period 4 was potentially very limited, or completely non-existent (which was unlikely), while olive oil continued to arrive in substantial quantities, with many vessels produced and filled with oil after c.AD70 (Cat. nos 278, 279, 280, 281 282 and 283).

The issue of residuality is important here, especially with regards to the presence of wine amphorae sherds after Period 3 and must be considered alongside the comments above. For example, in Period 4, no rims, handles or bases were evident from Gallic amphorae. Two handles were present, one each from a Dressel 2–4 (CAM AM) and southern Spanish vessel; these parts of amphorae are very robust and may be the remains of a vessel arriving at Scotch Corner prior to Period 4. In addition, average sherd weight for Campanian and Gallic amphorae changed little from Period 3 to Period 4 (6.9g and 7.5g versus 11.6g and 10.9g respectively).

Overall, the assemblage from Period 4 deposits was by far the largest, and suggests a 'military' character, with large quantities of Dressel 20 olive oil amphorae. While

Table 5.47: Period 5 relative proportions of amphorae.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
BAT AM	84.19%	98.19%	100.00%
CAM AM	15.48%	1.70%	0.00%
GAL AM	0.32%	0.11%	0.00%
Total	**100.00%**	**100.00%**	**100.00%**

Table 5.48: Period 5+ relative proportions of amphorae.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
BAT AM	94.25%	99.09%	–
CAM AM	4.60%	0.35%	–
SS AM (fish-based)	1.15%	0.57%	–
Total	**100.00%**	**100.00%**	**–**

Table 5.49: Mid- to Late Roman period relative proportions of amphorae.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
BAT AM	98.21%	99.48%	100.00%
Unidentified	0.89%	0.39%	0.00%
SS AM (fish-based)	0.89%	0.14%	0.00%
Total	**100.00%**	**100.00%**	**100.00%**

it should be no surprise, given that Period 4 coincides with the major Roman military expansion in the north, it is useful to highlight how the amphorae assemblage may inform status and activity; this is vital, as no archaeological features were clearly identified as military at Scotch Corner. The relative proportions of amphorae bear close comparison with assemblages from southern Flavian-period sites. All sites referred to in Figure 5.26 show that olive oil dominates the supply of amphora-borne commodities, with very little wine and few other exotic goods (arriving in ceramic containers, at least). Olive oil formed over 80% of the assemblages from Longthorpe, Elms Farm (Ceramic Period 5), Silchester (Period 5) and Exeter (late 1st to 2nd century), and around 65% from Colchester and Skeleton Green (AD45–120); at Scotch Corner, over 97% of the amphorae carried olive oil.

Period 5, Period 5+ and Mid- to Late Roman

A total of 310 sherds (weighing 9072g) was recovered from Period 5 deposits (Table 5.41). Dressel 20s formed much of the assemblage at 98.2% by weight (Table 5.47), with Campanian and Gaulish amphorae forming 1.7% and 0.1% respectively. The relative proportions of amphorae and the well-dated Dressel 20 sherds suggest an assemblage very similar in composition to Period 4 (Table 5.46), with sherds from vessels brought to Scotch Corner during Periods 3 and 4 (Cat. no. 293, AD15–70; 294, AD50–70; and 295, AD50–70), and a later vessel (Cat. no. 291, AD70–110). It is likely that many, if not all, wine amphorae sherds were residual from earlier Periods and are not indicative of wine arriving at the site (at least in ceramic transport vessels) after c.AD80/85.

The amphorae assemblage from Period 5+ was very small compared to most other Periods (Table 5.41), with only 87 sherds that weighed 4016.3g (Table 5.48). Dressel 20s continued to form the majority at 99.9%, with Cat. no. 289 dating to AD70–120; the Campanian sherds are likely to be residual, with an average sherd weight of 3.4g, and there was a single sherd of a southern Spanish vessel (22.7g). Potentially this entire group is residual, with no amphora dating after AD120 (and likely much earlier, e.g. Cat. nos 289 and 292).

A total of 112 sherds of amphorae, weighing 5924.8g, was recovered from Mid- to Late Roman deposits (Table 5.49). There was a single sherd from both a southern Spanish and Dressel 2–4 vessel of unknown source; both were most likely residual. The bulk of the assemblage (99.48% by weight) comprised Dressel 20 sherds; many are likely residual from earlier activity, but dateable vessels (Cat. nos 289 and 290) were recovered from Field 265 deposits, providing a date of c.AD110–150, suggesting continued supply, albeit on a much-reduced scale, into the first half of the 2nd century AD; the material from Period 5+ will be discussed at length by Ross and Ross (in prep.).

From the amphorae evidence alone, it seems that for Periods 5, 5+ and later, there was little deposition in any Field except for Field 265; what little there was from Fields 246 and 258 (no amphorae were recovered from Period 5) was most likely residual from Period 4 or earlier (Table 5.41). While it is clear that olive oil continued to arrive at Scotch Corner in the first half of the 2nd century AD (but was only found in Field 265), the remains of wine vessels are probably residual (average sherd weight being 3.7g) and no diagnostic sherds were present.

Discussion

The discovery of evidence for amphora-borne commodities in Late Iron Age contexts is not unusual in southern England, for example at Bagendon, Fishbourne, Silchester, Braughing, St. Albans/*Verlamion* (*Verulamium*), Colchester/*Camulodunum* (see Pitts 2010, table 1 for a list of selected British oppida and related sites). However, sites north of the Humber with Continental imports are limited to Redcliff, the Stanwick/Melsonby area (Haselgrove 2016) and the recent discovery of the major settlement at Scotch Corner considered here. The significance of the evidence from Stanwick/Melsonby has long been known (e.g. Wheeler 1954), but the recent publication by Haselgrove (2016) was timely, as it coincided with ongoing excavations at Scotch Corner. The discovery of the small but significant amphorae assemblage from periods 4 (c.30/20BC–AD30/40) and 5 (AD30/40–56/75) at Stanwick (site 9) included vessels originating in Spain, Italy and potentially Gaul and Rhodes (Willis 2016b, 248, table 11.23). As Willis (2016b, 213–14) states for the Stanwick material, it was also likely that the amphorae at Scotch Corner arrived complete with their contents. There is additional evidence for 1st-century imported amphorae from previous (much smaller) excavations in the area, at Scotch Corner Hotel (NAA 1995) and slightly further west along the A66 (Zant and Howard-Davis 2013).

What follows here are comparisons with amphorae assemblages from sites across Britain broadly contemporary in date. Where possible, comparisons are based on relative proportions of amphorae and weight; some sites are compared using sherd count where weight was not recorded. In order to compare sites, it was clear that ordering the assemblages into broadly contemporary periods was important; as will become clear, this is not a simple task, and some assemblages may span one or two periods (and appear in multiple figures; see below), and/or amphorae from multiple periods of occupation may have been 'lumped' together in the site reports (potentially masking nuances in the supply of amphora-borne commodities). Figure 5.27 presents the relative proportions of amphorae at Scotch Corner for Periods 1–4; both methods of quantification indicate broadly similar patterns of consumption.

While most comparisons with Scotch Corner are by weight, it is important to include those key sites (Sheepen, Colchester and Blake Street, York) where only sherd count was recorded (Fig. 5.28). While there were greater proportions of wine (by count) at Scotch Corner in Periods 1–3, the patterns are comparable with Blake

Street, with wine vessels forming the largest component. At Sheepen, in periods 1–3 (pre-AD43 to AD60/61) and period 4 (post-AD61), olive oil amphorae dominate with wine vessels forming over 30%. Chronology here is important, and the established earliest date of AD71 for the arrival of amphora-borne commodities at Blake Street seems too late (see also Wilson 2009c); the assemblage bears close resemblance to those southern sites (and Scotch Corner) with pre-Flavian activity. If one solely considers the sherd count data, then the Sheepen and Blake Street assemblages are comparable with the Periods 1–3 and Period 4 Scotch Corner assemblages;

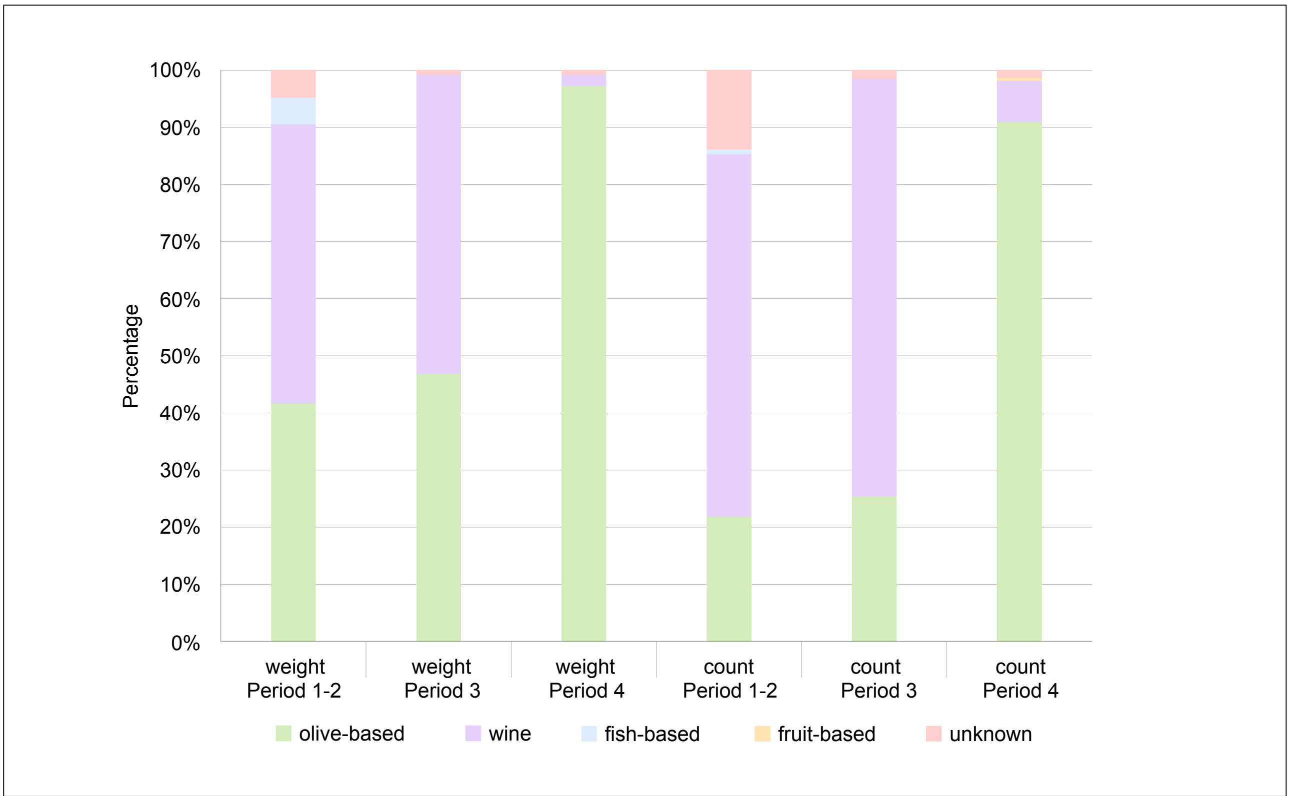

Figure 5.27: Scotch Corner amphorae assemblage Periods 1 to 4 (by weight and count).

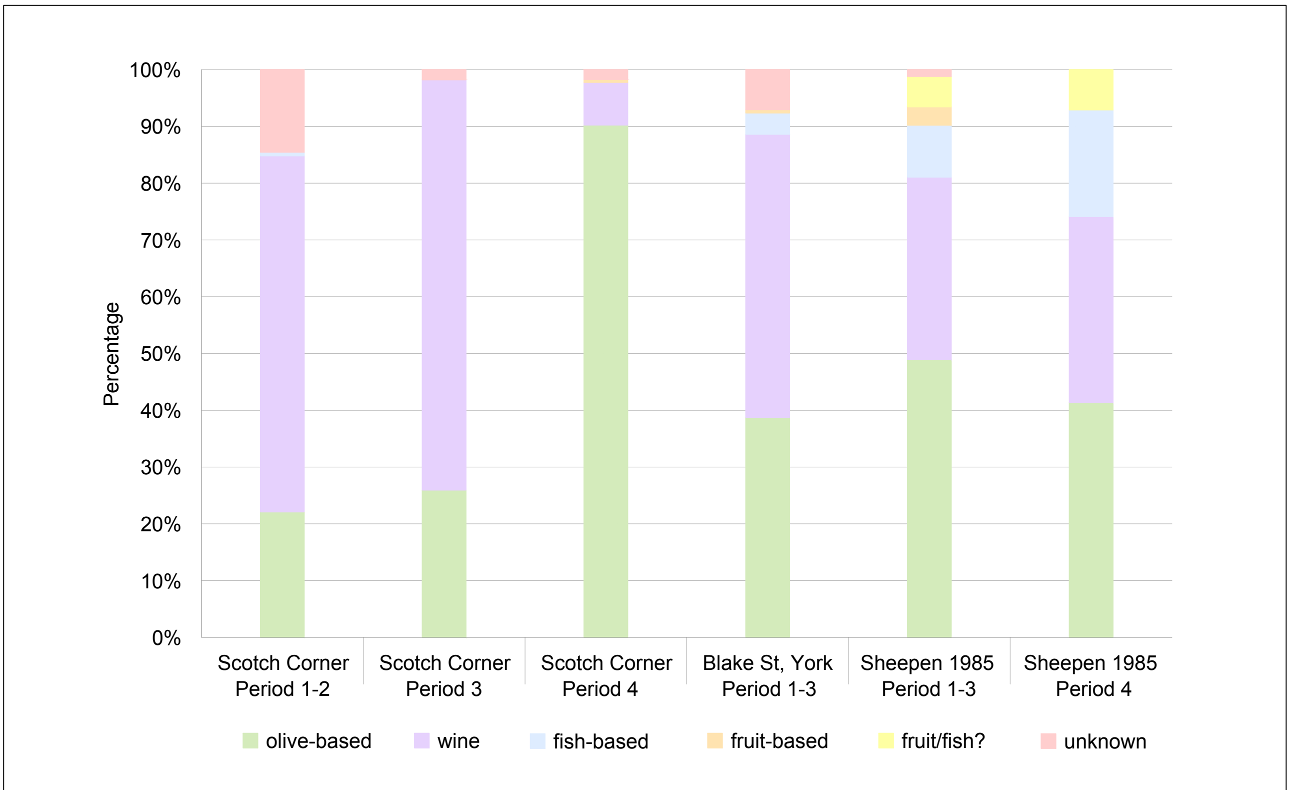

Figure 5.28: comparisons of Scotch Corner, Blake Street, York and Sheepen amphorae (by count).

this is most likely due to Flavian-era amphora sherds occurring in their relevant period categories.

There seem to be two distinct phases for the supply of amphora-borne commodities to Scotch Corner. The first, Periods 1–3, shows that wine was imported in significant quantities and from many sources, along with olive oil and other exotic products. The complete absence of Dressel 1 wine amphorae suggests a date after c.10 BC (as these were the only amphorae to reach Britain prior to this date; Sealey 2009, 3) for the earliest arrival of wine, and certainly in the first half of the 1st century AD. Italian, and mostly Campanian wine was common; however, by Period 3 Gaulish products dominate. A small quantity of Gaulish amphorae sherds were present in Period 2 deposits; their presence hints at a date after c.AD60. The composition of the amphorae assemblage changed significantly in Period 4, with a dramatic increase in the number of vessels, the majority of which (over 90%) transported olive oil to the settlement. The olive oil supply, especially the quantities, was clearly for military consumption, as part of their major campaigns in northern Britain during the Flavian period. The differences in the pre-Flavian (Periods 1–3) and Flavian (Periods 4–5) show two contrasting supply mechanisms. The pre-Flavian assemblage is similar to those Late Iron Age/Early Roman settlements in southern Britain, which had established contact with the Continent prior to the Claudian invasion in AD43. It is difficult to be certain that the Late Iron Age community at Scotch Corner was obtaining (perhaps, by sea?) exotic commodities directly from Continental groups. Such groups may already have been part of the wider Roman Empire and they either had access to exotic goods or had established links (either through elites or trade) to southern tribes that were trading goods through long-established networks (probably by land).

Catalogue of amphorae

223. Part of a ringed foot-base and body sherd form Cam 139v amphora. Both thin walled, in the 'black sand' fabric typical of the Bay of Naples region of Italy. Although there is a variety of flat-based Dressel 2-4 amphora in the 'black sand' fabric (cf. Williams and Panella in Keay and Williams 2005, the sherds here are surely too thin to come from this type and must represent a flagon-type vessel. Fabric: CAM AM. Origin: Campania. Count: 2, Weight: 28.3g, RE: 0%. 20BC–AD80. Field 246; Group **31206**; Context **24974**; second fill of ditch **24966**. Period 1–2. Figure 5.29.

224. Incomplete form Cam 139v amphora. Fabric: CAM AM. Origin: Campania. Count: 1, Weight: 7.9, RE: 10%. 20BC–AD80. Field 246, Structure 48iv; Group **31271**; Context **24984**; second fill of penannular gully **24988**. Period 1–2. Figure 5.29.

225. Part of a rod-handle attached to the body of the vessel. The 'black sand' inclusions from the Bay of Naples is very distinctive here, set as it is against a light-coloured fabric. This handle almost certainly comes from the Camulodunum 139 form (Williams and Keay 2006). This is, strictly speaking, more of a flagon than an amphora. Fabric: CAM AM. Origin: Campania. Count: 1, Weight: 56g, RE: 0%. 20BC–AD80. Field 223; Context **30314**. Second fill of ditch **30299**. Period 1–2. Figure 5.29.

226. Small bead-rim sherd from a Form Cam 139v amphora in the 'black sand' fabric typical of the Bay of Naples region of Italy. The rim is rather small for an amphora and the sherd itself is somewhat thin-walled, so it could be some form of flagon-type vessel. Fabric: CAM AM. Origin: Campania. Count: 1, Weight: 17.1g, RE: 12.5%. 20BC–AD80. Field 246; Context **16416**; primary fill of trench **16410**. Period 2. Figure 5.29.

227. Form Cam 139 variant (?) thin-walled Italian body sherds. Perhaps from northern Campania or further north. Possibly from an amphora but these sherds are somewhat thin walled, so they may belong to some form of flagon instead. Fabric: ITAL AM, Count: 4, Weight: 45.1g, RE: 12.5%, Date: 0–AD100. Field 246; Context **24409**; occupation/activity layer, primary pellet mould discard? Period 2. Figure 5.29.

228. Dressel 20 amphora neck and handle. Berni Millet type A. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 481.9g, RE: 0%. AD15–70. Field 246; Group 31267; Context **16295**; fill of penannular ditch **24932**. Period 2. Figure 5.29.

229. Dressel 2–4 bifid amphora handle and neck with pale cream saline wash to outer body. Fabric: CAM AM 2. Origin: Campania. Count: 1, Weight: 145.9g, RE: 0%. 70BC–AD80. Field 267a; Context **32499**; fill of ditch **32498**. Period 2. Figure 5.29.

230. Incomplete Dressel 2-4 amphora. Fabric: UND. Origin: Unknown. Count: 18, Weight: 111.7g, RE: 20%. 70BC–AD100. Field 246; Context **24409**; occupation/activity layer, primary pellet mould discard? Period 2. Figure 5.29.

231. Single rod with indentation of a Dressel 2–4 bifid amphora handle. Fabric: ITAL. Origin: Italy. Count: 1, Weight: 36.1g, RE: 0%. 70BC–AD100. Field 246; Context **24708**; fill of pit **24707**. Period 2. Figure 5.29.

232. Incomplete form Cam 139v amphora. of varying sizes, including one of the shoulder junctions, in the 'black sand' fabric typical of the Bay of Naples region of Italy. The sherds are noticeably thin walled as in other Cam 139 variants in the assemblage. Fabric: CAM AM. Origin: Campania. Count: 29, Weight: 139.4g, RE: 0%. 20BC–AD80. Field: 267a; Context **32402**; buried soil horizon. Period 2–3. Figure 5.29.

233. A possible Camulodunum 139 amphora handle. This light-coloured rod-handle does not display the crowded 'black sand' fabric of FV74, but grains of pyroxene and fresh volcanic glass are both present here.

An Italian origin is possible and so perhaps is the thought that this belongs to a Camulodunum 139. Fabric: ITAL AM. Origin: Italy. Count: 1, Weight: 50.6g, RE: 0%. 0–AD80. Field 246; Context **31147**; fourth fill of ditch **31017**. Period 2–3. Figure 5.29.

234. Incomplete form Dressel 20 MK31 amphora. This form of rim is given a Julian-Claudian date by Berni Millet (2008, Fig. 30, e), a Claudian date in northern France by Baudoux (1996 Fig. 5), a Claudian-Neronian date at Sheepen, Colchester (Sealey, 1985, Fig. 10, no. 83) and is dated AD50–70 at the well-dated Swiss Roman fort at Augst (Martin-Kilcher 1987, Beilage 1, nos 31). Fabric: BAT AM. Origin: Baetica. Count: 2, Weight: 71.3g, RE: 15%. AD15–70. Field 223; Context **30484**; second fill of pit **30481**. Period 2–3. Figure 5.29.

235. Small fragment of a bead-rim sherd. It could come from a Dressel 2-4, though bead-rims associated with this form are usually a little larger in size. Alternatively, it might come from a flagon-type form. The fabric is 'undistinguished', making it difficult to suggest a possible origin. Fabric: UND. Origin: Unknown. Count: 1, Weight: 5.3g, RE: 9.5%. 70BC–AD100. Field 246; Context **16353**; third fill of ditch **16352**. Period 2–3. Figure 5.29.

236. Amphora rim, body and base. Probably part of Cat. no. 240, context **30169** and Cat. no. 241 **30170**. Fabric: GAL AM2. Origin: Gaul. Count: 6, Weight: 102.1g, RE: 13%. AD50–100. Field 223; Context **30101**; second fill of ditch **30100**. Period 2–3. Figure 5.29.

237. Dressel 20 amphora handle. Berni Millet (2008) type A/B. Looks more like A. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 169.2g, RE: 0%. AD15–70. Field 246; Context **24298**; fill of ditch **15859**. Period 3. Figure 5.29.

238. Incomplete Gauloise 4 amphora with raised footring. Fabric: GAL AM1. Origin: Gaul. Count: 7, Weight: 629.7g, RE: 22.5%. AD50–100. Field 223; Context **30169**; fill of ditch **30058**. Period 3. Figure 5.29.

239. Incomplete Gauloise 4 amphora with lid-seated rim and wide strap handle. Fabric: GAL AM1. Origin: Gaul. Count: 2, Weight: 190.6g, RE: 14%. AD50–100. Field 223; Context: **30169**; fill of ditch **30058**. Period 3. Figure 5.29.

240. Incomplete possible Gauloise 4 amphora. Fabric: GAL AM1. Probably part of Cat. no. 236 and Cat. no. 241. Origin: Gaul. Count: 52, Weight: 735G, RE: 0%. AD50–100. Field 223; Context **30169**; fill of ditch **30058**. Period 3. Figure 5.29.

241. Gallic amphora base. Probably part of Cat. no. 236, context **30101**, and Cat. no. 240 from context **30169**. Fabric: GAL AM2. Count: 72, Weight: 751.8g, RE: 0%. AD50–100. Field 223; Context **30170**, fill of ditch **30058**. Period 3 Figure 5.29.

242. Handle stump from a Dressel 20 amphora. Berni Millet (2008) type A/B? Fabric: BAT AM. Origin: Baetica. Count: 1, Weight: 238.6g, RE: 0%. Date: AD15–120. Field 246; Group **31284**; Context **15632**; second fill of ditch **15537**. Period 4. Figure 5.29.

243. Handle fragment from a Dressel 20 amphora. Complete but very faint stamp enclosed in a cartouche *in ansa*. The first two letters can be made out as I V with the third as a possible C. The remaining three or perhaps four letters are too faint to read. Fabric: BAT AM 1. Origin: Baetica. Count: 6, Weight: 427.7g, RE: 0%. AD15–70. Field 246; Group **31207**; Context **15578**; cleaning layer over ditch intersection; RF10131. Period 4. Figure 5.29.

244. Dressel 20 handle and body. The handle bears a very worn partial stamp *in ansa* that is too faint to read. However, the actual position of the stamp on the handle suggests the possibility of a Julian-Claudian date (Berni Millet 2008, Fig. 32, a). Fabric: BAT AM 1. Origin: Baetica. Count: 10, Weight: 485.2g, RE: 0%. AD15–70. Field 246; Context **15592**; third fill of pit **15584**. Period 4. Figure 5.29.

245. Dressel 20 handle and body. Handle bears a broken 'panel' from a handle which contains a partial stamp enclosed in a cartouche *in ansa*. The stamp is very faint but seems to read O PHI MI. Possibly joins FV25, 26. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 96.5g, RE: 0%. AD55–80. Field 246; Context **15595**; primary fill of pit **15584**. Period 4. Figure 5.29.

246. Dressel 20 handle and body. Berni Millet (2008) type B? Fabric: BAT AM1. Origin: Baetica. Count: 7, Weight: 356g, RE: 0%. AD70–120. Field 246; Group **31284**; Context **16031**; second fill of ditch **15537**. Period 4. Figure 5.29.

247. Dressel 20 handle with a faint stamp *in ansa*. Berni Millet (2008) type B. A break in the handle cuts across the end of the cartouche, making it very difficult to make out the last letter or letters. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 575.8g, RE: 0%. AD70–120. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.29.

248. Dressel 20 handle. Berni Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 6, Weight: 474.2g, RE: 0%. AD15–70. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.29.

249. Dressel 20 handle. Berni Millet (2008) type B. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 180.5g, RE: 0%. AD70–120. Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104**, **24195**. Period 4. Figure 5.29.

250. Dressel 20 handle. Berni Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight:

284.5g, RE: 0%. AD15–70. Field 246; Context **24110**; fourth fill of ditch **15869**, primary pellet mould dump? Period 4. Figure 5.29.

251. Dressel 20 handle. Berni Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 141.5g, RE: 0%. AD15–70. Field 258; Group **28131**; Context **15181**; sixth fill of pit **15180**, **15425**, and **15429**. Period 4. Figure 5.30.

252. Dressel 20 handle. Berni Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 712.6g, RE: 0%. AD15–70. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.30.

253. Dressel 20 neck and handle. Berni Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 463.7g, RE: 0%. AD15–70. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.30.

254. Dressel 20 foot. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 168.5g, RE: 0%. AD15–120. Field 258; Group **28151**; Context **15392**; fill of ditch **15393**. Period 4. Figure 5.30.

255. Dressel 20 neck and handle with stamp. A complete stamp enclosed in a cartouche *in ansa*, reading Q. ANT. R (in retrograde). Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 458.2g, RE: 0%. AD40–80. Field 258; Group **28131**; Context **1540**3; third fill of pit **15386**. Period 4. Figure 5.30.

256. Dressel 20 handle and neck. Berni Millet (2008) Type B. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 684.1g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **15424**; second fill of pit **15423**. Period 4. Figure 5.30.

257. Dressel 20 handle. Berni Millet (2008) type B. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 186.8g, RE: 0%. AD70–120. Field 258; Group **26769**; Context **26769**; third fill of pit **15406**. Period 4. Figure 5.30.

258. Dressel 20 handle fragment. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 6.4g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **26771**; fifth fill of pit **15406**. Period 4. Not illustrated.

259. Dressel 20 shoulder and body. Fabric: BAT AM 1. Origin: Baetica. Count: 5, Weight: 1053.5g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.30.

260. Incomplete Dressel 20 amphora. Fabric: BAT AM 1. Origin: Baetica. Count: 9, Weight: 1199g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.30.

261. Dressel 20 shoulder and neck. Fabric: BAT AM 1. Origin: Baetica. Count: 4, Weight: 922.6g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Not illustrated.

262. Incomplete Dressel 20 amphora. Fabric: BAT AM 1. Origin: Baetica. Count: 13, Weight: 1278.7g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Not illustrated.

263. Dressel 20 neck and body. Same vessel as Cat. no. 272 Fabric: BAT AM 1. Origin: Baetica. Count: 15, Weight: 2489.4g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.31.

264. Dressel 20 neck and body. Fabric: BAT AM 1. Origin: Baetica. Count: 14, Weight: 1417.7g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **2705**4; second fill of pit **27005**. Period 4. Not illustrated.

265. Dressel 20 low foot. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 221.5g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.30.

266. Incomplete Dressel 20 amphora. Fabric: BAT AM 1. Origin: Baetica. Count: 9, Weight: 1336g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **2705**4; second fill of pit **27005**. Period 4. Not illustrated.

267. Dressel 20 body sherd with a partial stamp enclosed in a cartouche *intra ventrem*, reading … P VR N. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 228.9g, RE: 0%. AD15–100. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of structure. Period 4. Figure 5.30.

268. Dressel 20 rim, neck and handle. Fabric: Bat AM 1. Origin: Baetica. Count: 2, Weight: 395.4g, RE: 15%. AD50–70. Field 228; Group **28434**; Context **27637**; second fill of ditch **27635**. Period 4. Figure 5.30.

269. Dressel 20 body sherd. Fabric: BAT AM. Origin: Baetica. Count: 1, Weight: 5.9g, RE: 0%. AD15–120. Field 258; Group **26437**; Context **26437**; fill of ditch **15179**, **15183**, **15222**, and **15324** between slots with section numbers 3246 and 4612. Period 4. Figure 5.30.

270. Dressel 20 handle fragment. Fabric: BAT AM. Origin: Baetica. Count: 1, Weight: 13.9g, RE: 0%. AD15–120. Field 246; Context **31817**; fill of ditch **31816**. Period 4. Figure 5.30.

271. Dressel 20 handle. Berni Millet (2008) type B, possibly A-B transitional. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 707.7g, RE: 0%. AD70–120. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.30.

272. Dressel 20 handle. Berni Millet (2008) type B. Fabric: BAT AM. Same vessel as Cat. no. 263. Origin:

Baetica. Count: 1, Weight: 190.3g, RE: 0%. AD70–120. Field 265; Structure 38; Group **29958**; Context **31743**; earthen floor of structure. Period 4. Figure 5.31.

273. Dressel 20 neck. Martin-Kilcher 1987, Beilage 1, no. 26. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 90.6g, RE: 30%. AD30–50. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.31.

274. Dressel 20 rim and neck. Martin-Kilcher 1987, Beilage 1, no. 38. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 555.7g, RE: 100%. AD50–70. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.31.

275. Dressel 20 rim, neck and handle. Fabric: BAT AM 1. Origin: Baetica. Count: 17, Weight: 831.9g, RE: 67.5%. AD50–70. Field 258; Context **15487**; second fill of pit **15485**. Period 4. Figure 5.31.

276. Dressel 20 neck. Martin-Kilcher 1987, Beilage 1, no. 50. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 235.4g, RE: 39%. AD50–70. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.31.

277. Dressel 20 rim. Martin-Kilcher 1987, Beilage 1, no. 50. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 51.9g, RE: 12.5%. AD50–70. Field 246, Structure 49; Group **31264**; Context **31047**; fill of penannular gully **24794** in structure. Period 4. Figure 5.31.

278. Dressel 20 rim. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 102.7g, RE: 13%. AD70–110. Field 258; Group **28131**; Context **15462**; second fill of pit **15460**. Period 4. Figure 5.31.

279. Dressel 20 rim. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 55g, RE: 7%. AD70–110. Field 246; Context **24304**; primary fill of ditch **15869**. Period 4. Figure 5.31.

280. Dressel 20 rim and neck. Fabric: BAT AM 1. Origin: Baetica. Count: 4, Weight: 524.7g, RE: 50%. AD70–110. Field 258; Context **26601**; fifth fill of pit **26599**. Period 4. Figure 5.31.

281. Dressel 20 rim. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 113.9g, RE: 18%. AD70–110. Field 258; Group **28148**; Context **26874**; second fill of ditch **15258**. Period 4. Figure 5.31.

282. Dressel 20 neck. Martin-Kilcher 1987, Beilage 1, no. 62. Fabric: BAT AM 1. Origin: Baetica. Count: 4, Weight: 316.3g, RE: 62.5g%. AD70–110. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.31.

283. Dressel 20 rim with possible tally marks scratched into top of rim. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 247.7g, RE: 33%. Date: AD70–110. Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor of structure. Period 4. Figure 5.31.

284. Dressel 20 neck and handle. Berni Millet (2008) type B. Fabric: BAT AM. Origin: Baetica. Count: 1, Weight: 556.5g, RE: 0%. AD70–120. Field 265; Group **29959**; Context **31709**; midden deposit below Structure 5. Period 4. Not illustrated.

285. Dressel 2-4 bifid handle. Fabric: CAM AM. Origin: Campania. Count: 1, Weight: 72.3g, RE: 0%. 70BC–AD80. Field 246; Context **16125**; fill of ditch **15643**. Period 4. Figure 5.31.

286. Upright rim from a carrot amphora, Vipard (1995) type 3b1. This may be part of the same vessel as the sherds from FV92. Recent work has suggested a likely source for this small type of amphora lies in the Palestine region and, if as appears likely dates were carried in these vessels, then perhaps in the region of Jericho, which was famous for its date plantations (Carreras Monfort and Williams 2002). Like the Rhodian-style amphorae, carrot amphorae are often, but not exclusively, found on Early Roman military sites in Britain, and at an earlier date in Germany (Reusch 1970; Hawkes and Hull 1947; Sealey 1985). They are found after AD75 at Fishbourne (Cunliffe 1971) and late 1st century AD to early 2nd century from Barcelona (Carreras Monfort and Williams 2002). Fabric: CAR AM. Origin: eastern Mediterranean. Count: 1, Weight: 21.4g, RE: 20.5%. AD20–100. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.31.

287. Ribbed body sherds from a carrot amphora. Possibly from the same vessel as FV98. Cam 189?/ Vipard (1995) type 3b1. Fabric: CAR AM. Origin: eastern Mediterranean. Count: 3, Weight: 26.3g, RE: 0%. AD20–100. Field 246; Context **24615**; fill of ditch **15761**. Period 4. Figure 5.31.

288. Amphora handle. Fabric: SS. Origin: southern Spain. Count: 1, Weight: 40.4g, RE: 0%. 0–AD120. Field 258; Group **28131**; Context **15467**; second fill of pit **15465**. Period 4. Figure 5.32.

289. Dressel 20 rim and neck. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 153.8g, RE: 23.5%. AD110–150. Field 265; Group **31798**; Context **31539**; buried soil layer. Mid- to Late Roman. Figure 5.32.

290. Dressel 20 rim fragment. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 57.7g, RE: 7.5%. AD110–150. Field 265; Group **31798**; Context **31546**; buried soil layer. Mid- to Late Roman. Figure 5.32.

291. Dressel 20 rim. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 181.9g, RE: 27.5%. AD70–110. Field 265; Context **31611**; second fill of pit **31610**. Period 5. Figure 5.32.

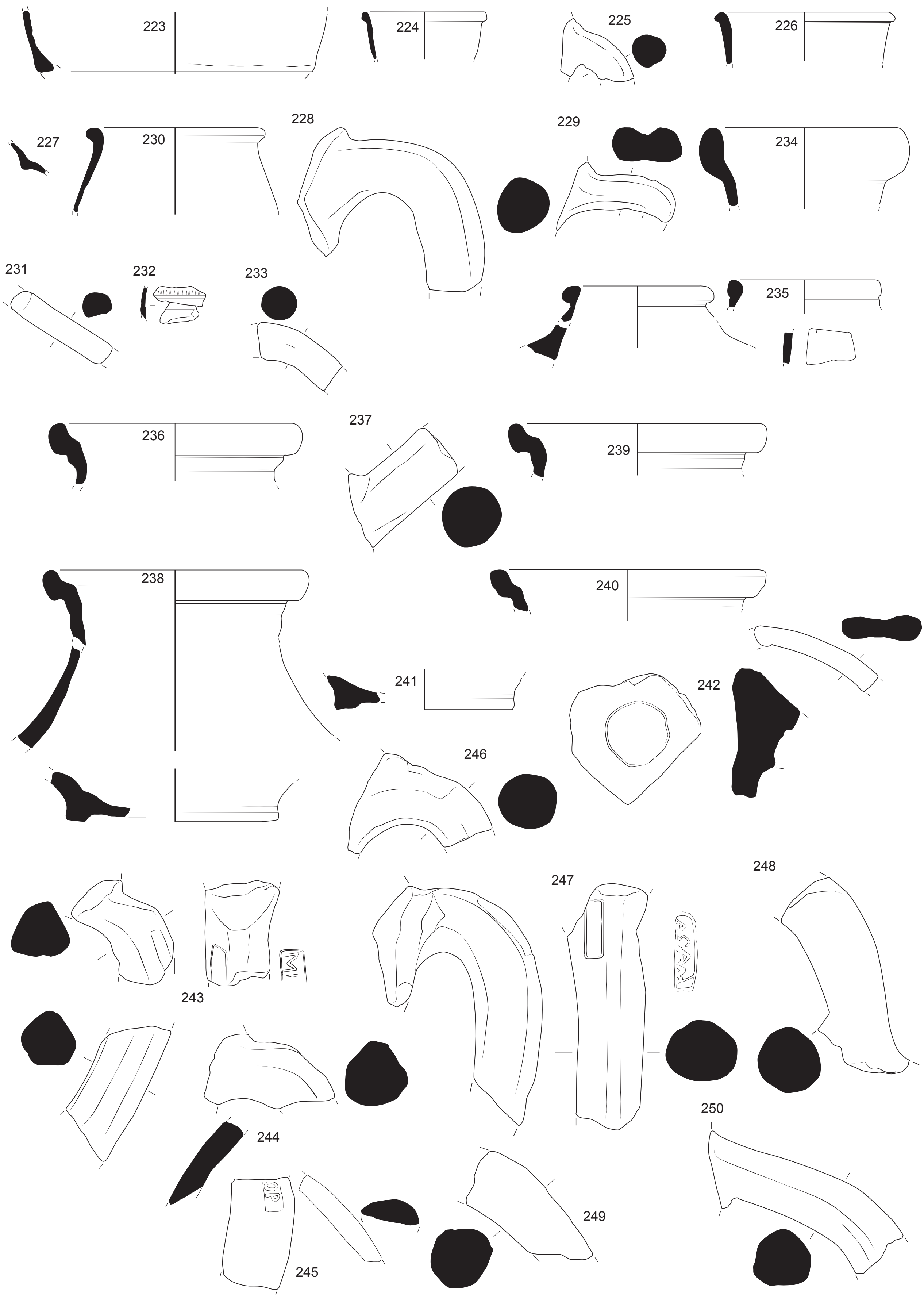

Figure 5.29: amphorae, Cat. nos 223–250. All vessels are illustrated at 1:4 unless stated otherwise.

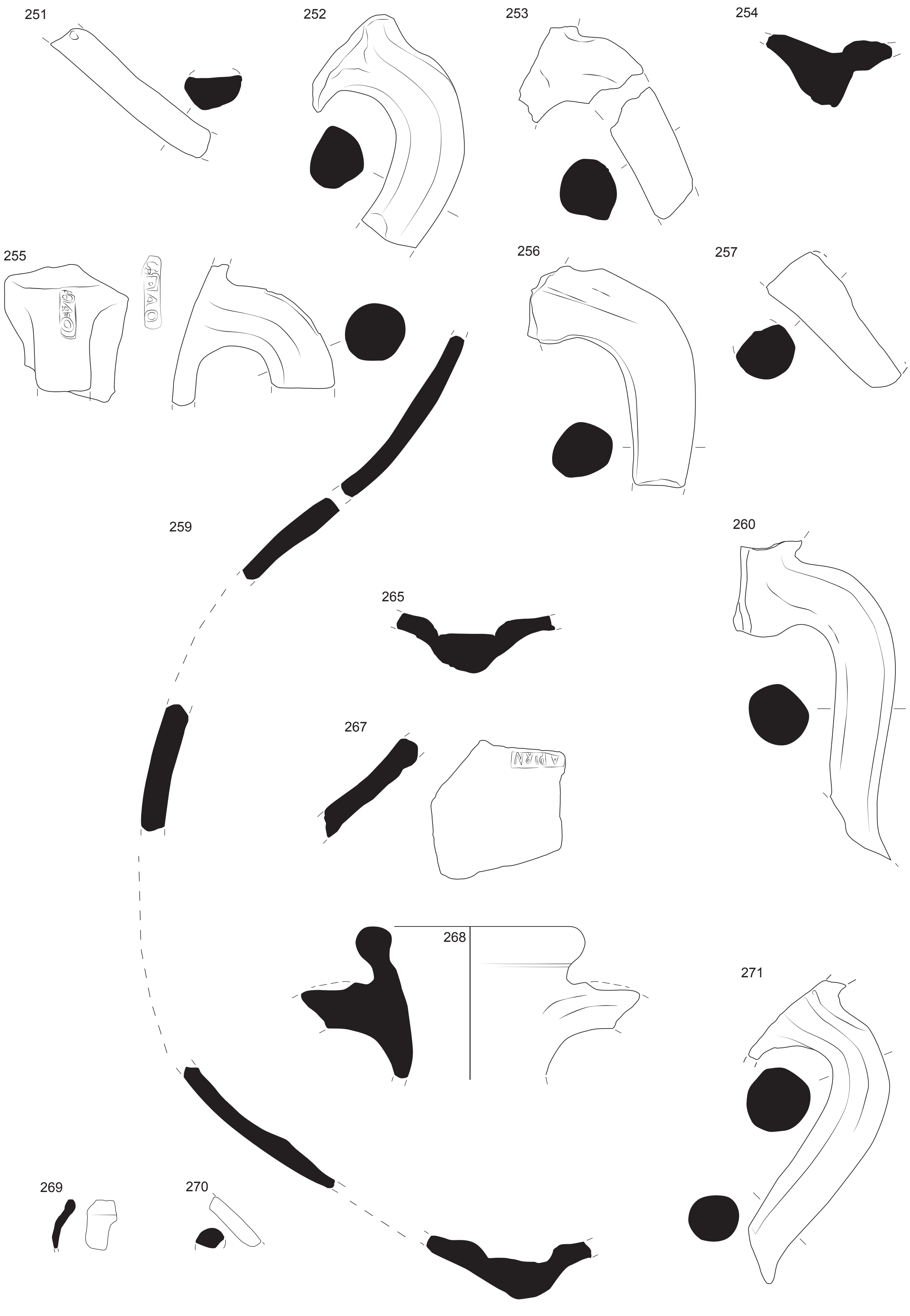

Figure 5.30: amphorae, Cat. nos 251– 257, 259–260 and 267–271.

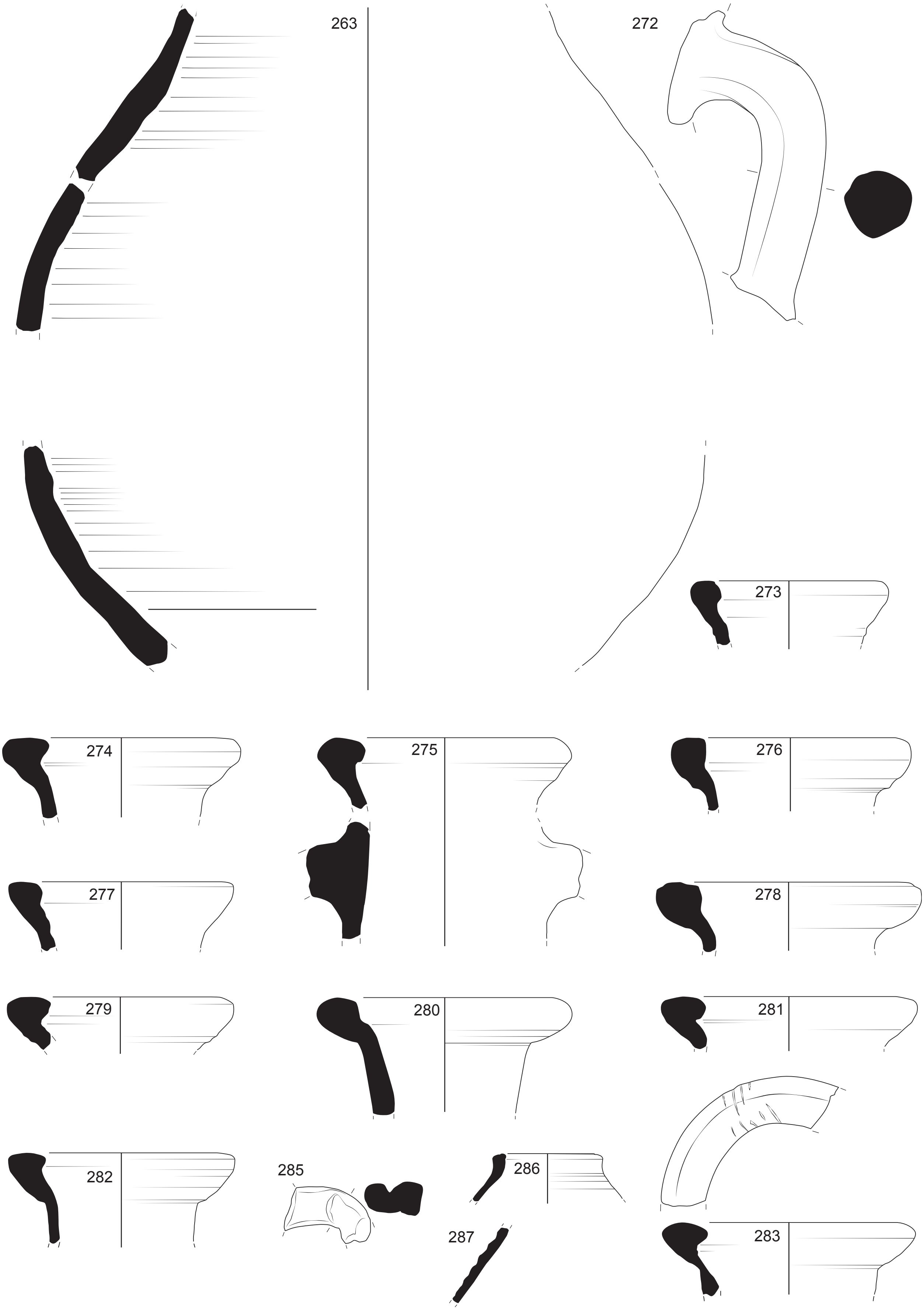

Figure 5.31: amphorae, Cat. nos 263, 272–283 and 285–287.

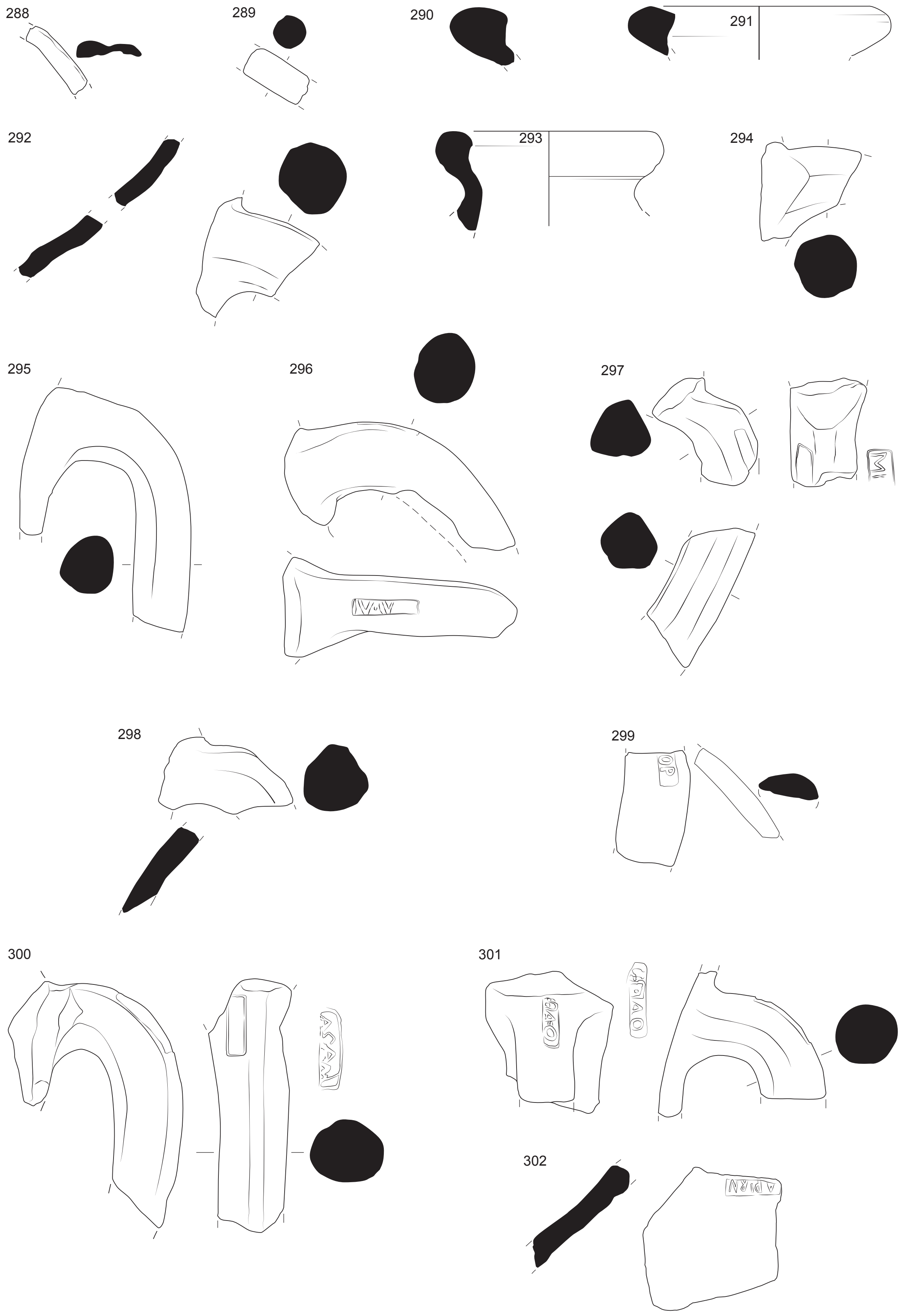

Figure 5.32: amphorae, Cat. nos 288–302.

Table 5.50: mortaria from stratified deposits at Scotch Corner.

Period/Origin Fabric	Sum of Count	Sum of Weight	Sum of Rim %
3	22	333.2	0
?Scotch Corner	1	7.1	–
MOX	1	7.1	–
Oise-Somme	3	75.6	0
MNOG WH	3	75.6	0
Scotch Corner	9	224.6	–
MOX	1	3.9	–
MRE	8	220.7	–
Northern Gaul	9	25.9	–
MNOG WH	9	25.9	–
4	595	14123	460.5
?Scotch Corner	15	972.3	26
MOX	9	751.9	26
MUID	6	220.4	–
Catterick	2	8.6	–
MCTR WS	2	8.6	–
Central France	3	581	33
MRE	3	581	33
Oise-Somme	154	1948.9	77.5
MNOG WH	154	1948.9	77.5
Scotch Corner	44	3068.8	149.5
MOX	42	2728.4	129.5
MOX SC4	1	290.5	20
MRE	1	49.9	–
Unknown	4	89	–
MUID	3	5.5	–
MUID SC2	1	83.5	–
Verulamium	46	5589.2	154.5
MVER	46	5589.2	154.5
Northern Gaul	327	1865.2	20
MNOG WH	327	1865.2	20
5	38	1113.7	23.5
Scotch Corner	2	35.4	–
MOX	2	35.4	–
Unknown	10	168.3	6
MUID	10	168.3	6
Verulamium	3	311.8	–
MVER	3	311.8	–
Northern Gaul	23	598.2	17.5
MNOG WH	23	598.2	17.5
5+	10	26.3	–
Crambeck	1	8.5	–
MCRA M1	1	8.5	–
Unknown	9	17.8	–
UNID	9	17.8	–
Mid–Late Roman	24	1012.5	37
Catterick	1	71.8	10
MCTR WS	1	71.8	10
Mancetter	2	134.8	15
MH2	2	134.8	15
Nene Valley	1	29.2	3
MLNV	1	29.2	3
Scotch Corner	3	364.5	9
MOX	3	364.5	9
Unknown	2	221.2	–
MUID	2	221.2	–
Verulamium	2	79	–
MVER	2	79	–
Northern Gaul	13	112	–
MNOG WH	13	112	–
Total	**689**	**16,608.70**	**521**

292. Dressel 20 neck, handle and body. Berni-Millet (2008) type B. Fabric: BAT AM. Origin: Baetica. Count: 7, Weight: 516.1g, RE: 0%. AD70–120. Field 265; Context **31640**; cobbles north-west of Structure 5. Period 5+. Figure 5.32.

293. Dressel 20 rim. This form of rim is given a Julian-Claudian date by Berni Millet (2008, Fig. 30, c) and is dated AD50–70 at Augst (Martin-Kilcher 1987, Beilage 1, no. 34). Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 199.4g, RE: 27%. AD50–70. Field 265; Context **31733**; midden material between RR5 and RR6. Period 5. Figure 5.32.

294. Dressel 20 neck and handle. Berni-Millet (2008) type B. Fabric: BAT AM 1. Origin: Baetica. Count: 1, Weight: 219.4g, RE: 0%. AD50–170. Field 265; Context **31733**; midden material between RR5 and RR6. Period 5+. Figure 5.32.

295. Dressel 20 neck and handle. Berni-Millet (2008) type A. Fabric: BAT AM 1. Origin: Baetica. Count: 2, Weight: 693.7g, RE: 0%. AD15–70. Field 265; Context **31733**; midden material between RR5 and RR6. Period 5. Figure 5.32.

Catalogue of Dressel 20 stamps

David F. Williams

296. A very worn partial stamp *in ansa* enclosed in a cartouche that is too faint to read. Adding to the difficulty of reading is the fact that the handle, reddish-brown in colour, has obviously been exposed to intense heat, making the fabric friable, detaching several pieces and exhibiting many cracks, two of which go across the stamp. Field 246; Context **15565**. Period 5+. Figure 5.32.

297. A complete but very faint stamp enclosed in a cartouche *in ansa*. The first two letters can be made out as I V with the third as a possible C. The remaining three or perhaps four letters are too faint to read. However, it is possible, though not conclusive, that a full reading of the stamp might be I V C V NDI (cf. Callender 1965,

no.761; Berni Millet 2008, 882 and 883; Berni Millet 2017, no. 115). This estate was situated at La Delicias, on the banks of the River Genil, the main tributary of the River Guadalquivir, just north of Astigi (east-north-east of Seville) (Berni Millet 2008, 882 and 883; 2017, no. 115). The stamp seems to have been in use during the Julian-Claudian period (*ibid*.). Field 246; Context **15578**. Period 4. Figure 5.32.

298. A very worn partial stamp *in ansa* that is too faint to read. However, the actual position of the stamp on the handle suggests the possibility of a Julian-Claudian date [Berni Millet 2008, Fig. 32, a]. See Cat. no. 244. Field 246; Context **15592**. Period 4. Figure 5.32.

299. A broken 'panel' from a handle which contains a partial stamp enclosed in a cartouche *in ansa*. The stamp is very faint but seems to read ... O PHI MI. If correctly read, this would be the stamp of L. VAL(eri). TROPHIMI (cf. Callender 1965, no. 969; Remesal Rodríguez 1986, no. 275; Carreras Monfort and Funari 1998, no. 507; Berni Millet 2008, 1212; Berni Millet, 2017, no. 183). The stamps of L. Valerius Trophimus have been found at the kiln site of La Catria, on the south bank of the River Guadalquivir, roughly opposite Axati (north-east of Seville) (Remesal Rodríguez 1986, no. 275). However, they have also been found at the kiln site of Arva, on the north bank of the River Guadalquivir, south of Axati (Berni Millet 2008, 1212). Berni Millet has, therefore, suggested that the focus of the estate was probably in the area between the latter two kiln sites (Berni Millet 2008, 274). The dating of the stamps of L. Valerius Trophimus has recently been refined to Neronian to early Flavian (*ibid*., 273). Field 246; Context **15595**. Period 4. Figure 5.32.

300. A faint stamp *in ansa*, with a break in the handle that cuts across the end of the cartouche, making it very difficult to make out the last letter or letters. The first three letters of the stamp seem to read A. S A… However, it is not altogether clear if there is another letter before the first A or whether the A is part of a ligature. All this makes it very difficult to suggest a proper reading of the stamp. It is possible, though highly speculative, that this stamp reads A. SAENI and belongs to the firm of the Saenianenses (cf. Callender 1965, no. 1559c; Berni Millet 2008, 97 and 361). The *figlina* of this firm was situated at Huertas del Rio, on the north bank of the River Guadalquivir, just upstream to Axati and opposite La Catria on the other bank (*ibid*.). The stamp appears on Form III of the Dressel 20 type series, which is dated Flavian–Trajanic (*ibid*.). Field 246; Context **15899**. Period 4. Figure 5.32.

301. A complete stamp enclosed in a cartouche *in ansa*, reading Q. ANT. R (in retrograde). This is the stamp of the estate of Q. Antonius Ruga (cf. Callender 1965, no. 1422; Remesal Rodríguez 1986, no. 36; Carreras Monfort and Funari 1998, no. 61; Berni Millet 2008, 1926; Berni Millet 2017, no. 52). Like Cat. no. 299 these stamps are found at La Catria. The stamp seems to have been in use from the Claudian to the early Flavian period (*ibid*.) Field 258; Context **15403**. Period 4. Figure 5.32.

302. A partial stamp enclosed in a cartouche *intra ventrem*, reading …P VR N. The full reading of the stamp is probably a variation on C AL P VR N , the stamp of the *figlina Calpurniana* (cf. Callender 1965, no. 234; Remesal Rodríguez 1986, no. 78a; Carreras Monfort and Funari 1998, no. 136 c–e; Berni Millet 2008, Tabla 72; Berni Millet, 2017, no. 79). This estate was situated at La Ramblilla, on the south bank of the River Guadalquivir, roughly halfway between *Axati* and *Celti* (*ibid*.). The firm of Calpurniana seems to have been in production from the Julian-Claudian period to the Flavian (Berni Millet 2008, Tabla 72). Field 265; Context **31589**. Period 4. Figure 5.32.

MORTARIA

David G. Griffiths with Kay Hartley

Introduction

The mortaria remains from Scotch Corner provide a unique insight into the supply of a completely new type of vessel for food preparation in northern England during the 1st century AD. A total of 775 sherds, weighing 17.2kg, were recovered; 665 sherds, weighing 15.6kg, came from securely stratified deposits associated with three of the site chronological Periods and two later periods (Table 5.50). Material from Periods 3–5 deposits are considered in detail, with brief comments on mortaria from Period 5+ and the Mid- to Late Roman period; these will be considered at length in the third A1 scheme monograph *Cataractonium: Establishment, Consolidation and Retreat* (Ross and Ross in prep.).

Identification and recording were undertaken predominantly by Griffiths, with contributions from Hartley in the identification and description of uncertain fabric types and makers' stamps. The method adopted followed Dore (2007, 270–1) for his study of pottery at Elginhaugh Flavian fort in Scotland. The assemblage was examined by context. All diagnostic sherds were catalogued accordingly (e.g. rims, handles and feet), as these features aid identification of form. The vessels were then organised by form and fabric. Fabrics were examined under a binocular microscope (x30 magnification). A summary of types by source is presented with reference to published classifications where appropriate (e.g. Gillam 1970; Tomber and Dore 1998). Gillam's (1970) types are presented as Gillam numbers, e.g. Gillam 237. Joining mortaria sherds from different contexts are listed and a catalogue of illustrated vessels is provided to allow classification to type. A detailed list of fabric and form descriptions is provided in Appendix E.

Background

The appearance at Scotch Corner of a completely new ceramic vessel form, the mortarium, at some time during the late Neronian or early Flavian period (Period 3), exposed the inhabitants of the settlement to Roman-style food preparation and dining. This, along with a whole new repertoire of vessels for consuming food and drink (in ceramic and glass), corresponded with the supply of exotic foodstuffs, as evidenced by the presence of amphorae from a variety of Continental sources. Amphora-borne commodities and imported pottery had been arriving at Scotch Corner for decades prior to the first evidence for mortaria in Period 3.

The mortaria came principally from three sources: northern Gaul (27% by weight), the *Verulamium* region (38%), and an unknown source, probably local (28%), with a further two vessels from Central France (4%), some sherds from unidentified sources (2%) and some late mortaria not related to this episode of activity at Scotch Corner.

Summary of types by source

Northern Gaul

Fabrics: all MNOG WH (NOG WH4, Tomber and Dore 1998, 75), including Oise-Somme (MNOG WH SC3, 6 and 7). Forms: Gillam 238 and variants. Date: c.AD65–110+.

All the forms in MNOG WH fabrics broadly correspond to Gillam's (1970) form 238; generally, mortaria with a wide flange with varying degrees of angle from flat horizontal to relatively down turned and rounded. All vessels had concentric scoring on the interior and over the top of the flange along with relatively small trituration grits. A single vessel at Scotch Corner bore a stamp (Cat. no. 312; fill **15356** of pit **15349**, Period 4, Field 258).

Central France

Fabric: MRE SC1. Form: Figure 5.33: A single vessel (Cat. no. 314) from ditch 15063 in Field 258 (Period 4). An import probably from the Lyon/Vienne area in the Rhône Valley. It has to be equated with Tomber and Dore's (1998, 68–9) Central Gaulish oxidised wares (CNG OX), but the most common version is usually a pale buff, as described by Williams (fabric 13 in Manning 1993, 424–5).

Fabric: MCNG OX: A rim sherd from subsoil **15502**. This is an import, probably from the Lyon/Vienne area (fabric 13 in Manning 1993, 424). The cream fabric, as displayed by this example, is more common.

Verulamium region

Fabrics: MVER WH (VER WH; Tomber and Dore 1998, 154) and MVER OX1. Forms: see Figure 5.35.

The workshops in the *Verulamium* region were prolific and supplied much of the mortaria throughout Britain during the second half of the 1st century AD (Hartley 2007, 330). The vessels are all bead and flange in form, almost always stamped, and with well-understood chronologies for many potters. Three stamped vessels of the potter Albinus dating to c.AD60–90 were recovered from Scotch Corner (Cat. nos 342, 343 and 345; see below for details).

Scotch Corner

Fabrics: MOX SC1 to 9, MRE SC2, MRE SC3 and MUID SC and SC6 (possibly a local product). Forms: one wall-sided vessel, with the remainder Gillam 237 and its variants; see Figures 5.33–5.35.

A single wall-sided vessel (Cat. no. 307) in MRE SC3 was recorded from fill **32322** of pit **32318** in Field 267a (Period 3). The fabric is unique and almost certainly a local product (Hartley, pers. comm.). These types of wall-sided vessel were usually produced in a fine cream fabric in Gaul. This vessel is in a coarse fabric with a thick, heavily reduced core but oxidised at the end of the process, resulting in a cream surface; also present are unusual red-brown blobs and burning on the outside of the body. Wall-sided mortaria are most common in Britain in the Claudian period, for example at Colchester (type 191 in Hawkes and Hull 1947) and Richborough (Bushe-Fox 1949, 488–93, plate 95). They are rare on Neronian sites and sporadic at Flavian sites. Hartley discusses this type with reference to an example at Elginhaugh and states that no major British pottery manufactured them. Their importation seems to have stopped by AD60, although the manufacture of this type may have continued after AD60 on the Continent (Hartley 2007, 332). Some wall-sided mortaria were made for local use at Longthorpe (Dannell and Wild 1987, 128). Hartley (pers. comm.) suggests that, although it could be Neronian in date, this example was likely to have been produced in the early to mid-Flavian period.

Except for the wall-sided mortarium, the Scotch Corner products were produced in a range of closely related fabrics, broadly corresponding to Gillam 237 (see also types 60–5, fabrics 12–14 in Hartley 2007, 341). The general form is thick, with bead below the heavy, angled rim (see Figs 5.33, 5.34 and 5.35). There is concentric scoring and grit on both the inside surface and on top of the flange. To date, no stamped examples have been found in Britain (Hartley, pers. comm.).

Table 5.51: mortaria sherds by Field, Periods 3–5.

	Field							
Period	**223**	**267**	**246**	**258**	**265**	**228**	**229**	**Total**
3	–	4	18	–	–	–	–	22
4	–	–	122	442	15	6	10	595
5	–	–	1	2	24	–	11	38

Table 5.52: relative proportions of mortaria from Period 3 deposits.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
?Scotch Corner	4.55%	2.13%	–
Northern Gaul	40.91%	7.77%	–
Oise–Somme	13.64%	22.69%	0
Scotch Corner	40.91%	67.41%	–
Total	**100.00%**	**100.00%**	**0**

Table 5.54: relative proportions of mortaria by ware class (by weight in g).

	Period 3	Periods 4–5
Gaul	30.46%	32.77%
Scotch Corner	69.54%	26.75%
Verulamium	–	38.73%
Other	–	1.75%
Total weight	**333.2g**	**15236.7g**

The Gillam 237 form is common on Early Roman military sites in northern England and Scotland, e.g. at Ilkley (Hartley 1966, fig. 10, no. 26), Red House (Hanson *et al*. 1979, fig.18, no. 81), Corbridge (Richmond and Gillam 1953, fig.10, no. 22) and elsewhere. In Scotland it has been noted at Oakwood (Steer and Feacham 1954, fig. 8, no. 1), Fendoch (Richmond *et al*. 1939, fig. 15, no. 3), and Castledykes (Robertson 1952, plate liv, no. 2). A derived version of this form was possibly made at Elginhaugh (Hartley 2007, fig. 10.21, nos 60–5). Hartley (2007, 341) has compared this form to that made by A. Terentius Ripanus, probably at Gloucester. Most examples of Gillam 237 are in red-brown fabrics, except for two from Old Winteringham (Stead 1976, fig. 54, no. 13) and Castleford (Rush 2000, fig. 95, no. 94; these are in a white fabric, perhaps made in the Lincoln industry). It has also been found at York (no. 6 in Hartley 1995, 305), where local manufacture has been suggested. The examples from Scotch Corner included waster sherds (see below), which also suggest manufacture in the vicinity. The form is given a date of AD60–90.

Unknown origin

Fabrics: MUID SC1, 2, 7 and 8). Form: Class (see Fig. 5.35; only Cat. no. 349 was in MUID SC7). A total of 25 sherds of unknown origin were recovered by the A1 scheme excavations.

Additional types in Period 5+ and Mid- to Late Roman deposits

A small assemblage of later Roman mortaria was recovered from Period 5+ and Mid- to Late Roman

Table 5.53: relative proportions of mortaria from Period 4 deposits.

Row Labels	Sum of Count	Sum of Weight	Sum of Rim %
?Scotch Corner	2.52%	6.88%	5.65%
Catterick	0.34%	0.06%	0.00%
Central France	0.50%	4.11%	7.17%
Oise-Somme	25.88%	13.80%	16.83%
Scotch Corner	7.39%	21.73%	32.46%
Unknown	0.67%	0.63%	0.00%
Verulamium	7.73%	39.58%	33.55%
Northern Gaul	54.96%	13.21%	4.34%
Total	**100.00%**	**100.00%**	**100.00%**

deposits and include: Catterick Vicinity white ware (CTR WS; Tomber and Dore 1998, 195), Crambeck Parchment Ware (CRA PA; Tomber and Dore 1998, 196), Crambeck type ware (MCRA M1), and Mancetter-Hartshill white ware (MAH WH; Tomber and Dore 1998.

Spatial distribution

As with the amphorae assemblage (Griffiths, this chapter), there is a contrast in the spatial distribution of mortaria between the late Neronian/early Flavian deposits and those of Periods 4 and 5 (and later). The earliest mortaria (Period 3) were recovered from Fields 246 and 267a, with Gaulish and possibly Scotch Corner products identified—no *Verulamium* Region wares were present. In Periods 4 and 5, the distribution compares broadly with the amphorae, predominantly focused in Fields 246 and 258, with relatively few sherds in Fields 265, 228 and 229 (Table 5.51).

Cross-joins

M259 Field 258, contexts **15064** (Period 4) and **26231** (Period 4). Both fill of ditch **15063**, group **28133**. Central France, AD50–85. Fabric: MRE SC1. Cat. nos 308 and 309.

M537 Field 246, contexts **15704** (Period 3), **15764** (Period 3), **15857** (Period 4) and **24307** (Period 2–3). Scotch Corner waster sherds. Form: Gillam 237v. Fabric: MRE SC2. Cat nos 304–5 and Cat. no. 333.

M548 Field 267a, context **32322** (Period 3). Scotch Corner. Form: wall-sided. Fabric: MRE SC3. Cat. no. 307.

M253 Field 258, contexts **15360** (Period 4) and **15418** (Period 4). Pit group **28131**, pits **15386** and **15349**. Scotch Corner. Form: Gillam 237v. Fabric: MOX SC6. Cat. nos 330, 331 and 336.

M247 Field 228, contexts **27742** (medieval–post-medieval) and **27782** (Period 4) and Field 265; context

31546 (Mid- to Late Roman). Scotch Corner. Form: Gillam 237v. Fabric MOX SC4.

Chronology of mortaria

Period 2–3

The first occurrence of mortaria at Scotch Corner was in Period 3 deposits (Table 5.52). The assemblage was small, comprising 22 sherds and weighing 333.2g (1.83% by weight of the stratified assemblage; Tables 5.50 and 5.52). The vessels included Gaulish wares (variants of Gillam 238) and potentially locally produced oxidised and reduced wares (Gillam 237 and variants). These vessel forms are generally associated with 1st-century AD military presence, with evidence for ceramic production (pottery and brick/tiles). Such production was often located at or close to forts, for example at Holt (Grimes 1930), Grimescar (Purdy and Manby 1973), Elginhaugh (Hanson 2007), and Longthorpe (Dannell and Wild 1987). 'Early' Roman production by or for the military (and often in close proximity) suggests intention for long-term presence, with continued need for ceramic products, where kilns would be built, potters recruited/employed, and raw materials, such as clay and fuel supplies, sourced; ceramic production of this type requires considerable investment.

In the following discussion, the comparisons provided are by weight, as the post-depositional soil conditions have resulted in severe cracks in many of the North Gaulish wares (MNOG WH), which has led to vessels becoming highly fragmented.

The range of mortaria in Period 3 was not matched at Stanwick, where very few mortaria sherds were recovered, few of which were necessarily 'early' (Wheeler 1954, 36; Willis 2016b, 208). The earliest date for North Gaulish products of form Gillam 238 and its variants, including material from the Oise-Somme region, is c.AD65 and production continued until at least c.AD110 and possibly afterwards. Their presence in Period 3 deposits suggests a narrow date range of c.AD65–70 for this period of activity at Scotch Corner.

A group of Gillam 237v mortaria in red-brown fabrics may have been made at Scotch Corner (MOX SC2 and MOX SC5); a reduced fabric (MRE SC2), which was also used to make form Gillam 237v, may be considered part of this group. Some of the mortarium fabrics were macroscopically similar to oxidised fabrics used to make flagons found at Scotch Corner and fabric analysis is required to determine their source.

A wall-sided vessel in MRE SC3 was the only example of this type. It was produced in a coarse, cream fabric with a thick, dark grey core, containing well-sorted, abundant and tightly packed sub-rounded coarse quartz, abundant yellow and voids with yellow staining, as well as sparse very fine (and some coarse) gold and silver mica inclusions. The trituration grits were sparse angular quartz (2–5mm). This vessel is a Claudian type but could be Neronian in date. It is possibly an import from Gaul, but Hartley (pers. comm.) suggests it could have been made locally in the early to mid-Flavian period, given that the vessel was found in a Period 3 deposit. There is no other current evidence for a vessel of this form and fabric anywhere in Britain (Hartley, pers. comm.).

Period 4

A total of 595 mortaria sherds, weighing 14,123g (RE: 460.5%), was recovered from Period 4 deposits. This group formed the largest component of the entire assemblage at 85.03% by weight, 86.36% by count and 88.39% by RE (Table 5.50 and Table 5.53). The source of the products from Period 4 was varied, with 28.61% (by weight; RE: 38.11%) produced at or close to Scotch Corner, 39.58% (RE: 33.55%) from *Verulamium*, 27.01% (RE: 21.17%) from Northern Gaul, 4.11% (RE: 7.17%) from Central France, and 0.06% (two sherds) from the vicinity of Catterick. The remaining 0.63% was of unknown origin (Table 5.53).

Small quantities (six sherds) of mortaria were recovered from Field 228, including Scotch Corner and Gaulish products, and 10 small sherds (12.2g) of *Verulamium* white ware from Field 229. The greatest quantity (442 sherds; 81.62% by weight and 74.29% by count) was recovered from Field 258, with 14% by weight (122 sherds, 20.5% by count) from Field 246, and only small quantities from Field 265 (1.24% by weight, 2.52% by count). These figures compare well with the distribution of amphorae, except for Fields 265 and 267a; 199 and 38 sherds of amphorae respectively were recovered from these Fields, compared with 15 sherds of mortaria from Field 265 alone.

The first occurrence of *Verulamium* wares was in Period 4, with material from Fields 246 and 258: only four sherds (24.69% by weight) came from Field 246 and 31 sherds (44.03% by weight) from Field 258. A higher proportion of Scotch Corner products was recovered from Field 246 (34.73% by weight) than from Field 258 (21.18%). In addition, several possible waster sherds were recovered from deposits in Field 246 from ditch **15869** (Period 4), pit **15762** and well **24297** (both Period 3).

Table 5.55: relative proportions of mortaria from Period 5 deposits.

Row labels	Sum of count	Sum of weight	Sum of rim %
Northern Gaul	60.53%	53.71%	74.47%
Scotch Corner	5.26%	3.18%	0.00%
Unknown	26.32%	15.11%	25.53%
Verulamium	7.89%	28.00%	0.00%
Total	**100.00%**	**100.00%**	**100.00%**

Period 4 and Period 5

The assemblage of mortaria from Period 4 and Period 5 deposits has a range of North Gaulish, *Verulamium* region (white and oxidised wares) and possibly locally produced Scotch Corner wares. While the assemblage size varies greatly between Periods 3, 4 and 5 (Table 5.54), the relative proportions (by weight) between the three groups indicate clear differences. There were no *Verulamium* region mortaria in Period 3, but in Period 4 they formed 39.46% of the assemblage. The relative proportions of North Gaulish products decreased from 30.46% in Period 3 to 16.19% in Period 4–5, while Scotch Corner products reduced from 69% in Period 3 to 28% in Period 4. However, there were only 22 sherds in Period 2–3 and 3, compared to 593 sherds in Period 4–5 deposits, making comparisons difficult.

Period 5

A small assemblage of mortaria was recovered from Period 5, which comprised 38 sherds weighing 1113.7g (6.71% by weight from all Periods) (Table 5.55). The composition was similar to Period 4: a mixture of northern Gaulish, *Verulamium* and Scotch Corner products. Only a very small quantity of Scotch Corner products, 3.2% by weight, was present. The others were *Verulamium* wares (28.0%), northern Gaulish wares (53.7%) with the remainder (15.1%) unidentified (Table 5.55). The relative proportions presented here are interpreted with great caution due to the very small sample size, and many or all were potentially residual from Periods 3 and 4. Only one and two sherds respectively were recovered from Fields 246 and 258, with 11 from Field 229 (all from the fill of ditch **33743** in group **33803**), and 24 from Field 265. While there is some hint of concentrations of vessels in Fields 229 and 265 (e.g. 14 sherds from Cat. no. 347, found in the foundation layer of Structure 39), there was no notable difference in the date range of mortaria from Period 5 between any of the Fields.

Period 5+

Only 10 sherds were recovered from Period 5+ deposits; one Crambeck-type sherd (AD270–400) from Field 265 and nine sherds in an unidentified fabric from Field 246. No vessels from these contexts were catalogued; they will be discussed in detail in Ross and Ross (in prep.).

Mid- to Late Roman

A total of 24 sherds (1012.5g) of mortaria was recovered from Mid- to Late Roman period deposits (Table 5.50). All came from Field 265 and, while 19 sherds were certainly residual from Periods 3 and 4, there four sherds of 3rd- to 4th-century AD products, such as Catterick Vicinity white ware (MCTR WS4), Mancetter-Hartshill white ware (MH2) and Lower Nene Valley (MLNV) mortaria. Two sherds were unidentified, although one (from buried soil layer **31539**) potentially originated from the Lower Nene Valley.

Site comparisons

The mortaria possibly produced at Scotch Corner can be paralleled on military sites dated to the Neronian and Flavian period in England and Scotland. Mortaria assemblages from site 9 at Stanwick, and from Melsonby (Willis 2016b), were limited to a few sherds; the only potentially 'early' vessel at the latter site was produced near *Verulamium*. Wheeler (1954) only recorded two entries for mortaria: a probable 2nd-century Catterick Vicinity (CTR WS) vessel (no. 24; *ibid*., 36), and a 2nd–4th-century vessel (no. 30; *ibid*., 37). The assemblages from the three major military and civilian settlements close to Scotch Corner (Binchester, Piercebridge and *Cataractonium*) were different in character and a slightly later date is given for their establishments (c.AD80/85). At Binchester (Evans and Rátkai 2010, table 23, 152–3), few sherds were recovered from period 1 (c.AD80) deposits by excavations of the commandant's house, all of which were produced in the north-east region from the late 1st/early 2nd century AD. In period 2 (AD80–90), a much larger assemblage, a large proportion consisted of Gaulish and *Verulamium* region products alongside regionally produced material of the late 1st/early 2nd century. The pattern is similar at both Piercebridge (Cool and Mason 2008) and *Cataractonium* (Wilson 2002b), with imported Gaulish and *Verulamium* region products present alongside locally and regionally produced wares of the late 1st/early 2nd century in the earliest deposits. However, recent analysis by Griffiths of material from *Cataractonium* for the A1 scheme (Field 179; contexts **14874**, **17588**, **17695**, **17698** and **17726**) has identified a group of Gillam 237 mortaria in similar fabrics to those at Scotch Corner alongside North Gaulish white ware (MNOG WH) mortaria.

In the very small assemblage of mortaria from period 1 and 2 deposits at Blake Street, York (Monaghan 1993), nine out of the 18 mortarium sherds were from northern Gaul, two from the *Verulamium* region and four were in Ebor ware. While Blake Street period 1 has traditionally been assigned a start date of AD71, with period 2 dating to AD71/89–100, there is a growing consensus (Wilson 2009c) that the earliest period(s) were pre-Flavian. When redeposited Flavian mortarium sherds are included, Hartley notes that half of Flavian mortaria are from northern and central France, but few are from the *Verulamium* region, which seems primarily to supply sites with easier access to sea-borne trade. The remaining mortaria were local Ebor ware products from York or its region, and Hartley additionally observes that York was self-sufficient by the Trajanic period, as far as mortaria were concerned. The group from Scotch Corner shares the three-fold sources of northern France, *Verulamium* and local with York but, in contrast, *Verulamium* region mortaria are absent in the very small group from Period 3, when the possibly local mortaria are most common, but are the most common in Period 4–5 (by weight).

Mortaria production and supply at Scotch Corner

The evidence for ceramic production at or close to Scotch Corner is significant. The fabric composition of the group of potential Scotch Corner products (in oxidised and reduced wares) discussed above has not been recorded elsewhere or seen before (Hartley, pers. comm.). A relatively large group of products was recovered: 82 sherds, weighing 5.3kg, with some sherds clearly wasters (i.e. with evidence of some failure during the firing process). Waster sherds were recovered from deposits in Field 246: ditch **15869** (Period 4), pit **15762** (Period 3) and well **24297** (Period 3); all these sherds may be from a single vessel (Cat. nos 304–6 and 333). The result of misfiring resulted in a very crude vessel and, given that good-quality mortaria were abundant, it is unlikely that this vessel would have been used for food preparation.

There are also two or possibly three vessels (Cat. nos 328–30) in Scotch Corner fabrics that show no obvious wear, suggesting little or no use. This may indicate that they were made at, or close to, the site for an immediate market and broken soon after they were obtained or as part of the abandonment(?) of the settlement.

At least two potting traditions are evident in the assemblage: the Gillam 237 and variants and the wall-sided mortarium. The rare wall-sided mortarium is clearly a Gaulish-style product (Cat. no. 307, from the second fill of pit **32318** in Field 267a). The fabric could be local to Scotch Corner (Hartley, pers. comm.). The vessel has a cream-coloured surface with reduced core and roughly formed spout. This form is normally in fine-textured cream fabrics. Although it could be Neronian, it could have been made locally in the early to mid-Flavian period. This was the only example of the type at Scotch Corner and has not been identified at other sites.

Stamped mortaria

Kay Hartley

Four stamped vessels were recovered from Scotch Corner, three MVER WH, bearing stamps of Albinus (Cat. nos 350, 351 and 352) and one MNOG WH SC5 stamped with the name of Q. Valerius Veranius (Cat. no. 353). They are described in detail in the catalogue below. All three MVER WH mortaria have concentric scoring combined with small trituration grit throughout the surface of the interior, but none of them have any sign of scoring and grit on the upper side of the flange, which remains smooth. This combination was common practice for Albinus.

Albinus used at least eight different name dies; six of these were used in combination with a counterstamp impressed in a complementary position to the other side of the spout. Cat. nos 350 and 351 both have a name stamp, which reads ALBINVS when complete, along with its accompanying counterstamp, which reads F.LVGVDV when complete. Both mortaria have stamps from the same pair of dies (for published examples of these stamps see Frere 1972, fig. 145, nos 5–6). 'LVGVDV' in the counterstamps used on Cat. nos 350 and 351 is an abbreviation for 'LVGVDVNVM', though the name's correct spelling is considered to be LVGDVNVM.

Cat. no. 352 has a partial impression of a different counterstamp which always appeared with a different name stamp of Albinus (for an example see Frere 1972, fig. 145, no. 3). This name stamp reads ALBINVS, A with dash instead of bar, and retrograde N and S; it reads from left to right, but its counterstamp appears to be retrograde and its interpretation is uncertain. VIANVACAFE is one possibility, with both 'A's dotted, AN ligatured and FE ligatured. In F.LVGVDV, 'F' is an abbreviation for *facet* (made), while *Lugudunum* is an unknown place in the *Verulamium* area, where he had a workshop. This second counterstamp could refer to another workshop in the Hertfordshire area, FE probably still standing for *fecit*.

Albinus was the most prolific potter who ever stamped mortaria in Britain, with more than 500 mortaria recorded. One mortarium at Colchester appears to be in a Colchester fabric, which indicates that he was involved in some production there (S15 in Symonds and Wade 1999, 198). The suggestion that this may have been his earliest production is almost certainly erroneous; his workshop at Colchester is likely to have co-existed with those in the *Verulamium* region.

None of his kilns have been located, but one name stamp of his was noted at the kilns found at Radlett (Page 1898, 266; the stamp was stolen before it could be recorded, so the die is unknown). One F.LVGVDV counterstamp (a different die from Cat. nos 350 and 351) is recorded from the production centre at Brockley Hill (M3 in Suggett 1954, 181, fig. 4; N.B. not accurately drawn). He could have had workshops at both sites, and possibly elsewhere in the Hertfordshire region, but the evidence is not as clear as one might wish. All that can be said is that his fabrics leave no doubt that almost all his production, apart from that at Colchester, was within what is understood as the *Verulamium* region.

Albinus was active in the years AD 60–90. The practice of stamping diagonally is believed to have been restricted in the *Verulamium* region workshops to a date before c.AD80.

The stamp on Cat. no. 353 is from one of at least 11 dies of Q. Valerius Veranius and is the only die of his that provides his name in small letters. Other stamps from the same die have been found at: Alcester, Warwickshire; Cirencester; Colchester (n=2); London; Richborough V (Cunliffe 1968, Pl. 89, no.92); Tiddington, Warwickshire; Weston-under-Penyard; Wroxeter (M77); and the Yorkshire Museum (provenance unknown, but likely to be York); as well as in France at Nanteuil-sur-Aisnes.

Q. Valerius Veranius probably worked in the vicinity of Noyon (Oise) where large numbers of mortaria have been found, including his. No kilns have yet been located, but a workshop in this area was clearly servicing nearby Amiens. The potters active in this and perhaps other workshops in the Oise/Somme area were also sending vast quantities of mortaria to Britain. Q. Valerius Veranius was by far the most important of the potters who were stamping mortaria.

Although most of his work may be Flavian, some of his mortaria have been found in Neronian contexts, for example at Usk (Manning 1993, 421, no. 8), Exeter (Holbrook and Bidwell 1991, 212, nos 2-4), Amiens

(Dubois and Binet 1996) and Bavai. The optimum date for his production is AD65–110, but a slightly broader date range is certainly possible. For further relevant details see Hartley (1998, 200–6) and Howard-Davis (2009, 582–3).

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303. Incomplete form G238v mortarium. Fabric: MNOG WH SC3. Origin: Oise-Somme. Count: 3, Weight: 75.6g, RE: 0%. AD65–110+. Field 246; Context **24085**; fourth fill of well **24297**. Period 2–3. Figure 5.33.

304. Body sherds from a local form G237v mortarium. Possibly waster sherds. Joins Cat. no. 333. Fabric: MRE SC2. Origin: Scotch Corner. Count: 3, Weight: 59.8g, RE: 0%. AD60–90. Field: 246, Context **24307**; sixth fill of well **24297**, primary pellet mould dump? Period 2–3. Figure 5.33.

305. Incomplete locally manufactured form G237v mortarium. Fabric: MRE SC2. Origin: Scotch Corner. Count: 3, Weight: 34.2g, RE: 0%. AD60–90. Field 246; Context **15704**; fill of pit **15703**. Period 3. Figure 5.33.

306. Flange sherd from a local form G237v mortarium, possibly a waster sherd. Fabric: MRE SC2. Origin: Scotch Corner. Count: 1, Weight: 19.4g, RE: 0%. AD60–90. Field 246; Context **15764**; third fill of pit **15762**. Period 3. Figure 5.33.

307. Incomplete wall-sided mortarium. Fabric: MRE SC3. The vessel fabric is unique and definitely local. Cream? surface with reduced core. This form is normally in a fine-textured cream fabric. Vessel reduced during firing but oxidised at the end of the process. Unusual red-brown blobs and burning outside. Origin: Scotch Corner. Count: 1, Weight: 107.3g, RE: 0%. AD55–80. Although it could be Neronian, it could be made locally in the early to mid-Flavian period. Field 267a; Context **32322;** second fill of pit **32318**. Period 3. Figure 5.33.

308. Incomplete mortarium. Burnt throughout with cracking underneath the flange and concentric scoring on surface of flange and inside body; worn in lower half. Part of Cat. no. 309. Fabric: MRE SC1. Origin: Central France. Count: 2, Weight: 430.4g, RE: 21.5%. AD50–85. Field 258; Group **28133**; Context **26231**; second fill of ditch **15063**. Period 4. Figure 5.33.

309. Incomplete mortarium. Concentric scoring inside and on flange. Burnt throughout. Part of Cat. no. 308, Field 258, 26231. Fabric: MRE SC1. Origin: Central France. Count: 1, Weight: 150.6g, RE: 11.5%. AD50–85. Field 258; Group **28133**; Context **15064**; second fill of ditch **15063**. Period 4. Not illustrated.

310. Incomplete form G238 mortarium. Fabric: MNOG WH SC1. Origin: Northern Gaul. Count: 1, Weight: 157.1g, RE: 0%. Date: AD65–100. Field 244; Context **24222**; third fill of ditch **15869**. Period 4. Figure 5.33.

311. Incomplete form G238 mortarium. Fabric: MNOG WH SC4. Origin: Northern Gaul. Count: 3, Weight: 69.1g, RE: 0%. AD65–100. Field 228; Context **27782**; primary fill of pit **27780**. Period 4. Figure 5.33.

312. Form G239v rim and spout. Left-facing stamp reads …ERA… Possibly Q. Valerius Veranius. AD65–110 Fabric: MNOG WH SC5. Origin: Northern Gaul. Count: 1, Weight: 94.9g, RE: 0%. AD80–110. Field 258; Group **28131**; Context **15356**; second fill of pit **15349**. Period 4. Figure 5.33.

313. Body and base of a mortarium. Concentric scoring survives clearly just above the base and not entirely worn away below—the vessel has had very little use. Fabric: MNOG WH SC2. Origin: Northern Gaul. Count: 1, Weight: 60.2g, RE: 0%. AD65–110+. Field 258; Group **28131**; Context **15436**; third fill of pit **15437**. Period 4. Figure 5.33.

314. Incomplete form G238 mortarium with very curved flange. Fabric: MNOG WH SC2. Origin: Northern Gaul. Count: 50, Weight: 402.4g, RE: 5%. Date: AD65–110+. Field 258; Group **28133**; Context **26231**; second fill of ditch **15063**. Period 4. Figure 5.33.

315. Incomplete form G238v mortarium. Crazed. Fabric: MNOG WH SC2. Origin: Northern Gaul. Count: 7, Weight: 76g, RE: 0%. AD65–110+. Field 258; Context **27007**; fill of pit **27008**. Period 4. Figure 5.33.

316. Incomplete mortarium. Pink trituration grits on flange. Fabric: MNOG WH SC5. Origin: Northern Gaul. Count: 1, Weight: 82.6g, RE: X%, Date: AD50–85. Field 258; Context **27045**; 11th fill of well/latrine **27032**. Period 4. Figure 5.33.

317. Incomplete small flanged bowl or very small mortarium. Fabric: MNOG WH SC2. Origin: Northern Gaul. Count: 16, Weight: 12.2g, RE: 0%. Date: AD65–110. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.33.

318. Flange from a form G238v mortarium. Fabric: MNOG WH SC3. Origin: Oise-Somme. Count: 12, Weight: 104g, RE: 7.5%. AD60–100. Field 246; Group **31208**; Context **15898**; layer overlying **15899**. Period 4. Figure 5.33.

319. Incomplete mortarium. Fabric: MNOG WH SC3. Origin: Oise-Somme. Count: 5, Weight: 131.8g, RE: 0%. AD65–110+. Field 246; Group **31208**; Context **15898**; layer overlying **15899**. Period 4. Figure 5.33.

320. Incomplete form G238 mortarium. Fabric: MNOG WH SC3. Origin: Oise-Somme. Count: 4, Weight: 89.2g, RE: 0%. AD65–110+. Field 246; Context **31817**; fill of ditch **31816**. Period 4. Figure 5.33.

321. Incomplete form G238v mortarium. Thin flange similar to sherds from **26768** (not illustrated) and

26770 (FV261). Concentric scoring. Fabric: MNOG WH SC6. Origin: Oise-Somme. Count: 14, Weight: 490.8g, RE: 35%. AD65–110+. Field 258; Group **28131**; Context **26205**; fourth fill of pit **26201**. Period 4. Figure 5.33.

322. Form G238 mortarium with deeply curved flange. Unusually thin with traces of concentric scoring inside. Same vessel as sherds from **26768** (not illustrated). Fabric: MNOG WH SC6. Origin: Oise-Somme. Count: 11, Weight: 418.8g, RE: 35%. AD65–110+. Field 258; Group **28131**; Context **26770**; fourth fill of pit **15406**. Period 4. Figure 5.33.

323. Incomplete form G238v mortarium. Fabric: MNOG WH SC7. Origin: Oise-Somme. Count: 72, Weight: 483.6g, RE: 0%. AD65–110+. Field 258; Group **28131**; Context **26771**; fifth fill of pit **15406**. Period 4. Figure 5.33.

324. Flange and body sherds giving much of the rim profile. Flint grits; could be northern France. Fabric: MNOG WH SC7. Origin: Oise-Somme. Count: 23, Weight: 115.4g, RE: 0%. AD55–85. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.33.

325. Rim from a Form G237v mortarium. Fabric: MOX SC1. Origin: Scotch Corner. Count: 2, Weight: 156g, RE: 12.5%. AD60–90. Field 246; Context **15527**; fill of ditch **16183**. Period 4. Figure 5.33.

326. Rim from a Form G237v mortarium. Fabric: MOX SC3. Origin: Scotch Corner. Count: 1, Weight: 137.4g, RE: 8%. AD60–90. Field 246; Group **31207**; Context **24146**. Cleaning layer over stone raft group **31240**. Period 4. Figure 5.33.

327. Incomplete Form G237v mortarium. Fabric: MOX SC4. Origin: Scotch Corner. Count: 1, Weight: 332.9g. RE: 0%. AD60–90. Field 228; Context **27782**; primary fill of pit **27780**. Period 4. Figure 5.33.

328. Rim sherd from a Form G237v mortarium. Fabric: MOX SC5. Origin: Scotch Corner. Count: 2, Weight: 348.7, RE: 29.5%. AD60–90. Field 251; Group **28161**; Context **15028**; primary fill of ditch **15027**. Period 4 Figure 5.34.

329. Rim sherd from a Form G237v mortarium. Fabric: MOX SC5. Origin: Scotch Corner. Count: 2, Weight: 183.9g, RE: 25%. AD60–90. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.34.

330. Base and body sherds from a local Form G237v mortarium. Base and body sherds show no obvious wear. Joins between Cat. nos 331 and 336. Fabric: MOX SC6. Origin: Scotch Corner. Count: 2, Weight: 702.6g, RE: 37%. AD60–90. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.34.

331. Incomplete Form G237v mortarium. Joins Cat. no. 330. Fabric: MOX SC6. Origin: Scotch Corner. Count: 2, Weight: 274g, RE: 0%. AD60–90. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.34.

332. Rim sherd from a Form G237v2 mortarium. Fabric: MOX SC4. Origin: Scotch Corner. Count: 1, Weight: 290.5g, RE: 20%. AD60–90. Field 258; Group **28162**; Context **27091**; third fill of ditch **26035**. Period 4. Figure 5.34.

333. Body sherd from a Form G237v mortarium. Possible waster sherd. Joins body sherd in Field 246, well fill **24307**, Cat. no. 304. Fabric: MRE SC2. Origin: Scotch Corner. Count: 1, Weight: 49.9g, RE: 0%. AD60–90. Field 246; Group **15869**; Context **15857**; fourth fill of ditch **15869**. Period 4. Figure 5.33.

334. Incomplete Form G237v mortarium. Fabric: MOX SC9. Origin: Scotch Corner. Count: 5, Weight: 87.1g, RE: 17.5%. AD60–90. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.34.

335. Incomplete Form G237v mortarium. Fabric: MOX SC4. Origin: Scotch Corner. Count: 1, Weight: 5.1g, RE: 0%. AD60–90. Field 258; Group **28158**; Context **15280**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.34.

336. Incomplete local Form G237v mortarium. Joins Cat. no. 331. Fabric: MOX SC6. Origin: Scotch Corner. Count: 4, Weight: 127.6g, RE: 0%. AD60–90. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.34.

337. Incomplete mortarium. Fabric: MUID SC2. Origin: Unknown. Count: 1, Weight: 83.5g. RE: 0%. AD50–400. Field 246; Group **31284**; Context **16024**; second fill of ditch **15537**. Period 4. Figure 5.34.

338. Incomplete 'real' Form G237 mortarium. Orange brown with black core and concentric scoring on flange and inside body. Fabric: MOX SC2. Origin: Unknown. Count: 6, Weight: 276.8g. RE: 13%. AD60–90. Field 246; Group **31284**; Context **16025**; primary fill of ditch **15550**. Period 4. Figure 5.34.

339. Incomplete local Form G237v mortarium. Fabric: MOX SC2. Origin: Unknown. Count: 1, Weight: 44.7g. RE: 0%. AD60–90. Field 258; Group **28156**; Context **26852**; second fill of ditch **15193**, **15223**, and **26042**. Period 4. Figure 5.34.

340. Rim sherd from a 'real' Form G237 mortarium. Traces of red-brown matte slip on flange; traces of concentric scoring on flange and inside. Fabric: MOX SC2. Origin: Unknown. Count: 1, Weight: 410.3g. RE: 13%. AD60–90. Field 258; Group **28145**; Context **27263**; second fill of gully **27138**. Period 4. Figure 5.34.

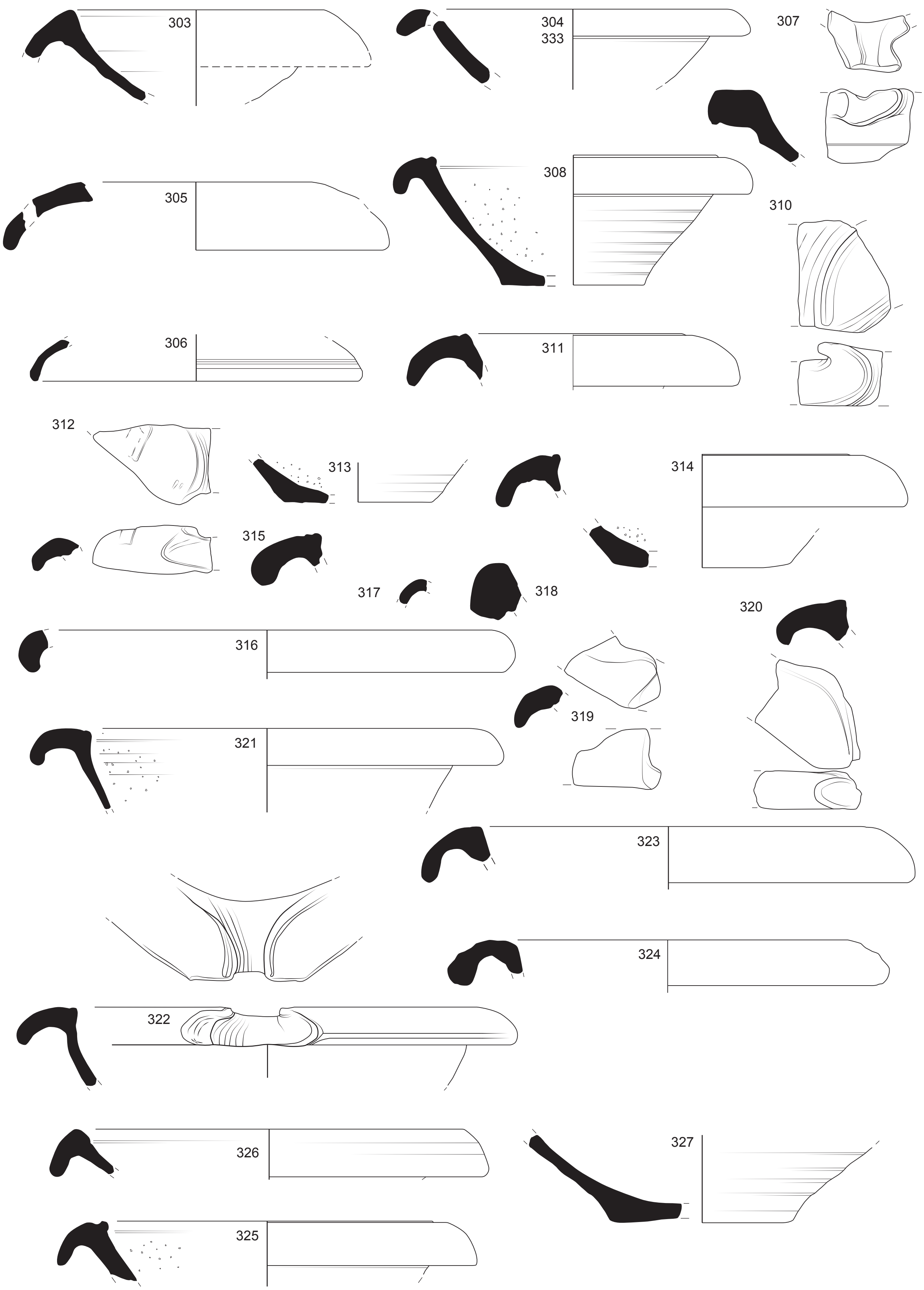

Figure 5.33: mortaria, Cat. nos 303–308, 310–327. All vessels are illustrated at 1:4 unless stated otherwise.

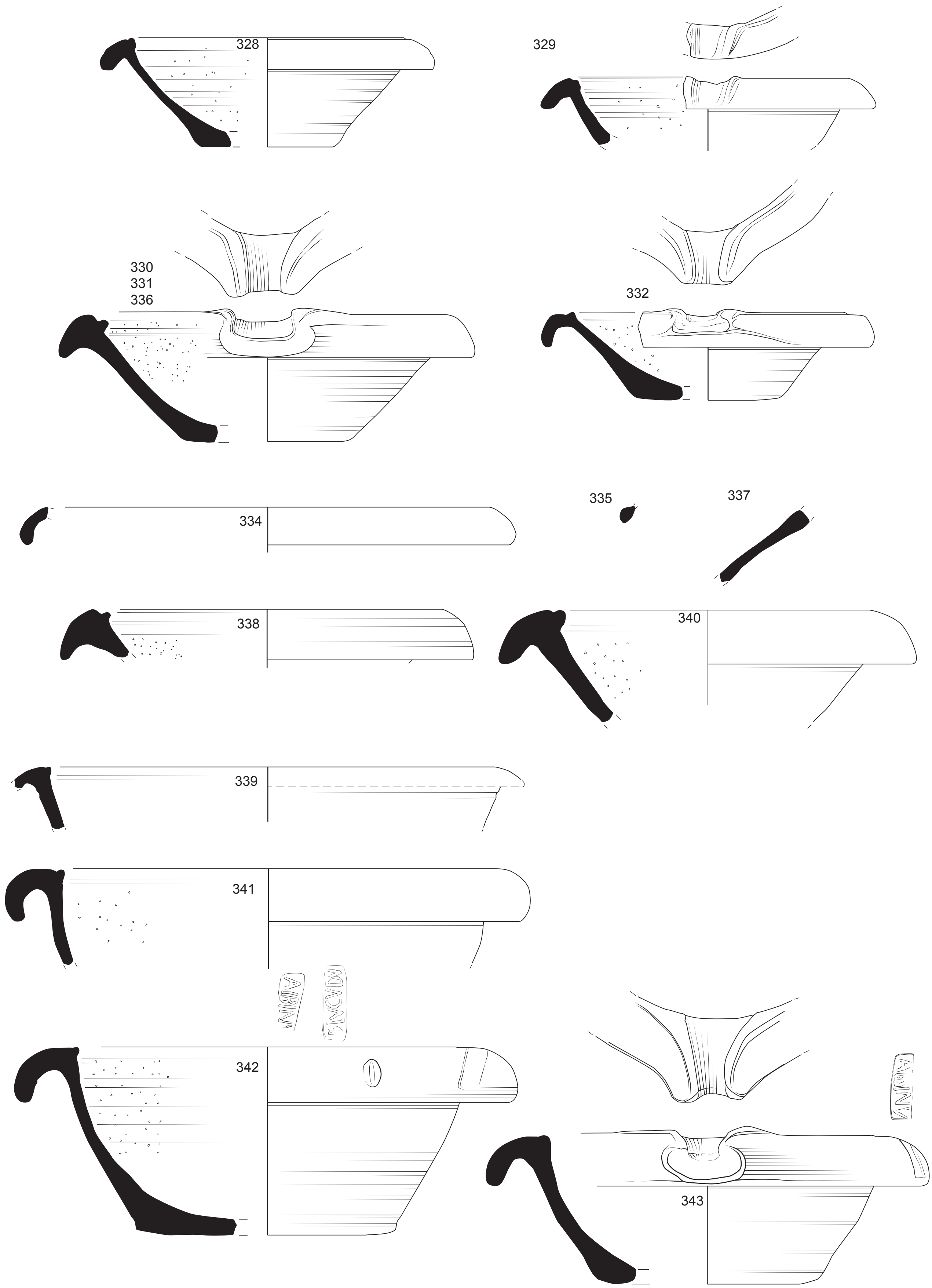

Figure 5.34: mortaria, Cat. nos 328–332, 334–343.

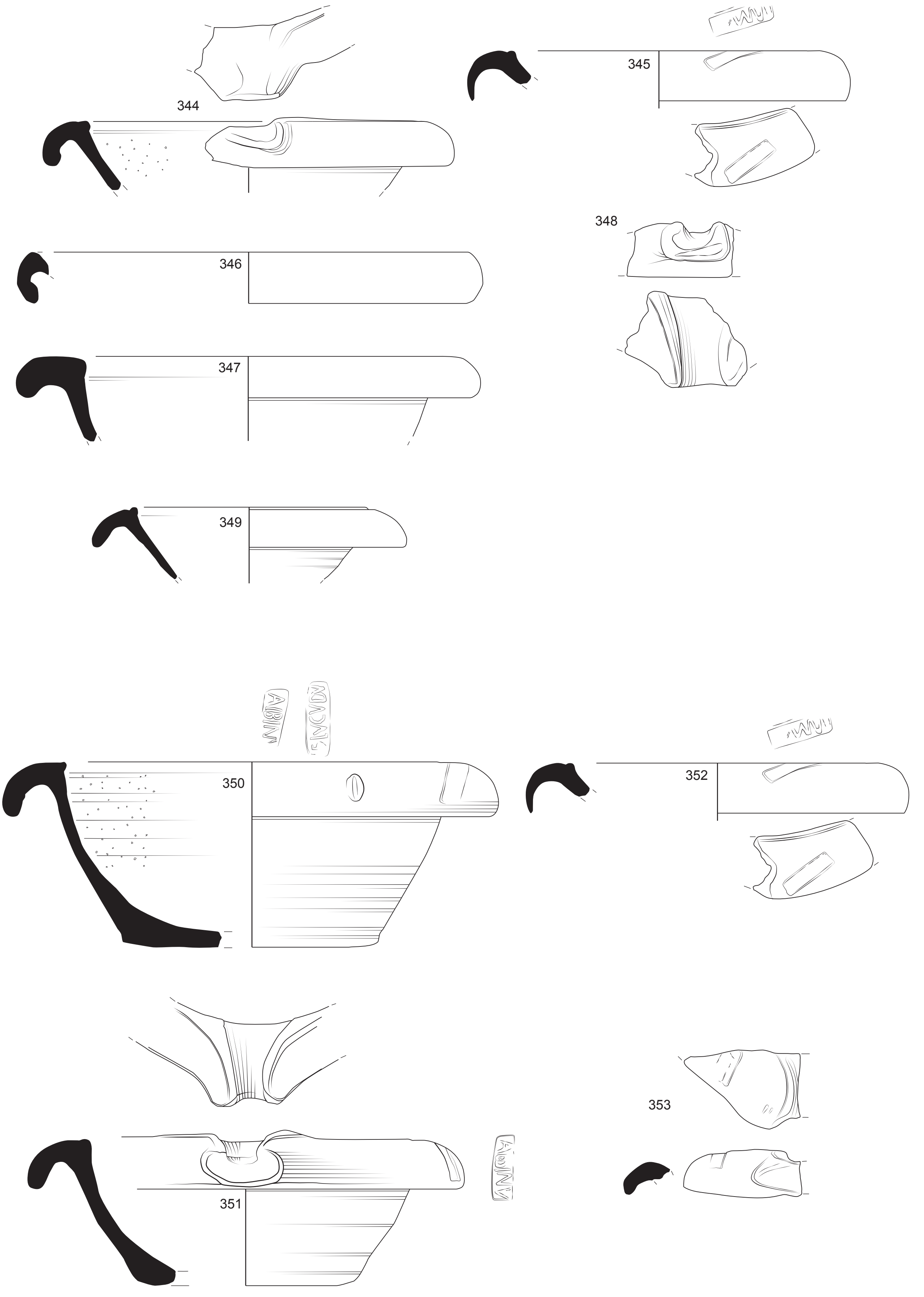

Figure 5.35: mortaria, Cat. nos 344–353.

341. Rim sherd from a Form G240 mortarium. Fabric: MVER. Origin: *Verulamium*. Count: 1, Weight: 307.2g. RE: 15%. AD60–90. Field 246; Group **31261**; Context **24159**. Levelling deposit over stone **24101** and **24195**. Period 4. Figure 5.34.

342. Incomplete Form G241v mortarium. Concentrated patch of burning inside body pre-break. Vessel base worn so thin it may have been worn through. Two repair holes to body; one with remains of an iron rivet. Concentric scoring to inner body. Grey, black, white (small) grits mostly to upper inner body. Self-slipped. Inside body has evidence of extensive burning which may have occurred prior to fracture. Stamped ALBINV_(S) and F-LVGDV(M). cf. Cat. no. 350. Fabric: MVER. Origin: *Verulamium*. Count: 9, Weight: 1673.1g. RE: 34%. AD60–90. Field 258; Group **28156**; Context **15194**; second fill of ditch **15193**, **15223**, **26042**, and **26886**. RF12591. Period 4. Figure 5.34.

343. Incomplete Form V225 mortarium. Fabric: MVER OX1. Origin: *Verulamium*. Count: 11, Weight: 2636.8g. RE: 68%. AD60–90. Field 258; Group **28156**; Context **15194**; second fill of ditch **15193**, **15223**, **26042**, and **26886**. RF12590. Period 4. Figure 5.34.

344. Rim and spout from a Form G240 mortarium. The spout has flaked off—a weak point in 1st- to 2nd-century AD *Verulamium* mortaria. Concentric scoring inside; shape underneath flange as in 3K and 4K(?). Fabric: MVER WH. Origin: *Verulamium*. Count: 3, Weight: 278.8g. RE: 10%. AD60–90. Field 258; Context **15486**; third fill of pit **15485**. Period 4. Figure 5.35.

345. Incomplete Form G240v mortarium. Vessel has concentric scoring. Tapered distal end of flange. Stamped, probably left facing impressed diagonally; retrograde stamp giving part of the counterstamp of ALBINVS. When complete it reads VIANVACAE. Fabric: MVER WH. Origin: *Verulamium*. Count: 3, Weight: 116.7g. RE: 10%. AD60–90. Field 258; Group **28131**; Context **15181**; sixth fill of pit **15180**, **15425**, and **15429**. Period 4. Figure 5.35.

346. Two joining flange sherds of a mortarium. Fabric: MVER WH. Origin: *Verulamium*. Count: 3, Weight: 180.8g. RE: 17.5%. AD60–90. Field 246; Group **31275**; Context **31139**; second fill of ditch **31094**. Period 4. Figure 5.35.

347. Incomplete form G238v mortarium. Fabric: MNOG WH. Origin: northern Gaul. Count: 14, Weight: 482.8g, RE: 17.5%. AD65–100+. Field 265; Structure 39; Group **29955**; Context **31663**. Foundation layer of Structure 39. Period 5. Figure 5.35.

348. Spout from a mortarium. Fabric: MVER WH. Origin: *Verulamium*. Count: 1, Weight: 200.4g, RE: 0%. AD60–90. Field 229; Group **33803**; Context **33727**; primary fill of ditch **33743**. Period 4–5. Figure 5.35.

349. Incomplete Class B mortarium. Fabric: MUID SC7. Origin: unknown. Not an import. Fabric is micaceous. Count: 9, Weight: 161.7g, RE: 6%. AD60–90. Field 265; Context **31733**. Midden material between RR5 and RR6. Period 4–5. Figure 5.35.

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350. Nine joining sherds. Fabric: MVER WH. Concentric scoring survives on the upper half of the interior, but heavy wear in the lower half not only eradicated the scoring but resulted in a base so thin that wearing a hole through the base could have been the reason for abandoning the vessel. There is heavy burning on part of the inside surface, which could have occurred before or after fracture, but the scorching on the underside of some basal fragments, with one sherd completely free of any scorching points to that occurring after fracture. Two surviving rivet-holes, one with the remains of a lead rivet, show that the mortarium had been repaired.

The full complement of potter's stamps survive, with the broken right-facing stamp reading ALBIN[VS], the left-facing stamp reading F·LVGVDV; both stamps have been impressed diagonally across the rim. Field 258; Context **15194**. Same as Cat. no. 342. Period 4. Figure 5.35.

351. Eleven joining sherds. Fabric: MVER WH. The fabric has suffered through being in acid and/or wet conditions. Traces of concentric scoring survive in the upper part, but it is worn away in most of the vessel and the wear in the basal area was so heavy that it could have been worn through as often happened with mortaria in this fabric. There is a large area of burning on the inside surface which has penetrated the fabric to a depth of at least 3mm. This could have occurred before or after the vessel was abandoned. The stamps, like the fabric, are abraded; both were impressed at right-angles to the rim (i.e. across the rim) the flange, the right-facing reading ALBINVS (S barely visible), the left-facing one F·LVGVDV. They are from the same dies as those on Cat. no. 350, but the impressions are less crisp, and the condition of the fabric has damaged the stamps. Same as Cat. no. 343. Field 258; Context **15194**. Period 4. Figure 5.35.

352. Three sherds giving the rim-section of a mortarium whose flange had a sharply tapered distal end. It had had fine concentric scoring up to the bead. Fabric: MVER WH. Condition: burnt throughout. The broken and poorly impressed potter's stamp is retrograde; it was probably left facing; and was impressed diagonally. It is just possible to read VI followed by AN ligatured, with dotted A [, retrograde. This is a counterstamp always used with one die of Albinus (see below). When complete, the stamp could be interpreted as VIANVACAE and could represent the unknown placename of one of Albinus' workshops. The name stamp on Cat. no. 352 has not survived. Same as Cat. no. 345. Field 258; Context **15181**. Period 4. Figure 5.35.

353. A spout and rim sherd with fragmentary left-facing stamp. Fabric: MNOG WH SC5. The stamp reads]

Table 5.56: relative quantities of ware groups by principal Periods and absolute quantities (see also Appendix F).

Period	**1**			**1–2**			**2**			**3**			**4**			**5**		
Ware group	**No.**	**Weight (g)**	**Rim %**	**No.**	**Weight (g)**	**Rim %**	**No.**	**Weight (g)**	**Rim %**	**No.**	**Weight (g)**	**Rim %**	**No.**	**Weight (g)**	**Rim %**	**No.**	**Weight (g)**	**Rim %**
A	2.30%	1.30%	–	10.10%	21.50%	9.60%	16.50%	38.20%	17.90%	36.50%	52.30%	15.40%	14.80%	40.60%	3.90%	37.70%	63.80%	6.20%
BSA EGGS	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	0.10%	–	–	–
BSA group	–	–	–	1.00%	0.20%	–	7.70%	9.20%	–	0.20%	0.30%	–	0.30%	0.10%	0.10%	–	–	–
BSB group	7.20%	4.80%	35.70%	–	–	–	–	–	–	6.70%	4.60%	14.20%	9.50%	9.00%	11.90%	4.90%	3.30%	5.00%
CC	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
Central Gaulish fine wares	–	–	–	–	–	–	–	–	–	–	–	–	0.60%	0.10%	0.40%	–	–	–
CT	–	–	–	1.30%	0.40%	–	1.20%	0.70%	–	–	–	–	0.00%	0.00%	–	–	–	–
CW	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	0.20%	0.30%	–
Early grey ware with ox core group	–	–	–	–	–	–	–	–	–	0.20%	0.20%	–	0.50%	0.20%	0.70%	–	–	–
Early gritty ware 1	–	–	–	0.30%	0.20%	–	–	–	–	3.30%	2.70%	6.00%	1.00%	1.30%	1.70%	1.20%	0.70%	2.30%
Early gritty ware 2	0.50%	0.80%	–	–	–	–	–	–	–	0.70%	0.50%	1.60%	3.80%	2.90%	5.30%	1.60%	0.70%	5.70%
EYCT	–	–	–	–	–	–	–	–	–	1.50%	0.30%	–	–	–	–	–	–	–
Fine oxidised ware	0.50%	0.40%	–	0.70%	0.30%	–	0.30%	0.20%	–	1.50%	0.90%	–	2.40%	1.20%	1.50%	0.90%	0.30%	–
FLA	–	–	–	0.70%	0.40%	–	0.60%	0.40%	3.20%	5.70%	6.70%	8.60%	2.30%	0.90%	0.90%	0.70%	0.20%	–
FLB	–	–	–	0.70%	0.90%	–	–	–	–	–	–	–	1.20%	0.20%	0.40%	1.40%	1.50%	–
Fumed oxidised ware (medium)	–	–	–	–	–	–	–	–	–	0.20%	0.10%	–	0.20%	0.10%	–	–	–	–
GRA	–	–	–	–	–	–	–	–	–	0.20%	0.70%	–	6.10%	6.40%	9.20%	8.90%	4.00%	15.80%
GRB	1.40%	2.20%	–	0.70%	0.20%	5.80%	0.60%	1.20%	–	3.10%	4.70%	8.80%	7.40%	4.90%	11.50%	6.60%	3.30%	13.10%
GRC	–	–	–	–	–	–	–	–	–	–	–	–	0.30%	0.40%	0.40%	–	–	–
GTA	–	–	–	–	–	–	–	–	–	0.30%	0.50%	1.60%	0.40%	0.30%	0.10%	–	–	–
HM	60.60%	77.20%	42.90%	48.40%	68.60%	19.20%	18.10%	24.20%	9.10%	8.00%	5.40%	–	3.30%	2.20%	1.00%	11.50%	8.70%	6.10%
INDET	–	–	–	–	–	–	–	–	–	0.30%	0.00%	–	0.00%	0.00%	–	–	–	–
Italian–type	–	–	–	–	–	–	0.30%	0.30%	–	–	–	–	0.00%	0.00%	–	–	–	–
Lyon CC	–	–	–	–	–	–	–	–	–	–	–	–	0.10%	0.00%	0.20%	–	–	–
M	–	–	–	0.30%	0.10%	–	–	–	–	1.30%	2.20%	–	4.90%	8.60%	3.80%	3.00%	6.40%	4.00%
MG	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	0.10%	–	–	–
MG14	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
Micaceous ox fine ware	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
NOG WH	–	–	–	4.90%	1.60%	26.90%	20.70%	10.20%	35.70%	0.20%	0.00%	–	2.20%	0.40%	1.30%	–	–	–
NSP	–	–	–	–	–	–	0.40%	0.10%	–	–	–	–	0.20%	0.00%	–	–	–	–
NV CC	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	0.70%	0.10%	0.90%
O	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
OAA	20.80%	5.30%	–	–	–	–	0.30%	0.00%	–	0.70%	0.10%	–	0.90%	0.70%	0.30%	–	–	–
OAA8	–	–	–	–	–	–	2.00%	0.30%	–	1.00%	0.30%	–	0.10%	0.00%	–	–	–	–
OAB	–	–	–	0.70%	0.20%	–	0.70%	0.30%	–	4.70%	1.00%	6.70%	3.00%	1.20%	3.10%	2.60%	0.50%	–
OAB19	1.40%	2.70%	–	2.30%	0.60%	–	0.90%	0.40%	–	8.20%	6.00%	4.60%	16.90%	9.50%	15.20%	12.20%	4.40%	33.70%
OAC	–	–	–	–	–	–	0.10%	0.00%	–	–	–	–	0.10%	0.00%	0.10%	–	–	–
OAC9	–	–	–	–	–	–	–	–	–	0.70%	0.30%	–	0.90%	0.60%	0.50%	0.30%	0.10%	–
OBA	–	–	–	–	–	–	0.30%	0.10%	–	–	–	–	0.10%	0.10%	0.00%	–	–	–
OBB	0.50%	0.10%	–	–	–	–	0.30%	0.30%	–	0.70%	0.60%	3.50%	1.80%	0.80%	1.40%	0.50%	0.20%	2.00%
OBC	2.30%	3.70%	–	–	–	–	–	–	–	–	–	–	0.10%	0.10%	–	–	–	–
Pale pink ware (fine)	–	–	–	1.00%	0.20%	–	–	–	–	0.50%	0.40%	–	0.90%	0.40%	0.30%	0.30%	0.40%	–
Pale pink ware (medium)	–	–	–	0.30%	0.40%	–	–	–	–	–	–	–	0.40%	0.10%	–	0.30%	0.00%	–
PRW1	–	–	–	–	–	–	0.10%	0.10%	–	–	–	–	0.00%	0.00%	0.10%	–	–	–
PRW6	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
PRW6x	–	–	–	–	–	–	–	–	–	–	–	–	0.20%	0.10%	0.20%	–	–	–
SAMCG	1.40%	0.60%	10.70%	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
SAMEG	0.50%	0.20%	10.70%	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SAMSG	0.90%	0.70%	–	0.70%	0.20%	12.50%	6.70%	3.20%	14.70%	6.90%	7.10%	18.60%	11.60%	6.10%	22.40%	4.50%	1.00%	5.20%
Shell–t ware	–	–	–	–	–	–	–	–	–	4.40%	0.90%	2.30%	0.10%	0.00%	–	–	–	–
Silty ware oxidised	–	–	–	15.40%	3.20%	26.00%	16.20%	7.50%	4.40%	2.30%	0.60%	7.90%	0.20%	0.00%	0.30%	0.20%	0.10%	–
Silty ware oxidised (red)	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
Silty ware reduced	–	–	–	10.80%	0.70%	–	3.60%	1.50%	11.50%	0.20%	0.00%	–	0.10%	0.10%	0.10%	–	–	–
TN	–	–	–	–	–	–	0.30%	0.50%	1.60%	–	–	–	0.00%	0.00%	0.10%	–	–	–
TN EGGS	–	–	–	–	–	–	–	–	–	–	–	–	0.10%	0.00%	0.20%	–	–	–
TN?	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	–	–	–	–
TR	–	–	–	–	–	–	0.60%	0.40%	2.00%	0.20%	0.00%	–	0.30%	0.00%	0.40%	–	–	–
UNK	–	–	–	–	–	–	–	–	–	–	–	–	0.00%	0.00%	0.10%	–	–	–
White ware (import)	–	–	–	–	–	–	1.30%	0.80%	–	0.20%	0.20%	–	0.30%	0.30%	0.40%	–	–	–
Total	**221**	**1421.5**	**28**	**306**	**3221.7**	**104**	**685**	**4707.2**	**252**	**613**	**7447.4**	**430.5**	**12039**	**163665.98**	**12059.5**	**576**	**10279**	**442**

*Table 5.57: Scotch Corner vessels by Period (using EVES * =<1%, ^=intrusive).*

Vessel/Period	1	1–2	2	2–3	2–4	3	4	4–5	4–5+	5	5+	Med.–Post–Med.	No Period	Total
Amphora	–	10%	17%	10%	–	11%	4%	6%	–	6%	–	–	1%	4%
Beaker	–	38%	54%	39%	16%	20%	7%	6%	–	8%	–	2%	6%	9%
Bowl/beaker	–	–	–	–	–	6%	*	–	–	–	–	–	–	0%
Beaker dec	–	–	–	–	–	–	1%	–	–	–	–	–	4%	1%
Beaker/small jar	–	–	–	–	13%	–	2%	–	–	4%	–	10%	–	2%
Cup	6%^	7%	18%	6%	2%	2%	7%	7%	–	2%	13%	10%	12%	7%
Cup dec.	–	–	–	–	–	–	0%	–	–	–	–	–	–	0%
Bowl	6%	8%	–	3%	5%	2%	8%	15%	–	3%	16%	12%	8%	8%
Bowl dec.	–	–	1%	–	3%	1%	5%	8%	50%	–	11%	–	7%	5%
Bowl/dish	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Dish	6%^	6%	1%	9%	5%	16%	10%	5%	50%	3%	19%	7%	21%	10%
Dish/platter	–	–	–	–	–	–	–	–	–	2%	–	–	–	0%
Flagon	–	14%	–	4%	5%	14%	17%	27%	–	34%	–	13%	22%	16%
Flagon/jug	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Jar	58%	17%	9%	29%	52%	16%	26%	19%	–	28%	33%	30%	17%	26%
Jar/honeypot	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Honeypot	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Jar/narrow-necked jar	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Narrow-necked jar	–	–	–	–	–	6%	4%	–	–	1%	–	–	–	3%
Narrow-necked jar?	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Platter	–	–	1%	–	–	2%	1%	5%	–	2%	–	–	–	1%
Storage jar	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Wide mouthed bowl/bowl	–	–	–	–	–	–	–	–	–	–	4%	–	–	0%
Wide-mouthed jar	–	–	–	–	–	–	*	–	–	–	–	–	1%	0%
Mortarium	–	–	–	–	–	–	3%	1%	–	4%	5%	16%	2%	3%
Miniature	–	–	–	–	–	–	*	–	–	–	–	–	–	0%
Lid	25%^	–	–	–	–	–	2%	–	–	2%	–	–	–	2%
Indeterminate	–	–	–	–	–	4%	–	–	–	–	–	–	–	0%

ERA[in small letters and is from the lower line of a two-line stamp. Complete examples read Q.VALERIVS in the upper line and VERANIVS in the lower line (see Cunliffe 1968, Pl. LXXXIX, no. 92 for a good example). Same as Cat. no. 312. Field 258; Context **15356**. AD65–110. Period 4. Figure 5.35.

OTHER POTTERY

Ruth Leary

Introduction

A total of 17,698 pottery sherds of all types (225kg; 153.36 estimated vessel equivalents (EVEs) was fully catalogued, of which 16,730 (213.6kg; 146.18 EVEs) were assigned to Periods 1–5/5+ (see Table 5.56 for breakdown of ware groups by principal Periods and absolute quantities and Table 5.57 for vessels by Period using EVEs). Of these, 10,781 sherds (86,112g; 104.16 EVEs) were assigned to the Other Pottery group. Sherds from soil sample and unstratified/disturbed levels were scanned and spot dated but were not catalogued in detail.

Chronology of other pottery

Period 1–2 and Period 2

During Period 2, wheel-thrown pottery was imported to the site from northern Gaul, Italy and Spain. These comprised a range of tablewares: terra rubra 1b and 3 girth and butt beakers (Cat. nos 388–9); terra nigra platters (Cat. nos 374, 376, 566–7); North Gaulish white ware Cam 113 butt beakers and flagons (Cat. nos 354–5, 359, 361–9); a silty ware with reduced and oxidised fabrics used primarily to make girth, butt and globular beakers in forms also known in terra rubra fabrics (Cat. nos 356, 358, 369–73); and a small number of platters in Pompeian red ware from Campania.

Fifty-eight sherds of terra rubra were identified by J. Timby: one TRIA sherd (4.5g), 19 sherds of TR1B (26g; 0.10 EVEs) and 38 sherds of TR3 (116g; 0.67 EVEs). The single TR1A sherd came from the pedestal base of a beaker comparable to Cam 74–76 (Tiberian to immediately after the Claudian conquest), while the 19 sherds of

TR1B came from the grooved rims of a pedestal beaker/cup. At King Harry Lane, Cam 76 is dated to AD25–50 (type 18; Rigby 1989, 132). Although the TR3 group was extremely soft, abraded and fragmenting. However, two forms were identified, the butt beaker with lentoid rim (form Cam 112) and the butt beaker with lentoid everted rim and rouletted body (type GB24 and; *ibid*.), and a girth beaker with thicker rim overhanging internally as Cam 82 and 84A, has been shown to have a similar date at the same site, dated c.AD9–c.AD50 at King Harry Lane (type GB22; *ibid*.).

The terra nigra ware may have come from the Marne-Vesle potteries. However, other sources are possible, including Trier, Cologne, Bavay, and Amiens (Rigby 1989, 126–7). A Cam 3 platter and a basal sherd from a platter with rouletted wreath came from Period 2 contexts. The Cam 3 form in terra nigra dates to before AD60 and commences in the Tiberian period, while the platter base dates to AD43–75. A Cam 16 platter from Period 4 is dated from the Claudian period to c.AD60.

Terra rubra and terra nigra wares were made in Gaul from the Augustan period, with production of micaceous terra nigra and terra rubra starting c.30BC. Rigby (1989) suggests the Marne-Vesle potteries as a source for TR1A vessels and probably TR1B, while the TR3 vessels may originate from more than one source. Their chronological development and the sequence of their arrival in Britain has been well documented on the Continent (in particular, see Deru 1996 and a summary of Deru's phases in Timby 2018b, 211–13) and at sites in the south-east of England, such as: *Camulodunum* (Hawkes and Hull 1947); Sheepen (Niblett 1985); King Harry Lane (Rigby 1989); Heybridge (Biddulph *et al*. 2015); Skeleton Green (Partridge 1981); Braughing (Partridge 1982); Baldock (Stead and Rigby 1986); Silchester (Timby 2000; 2018b); and Canterbury (Blockley *et al*. 1995). The dating of the Gallo-Belgic types found at Scotch Corner comes from the evidence from both the Continental and south-east England sites.

There was also a group of fine silty oxidised and reduced wares (OAA7, OAA12, GRA29 and GRA31) and a group of fine, slightly sandy reduced and oxidised ware (OAA8, and perhaps OAB18 and GRA28). The butt beaker form with everted lentoid rim (KA2/Cam 112 and type GB24; Rigby 1989) are made as part of the ware group and these forms date from the Tiberian period to c.AD50. As well as the butt and girth beakers, a globular beaker in this ware has been identified by Willis (2016b, fig.11.10, no. 11) at Stanwick and by Dore (1995, fig. 5, no. 37) at Scotch Corner. Examples of this form, identified by both Willis and Dore as a Cam 91, were also found in the A1 scheme excavations at Scotch Corner. This small globular jar or beaker with low bead rim is dated c.AD10–40 to c.AD60 at *Camulodunum* but does not occur at King Harry Lane, where Rigby dated it after AD 43 (type 1a2 and comment under type 1A1; Rigby 1989, 162–3, fig. 60). Rigby additionally notes that terra rubra imports in this form are rare in Britain (*ibid*., 164). At Sheepen, an example is noted in feature120 alongside Tiberian-Claudian and Claudian samian and Gallo-Belgic imports in period III and was dated to AD44–9 (Niblett 1985, 30). In both the reduced and oxidised fabrics, vessels with short everted rims (beakers) were found, as well as footring bases. One handle sherd in OAA7 and a rebated rim from a small jar or beaker was identified in GRA29 were identified at Scotch Corner.

At Stanwick, Willis suggests that the 'silty ware' there recalls the St. Albans silty ware identified by Rigby (1989) at King Harry Lane. However, Willis considers the Stanwick silty ware is not the same fabric as those from King Harry Lane, nor are they the same as other similar fabrics produced at Rushden (Rigby 1989, 192–7; Willis 2016b, 246–7). The silty group at King Harry Lane is used in the production of a different range of vessels to those found at Stanwick and Scotch Corner, which includes flagons, lagenae, honeypots, butt beakers, and lid-seated and globular jars. The butt beakers are not of form Cam 112 and the jars are not the same as those made in this ware group at Scotch Corner. The butt beakers have everted rims with expanded tips, more like Cam 113 butt beakers rather than the Cam 112 lentoid rims. At King Harry Lane, this group also included a cream-slipped version not found at Scotch Corner. On typological grounds, it seems unlikely that the Scotch Corner and Stanwick group belong to this ware group, which was possibly produced around St. Albans. Even at King Harry Lane, the fabric analysis of the silty wares did not preclude a Continental source (Rigby 1989, 265; Willis 2016b, 246). Given the association of these wares at Scotch Corner with the early imported fine wares, together with their typological dating to the Tiberian-Claudian period, it is likely that these vessels belong to this early period and, like the other wares in this group, are imports, perhaps from a similar region as the other Cam 112 and girth beakers in TR3 at the Marne-Vesle potteries.

Willis has inspected pottery from Binchester and Thorpe Thewles that belongs to this silty ware group (both body sherds; Willis 2016b, 247). However, the sherd from Thorpe Thewles (microfiche pottery catalogue no. 35, RF98, weighing 2g; Millett 1987a) is in fabric 11, which is described as yellowish buff, oxidised fabric, tempered with abundant translucent quartz and ferric inclusions. This fabric would not fit with the A1 scheme silty ware group but is more like the slightly later oxidised wares where ferric inclusions were distinctive. The author favours a Continental source for this silty group on the grounds of their similarity to TR3 sherds identified by Timby at Scotch Corner.

Three other wares of unknown origin were used to make related vessels in Period 1–2. Initially, some OAA8 sherds were thought to belong to the TR3 group and these could yet be variants within this group. This rather fine sandy ware had a red slip and was used to make butt beakers, which are of Cam 112 type where known. The BSA ware group fabric GRA28 is a fine sandy ware with dark grey/black surfaces and was used to make developed butt beakers, including one with a lentoid rim, and beakers with short everted rims (Cat. nos 356, 387, 525 and 571). The forms point towards a date in the Claudian-Neronian period. Stratigraphically, most of the sherds in this fabric came from Period 2, suggesting it belongs in the same broad horizon as the Gallo-Belgic wares. A date in the Claudian period is likely and the decline in numbers after Period 2 suggests it does not belong to the Neronian period.

Three fabrics were identified in the North Gaulish white ware group: NOG WH3, NOG WH3 variant, and FLA38 (482 sherds, weighing 1537g, 3.61 EVEs). NOG WH3 was compared closely with the description and photographs in the National Roman Fabric Reference Collection (NRFRC) for fabric NOG WH3 and Timby confirmed that samples of this group were North Gaulish white wares. A group of nine sherds were picked out as being slightly different from the rest of the NOG WH3 sherds (NOG WH3 variant; 86g; 0.19 EVEs) and these may be from a different kiln or a source in the south of Britain. There is some difference of opinion over the source of NOG WH3. At King Harry Lane, neutron activation analysis grouped the only NOG WH sherd sample with the other Gallo-Belgic imports of terra nigra and terra rubra, but Rigby (1989, 137) concluded that neither thin-section nor neutron activation analyses were able to group these Gallo-Belgic fine wares in a meaningful way or attribute them to a source. Pitts (2017, 59–60) considers NOG WH3 beakers to be locally produced at *Camulodunum* and cites the original view of Hawkes and Hull (1947, 238) and also that of Niblett (1985, 23), in contrast with Timby (2000; 2013, 169) and Rigby (1989, 137). Ben Redjeb (1985, 164) notes that the fabric of those at Amiens is different to that from the British sites and suggests Continental potters produced the Cam 113 beakers at *Camulodunum*. Willis (2016b, 246, fig. 25.2) accepts a Continental origin for the beakers in this ware at Stanwick.

All the NOG WH3 sherds came from beakers of Cam 113 types (our type KA1). The sherds tended to break into small fragments, thus inflating the sherd count for this fabric group. The rims often broke where they joined the body, making it difficult to identify the type of rim present. Rigby (1989) divided this form group into subtypes based on rim, body and decoration. Many of the sherds recovered during the A1 scheme are small, making the reconstruction of the body form impossible. The earliest types of this beaker are barrel-shaped with hollow cordons, a short neck and small rim, and are given a late Augustan date range. None of the A1 scheme vessels can be assigned to the barrel form with any certainty and only one sherd had a hollow cordon. A later development of this early form is characterised by fewer cordons and more grooves or burnished bands on the body, as well as deeper rims with neck cordon and inner cornice. Most of the beakers from Scotch Corner seemed to be relatively sinuous, with a straight neck and concave lower body, as per Rigby's (*ibid.*) type B. Only one sherd had a hollow cordon and the other body sherds had grooves and burnished bands dividing the zones of rouletting on the body, as per Rigby's (*ibid.*) type E and following. The rim forms were deep, and a neck cordon was frequent. A point of weakness was introduced by the inner cornice at the neck. The rims broken at this point were likely to have had an internal cornice that introduced this weakness and thus belong to Rigby's (*ibid.*) type 2. Only one late rim type with no outer cordon was identified. The majority of the vessels seem best placed in Rigby's (*ibid.*) types 2B2, 2C2, and 2D2 range. This range begins c.AD10–40 with 2B2 and develops with types 2C2–2D2, which differ in having no hollow cordons but do have grooves, as well as burnished bands on the body, into the Tiberian-Neronian period (*ibid.*, 136–41). Simpler rims and taller, slimmer body forms developed and were dated by Rigby (*ibid.*) to the Claudian-Neronian period. The re-dating of *Verlamion* by Haselgrove and Millett (2016) would put the start date for this cemetery c.10/1BC and the end date at c.AD40/50. This places the A1 scheme

Table 5.58: relative proportion of ware groupings from Period 3 features (excluding amphorae from overall proportions).

Wares	No.	Weight (g)	RE	Average weight (g)
Local	16.20%	15.24%	5.49%	9
Local?	15.68%	16.78%	24.45%	10
BSB group	10.54%	9.70%	16.76%	8
Early gritty ware 1	5.14%	5.67%	7.14%	–
Early gritty ware 2	1.03%	1.13%	1.92%	10
Traded/non local	19.02%	17.63%	12.91%	8
P2	6.43%	3.02%	9.34%	4
Samian	10.80%	14.80%	21.98%	13
Mortarium	2.06%	4.63%	–	21
HM	12.60%	11.33%	–	8
Unknown	0.51%	0.07%	–	1
Absolute numbers (incl. amphora)	613	7447.4	430.5	9
% of amphora	36.54%	52.34%	15.45%	17

vessels, which belong in the middle range of Rigby's typological series, into the same date range as the terra rubra, terra nigra and silty ware vessels described above.

At Amiens, where a great many of this type of butt beaker have been found, it is notable that that 95% of this type came from the Tiberian-Claudian period, with a drop to 4% in the Neronian period (type 30; Ben Redjeb 1985). Our examples fit into this group, and a date range in the Tiberian-Claudian period is upheld by this evidence. More recently, Chaidron (2012, 48) notes that this form, with its internal cornice, is typical of the Julian-Claudian period, with this feature disappearing c.AD60/80.

As well as the Cam 113 butt beakers, 29 sherds from flagons in a similar white ware (fabric NOG WH2; 310g, 0.38 EVEs) were found. Two of the classic North Gaulish flagon forms were found in this fabric: a collared rim and a reeded-rim flagon (type FH1 and FH3). The first type belongs to Cam 161 (Hawkes and Hull 1947) and Rigby's (1989) group GL6, while the second is of Cam 163A and Rigby group GL12; both date to the Tiberian-Claudian period. These vessels are thought to come from northern Gaul or Lower Germany.

One white ware sherd had the diagonal decoration en barbotine, characteristic of the Cam 114 beaker form (KA5, in Period 2–3; Cat. no. 389). This type is found on the Continent before 10BC (Rigby 1989, 134–5). Rigby dates it as late as the Tiberian-Claudian period, with copies perhaps in the Flavian period. The fabric is part of the less distinctive white ware group (FLA35) but belongs in the imported white ware group typologically. Nine further body and basal sherds and a small round-sectioned handle in FLA35 came from Period 2 contexts. The handle was perhaps from an early honeypot-type vessel (HP; Cat. no. 357). The basal sherds had footrings and are likely to be from flagons. Their origin and date have not been established, although Rigby (1989) suggests a Tiberian-Claudian date range.

Only a small scrap of Pompeian red ware (PRW1) was found in Period 2, with a further smaller scrap from Period 2–3. None of these were diagnostic but small sherds from at least two platters of Peacock's (1977) type 1 came from later Periods and the undiagnostic sherds are likely to come from similar vessels. Peacock found that this ware is present in Britain from c.AD10 and ceased production after the Vesuvius eruption in AD79, although examples doubtless continued in circulation a little after that date.

A small number of sherds from Period 1–2 and 2 lie outside this group of well-defined wares and are less firmly dated. Three white/cream ware fabrics (FLA35, FLA36 and FLA37) are of unknown source. FLA35 diagnostic sherds include a small handle, perhaps from the so-called early honeypot form, and a handled jar, while a rouletted sherd in FLA36 may be from a butt beaker. FLA36 and FLA37 are fine and silty, like the oxidised silty wares. These may have come from the same source and were imports. However, the forms in these wares from later Periods include later forms, such as ring-necked flagons and ring-and-dot beakers; thus, a later date is possible, and they could belong to the final fills of the Period 2 features. The FLA37 group is of unknown origin.

A single sherd with shell temper—a pedestal base or perhaps a lid knob (Cat. no. 376)—came from Period 2. The date of this is uncertain but comparison with pedestal pots from Dragonby (group 3; Elsdon 1996, 413) provide a possible parallel. At Dragonby, such vessels date from ceramic stage 1–8/9. Stage 8/9 has been dated to either side of the Claudian invasion of Britain.

Table 5.59: Period 3 vessel forms in the BSB ware.

Ware	Fabric	Type series	Form description	No.	Weight (g)	Rim %
BSB group	GRB69	–	–	1	1.9	–
	–	Closed vessel	Closed vessel	1	3.6	–
	–	JM	Jar with zones of decoration, usually some form of combing demarcated by cordons and grooves	1	2.5	–
	–	JX	Stabbed body jar	1	4.6	–
	–	JX1	Stabbed body jar with everted rim	1	13.1	19
	GRB70	Closed vessel	Closed vessel	12	139	–
	–	JW	Rilled jar	1	24	–
	–	JX	Stabbed body jar	1	1.9	–
	–	KC1	Round bodied globular beaker with everted rim	2	24.1	18
	GRB72	BJ1	Carinated grooved bowl with everted rim	14	87.2	24
	GRB73	–	–	1	4.9	–
Total				**36**	**306.8**	**61**

There were 24 body sherds in contexts belonging to Period 1–2 and 2 that do not fit into a Tiberian-Claudian date range. These are in fabrics FLA6, FLB2, GRB66, GRB68, OAB17 and OAB19, as well as three indeterminate oxidised scraps of uncertain type. The sherds in identified fabrics are Roman types and are best explained as signalling the latest contributions to the infilling of these contexts. They do not materially change the dating of the Period 1–2 and 2 features.

Period 3

Although Gallo-Belgic types are still present in small numbers (Cat. nos 383–92), and these further an understanding of the earlier Periods and the range of vessels coming to Scotch Corner, it is in Period 3 that Roman pottery proper arrives in quantity and hand-built pottery declines steeply.

The rest of the pottery assemblage comprises Roman vessel types (Table 5.58), many of which may be of local origin. The wheel-thrown wares of Roman type make up around 70% of the assemblage (excluding amphora sherds since their excessive fragmentation and weight skews the count and weight figures). It is difficult to imagine how such dramatic change in pottery supply is not linked to the historic events recorded by Tacitus in his *Annales* and *Historiae*.

Two ware groups were of note in Period 3: the BSB group and the early gritty wares. The BSB ware group includes fabrics that are often fired to a brown/grey/black colour with brown margins and are associated with potentially early forms thought to be of Neronian or early Flavian date, as well as smaller numbers of forms also found in Flavian levels at *Cataractonium*. The firing tends to be softer than the Flavian grey wares at *Cataractonium* and the clay preparation is different, with coarser inclusions being present in BSB wares compared to the *Cataractonium* Flavian grey wares. Five sub-fabrics were identified, four of which were in Period 3. By far the most common fabric was GRB69, which is typically dark grey to black with brown margins, as well as medium quartz and rare soft white inclusions. In Period 3, GRB69 was being used for the small jars with stabbed and combed decorative zones and a wide-mouthed jar with burnished lattice decoration (Cat. no. 406). The remaining forms made in GRB69 do not appear until Periods 3–4 and 4, suggesting that the use of this fabric began before the earliest rusticated jars and the reeded-rim bowls appeared at Scotch Corner. GRB70 has a fine matrix with sparse coarse quartz inclusions and could belong in the early gritty ware fabric GRC35. It is dark grey with a grey/black core. The vessel types in Period 3 were, like GRB69, restricted to forms with an earlier start date: the rilled jar, the stab decorated jar and a rouletted beaker or small jar. GRB72 may be a subset of GRB69 and is blacker throughout. Only the carinated bowl and stubby everted-rim jar were present in Period 3. GRB73 is also similar to GRB69 but has sparse coarse to medium vesicles and soft white inclusions. Only one GRB73 body sherd was found in Period 3.

The BSB ware group compares well to the transitional or Romanising wares at other sites, such as in the Midlands and the south of England, e.g. Leicester (Pollard 1994, 72–6), Lincoln (Darling 1988, 34) and *Camulodunum* (Hawkes and Hull 1947, 206). It was recognised by Willis in his study of 1st-century AD assemblages from the East and North-East of England as a group that was characteristic of some sites in the Claudian-Neronian period (e.g. Ancaster; Willis 1996, fig. 9). The pottery made at the kilns associated with the legionary fortress at Longthorpe consist solely of this type, with both 'Romanised table ware designs and native general-purpose pottery' identified amongst its repertoire (Dannell and Wild 1987, 135). At Longthorpe, it is suggested that potters could have come from south-eastern Britain, perhaps Colchester. Similarly, at Scotch Corner, potters and/or pottery vessels were not commandeered from amongst people working in the existing local potting tradition as their pottery was inadequate for Roman needs but may have come from further south in *Roman* Britain, from the Continent, or both. The soft white inclusions of this group may be limestone derived from local clays, but petrological and chemical analysis is required to determine the exact source(s) for this group.

The forms made in the fabrics of the BSB ware group are presented in Table 5.59. As can be immediately appreciated, this small group has a limited range of forms. These comprise jars with combing or stabbed decoration (Cat. nos 406 and 423), at least one rilled jar (a type more common in the early gritty ware group), a beaker or small jar with short everted rim and rouletted decoration, and a carinated bowl/beaker with zones demarcated by horizontal grooves. In addition, two further vessels were represented by body sherds only: a vessel with zones demarcated by grooves, probably a narrow-necked jar, and a vessel with a zone of grooved, acute lattice decoration from a jar or narrow-necked jar. The ancestry of the stabbed and combed jars, usually rather smaller than the rilled jars, cannot be attributed to the Pre-Roman Iron Age in Britain. Parallels for these jar types can be found at *Camulodunum* in the Cam 108 group of vessels. At *Camulodunum*, these are commonly stabbed (as type JX) or rouletted, but examples with combed wavy line are also known (Essex Society for Archaeology and History 1927, plate III, nos 5433 and 5375). Cam 108 has a date that ranges from just before the Claudian conquest to the Flavian period and later. Bidwell and Croom (1999, 472) cite Continental parallels at Nijmegen and Hofheim and suggest the type is only found in northern Essex. Niblett (1985, 50–1) demonstrates a date after the Claudian conquest for this type. At *Cataractonium* (Field 179), two jars with zones of stabbed decoration were also present (see Leary in Ross and Ross in prep.), although these had oblique lines of combed stabbed decoration or stabbed semi-circles unlike the all over stabbing on the vessels at Scotch Corner. Another vessel from Field 179 had combed lattice decoration, but again this is unlike the curvilinear, often discontinuous combing on the vessels at Scotch Corner. The fabric and form combination at Scotch Corner points towards a date early in the suggested range, in the Neronian or early Flavian period. The Continental parallels suggest this is a Roman military type rather than of Gallo-Belgic origin. A similar date range is suggested for the small Period 3 rouletted jar or beaker in BSB ware on account of its fabric.

The carinated bowl type is a difficult vessel to date precisely but sits happily amongst a range of similar vessels produced at this time elsewhere in Roman Britain with a wide variety of individual finishes, sometime cordoned on the shoulder and decorated on the neck with burnished or grooved lattice designs. These developed from early Pre-Roman Iron Age vessels made both on the Continent and in Britain, as near to Scotch Corner as Holderness, East Yorkshire and Lincolnshire (type 4 in Elsdon 1996, nos 256 and 303; Cumberpatch 2016, fig. 97, nos 110–11; Leary 2016, fig. 102, no. 78; type VRSJ and wheel-thrown vessels in Leary and Cumberpatch 2016, 53, fig. 29, nos 38, 40 and 49). This vessel type compares rather better with types from sites such as *Camulodunum* and Longthorpe (Cam 218 and 219; type 39 in Dannell and Wild 1987). The fragments with lattice decoration, as well as those with cordons/grooves, cannot be dated precisely but fit well in a Claudian to Neronian date range.

The source of the BSB group is uncertain. Overall, a late Neronian and/or early Flavian date range fits this ware/form group and the later types in BSB fabrics that were found in Period 4 were not in Period 3. It would be possible, of course, for them all to be early Flavian in date, but a pre-Flavian date cannot be entirely discounted.

The other fabric groups that were probably local are the early gritty wares. These can be divided into two subgroups: early gritty ware 1, comprising the smoother GRB77 and GRB78 fabrics, which are usually dark grey or black with moderate coarse quartz and sandstone, resulting in a glittery effect but lacking the abundance of protruding grains of group 2; and early gritty ware 2, consisting of the GRC gritty wares, which are characterised by moderate coarse quartz inclusions that often protrude from the surfaces, creating a sandpaper effect.

Only a small group of 24 sherds belong to this early gritty ware group from Periods 2–3 and 3. These were predominantly from rilled body jars (Cat. no. 403, mostly early gritty ware 1), a narrow-necked jar with bead rim (Cat. no. 411, early gritty ware 1) and a remarkable bowl with curving body and grooved rim, which overhangs both inside and outside the bowl body (Cat. no. 396, early gritty ware 2). Examples of rilled body jars were found at Stanwick (where a Belgic origin in Hertfordshire was sought; Wheeler 1954, fig. 11, no. 29). Willis (2016b) identified a similar jar (no. 127) from the later excavations, although this lacked the diagnostic body, which he related to the Wheeler jar and illustrated in the Iron Age tradition pottery group; however, he refers to it as clearly Roman (*ibid*., 251). Both this vessel and the Wheeler jar were wheel-thrown. Willis further suggests that the rim form is not unlike some Flavian–Trajanic jars and posits that these vessels may be the start of a 'transition in pottery manufacture in the pre-Flavian period at Stanwick' (*ibid*.). The fabric at Stanwick (fabric 109) is described as a hand-built, quartz grain tempered ware, with sherds often unoxidised throughout, although occasionally surfaces were oxidised. Fractures are usually hackly, and the fabric is hard. The matrix is packed with abundant translucent quartz grains (angular to sub-rounded), which glitter, giving the fabric a distinctive appearance. This temper may derive from disaggregated sandstone. Occasionally, larger fragments of quartz are present (c.2–3mm), although these are rare. Very fine mica is probably also rather frequent in this fabric type but is often difficult to differentiate from the glittering quartz. Some exterior surfaces display particularly careful finishing. Early gritty ware 1 from the A1 scheme corresponds closely to this ware. Willis's fabric 109 includes the hand-built and wheel-thrown fabrics, whereas the A1 group is all wheel-thrown.

Examples of fabric GRB77 and GRB78 were submitted to Williams, who commented that the reduced fabric of both is very similar and consists of a hard clay body that contains large, frequent, clear and opaque grains of quartz and quartzite. These have erupted through the surface, giving the sherd a distinctly 'gritty' feel. Small pieces of iron ore are also present, together with small fragments of a quartz-sandstone, although Cat. no. 572 (GRB78) also displays a rather large piece in the core. A production source local to Scotch Corner seems unlikely, since the site is situated on deposits of Carboniferous Limestone, with Magnesian Limestone nearby (see Fell, Chapter 1), and there seems to be little in the way of limestone inclusions in the above fabrics. A better prospect might be to the east and south-east, where there are Triassic formations. This is not dissimilar to Williams's description of Stanwick fabric 38 as exhibiting:

> …large inclusions of quartz-sandstone and arkose sandstone scattered throughout, together with large grains of quartz and quartzite ranging up to 2mm across in size. Deposits of Carboniferous Sandstone can be found in the Stanwick area and may account for some of these sandstone inclusions. However, … the presence of two quite different types of sandstone strongly suggests that in this case local Boulder Clay was used.
>
> (Williams 1990, VI)

The rilled body jar form (JW) is paralleled on Neronian military sites, both in Britain and on the Continent. So-called furrowed jars are known from Sheepen (type 260, only found at Sheepen: Hawkes and Hull 1947; Bidwell and Croom 1999, 479) and, although given a start pre-dating the Claudian conquest, are most common in contexts dated to c.AD43–65. Hawkes and Hull (1947) provide parallels for the form on the Continent in Augustan military groups at Haltern, and further examples are noted from sites such as *Vindonissa*

(Ettlinger and Simonett 1952, 21, taf. 1, no. 25 and taf. 2, nos 33–4; Ettlinger 1977, 48), where a date from the first period (AD17–45) through the second half of the 1st century was suggested. Similar, though not identical, rilled jars were also made at Longthorpe, in the military kilns of Claudian-Neronian date near Peterborough and are associated with the vexillation fortress at Longthorpe in a quite different fabric (types 68, 71 and 109; Dannell 1987). The type has not been identified on sites established in the Flavian period in the north of England.

The early gritty ware 2 bowl is related to a group of rounded bodied bowls from Period 4 that belong at the beginning of the reeded-rim bowl series and are paralleled in Neronian and earlier contexts in Britain, and even earlier at military sites on the Continent. These vessels appear to have a rounded rather than a carinated body, and the reeds on the rim are rounded and prominent, contrasting with those found on the later reeded-rim bowls, which are really just grooves on a fairly flat rim surface. Greene (1993, 35–6) traced the ancestry of the British reeded-rim bowl series to Augustan period bowls with both round and flat bottoms from the Continental military and civilian sites (types 499–504 in Gose 1950). Greene (1993) also notes that the distinction of carinated versus round bodied in Britain has been used as a chronological indicator and stresses that this is not the case on the Continent nor, indeed, in the assemblages at Usk. Greene (*ibid*.) demonstrates both the widespread distribution and longevity of the form at Sutri, Italy, through to the provinces. He draws attention to a round-based carinated bowl from *Camulodunum* that may pre-date the Claudian conquest (type 243; Hawkes and Hull 1947). At Colchester, Bidwell and Croom (1999, 478) provides the round-bodied bowl with a date in the Claudian-Neronian period, while the carinated bowls continue further into the 2nd century. At Southwark, Marsh and Tyers (1978, 571) likewise note a decline in the round-bodied bowls in the Flavian period. Round-bodied bowls with rounded reeds or moulded rims occurred at Exeter from Neronian levels, and similar vessels can be found at Fishbourne. This treatment of the rim, with its bulbous well-rounded reeds and sometimes upswept rim edge, contrasts with the flat grooved rims of the Flavian–Trajanic period and, given its scarcity at *Cataractonium* (see Leary in Ross and Ross in prep.), a Neronian or very early Flavian date range is suggested.

The gritty fabrics in early gritty ware 2 are very similar to the description of Exeter Fortress Ware B (dated to c.AD55/60–75: Holbrook and Bidwell 1991, 149) and since the bowl forms made in Exeter Fortress ware also include similar bowls, it was even more important to determine the source petrographically. Exeter Fortress ware vessels, including bowls of this type, have been found at Flavian sites in the North, including Camelon, York and Ebchester (Swan and Bidwell 1998). The forms in this ware from these sites are predominantly jars with flat-topped rims, although a tripod bowl, a reeded-rim bowl similar to the BCb group from the A1 scheme and a beaker were also found at Camelon, and lids at York. Only the group from Camelon includes a bowl type like the BCb group (pot no. 65; King and Swan forthcoming). However, there are no flat-topped rim jars at Scotch Corner and this ware group was used to make other forms in Period 4, such as the rilled jars and stabbed beakers, which do not occur in the repertoire of Exeter Fortress ware.

Samples of the GRC2 group were submitted to Williams and Bidwell. Williams (pers. comm.) noted that, like early gritty ware 1, the GRC36 group had large, frequent, clear and opaque grains of quartz and quartzite which have erupted through the surface, giving the sherd a distinctly 'gritty' feel, but was a somewhat coarser, more oxidised, version. One sample also showed evidence of a light-coloured slip on the inner surface and rim. Like the early gritty ware 1, the lack of limestone suggested that a source in the vicinity of Scotch Corner was unlikely, and a source to the east and south-east is again suggested here. Bidwell (pers. comm.) also examined the sherds and noted that, although they superficially resemble Fortress Ware B, they differ enough in detail to rule out an Exeter source, which usually has a better-sorted fabric with more frequent smaller quartz. In addition, most of the Exeter Fortress ware bowls have thinner walls than these and are more highly fired. None of the profiles are close matches to the Exeter type series, although there are certainly general resemblances. Therefore, the source of these early gritty wares cannot be firmly established without scientific analysis of the fabrics, but the evidence, such as it is, rules out possible distant sources and raises the possibility of a local source to the south or south-east of the site.

An ill-defined group of oxidised and reduced wares also occurred in Periods 2–3 and 3. This comprised small, abraded, undiagnostic body sherds and are not dealt with in detail here, since they cannot be dated more precisely than the Roman period. Fabrics GRA30, GRA32 and GRA35, although only found as undiagnostic sherds in Period 3, were used to make types such as the rusticated jars with subdued arching rustication and the carinated bowls with flat rims grooved to form reeds, which are common at Flavian sites. GRA32 was also used to make the rilled jar type discussed above under early gritty wares, so the group as a whole could begin as early as the Neronian or early Flavian period. Without diagnostic sherds, and given this early type, the presence of sherds in these fabrics cannot definitively date the contexts to the Flavian period.

The medium coarse grey wares from Period 3 comprise GRB66 and one or two sherds each in GRB71 and GRB76. These fabric groups included certain Flavian forms and vessels that may be Neronian in date. GRB66 is the only fabric in this group with diagnostic vessels from Period 3, which comprised: sherds from jars with a rim similar to those found on the rilled jars (Cat. no. 405); a small jar or beaker with short neck and bead rim similar to Cam 104 (Cat. no. 393), which is dated to c.AD60/65+; sherds from a carinated bowl or jar; and a butt beaker type rim (Cat. no. 382). The dating of these sherds is not precise enough to be certain that they are not Neronian, as well as Flavian, in date.

Amongst the oxidised wares, upright, ring-necked flagons were present in Period 3 in fabrics OAA13 and OAB19 (Cat. no. 381), a tazze base in OAB20 (Cat. no. 395), and ring-and-dot beaker in OAB22. All these types can be paralleled in late Neronian and Flavian contexts elsewhere (see below) so do not, in and of themselves, provide a Flavian *terminus post quem* for this Period. The Period 3 assemblage also included a flagon neck.

The pale pink wares (FLA36–7) and white wares (other FLA fabrics—see fabric descriptions in Appendix E) are predominantly body, basal and handle sherds from flagons, with just three forms: two ring-necked flagons (Cat. no. 396), one with upright, even-sized rings and one with a prominent, rather flat top ring (Cat. no. 400); and a larger vessel with a heavy beaded rim, ledged inside, with a cordon or ring on the neck (Cat. no. 380). The ring-necked flagons (in fabrics FLA43 and FLA39) respectively are of unknown origin and date to the second half of the 1st century AD. Ring-necked flagons with larger top rings tend to date later than those with evenly sized rings, but this example is quite unusual with its rather flat-lipped rim and compares with examples from *Verulamium* in pre-Boudican and early Flavian groups, as well as later Flavian groups (Frere 1972, fig. 101, no. 60, fig. 102 nos 102–3, 106 and 107, and fig. 107, no. 238). The larger flagon with beaded rim is in FLA44 (Cat. no. 380), identified as a fine version of the *Verulamium* white ware by Williams and is likely to be contemporary with the *Verulamium* mortaria, which formed a major component of mortaria groups in the North during the later 1st and early 2nd century. These commenced production c.AD50/55 but perhaps arrived in the north from c.AD60. None of the white and pink wares are local and, although FLA44 may be from *Verulamium*, others may have closer sources, such as Lincoln (e.g. fabrics PINK and CR: Darling and Precious 2014, 51–62). However, further fabric analysis would be required to demonstrate this. It must also be noted that Aldborough produces white wares at a later date and white wares were also being made around Castleford from the early Flavian period.

Two remaining groups (a GTA and a CT) had just three forms: a GTA platter copying terra nigra platters (Cat. no. 409); CT wide-mouthed jars with everted rim; and a CT bead rim jar with undercut (Cat. no. 412). The platter type is a simple form that continues into the late 1st and early 2nd century as Cam 16 and Gillam 337; its origin is unknown. The CT jars may belong to the group of wide-mouthed jars with bead and undercut rims known from Lincolnshire in the Early Roman period (Late Iron Age to Claudian-Neronian; Darling and Precious 2014, fig. 72, nos 734–5).

Overall, the small ceramic assemblage from Period 3 is made up of types that can be dated from the late Neronian to the Flavian period, with one or two types with a post-Boudican date range. The assemblage lacks the definitively Flavian pieces found in Period 4, and it is therefore possible that the activity it represents took place in the late Neronian period. However, all the coarseware fabrics are also present in Period 4, and it seems more likely that Period 3 precedes Period 4 by only a short time, perhaps only months or a year at a time when Roman pottery became available to the settlement at Scotch Corner and the Roman military specifically had set up nearby, but were not at the site.

Period 4

The most striking feature of the Period 4 assemblage is the contrast in fabric and form groups at Scotch Corner, but that is rare or absent in the Flavian groups at *Cataractonium*. The BSB and the early gritty ware groups, as well as vessel forms such as the stabbed, combed and rilled jars and the round-bodied bowls, are absent or very rare at *Cataractonium*. Similarly, in the case of types common at *Cataractonium*, such as the grey ware jars with rustication in lower relief and the carinated reeded-rim bowls, these are relatively less common at Scotch Corner compared to the Flavian groups at *Cataractonium*. As these types also have different chronological signatures, it is suggested here that the overlap marks the end of the Period 4 settlement at Scotch Corner around AD80/90 rather than different kilns supplying the two settlements.

The coarseware groups found in Period 3 are also present in Period 4, namely the early gritty wares, the BSB group, grey ware GRB66 and oxidised ware OAB19, but there is a greater increase in the range of both wares and vessel types in these wares, as well as changes in the proportion of some wares.

The proportions of early gritty wares 1 and 2 do not change markedly in Period 4 but more vessel types are made. The dominant form in early gritty ware 1 (fabrics GRB77 and GRB78) was the rilled jar type (see above for discussion of this type in Period 3). In addition to these, a small number of other forms were found in these fabrics, including rusticated sherds (at least one of which may be hand-built) and a jar with stubby everted rim and zone of combed decoration (JY1: Cat. no. 523). Similarly, a wider range of vessel types were found in early gritty ware 2 from Period 4 contexts. The deep, round walled bowls were common and had a variety of rims worked into rounded reeds or sweeping flanges (BCb group: Cat. nos 431–5). These contrast with the reeded rims of the reeded-rim bowl series with carinated walls or walls with a somewhat rounded carination (Cat. nos 418–30). As outlined previously, these have a pre-Claudian ancestry on the Continent (Oberaden in the 1st century BC; Albrecht 1942, abb. 7, nos 30–2) and affinities with vessels found in Neronian contexts in Britain at Exeter (Holbrook and Bidwell 1991, 145) and Fishbourne (Cunliffe 1971b, fig. 92, no. 91). At *Camulodunum*, a similar rim form was seen in tripod bowls (type 45B: Hawkes and Hull 1947), which have been dated to the Claudian-Neronian period by Bidwell and Croom (1999). Swan suggests these are a Gallic import (2009, 36–7, fig.

Table 5.60: Scotch Corner BSB ware group vessel types, comparison of Periods 3 and 4.

Period			**3**			**4**		
Fabric	Type	Form description	No.	Weight (g)	Rim %	No.	Weight (g)	Rim %
GRB67	–	–	–	–	–	2	4.4	–
GRB69	–	–	1	1.9	–	98	532.3	–
	B	Everted rim bowl	–	–	–	1	7.4	7
	BC1	Reeded-rim bowl	–	–	–	7	124.8	31
	Beaded rim	Beaded rim	–	–	–	2	39.8	–
	BJ	Carinated/cordoned bowl	–	–	–	1	6.8	–
	BJ2	Carinated cordoned bowl with bead rim	–	–	–	5	46.2	26
	BJ3	Carinated bowl with long neck and bead rim	–	–	–	20	259	51
	–	Cordoned bowl with rebated rim	–	–	–	2	49.8	19
	CAR	Carinated	–	–	–	3	14.2	–
	Closed vessel	Closed vessel	1	3.6	–	125	837.8	–
	DP1	Flat rim bowl/dish	–	–	–	1	14.6	5
	Everted rim	Everted rim	–	–	–	6	29.7	26
	Footring	Footring	–	–	–	6	67.5	–
	J	Jar	–	–	–	2	10.4	–
	JA1	jar with short everted rim	–	–	–	15	131.1	163
	JE	jar with rectangular profile everted rim	–	–	–	1	22.4	11
	JJ4	Internally bevelled bead rim jar	–	–	–	1	9.7	10
	JM	Barrel jar similar to LG with zones of decoration demarcated by cordons and grooves	1	2.5	–	109	400.3	10
	JM1	Short everted rim barrel jar with zones of decoration demarcated by cordons and grooves	–	–	–	59	397.2	123
	JM2	Jar with short everted rim, bevelled internally with neck cordon	–	–	–	2	19.1	8
	JR	Rusticated jar	–	–	–	74	596.5	–
	JR1	Rusticated jar with short everted rim	–	–	–	81	905	138
	JR5	Rusticated jar with short rebated rim	–	–	–	12	89.3	36
	JVA1	Rebated rim jar with grooved shoulder	–	–	–	1	5.7	2
	JW	Rilled jar	–	–	–	6	21.1	–
	JW1	Jar with everted, blunt ended rim	–	–	–	5	61	6
	JW4	Jar with triangular rim, flat on top	–	–	–	1	60.2	20
	JX	Stabbed body jar	1	4.6	–	10	34.9	–
		Stabbed body jar with everted rim	–	–	–	1	7.7	–
	JX1	Stabbed body jar with everted rim	1	13.1	19	59	529.8	150
	JX2	Stabbed body jar with rebated rim	–	–	–	6	65	39
	K1	Everted rim beaker	–	–	–	1	6.7	14
	L	Knobbed lid	–	–	–	1	62.2	–
	LB	Lid with squared rim	–	–	–	2	6.3	6
	NJ1	Narrow-necked everted rim jar	–	–	–	27	163.5	24
	Plain	Plain	–	–	–	23	5588	–
	Simple base	Simple base	–	–	–	7	85.4	–
	Turned	Turned	–	–	–	13	56.14	–
	WJA	Wide-mouthed jar	–	–	–	2	22.6	–
	WJA1	Everted rim wide-mouthed jar/bowl	–	–	–	29	275.9	53
	WJA2	Wide-mouthed necked jar with bead rim	–	–	–	9	72.4	11

Table 5.60: Scotch Corner BSB ware group vessel types, comparison of Periods 3 and 4 (continued).

Period			**3**			**4**		
GRB70			5	37.6	–	41	582.3	–
	BC	Carinated bowl	–	–	–	7	21.7	–
	BC1	Reeded-rim bowl	–	–	–	8	210.7	33
	BC7	Reeded-rim bowl with three shallow grooves on rim	–	–	–	3	40.4	10
	BC8	Reeded-rim bowl with two shallow grooves, formed by folding over towards body	–	–	–	2	93.9	24
	Beaded rim	Beaded rim	–	–	–	2	9	–
	BJ1	Carinated cordoned bowl with everted rim	–	–	–	3	57.7	11
	Closed vessel	Closed vessel	12	139	–	13	85.2	–
	JA1	Jar with short everted rim	–	–	–	9	80.8	37
	JR	Rusticated jar	–	–	–	23	69.7	–
	JR1	Rusticated jar with short everted rim	–	–	–	2	23.8	15
	JW	Rilled jar	1	24	–	4	34.5	–
	JX	Stabbed body jar	1	1.9	–	4	13.8	–
	KA	Butt beaker	–	–	–	9	42.5	–
	KC1	Round bodied globular beaker with everted rim	2	24.1	18	–	–	–
	KP	Ring and dot beaker	–	–	–	1	4.3	–
	LA	Plain rim lid	–	–	–	1	4.9	5
	LD	Lid grooved on either side of bead rim	–	–	–	1	17.3	6
	Turned	Turned	–	–	–	1	4.3	–
GRB72			–	–	–	13	51	–
	BC1	Reeded-rim bowl	–	–	–	1	1.9	1
	BJ1	Carinated cordoned bowl with everted rim	14	87.2	24	–	–	–
	Closed vessel	Closed vessel	–	–	–	7	17	–
	Everted rim	Everted rim	–	–	–	3	17.9	19
	FT	Spouted flagon	–	–	–	1	32	15
	JM	Barrel jar similar to LG with zones of decoration demarcated by cordons and grooves	–	–	–	5	46.8	–
	JM2	Jar with short everted rim, bevelled internally with neck cordon	–	–	–	60	535.9	62
	JR1	Rusticated jar with short everted rim	–	–	–	3	30.5	22
	JW1	Rilled jar with stubby rectangular everted rim	–	–	–	1	11.2	9
	K1	Everted rim beaker	–	–	–	2	38.2	30
	NJ1	Narrow-necked everted rim jar	–	–	–	1	14.5	13
GRB73			1	4.9	–	6	24.2	–
	Closed vessel	Closed vessel	–	–	–	10	91.3	–
	JA1	Jar with short everted rim	–	–	–	1	14.8	10
	JJ4	Internally bevelled bead rim jar	–	–	–	3	51	18
	JR	Rusticated jar	–	–	–	5	39.7	–
	JR1	Rusticated jar with short everted rim	–	–	–	9	49.5	33
	JW	Rilled jar	–	–	–	8	63	–
	KA4	Butt beaker with tall everted rim, blunt ended rim	–	–	–	1	50.2	21
	LA	Plain rim lid	–	–	–	3	118.1	12
	NJ1	Narrow-necked everted rim jar	–	–	–	1	32.9	20

Table 5.60: Scotch Corner BSB ware group vessel types, comparison of Periods 3 and 4 (continued).

Period			**3**			**4**		
GRB75	–	–	–	–	–	15	44.2	–
	Closed vessel	Closed vessel	–	–	–	11	94.2	–
	Everted rim	Everted rim	–	–	–	2	14.6	–
	JW	Rilled jar	–	–	–	1	12.9	–
	NJ2	Narrow-necked bead rim jar	–	–	–	1	8	10
	Plain	Plain	–	–	–	2	54.1	–
		Total	**41**	**344.4**	**61**	**1148**	**14,696.24**	**1425**

4, no. 32). In the case of a similar vessel in Exeter Fortress ware, Swan (*ibid*., 35, fig. 4, no 28) suggested a Gaulish potter was working at Exeter to produce the tripod bowls that were represented at the site by feet. No such feet were identified at Scotch Corner in early gritty ware or in the BSB wares, although tripod feet in a finer fabric were present. An example of a round-bodied bowl with a similar rim form to types BCb1 and BC5 is also found at Elginhaugh (types 156–7: Dore 2007). Dore (*ibid*., 306) recognises the round-walled body associated with these rim forms as an early form most common on pre-Flavian sites, citing examples from pre-Flavian groups at Usk, Gloucester, *Camulodunum* and Longthorpe (see also nos 243, 244 and 246 in Hawkes and Hull 1947; Darling 1977, figs 6.4 and 6.11; type 58B in Dannell and Wild 1987). Dore also provides examples of the rounded-bodied bowls at Newstead (Curle 1911, fig. 26, no. 11), Corbridge Red House (Hanson *et al*. 1979, fig. 17, no. 73) and Inchtuthil (Darling 1985, fig. 100, no. 59). These parallels are only for the rounded body form; the rim forms are unlike the A1 scheme early gritty ware 2 bowls, apart from Elginhaugh type 157, and perhaps type 156. Thus, the parallels overwhelmingly point to an early date for this type group and where it is found in Flavian contexts, such as at Elginhaugh.

In Period 4, other forms found in gritty ware 2 included: the rilled jars (JW1 and JW3: Cat. nos 508–515) made predominantly in gritty ware 1 fabrics GRB77 and GRB78; a storage jar with stabbed decoration on the shoulder (JE: Cat. nos 476–7 and 479); small jars with simple everted rims (JA1 and JA3: Cat. nos 472 and 474) and those with D-shaped rims (JJ4: Cat. no. 483); a jar with rebated neck and everted, slightly rebated rim (JN1: form as Cat. no. 492); a small jar form with stubby everted rim and zones of curvilinear combed decoration (JY1: Cat. no. 523); jars with stabbed surface finish (JX: form as Cat. no. 521); a beaker/jar with short neck and beaded rim (KT5: as Cat. no. 393); a rebated-rim jar (JVA1: form as Cat. no. 505); rusticated body sherds (including a hand-built example); and a plain-rim and a bead-rim lid (LA and LE). The range of vessel forms made in gritty ware 2 and its overlap with vessels made in gritty ware 1, the BSB group and the grey wares, such as GRB66, suggests a common, local source.

In the BSB group, there is a large increase in the range of vessels being made (Table 5.60). The Period 3 carinated bowls and jars with combed, stabbed and rilled surface finishes were still present, but forms typical of the late Neronian period, such as jars with thick lumpy rustication, and forms typical of Flavian groups in the North, including jars with subdued arcing rustication and carinated bowls and reeded-rim bowls with flat rims and grooved reeding (Cat. nos 67, 70, 77, 85–8) are particularly worth noting. As well as the everted rim jars with combing, stabbed or rusticated decoration (Cat. nos 476, 484–6, 488–9, 491, 497, 500, 503, 518–21) some jars had a rebated rim (Cat. no. 522). One ring-and-dot beaker in this group also belongs to the Flavian period, while a developed butt beaker form (Cat. no. 527) may be Neronian or Flavian in date. It is also in Period 4 that lids and narrow-necked jars are found (Cat. nos 552 and 557).

The hand-built wares decline numerically but increase in terms of the range of fabrics present, indicating that most of this material is redeposited from Periods 1 and 2. Similarly, the levels of Period 2 imported wares remain the same. The shell-tempered wares decline and are best considered residual, but the GTA wares change in composition and are used to make a plain-rim platter (Cat. no. 409), a rilled jar and a narrow-necked jar with everted rim (Cat. no. 559). The overlap in form with the gritty grey wares thus makes a local source likely for the GTA group.

The oxidised wares increase in quantity, particularly fabric OAB19, for which the vessel type range is extended from just flagons to include carinated reeded-rim bowls (Cat. nos 418–19), hemispherical flanged bowls (Cat. no. 437), reeded-rim jars (Cat. nos 478 and 480), jars with rebated, bead and short everted rims, and rebated neck jars with everted and slightly rebated rims (Cat. nos 469, 495 and 506). The flagon range was also extended to include later types, such as splayed-neck ring-necked flagons (Cat. nos 460–1) and other Neronian–Flavian types, e.g. disc-mouthed and spouted flagons (Cat. nos 447–9 and form as Cat. nos 465–7). Ring and dot beakers (Cat. no. 532), lids, a plain-rim platter (Cat. no. 569), a colander and a cheese press (Cat. nos 580 and 582) were also identified. Fabric OAB19 was similar to oxidised wares at *Cataractonium*; however, it was slightly different in texture and was differentiated on that basis. In the case of fabrics OAB and OAB1, although uncertain, these are quite likely to be variants of OAB19 and were used for similar types, with the addition of a rusticated jar in OAB and a carinated bowl with moulded rim in OAB1. Fabrics OAB17, OAB21 and OAB22 were used to make ring-necked flagons, with OAB22 also used for a jar with thick nodular rustication. These fabrics are also likely to be variants of OAB19 and none were identified at *Cataractonium*, except for a single OAB17 body sherd from a 2nd century context at Fort Bridge (Field 176FB). Minor medium buff wares (OBB) were identified in similar forms to the OAB19 group and contributed only 1–2% of the whole assemblage. The fabrics, although differentiated in the archive, can be included here as variant firings of the basic OAB19 fabric group. The OAB19 fabric group was macroscopically similar to some of the Scotch Corner Gillam 237 mortarium fabrics.

A group of fine oxidised wares included body sherds from rouletted beakers (perhaps developed butt beakers), ring-neck and disc-mouthed flagons, rusticated jars, a bowl with moulded rim, a reeded-rim bowl, a lid and a plain-rim platter (Cat. nos 415, 446, 464 and 550), all of which were Neronian or early Flavian in date. The fine oxidised group fabrics are very fine and silty and are unlike the common oxidised ware at *Cataractonium*, although similar forms were found in Flavian levels. They are united in having sparse fine quartz of c.0.2mm and fine and medium rounded red-brown inclusions. One group (OAA14) is quite similar to the Period 2 silty wares (OAA7) but has larger and more frequent quartz inclusions and lacks the micaceous surfaces. The forms comprised: a ring-necked flagon with upright rims (Cat. no. 464); carinated bowls with moulded rims; neckless everted-rim jars, including two with rustication; a flat-rim bowl with single groove on the rim surface (Cat. no. 426); a plain rim lid; and body sherds with rouletting, cordons and an incised lattice decoration, perhaps from a developed butt beaker. The diagnostic vessels suggest a Neronian and early Flavian date range. The ring-neck flagons are of the early type found at sites such as *Camulodunum*, Sheepen and Fishbourne in the Neronian period (type 154/ 155 in Hawkes and Hull 1947; dated to the pre-Flavian and Claudian-Neronian by Bidwell and Croom, 1999, 474–5). The carinated bowl with moulded rim belongs with a range of Early Roman carinated bowls with grooved or beaded rims, similar to type BB at York (Monaghan 1997) in late 1st- to early 2nd-century groups. At Colchester it is considered part of the Cam 326/331 group (Symonds and Wade 1999, fig. 6.7, no. 177) and is dated by Bidwell and Croom (1999, 483) to the Claudian-Neronian. However, it is absent at Sheepen. Types B3.31 and B3.32 at Wroxeter (type 77.1; Darling 2002; see also Evans 2000) are similar and are both from the legionary period of c.AD60–75. At *Cataractonium*, this form occurs in the earliest levels dating to the Flavian period. A late Neronian to Flavian date range is therefore suggested.

One small sherd in this group has linear rustication. Rusticated jars are known in Roman Britain from the Claudian-Neronian period at *Camulodunum* (type 99 in Hawkes and Hull 1947) and 37 were found in Neronian feature 246 at Sheepen (Niblett 1985). Bidwell and Croom (1999) also note 10 examples from Sheepen in periods IV–VI that are dated to c.AD49–65. In the midlands and the north, distinctive early rusticated jars have been identified at Lincoln, Castleford and York. At York, Monaghan (1997) noted that these were in a different fabric (R1) and have heavy rustication in period 1a. In addition, he suggested these belong to the earliest activity, when local supply had not yet been established (*ibid.*, 887). Similarly, at Lincoln, although a fine fabric was used, the rustication is applied as a thick layer and is pronounced (Darling and Precious 2014, 101), peaking in contexts dated to c.AD60–80. At Castleford, a distinct technique was noted that used the application of a gritty clay for the rusticated layer (nos 80–1, 83 and 87 in Rush 2000). Heavy rustication is found at Scotch Corner but not on these oxidised wares. The rustication, although not pronounced, is unlike that found on the later Flavian jars at Catterick, which are predominantly in hard reduced wares, and it is likely to date early in the sequence. The forms point to a date in the Neronian to early Flavian period for this group of fabrics and their similarity to each other, and to fabrics FLA36 and FLA37, confirm such a date range. Two OAA14 vessels from Field 258 (fill **27729** of ditch **27727** and fill **26309** of pit **26308**) may be wasters (see below). The fabrics used in this group do not match any of the early wares at *Cataractonium* precisely, but the forms and quality imply skilled potters of the type associated with the Roman army.

Another group of fine oxidised wares is designated as group OAA. This is made up of fine oxidised fabrics (OAA1–OAA5) that are found to some extent at *Cataractonium* and include fabric OAA4, which matches the early oxidised fabrics there very well. These oxidised fabrics, similar to or matched at *Cataractonium*, accounted for c.1% of the Period 4 assemblage. At Scotch Corner, this fabric group included the later ring-necked flagon type with large top ring and also a wide-necked flagon with elongated rim of a type dated to the 2nd century by Swan (2002, no. 69) at York. Body sherds from a rusticated jar and a tazze were also identified. The OAA1 sherds were undiagnostic and the OAA3 sherds included a platter (type PD). Body sherds from a rouletted beaker were in OAA2 and OAA5 was present in two forms, both ring-necked flagons FR1A and FR1B, form types as Cat. nos 455–62) dating to the Neronian or early Flavian period. OAA4 was most common in Periods 3–4 and 4, which agrees with a Flavian or later date for this fabric.

A number of sherds in both the fine and medium oxidised ware groups had ephemeral traces of white slip, and this may have been originally present on some of the vessels that now lack such traces. These were distinguished as fabrics FLB1 and FLB2. Only body and footring basal sherds were found in FLB2, while the forms in FLB1 were ring-necked flagon with evenly sized rims and rather upright or only slightly splayed neck and one cupped-rim flagon, a form normally dating to the late 2nd to early 3rd century (type FC in Monaghan 1997; type F3.3 in Bell and Evans 2002). This last vessel belongs to the later period of Roman activity. Undoubtedly oxidised wares without white slips were also being made.

A coarse oxidised ware (OAC9) is only found at Scotch Corner. Vessel types in this fabric comprised: a bowl with moulded rim and a carinated body of the same form as that made in the early fine oxidised ware OAA13; a ring-necked flagon with upright rim and evenly sized rings of the Claudian-Neronian period (Cat. no. 381); a plain-rim lid; a jar with everted rim and grooved internally; and a plain rim from a vessel of unknown type. A Neronian date range is most likely for these vessels, although an early Flavian date cannot be ruled out. A rebated rim from a jar, a carinated bowl with double grooved rim, and a lid were also found in this ware and a ring-necked flagon in a less diagnostic coarse oxidised ware is likely to be a variant of this group. Fabric OAC9 is not unlike that of the early gritty ware 2 fabrics and it is, like them, likely to be a local product.

The grey wares mirror the oxidised wares and are made up of fine and medium quartz-tempered wares, most of which are unlike those from *Cataractonium*. The fine grey ware group was uncommon in Period 3 and no diagnostic forms were identified. The group becomes more numerous in Period 4. The fabrics (GRA30, GRA33 and GRA34) are very similar to those found in the fine oxidised group, particularly OAA14, and forms included reeded-rim bowls (BC1, BC2 and BC7; as Cat. nos 420 and 425 and Cat. no. 429 respectively), short everted-rim jars (JA1; as Cat. no. 469), a jar with flattened bead rim (JA4; as Cat. no. 465), a reeded, flat-rim rim neckless jar of Continental Flavian type (JF; Cat. no. 481), a Flavian–Trajanic necked jar (JN1; Cat. no. 492), rusticated jars (JR1; Cat. no. 498), a rebated-rim jar (JVA1; Cat. no. 505) and a lid (LA; Cat. no. 548). The forms suggest a Flavian date range.

Two other fine grey ware fabrics (GRA32 and GRA35) were only found in Period 4. They were united in being very hard fired with a consistent medium grey colour. GRA32 had a clean matrix and moderate quartz inclusions (c.0.2–0.3mm) on the border of a medium grey ware. In addition, it sometimes had rounded grey/black inclusions. The vessels made in these two fabrics are commonly found on Flavian sites and it is similar to a slightly coarser fabric (GRB6) at *Cataractonium* from, and contemporary with, the Flavian levels. The following forms were identified in these two fabrics: rusticated jars with subdued arced and linear decoration (Cat. nos 499 and 501); rebated neck jars; everted-rim rouletted beakers (Cat. nos 487 and 537); a constricted neck jar with everted rim and zones of decoration (Cat. no. 563); a rilled jar with everted rim, like those made in the early gritty wares (Cat. nos 512–14); a copy of a terra nigra carinated beaker (Cat. no. 593; KS1, Cam 120); a spouted flagon (Cat. no. 465); a wide-mouthed jar with multiple cordons; and a reeded-rim bowl (Cat. no. 422). The subdued rustication, the rouletted beakers, and the carinated beaker copying a Flavian terra nigra type all point towards a Flavian date range. However, examples of the same type of the rilled jar as found in the BSB group were also identified in this fabric, as well as one body sherd with stabbing all over. Several examples appeared rather overfired and one was partially oxidised. Fabric GRA32 was fairly fine, very hard, often overfired and grey throughout, while GRA35 was a variant of it with more abundant quartz

Other smaller groups of fine grey ware included GRA33, represented only by body sherds with rilled, subdued arcs of rusticated, combed and rouletted decoration, perhaps from jars of types JW, JR and JM, and GRA34, represented by a sherd from an everted-rim beaker or small jar. The vessel types suggest GRA33 could date from the Neronian–early Flavian to the Flavian period. In the case of GRA36, only one vessel, a narrow-mouthed jar with everted rim, was identified with acute lattice burnish (Cat. no. 558) and this form is not precisely dateable, spanning the 1st to 3rd centuries. GRA38 had more abundant fine quartz than GRA36, and the only form identified was a carinated bowl represented by only two body sherds (Cat. no. 584). This was most like a series of carinated bowls made in Lincolnshire during the later 1st and 2nd centuries. Both fabrics did not appear until Period 4.

As well as these quite distinctive fine grey wares, small amounts of grey ware in fabrics found at *Cataractonium* (GRA2, GRA5 and GRA6) occurred, but comprised less than 0.2% of the whole assemblage. Only a rilled jar (LP) was made in GRA5, while forms in GRA6 included a carinated bowl (BJ3), a neckless everted-rim jar (JE: Cat. no. 477), rusticated jars (JR1), an everted-rim beaker (KC1), a ring-and-dot beaker (KP2: Cat. no. 547) and a plain-rim platter (PD1: Cat. no. 570), all of which are consistent with a Flavian date range. All these wares were present in Period 4.

There was little change in the relative quantity of the medium quartz-tempered grey ware group between Period 3 and 4. GRB66 is the most common grey ware in this group and the number of forms made increases from Period 3 to include: carinated bowls; reeded-rim bowls (Cat. nos 424 and 435); a honeypot type vessel (Cat. no. 468); the short everted-rim jar (Cat. no. 401) and rusticated jar with subdued rustication (Cat. no. 504); rouletted beaker (Cat. no. 544), narrow-necked jar with corrugated body; lids; wide-mouthed, bead-rim jar (Cat. no. 572); narrow-necked jar (Cat. no. 562); and a rilled jar like those made in the early gritty wares. The subdued rustication used, particularly the reeded-rim bowl forms along with the rouletted beakers, fits with a Flavian date range. These are the most common types on Flavian military sites both in the region and elsewhere, including York, *Cataractonium*, Castleford and Red House. The production of the rilled jars and a BCb bowl type in GRB66 may indicate there is continuity between this group and pottery production in Period 3 BSB and early gritty wares at or near Scotch Corner. GRB76 is a slightly coarser version of GRA35 and included spouted flagons and rusticated jars. GRB71 and GRB74 were both made into rusticated jars, with GRB74 also used for the rebated neck jar group. Where enough survived for detailed examination, the rustication was pronounced and nodular. The rebated necked jar group relates to a series of jars found in military sites of Neronian and early Flavian date. At Usk, this form is the main jar form and relates to 'honeypot' forms (type 11; Greene 1993). Greene (*ibid*.) fully discusses the Continental background of this jar group and cites parallels from Italy to Germany and the Rhineland. The form is common on Flavian sites in Britain, but Leary (2016, 99) has found it to be more common in the early Flavian rather than late Flavian contexts in the North West and this may be the case in the Scotch Corner region also. A late Neronian to Flavian date is indicated by the parallels.

A small number of minor grey ware fabrics compared well with *Cataractonium* early grey wares GRA6, GRB2 and GRB6. These were reeded-rim bowls (Cat. no. 429), rusticated jars (Cat. no. 502), necked jars (Cat. nos 493–4), narrow-necked everted rim jars (Cat. no. 561), lids and rouletted beakers. Rusticated jars and neckless jars with short everted rims (Cat. no. 477), rouletted beakers, ring-and-dot beakers (Cat. no. 547) and several plain rim platters (Cat. no. 570) in GRA6 could not be readily distinguished from fabrics at *Cataractonium*. Similar vessels in GRB1, GRB2 and GRB2w were indistinguishable from samples of the fabric at *Cataractonium*. GRB6 may be a coarser version of GRA32, and the similarity with GRB6 at *Cataractonium* is possibly a result of the hard firing of both fabrics. Several of the GRB6 and GRA32 group were overfired and almost vitrified. Other grey wares were of later date in the Roman period and are not dealt with here. This group of minor fabrics, which were also found at *Cataractonium*, account for less than 1% of the assemblage at Scotch Corner.

The white ware group in Period 2 and 3 declines substantially in Period 4 to less than 1% of the assemblage by weight and EVEs. FLA36 fragments from a ring-necked flagon were identified but the rim was incomplete, so precise dating was impossible. There were sherds from two ring and dot beakers, one with barbotine dots and one with orange painted dots (Cat. no. 546) This type of beaker is dated to the Flavian period at London (types IIIb1 and IIIF1; Marsh and Tyers 1978) and the Neronian–Flavian at Colchester (type 100; Bidwell and Croom 1999, 471–2). This form was also found in fabric FLA7. The source of these painted white vessels is unknown but similar examples were present in a possible waster group of Flavian or Flavian–Trajanic date at Nostell Priory, near Castleford (Leary 2013). Sherds from a flanged bowl were found (Cat. no. 437), but the full profile of the rim was not preserved, making dating difficult. Rouletted body sherds may come from butt beaker type vessels, and one everted rim from a jar with a slight neck may be from a Neronian to early Flavian type jar with rebated neck or a honeypot type vessel of similar date. The vessel types thus suggest a similar date range to the early fine oxidised group above in the Neronian to early Flavian period.

A rather coarser group (FLA5) was characterised by moderate, medium quartz inclusions, including some with a pinkish hue. This group included large flagons/lagenae with hooked or bead rims and cordoned necks (Cat. nos 451–3), a vessel type that was also found at *Cataractonium*. This form group does not fall into neat sub-types but fits into a general group found on Claudian-Neronian/Flavian sites, such as *Camulodunum* (Cam 172, dated AD43–60). Some are similar to the *Verulamium* type amphora form (type IJ; Marsh and Tyers 1978). Davies *et al*. (1994, 29) date these to the mid-1st century (c.AD50–55), while Symonds (2003) dates these more generally to the 1st century. The FK flagons may belong to this group, but their fabric is towards the finer end of those used for *Verulamium* amphorae. Alternatively, these may be another British version of the Gaulish amphorae in the mid-1st century. An equivalent vessel at Usk (type 9; Greene 1993) was locally made of Neronian date and Greene suggested they were used for storage of liquids. At Colchester, similar vessels are classified as flagons (Symonds and Wade 1999, fig. 6.13, nos 313, 315 and 323). At *Cataractonium*, this group would belong with Bell and Evans's (2002) type F5 group, which they suggest is probably of 2nd-century date. However, no pre-Flavian levels were excavated, and very little Flavian material was recovered during these excavations. Leary has found similar vessels in white ware on several fort sites in the North West, for example at Barton Street, Manchester (no. 167 in Leary 2007), although these were in 2nd-century groups. FLA5 also occurs at *Cataractonium*, but its source is unknown. A Neronian–early Flavian date range for this fabric is indicated at Scotch Corner from Period 3 to 3–4.

Fabric FLA2 was finer than FLA5 and was present at *Cataractonium*, too. The vessels in this fabric at Scotch Corner—a ring-necked flagon with large top ring and a reeded-rim bowl—were both of Flavian–Trajanic type (no. 3 in Gillam 1970 and type BC1 in Monaghan 1997 respectively). The occurrence of the fabric at *Cataractonium* and the type of vessels made both indicate a Flavian–Trajanic date range.

Minor fabrics FLA42 and FLA44 included sherds from an early ring-necked flagon of Neronian–early Flavian form and a large, lagena type flagon (Cat. no. 380; cf. Cam 172) dated to AD43–60/65. Williams (pers. comm.) suggested FLA44 is a *Verulamium* white ware. Fabric FLA42 was notably fine and micaceous and could be an early Lincoln product. Other minor white ware fabrics were only represented by body sherds.

As well as changes in the coarsewares, small but significant amounts of fine ware pottery were acquired from new and Continental sources. These are all from sources that are well known as suppliers of fine wares to military sites in Britain, particularly in the Neronian period, with usage continuing into the earliest years of the Flavian period. Fine wares came from Lyon, central and northern Gaul, Flanders, and Italy. The Lyon ware vessels were roughcast beakers (Cat. no. 534) and only very small scraps were found. This ware was only found in Period 4 contexts. Greene (1979, 17–18) has demonstrated that Lyon ware stopped being imported by c.AD70 but continued to circulate on early Flavian sites in Britain. Willis (2003) further documented the small amounts found on Flavian sites in the Midlands and the North and linked the distribution of Lyon beakers with the military rather than civilians, citing its absence at Stanwick, Redcliff/North Ferriby, and Dragonby. It is notably common on legionary sites. A similar link has been made with carrot amphora finds (see Griffiths, this chapter), which were also at Scotch Corner.

The Central Gaulish fine wares included colour-coated rough-cast beakers and glazed wares (Cat. nos 443–445, 532–533, 538). The colour-coated vessels are in the buff micaceous fabrics from Lezoux, a type dated to c.AD43–70 but continuing as late as the Hadrianic period, with just one white-cored vessel from the kilns in Allier Valley, a type Greene (1979) dates after AD70. The glazed wares comprise two cups, two body sherds from flagons vessels, and one small scrap. These are given a date range of c.AD43–70 by Greene (*ibid.*), with some continued circulation in the beginning of the Flavian period. Again, like the Lyon ware, it is common on early military sites in Britain.

Two vessels were identified in terra nigra eggshell ware: an everted-rim beaker and a carinated beaker (Cat. nos 535 and respectively). The carinated beaker, a Cam 120 type, is the most regularly identified type in Britain, with its thin walls and sharp carination being easily spotted. The small beaker is less common, but both are discussed by Greene (1979, 120; types 1 and 2) in his treatment of the pre-Flavian imports from the fortress of Usk and given a Neronian–early Flavian date range. It is absent at Sheepen and Bidwell and Croom (1999) date it to c.AD55–95. Several other carinated body sherds in a sandier fabric recovered from Period 4 contexts at Scotch Corner probably belong to copies of this distinctive form.

A Pompeian red ware platter type (Cat. nos 565–6) in Italian black sand fabric 1 was recovered from Period 4 and may belong to this Period. However, as this type was also in Period 2, it could be redeposited. Pompeian red ware platters from Italy in this fabric are dated as late as the Neronian and early Flavian period (Peacock 1977, 158–9). A number of sherds from a platter form in the Pompeian red ware fabric 6 from Flanders were also present. In addition, a related fabric, which lacks the slip, was identified: this was whitish with a thick grey core and abundant quartz temper, identical to PRW6X. This was found in two forms: a lid and a tripod leg (Cat. nos 554 and 583). The tripod leg had traces of a pale brownish slip or coating inside the body. Peacock's (1977) fabric 6 occurs in two sub-fabrics that have been identified at Blicquy and in Flanders: a black-cored and a grey-cored ware, the former being of earlier date, i.e. Flavian to early 2nd century (Gustin 1985, 72–86; see also RdVb and RdVa in Deru 2005). At the pottery des Quatre Bornes, Rues-des-Vignes, Nord, Deru (2005) dates the production of fabric RdVb from c.AD65 to the beginning of the 2nd century. At this pottery, the lids were not red slipped, which matches those from Scotch Corner.

Another sherd in the same overall fabric as PRW6X had a brown ?slip with traces of gold mica and is probably an example of mica-dusted ware, which was made in the same centres as the PRW6 vessels (MG5) at Braives, Belgium (Gustin 1985; BRA MD in Tomber and Dore 1998; see also fabric MICA 1242 in Davies *et al*. 1994, 142). The only form was a small everted-rim beaker with pronounced grooves on the shoulder (Cat. no. 524). Two other fabrics (MG3 and MG14) were both buff wares with golden mica-coated surfaces and may belong in the same fabric group, although MG14 was somewhat harder fired. Only small body sherds were recovered, and these had elongated, pushed-out bosses that suggested they were also beakers. Similar wares to these are described from London, where they are thought to be pre-Flavian imports. Bossed beakers were found at London (MICA 1241; nos 765–5 in Davies *et al*. 1994, 142) and at Usk (Greene 1979, fig. 53, nos 4–7), and are thought to be from the Rhineland or Gallia Belgica, west of the Rhône.

There are very small amounts of Gallo-Belgic wares in Period 4 contexts (less than 1% by weight; Table 5.56). Terra nigra and North Gaulish white ware vessels could belong to Period 4, but the overall distribution of these wares makes it more likely that they are redeposited from Period 2. Only one vessel, an NOG WH3 butt beaker, was present in Field 258, and the other Period 4 instances of Gallo-Belgic wares are concentrated around areas in Field 246 where Gallo-Belgic pottery is clearly residual. Overall, Gallo-Belgic imports are found on civilian sites in this region and are less common on Neronian–Flavian military sites. The thin distribution of Gallo-Belgic wares in Period 4, away from the orderly activity in Field 258, demonstrates that the occupants of Field 258 were no longer following the ceramic habits seen in Period 2, when the inhabitants acquired Gallo-Belgic drinking vessels favoured by people of native tradition, but rather the ceramics are in the wares and forms introduced by the Roman army and used on Early Roman sites.

Period 4–5 and Period 5

The pottery derives principally from the road and roadside ditches during Period 4–5 and 5. A small number of features have later pottery or other finds. A small sherd from a Nene Valley colour-coated beaker with en barbotine decoration from ditch group **28155** in Field 258 must date to the later 2nd century at the earliest, but nothing else from this ditch demands such a late. Pit **31666** is also provided a late date by the black burnished ware flat-rim dish with burnished lattice from its fill, which dates to the mid-2nd century. In pit **31610**, a Trajanic coin was recovered from the primary fill, but the pottery is of the same type as that from Period 4. Similarly, a probable Trajanic coin in the fabric of Structure 39 suggests a later date than the Period 4 pottery incorporated in the limestone floor, and even the urinal pit **31717** in group **29955** contains nothing that must be dated later. The associated midden group (**31733** and **31725**) had coarse pottery of the type found in Period 4, including a GRB66 spouted flagon and around a quarter of a GRB70 reeded-rim bowl. The samian and amphora groups both included several vessels dated c.AD70–90 and AD70–120 that are consistent with a date range at the end of the Period 4 settlement. Ditch **33803** has pottery of Period 4 in the primary fill, including samian dated c.AD70–110. Other features in Period 4–5 and 5 contained small groups of Period 4 pottery that are unlikely to be much later than c.AD80–90.

A small number of later sherds were found in post-Roman contexts that doubtless derived from passing traffic on the road and routeways. These included mid- to late 2nd-century samian from gully **28226**, an OAA4 flagon dating to c.AD120–60 from ditch group **28447**, BB1and BB1 jar copies from gully **28226**, and BB2 and Crambeck grey ware from plough furrow **31519**. In the subsoil and disturbed levels, later Roman types included: three samian vessels dated to AD120–200, AD140–200 and AD150–250; an indented Nene Valley colour-coated beaker of late 2nd- to 3rd-century date; a late Nene Valley colour-coated developed flanged bowl of late 3rd- to 4th-century date; a Catterick type mortarium of 3rd- or mid-3rd- to 4th-century date; and a grey ware cavetto rim jar of 3rd-century type; a Dales ware jar of mid-3rd- to mid-4th-century date; a pre-Huntcliff jar type of the early or mid-4th century; and a CRA WH bowl and mortarium of the late 4th to early 5th century. These scarce late types highlight how completely and abruptly the settlement came to an end and activity was reduced to being passing and periphery, based around the use of the road.

Catalogue of other pottery

354. Incomplete double-handled flagon with triangular reeded rim. Type: FH1, Cam 163. Fabric: NOG WH2. This form is well known from sites in the south-east of England in the Tiberian-Claudian period. Count: 6, Weight: 21.1g, RE: 15%. Late Pre-Roman Iron Age–AD60/70 Field 246; Group **31206**; Context **24974**; second fill of ditch **24966**. Period 1–2. Figure 5.36.

355. Very abraded sherds from rouletted type KA butt or girth beaker. Fabric: OAA7. Count: 10, Weight: 20.7g, RE: 0%. Tiberian–c.AD50. Field 223; Group **30883**; Context **30264**; primary fill of ditch **30262**/**30266**. Period 1–2. Figure 5.36.

356. Fragments from a type KA, Cam 112 butt beaker. Fabric: OAA7. Count: 19, Weight: 42.3g, RE: 0%. Tiberian–c.AD50. Field 246; Group **31206**; Context **24977**; fifth fill of ditch **29466**. Period 1–2. Figure 5.36.

357. Rim from type KA1, Cam113 butt beaker. Fabric: NOG WH3 variant. Count: 1, Weight: 16g, RE: 6%. 10BC–AD65/70. Field 246; Group **31206**; Context **24974**; second fill of ditch **24966**. Period 1–2. Figure 5.36.

358. Three-ribbed handle from a flagon. Fabric: FLA36. Count: 1, Weight: 4.5g, RE: 0%. Mid- to late 1st century. Field 246; Group **31206**; Context **24977**; fifth fill of ditch **24966**. Period 1–2. Figure 5.36.

359. Base and lower half of a jar with footring base. Fabric: GRA28. Count: 47, Weight: 415.9g, RE: 0%. Mid-1st century–c.AD70. Field 223; Context **30511**; third fill of pit **30509**. Period 2. Figure 5.36.

360. Round-sectioned handle, perhaps from a honeypot. Type: HP. Fabric: FLA35. Count: 1, Weight: 2.6g, RE: 0%. Late Pre-Roman Iron Age–Neronian. Field 246; Structure 47; Group **31276**; Context **24640**; primary fill of penannular ditch **24982** in Structure 47iv. Period 2. Figure 5.36.

361. Basal sherd from a type KA, Cam 113 butt beaker. Fabric: NOG WH3. Count: 1, Weight: 21g, RE: 0%. 10BC–AD65/70. Field 246; Context **16416**; primary fill of trench **16410**. Period 2. Figure 5.36.

362. Base and body sherds from a type KA, Cam 113 beaker. Fabric: NOG WH3. Count: 10, Weight: 65.1g, RE: 0% Date: 10BC–AD65/70. Field 246; Context **16412**; primary fill of trench **16410**. Period 2. Figure 5.36.

363. Body sherds from a type KA butt beaker. Fabric: NOG WH3. Count: 7, Weight: 19.4g, RE: 0%. 10BC–AD65/70. Field 246; Context **16411**; second fill of trench **16410**. Period 2. Figure 5.36.

364. Incomplete type KA, Cam 113 butt beaker with beaded rim, cordoned below rim and flat internal surface. Fabric: NOG WH3. Count: 3, Weight: 4.2g, RE: 0%. 10BC–AD65/70. Field 246; Structure 47; Group **31276**; Context **24640**; primary fill of penannular ditch **24982** in Structure 47iv. Period 2. Figure 5.36.

365. Incomplete type KA, Cam 113 butt beaker. Fabric: NOG WH3. Count: 36, Weight: 91.5g, RE: 0%. 10BC–AD65/70. Field 223; Context **30716**; second fill of ditch **30715**. Period 2. Figure 5.36.

366. Incomplete butt beaker of type KA1, Cam 113 with bead rim, cordoned below rim and with flat internal surface. Fabric: NOG WH3. Count: 1, Weight: 10g, RE: 10%. 10BC–AD65/70. Field 246; Context **24409**; occupation/activity layer, primary pellet mould discard? Period 2. Figure 5.36.

367. Rim and body sherds from several type KA1, Cam 113 butt beakers. Fabric: NOG WH3. Count: 11, Weight: 31.9g, RE: 10%. 10BC–AD65/70. Field 246; Structure 47; Group **31276**; Context **24641**; third fill of penannular gully **24982** in Structure 47iv. Period 2. Figure 5.36.

368. Sherds from at least four butt beakers of type KA1, Cam113. Bead rim, cordoned below rim and flat

internal surface. Fabric: NOG WH3. Count: 3, Weight: 14.2g, RE: 24%. 10BC–AD65/70. Field 246; Context **24409**; occupation/activity layer, primary pellet mould discard? Period 2. Figure 5.36.

369. Incomplete type KA2, Cam 112 butt beaker with lentoid rim. Fabric: OAA7. Count: 5, Weight: 26.9g, RE: 27%. Tiberian–c.AD50. Field 246; Group **31206**; Context **24974**; second fill of ditch **24966**. Period 1–2. Figure 5.36.

370. Incomplete type KA2 butt beaker with lentoid rim. Fabric: GRA29. Count: 1, Weight: 4.3g, RE: 10%. Tibero-Claudian/early Neronian. Field 267a; Context **32546**; eighth fill of pit **32532**. Period 2. Figure 5.36.

371. Incomplete type KA2, Cam 112 butt beaker with lentoid rim. Fabric: OAA12/TR3. Count: 1, Weight: 6.5g, RE: 5%. Tiberian–c.AD50. Field 246; Context **24409**; occupation/ activity layer, primary pellet mould discard? Period 2. Figure 5.36.

372. Incomplete type KA2, Cam 112 butt beaker with lentoid rim. Fabric: GRA29. Count: 1, Weight: 9.3g, RE: 10%. Tiberian-Claudian/early Neronian. Field 246; Context **24409**; occupation/activity layer, primary pellet mould discard? Period 2. Figure 5.36.

373. Type KT4 neckless globular beaker. Closed vessel with inturning rim, grooved outside and swelling internally. Cf. Willis 2016b no. 119 at Stanwick. Fabric: OAA7. Count: 1, Weight: 7.2g, RE: 11%. Tiberian–c. AD50. Field 223; Context **30510**; second fill of pit **30509**. Period 2. Figure 5.36.

374. Incomplete base of a type PJ3, Cam 16 platter base with rouletted wreath. Fabric: TN. Count: 1, Weight: 4.8g, RE: 0%, AD43–75. Field 246; Context **16412**; primary fill of trench **16410**. Period 2. Figure 5.36.

375. Pedestal base from jar or beaker or perhaps a lid knob. Fabric: CT. Count: 8, Weight: 30.8g, RE: 0%. Date ? Field 246; Structure 47; Context **24933**; third fill of penannular ditch **24932** in Structure 47iii. Period 2. Figure 5.36.

376. Incomplete type PJ1 Cam 3 platter. Fabric: TN. Count: 1, Weight: 20.6g, RE: 4%. This dates to before AD60 and could be pre-conquest, possibly Tiberian. Field 267a; Group **32646**; Context **32371**; primary fill of ditch **32510**. Period 2. Figure 5.36.

377. Incomplete upright, slightly everting rim from a jar. This appears to have wheel throw marks inside. Fabric: EYCT. Count: 1, Weight: 23.7g, RE: 10%. Mid-1st century–c.AD65/70. Field 267a; Group **32648**; Context **32276**; primary fill of ditch **32274**. Period 2–3. Figure 5.36.

378. Incomplete type FK5 flagon. Fabric: FLA44. Count: 23, Weight: 304.8g, RE: 15%. c.AD60+. Field 246; Context **15763**; primary fill of pit **15762**. Period 3. Figure 5.36.

379. Incomplete form FR ring necked flagon. Fabric: OAA13. Count: 1, Weight: 4.4g, RE: 6%. Neronian/early Flavian. Field 246; Group **31283**; Context **24204**; fourth fill of ditch **24309**; primary pellet mould dump? Period 2**–**3. Figure 5.36.

380. Incomplete type KA1, Cam 113 butt beaker or small jar. Fabric: GRB66. Count: 1, Weight: 5.6g, RE: 10%. Mid-1st century–65/70. Field 246; Group 30881; Context **30424**; second fill of ditch **30423**. Period 2–3. Figure 5.36.

381. Incomplete type KA1, Cam 113 butt beaker with bead rim, cordoned below rim and flat internal surface. Fabric: NOG WH3. Count: 1, Weight: 10.7g, RE: 11%. 10BC–AD65/70. Field 246; Context **31000**; eighth fill of ditch **31017**, primary pellet mould dump? Period 2–3. Figure 5.36.

382. Incomplete type KA1, Cam 113 butt beaker with bead rim, cordoned below rim and flat internal surface. Fabric: NOG WH3. Count: 1, Weight: 13.4g, RE: 10%. 10BC–AD65/70. Field 246; Structure 44; Group **31223**; Context **16300**; fill of penannular gully **16395** in structure. Period 2–3. Figure 5.36.

383. Incomplete type KA1, Cam 113 butt beaker with bead rim, cordoned below rim and flat internal surface. Fabric: NOG WH3. Count: 1, Weight: 9.6g, RE: 14%. 10BC–AD65/70. Field 246; Group **31283**; Context **16147**; second fill of ditch **16146**. Period 2–3. Figure 5.36.

384. Incomplete type KA2 butt beaker with lentoid rim. Fabric: TR3. Count: 4, Weight: 4.4g, RE: 4%. Tiberian–c.AD50. Field 246; Group **31283**; Context **16353**; third fill of ditch **16352**. Period 2–3. Figure 5.36.

385. Sherd from a butt beaker with rather lentoid rim. Type KA2, copying Cam 112. Fabric: GRA28. Possibly with a dark grey-black slip or self-slip. Count: 1, Weight: 11.5g, RE: 22%. Typologically, this form dates to the mid-1st century to c.AD65/70. Field 246; Group **31283**; Context **24204**; fourth fill of ditch **24309**, primary pellet mould dump? Period 2–3. Figure 5.36.

386. Sherd from a type KA2 butt beaker with rouletting. Fabric: GRA29. Count: 4, Weight: 9.4g, RE: 0%. Field 246; Group 31283; Context **16353**; third fill of ditch 16352. Period 2–3. Figure 5.36.

387. Small sherd from a gratenbecher of type KA5, as Cam 114. Fabric: NOG WH3. Count: 1, Weight: 1.5g, RE: X0% Date: Tiberian-Claudian. Field 267a; Group **32648**; Context **32276**; primary fill of ditch **32274**. Period 2–3. Figure 5.36.

388. Incomplete girth beaker of type KA6, as Cam 82-4. Fabric: TR3. This example had a grey core

but is similar in fabric to the other sherds identified as TR3 by Jane Timby. Count: 5, Weight: 24.3g, RE: 10%. Tiberian–c.AD50. Field 267a; Context **32402**; buried soil horizon. Period 2–3. Figure 5.36.

389. Incomplete girth beaker of type KA6, as Cam 82-4. Fabric: TR3. Count: 1, Weight: 7.1g, RE: 6%. Tiberian–cAD50. Field 246; Context **24265**; second fill of ditch **24309**, primary pellet mould dump? Period 2–3. Figure 5.36.

390. Incomplete grooved rim from a type KA7 pedestal beaker, as Cam 76. Fabric: TRiB. Count: 2, Weight: 4.9g, RE: 2%. Tiberian–post-conquest. Field 246; Group **31283**; Context **16353**; third fill of ditch **16352**. Period 2–3. Figure 5.36.

391. Sherd from a round-bodied beaker/jar with short neck and beaded rim of type KT5. Fabric: GRB66. Count: 1, Weight: 7g, RE: 8%. AD60/65+. Field 246; Context **31000**; eighth fill of ditch **31017**, primary pellet mould dump? Period 2–3. Figure 5.36.

392. Incomplete type WJC1 hooked-rim vessel. Fabric: FLA5. Count: 6, Weight: 39.5g, RE: 7%. c.AD60/70+. Field 246; Group **31283**; Context **24204**; fourth fill of ditch **24309**, primary pellet mould dump? Period 2–3. Figure 5.36.

393. Base from a type K tazze. Fabric: OAB19. Count: 1, Weight: 16.2g, RE: 0%. Neronian–Flavian. Field 246; Group **31285**; Context **24152**; second fill of ditch **24102**. Period 3. Figure 5.36.

394. Incomplete bowl of the moulded rim group with round or carinated body, rim overhanging internally, two grooves on rim. Type BC5. Fabric: GRC36. Count: 1, Weight: 23.3g, RE: 7%. Neronian–early Flavian. Field 246; Context **15897**; fill of ditch **15859**, primary pellet mould dump? Period 3. Figure 5.36.

395. Incomplete type BJ1 carinated bowl/beaker with everted rim and zones marked by grooves. Fabric: GRB72. Count: 14, Weight: 87.2g, RE: 24%. Neronian–early Flavian. Field 228; Context **27979**; fill of gully **27978**. Period 3. Figure 5.36.

396. Incomplete type FR ring-necked flagon with upright rim as Gillam (1970) no.1. Fabric: FLA43. Count: 1, Weight: 6.8g, RE: 2%. Neronian–early Flavian. Field 246; Context **15897**; fill of ditch **15859**, primary pellet mould dump? Period 3. Figure 5.36.

397. Incomplete type FR1A ring-necked flagon with upright rim as Gillam (1970) no.1. Fabric: OAB19. Count: 1, Weight: 11.8g, RE: 20%. Neronian–Flavian. Field 246; Context **16274**; isolated patch of buried soil. Period 3. Figure 5.36.

398. Incomplete type FR2B flagon with ring neck and very prominent top ring. Fabric: FLA39. Count: 1, Weight: 14.4g, RE: 20%. Mid- to late 1st century. Field 246; Context **24298**; fill of ditch **15859**. Period 3. Figure 5.36.

399. Incomplete type JA1 jar with short everted rim. Fabric: GRB66. Count: 1, Weight: 24.1g, RE: 8%. c.AD60/70. Field 246; Context **15897**; fill of ditch **15859**, primary pellet mould dump? Period 3. Figure 5.36.

400. Incomplete type JA1 jar with short everted rim. Fabric: GRB6. Count: 1, Weight: 24.1g, RE: 8%. c.AD60/70+. Field 246; Context **15897**; fill of ditch **15859**, primary pellet mould dump? Period 3. Figure 5.36.

401. Incomplete type JW rilled jar. Fabric: GRB77. Count: 2, Weight: 8.5g, RE: 0%. Neronian–early Flavian. Field 246; Context **24036**; fill of hollow-way **24042=24269**. Period 3. Figure 5.37.

402. Body sherd from grooved jar, type JW. Fabric: GRB70. Count: 1, Weight: 24, RE: 0% Date: Neronian–early Flavian. Field 246; Structure 57; Group **31252**; Context **15912**; fill of sunken featured building **15847**. Period 3. Figure 5.37.

403. Incomplete type JW3 neckless jar with short tapered rim, softly everted. Fabric: GRB66. Count: 2, Weight: 52.4g, RE: 16%. Neronian–Flavian? Field 246; Structure 57; Group **31252**; Context **15912**; fill of sunken featured building **15847** Structure 57. Period 3. Figure 5.37.

404. Incomplete type JX1 everted-rim jar with stabbed decoration. Fabric: GRB69. Count: 1, Weight: 13.1g, RE: 19%. Neronian–Flavian. Field 246; Context **16274**; isolated patch of buried soil. Period 3. Figure 5.37.

405. Incomplete type KA2 butt beaker, as Cam 112. Fabric: OAA7. Partially reduced. Count: 2, Weight: 17.9g, RE: 25%. Tiberian–c.AD50. Field 267a; Context **32309**; second fill of ditch **32549**. Period 3. Figure 5.37.

406. Incomplete type KA2 butt beaker with lentoid rim. Fabric: OAA7. Count: 2, Weight: 5.3g, RE: 9%. Tiberian–c.AD50. Field 267a; Context **32228**; second fill of curving feature **32229**. Period 3. Figure 5.37.

407. Incomplete type KC1 round-bodied globular beaker with everted rim. Fabric: OAB20. Count: 8, Weight: 47.1g, RE: 29%. Neronian–Flavian. Field 267a; Context **32228**; second fill of curving feature **32229**. Period 3. Figure 5.37.

408. Incomplete narrow-necked jar with bead rim. Fabric: GRB77. Count: 3, Weight: 28.5g, RE: 26%. Neronian–early Flavian. Field 246; Context **15764**; third fill of pit **15762**. Period 3. Figure 5.37.

409. One sherd from a type PD1 plain rim platter. Fabric: GTA11. Count: 1, Weight: 35.4g, RE: 7%. Perhaps 1st century. Field 246; Context **15897**; fill of ditch **15859**, primary pellet mould dump? Period 3. Figure 5.37.

410. Incomplete type JW everted-rim jar/beaker with rouletted body. Fabric: GRB70. Count: 1, Weight: 24g, RE: 0%. Neronian–early Flavian. Field 246; Structure 57; Group **31252**; Context **15912**; fill of sunken featured building **15847**. Period 3. Figure 5.37.

411. Bead rim necked jar type WJA2. Fabric: CTB1. Count: 27, Weight: 66.3g, RE: 10% Date: Mid- to late 1st century. Field 246; Structure 57; Group **31252**; Context **15913**; fill of sunken featured building **15847**. Period 3. Figure 5.37.

412. Hofheim type flagon with triangular rim. Type: FH3, as Cam 161. Fabric: NOG WH. Count: 1, Weight: 35.3g, RE: 23%. Late Pre-Roman Iron Age–60/70. Field 246; Context **16435**, third fill of trench **16410**. Period 4. Figure 5.37.

413. Incomplete type KA1, Cam 113 butt beaker. Fabric: NOG WH3. Count: 8, Weight: 49g, RE: 6%. 10BC–AD70. Field 246; Context **16435**; third fill of trench **16410**. Period 4. Figure 5.37.

414. Incomplete everted-rim bowl with stamped decoration in arcs. Fabric: GRB69. Count: 1 Weight: 7.4g, RE: 7%. Neronian–early Flavian. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.37.

415. Incomplete type BB1 carinated bowl with moulded double grooved rim. Fabric: OAA14. Count: 8, Weight: 205.3g, RE: 20%. Neronian–early Flavian. Field 258, Group **28131**; Context **27226**; third fill of pit **27224**. Period 4. Figure 5.37.

416. Incomplete type BB1 carinated bowl with moulded double-grooved rim. Fabric: OAC9. Count: 8, Weight: 141.3g, RE: 14%. Neronian–Flavian. Field 258; Context **27045**; 11th fill of well/latrine **27032**. Period 4. Figure 5.37.

417. Incomplete type BB1 Carinated bowl with double-grooved rim. Fabric: OAC9. Count: 1, Weight: 14.8g, RE: 8%. Neronian–early Flavian. Field 258, Group: **28178**; Context **27538**; third fill of oven/kiln/corn drier **27529**. Period 4. Figure 5.37.

418. Incomplete type BC1 round-bodied, reeded-rim bowl with spaced grooving outside upper body. Fabric: OAB19. Count: 6, Weight: 52.3g, RE: 12%. Flavian. Field 258; Group **28131**; Context **15418;** primary fill of pit **15349**. Period 4. Figure 5.37.

419. Incomplete type BC1 carinated reeded-rim bowl with double groove outside upper body. Fabric: OAB19. Count: 12, Weight: 310.7g, RE: 47%. AD70–130. Field 246; Context **15857**; fourth fill of ditch **15869**. Period 4. Figure 5.37.

420. Almost complete type BC1 reeded-rim bowl with carinated body. Fabric: GRA30. Count: 26, Weight: 1136.9g, RE: 72%. AD70–130. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.37.

421. Incomplete type BC1 reeded-rim bowl. Fabric: GRB70. Count: 1, Weight: 18.8g, RE: 7%. AD70–130. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.37.

422. Incomplete type BC1 reeded-rim bowl. Fabric: GRA32. Count: 1, Weight: 44g, RE: 10%. AD70–130, probably early Flavian. Field 246; Context **3180**; fill of ditch **31806**. Period 4. Figure 5.37.

423. Incomplete type BC1 reeded-rim bowl. Fabric: GRB69. Count: 3, Weight: 40.2g, RE: 3%. Neronian–Flavian. This appears to have a rounded body and the fabric suggests an early date range, perhaps pre-Flavian or early Flavian. Field 246; Context **24610**; primary fill of posthole **24559**. Period 4. Figure 5.37.

424. Incomplete type BC1 reeded-rim bowl with grooves outside upper body. Fabric: GRB66. Count: 1, Weight: 89.7g, RE: 30%. AD70–130. Field 246; Group **31218**; Context **15838**; fourth fill of ditch **15829**. Period 4. Figure 5.37.

425. Incomplete type BC2 reeded-rim bowl with rather triangular rim. Fabric: GRA30. Count: 1, Weight: 74.1g, RE: 15%. AD70–130. Field 258; Context **15163**; fill of pit **15162**. Period 4. Figure 5.37.

426. Incomplete type BC4 flat-rim bowl with groove on top. Fabric: OAA15. Count: 5, Weight: 140.7g, RE: 40%. Neronian–early Flavian. Field 258; Group **31209**; Context **15526**; fill of L-shaped gully **15844**. Period 4. Figure 5.37.

427. Incomplete type BC5 early rounded or carinated bowl with reeded rim overhanging internally. These bowls appear to have rounded bodies and distinctive rims which are fatter than the BC1–4 rims and have rounded prominent reeds rather than grooves. The rim is formed by folding the clay over and resulting in an internal overhang. They may belong to the BCb group. Fabric: GRC36. Count: 2, Weight: 58.5g, RE: 6%. Neronian–early Flavian. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.37.

428. Incomplete type BC6 reeded-rim bowl with triangular flat-topped rim, reeded on top and sides of rim. Fabric: OAB19. Count: 1, Weight: 40.7g, RE: 9%. AD70–130. Field 258; Group **28161**; Context **26377**; fill of ditch **15027** between slots with section numbers 3249 and 3202. Period 4. Figure 5.37.

429. Incomplete type BC7 reeded-rim bowl with three shallow grooves on rim. Distorted rim. Fabric: GRB6. Count: 1, Weight: 52g, RE: 15%. AD70–130. Field 258; Group **28131**; Context **26207**; sixth fill of pit **26201**. Period 4. Figure 5.37.

430. Incomplete type BC8 reeded-rim bowl with two shallow grooves on the rim which is formed by folding over towards the body. There are three grooves outside the upper body. Fabric: GRB70. The form of the body is not always known in this group but the earlier fabrics, GRB69, 70, 72, and 73 and GRC35 seem to have rounded bodies where known. Count: 1, Weight: 60.6g, RE: 15%. Neronian–early Flavian. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor of Structure 38. Period 4. Figure 5.37.

431. Incomplete type BCb1 round or carinated bodied bowl with rim overhanging internally, grooved or plain. Fabric: GRC31. Count: 7, Weight: 28.2g, RE: 7%. Neronian–early Flavian. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.37.

432. Incomplete type BCb1 round or carinated bowl with undulating rim overhanging internally. Fabric: GRC36. Count: 5, Weight: 79.8g, RE: 14%. Neronian–early Flavian. Field 258; Group **28131**; Context **15448**; second fill of pit **15336**. Period 4. Figure 5.37.

433. Incomplete type BCb2 round or carinated bowl with undulating rim overhanging internally; grooved rim and bifid rim tip. Fabric: GRC36. Count: 6, Weight: 60.1g, RE: 17%. Neronian–early Flavian. Field 258; Group 28131; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.38.

434. Incomplete type BCb3 round-bodied bowl with single reeded rim overhanging internally. Fabric: GRC36. Count: 10, Weight: 328.1g, RE: 67%. Neronian/early Flavian. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.38.

435. Incomplete type BCb4 early carinated bowl/dish with small reeded rim overhanding internally and externally. This vessel, the only example, is unusual in being carinated and having a peculiar reeded rim. It could be a lid or perhaps an unusual bowl. Fabric: GRB66. Count: 4, Weight: 67.1g, RE: 11%. AD70+, probably early Flavian. Field 258; Context **26522**; fill of pit **26521**. Period 4. Figure 5.38.

436. Incomplete type BF flanged bowl. Fabric: FLA36. Count: 15, Weight: 100.3g, RE: 16%. Date: Mid- to late 1st century. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.38.

437. Incomplete type BF1 hemispherical bowl with flat flange, grooved at rim and at flange tip. Fabric: OAB19. Count: 6, Weight: 308.4g, RE: 24%. Neronian–early Flavian. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.38.

438. Incomplete type BJ1 carinated cordoned bowl with zones demarcated by grooves. Fabric: GRB70. Count: 3, Weight: 57.7g, RE: 11%. Neronian–early Flavian. Field 258, Group: **28129**; Context **27221**; fill of gully **27220**. Period 4. Figure 5.38.

439. Incomplete type BJ2 bowl with bead rim and cordon at base of neck; probably a cordoned carinated bowl. Fabric: GRB69. Count: 5, Weight: 46.2g, RE: 26%. Neronian–early Flavian. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**. Period 4. Figure 5.38.

440. Incomplete type BJ3 carinated bowl with long neck and turned-out rim. This vessel has the distinctive but slightly rounded shoulder shelving and has a slightly hooked rim and lattice burnish on the neck. The wider diameter and shorted neck compares with carinated bowls found at Old Winteringham in a context dated to the Neronian–early Flavian period (Rigby and Stead, 1976, fig. 75, nos 30–1, cf. an example from Lincoln (Darling, 1984, fiche 1–2), dating this group to the Flavian period). Fabric: GRB69. Count: 11, Weight: 150.4g, RE: 34%. Neronian–early Flavian. Field 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.38.

441. Incomplete type BJ4 cordoned bowl with everted rim with slight rebate. The body has zones demarcated with grooves. No decoration is visible. Fabric: GRB69. Count: 2, Weight: 49.8g, RE: 19%. Neronian–early Flavian. Field 258; Group **28131**; Context **15424**; second fill of pit **15423**. Period 4. Figure 5.38.

442. Incomplete grooved-rim vessel with comb-stamped decoration, probably a bowl copying a samian form 29 bowl. See Cat. no. 414. Count: 2, Weight: 17.9g, RE: 5%. Fabric: GRB4. AD70+. Field 246; Group **31207**; Context **24146**; cleaning layer over stone group **31240**. Period 4. Figure 5.38.

443. Incomplete Greene (1978) type 10 glazed cup. Fabric: CG GLZ. Count: 1, Weight: 11.4g, RE: 15%. AD43–70 but can be found in early Flavian contexts. Field 258; Group **28161**; Context **15028**; primary fill of ditch **15027**, RF10002. Period 4. Figure 5.38.

444. Incomplete type DD1 plain rim platter or dish. Fabric: GRC36. Count: 22, Weight: 289.9g, RE: 46%. Neronian–early Flavian. Field 258; Context **27073**; fill of ditch **15404**. Period 4. Figure 5.38.

445. Incomplete Déchelette form 60 flagon. Compare Greene 1979, 92, fig. 40, no. 2. Fabric: CG GLZ. Count: 1, Weight: 4.8g, RE: 0%. AD43–70 but can be found in early Flavian contexts. Field 258; Group **28131**; Context **15424**; second fill of pit **15423**. Period 4. Figure 5.38.

446. Incomplete type FD1 disc-mouthed flagon. Fabric: OAA15. Count: 2, Weight: 15g, RE: 49%. Neronian–early Flavian. Field 246; Context **31817**; fill of ditch 31816. Period 4. Figure 5.38.

447. Incomplete type FD1 disc rim flagon, as Cam 148. Fabric: OAB19. Count: 3, Weight: 99.7g, RE: 100%. Claudian-Neronian. Field 258; Group **28131**; Context **26003**; second fill pit **26002**. Period 4. Figure 5.38.

448. Incomplete type FD1 disc rim flagon, as Cam 148. Fabric: OAB19. Count: 10, Weight: 166g, RE: 40%. Claudian-Neronian. Field 258; Group **28167**; Context **26577**; fill of ditch **15119**. Period 4. Figure 5.38.

449. Incomplete type FD1 disc rim flagon, as Cam 148. Fabric: OAB19. Count: 1, Weight: 127.5g, RE: 100%. Neronian–early Flavian. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279** and **26886** between slots with section numbers 3246 and 4612. Period 4. Figure 5.38.

450. Incomplete type FH4 flagon with undercut moulding below rim as Cam 144. Fabric: OAB19. Count: 1, Weight: 174.3g, RE: 100%. Neronian–early Flavian. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279** and **26886** between slots with section numbers 3246 and 4612. Period 4. Figure 5.38.

451. Incomplete type FK1 large flagon with bead rim above cordon and rebate inside. Fabric: FLA5. Count: 2, Weight: 32.6g, RE: 15%.c.AD60–70+. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.38.

452. Incomplete type FK1 large flagon with bead rim above cordon and rebate inside. Fabric: FLA5. Count: 5, Weight: 42.3g, RE: 15%. c.AD60–70. Field 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.38.

453. Incomplete type FK2 flagon with undercut rim above a moulding on the neck. Fabric: FLA5. Count: 2, Weight: 27g, RE: 20%. c.AD60–70. Field 265; Group **29958**; Context **31707**; earthen floor of Structure 38. Period 4. Figure 5.38.

454. Incomplete type FR1 ring-necked flagon with upright rim, sharply cut rings. Fabric: OAB19. Count: 1, Weight: 24.8g, RE: 19%. c.AD70–110. Field 246; Context **24413**; fill of ditch **24842**, second pellet mould dump? Period 4. Figure 5.38.

455. Incomplete type FR1A upright ring-necked flagon with evenly spaced rings as Gillam (1970) no.1. Fabric: OAB19. Count: 1, Weight: 114.2g, RE: 45%. Neronian–early Flavian. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279** and **26886** between slots with section numbers 3246 and 4612. Period 4. Figure 5.38.

456. Incomplete type FR1A upright ring-necked flagon with evenly spaced rings as Gillam (1970) no.1. Fabric: OAB19. Count: 8, Weight: 15.3g, RE: 20%. Neronian–early Flavian. Field 258; Context **27398**; fill of ditch **26563** between slots with section numbers 4923 and 5137. Period 4. Figure 5.38.

457. Incomplete type FR1A upright ring-necked flagon with evenly spaced rings. The top of the rim is flat. Fabric: OAB19. Count: 11, Weight: 113.7g, RE: 60%. Neronian–early Flavian. Field 258; Context **26708**; second fill of ditch **15489**. Period 4. Figure 5.38.

458. Incomplete type FRA1 upright ring-necked flagon with evenly spaced rings. The top of the rim is flat. Fabric: OAB19. Count: 1, Weight: 144.4g, RE: 100%. Neronian–early Flavian. Field 258; Context **15216**; third fill of pit **15215**. Period 4. Figure 5.38.

459. Incomplete type FRA1A upright ring-necked flagon with evenly spaced rings as Gillam (1970) no.1. Fabric: OAB19. Count: 4, Weight: 22.3g, RE: 15%. Neronian–early Flavian. Field 246; Context **24304;** primary fill of ditch **15869**. Period 4. Figure 5.38.

460. Incomplete type FR1B ring-necked flagon with slightly splayed mouth and evenly sized rings. The rim is flat. Fabric: OAB19. Count: 17, Weight: 320.8g, RE: 100%. Neronian–early Flavian. Field 265; Group **29959**; Context **31709**; midden deposit below Structure 5. Period 4. Figure 5.38.

461. Incomplete type FR1B ring necked flagon with slightly splayed mouth and evenly sized rings. As Gillam (1970), nos 2–3. The rim is flat. Fabric: OAB19. Count: 21, Weight: 223.5g, RE: 77%. Flavian. Field 228; Group **28429**; Context **28014**; fill of ditch **28013**. Period 4. Figure 5.38.

462. Incomplete type FR1B ring-necked flagon with slightly splayed rim. Fabric: OAB1. Count: 1, Weight: 129.1g, RE: 100%. Neronian–early Flavian. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279** and **26886** between slots with section numbers 3246 and 4612. Period 4. Figure 5.38.

463. Incomplete type FR1B ring-necked flagon with slightly splayed mouth and evenly sized rings. The rim is flat. Fabric: FLA35. Count: 16, Weight: 337.6g, RE: 51%. AD70+. Field 258; Group **28131**; Context **15350**; sixth fill of pit **15349**. Period 4. Figure 5.38.

464. Incomplete type FR2 ring-necked flagon with larger top ring. This trait is more common in the late 1st–early 2nd century. As Gillam (1970), nos 3–5. Fabric: OAA15. Count: 1, Weight: 5.7g, RE: 10%. Neronian–early Flavian. Field 246; Context **24413**; third fill of ditch **24842**, second pellet mould dump? Period 4. Figure 5.38.

465. Incomplete type FT Spouted flagon. Fabric: GRA32C. Count: 1, Weight: 17.5g, RE: 0%. AD70+. Field 258; Context **27045**; 11th fill of well/latrine **27032**. Period 4. Figure 5.38.

466. Incomplete type FT flagon with grooved rim, probably a spouted flagon. Fabric: GRB72. Count: 1, Weight: 32g, RE: 15%. Neronian–early Flavian. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.38.

467. Incomplete type FT2 trefoil-mouthed flagon. Fabric: GRB76. Count: 1, Weight: 24.8g, RE: 20%. Probably AD70+. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.39.

468. Incomplete type HP1 'Honey pot' with everted, blunt-ended rim and ribbed handle on the shoulder. These normally have two opposing handles. On this example there are traces of a second handle scar on non-adjoining body sherds. Fabric: GRB66. Count: 43, Weight: 285.6g, RE: 60%. c.AD60–70+. Field 246; Group **31214**; Context **16021**; fourth fill of ditch **15804**. Period 4. Figure 5.39.

469. Incomplete type JA1 jar/beaker with short everted rim. Fabric: OAB19. Count: 1, Weight: 13.5g, RE: 11%. Neronian–early Flavian. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.39.

470. Incomplete type JA1 jar with short everted rim. Fabric: GRB70. Count: 3, Weight: 43.2g, RE: 14%. Neronian–early Flavian. Field 265; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**. Period 4. Figure 5.39.

471. Incomplete jar with short everted rim as type JA1. Fabric: GRB69. Count: 1, Weight: 5.7g, RE: 12%. Neronian–Flavian. Field 265; Group **29964**; Context **31700**; fabric of RR3. Period 4. Figure 5.39.

472. Incomplete type JA1 neckless jar with short everted rim. Fabric: GRC35. Count: 2, Weight: 26.2g, RE: 14%. Neronian–early Flavian. Field 258; Group **28131**; Context **26204**; third fill of pit **26201**. Period 4. Figure 5.39.

473. Incomplete type JA1 or perhaps JQ neckless jar with short everted rim. Decorated with shoulder groove and two rows of stabbing. Fabric: OBB8. Count: 4, Weight: 54.7g, RE: 35%. AD70–130, c.AD70–80/90. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**. Figure 5.39.

474. Incomplete type JA1 neckless jar with short everted rim. Fabric: GRC35. Count: 1, Weight: 17.8g, RE: 27%. Neronian–early Flavian. Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104**, **24195**. Figure 5.39.

475. Incomplete type JA4 jar with flattened bead rim and shoulder groove. Fabric: GRB66. Count: 3, Weight: 37.1g, RE: 14%. AD70–130. Field 258; Group **28131**; Context **26204**; third fill of pit **26201**. Period 4. Figure 5.39.

476. Incomplete everted-rim jar with rather rectangular rim, as type JE. Fabric: GRB69. Count: 3, Weight: 5g, RE: 0%. Neronian–early Flavian. Field 265; Group **29956**; Context **31594**; foundation layer of RR5. Period 4. Figure 5.39.

477. Incomplete type JE everted-rim jar. Fabric: GRA6. Count: 1, Weight: 4.6g, RE: 5%. Possibly Flavian. Field 265; Group **29964**; Context **31700**; fabric of RR3. Period 4. Figure 5.39.

478. Incomplete type JF jar with inturned rim. As Gillam (1970) no. 100. Fabric: OAB19. Count: 1, Weight: 6.3g, RE: 9%. Neronian–early Flavian. Field 258; Structure 33; Group **28149**; Context **15304**; fill of gully **15302**. Period 4. Figure 5.39.

479. Incomplete type JE jar with rectangular profile everted rim. A groove is present on the shoulder and this jar may belong to the JW group but insufficient survives to be certain. Fabric: GRC36. Sooting over part of the rim and shoulder suggests a lid was used with this vessel. Count: 5, Weight: 118.1g, RE: 10%. Neronian–early Flavian. Field 258; Group **28158**; Context **27045**; 11th fill of well/latrine **27032**. Period 4. Figure 5.39.

480. Incomplete type JF jar with inturned reeded rim. A Continental jar form found on Augustan–Flavian period military sites (Gillam 1970, no. 100; Gose 1950, types 357–8) and Neronian sites in Britain (Usk: Greene 1993, type 17) and also Flavian sites (York: Monaghan 1997, type JF and Perrin 1995, fig. 130 no. 5; *Cataractonium* (Field 176) and Lincoln (Darling 1988, fig. 8, 67–8)). The jars in this form at Scotch Corner were much smaller than those at *Cataractonium*. Fabric: OAB19. Count: 4, Weight: 11g, RE: 5%. Neronian–early Flavian. Field 258; Context **26126**; second fill of pit **26060**. Period 4. Figure 5.39.

481. Incomplete type JF jar with inturned reeded rim (cf. Gillam 1970 no. 100). Fabric: GRA30. Count 14, Weight: 60.6g, RE: 15%. AD70–100. Field 258; Group **28162**; Context **26171**; third fill of ditch **26035**. Period 4. Figure 5.39.

482. Incomplete type JJ4 internally bevelled bead-rim jar. Fabric: GRB69. Count: 1, Weight: 9.7g, RE: 10%. Neronian–early Flavian. Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor. Period 4. Figure 5.39.

483. Incomplete type JJ4 jar with flat inner face. Fabric: GRC35. Count 1, Weight: 17g, RE: 6%. Neronian–early Flavian. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.39.

484. Incomplete jar with combed wavy line decoration as type JM. Fabric: GRB69. Count: 1, Weight: 6.7g, RE: 0%. Neronian–early Flavian. Field 246; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**. Period 4. Figure 5.39.

485. Incomplete type JM globular jar or beaker with rouletted zone defined by multiple grooves. Fabric: GRB69. Count: 12, Weight: 149.6g, RE: 0%. Neronian–early Flavian. Field 228; Group **28434**; Context **27637**; second fill of ditch **27635**. Period 4. Figure 5.39.

486. Incomplete type JM1 small, everted-rim jar with grooved zones and with grooved wavy line in shoulder zone. Fabric: GRB69. Count: 7, Weight: 71.2g, RE: 30%. Neronian–early Flavian. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**. Period 4. Figure 5.39.

487. Incomplete type JM1 short, everted-rim jar with cordon outside upper body and rouletting on the cordon. Fabric: GRA32. Count: 6, Weight: 55.8g, RE: 17%. AD70–130, probably early Flavian. Field 258; Group **28131**; Context **26768**; second fill of pit **15406**. Period 4. Figure 5.39.

488. Incomplete small, everted-rim jar with grooved zones but no decoration. Possibly type JM1. Fabric: GRB69. Count: 2, Weight: 40.4g, RE: 35%. Neronian–early Flavian. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.39.

489. Incomplete type JM1 short, everted-rim jar with zone of combed wavy line decoration defined by a groove. Fabric: GRB69. Count: 2, Weight: 41.9g, RE: 14%. Neronian–early Flavian. Field 258; Group **28161**; Context **15028**; primary fill of ditch **15027**. Period 4. Figure 5.39.

490. Incomplete type JM1 everted-rim jar with a zone of combed wavy line decoration defined by a groove on the shoulder. Other vessels of this type demonstrate these rather small vessels had zones of decoration. Fabric: GRB77. Count: 1, Weight: 24.3g, RE: 20%. Neronian–early Flavian. Field 265; Structure 38; Group **29958**; Context **31589**; earthen floor. Period 4. Figure 5.39.

491. Incomplete type JM2 jar with short everted rim, bevelled internally with neck cordon and three zones of wavy combed decoration. Roughly shaped perforation in base. Fabric: GRB72. Count: 59, Weight: 520.1g, RE: 50%. Neronian–early Flavian. Field 258; Group **28156**; Context **15221**; fill of ditch **15179**, **15183**, **15222** and **15324**. Period 4. Figure 5.39.

492. Incomplete type JN1 necked jar with everted, slightly rebated rim. Fabric: GRA30. Count: 3, Weight: 49.9g, RE: 23%. AD70–130, probably early Flavian. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.39.

493. Incomplete type JN1 jar with sloping neck and lid-seated rim. Fabric: GRB2. Count: 4, Weight: 52.2g, RE: 56%. Neronian–early Flavian. Field 265; Context **31769**; fabric of causeway below Structure 39. Period 4. Figure 5.39.

494. Incomplete type JN3 jar with short neck and curving, everted rim with blunt tip and slight rebate. Double groove on shoulder. Fabric: GRB6. Count: 4, Weight: 41.5g, RE: 15%. AD70+. Field 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.39.

495. Incomplete type JQ4 bead-rim necked jar. Fabric: OAB1. Count: 2, Weight: 27.2g, RE: 15%. Neronian–early Flavian. Field 258; Group **28131**; Context **26661**; fourth fill of pit **26582**. Period 4. Figure 5.39.

496. Incomplete type JR rusticated jar. Fabric: GRB77. Count: 1, Weight: 3.6g, RE: 0%. Neronian–early Flavian. Field 246; Group **31286**; Context **24240**; disturbed upper fill of hollow-way **31244**. Period 4. Figure 5.39.

497. Incomplete type JR1 rusticated jar with linear rustication. The rim is a short, everted rim. The rusticated sherd (Cat. no. 500) is non-adjoining. Fabric: GRB69. Count: 5, Weight: 28.9g, RE: 10%. AD70–130, likely c.AD70–80. Field 258; Context **27230**; deposit in north-west corner of Field 258. Period 4. Figure 5.39.

498. Incomplete type JR1 rusticated jar with short everted rim. Fabric: GRA30. Count: 3, Weight: 166.1g, RE: 24%. AD70–130. Field 258; Group **28131**; Context **26205**; fourth fill of pit **26201**. Period 4. Figure 5.39.

499. Almost complete type JR1 rusticated jar with short everted rim, shoulder groove and fairly prominent rustication arcing over surfaces. Fabric: GRA32. Count: 14, Weight: 452.9g, RE: 46%. AD70–130. Field 258; Group **28158**, Context **26943;** primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.39.

500. Incomplete type JR1 rusticated jar with everted rim. Rather thick rustication. Fabric: GRB69. Count: 23, Weight: 263.2g, RE: 22%. AD70–130, likely c.AD70–80. Field 258; Group **28158**; Context **26943**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.39.

501. Incomplete type JR1 everted-rim rusticated jar with subdued arcs of rustication. Fabric: GRA32C. Count: 24, Weight: 355.7g, RE: 30%. AD70–130. Field 258; Group **28161**; Context **15028**; primary fill of ditch **15027**. Period 4. Figure 5.39.

502. Incomplete type JR4 rusticated jar with everted bifid rim. Fabric: GRB6. Count: 2, Weight: 21g, RE: 10%. AD70–130. Field 258; Group **28158**; Context **26617**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.40.

503. Incomplete type JR5 rusticated jar with short rebated rim with thickly applied linear and nodular rustication. The rim is a short, everted rim with a groove just inside the rim tip. The base is not smooth surfaced. Fabric: GRB69. Count: 12, Weight: 89.3g, RE: 36%. Neronian–early Flavian. Field 258; Group **29158**; Context **26441** and **15178**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.40.

504. Incomplete type JR6 jar with flattened bead rim. Very abraded, possibly rusticated. Fabric: GRB66. Count: 9, Weight: 111.8g, RE: 100%. AD70–130, perhaps AD70–80. Field 258; Context **27157**; fill of pit **27156**. Period 4. Figure 5.40.

505. Incomplete small jar version of type JVA1 everted rim jar; slightly rebated. Fabric: GRA30. Count: 1, Weight: 3g, RE: 7%. AD70–130. Field 258; Context **27261**; fill of pit **27260**. Period 4. Figure 5.40.

506. Incomplete type JVA1 rebated-rim jar. Fabric: OAB19. Count: 2, Weight: 20g, RE: 21%. Neronian–early Flavian. Field 265; Group **29958**; Context **31752**; earthen floor. Period 4. Figure 5.40.

507. Incomplete type JV jar with everted rim, grooved internally. Fabric: OAC9. Count: 2, Weight: 10.6g, RE: 10%. Neronian–early Flavian. Field 258; Context **26252**; fill of gully **26251**. Period 4. Figure 5.40.

508. Incomplete type JW1 (variant) jar with everted, blunt-ended rim and zone of double row of stabbing on the shoulder. Fabric: GRC31. Count: 7, Weight: 105.1g, RE: 13%. Neronian–early Flavian. Field 229; Context **33722**; fill of ditch **33798**. Period 4. Figure 5.40.

509. Incomplete type JW1 rilled jar with short everted rim. Fabric: GRC36. Count: 3, Weight: 66.7g, RE: 18%. Neronian–early Flavian. Field 258; Context **15308**; second fill of pit **15215**. Period 4. Figure 5.40.

510. Incomplete jar with rather square-sectioned rim, as those for type JW1. Fabric: GRC31. Count: 1, Weight: 16.5g, RE: 6%. Neronian–early Flavian. Field 258; Group **28171**; Context **27414**; aggregate surface of RR4. Period 4. Figure 5.40.

511. Incomplete large type JW1 jar with stubby everted rim and shoulder grooves. Fabric: GRC33. Count: 3, Weight: 29.1g, RE: 6%. Neronian–early Flavian. Field 258; Group **28131**; Context **26769**; third fill of pit **15406**. Period 4. Figure 5.40.

512. Almost complete type JW3 rilled, neckless jar with short, tapered rim, softly everted. Fabric: GRA32c, perhaps a GRC35 fabric. Count: 28, Weight: 434.7g, RE: 23%. AD70+. Field 258, Group: 28131; Context **23004**; primary fill of pit **23002**. Period 4. Figure 5.40.

513. Incomplete neckless grooved jar with tapering, rather flat rim, similar to type JW3. Fabric: GRC32. Count: 2, Weight: 24.5g, RE: 10%. Neronian–early Flavian. Field 265; Group **29964**; Context **31716**; foundation layer of RR3. Period 4. Figure 5.40

514. Incomplete type JW3 rilled neckless jar with short everted rim. Fabric: GRA32. Count: 3, Weight: 23.8g, RE: 16%. AD70+, perhaps early Flavian. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Figure 5.40.

515. Incomplete type JW3 neckless jar with short, tapered rim, softly everted, and rilled body. Fabric: GRC36. Count: 39, Weight: 527g, RE: 55%. Neronian–early Flavian. Field 258; Context **26944**; second fill of ditch **15232**. Period 4. Figure 5.40.

516. Incomplete type JW4 jar with triangular rim, flat on top. Fabric: GRB77. Count: 1, Weight: 60.2g, RE: 20%. Neronian–early Flavian. Field 258; Group **28131**; Context **27054**; second fill of pit **27005**. Period 4. Figure 5.40.

517. Almost complete type JW4 large jar with short projecting, rather triangular rim, flat on top, and rilled body. The rilling is in groups with blank spaces between. Fabric: GRB77. Count: 55, Weight: 1050.7g, RE: 100%. Neronian–early Flavian. Field 258, Group **28161**; Context **15028**; primary fill of ditch **15027**. Period 4. Figure 5.40.

518. Incomplete type JX1 jar with stabbed body, short everted rim and shoulder groove above stabbed zone. Fabric: GRB69. Count: 9, Weight: 45.2g, RE: 7%. Neronian–early Flavian. Field 258; Context **26390**; fourth fill of pit/cistern **26389** and **26399**. Period 4. Figure 5.40.

519. Incomplete type JX1 everted-rim jar/beaker, with stabbed decoration all over and shoulder groove. Fabric: GRB69. Count: 1, Weight: 39.1g, RE: 26%. Neronian–early Flavian. Field 246; Group **31208**; Context **15899**; layer overlying deposit **16177** of RW4. Period 4. Figure 5.40.

520. Incomplete type JX1 jar with short everted rim and shoulder groove above stabbed zone. Fabric: GRB69. Count: 14, Weight: 112.1g, RE: 13%. Neronian–early Flavian. Field 258; Group **28158**; Context **26943**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.40.

521. Incomplete type JX1 grey jar with short everted rim and shoulder groove above all-over stabbed zone. Fabric: GRB69. Count: 7, Weight: 75.9g, RE: 29%. Neronian–early Flavian. Field 258, Group **28131**; Context **27054**; second fill of pit **27005**. Non-adjoining body sherds with sherds from a similar or the same vessel are present in context **27006** (not illustrated). Period 4. Figure 5.40.

522. Incomplete type JX2 stab-decorated jar with everted rim with slight rebate. Fabric: GRB69. Count: 6, Weight: 65g, RE: 39%. Neronian–early Flavian. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.40.

523. Incomplete type JY1 large jar with blunt-ended everted rim and zone of decoration demarcated by grooves on the shoulder, above multiple grooves with narrow blank zones between. In the shoulder zones, roughly executed wavy line combing runs, partially overlapping the uppermost groove. Fabric:

GRB78. Count: 3, Weight: 314.7g, RE: 46%. Neronian–early Flavian. Field 246; Group **31284**; Context **15654**; second fill of ditch **15537**. Period 4. Figure 5.40.

524. Incomplete type K1 small, everted-rim Braives imported beaker with shoulder cordon. Fabric: MG5. Count: 1, Weight: 5.6g, RE: 12%. AD43–70. Field 258; Group **28131**; Context **15350**; sixth fill of pit **15349**. Period 4. Figure 5.40.

525. Incomplete type K1 short everted rim for very thin-walled beaker. Fabric: GRA28. Count: 4, Weight: 8.2g, RE: 14%. Neronian–Flavian. Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104**, **24195**. Period 4. Figure 5.40.

526. Incomplete butt beaker copying type KA Cam 113. Fabric: OBB8. This is not an imported NOG WH3 beaker. Count: 1, Weight: 14.4g, RE: 11%. AD43–70. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.40.

527. Incomplete type KA4 butt beaker-type vessel with a tall everted, blunt-ended rim. Fabric: GRB73. Count: 1, Weight: 50.2g, RE: 21%. Neronian–early Flavian. This is similar to butt beaker copies in Lincolnshire (at Lincoln, Darling and Precious 2014, 93 no. 728; at Dragonby, Elsdon 1996, group 11 in Conquest and pre-Flavian levels). Field 246; Context **24852**; fourth fill of ditch **24842**. Period 4. Figure 5.40.

528. Incomplete type KA7 grooved rim from a pedestal beaker as Cam 76. Fabric: TRiB. Count: 7, Weight: 7.3g, RE: 2%. Tiberian–post-conquest. Field 258; Group **28156**; Context **15224**; second fill of ditch **15193**, **15223**, **26042** and **26886**. Period 4. Figure 5.40.

529. Incomplete type KC1 globular beaker/jar with short everted rim. Fabric: OAB19. Count: 4, Weight: 87.7g, RE: 32%. Neronian–early Flavian. Field 258; Context **26021**; primary fill of pit **26019**. Period 4. Figure 5.40.

530. Incomplete type KC1 small, globular, everted-rim beaker. Fabric: OBB5. Count: 10, Weight: 40.1g, RE: 17%. Late 1st century? Field 246; Group **31275**; Context **16138**; primary fill of ditch **15530=24257**. Period 4. Figure 5.40.

531. Incomplete type KP jar/beaker sherd with white-painted/en barbotine circle. Ring-and-dot beaker. Fabric: OAB19. Count: 1, Weight: 12.8g, RE: 0%. Neronian–early Flavian. Field 258; Group **28151**; Context **27460**; fourth fill of pit/latrine **27461**. Period 4. Figure 5.40.

532. Incomplete type KRa1 Central Gaulish everted-rim roughcast beaker. Very abraded. Fabric: CG CC. Count: 46, Weight: 50.6g, RE: 17%. AD43–70 but can be found in early Flavian contexts. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.40.

533. Incomplete type KRa1 Central Gaulish everted-rim roughcast beaker. Fabric: CG CC2. Count: 1, Weight: 3.6g, RE: 0%, AD43-70 but can be found in early Flavian contexts. Field: 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.40.

534. Incomplete type KRA1 everted rim roughcast beaker. Fabric: LYON. Count: 2, Weight: 5.4g, RE: 20%. c.AD43–80. Field 258; Context **15113**; primary fill of pit **15077**. Period 4. Figure 5.40.

535. Incomplete type KS1, Cam 120 carinated beaker. Fabric: TN EGGS. Count: 12, Weight: 59.1g, RE: 21%. Neronian–early Flavian. Field 246; Context **15857**; fourth fill of ditch **15869**. Period 4. Figure 5.40.

536. Incomplete type KT2 reduced silty ware short everted-rim sherd with slight rebate. Fabric: GRA29. Count: 1, Weight: 3.8g, RE: 5%. Tiberian-Claudian–early Neronian. Field 258; Structure 38; Group **28178**; Context **27530**; fourth fill of oven/kiln/corn drier **27529** in Structure 35. Period 4. Figure 5.40.

537. Incomplete type KT2 beaker with rebated rim and rouletted decoration. Fabric: GRA32C. Count: 22, Weight: 195.3g, RE: 80%. AD70–130. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.40.

538. Incomplete type K small, everted rim from a beaker. Fabric: CG GLZ. Count: 1, Weight: 0.8g, RE: 10%. AD43–70 but can be found in early Flavian contexts. Field 258; Context **15422**; fill of ditch **15421**. Period 4. Figure 5.40.

539. Incomplete type K small beaker or jar with rolled rim. Fabric: FLA40. Count: 1, Weight: 6g, RE: 6%. Probably Mid- to late 1st century. Field 258; Context **15422;** fill of ditch **15421**. Period 4. Figure 5.40.

540. Incomplete pedestal base of a type K beaker as Type Cam 74–6. Fabric: TR1A. Count: 1, Weight: 4.5g, RE: 0%. Tiberian–post-conquest. Field 246; Group **31222**; Context **16389**; layer of disturbed buried soil. Period 4–5. Figure 5.40.

541. Incomplete type KA beaker with hollow cordon and incised lattice. Related to butt beaker type. Fabric: OAA11. Count: 1, Weight: 5.9g, RE: 0%. AD65–70. Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104**, **24195**. Period 4. Figure 5.41.

542. Incomplete type KA2 butt beaker, as Cam 112. Fabric: OAA12/TR3. Count: 1, Weight: 5.8g, RE: 9%. Tiberian–c.AD50. Field 246; Context **31050**; fill of ditch **31037**. Period 4. Figure 5.41.

543. Incomplete Type KA7 pedestal beaker with grooved rim, as Cam 76. Fabric: TRiB. Count: 9, Weight: 12.7g, RE: 6%. Tiberian–post-conquest. Field 246; Group **31207**; Context **24146**; cleaning layer over stone raft group **31240**. Period 4. Figure 5.41.

544. Almost complete type KC round-bodied jar/beaker with everted rim and rouletting, with a rough perforation in the middle of the base. Fabric: GRB66. Count: 6, Weight: 176.9g, RE: 75%. c.AD60/70+. Field 258; Group **28158**; Context **26617**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.41.

545. Incomplete type KI indented beaker. Fabric: GRA3. Count: 1, Weight: 8.9g, RE: 0%. 3rd century AD. Field 246; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**. Period 4. Figure 5.41.

546. Incomplete everted-rim globular beaker with traces of red paint. Perhaps a ring-and-dot beaker of type KP2. Fabric: FLA36. Count: 12, Weight: 47.2g, RE: 20%. Mid- to late 1st century AD. Field 246; Group 31218, Context **15807**; fourth fill of ditch 15806. Period 4. Figure 5.41.

547. Incomplete type KP2 small globular beaker with short, rather upright rim decorated with rings formed of barbotine dots. As London type IIIF1, dated Flavian (Marsh and Tyers 1978). Fabric: GRA6. Count: 12, Weight: 136.8g, RE: 63%. Late Neronian–early Flavian. Field 265; Group **29959**; Context **31742**; midden deposit below Structure 39. Period 4. Figure 5.41.

548. Incomplete type LA plain rim lid. Fabric: GRA30. Count: 1, Weight: 32.8g, RE: 10%. AD70+. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Figure 5.41.

549. Incomplete type LB blunt ended lid. Fabric: GRB69. Count: 2, Weight: 6.3g, RE: 6%. Neronian–early Flavian. Field 258; Group **28131**; Context **26207**; sixth fill of pit **26201**. Period 4. Figure 5.41.

550. Incomplete type LC lid with upturned rim. Fabric: OAA4. Count: 1, Weight: 37.5g, RE: 12%. AD70+. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**. Period 4. Figure 5.41.

551. Incomplete type LD2 grooved rim lid. Fabric: GRB30. Count: 1, Weight: 35.7g, RE: 6%. AD70+. Field 265; Context **31511**; fill of road-side ditch **31510**. Period 4. Figure 5.41.

552. Incomplete type LD grooved rim lid. Fabric: GRB69. Count: 1, Weight: 17.3g, RE: 6%. Neronian–early Flavian. Field 258, Structure 35; Group **27178**; Context **27589**; second fill of oven/kiln/corn drier **27529** in Structure 35. Period 4. Figure 5.41.

553. Incomplete type LE Lid with bead rim turned under. Fabric: GRC36. Count: 1, Weight: 22.1g, RE: 10%. Neronian–early Flavian. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.41.

554. Incomplete type LH lid with blunt-ended rim. Fabric: PRW6X. Count: 10, Weight: 34.7g, RE: 24%. Flavian–early 2nd century AD. Field 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.41.

555. Incomplete type LH lid with blunt-ended rim. Fabric: OBA10. Count: 2, Weight: 10.2g, RE: 8%. Flavian–early 2nd century AD. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Figure 5.41.

556. Incomplete type NJ1 narrow-necked jar with everted rim. Fabric: GRB6. Count: 22, Weight: 277g, RE: 71%. Late 1st–early 2nd century AD. Field 228; Group **28429**; Context **28324**; fill of gully **28323**. Period 4. Figure 5.41.

557. Incomplete type NJ1 narrow-necked everted rim jar. Fabric: GRB69. Count: 22, Weight: 140.2g, RE: 23%. Neronian–early Flavian. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.41.

558. Incomplete type NJ1 everted-rim, narrow-necked jar with zone of acute lattice burnish, demarcated by grooves outside upper body and zone of burnished oblique lines on zone on shoulder. Fabric: GRA36. Count: 8, Weight: 304.8g, RE: 17%. AD70+. Field 258; Context **15113**; primary fill of pit **15077**. Period 4. Figure 5.41.

559. Incomplete type NJ1 narrow-necked jar with everted-rim tip and a cordon around base of the neck. Fabric: GTA. Count: 18, Weight: 339.5g, RE: 15%. Neronian–early Flavian. Field 258; Group **28156**; Context **15194**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.41.

560. Incomplete type NJ2 bead-rim, narrow-necked jar. Fabric: GRB75. Count: 1, Weight: 8g, RE: 10%. Neronian–early Flavian. Field 246; Group **31286**; Context **24267**; fill of hollow-way **31244**. Period 4. Figure 5.41.

561. Incomplete type NJ3 narrow-necked jar with out-curving rim. Fabric: GRB6. Count: 1, Weight: 16.5g, RE: 14%. AD70+. Field 258; Group **28133**; Context **26231**; second fill of ditch **15063**. Period 4. Figure 5.41.

562. Incomplete type NJC1 narrow-necked jar with everted rim and corrugated body. Fabric: GRB66. Count: 38, Weight: 299.2g, RE: 81%. c.AD60/70+. Field 258; Context **26309**; primary fill of pit **26308**. Period 4. Figure 5.41.

563. Incomplete type NJC1 grey ware jar with a narrow neck and everted rim. Single cordons are on the shoulder and base of the neck and the upper body had zones demarcated by grooves. Fabric: GRA35. Count: 41, Weight: 1834.8g, RE: 100%. Mid- to late 1st century AD, possibly AD70+. Field 258; Group **28156**; Context **15221**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.41.

564. Incomplete type NJC2 narrow-necked jar with everted bifid rim and zones demarcated by grooves and cordons and burnished oblique lines. Fabric: GRC37. Count: 14, Weight: 462.4g, RE: 41%. Neronian–early Flavian. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Figure 5.41.

565. Incomplete type PG3 Peacock type 1 Pompeian red platter. Fabric: PRW1. Count: 1, Weight: 13.8g, RE: 9%. c.AD40–80. Field 258; Group **28156**; Context **27313**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.41.

566. Incomplete type PG3 burnt sherd from Pompeian red platter. Fabric: PRW1. Count: 1, Weight: 6.3g, RE: 2%. c.AD40–80. Field 258; Group **28131**; Context **15363;** third fill of pit **15336**. Period 4. Figure 5.41.

567. Incomplete type PJ3 platter as Cam 16. Fabric: TN. Count: 2, Weight: 19.7g, RE: 18%. c.AD45–75. Field 246; Context **24972**; fill of ditch **31243**. Period 4. Figure 5.41.

568. Foot-ring from a type PJ3 platter, as Cam 16. Fabric: TN. Count: 2, Weight: 7.8g, RE: 0%. AD45–75. Field 246; Context **24110**; fourth fill of ditch **15869**, second pellet mould dump? Period 4. Figure 5.41.

569. Incomplete type P, form YORK 4084 plain rim vessel with internal moulding and external cordon platter or lid. Fabric: OAB19. Count: 3, Weight: 31.3g, RE: 10%. Neronian–early Flavian. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.41.

570. Sherds from a type PD1 plain-rim platter with triple concentric grooves inside the perimeter of the base and a double concentric groove inside the base, around the centre. Fabric: GRA6. Count: 14, Weight: 176.9g, RE: 27%. Flavian? Field 265; Structure 39; Group **29959**; Context **31742**; midden deposit below Structure 39. Period 4. Figure 5.41.

571. Neat splayed base of small jar or beaker. Fabric: GRA28. Count: 4, Weight: 29.9g, RE: 0%. c.AD50–60/70. Field 246; Context **24413**; fourth fill of ditch **15869**, second pellet mould dump? Period 4. Figure 5.41.

572. Incomplete wide-mouthed jar or bowl with cordoned carinated shoulder. Fabric: GRB66. Count: 3, Weight: 122.8g, RE: 21%. Neronian–early Flavian? Field 265; Structure 39; Group **29959**; Context **31742**; midden deposit below Structure 39. Period 4. Figure 5.41.

573. Incomplete type WJA1 wide-mouthed jar or bowl with everted rim. Very abraded. Fabric: GRB69. Count: 10, Weight: 141.5g, RE: 27%. Neronian–early Flavian. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Figure 5.41.

574. Rim and body of a type WJA2 wide-mouthed jar with beaded rim, long neck decorated with obtuse lattice burnish and with a cordon on the change of slope between the neck and the shoulder. Fabric: GRB69. Count: 9, Weight: 72.4g, RE: 11%. Neronian–Flavian. Field 246; Context **24413**; third fill of ditch **24842**, second pellet mould dump? Period 4. Figure 5.41.

575. Rim from a type WJA2 bead rim necked jar. Fabric: GR66. Count: 1, Weight: 12, RE: 7%. c.AD60/70+. Field 265; Group **29964**; Context **31716**; foundation layer of RR3. Period 4. Figure 5.41.

576. Perforated base from a plain jar. Fabric: GRB. Count: 1, Weight: 23.5g, RE: 0%. AD70+. Field 258; Group **28162**; Context **27408**; third fill of ditch **26035** to the south of section 4696. Period 4. Figure 5.41.

577. Base and body of jar with rouletting. Fabric: GRB70. Count: 16, Weight: 488.5g, RE: 0%. Neronian–early Flavian. Field 258; Group **28158**; Context **26617**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Figure 5.42.

578. Body sherd from a rouletted beaker. Fabric: GRC35. Count: 1, Weight: 5.1g, RE: 0%. Neronian–early Flavian. Field 246; Group **31244**; Context **24240**; fill of hollow-way 31244. Period 4. Figure 5.42.

579. Fragment of a cheese press base. Fabric: OAB19 or OAA4. Count: 1, Weight: 17.9g, RE: 0%. Neronian–early Flavian. Field 258; Group **28158**; Context **26943**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**. Period 4. Figure 5.42.

580. Incomplete type MINI miniature vessel. Fabric: GRC. Count: 1, Weight: 6.1g, RE: 0%. Neronian–early Flavian. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**. Period 4. Figure 5.42.

581. Extremely battered portion from the base of a type YP cheese press. Fabric: OAB19. Count: 1, Weight: 26.9g, RE: 0%. Neronian–early Flavian. Field 258; Context **15312**; fill of pit **15311**. Period 4. Figure 5.42.

582. Type YV tripod leg. Fabric: PRW1X. Count: 1 Weight: 18.4g, RE: 0%. Flavian–early 2nd century AD. Field 258; Group **28131**; Context **26660**; second fill of pit **26582**. Period 4. Figure 5.42.

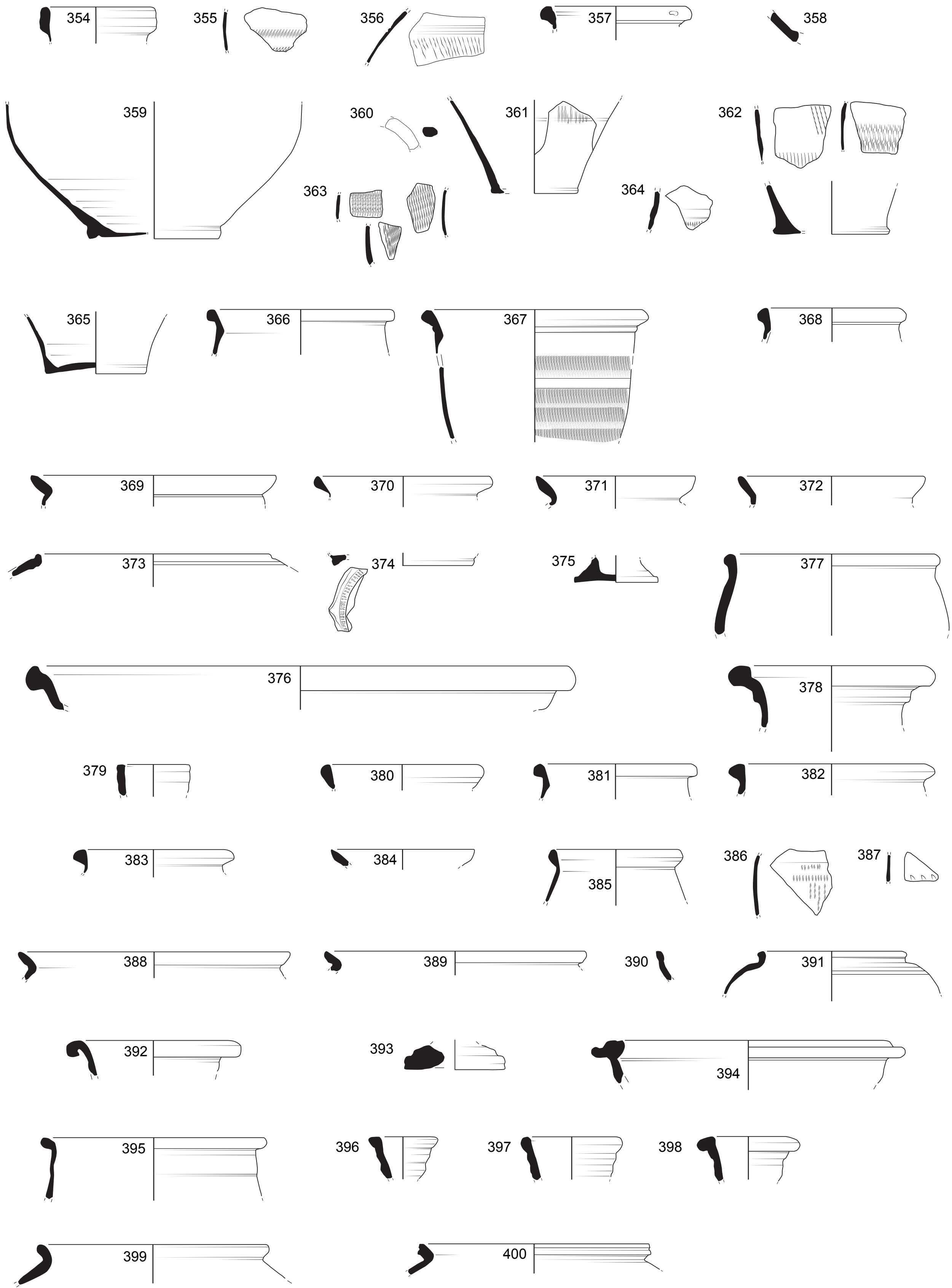


Figure 5.36: coarseware pottery, Cat. nos 354–400. All vessels are illustrated at 1:4 unless stated otherwise.

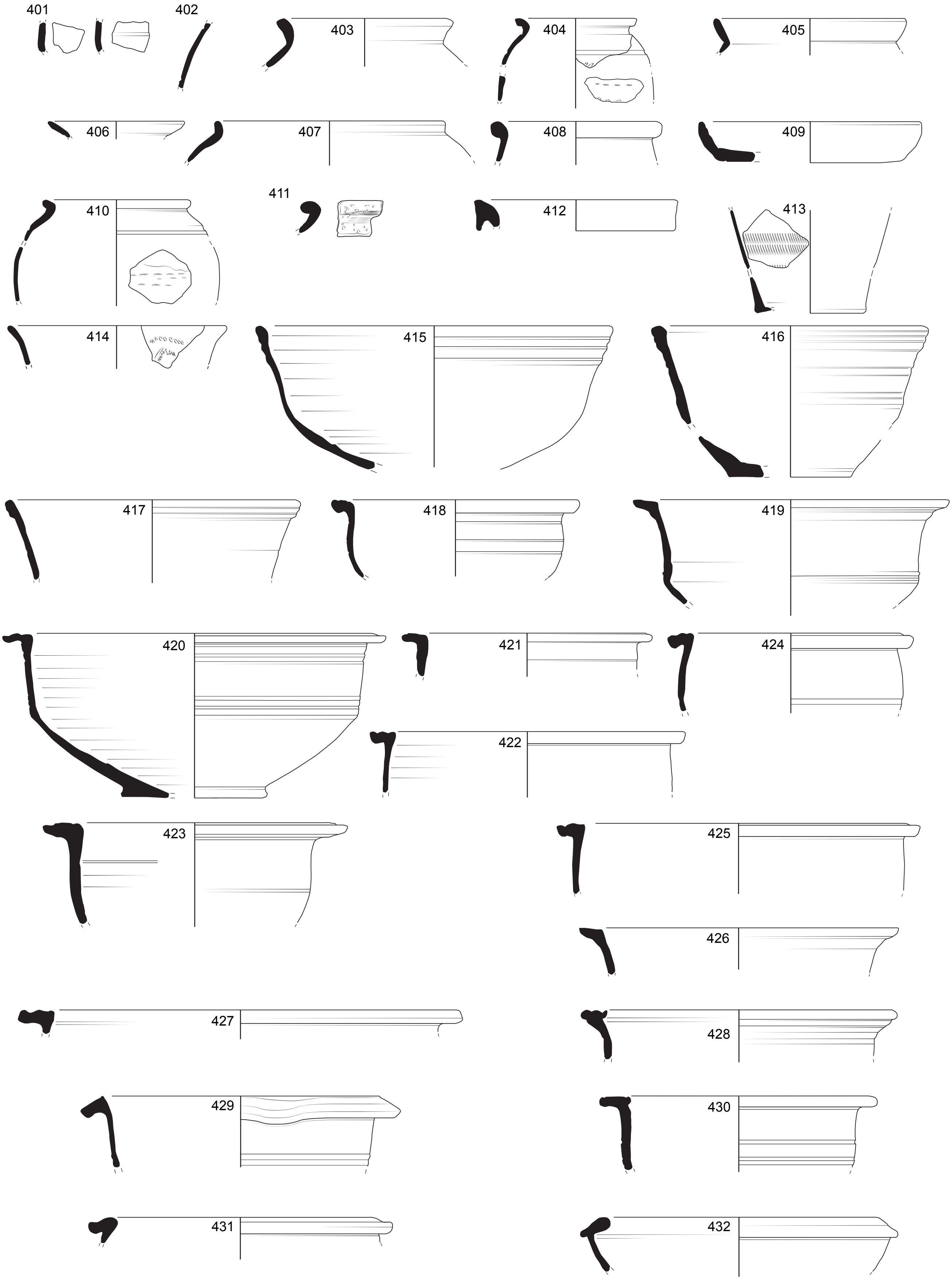


Figure 5.37: coarseware pottery, Cat. nos 401–432.

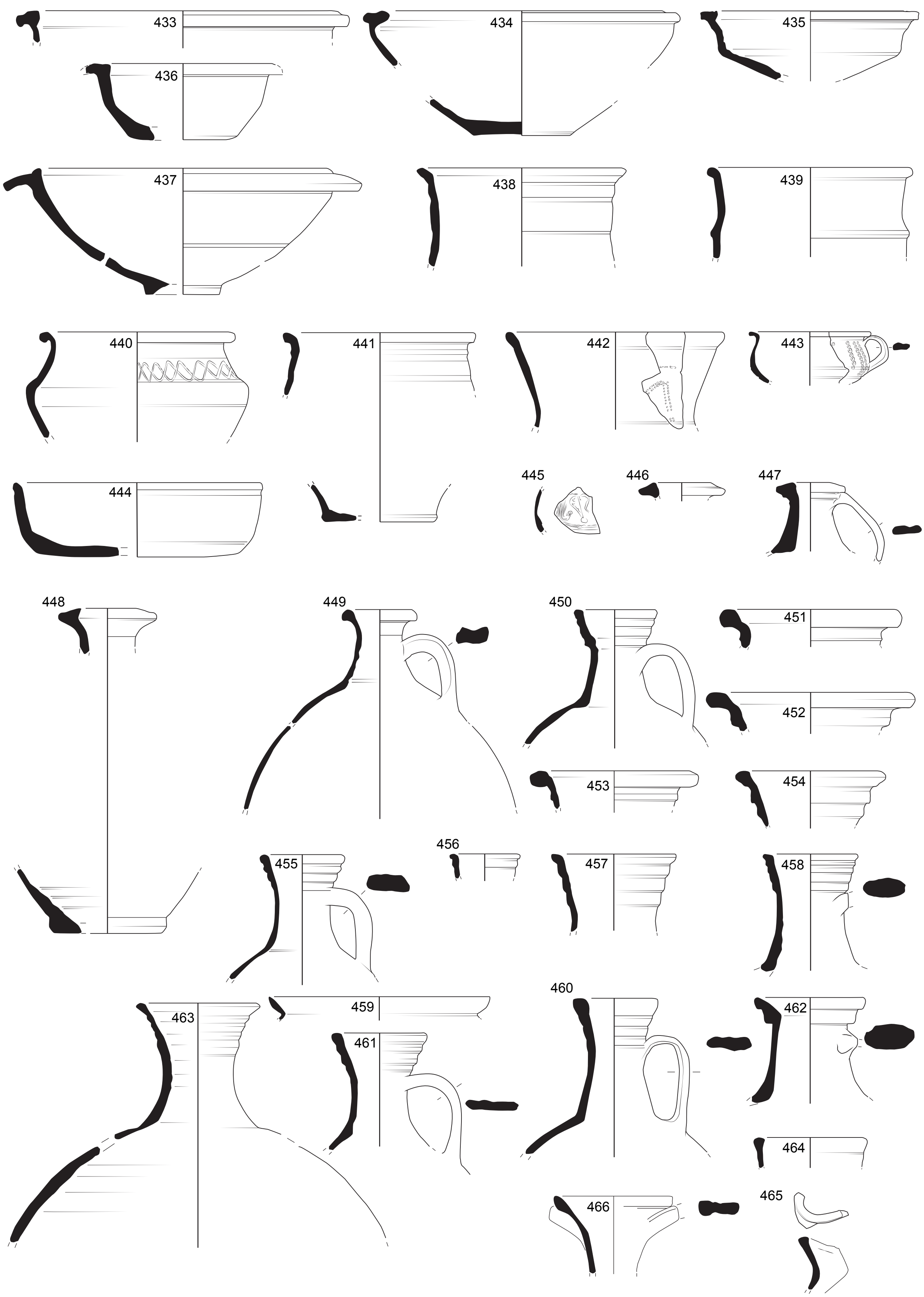


Figure 5.38: coarseware pottery, Cat. nos 433–465.

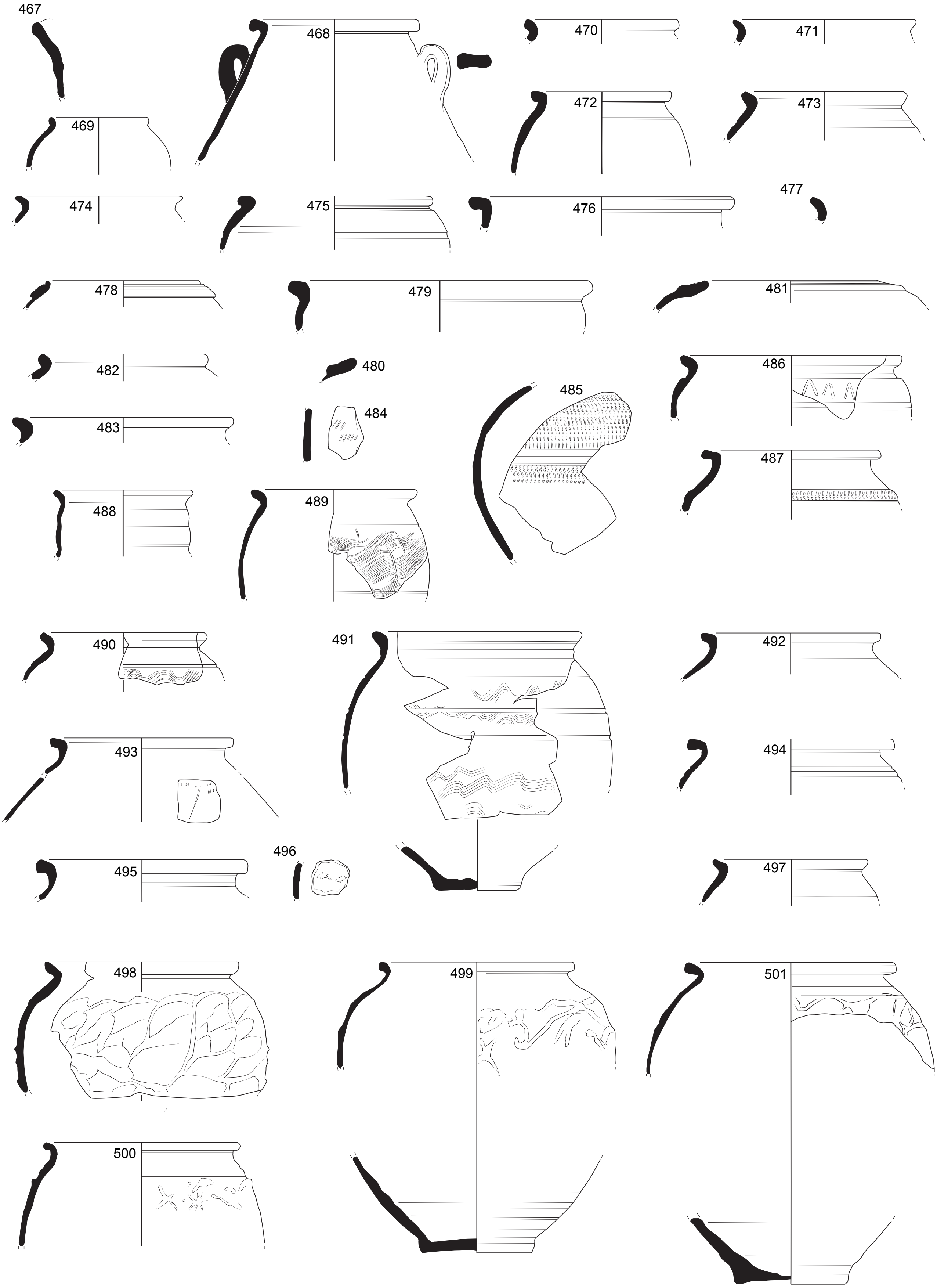


Figure 5.39: coarseware pottery, Cat. nos 467–501.

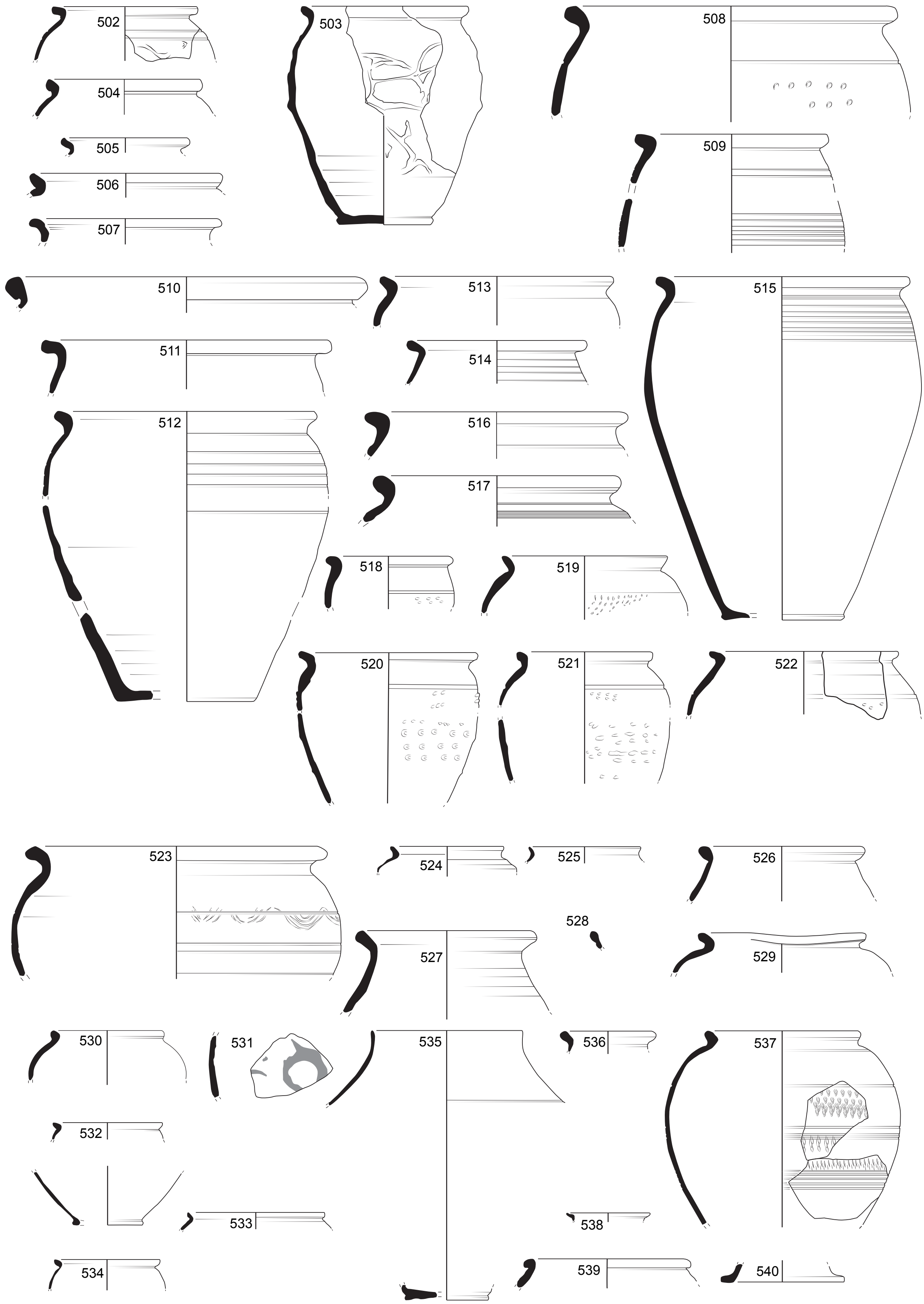


Figure 5.40: coarseware pottery, Cat. nos 502–540.

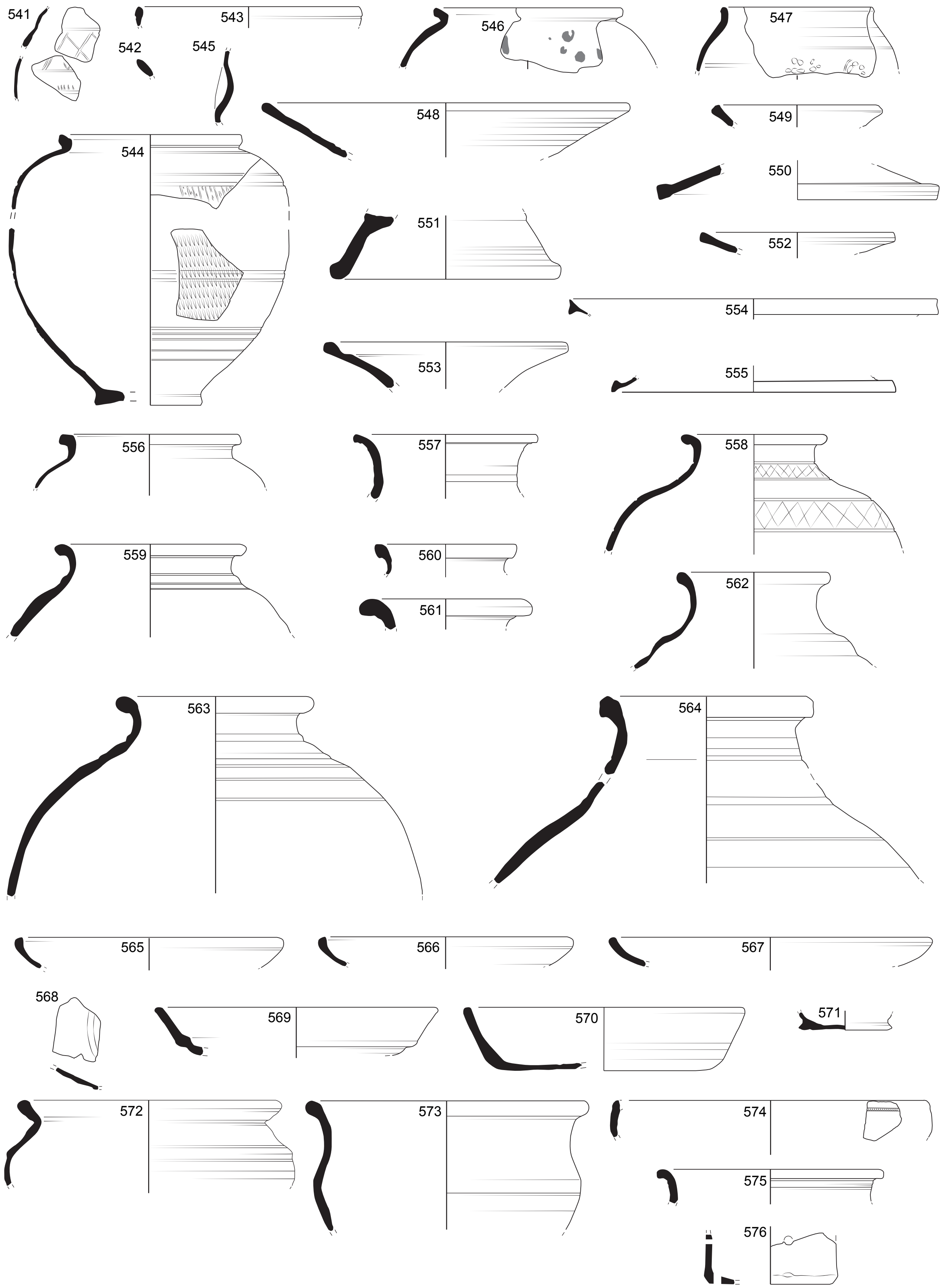


Figure 5.41: coarseware pottery, Cat. nos 541–576.

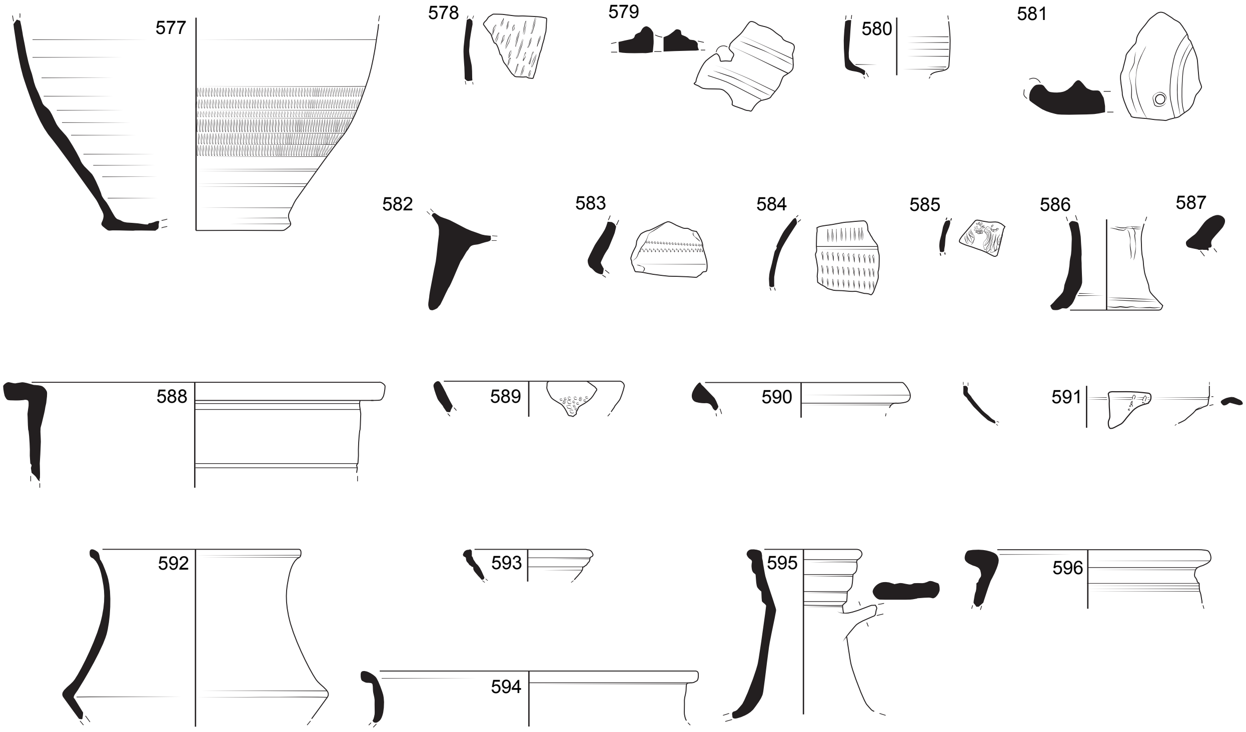


Figure 5.42: coarseware pottery, Cat. nos 577–596.

583. Carinated sherd with rouletted decoration, probably from carinated beaker/bowl. Fabric: GRA38. Count: 1, Weight: 3.6g, RE: 0%. AD70–130, possibly AD70–80/90. Field 258; Group **31286**; Context **24093**; fill of gully/wheel rut **24089**. Sample AA. Period 4. Figure 5.42.

584. Rouletted body sherd from a type JM barrel jar. Similar to type LG with zones of decoration demarcated by cordons and grooves. Fabric: GRB69. Count: 1, Weight: 7g, RE: 0%. Neronian–early Flavian. Field 265; Group **29964**; Context **31716**; foundation layer of RR3. Period 4. Figure 5.42.

585. Body sherd from a Central Gaulish fine ware flagon (Greene 1979, fig. 40 no. 2). Fabric: CG GLZ. Count: 1, Weight: 1.7g, RE: 0%. AD43–70 but can be found in early Flavian contexts. Field 258; Group **28133**; Context **26231**; second fill of ditch **15063**. Period 4. Figure 5.42.

586. Neck of ring-necked flagon. Fabric: GRB72. Count: 1, Weight: 40g, RE: 0%. Neronian–early Flavian. Field 228; Group **28456**; Context **27970**; second fill of ditch **27918**. Period 2–4. Figure 5.42.

587. Incomplete round or carinated bowl with undulating rim overhanging internally. Type BCb1. Fabric: GRC31. Count: 2, Weight: 15.9g, RE: 9%. Neronian–early Flavian. Field: 229; Group **33803**; Context **33727**. Primary fill of ditch **33743**. Period 4–5. Figure 5.42.

588. Incomplete reeded-rim bowl with rounded body and double groove outside upper body. Type BC1. Fabric: GRB70. Count: 3, Weight: 225.9g, RE: 25%. Neronian–early Flavian. Field: 265; Context **31725**. Midden material between RR5 and RR6. Period 4–5. Figure 5.42.

589. Incomplete rim of a butt beaker with bead rim, cordoned below rim and flat internal surface. Type KA1, Cam 113. Fabric: NOG WH3. Count: 1, Weight: 5.3g, RE: 5%. 10BC–AD70. Field 246; Context **31003**; stone surface. Period 4–5. Figure 5.42.

590. Incomplete butt beaker with lentoid rim. Type KA2, Cam 112. Fabric: TR3. Count: 1, Weight: 3.3g, RE: 4%. Tiberian–c.AD50. Field: 246; Context **31003**; stone surface. Period 4–5. Figure 5.42.

591. Three body sherds from a Central Gaulish fine ware Greene type 10 cup. Fabric: CG GLZ. Count: 3, Weight: 5g, RE: 0%. AD43–70 but can be found in early Flavian contexts. Field 265; Context **31733**. Midden material between RR5 and RR6. Period 4–5. Figure 5.42.

592. Incomplete carinated beaker with upright plain rim slightly everted. Type KS1. Fabric: GRA32. This form compares to the Cam 120 beaker form. Cam 120 is an imported form in eggshell TN dated to the Neronian–Flavian period. An Eggshell TN example is present in context **15857**. This copy in grey ware. Bidwell and Croom give the form a date of AD55–90 at Colchester (1999, 473). Count: 3, Weight: 26.8g, RE: 11%. AD70–130 possibly early Flavian. Field 265; Structure 39; Group **29955**; Context **31660** and **31663**. Foundation layer of Structure 39. Period 5. Figure 5.42.

593. Incomplete ring-necked flagon with upright rim. Type FR1. Fabric: OAA5. Count: 14, Weight: 66.1g, RE: 16%. Neronian–early Flavian. Field 246; Context **24892**; subsoil. No Period. Figure 5.42.

594. Rim and upper body sherd from wide-mouthed vessel with short, everted rim. Fabric: CTH1. Perhaps a carinated bowl of BJ3 group. Count: 2, Weight: 12.2g, RE: 12%. Neronian–early Flavian. Field 258; Context **27535**. Primary fill of ditch **27228**. Medieval to post-medieval. Figure 5.42.

595. Incomplete upright ring-necked flagon with evenly spaced rings, partially reduced. cf. Gillam (1970) no.1. Fabric: OAB19. Count: 8, Weight: 184.3g, RE: 85%. Neronian–early Flavian. Field 228; Context **28257**; unstratified subsoil. No period. Figure 5.42.

596. Slightly distorted rim from rebated-rim jar. The form with the lid seating just beside the inner edge of the rim is similar to bifid lid-seated jars made in the Trent Valley and South Yorkshire kilns (Buckland *et al.* 1980, type Ec). Fabric: GRB6. Count: 1, Weight: 6.6g RE: 0%. AD70–130. Field 265; Context **31501**. Subsoil. No period. Figure 5.42.

POTTERY CHRONOLOGY

The pottery sherds came from a variety of features across 5.20ha. Although key stratified sequences were excavated and assigned to Periods 1–5, about 5% of the ceramic assemblage based on sherd count came from contexts that were not assigned to the Iron Age to Roman stratified sequence in any way. Even in contexts that did form part of the sequence, about 15% of the assemblage was recovered from fills spanning more than one Period. Consequently, there was a danger that reasoning could easily become circular in the analysis of the ceramic chronology. In view of this, the pottery from key stratified assemblages in single-Period groups is presented in detail for Periods 1–4. Significant vessels or points of interest derived from groups that were open over two or more Periods (transitional groups) are also discussed. The fabrics, wares and vessel types in each Period are summarised in the pottery sequence and chronology section. Details of fabrics and forms for each pottery category as well as quantified details of the pottery from key groups are in Appendix E.

Key groups for Period 1–2 and Period 2

Many of the pottery groups from Period 2 were made up of small and abraded sherds. However, 13 well-stratified groups of reasonable size are discussed here in more detail.

*Table 5.61: trench **16410** pottery summary.*

Period	Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
2	A	CAM AM		5	25.3	–	–
			CAM 139v	2	20.6	12.5	–
		ITAL AM		1	0.9	–	–
	HM	H2 Fine quartz	Wedge-rim Jar type	2	68	–	–
		H2 Quartz	Wedge-rim Jar	1	24	10	–
	Italian–type	Italian–type		2	14	–	–
	NOG WH	NOG WH3	KA	22	120	–	6,8 and 9
	OBB	OBB11		2	13.5	–	–
	SAMSG	SAMLG	dish	1	5	–	–
			DR24	5	6	–	–
			DR24/25	5	4	19	–
			DR29	2	4	–	–
				6	2	–	–
		SAMSG		1	1	–	–
	TN	TN	P	1	4.8	–	374
	TR	TR3	closed vessel	1	1.7	–	–
4	A	CAM AM		16	116.2	–	–
			CAM139/ Dressel 2–4	1	35.4	–	–
		ITAL AM	Dressel 2–4	1	19.2	–	–
		N CAM AM	CAM 139v	7	39.2	–	–
	BSA group	GRA28	footring	1	1.2	–	–
			KA	2	9.6	–	–
	BSB group	GRB69	JR	1	22.4	–	–
			L	1	62.2	–	–
	Fine Oxidised ware	OAA11		1	2.7	–	–
		OAA15	closed vessel	1	3.4	–	–
	FLA	FLA5		2	3.2	–	–
	GRA	GRA32	closed vessel	3	50.6	–	–
	HM	H2	Closed vessel	1	2	–	–
		H2 Quartz	Closed vessel	2	19	–	–
			U/ID	3	42	–	–
		H2 Quartz and rock	Closed vessel	1	34	–	–
			U/ID	2	33	0	–
		H2 Rock	Closed vessel	3	30	–	–
		H4	U/ID	4	281	–	–
	Italian–type	Italian–type	platter	3	25	–	–
	M	MOX	G237v	1	5.5	–	–
	NOG WH	NOG WH2	F	1	14.7	–	–
			FH3	1	35.3	23	412
		NOG WH3	KA	8	49	6	–
			KA1	6	24.9	–	–
	OAA	OAA1		1	2.2	–	–
	OAB	OAB1	FR1B	4	38.8	25	–
	OAB19	OAB19		5	66.1	–	–

*Table 5.61: trench **16410** pottery summary (continued).*

Period	Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
	OAC9	OAC9	closed vessel	1	4.2	–	–
	OBB	OBB6		1	3.2	–	–
	SAMSG	SAMLG	cup	1	12	–	–
			dec bowl	1	1	–	–
			dish	1	5	–	–
			DR29	4	10	4	–
				5	3	–	–
	TN?	GRA37	P	1	12.8	–	–
Total				**157**	**1433.8**	**99.5**	

Table 5.62: Structure 47 pottery from Period 2 contexts.

Period	Structure	Ware	Fabric	Type series	No.	Weight (g)	Rim %	Drawn
1–2	47i	Early gritty ware 1	GRB77, ?handmade		1	5	–	–
	47ii	A	CAM AM		2	3.8	–	–
		FLA	FLA5	closed vessel	1	7.2	–	–
		HM	H2 Coarse Rock	Bowl?	1	16	–	–
				Closed vessel	20	256	–	–
			H2 Quartz	Closed vessel	2	36	–	–
			U/ID	Closed vessel	2	2	–	–
2	47iii	A	BAT AM 1	Dressel 20	2	481.9	–	–
		CT	CT	pedestal or lid knob	8	30.8	–	375
		HM	H2 Fine quartz	Open jar?	4	23	–	–
	47iv	A	?		1	7.2	–	–
			CAM AM		8	57.5	–	–
				CAM 139v	1	9.4	–	–
			ITAL		2	16.1	–	–
		Fine Oxidised ware	OAA15		1	7.1	–	–
		GRB	GRB		1	3.4	–	–
		NOG WH	FLA38	Closed vessel	7	96	–	–
			NOG WH3	KA	1	1.9	–	11
				KA1	14	36.1	10	15
		OAB19	OAB19	Closed vessel	1	11.6	–	–
		SAMSG	SAMLG	Cup	1	3	–	–
				DR29	1	4	–	–
					1	1	–	–
		TR	OAA12/TR3	KA	1	2	–	–
		White ware (import)	FLA35	JHM	1	2.6	–	360
Total					**85**	**1120.6**	**10**	

Table 5.63: Structure 48 pottery from Period 1–2 contexts.

Ware	Fabric	T type series	No.	Weight (g)	Rim %	Drawn
A	BAT AM 1	Dressel 20	2	15.7	–	–
	CAM AM	–	1	23.4	–	–
	–	CAM 139v	1	7.9	10	224
Fine Oxidised ware	OAA15	–	2	8.4	–	–
GRB	GRB66	JA1	1	3.1	6	–
	–	JR	1	4.2	–	–
HM	H2 Coarse Rock	closed vessel	6	361	–	–
	H2 Fine quartz	Everted-rim globular jar type	7	114	–	–
	–	Closed vessel	1	1	–	–
	H2 Fine quartz and rock	Pedestal jar	1	69	–	–
	H2 Quartz	Everted-rim jar type	1	175	12	–
	H2 Quartz and rock	Closed vessel	19	43	–	–
	H2 Rock	Closed vessel	1	25	–	–
OAB19	OAB19	JR	1	12	–	–
Pale pink ware (medium)	FLA37	closed vessel	1	13.5	–	–
Grand Total			**46**	**876.2**	**28**	

Table 5.64: Structure 25 pottery from Period 2 contexts.

Ware	Fabric	Type series	No.	Weight (g)	Rim %
A	CAM AM		2	23.5	–
BSA group	GRA28	KA	1	0.9	–
NOG WH	NOG WH3		12	3.3	–
Silty ware oxidised	OAA7		5	6.3	–
Total			**20**	**34**	**0**

Table 5.65: Structure 43 pottery from Period 2 contexts.

Ware	Fabric	No.	Weight (g)	Rim %
HM	H2 Fine quartz	2	5	–
	H2 Quartz	2	1	–
	H2 Quartz and muscovite	1	7	–
	H2 Quartz and rock	2	15	–
OAB19	OAB19	1	1.3	–
Total		**8**	**29.3**	**–**

Table 5.66: summary of wares from Structures (excluding key groups) from Period 1–2 and Period 2.

	Structure	13	51ii	11	14	18	22ii	26	28	9i	9ii	**Total**
	Period	1–2	1–2	2	2	2	2	2	2	2	2	
White ware (import)	Weight (g)	–	–	8	–	–	2	–	–	–	–	**10**
	No.	–	–	1	–	–	2	–	–	–	–	**3**
Silty ware oxidised	Weight (g)	5	–	–	–	–	–	–	–	0.2	2	**7.2**
	No.	7	–	–	–	–	–	–	–	1	2	**10**
	RE	–	–	–	–	13	–	–	–	–	–	**–**
SAMSG	Weight (g)	–	–	–	–	17	–	–	4	–	–	**21**
	No.	–	–	–	–	1	–	–	1	–	–	**2**
OAA8	Weight (g)	–	–	–	–	–	–	–	–	2.9	3.1	**6**
	No.	–	–	–	–	–	–	–	–	5	2	**7**
NSP	Weight (g)	–	–	–	–	–	–	1.5	–	–	–	**1.5**
	No.	–	–	–	–	–	–	2	–	–	–	**2**
M	Weight (g)	–	3.6	–	–	–	–	–	–	–	–	**3.6**
	No.	–	1	–	–	–	–	–	–	–	–	**1**
HM	Weight (g)	33	–	–	28	–	–	–	2	–	20	**83**
	No.	1	–	–	8	–	–	–	1	–	1	**11**
BSA group	Weight (g)	–	–	–	–	–	–	–	–	–	1	**1**
	No.	–	–	–	–	–	–	–	–	–	1	**1**
A	Weight (g)	–	–	–	–	67	–	–	–	–	–	**67**
	No.	–	–	–	–	6	–	–	–	–	–	**6**
Total RE		–	–	–	–	13	–	–	–	–	–	**13**
Total weight (g)		38	3.6	7.6	28	83.9	2.3	1.5	6	3.1	26.1	**200.1**
Total		8	1	1	8	7	2	2	2	6	6	**43**

*Table 5.67: group **30883** pottery summary.*

Ware	Fabric type	Type series	No.	Weight (g)	Rim %	Drawn
BSA group	GRA28		1	1.8	–	–
Silty ware oxidised	OAA7	KA	10	21	–	355
Silty ware reduced	GRA29		30	9.5	–	–
Total			**41**	**32**	**–**	

*Table 5.68: group **31206** pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
A	BAT AM1	Dressel 20	14	383.9	–	–
	CAM AM		3	28.9	–	–
CT	CT	closed vessel	2	7.2	–	–
	VESIC	closed vessel	2	7	–	–
FLB	FLB2		1	7.1	–	–
		footring	1	21.5	–	–
HM	H2 Quartz		2	7.5	–	–
	H2 Rock		3	55	–	–
	H3 Quartz and vesicles		1	75	–	–
NOG WH	NOG WH2	FH1	6	21.1	15	354
	NOG WH3	KA	4	4.5	–	–
	NOG WH3 VARIANT	KA1	2	9.1	6	357
Pale pink ware (fine)	FLA36	F	1	4.5	–	358
SAMSG	SAMLG	DR18	1	6	6	–
Silty ware oxidised	OAA7	KA	19	42.3	–	–
		KA2	5	26.9	27	369
Total			**67**	**707.5**	**54**	

*Table 5.69: group **32646** pottery summary.*

Ware	Fabric	Type	No,	Weight (g)	Rim %	Drawn
A	CAM AM		13	118.8	–	–
	GAL AM		1	7	–	–
HM	H3 Quartz and vesicles		5	24	–	–
OAA	OAA1		1	1.7	–	–
OBA	OBA1		1	1.3	–	–
Silty ware oxidised	OAA7		5	1.5	–	–
TN	GAB TN1	PJ1	1	20.6	1	376
Total			**27**	**174.9**	**1**	

*Table 5.70: group **33103** pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %
HM	H2 Fine quartz		1	4	–
NOG WH	NOG WH3		1	0.5	–
Silty ware oxidised	OAA7		7	2.3	–
		KA	12	7.4	–
Total			**21**	**14.2**	**–**

Trench 16410

The most notable group was from trench **16410**. This group largely consisted of pottery dating to the Tiberian-Claudian period, with some later Flavian pottery having subsided into the final fill. The pottery from the primary fill comprised sherds from two hand-built wedge-rim jars in a H2 Quartz and Fine Quartz-tempered fabric, five fragments of Italian-style sigillata dating to AD10–25, as well as at least seven SAMLG vessels, including Dr.24 and Dr.24/25 cups, both dated to AD40–70, a Dr.29 bowl dated to AD45–85, three undiagnostic SAMLG sherds and one SAMSG body sherd. Monteil (this chapter) demonstrates a Claudian date for these. Alongside these samian vessels were the rim and body sherds from at least one (and perhaps two) black sand flagons (Cam 139) from the Bay of Naples, 36 sherds from several NOG WH butt beakers (Cam 113), the base of a terra nigra platter with rouletted internal wreath that dates from the time of the Claudian conquest of Britain c.AD43 to the early Flavian period, and a TR3 body sherd. This remarkable group is augmented by further sherds from the latest fill and overlying deposit of the same type, namely a sherd from the Italian style sigillata from the primary fill, more black sand flagon sherds and sherds from an Italian Dressel 2–4 wine amphora, further NOG WH butt beaker sherds, a terra nigra platter base, more samian, sherds from a North Gaulish Hofheim flagon (type FH3) of Tiberian-Claudian date, and a wider range of hand-built sherds from jars (Table 5.61). As well as these early types, an intrusive group of late Neronian–early Flavian pottery was also present, including samian dated to AD60–90, an OAB19 ring-necked flagon (form FR1b), a MOX4 mortarium sherd, a BSB group rusticated jar and knobbed lid, and a grey ware sherd. This last group belongs to Period 3–4.

The group from this feature is exceptional in the relative quantity of imported wares related to drinking and fine dining, with very few insular hand-built vessels. Although the vessels are fragmentary and incomplete, they appear to derive either from a structure in which fine imports were being used or perhaps from a single event, such as a feast or celebration in which wine-related paraphernalia featured significantly.

Structure 47

The 85 sherds from Structure 47 are predominantly made up of hand-built pottery, NOG WH3 beaker and flagon sherds, Italian wine amphora and flagon sherds, with a small number of later sherds derived from the subsidence of early Flavian material in the latest fill (wares OAB19 and GRB). The GRB77 sherd was possibly hand-built, and so may belong to the earlier HM wares. Structure 47i contained the probable hand-built GRB77 sherds, while Structure 47ii contained HM wares, one CAM AM sherd and a FLA5 sherd. Structure 47iii also contained the neck of a Dressel 20 amphora. A sherd of samian from the primary fill of Structure 47iv provides a *terminus post quem* of AD45–90, and the NOG WH3 beaker and flagon sherds came from this phase of the feature, along with the terra rubra sherd and intrusive later wares. The latest fill included the samian vessels dated AD40–70 and AD45–60. This sequence suggests initial activity may have been as early as Period 1, while final infill took place around the time of the Roman conquest.

Structure 48iv

The assemblage from Structure 48 had few imports—just two sherds each of Italian and Dressel 20 amphorae—with predominantly hand-built jars and early Flavian jar sherds, including rusticated ware from the second fill that is considered intrusive from the overlying Period 4 occupation layer (**16288**/**24161**).

Structure 25

The small group from Structure 25 contained no hand-built sherds but did include imported Italian wine amphora sherds, a BSA butt beaker type sherd, a group of NOG WH3 butt beaker type sherds and silty ware sherds, agreeing nicely with the make-up of the larger groups above.

Structure 43

The assemblage from Structure 43 only contained hand-built pottery with an intrusive OAB 19 scrap. Ceramically, this group is consistent with Period 1.

Other structures

The remaining structures contained very small assemblages consistent with the date range of Period 1–2 (except for a mortarium sherd from Structure 51ii dated to AD60–90; Table 5.66). The complete profile of a SAMLG Dr.24/25 cup from Structure 18 can be dated to AD45–70.

A total of 219 sherds were recovered from the structure groups (excluding those discussed above). Only those with more than 20 sherds are presented here but full details of

*Table 5.71: pellet mould discard **24409** pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
A	BAT AM1	Dressel 20	3	31.2	–	–
	CAM AM		4	32.2	–	–
	UNID	Dressel 2–4	18	111.7	20	230
	ITAL AM	Cam 139v	4	45.1	12.5	–
Fine Oxidised ware	OAA15		1	3.8	–	–
GRB	GRB66	Closed vessel	2	46.7	–	–
HM	H2 Fine quartz		1	8	–	–
	H2 Quartz		2	15	–	–
	H3 Quartz and vesicles		1	13	–	–
NOG WH	NOG WH3	KA1	22	89.7	61	14,16
OAB	OAB		3	2	–	–
OAC	OAC	Closed vessel	1	1.7	–	–
PRW1	PRW1		1	2.7	–	–
SAMSG	SAMLG	DR17	1	15	–	–
		DR29	5	50	3	–
			2	3	–	–
Silty ware oxidised	OAA7	Simple base	1	2.9	–	–
		Turned base	15	26.8	–	–
Silty ware reduced	GRA29	KA2	1	9.3	10	372
TR	TR3	Closed vessel	1	9.9	–	–
		KA2	1	6.5	5	371
Total			**90**	**526.2**	**111.5**	

*Table 5.72: pit **24708** pottery summary.*

Ware	Fabric	Type	No.	Weight (g)
A	ITAL AM	Dressel 2-4	1	36.1
HM	H2 Coarse quartz	Open Jar type	1	17
	H2 Coarse rock and quartz	Closed vessel	5	46
	H2 Fine quartz	Closed vessel	3	18
		Open Jar	2	5
	H2 Quartz	Closed vessel	1	34
	H2 Quartz and rock	Closed vessel	2	93
Total			**15**	**249.1**

Table 5.73: pit ***32532*** *pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
A	GAL AM		2	108.3	–	–
	UNID		2	10.2	–	–
HM	H2 Quartz	Closed vessel	1	33	–	–
	H2 Quartz and rock	Closed vessel	4	26	–	–
	H2 Quartz and slag	Closed vessel	1	4	–	–
	H3 Quartz and vesicles	VRJ	1	6	0	–
NOG WH	NOG WH3	KA	1	5.5	–	–
OAB	OAB		1	0.9	–	–
SAMSG	SAMLG	DR27	1	1	–	–
Silty ware oxidised	OAA7		1	1.7	–	–
		closed vessel	1	127	–	–
Silty ware reduced	GRA29	KA2	1	4.3	10	370
		open vessel	1	8.5	–	–
Total			**18**	**336.4**	**10**	

Table 5.74: pit ***30509*** *pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
BSA group	GRA28	footring	47	415.9	–	359
Silty ware oxidised	OAA7	KT4	1	7.2	11	373
Total			**48**	**423.1**	**11**	

all feature groups can be consulted in the archive and are mentioned, where crucial, in the group discussion below.

Group 30883
This small group contained body sherds from a silty ware OAA7 butt beaker, and body sherds of silty reduced ware and BSA fabric GRA28. These wares are consistent with a Tiberian-Claudian date range.

Group 31206
The assemblage of 67 sherds from group **31206** is largely made up of hand-built pottery and the Tiberian-Claudian imports described above. The primary fill contained a sherd of Dressel 20 amphora and hand-built pottery, while the second fill consisted of CAM AM, NOG WH Cam 113 butt beaker sherds, sherds from a silty ware Cam 112 butt beaker and an FLA38 FH1 flagon, all of which suggest a Tiberian-Claudian date. However, the basal sherds from an FLB1 would be dated slightly later, perhaps in the Neronian period. The samian sherd dates to AD45–70 and were recovered from the fifth fill.

Group 32646
The small group from group **32646** contained Tiberian-Claudian diagnostic pottery, including a terra nigra Cam 3 platter. The sherd of Gallic amphora, which occurs in Britain after AD60, came from the seventh fill. The H3 sherds and fine oxidised scraps (OAA1 and OBA1) are insufficiently diagnostic to provide a date.

Group 33103
This group is exclusively Tiberian-Claudian in date, with hand-built, North Gaulish butt beaker and silty ware butt beaker sherds providing the date range.

Other contexts
Other contexts with smaller groups of sherds include single sherds of Period 2 wheel-thrown wares and largely hand-built pottery, with just one or two Gallo-Belgic or silty wares. In ditch **30715** (Field 223), the base and lower body of a NOG WH butt beaker was found in fill **30716** (Cat. no. 366) with a body sherd of hand-built pottery. The details of the pottery from other Period 2 features are in Appendix D. A description of the most significant groups follows.

Pellet mould discard 24409
The assemblage from context **24409** is assigned to Period 2, although it includes two very abraded grey ware sherds that are of Neronian date at the earliest. The dateable pieces in the group comprised: sherds from a CAM AM large jar or flagon; a Dressel 2–4 amphora; at least three

NOG WH Cam 113 butt beakers; part of an Italian PRW1 vessel, most likely to be a platter; silty ware basal sherds from butt or girth beakers; a TR3 Cam 112 and a silty ware GRA29 Cam 112 butt beaker; and sherds from six SAMLG Dr.29 bowls dated to AD40–55 (n=2), AD45–65, AD45–70 and 45–90 (n=2). These narrow the final deposition date for this group to the Claudian period. The later grey ware sherds are foreign within this tight knit group and are best explained as intrusive.

Pit 24708

A small group of hand-built pottery with part of a bifid handle from an Italian Dressel 2–4 amphora.

Pit 32532

This pit contains sherds typical of Period 2, as well as Gallic amphora and a scrap of OAB, both of which came from the 11th fill and likely to date from the Neronian period. The samian is a scrap of a SAMLG Dr.27 cup dated to AD45–110.

Pit 30509

This group of sherds consisted of most of the base and lower body of a GRA28 vessel with footring base, perhaps a butt beaker, and a silty ware neckless beaker (type KT4).

Summary of Period 1–2 and Period 2 key groups

In the Late Iron Age, the ceramic assemblage was made up principally of vessels in H2 fabrics (Table 5.3), with H2 Coarse Rock and H2 Quartz the commonest types (66.3%), and H3 and H4 fabrics also well-represented (21.5% and 12% respectively). Vessel forms included open jars, vertical-rim jars, a narrow-bodied variant and an unusual flat-rim open jar, although none of these types are closely dated.

The hand-built pottery assemblages from Period 1 and Period 1-2 were both small and for the most part comprised heavily fragmented and abraded sherds. In Period 1, the range of forms was limited to medium-sized utilitarian vessels such as open jars and vertical rim jars and lacked both smaller, finer-textured vessels and large storage jars. The Period 1-2 assemblage included a greater range of forms—notably two bowls and an everted-rim globular jar, which may point to an Early Roman date—but the majority of identifiable vessel types were forms that are known to have spanned a long period and cannot be easily dated.

Five Campanian amphorae sherds were recovered from Period 1 deposits. Amphorae sherds from Late Iron Age deposits are rare in the north. Their presence at Scotch Corner indicates that the inhabitants might have had access to markets from the south, where Campanian amphorae are common at an earlier date, or the ceramics may possibly be early signs of direct contact with the Romans.

The ceramics from the Period 2 features are characterised by the continuation of a significant proportion of hand-built wares, with the addition of a range of imported, wheel-thrown Gallo-Belgic fine wares, Italian-type sigillata, Italian Pompeian red ware platters, Italian amphorae, Spanish oil amphora and fish sauce amphora sherds from southern Spain. Gallic wine amphorae sherds were present in the Period 1–2 transitional group.

The overall date range encompasses from the Tiberian (AD14–37) to the Claudian/early Neronian periods (AD41–60), which precedes the Roman occupation of the region. An inception date of c.25BC for the arrival of Gallo-Belgic imports in Britain is argued by Haselgrove (2016, 388–90), who draws on the most recent data and research for excavations. The earliest imports comprised Central Gaulish white wares and the early tubby forms of the NOG WH3 butt beakers, both of which are not at Scotch Corner. The early micaceous terra rubra and terra nigra fabrics are not represented in the A1 scheme assemblage. At the beginning of Gallo-Belgic export to Britain, terra rubra vessels were most common, but terra nigra vessels outnumbered these by the Claudian period. Although quantities are small, it is worth noting that there is more terra rubra than terra nigra throughout the Periods at a ratio of 2:1 in Period 2, only terra rubra in Period 3 and nearly 8:1 in Period 4. At Silchester, Fulford and Timby (2000, 199 and 299) considered a ratio of terra rubra to terra nigra of 3:1 in period 2, while the

Table 5.75: Period 2–3 ware group summary, including average weight of sherd by group in Period 3 for comparison.

Ware groups	% by count	% by weight	% EVES	Av. sherd weight (g) Period 2-3	Av. sherd weight (g) in Period 3 features
Local Roman wares	16%	7%	14%	4	9
Probably local Roman ware	10%	4%	9%	4	9
Traded Roman	3%	3%	5%	7	7
Hand-built wares	44%	73%	21%	15	8
Period 2 traded wares	20%	8%	35%	4	5
Mortarium	2%	3%	5%	12	21
Samian	4%	2%	17%	4	13
Absolute totals excl. amphora	619	5548	328	9	9
Amphora % if included	25%	32%	10%	13	16

Table 5.76: Period 2–3 ditch groups pottery summary.

Group no	Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
30881	GRB	GRB66	KA1	1	5.6	10	380
30886	BSA group	GRA28	closed vessel	1	2	–	–
	HM	H2 Quartz and biotite	Closed vessel	6	46	–	–
30898	HM	H2 Coarse quartz and biotite	Closed vessel	5	134	–	–
		H2 Fine quartz	ERJ/FRJ	1	19	15	–
			Closed vessel	1	18	–	–
		H2 Fine quartz and rock	Closed vessel	1	5	–	–
		H2 Quartz	Closed vessel	6	66	–	–
			LSJ	1	114	10	7
	SAMSG	SAMLG	DR29	1	17	–	–
	White ware (import)	FLA35	closed vessel	10	20.5	–	–
31262	A	BAT AM	Dressel 20	13	190.6	–	–
		CAM AM		3	7.5	–	–
		UNID		1	0.5	–	–
	BSB group	GRB69		2	6.8	–	–
	Fine Oxidised ware	OAA13		1	1.7	–	–
	FLA	FLA39		1	1.3	–	–
	GRA	GRA35		1	14.8	–	–
	GRB	GRB66	plain	1	18.1	–	–
	HM	H2 Coarse quartz	Closed vessel	9	205	–	–
		H2 Coarse Rock	Closed vessel	24	375	–	–
			Large jar	6	782	–	–
		H2 Quartz	Closed vessel	4	22	–	–
		H2 Rock	Closed vessel	1	20	–	–
	OAB	OAB	F	8	46.5	–	–
	OAB19	OAB19		1	3.4	–	–
	OBA	OBA		3	0.9	–	–
	Silty ware reduced	GRA29		1	2.6	–	–
31272	A	CAM AM		1	0.4	–	–
	BSA group	GRA28		1	0.7	–	–
	HM	H2 Quartz	Closed vessel	3	20	–	–
	NOG WH	NOG WH3	beaded base	1	6.6	–	–
	OAB	OAB		3	4.2	–	–
	OAB19	OAB19		4	12.3	–	–
	PRW1	PRW1		1	0.4	–	–
	SAMSG	SAMLG	dish	1	6	–	–
			DR18	1	3	7	–

Table 5.76: Period 2–3 ditch groups pottery summary (continued).

Group no	Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
31283	A	BAT AM	Dressel 20	5	13.8	–	–
		CAM AM		1	1.3	–	–
			CAM139?	1	8.2	–	–
		UNID	Dressel 2–4?	1	5.3	9.5	–
	BSA group	GRA28	KA2	1	11.5	22	385
	BSB group	GRB69	closed vessel	5	35.7	–	–
	Fine Oxidised ware	OAA13		1	0.4	–	–
			FR1	1	4.4	6	379
		OAA15		1	1.5	–	–
	FLA	FLA5	WJC1	6	39.5	7	392
	GRB	GRB66	KT5	8	14.5	10	as 40
	HM	H2 Fine quartz	Closed vessel	12	83	–	–
		H2 Quartz	Closed vessel	2	12	–	–
	M	MOX	G237v	1	3.9	–	–
	MG	MG5		1	1.6	–	–
	NOG WH	NOG WH2		1	2.5	–	–
		NOG WH3	KA	18	21.4	–	–
			KA1	1	9.6	14	383
	OAA	OAA5	closed vessel	6	25.3	–	–
	OAB	OAB22	KP	1	2.2	–	–
	OAB19	OAB19	closed vessel	3	15.8	–	–
			footring	15	91.6	–	–
	SAMSG	SAMLG	dish	1	3	–	–
			DR18	3	5	8	–
			DR18R	2	30	13	–
			DR27	1	2	7	–
			DR30	1	1	–	–
			RT8	4	7	–	–
				2	1	–	–
	Silty ware oxidised	OAA7		1	0.6	–	–
	Silty ware reduced	GRA29	KA	4	9.4	–	386
	TR	TR1B	KA7	2	4.9	2	390
		TR3	KA2	4	4.4	4	384
			KA6	1	7.1	6	–
32648	A	GAL AM		20	31.3	–	–
		UNID		1	3.4	–	–
	EYCT	EYCT	everted rim	1	23.7	10	377
	NOG WH	NOG WH3	closed vessel	1	9.8	–	–
			KA	1	0.9	–	–
			KA5	1	1.5	–	387
	OAB	OAB		1	1.6	–	–
	White ware (import)	FLA35	closed vessel	2	8.5	–	–
Total				**276**	**2760.5**	**160.5**	

Table 5.77: Period 2–3 features pottery by feature type summary.

Feature type	Ware	Fabric	Type	No	Weight (g)	Rim %
Ditches	A	BAT AM		4	14.7	–
			Dressel 20	3	310.3	–
		CAM AM		5	56.3	–
			CAM139/Dressel 2–4	1	13.2	–
		GAL AM		36	237	13
		ITAL AM	CAM139	1	50.6	–
	BSA group	GRA28	footring	3	45.4	–
	BSB group	GRB69	JX1	4	12.8	8
			WJA2	1	45.4	11
		GRB72	JA3	9	39.1	21
	Fine Oxidised ware	OAA13	closed vessel	13	39.9	–
		OAA15	F	1	15	–
	FLA	FLA41		3	3.3	–
	Fumed oxidised ware (medium)	OBB10		1	2.4	–
	GRA	GRA30	closed vessel	1	2.1	–
		GRA32	closed vessel	5	20.3	–
			plain	3	23.1	–
	GRB	GRB	CAR	1	8.5	–
		GRB66	KT5	1	7	8
	HM	H2	U/ID	2	3	–
		H2 Coarse quartz	Closed vessel	1	61	–
		H2 Coarse quartz and biotite	Bowl/Open Jar	1	69	–
		H2 Coarse Rock	Closed vessel	2	163	–
		H2 Fine quartz	Closed vessel	5	84	–
		H2 Quartz	Bowl?	5	90	–
			Closed vessel	21	143	–
			Open jar	1	13	–
			U/ID	1	4	–
		H2 Quartz and biotite	Closed vessel	1	4	–
			Vertical Rim Jar	1	63	15
		H2 Quartz and rock	Closed vessel	1	32	–
		H2 Rock	Closed vessel	1	37	–
		H2 Rock and fine quartz	Closed vessel	1	25	–
		H2 type	U/ID	2	1	–
		H3 Fine quartz and vesicles	Everted–rim Jar	1	49	16
			Closed vessel	1	37	–
		H3 Quartz and vesicles	Closed vessel	2	12	–
		H4	Closed vessel	58	591	–
			Vertical–rim Jar type	1	36	–
	NOG WH	NOG WH2	simple base	1	20.5	–
		NOG WH3	KA	1	0.9	–
			KA1	4	12.9	11
		NOG WH3 VARIANT		1	54	–
	OAB	OAB		2	3.3	–
		OAB1		1	2	–
	OAB19	OAB19		22	22.1	–
			K	5	23.5	–
	Pale pink ware (medium)	FLA37	closed vessel	2	65.6	–
	SAMSG	SAMLG	dec bowl	1	1	–
			DR18	1	4	6
	Silty ware oxidised	OAA7		2	2.2	–
			closed vessel	4	11.2	–
			plain	1	11.1	–
	Silty ware reduced	GRA29	closed vessel	3	2.3	–

Table 5.77: Period 2–3 features pottery by feature type summary (continued).

Feature type	Ware	Fabric	Type	No	Weight (g)	Rim %
Gully	HM	H4	Closed vessel	1	2	–
	NOG WH	NOG WH3		4	6.7	–
	OAB	OAB		1	0.7	–
	SAMCG	SAMCG	DR37	1	17	–
Midden	A	BAT AM	Dressel 20	4	87.4	–
		CAM AM		1	0.7	–
	FLA	FLA5		4	5.7	–
	NOG WH	NOG WH3	KA1	2	8.9	15
	OAB	OAB		2	1.9	–
	SAMSG	SAMLG		2	3	–
Pit	A	BAT AM	Dressel 20, MK31	2	71.3	15
		CAM AM		1	15.9	–
	BSB group	GRB69		1	6.3	–
	HM	H2 Fine quartz	Closed vessel	1	4	–
		H2 Quartz and rock	Closed vessel	1	4	–
		H3 Fine quartz and vesicles	TriRJ type	8	117	12
	M	MOX	G237v	1	7.1	–
	NOG WH	NOG WH3		1	0.7	–
	OAB	OAB		1	1.1	–
	OAB19	OAB19		2	6.7	–
	SAMSG	SAMLG	DR15/17	1	5	–
			DR24/25	2	10	14
	Silty ware oxidised	OAA7		2	1.3	–
			KA	6	8.1	–
Posthole	HM	H2 Fine quartz	U/ID	1	4	–
Well	A	BAT AM		1	5	–
			Dressel 20	2	18.4	–
		CAM AM		12	113.6	–
		GAL AM		1	5.3	–
	BSA group	GRA28	KA	2	5.6	–
	CT	CT		3	6	–
	Fine Oxidised ware	OAA16		1	4.1	–
	HM	H2 Fine quartz and rock	Closed vessel	2	22	–
		H2 Quartz	Closed vessel	14	88	–
		H2 Quartz and rock	Closed vessel	2	46	–
		H3 Flint and vesicles	Closed vessel	3	5	–
		H3 Quartz and vesicles	VRJ?	6	90	0
		H4	Closed vessel	1	8	–
	M	MNOG WH		6	22.3	–
			G238v	3	75.6	0
		MRE	G237v	3	59.8	–
	NOG WH	NOG WH2		1	2.6	–
		NOG WH3	KA	5	5.1	–
	OAB	OAB		2	0.5	–
	OAB19	OAB19		1	7.7	–
			F	3	3.7	–
	SAMSG	SAMLG		2	1.1	–
	Silty ware oxidised	OAA7	KA	9	18.3	–
	Silty ware reduced	GRA29	K	5	20	–
Total				**399**	**3730.2**	**165**

Table 5.78: Structure 57 pottery summary.

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
A	BAT AM	Dressel 20	2	240.6	–	–
BSB group	GRB70		5	37.6	–	–
		closed vessel	10	117.2	–	–
		JW	1	24	–	402
		KC1	2	24.1	18	60
Early grey ware with ox core group	GRB71	plain	1	13.2	–	–
Early gritty ware 2	GRC35		1	2	–	–
		closed vessel	2	14.7	–	–
EYCT	EYCT	closed vessel	9	25	–	–
Fine Oxidised ware	OAA13	F	2	19	–	–
GRB	GRB66	JW1	5	99.9	22	52
		plain	9	149.8	–	–
HM	H3 Quartz and vesicles	Closed vessel	23	37	–	–
OAB19	OAB19		3	3.1	–	–
		indet	3	2.9	–	–
SAMSG	SAMLG	DR18	1	2	5	–
		DR27	3	7	–	–
		DR29	1	5	6	–
		DR30	1	1	–	–
			1	1	–	–
Shell–t ware	CTB1	closed vessel	2	6.3	–	–
		WJA2	25	60	10	410
Total			**112**	**892.4**	**61**	

Table 5.79: group ***31285*** *pottery summary.*

Ware	Fabric	Type	No.	Weight (g)	Rim %	Drawn
A	BAT AM1	Dressel 20	4	71.4	–	–
	CAM AM		1	5.6	–	–
FLA	FLA19		1	17.1	–	–
OAB	OAB		1	2.1	–	–
OAB19	OAB19		1	4.5	–	–
		closed vessel	1	6.8	–	–
		Flagon	4	103.6	–	–
		footring	2	52.5	–	–
		tazze base	1	16.2	–	393
SAMSG	SAMLG	dec bowl	2	5	–	–
		dish	2	58	–	–
		DR18	1	5	6	–
			5	5.1	–	–
Total			**26**	**352.9**	**6**	

Table 5.80: summary of pottery from Period 3 and Period 4 road- and routeway-related features.

Group	Feature type	Interpretative description	Ware	Fabric type	Type series	Form description	No.	Weight (g)	Rim %	Drawn
28171	Road RR5	Aggregate surface of Road RR5	A	GAL AM			2	1.3	–	–
			Early gritty ware 2	GRC31	JW1	jar with everted, blunt ended rim	1	16.5	6	510
			OAB19	OAB19			1	2.7	–	–
			SAMSG	SAMLG			1	1	–	45
		Hollow of Road RR5	OAB	OAB			2	1.6	–	49
28459	Road RR6	Aggregate surface of Dere Street	BSB group	GRB70	JR	rusticated jar	2	6.2	–	48
			M	MOX SC4			1	8.6	–	58
28460	Road RR6	SE–NW road fabric	OAA	OAA3	turned	turned	2	22.3	–	–
29956	Road RR5	Foundation layer of Road RR5 outside excavated trench	BSB group	GRB69	JE	jar with rectangular profile everted rim	1	22.4	11	–
29957	Road RR5	Crushed stone surface of Road RR5	A	BAT AM1	Dressel 20		1	19.3	–	–
		Fine fabric of Road RR5	OAA	OAA4			1	0.9	–	–
		Foundation layer of road RR5 outside excavated trench	BSB group	GRB70	JW (too small to draw)	rilled jar	1	2	–	–
			Early gritty ware 2	GRC36			1	3.3	–	–
			Fine Oxidised ware	OAA13			1	1.4	–	–
			GRB	GRB66			1	1.8	–	–
			SAMSG	SAMLG	beaker		1	1	–	–
							1	1	–	47
29961	Road RR6	Foundation layer of Road RR6	A	BAT AM1	Dressel 20		8	285.5	–	–
			Early grey ware with ox core group	GRB71	JA1 (too small to draw)	jar with short everted rim	1	6	6	–
			GRB	GRB2			1	2.3	–	–
			OAB	OAB			4	15	–	–
			OAB19	OAB19			2	14.7	–	–
			SAMSG	SAMLG	DR29		1	2	3	–
							1	7	–	–
					DR37		1	7	–	–
29964	Road RR3	Aggregate surface of Road RR3	Fine Oxidised ware	OAA15			1	0.1	–	–
		Fabric of Road RR3	BSB group	GRB69	JA1	jar with short everted rim	1	5.7	12	–
			Fine Oxidised ware	OAA15			1	15.1	–	–

Table 5.80: summary of pottery from Period 3 and Period 4 road- and routeway-related features (continued).

Group	Feature type	Interpretative description	Ware	Fabric type	Type series	Form description	No.	Weight (g)	Rim %	Drawn
			GRA	GRA32	KS1	carinated plain rim beaker as Cam 120 same as from 31660 Period 5 stable	1	13.7	1	–
							–	–	–	–
				GRA6	everted rim	everted rim	1	4.6	5	–
			GRB	GRB5	plain	plain	1	24.7	–	–
		Foundation layer of Road RR3	BSB group	GRB69			3	5	–	476
					JM	barrel jar similar to LG with zones of decoration demarcated by cordons and grooves	1	7	–	–
			Early gritty ware 2	GRC35	JW3	neckless jar with short tapered rim ed and grooved body	2	24.5	10	–
					JR	rusticated jar	2	11.9	–	–
					plain	plain	1	12.2	–	–
			Fine Oxidised ware	OAA15			5	18.7	–	–
			FLA	FLA			3	0.7	–	–
			GRB	GRB66			1	2.3	–	–
					plain	plain	4	55.7	–	–
					WJA2	wide–mouthed necked jar with bead rim	1	12	7	–
			OAA	OAA4			1	1.4	–	–
			OAC9	OAC9			1	4.8	–	–
29972	hollow–way	Colluvial deposit in hollow–way 31728	GRA	GRA6			1	2.6	–	–
			GRB	GRB13	closed vessel	closed vessel	1	53.4	–	54
		Colluvial deposit infilling hollow–way 31728	HM	H2 Quartz	U/ID		3	13	–	–
		Colluvial deposit infilling hollow–way 31728	A	GAL AM			4	97.8	–	–
			BSB group	GRB69			1	0.9	–	–
				GRB70			1	1.9	–	–
			GRB	GRB2			1	3.2	–	–
					plain	plain	2	6.7	–	–
			GRC	GRC			1	6.8	–	53
			HM	H2 Fine quartz	Closed vessel		4	70	–	–
				H2 Quartz	Closed vessel		1	5	–	–
			OAA	OAA4			4	12.7	–	–
			OAB19	OAB19			1	6	–	–

Table 5.80: summary of pottery from Period 3 and Period 4 road- and routeway-related features (continued).

Group	Feature type	Interpretative description	Ware	Fabric type	Type series	Form description	No.	Weight (g)	Rim %	Drawn
31257	Dere Street RR10	Foundation layer / spread under loose aggregate surface	OAB	OAB			2	3.8	–	46
			OAC9	OAC9			13	30.8	–	–
			OBB	OBB7			1	3.9	–	–
			SAMSG	SAMLG	DR37		1	66	–	–
	trackway	Foundation layer of trackway	A	?			1	66.5	–	56
				CAM AM			1	0.8	–	–
				VER			1	15.1	–	–
			GRA	GRA32			1	3.8	–	55
			OAB19	OAB19	F	flagon	1	9.5	–	44
			OAC9	OAC9	open vessel	open vessel	1	6.2	–	50
					plain	plain	1	16.7	10	–
			Pale pink ware (medium)	FLA37			2	10.9	–	–
			SAMSG	SAMLG			1	1	–	–
31286	hollow–way RR7	Disturbed upper fill of hollow–way 31244	BSB group	GRB69	JM	jar with zones of decoration demarcated by cordons and grooves, almost too worn to draw	1	6.7	–	–
				GRB70	JA1	jar with short everted rim	3	43.2	14	–
					JR ?HM	rusticated jar	1	3.6	–	–
			GRA	GRA3	KI	indented beaker	1	8.9	–	–
			GRB	GRB			3	10.6	–	–
			GTA	GTA9			1	5.8	–	–
					JW	rilled jar	12	72.6	–	–
			OAB	OAB			6	18.6	–	–
			OBA	OBA			1	2.1	–	–
			OBB	OBB			1	9.5	–	–
					closed vessel	closed vessel	1	11.1	–	–
			SAMSG	SAMLG	DR15/17		1	7	2	–
					DR18		2	14	17	–
					DR29		1	7	–	–
							10	8	–	–
		Fill of hollow–way 31244	A	BAT AM1	Dressel 20		3	146.8	–	–
			BSB group	GRB75	NJ2	narrow–necked bead rim jar	1	8	10	560
			Early grey ware with ox core group	GRB74	closed vessel	closed vessel	2	3.1	–	57
			Early gritty ware 1	GRB77	JR	rusticated jar	1	6	–	–
			Early gritty ware 2	GRC35	closed vessel	closed vessel	1	2.2	–	–

Table 5.80: summary of pottery from Period 3 and Period 4 road- and routeway-related features (continued).

Group	Feature type	Interpretative description	Ware	Fabric type	Type series	Form description	No.	Weight (g)	Rim %	Drawn
					J	jar	3	10.5	–	–
					K roulette 24240	beaker	1	5.1	–	–
			OAB	OAB			2	2.7	–	–
					everted rim	everted rim	1	4.7	5	–
				OAB22			1	1.2	–	–
			SAMSG	SAMLG	DR29		4	10	6	–
							1	12	–	–
							6	5	–	–
	Dere Street	RR1 sandy agger in section	OAB	OAB1			1	6.6	–	–
	road	Cut for road / structure 32485, 32486	OAB	OAB1	closed vessel	closed vessel	2	22.4	–	–
		Fill of road–side ditch 31510	A	BAT AM1	Dressel 20		1	28.7	–	–
			GRB	GRB30	LD2	knobbed lid with bead rim	1	35.7	6	–
		Midden material adjacent to Road RR5	A	BAT AM			5	46.4	–	–
			Early gritty ware 1	GRB78			1	2.6	–	–
			OAB	OAB			2	1.2	–	–
		Stone surface (road / structure)	A	BAT AM1	Dressel 20		32	840.6	–	–
			Early grey ware with ox core group	GRB71	JR	rusticated jar	1	2.2	–	–
			GRB	GRB			1	4	–	–
					CAR	carinated	1	7.6	–	–
			OAB	OAB1			2	0.9	–	–
			SAMSG	SAMLG	dish		1	3	–	–
			Silty ware oxidised	OAA7			1	0.5	–	–
	track-way	Fabric of trackway below stable structure	FLB	FLB2			3	43.6	–	–
			Fumed oxidised ware (medium)	OBB10	closed vessel	closed vessel	2	19.6	–	–
			GRA	GRA32	KC	round bodied globular beaker	2	10	–	–
			GRB	GRB2W	JN1	jar with rebated neck and everted, slightly rebated rim	4	52.2	56	–
			OAB19	OAB19			1	7.1	–	–
					F	flagon	3	100.7	–	–
			SAMSG	SAMLG	DR37		1	4	–	–
							1	2	–	–
Total		**Totals**					**264**	**2876**	**187**	

next period had a ratio of 2:1, both being considered to indicate a pre-Claudian date. The assemblage is too small to be a reliable indicator but the relatively high number of terra rubra sherds and the Tiberian-Claudian date range of the forms suggest the Gallo-Belgic imports belong to Period 1–2 and include imports pre-dating the Claudian conquest in AD43. If the oxidised silty wares are associated with terra rubra then this would increase the ratio of terra rubra-related vessels further. Such a date range fits well with that of the Italian-type sigillata (dating to c.10BC and AD25; Monteil, this chapter) and some of the early amphorae forms redeposited in later Periods (Griffiths, this chapter). The Italian-type sigillata dated to 10BC–AD25 demonstrates an early start to Period 1–2, while the latest vessel types extend the date range into the Claudian period.

Three contexts contained sherds from Gallic amphorae, a type thought not to have been imported before AD60. The sherds came from: the seventh fill (**32334**) of ditch **32510**, group **32646**; the 11th fill (**32543**) of pit **32532**; and the primary fill (**32496**) of ditch **32495**, all of which were located in Field 267a. The first two contexts belong late in the infill of these Period 2 features but the last is from a primary deposit, containing CAM AM sherds and 10 NOG WH2 beaker scraps (weighing 1.4g). However, this ditch was c.0.5m deep and the Gallic amphora sherd could derive from later infilling and Period 3 activity directly to the east. Evidence from elsewhere in Britain has been used to argue for a pre-Boudican start for the import of Gallic amphorae and this would provide an alternative explanation these sherds. At Elms Farm, Gauloise 4 was present in ceramic phase 3 contexts (c.AD20–55; Sealey 2015). It should be noted that small sherds of samian from this phase were dated to AD60–80. Gaulish amphora body sherds of indeterminate vessel form were also found in small quantities at Late Iron Age Silchester (Fulford and Timby 2000, 295; Williams 2000b, 221 and 224). Williams (pers. comm.) points out that these could be of an earlier type, such as Dressel 1 or 2–4. The presence of Gallic amphora is also known from London in pre-Boudican contexts (recorded in P1a, c.AD50–60/61; Davies *et al*. 1994, 18). At Colchester, Gallic amphorae at Head Street were present from phase 1a (AD43/44–49; Timby 2004). The possibility of importation of Gallic wine amphorae at Scotch Corner during Period 2 must therefore be acknowledged.

Key groups for Period 2–3 and Period 3

Only three key groups were identified in Period 3.

Period 2–3 features

A group of ditches and other features in Fields 223, 246 and 267a contained pottery of Period 2 type alongside Period 3 sherds (Table 5.75). These included groups **30881**, **30886**, **30898**, **31262**, **31272**, **31283** and **32648** (see Table 5.76), as well as ditches **30100**, **30826**, **15866**, **24777**, **24979**, **31017**, and **31092**, pits **30336** and **30481**, wells **24297** and **31484**, and midden **24916** (Table 5.77). Where dateable, the Period 3 sherds from these features suggested a date after c.AD60 and included Gallic amphorae, and mortaria, developed grey ware and samian vessels dated to AD35–65, AD45–90, and AD45–110, with two vessels dated AD50–70 and AD65–85 from groups **32183** and **30898**.

The evidence, with the Period 3 material often coming from the later fills, suggests that these features were first used in Period 2 and were filled just as Period 3 ceramics began to arrive on the site. In Period 2–3, Structures 17 and 24 contained an essentially Period 2 assemblage. This consisted of hand-built jars and Dressel 20 amphora sherds in Structure 17 and sherds of an OAA8 beaker in Structure 24, including sherds of GRB66 in the second fills of both structures, fills **30764** and **32457** respectively**,** indicating these features were still open in Period 3. Structure 44 (Period 2–3) contained a very small assemblage of just three sherds, consisting entirely of Period 2 type pottery, namely sherds from an NOG WH butt beaker (Cat. no. 31), an Italian CAM AM wine amphora and a Dressel 20 oil amphora neck.

The evidence of these Period 3 type sherds does not argue for the contemporary usage of Period 2 and Period 3 pottery. In Period 2–3 features, hand-built pottery and Period 2 fine wares comprised c.65–86% of the total assemblage compared to 10–15% in Period 3 features. The Roman wares in Period 2–3 features have a noticeably lower average sherd weight than in Period 3 and, concomitantly, the Period 2 wares are much heavier in Period 2–3 features than Period 3 (Table 5.75). The characteristics of Period 3 wares in Period 2–3 features indicate that the majority of these are best explained as late fill and intrusive pottery rather than being contemporary with the Period 2 wares.

Structures 27 and 54

Small groups, each consisting of eight sherds, were recovered from Structures 27 and 54. The group from Structure 27 comprised the Period 2 NOG WH butt beaker sherds, sherds of Period 2 silty ware and some H2 Quartz fabric body sherds, with one later OAB body sherd and samian of c.AD45–110 date. Thus, this structure may have been in use in Period 2 but was still open to ceramic debris in Period 3. The group from Structure 54 comprises scraps and body sherds of OAB19 and OAC9, with a single SAMLG flake dated to AD45–90 and lacks Period 2 pottery.

Structure 57

This group lacks the Period 2 pottery types and is made up of the new range of Roman Period 3 fabrics and forms, including a range of samian vessels with a date in the range of AD45–85/90. Traded and imported wares include Dressel 20 oil amphora sherds and shell-tempered jars, similar to those made in north Lincolnshire in the mid- to late 1st century. There is nothing to suggest a Flavian date and forms, such as the rilled GRB66 jar, are not found at *Cataractonium*. A date in the Neronian, or perhaps very early in the Flavian, period is consistent with the types present.

Period 3 groups

Ditch group 31285

Like Structure 57, this ditch group contained OAB19 flagon sherds, Dressel 20 amphora sherds and SAMLG samian dated to AD45–90. An OAB19 tazze base was also present.

Hollow-way 24036

Details of this group are provided because of its stratigraphic importance for dating Dere Street (see Table 5.80). Two sherds from a rilled jar in early gritty ware 2 (GRB77) came from hollow-way **24036** and dates to Period 3 or Period 4. The pottery from aggregate **16197** included a scrap of OAB, sherds of Gallic wine amphora and Dressel 20 oil amphora, and small very abraded scraps of samian SAMLG ware from a Dr.27 cup, two Dr.18 dishes and a fourth indeterminate vessel, all dated to AD45–90. The Gallic amphora may provide a *terminus post quem* of c.AD60, since Gallic amphorae are generally post-Boudican in Britain (Griffiths, this chapter).

Other Period 3 features

A number of other features contained pottery of Period 3 (summarised in Table 5.81). All of these features lack the larger numbers of Period 2 wares found in the Period 2–3 group, which now only appear as residual sherds, and the range of wares, such as Gallic amphorae and mortaria, point to a date after c.AD55/60. Activity was concentrated in Field 246. In Field 223, only ditch **30058** belongs in Period 3 and contained much of a Gauloise 4 amphora, as well as the base of an OAB19 flagon. In Field 228, gully **27978** contained 14 BSB sherds from a bowl with zones defined by grooves (Cat. no. 397) and a FLA36 body sherd, while a small scrap of BSB jar with wavy combed decoration from pit **28399** also belongs to Period 3. In addition to Structures 54, 57 and group **31285**, discussed above, quite a large group of Period 3 pottery was recovered from ditch **15859** in Field 246, which included the complete profile of a SAMLG Dr.18R dish dated to AD65–90, a sherd from a SAMLG Dr.30 dated to AD50–70, ring-necked flagons in fabrics FLA39 and FLA43 (Cat. nos 398 and 400), an OAB1 flagon, short everted-rim jars in GRB66, and a GTA11 platter (Cat. no. 409). This group may be better placed in Period 4. The group from pit **15762** contained most of a flagon, probably from the *Verulamium* potters operating from c.AD55 (primary fill **15763**; Cat. no. 380), two sherds of SAMLG dating to AD45–85 and AD45–90, one of which was from a decorated bowl (probably Dr.29), and a sherd of MRE2 mortarium. Smaller groups of pottery of Period 3 type were also in pits **15656**, **15703**, **15669** and **15808**. In Field 267a, in addition to Structure 27, ditch **32549**, gully **32229** and pit **32318** contained fabric GRC32, Gallic amphora sherds and parts of both a Gallic and an MRE1 mortarium respectively, providing fill dates in or after c.AD60.

Summary of Period 2–3 and Period 3 key groups

The pottery assemblages in Periods 2–3, 3 and 4 all included wheel-thrown Roman coarsewares. The groups that lack types definitively dated to the Flavian period were isolated as Period 3 to allow for the possibility of a distinct ceramic phase of Neronian date to be assessed in the context of features associated with that Period. Period 3 features included Neronian period and earlier pottery types with none of the certainly early Flavian forms that characterised Period 4 features, although many of the later features also contained earlier pottery. A group of potentially pre-Flavian coarsewares (ware groups BSB and early gritty wares; see below) were identified. However, these were found intermixed with later Flavian pottery and as large unabraded sherds in the Period 4 pit group **28131** that is thought to represent the final use of the Period 4 settlement. A small number of features lacked certain Flavian sherds, and these are presented here as possibly earlier than Period 4, if only by a year or two.

Contexts in Period 2–3 are characterised by having some Period 2 pottery but with Period 3 types also present. These groups were thought to be from features that were constructed in Period 2 but were still infilling in Period 3.

The change in the assemblage is marked and represents a change in supply. The Period 3 pattern is Roman in character, with the numbers of Gallo-Belgic wares diminished, perhaps mostly residual, and the amphorae sources expanding to include more wine amphorae from Gaul and ongoing supply of oil amphora from Spain. The proportion of Italian wine amphora sherds is reduced to less than 1% by both sherd count and weight, and Gallic wine amphorae take their place in the assemblage (see Griffiths, this chapter). The samian wares increase, nearly doubling in relative quantities by weight from Period 2 to 3, although the ratio remains the same by sherd count, presumably because of the highly fragmented character of the Period 2 samian assemblage (average weight 3g, compared to 12g in Period 3). The proportion of hand-built pottery more than halves and, perhaps more significantly, the range of fabrics reduces from 20 fabrics in Period 2 to only five in Period 3. Cumberpatch notes that hand-built vessel types and techniques display characteristics that may be due to the influence of imported Roman pottery vessel types and finishes. The Gallo-Belgic wares found in Period 2 fall to a tenth of their level in Period 3, with several disappearing altogether, such as Italian-type sigillata, terra nigra and Italian Pompeian red ware.

The new pottery wares and types are Roman and military in character. The samian vessels in Period 3 date entirely to after AD43, although their use possibly extends as late as the early Flavian period. There are just two samian vessels dated to AD50–70 and AD65–95 (from ditch **15859**). The overwhelming majority of the samian sherds were dated to AD45–90, making more precise dating impossible using the samian (see Monteil, this chapter). The amphorae include Gauloise 4 and the mortaria include a Claudian type (although this can be found in contexts as late as the Flavian period), Gallic imports dating after c.AD50 and potential locally made vessels (Griffiths, this chapter). The absence of *Verulamium* mortaria from Period 3 is notable, since the products of this industry are common finds in the Midlands and

Table 5.81: summary of pottery from Period 3 contexts.

Feature type	Context no.	Interpretative description	Ware	Fabric	Type	No.	Weight (g)	Rim %
Ditch	15505	tertiary fill of ditch 15859	SAMSG	SAMLG	DR18R	2	381	42
	15897	fill of ditch 15859, primary pellet mould dump?	Early gritty ware 2	GRC36	BC5	1	23.3	7
			FLA	FLA42	footring	1	22.7	–
				FLA43	FR1A	1	6.8	2
			GRB	GRB6	JR4	1	11.1	8
				GRB66	JA1	1	24.1	8
			GTA	GTA11	PD1	1	35.4	7
			HM	H2 Fine quartz and rock	Small jar	11	31	0
			OAA	OAA5	closed vessel	3	5.5	–
			SAMSG	SAMLG	DR18	2	3	3
					DR30	1	8	–
						2	1	–
			White ware (import)	FLA35	footring	1	16.9	–
	24298	fill of ditch 15859	A	BAT AM	Dressel 20	10	316.4	–
			BSA group	GRA28	plain	1	19.5	–
			Fine Oxidised ware	OAA15	closed vessel	3	14.6	–
			FLA	FLA39	FR2B	1	14.4	20
				FLA5	F	1	36.5	–
			Fumed oxidised ware (medium)	OBB10	closed vessel	1	9.5	–
			GRB	GRB1	K	1	6.2	–
				GRB66	closed vessel	1	5.2	–
				GRB76	plain	1	56.4	–
			HM	H2 Fine quartz	Closed vessel	1	6	–
				H2 Quartz	Closed vessel	3	55	–
					U/ID	1	3	–
			OAB	OAB		1	1.4	–
			OAB19	OAB19		4	35.5	–
					F	7	127.1	–
			SAMSG	SAMLG	dish	3	17	–
						1	1	–
	24299	fill of ditch 15859	HM	H2 Quartz and biotite	Closed vessel	1	18	–
	30169	fill of ditch 30058	A	GAL AM		34	204.5	30
					Gauloise 4	9	820.3	36.5
					Gauloise 4?	52	735	–
				UNID		3	40.4	–
			HM	H2 Fine quartz and rock	Closed vessel	1	15	–
	30170	fill of ditch 30058	A	GAL AM		72	751.8	–
			OAB19	OAB19	footring	5	15.9	–
	32309	secondary fill of ditch 32549	Early gritty ware 2	GRC32	J	7	80.7	–
			Fine Oxidised ware	OAA10	closed vessel	1	28.2	–
			GTA	GTA		1	2.7	–
			HM	H2 Quartz	Closed vessel	1	84	–
			OAA8	OAA8	closed vessel	6	19.2	–
			OAB19	OAB19		1	1.8	–
			Silty ware oxidised	OAA7	closed vessel	3	12.5	–
					KA2	2	17.9	25
			Silty ware reduced	GRA29		1	2	–
	32311	tertiary fill of ditch 32549, backfilled natural drift geology clay	Early gritty ware 2	GRC32	J	4	67.9	–
	32313	quaternary fill of ditch 32549	HM	H2 Fine quartz	Closed vessel	2	25	–
				H2 Quartz	Closed vessel	1	8	–
Other features	16274	isolated patch of buried soil	A	BAT AM	Dressel 20	1	5.7	–
			BSB group	GRB69	JX	1	4.6	–
					JX1	1	13.1	19
			HM	H2 Quartz	Jar	1	35	–
					WRJ type	1	30	0
			OAB19	OAB19		1	1.8	–
					F	1	43.1	–
					FR1A	1	11.8	20

Table 5.81: summary of pottery from Period 3 contexts (continued).

Feature type	Context no.	Interpretative description	Ware	Fabric	Type	No.	Weight (g)	Rim %
	32228	secondary fill of curving feature 32229	A	GAL AM		22	37.6	–
			OAA	OAA4	F	1	3.9	–
			OAB	OAB	closed vessel	8	9.5	–
				OAB20	KC1	8	47.1	29
			Silty ware oxidised	OAA7		1	2.7	–
					KA	2	3.3	–
					KA2	2	5.3	9
Gully	27979	fill of gully 27978	BSB group	GRB72	BJ1	14	87.2	24
Period 3 hollow–way	24036	fill of hollow–way 24042=24269	Early gritty ware 1	GRB77	JW	2	8.5	–
Layer	31005	occupation deposit	OAB	OAB17		5	3.3	–
			TR	TR1B		1	0.9	–
Pit	15657	fill of pit 15656	A	BAT AM		5	8.4	–
			GRA	GRA30	simple base	1	51.3	–
			SAMSG	SAMLG		2	1	–
	15670	primary fill of pit 15669	Early gritty ware 1	GRB77	closed vessel	2	13.1	–
			OAB19	OAB19		1	1.9	–
			SAMSG	SAMLG		1	0.1	–
	15671	secondary fill of pit 15669	A	CAM AM		1	6.5	–
			Early gritty ware 1	GRB77		2	2.4	–
	15704	fill of pit 15703	BSB group	GRB69		1	1.9	–
					closed vessel	1	3.6	–
				GRB70	JX	1	1.9	–
				GRB73		1	4.9	–
			M	MRE	G237v	3	34.2	–
			OAB19	OAB19		5	15.2	–
			OBB	OBB6	closed vessel	2	41.8	–
	15757	fill of pit 15756	OAB19	OAB19		1	0.5	–
	15763	primary fill of pit 15762	FLA	FLA44		7	99.6	–
					FK5	23	304.8	15
	15764	tertiary fill of pit 15762	Early gritty ware 1	GRB77	bead rim	3	28.5	26
			M	MRE	G237v	1	19.4	–
			OAB	OAB		3	3.4	–
			OAB19	OAB19		1	2.5	–
			OAC9	OAC9		2	4.5	–
			OBB	OBB	bead rim	2	4.7	15
			SAMSG	SAMLG	dec bowl	1	4	–
						2	1	–
	15783	secondary fill of pit 15762	BSB group	GRB70	closed vessel	2	21.8	–
	15809	secondary fill of pit 15808	OAB19	OAB19		1	0.9	–
			OAC9	OAC9	F	1	14.3	–
			SAMSG	SAMLG	DR27	1	3	8
	24250	fill of shallow pit 24249	OAB	OAB		1	0.6	–
	28398	fill of pit 28399	BSB group	GRB69	JM	1	2.5	–
			Indet	Indet		2	2.4	–
			Pale pink ware (fine)	FLA36	closed vessel	3	32.5	–
	32322	secondary fill of pit 32318	M	MNOG WH		3	3.6	–
				MRE	Wall–sided	1	107.3	–
			Silty ware oxidised	OAA7		1	1	–
Posthole	24285	fill of posthole 24284	SAMSG	SAMLG	DR18	1	6	10
	24570	primary fill of posthole 24569	Fine Oxidised ware	OAA13		1	2	–
	24571	secondary fill of posthole 24569	Fine Oxidised ware	OAA13		2	5	–
Period 3 Pre Dere Street	16197	aggregate surface of SW–NE hollow–way (pre Dere Street)	A	BAT AM	Dressel 20	3	562.7	–
				GAL AM	A	5	91.1	–
			OAB	OAB		1	1.2	–
			SAMSG	SAMLG	DR18	2	5	–
					DR27	1	1	–
						1	1	–
Grand Total						**459**	**6125.7**	**363.5**

the North by the Flavian period, e.g. York, Catterick and Binchester (Monaghan 1997, 931; Evans and Rátkai, 2010, 154; Ross and Ross in prep.); however, the overall mortaria assemblage in Period 3 is small, so its absence may be coincidental.

The evidence from the Period 2–3 and Period 3 features demonstrates a shift from Period 2 pottery to the new Period 3 wares and forms with no demonstrable overlap. This appears to represent a replacement of one range of pottery with another in the late Neronian or very early Flavian period. As there is no pottery that is definitely of Flavian date in these features, a late Neronian date is theoretically possible. However, the range of wares and types in Period 3 are also all present in the larger Period 4 group, so such a date is difficult to demonstrate. The coarsewares date from the later Neronian to the earlier Flavian period and this cannot be narrowed down on typological or stratigraphic grounds. The mortaria from Period 3 include Gaulish wares (variants of Gillam 238), potentially locally produced oxidised and reduced wares in Gillam 237 and its variants, which date to c.AD60–90, and a single wall-sided mortarium thought to be of local manufacture and dated to c.AD55–80. The hand-built pottery from Period 2–3 included vessels thought to be influenced by Roman pottery vessels (see Cumberpatch above). Aspects of other ceramic and find categories, such as samian and glass, have been used to argue more strongly for late Neronian activity and the coarseware evidence would not contradict this.

If the character of the archaeological remains and the stratigraphic relationships (see Chapters 3 and 4) are temporarily disregarded, based on the pottery alone, all of the Period 3 features could be contemporary with Period 4, but do not have more closely dateable sherds in them. As the more closely dateable sherds tend to be the samian and other imports, Period 3 features could be contemporary activity of a different order to that resulting in the deposition the pottery found in Period 4 features and may not have involved samian. The material in Period 4 is predominantly derived from large dumps of ceramics related to the end of an episode of occupation, whereas the Period 3 material appears to derive from small-scale dumping carried out on an ad hoc basis in pits and ditches. As such, they could belong earlier in the settlement history than the Period 4 groups, the majority of which mark the end of Period 4, but the chronological difference between Period 3 and the start of Period 4 may only amount to a few years. No pottery types that were only current after AD70 were present in these assemblages, but pottery types with a date range from the late Neronian to early Flavian period were present. Thus, while this activity may fall within c.AD60-70, the less precisely dated ceramics could extend this to after c.AD70.

Key groups for Period 4

Due to the larger size of the Period 4 assemblages, the pottery from the key groups is presented in detail in the archive and only summarised here. Due to its importance, the details of the pottery from the trackways, hollow-ways and roads are summarised here and provided in greater detail in Appendix D.

Routeways and Roman roads

A number of routeways preceded the construction of Dere Street in Period 4. Table 5.80 (above) summarises the pottery recovered from these features. Group **29972** of RR3 did not contain any narrowly dated traded wares but several types—grey ware fabrics GRB2 and GRA6 of Catterick type—point towards a Flavian date, while the Gallic amphora suggests a *terminus post quem* of AD60. Hollow-way Group **31286** was provided a *terminus post quem* of c.AD65 from the SAMSG Dr.29 bowl. The foundation layer of RR10 (group **31257**) contained a sherd from an SAMSG 37 form and the trackway under the Period 5 stable structure contained an SAMSG 37 form bowl, both of which dated to AD70–90. The sherds from RR4 could only be dated to the late Neronian–early Flavian period, although Gallic amphora sherds give a date in or after AD60. RR3 had material similarly dated to the late Neronian–early Flavian period, but RR5 (group **29957**) included a SAMSG beaker dated AD70–110, while RR6 (group **29961**) had several samian vessels dated to c.AD70–85 and c.AD70–90 within its foundation layer. Material from other road groups were only broadly dateable to the late Neronian–early Flavian period.

As the groups from the routeways and roads are fairly small, and it is not certain that groups lacking Flavian pottery are of pre-Flavian date, but the pottery certainly does not in and of itself preclude that possibility, although a date earlier than the later Neronian period cannot be sustained. Pottery of the same Flavian date range was found in RR10 group **31258** and hollow-way **6821**, as well as the midden material **31725** and **31733** found between RR5 and RR6.

Field system

The pottery from field system ditches provided a late Neronian–early Flavian date for all the groups. The well-dated samian, mortarium and amphora types dated to or after AD70 were present in Field 228 in group **28434** with grey wares of Flavian type, and in groups **28442**, **28429**, **28425** and **28459**. In Field 229, the groups were rather small, but grey ware types of Flavian type were identified in group **33802**. In Field 246, samian, mortarium and amphora types dated to or after AD70+ were present in groups **31284**, **31208**, **31218**, **31275**, **31257**, **31215** and **3120**, with Flavian-type grey wares from group **31264** and types dated to or after AD65+ from groups **31286** and **31263**, and to or after AD80+ from group **31261**. In Field 258, groups **28131**, **28156**, **28158**, **28161**, **28135**, **28133**, **28148**, **28139**, **28162**, **28136**, **28146**, **28129**, **28178**, **28173** and **28148** all included types dated to or after AD70, with groups **28145**, **28151** and **28170** dated to or after AD65. Group **28171** had a Gallic amphora sherd dating after AD60. Group **28152** had sherds in a grey ware probably made at Catterick, so is likely to be Flavian in date. The pottery from groups **28154** and **28177** could be Flavian or late Neronian and a sherd of pre-Flavian colour-coated rough-cast beaker came from group **28154**.

In group **18156** a samian dish dated to AD45–110 was recovered from context **27299**. Other groups from Field 258 had assemblages of 20 or fewer sherds and were only broadly dateable to the late Neronian or Flavian period. In Field 265; types providing a *terminus post quem* of c.AD70 were found in groups **29959**, **29958**, **29961** and **29957**, with Flavian coarsewares in groups **29969**, **29964**, **29974** and **29960**, and a vessel dating to or after AD65 in group **29972**.

Structures

A number of structures had closely dated sherds in primary contexts dating from c.AD70–90, namely Structures 33, 34, 35 and 38. These comprised SAMSG Dr.37 bowls and, from the floor of Structure 38, Dressel 20 amphorae dated to c.AD70–100/110/120 and samian Dr.37 bowls dated to AD70–85, AD70–90, AD70–110 and AD80–110. In addition to these, Structure 49 contained sherds from a grey ware jar with subdued rustication arcs and Structures 31 and 37 contained sherds of GRB2 and GRB6, both of which are comparable to fabrics found at *Cataractonium*. These stratified sherds provide a Flavian date for these structures. In the case of Structures 29, 32, 40 and 53, the groups were too small to be significant as far as dating is concerned. In Structures 34 (posthole packing), 37 (posthole fill), 38 (posthole, post trench fill and earthen floor), and 49 (posthole and second fill of penannular gully), the sherds came from contexts related to construction and use. In Structure 33, the sherds came from fill **26444** of gully **15302**, so could belong later in the life of this structure. In Structure 35, the sherds came from the fourth fill **27530** of the oven, and so may have arrived after the primary stage of use.

Pits and end of Period deposits

The most significant pit group was the assemblage from group **28131**. Crucially, several well-dated samian, amphora and mortarium forms were found in this pit group and these included Flavian forms, firmly dated to c.AD70. It was from these pits that several of the better-preserved pre-Flavian types, such as the Central Gaulish glazed cup, came, as well as other imports of terra nigra eggshell ware, Lyon ware, Braives mica-dusted ware and Flanders Pompeian red ware. Early gritty ware 1, with its rilled jars, is not represented in this group, although early gritty ware 2 bowls continued to be well represented. The proportions of well-made grey wares increased markedly compared to Period 3 levels and the forms include the Flavian rusticated jars with subdued rustication and reeded-rim bowls with grooved reeds. The contribution from the hand-built vessels has nearly vanished, while mortarium and amphora fabrics have increased and diversified. The most narrowly dated forms suggest a date range of c.AD70–90 for this group.

Summary of Period 4 key groups (incorporating Period 2–4)

Some 12,039 sherds came from Period 4, making it by far the largest group of stratified pottery from the site. A greater range of pottery wares and types were identified compared to Period 3, with a significant number of types characteristic of pre-Flavian military sites in Britain. The earliest stratified contexts have Flavian pottery in their fills and the samian indicated a cessation of activity before c.AD85/90 (Monteil, this chapter).

The pottery from Period 4 was made up of a continuation of the fabrics found in Period 3 but with the addition of more vessel types, better made and additional fabrics, a range of imports associated with military sites of Neronian and early Flavian date, and fewer hand-built vessels, although these did include copies of the typically Roman vessels, such as rusticated jars. What is significant is the change in the range of types and the quality of the products reaching the site in Period 4. Although some of the wares are present in Period 3 contexts, the quantities are small and the range restricted, lacking specialist vessels, such as cheese presses, colanders, lids and jugs, and only small numbers of mortaria, bowls and cups. This development of the locally made coarsewares with an improvement in technology, producing well-fired vessels of consistent quality in a wide range of vessel types, must mirror significant changes in the tastes of the occupants of the settlement and the skills of the potters supplying the ceramics.

The character of the amphora assemblage altered profoundly from a group dominated by Gallic wine amphorae in Period 3 to one predominantly consisting of Dressel 20 olive oil amphorae in Period 4, a shift which must reflect a profound change in behaviour, not only in terms of cooking but also perhaps in personal habits, bathing, perfuming and hair care. In addition, two carrot amphorae, which would have contained dried fruit, were identified in Period 4 contexts and other new amphora types included a Dressel 28 wine amphora. The date range of the individual amphorae in Period 4 includes vessels dated to both the Neronian and early Flavian periods.

Similarly, the range of mortaria expands considerably both in type and quantity. The sources are characteristic of early military sites, arriving from northern Gaul, *Verulamium* potteries and locally made Gillam (1970) type 237s, a type of mortarium particularly associated with early military sites. The dating of individual vessels suggests a late Neronian to early Flavian range of c.AD60–90 and c.AD65–95.

By weight and EVEs, the proportion of samian doubled but remained nearly the same by sherd count, probably because the Period 4 samian was less fragmented. The Period 4 assemblage is also consistent with a military or military-derived assemblage of the late Neronian and early Flavian period ending c.AD85/90.

Key groups for Period 4–5, Period 5 and later

The pottery from Period 5 is virtually indistinguishable from Period 4 other than the more restricted range of wares and vessels that are in smaller quantities and poorer condition. There can be little doubt that the widespread domestic settlement of Period 4 ceased around AD85/90. Several types have date ranges that extend as late as the early 2nd century, but there is nothing to suggest that the

Period 5 features, other than the road system, continued that late. The more precisely dateable types, such as the samian, mortaria and amphorae, point to a decline in settlement c.AD85/90. It seems unlikely that the pottery types made locally during Periods 3 and 4 continued to be produced after the focus of military-related activity moved away from the area at or near Scotch Corner.

CHRONOLOGICAL CHANGES IN FUNCTION AND CHARACTER

The range of pottery vessels and wares being used in the successive Periods altered markedly. During Period 1 the vessel type was limited to jars. The form of the hand-built vessels gives little indication as to their specific uses beyond a possible bipartite division into medium-sized utilitarian vessels used for the processing and cooking of food and smaller, usually finer-textured vessels that may be interpreted as some form of tableware. It is unclear whether the distinctive rim forms were related to specific functions. It seems likely that everted and wedge-rimmed vessels would have been easier to cover securely—perhaps with a piece of leather or fabric tied around the neck of the vessel—than the barrel, open vertical-rim or beaded-rim jars (although the latter types were not well represented in the assemblage). However, the functional analysis of this class of pottery has barely begun, and questions remain regarding the significance of the typological variation documented here and at greater length elsewhere.

The range of hand-built pottery fabrics indicates the exploitation of a variety of clay sources and possibly the processing of clay to obtain specific outcomes in terms of its qualities and characteristics. Without a comprehensive programme of local and regional clay-source sampling, along with analysis and direct comparison with samples from specific vessels, it is difficult to determine whether individual vessels were locally made or brought to the site from some distance away. There is no evidence in the assemblages considered here to support the suggestion that any type of hand-built pottery was regarded as 'exotic' or possessed of any special significance, although it might be argued that the continued use of hand-built pottery alongside wheel-thrown wares was in itself of some significance in that it formed a tangible link with pre-Roman social and economic practice. In this sense, the continued manufacture and use of hand-built pottery might be seen as of importance in maintaining some form of continuity with pre-Roman society and perhaps with traditional practices in the preparation and consumption of food and drink. That pottery continued to be made in a domestic context (as opposed to the centralised and professional production of wheel-thrown ceramics) may also indicate the continuation of traditional domestic practices in terms of household production. It should also be noted that the quantities of hand-built pottery were low in comparison to assemblages from settlements excavated elsewhere in the wider region and this could be interpreted to mean that the uptake of wheel-thrown ceramics varied between sites and may have been higher in and around sites that were the focus of Roman settlement than in areas where direct Roman influence was lower.

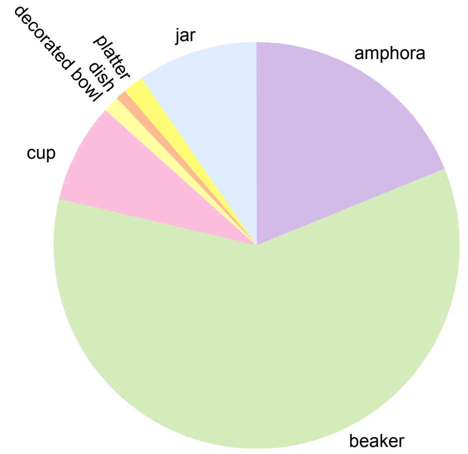


Figure 5.43: Scotch Corner relative percentage of vessel types in Period 2 (by EVEs values).

In Period 2 the ceramic repertoire changed profoundly, with 45–70% comprising beakers and cups, while jars dropped as low as 10–20% (by EVEs; Fig. 5.43). Certainly, some of the Period 1 assemblages could belong with Period 2 (a group defined by the presence of Gallo-Belgic and Italian imports), but even when these two Periods are combined, beakers and cups still make up 56%. Other new vessel types—wine amphorae and flagons—are common at 10–17%, but bowls, dishes and platters are scarce. Although organic vessels may have supplemented the hand-built jars in Period 1, the extreme emphasis of the Period 2 vessels on types used for drinking is notable and suggests the arrival not just of valuable imported wine and drinking vessels at Scotch Corner but also a taste for such products and the concomitant need for suitable drinking vessels. In terms of drinking vessels, the function of the 'cups' and 'beakers' in Period 2 cannot be certainly asserted. Cups are less common than beakers in Period 2 and all are samian vessels. Where the form could be identified, it was Dr.24/25 and these came from Structures 47iv and 18 and trench **16410** in Field 246. Nearly a complete profile of this type was present in Structure 18. The beakers in terra rubra, NOG WH and silty wares are larger than Roman beakers and Cool (2006) notes than these would offer an excessively generous capacity even if the wine were diluted, as Roman wine was by custom. We know from Roman writers that the Gauls drank prodigiously (Appian *Roman History* IV.5; McGing 1912 and Diodorus Siculus *Library of History* V 26.3; Oldfather 1950). Diodorus Siculus also remarks that:

> …consequently, many of the Italian merchants, induced by the love of money which characterises them, believe that the love of wine of these Gauls is their own godsend. For these transport the wine on navigable rivers by means of boats and through the level plains on wagons and receive for it an incredible price; for in exchange for a jar of wine they receive a slave, getting a servant in return for a drink.
>
> (note 12 in Dannell 2006)

This refers, of course, to the Gauls rather than the Britons, but an extension of such trade to Britain would clearly be logical in the period either side of the Claudian invasion. These larger vessels, favoured by both the Gauls and the Britons at this time, illustrate well the origin of Roman horror at the lack of moderation exhibited by the Gauls. Therefore, the beakers may be assumed to accompany the wine from the Italian amphorae. Of course, it may be that these large vessels were used in a communal way (Pitts 2005, 148) and were passed around, rather than being used to serve individuals. Thus, wine drinking appears but was not performed in the Roman way. Others have suggested large beakers were primarily used for beer rather than wine (Pitts 2005, 155–6; Cool 2006, 164). At Scotch Corner, the repeated association of butt beakers and wine amphora sherds underscores their close relationship.

The bowls from Period 2 are all samian and these may also have been used in connection with the wine. Evidence of graffiti and decorative vines on samian bowls suggest that these vessels were used to mix wine in the Roman tradition (i.e. with water and flavourings; see Dannell 2006, 158 and note 69). If their function was preserved at Scotch Corner—and this is not certain—their presence provides evidence for the adoption of foreign, Roman traditions at the site, at least to some extent.

The cups, by contrast, are much smaller and Dannell (2006) suggests these correspond to Roman vessels called *paropsidesi*, as listed on the graffiti found at the samian kiln site at La Graufesenque. This vessel seems to have contained sauce or relish (Dannell 2006, 152) and there is no evidence they were used as drinking cups. If they were used in the intended way then the presence of these vessels may be evidence of dining practices, rather than drinking, and indicate changes in the way food was presented, as well as what kind of food was available and/or prepared.

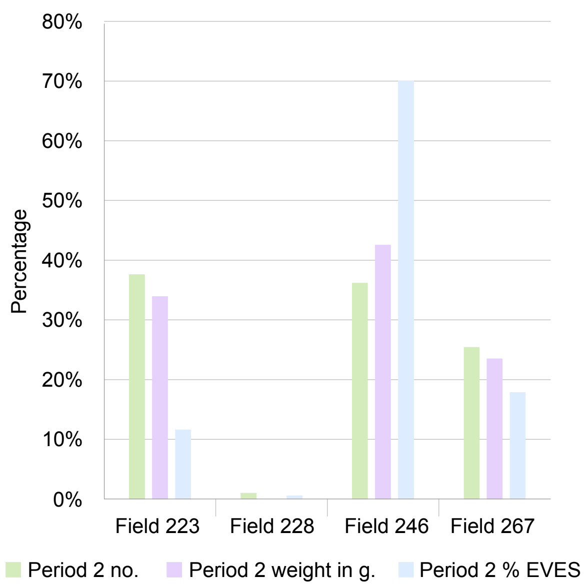


Figure 5.44: Scotch Corner Period 2 relative quantities of pottery by field using sherd count, weight and EVEs.

Considering the acquisition of both wine and cups/beakers, it is of interest that there are relatively few imported platters and dishes. This absence contrasts with the situation found at oppida and less exalted settlements in the south of England and implies Gallo-Belgic, essentially Roman, dining customs were not adopted to the same extent at this time at Scotch Corner. Roman dining involved the laying out of different food on individual plates and platters, which diners ate from individually (Cool 2006, 165). Thus, both the cups and the open dishes and platters imply changes in the way dining happened—perhaps less communal and more individual, less stew and more invitingly arranged food. The small numbers of these vessels, compared with the large beakers, contrasts with the pattern in south-east England during Period 2 and earlier, and demonstrates a selective and quite restricted trade/exchange compared to those oppida.

As well as wine amphorae, olive oil amphorae were also present. Here the different quantification measure used gives very different results. By sherd count, Dressel 20 amphorae, which contained olive oil, account for only c.10% of all amphorae in Period 2 and are not represented by EVEs at all. By weight, Dressel 20 sherds make up c.34% of all amphorae from Period 2, but the body sherds of this amphora are much thicker and heavier than the wine amphorae present in these contexts. Olive oil was certainly being acquired, but the quantities are far lower than is normal for a Roman settlement in Roman Britain. In terms of the proportion of the entire Period 2 amphora assemblage, wine amphorae account for c.11% by sherd count and oil amphora less than 2% by sherd count. A single but large sherd from a South Spanish amphora containing a fish-based product, perhaps comparable to anchovies, came from the Period 1–2 fabric of RW4 (**16492**), marking the arrival of quite exotic foodstuffs.

The assemblage from Period 2 is limited in the range of both vessel types and wares. Acquisition of Roman and Gallo-Belgic vessels was highly selective and concentrated on drinking vessels and containers of

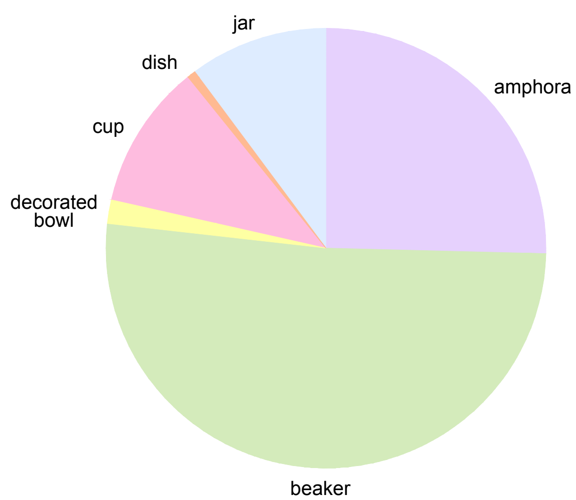


Figure 5.45: Scotch Corner Period 2 relative quantities of vessels in Field 246 by EVEs.

imported wine. For the most part, drinking seems to have happened in the Celtic rather than the Roman tradition, with only a few vessels that may have been used to flavour wine in a more Roman way. Only a small number of tablewares suitable for Roman-type dining were present, and it may be that this aspect of Roman life was not adopted. The imported vessels came primarily from northern Gaul, perhaps at Amiens, the Marne-Vesle Valley, the south Gaulish samian centres, Campania and an unknown south Italian source, with smaller quantities from Gaul and southern Spain.

In Period 3, the ceramic assemblage changes more or less completely. Gone are the Gallo-Belgic fine wares and Italian wine amphorae, the butt beakers and platters; in their place, Gallic wine amphorae, bowls, dishes, flagons and rather more jars in Roman type coarsewares. The beakers in Period 3 are all of the small jar variety, rather than the fine ware types present in both Periods 2 and 4. In terms of sherd count and weight, there are relatively larger numbers of amphorae and, in addition, the quantity of olive oil, although still small at 3%, has risen. Olive oil was used for many different things in the Roman world—cleaning the body, perfume, cooking—all of which were Roman habits and customs. Tablewares are less common in Period 3. Although the level of samian ware reaching the site remained much the same in Period 3, the loss of the Gallo-Belgic fine wares means that overall access to fine wares had diminished. The introduction of the coarseware flagon is notable, and one wonders if this vessel, rather than the small jar/beaker vessels, replaced the butt beakers of Period 2 as drinking vessel used in a communal setting and passed around. Although the whole Period 3 assemblage is more balanced and more Roman in character, both in terms of wares and vessel types, there are distinct differences and similarities between this assemblage and that found in Period 4. These differences include the low level of olive oil amphorae, the absence of fine ware beakers, bowls, lids and specialist vessels, such as colanders and cheese presses, and the small numbers of mortaria.

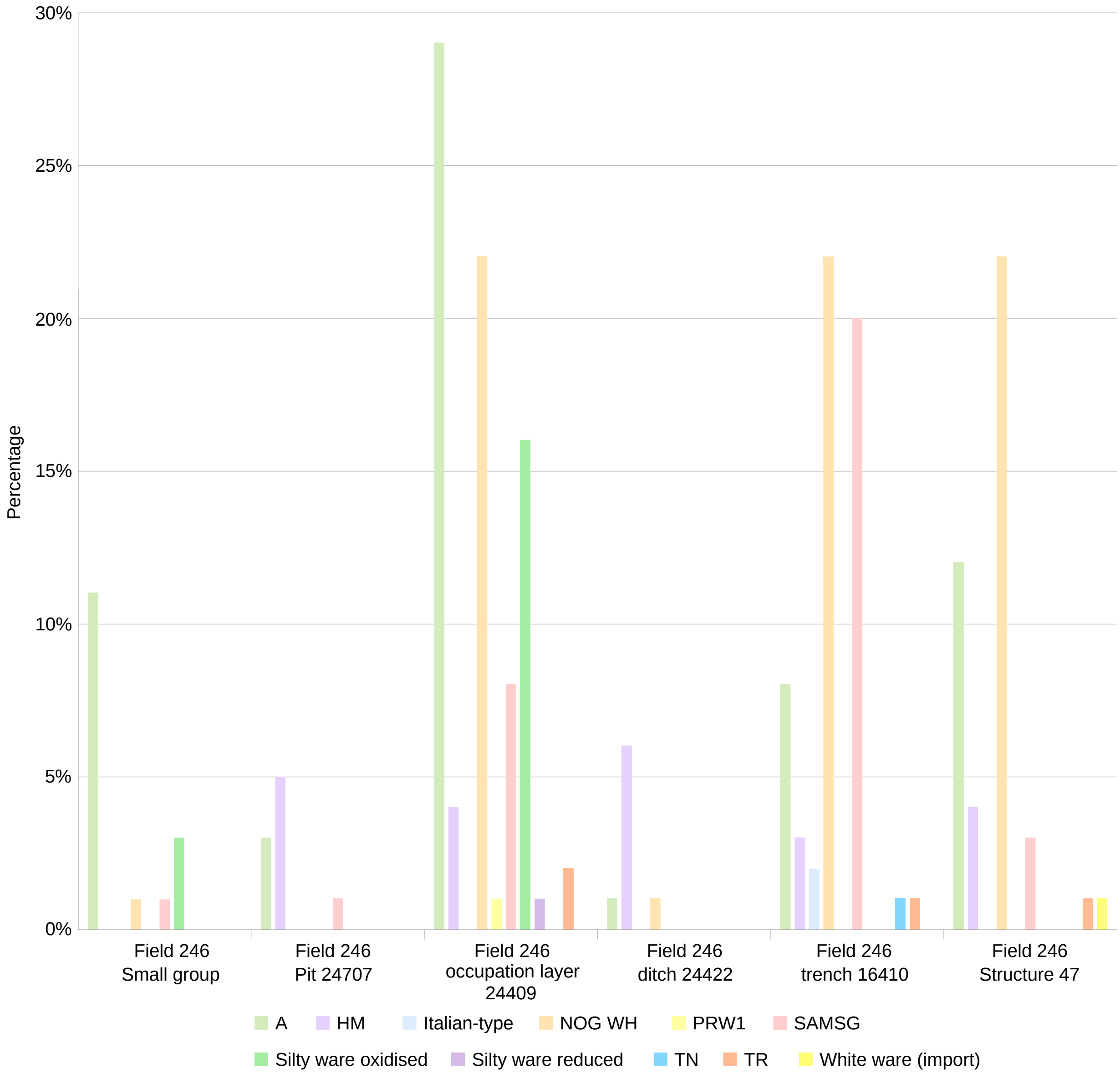


Figure 5.46: sherd count by feature and key ware group in Field 246 at Scotch Corner.

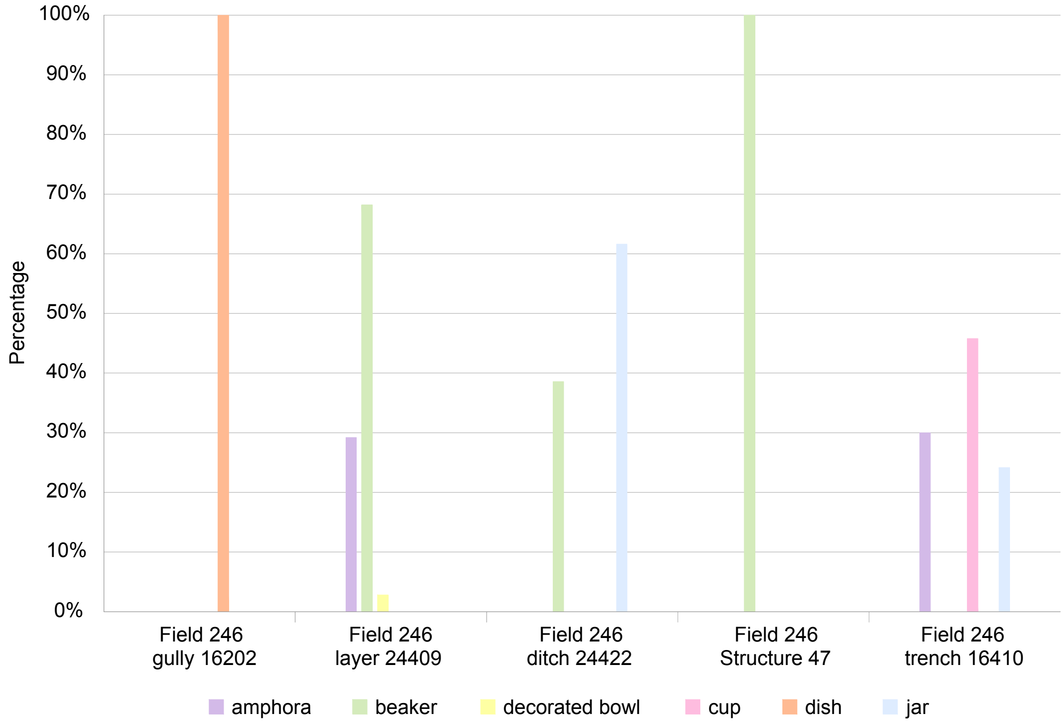


Figure 5.47: relative quantities of vessel types in features at Field 246 at Scotch Corner during Period 2 (by EVEs).

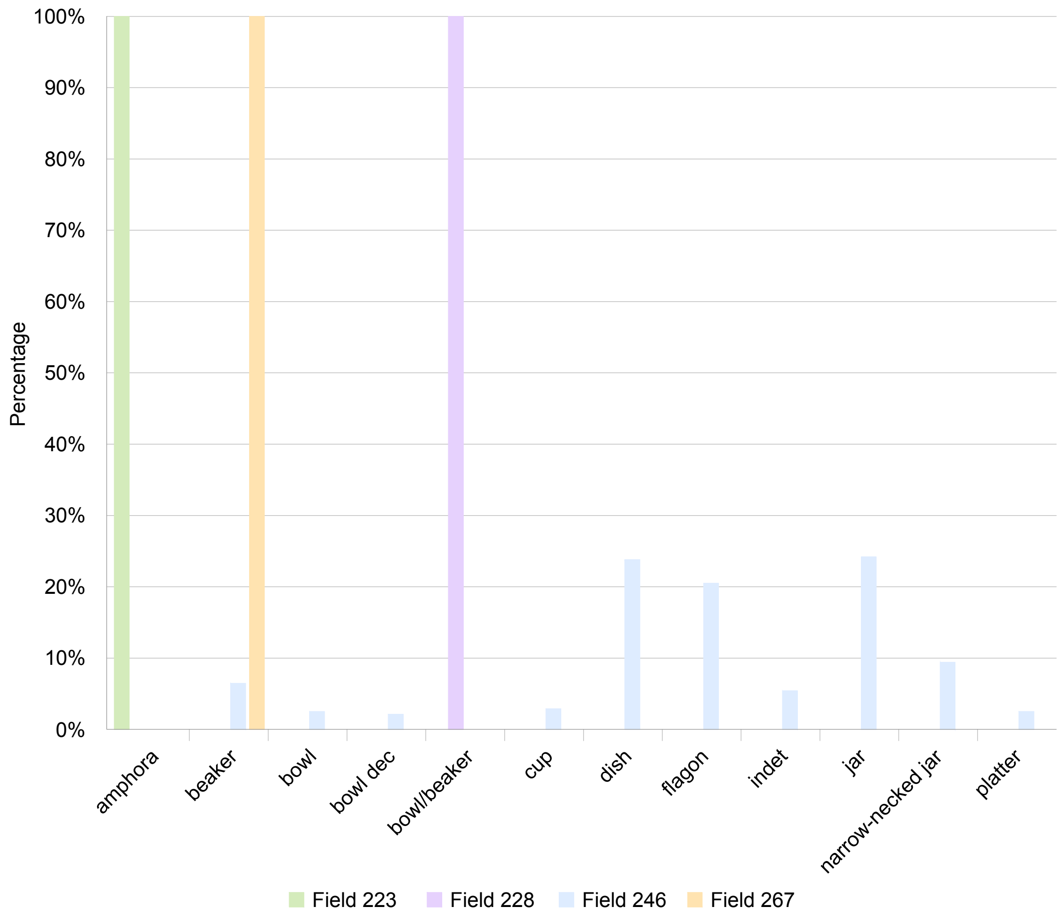


Figure 5.48: relative quantities of vessel types in each Field in Period 3 at Scotch Corner (by EVEs).

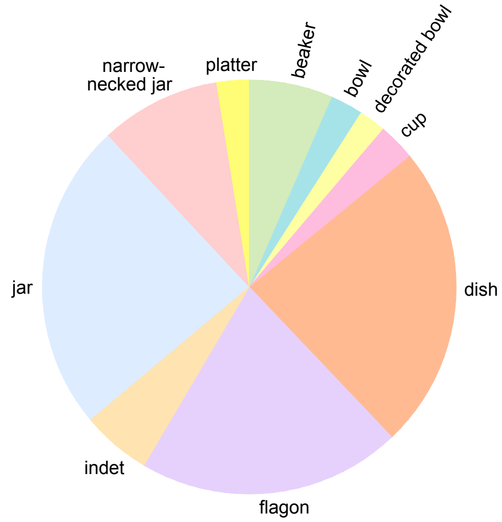


Figure 5.49: relative quantities of vessels in Field 246 at Scotch Corner during Period 3 (by EVEs).

There can be no doubt that the ceramic assemblage from Period 3 is not what one would expect of a normal Roman assemblage at this time. There are a number of possible reasons for this. For instance, the occupants may not be Romans. If so, the assemblage may comprise what they were able to acquire from traders and/or contact with the Roman personnel. Certainly, this group bears no similarities with the Period 2 pottery and its focus on drinking. There are fewer hand-built jars, with most jars being wheel-thrown Roman types. The features in this group may be contemporary with Period 4 but represent occupation by a different ethnic group or class of people, perhaps the original inhabitants, as opposed to an intrusive group of Roman officials or military personnel in Field 258, where settlement activity commences during Period 3, or at some other Roman site nearby. Although Period 3 lacks the latest pottery found in Period 4 (types dating after AD70), it may overlap with the earliest Period 4 activity. Most of the Period 4 pottery comes from the end-of-life deposits and these do not date the beginning of the Period 4 features.

In Period 4, the full range of Roman vessel types are present, with more samian and specialised vessels, such as mortaria, jugs, colanders, cheese presses, tripod vessels, tazzes and lids. This repertoire is not a selective acquisition of new attractive vessel forms and fine wines, as in Period 2. Beakers are less common, but cups increase compared to Period 3, as do other tablewares, such as dishes, bowls and flagons. The amphora assemblage, unlike that of Period 2 and 3, is dominated by the Dressel 20 olive oil amphorae, as is normal on Roman military sites in Britain and, indeed, on most Roman sites of any type (see below). Similarly,

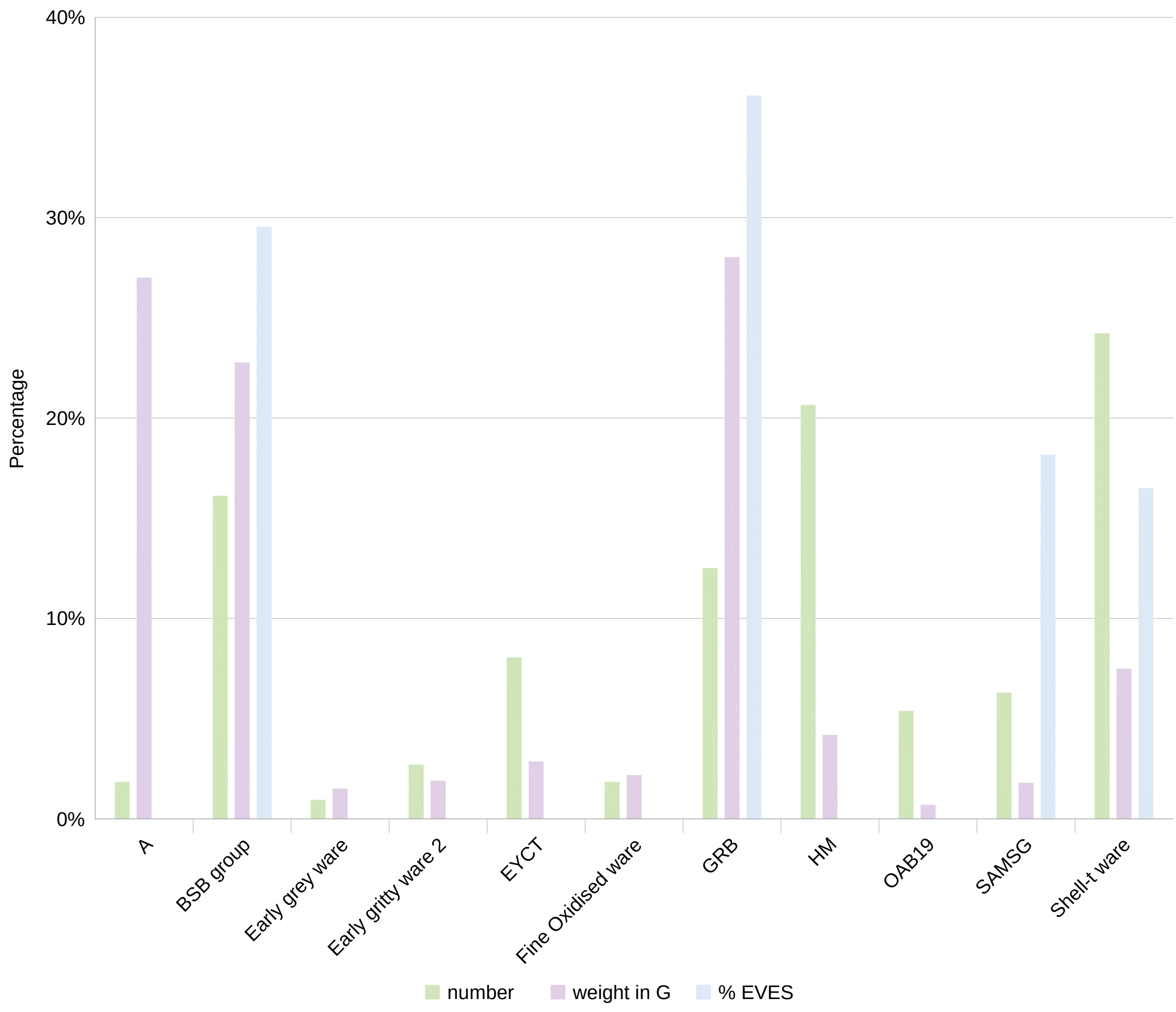


Figure 5.50: relative quantities of wares from Structure 57 at Scotch Corner during Period 3.

the mortarium assemblage can readily be compared with early military sites and is made up of locally made, early military forms, imported Gallic vessels and types traded from the *Verulamium* region potteries. This assemblage is a fully functional Roman ceramic repertoire, such as one might expect on an early military site. Included are many imported tablewares, including types such as the Lyon beakers and the Central Gaulish colour-coated and glazed beakers, cups and bowls, the Pompeian red ware (PRW6) platters, the eggshell ware beaker and the Braives mica-dusted ware. These are all rare outside of the military community, apart from places like London. Although such fine wares can occur on non-military sites, such as early urban centres, for example at Silchester (Fulford and Timby 2000, 309), at Scotch Corner their presence is remarkable and, together with the other finds from the site, indicates that an exceptional relationship existed between the inhabitants and the Romans. Together with early military-type mortaria, both local and imported, and the full range of Roman coarsewares, this assemblage marks a profound change in the origin and use of ceramics on the site in every respect.

The contribution of hand-built vessels in Period 4 diminishes to c.2–3% and many of these may be redeposited from earlier activity. The presence of at least three hand-built rusticated jars in fabrics previously used to make hand-built vessels in insular tradition is of interest. This may suggest that hand-built pottery continued to be produced in the same fabrics and using the same technology but was produced in forms that had been introduced to the region by the Romans. The number of vessels suggests these hand-built forms were not being made by the same potteries that supplied the usual wheel-thrown pottery of Roman tradition that is found on the site. It is likely that individuals brought these vessels on site either as personal belongings or for their contents. They also imply contact between the potters making hand-built wares and those responsible for the wide range of wheel-thrown wares. The similarities between the early gritty wares and the fabrics used to make the hand-built vessels suggest that ideas and knowledge were being exchanged in both directions, with potters in the hand-built tradition experimenting with rustication and potters in the wheel-thrown tradition accessing perhaps traditional clay sources known to the potters working in the hand-built tradition. The question of whether the potters working in these traditions were the same people is not an easy one to answer.

In Period 5, the assemblage make-up changes again. Many of the imported fines wares disappear entirely and even samian ware, although present, is significantly less common. In contrast, there are more amphora sherds (predominantly Dressel 20 olive oil amphorae) and a much greater proportion of hand-built wares. The other coarsewares of Period 4 had gone or become less common. The characteristics of the Period 5 assemblage contrast with Periods 3 and 4. The wares characteristic of early military sites have gone or diminished in quantity. Hand-built vessels and amphorae increase but the range of Roman wares present is more restricted than in Period 4 and there is a reduction in the amount of samian being acquired. In terms of vessel types present, the specialist vessels, such as cheese presses and colanders, were not found and, using EVEs values, the numbers of dishes and

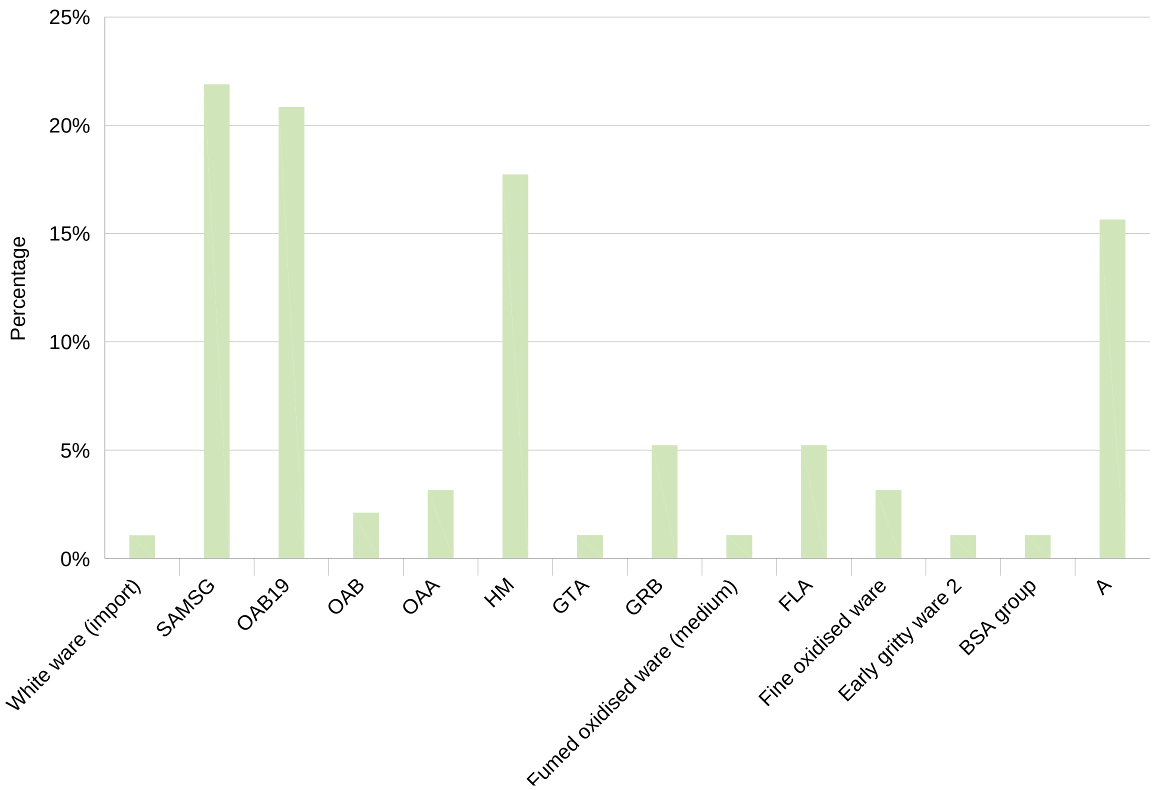


Figure 5.51: relative quantities of wares in Period 3 ditches at Scotch Corner (using sherd count).

bowls decreased, although the relative quantity of both flagon and amphorae increased. This latter characteristic may be the result of vessels being abandoned at the end of Period 4 and then becoming redeposited into Period 5 features. The rims of flagons and amphorae tend to survive better than those from other vessels, which would explain the larger proportion from these vessel types. One should be aware that this is a much smaller group and the EVEs values total 4.42. Therefore, a single complete flagon rim would have a disproportionate effect on the relative quantities of each vessel type. The characteristics of the assemblage suggest a change in the status and function of the site and fit with the road network and isolated roadside features that were excavated.

SPATIAL DISTRIBUTIONS OF POTTERY TYPES

The spatial distribution of the pottery was examined in detail (see Appendix D). In Period 2, the wheel-thrown pottery sherds were most common in pits and ditches. They appeared extensively fragmented and abraded. There was a little more pottery in Field 246 than in the other fields, while Field 267a had slightly less. Field 228 had only five sherds from Period 2, although a small number of sherds of Period 2 type ware in the Period 2–4 ditches may also derive from Period 2 activity (Fig. 5.44)

In Field 223, the groups were small and much abraded. This field has fewer sherds of the imported amphorae and fine ware groups—c.40% compared to Field 246 at 73% by weight—and more hand-built vessels (28% compared with 20% in Field 246) and BSA copies of the imported beakers (27% by weight) than the other fields in Period 2. The structures in Field 223 have very few sherds of pottery associated with them in comparison with Fields 246 and 267a and this fact, combined with the difference in wares, is consistent with this area being on the periphery of domestic activity. In Field 267a, none of the structures, groups or other features had concentrations of pottery in them. The largest pottery assemblages by feature type come from the ditches. In Field 246, amphora sherds are more common than in the other two fields (Table 5.45), as are samian, NOG WH and terra rubra sherds, although the silty wares are less common (2% in Field 246 compared to 10% in Field 223 and 20% in Field 267a). The hand-built vessels are less common. Overall, the assemblage from Field 246 is consistent with this field being the focus of domestic activity or behaviours resulting in more ceramic debris typical of drinking and perhaps feasting, although ceramic dishes, platters and bowls were rare (Fig. 5.45).

In Field 246, pottery sherds were concentrated in Structure 47iv, trench **61410**, ditch **24422**, pit **24707**, gully **16202** and context **24409**, all around the area of the workshop enclosure ditch (Fig. 5.46). Trench **16410** had the largest amount of amphora sherds, silty wares and terra nigra, as well as the second largest group of samian ware and NOG WH. The largest amounts of NOG WH beakers came from **24409** and Structure 47iv. Although the numbers of sherds are very small and all the sherds are fragmented and abraded, Structure 47iv has an assemblage dominated by NOG WH beakers, wine amphora and samian sherds. Trench **16410** has a similar signature, with slightly fewer amphora sherds and more samian, including Italian sigillata. Gully **16202** and ditch **24422** were small groups. Hand-built vessels made up most of the group from **24422** and the majority of the group in gully **16202** was made up of amphora sherd with some samian and silty ware body sherds. In pit **24707**, a group of body sherds comparable to those from ditch **24422** was recovered; hand-built vessels made up 70% of the assemblage, with 5% each of NOG WH, OAB and SAMSG. These differences suggest that the pottery from Structure 47iv, trench **16410** and layer **24409** was special and particularly associated with drinking and using imported beakers with a few platters and cups (Fig. 5.47). Given the levels of later activity in this area of the site, at least some of the fragile NOG WH, terra rubra and silty ware beakers and cups, along with the amphorae/flagons may have originally been deposited in a rather more complete condition, but there is no compelling evidence that these groups represent

Table 5.82: relative quantities of beakers, cups and small jars in the drinking vessel category from Period 4 contexts (by Field and ware by EVEs).

		Field		
Drinking vessels	Ware group	246	258	265
Cup dec.	SAMSG	–	0.57%	–
Beaker dec.	SAMSG	1.47%	5.09%	–
Cup	SAMSG	18.38%	48.50%	18.99%
	Military associated import	–	1.07%	–
Beaker	Coarse wares	19.49%	31.09%	81.01%
	White wares	3.68%	1.79%	–
	Military associated import	–	5.01%	–
	P2 fine wares	35.29%	1.65%	–
	TN EGGS	3.86%	–	–
	BSA EGGS	2.57%	–	–
Beaker/small jar	–	15.26%	5.23%	–

some sort of dispersed structured deposit. It is more likely that the concentration of these specific types of pottery may represent special activities, such as feasting or religious rituals and libations in this area of the site.

In Period 3, ceramic deposition was again restricted to Fields 223, 228, 246 and 267a, with the largest assemblage coming from Field 246 and only 20 sherds from Field 228. Pottery deposition was concentrated in ditches, pits and in Structure 57, with modest groups of small abraded sherds in gullies, postholes and other features. It is clear from the types of vessels present in the different fields (Fig. 5.48) that activity in Fields 228, 223 and 267a was peripheral. A deposit of most of a Gallic amphora was found in ditch **30058** in Field 223, but otherwise there were no concentrations or patterns that shed light on the activities being carried out in these areas. The limited range of wares and vessel types show that they were not areas of primary ceramic discard and domestic activity.

The larger Period 3 group from Field 246 has characteristics different from the preceding Period 2 assemblage. The assemblage has a far more extensive range of vessels (Fig. 5.49), including tableware, which was not found in Period 2. Dishes, bowls and flagons are present in good numbers, as well as wide-mouthed and narrow-necked jars. This selection looks more like a domestic discard group that included storage, drinking and dining vessels. Amphorae and mortaria were represented by body and basal sherds, as well as a tazze base from ditch group **31285** (Cat. no. 395), which is thought to have been used for burning incense. In the samian group from Field 246, there is a shift from Period 2, when cups were the most common type by EVEs, to Period 3 when dishes were the most common vessels.

Table 5.83: relative quantities of bowls, dishes and platters in coarse and fine ware groups in Period 4 contexts (by EVEs).

		Field		
Vessel	Ware	246	258	265
Bowl	Coarse W	34.14%	33.39%	35.29%
	White wares	–	0.72%	–
	SAMSG	–	0.22%	–
Bowl dec.	SAMSG	25.23%	17.71%	34.84%
Bowl/ beaker	Coarse W	–	0.31%	–
Bowl/ dish	Coarse W	–	0.22%	–
Bowl?	Coarse W	1.86%	0.22%	–
	White wares	–	0.22%	–
Dish	Coarse W	–	2.06%	–
	SAMSG	34.32%	43.52%	17.65%
Platter	Coarse W	1.11%	0.90%	12.22%
	PRW1	–	0.49%	–
	TN	3.34%	–	–

In Field 246, only one group from Structure 57 (Fig. 5.50) had enough pottery to provide evidence for functional consideration, and the profile fits the type of domestic assemblage one would expect from a fully Roman settlement. The amount of samian in this structure is quite low (Fig. 5.50), as is the amphora by sherd count and EVEs. Since the overall samian levels from Period 3 are quite high in Field 246, one might expect samian sherds to be found in quantity in Structure 57. However, both the samian and the amphora sherds are concentrated in the ditches (Fig. 5.51), particularly in ditch **31285** and ditch group **15859**. None of these groups were large or included near-complete sherds and they appear to be casual dispersion of ceramic debris in convenient ditches. The pottery from Period 3 is thus chiefly found in Field 246 around Structure 57 and in ditches to the south of Structure 53.

In Period 4, ceramic discard shifted away from Field 223 completely and there was little pottery from Fields 229 and 267a. The ceramic distribution in these fields indicates a function on the periphery of domestic activity. The pottery assemblages in both Field 229 and Field 267a did include some fine wares, such as samian, and specialist types, such as amphora and mortarium sherds. In Field 267a, sherds from an imported fine ware beaker from Lyon were found in pit **32376**. The presence of these functional groups—tableware, vessels for food preparation and amphora storage vessels—suggests the sherds came from the domestic activity to the north and represent casual dispersal of domestic debris on the periphery of the domestic zone.

Field 228 had a group of 489 sherds (3.6g; EVEs 2.9). A group of 22 OAA11 flagon sherds (418g) was found in the primary fill of well **28342**. This incomplete and fragmented vessel, which lacks the rim but comprises much of the body, neck and handle, is the type of receptacle that would have been used to draw water and may have been broken, either in use or around the top of the well. Vessels with constricted necks such as this are often found down wells and, at a later date, some have been found with a cord still attached, perhaps used to pull them up and down (at Dalton Parlours well, a vessel was found with a cord fragment tied to the lug: Sumpter 1990b, 244). As broken vessels were replaced and the drawing of water continued, the initially fragmented but near-complete vessels lost down such wells are broken up further and sherds buried in the silt and later debris or infill material, resulting in parts being lost to archaeology. Such vessels are a tangible remnant of the daily routine of drawing water for family use. In Field 228, amphora and samian wares were scarce. and bowls, cups and dishes absent or scarce. Although seven sherds from a white-slipped oxidised ware flagon and one tiny scrap from a Lyon beaker were identified from the fill, the restricted range of vessel types and wares would be consistent with

Table 5.84: relative quantities of pottery in Period 4 feature types.

	Field								
	246			258			265		
Feature type	No.	Weight (g)	Rim%	No.	Weight (g)	Rim%	No.	Weight (g)	Rim%
Aggregate surface	0.68%	0.38%	–	–	–	–	–	–	–
BS	–	–	–	0.19%	0.04%	–	–	–	–
Bur soil	8.94%	7.39%	8.64%	–	–	–	–	–	–
Cistern	–	–	–	0.71%	0.35%	0.26%	–	–	–
Clay layer	–	–	–	–	–	–	0.75%	1.61%	0.83%
D	51.27%	46.80%	45.73%	43.84%	37.58%	38.21%	4.76%	2.62%	0.31%
FE	0.20%	0.16%	–	–	–	–	0.13%	0.01%	0.10%
Floor	–	–	–	–	–	–	16.42%	27.83%	23.47%
G	4.69%	3.94%	6.44%	2.65%	1.87%	3.25%	8.52%	2.70%	8.52%
Hearth	0.08%	0.01%	–	–	–	–	–	–	–
Hollow–way	2.86%	1.62%	2.33%	–	–	–	3.13%	1.49%	–
Layer	13.55%	21.67%	22.56%	0.27%	0.08%	0.38%	2.76%	1.71%	0.10%
Midden	–	–	–	–	–	–	45.24%	53.57%	43.82%
Oven	–	–	–	0.37%	0.22%	0.49%	2.13%	1.20%	6.02%
Pit	1.23%	2.49%	0.65%	50.51%	58.77%	56.44%	1.13%	0.07%	–
PG	1.59%	1.29%	0.63%	–	–	–	–	–	–
Posthole	1.67%	2.65%	1.47%	0.43%	0.36%	0.14%	2.76%	0.62%	3.95%
Road	–	–	–	–	–	–	8.65%	3.88%	6.33%
Stainmore	–	–	–	0.09%	0.02%	0.07%	–	–	–
Stone layer	9.34%	7.49%	9.68%	–	–	–	–	–	–
Trackway	0.40%	0.47%	0.43%	–	–	–	2.13%	1.27%	5.82%
Trench	3.50%	3.65%	1.43%	–	–	–	1.50%	1.42%	0.73%
Well	–	–	–	0.95%	0.70%	0.76%	–	–	–

this assemblage being derived from an area perhaps not used for Roman-style dining. The average sherd weight, even including amphorae, was very small at 6g. This field lacks the range of wares and vessel types found in Fields 258 and 246.

By far the largest assemblage in Period 4 came from Field 258, with a continued strong presence in Field 246 and in Field 265. There are no traces of occupation in earlier Periods in Fields 258 and 265. In Period 4, this area of occupation was organised in a more controlled way with coaxial field systems and the construction of Dere Street and ancillary trackways. Different patterns of discard were associated with different structures and areas of the settlement, revealing functional zones, episodes of structured deposition and periods of different kinds of activities linked to the changes in the use of features, and, finally, the abandonment of the settlement.

The pottery assemblages from Fields 246, 265 and 258 totalled 798, 2516 and 8084 sherds respectively. At field level, some significant differences were noted. There was a significantly greater proportion of amphorae from Field 246 particularly by EVEs, and there were more grey wares, samian, imported fine wares and fewer redeposited Period 2 wares in Field 258 when compared with Fields 246 and 265. The amphorae in question here are predominantly for oil as opposed to wine, as in Period 2. In terms of vessel types, Field 258 had a greater range of vessel types, particularly specialist vessels, such as cheese presses, colanders, tazzes, tripod vessels and miniatures. Sherds from at least one carrot amphora was also present. This small amphora form is associated with early military sites in Britain and thought to contain dried fruit, perhaps dates. Livarda (2013) has linked the use of dates with ritual activity and it is of relevance that Willis (2003, 123 and 132) links Lyon beakers, another import in Period 4, with ritual activity.

Some of the differences between Fields 246 and 258 may be due to the effect of residual material in Field 246 artificially reducing the relative quantities of Period 4 types. Since the assemblage from Field 258 is so much larger, unusual types, as mentioned above, are more likely to be present. However, even in the much smaller groups from Fields 265 and 267a, the imported Central Gaulish and Lyon fine wares were found, so their absence in Field 246 is significant. The wares that

Table 5.85: relative quantities of vessel types from Period 4 groups in Field 258 and Field 265 (by EVEs).

	Field					
	258				265	
Vessel/Group	28131	28156	28158	28161	29958	29959
Amphora	0.40%	–	–	–	12.20%	–
Bowl	15.70%	3.00%	4.00%	4.10%	13.70%	5.50%
Bowl dec.	3.00%	1.00%	1.70%	2.00%	19.90%	4.00%
Bowl/beaker	0.20%	–	–	–	–	–
Bowl/dish	0.20%	–	–	–	–	–
Bowl?	0.30%	–	–	–	–	–
Dish	11.20%	8.30%	16.10%	3.20%	4.10%	5.50%
Platter	0.60%	1.10%	–	–	–	6.40%
Cup	6.30%	2.80%	2.10%	11.60%	1.10%	2.60%
Cup dec.	0.20%	–	–	–	–	–
Beaker	7.70%	3.10%	8.40%	4.90%	–	14.90%
Beaker dec.	–	–	2.00%	–	–	–
Beaker/small jar	3.30%	–	–	–	–	–
Flagon	9.00%	15.70%	38.80%	–	7.40%	29.10%
Jar	32.60%	36.60%	23.60%	55.30%	29.90%	24.20%
Jar/narrow–necked jar	–	–	–	–	11.80%	–
Lid	3.50%	–	–	–	–	2.80%
Lid?	–	–	0.60%	–	–	–
Miniature	–	1.20%	–	–	–	–
Mortarium	3.80%	12.30%	–	8.50%	–	–
Narrow–necked jar	2.00%	15.00%	2.60%	10.40%	–	–
Wide–mouthed jar	–	–	–	–	–	5.00%
Total EVEs	30.86	8.3	8.89	346	2.71	4.22

are present in Field 258 and absent in Field 246—Lyon ware, Central Gaulish colour-coated and glazed wares, Braives mica-dusted ware and PRW6 platters, lids and tripod vessel—are all wares common on early military sites in Britain. Some aspects of the vessel repertoire from the two fields are also different and point to a similar association. In terms of drinking vessels, imported fine-ware beakers and samian cups and beakers are more common in Field 258, whereas beakers and small jars in coarser wares are more common in Fields 246 and 265, with a considerable quantity of redeposited Period 2 terra rubra, silty ware and NOG WH3 beakers in Field 246 (Table 5.82). The latter inflate the numbers of beakers in Field 246. Most of the NOG WH beakers in Field 246 during Period 4 come from cleaning layer **24146**, which overlay occupation layer **24409** and Structure 47, where NOG WH3 are concentrated in Period 2. Comparison of the sherds from the two groups suggests some are probably from the same vessel, although actual cross-joins were not found due to the abraded nature of the sherds. The terra nigra Eggshell ware beakers in Field 246 may be a deliberate choice by the occupants of this area of the settlement in contrast with the brightly coloured imported cups and beakers. These differences could reflect the difference in tastes and dining habits of a native/civilian enclave compared with a Roman military, or military-related, one.

This aspect of the differences between Fields 246 and 258 can be further examined through the other vessel types associated with dining (bowls, dishes and platters; Table 5.83). There are more platters and fewer dishes (using EVEs) in Fields 246 and 265 than in Field 258 (see Monteil, this chapter). The decorated samian bowls are more common in Fields 246 and 265 than in Field 258. This may seem surprising, but other research has demonstrated that decorated samian bowls are more common at the extramural settlement outside forts compared to the forts themselves and that samian cups are more common at forts compared to the extramural settlement (Willis 2005a, 8.2.2). This is also true of so-called industrial sites in the north-west of England associated with supply to military installations in the north (Monteil, this chapter; Ward 2011). The decorated samian bowls are thought to have a function related to drinking rather than dining (Dannell 2006, 158) and thus would reflect a continuation of the native habit identified in Period 2. The ceramic evidence raises the possibility that the people living and working in Fields 246 and 258 were, perhaps, distinct in terms of their origin; they may have had different roles within the Roman military and/ or Roman administrative machine. The assemblage from Field 258 is what one would expect at an Early Roman military site, whereas those from Fields 246 and 265 perhaps do not approximate so closely to fort/fortress assemblages, but have some resonance with those from military-related groups, such as extramural settlements and industrial supply centres.

These ceramic-rich areas were examined in more detail to see if it was possible to detect patterns in the distribution of pottery within the area bounded by the field or within feature types (Table 5.84). There were distinct differences in the way pottery was being deposited in Fields 246, 265 and 258. In Field 258, over 90% of the pottery came either from concentrated discard in ditches or in pit group **28131**. Discard in ditches was also common in Field 246, but so was more disparate discard in layers, gullies and buried soil levels, suggesting a messier environment. In Field 265, there was less discard in ditches, and most of the pottery came from a midden deposit and the floor of Structure 38, as well as smaller amounts from gullies, trackways and road make-up. Structure 38 was the only Period 4 structure in Field 265 with a significant ceramic assemblage associated directly with it. From these spatial distribution patterns, a different picture emerges for these different areas, with ceramic debris being apparently deposited in a more dispersed, disorganised fashion in Field 246, more like the previous Periods, and in a more orderly way in pits and ditches in Field 258, with the landscape otherwise quite clear of debris. In Field 265, there was a midden concentration, as well as pottery being left on the floor of Structure 38 and, presumably, trampled in.

In Field 265 and 258, some significant patterns can be detected in the assemblages with a concentration of pottery sherds (Table 5.85). In Field 258, pit group **28131** has the widest range of pottery types and wares groups. Since this is the largest group, the range reflects the final function of these pits as rubbish pits. The inclusion of archaeologically complete samian vessels in these pits (Monteil, this chapter) may indicate deliberate structured deposition.

The concentration of tableware (dishes, beakers and flagons) in ditch group **28158** (beside Structure 31) is more interesting. Structure 31 itself has little pottery directly associated with it. Ditch groups **28156** and **28161** also contained pottery. There were fewer dishes, flagons and beakers in group **28156** and more narrow-necked jars and mortaria than in **28158**, while in group **28161** there were more cups, jars, mortaria and narrow-necked jars, suggesting some spatial differences in the disposal of ceramic debris around Structure 31, perhaps relating to differences in the use of adjoining areas. The assemblage from group **28158** is a 'dining'- and 'drinking'-related group, whereas those from **28156** and **28161** have vessels related to food preparation and cooking. The two groups from Field 265 also show different functional trends, with amphorae, bowls and jars being high in group **29958**, the floor of Structure 38, and dishes, cups, beakers and flagons being more common in midden group **29959** (Fig. 4.38).

In terms of wares, amphorae were also common by sherd count and weight, particularly in Field 265 groups **29958** and **29959**, but also in ditch groups **28156** and **28158** and pit group **28131**. The samian ware was most common in ditch group **28158** and OAB19 was common in pit group **28131** and ditch group **28158** due to the numbers of flagons made in this ware.

POTTERY TAPHONOMY AND DEPOSITIONAL PATTERNS

Pottery was being discarded most in pits and ditches. If this is broken down by Period, a more nuanced pattern emerges, with a concentration of sherds around structures such as gullies, penannular gullies and in buried soil levels in Period 1, while deposition in pits and ditches became more common in Period 2, with fewer sherds around the penannular gullies. In both Periods 1 and 2, the average sherd weights are lower than in Periods 3–5 and the brokenness index (sherd count divided by estimated vessel equivalent) is much higher, suggesting that pottery suffered from trampling and redeposition. In Period 3, the amount of pottery being disposed of in pits continues at a similar level to Period 2, but ditch disposal increases, and bigger, heavier sherds are being deposited. A significant proportion of the Period 3 pottery was associated with Structure 57, a sunken building, although these sherds were not large and fresh. In Period 4, nearly all pottery is either disposed of in pits or ditches, but wells and cisterns do not seem to have been used for ceramic rubbish disposal. In addition, sherds are larger and heavier during Period 4, although, not unexpectedly, the sherds from the trackways, hollow-ways and roads are smaller and more abraded. In Period 5, the largest group of pottery sherds comes from the foundation layer of the stable Structure 39. Cross-joining sherds with underlying Period 4 midden group **29959** suggests that this assemblage is derived from this earlier feature and is not part of Period 5. Removing the Structure 39 group from the analysis leaves the pits as the most frequent location for ceramic debris in Period 5 and this is all from pit **31610**. The ceramics in this pit group were small and abraded sherds and none has to date later than the end of Period 4. A Trajanic coin from the primary fill places the pit in Period 5. The remaining pottery in Period 5 came from the fabric of the road, redeposited Period 4 pottery, and from the later fill of ditch group **28155**, which included a sherd of NVCC of mid- or late 2nd-century date at the earliest. Thus, ceramic disposal in Period 5 dwindled to casual late loss associated with traffic along the road.

CONDITION OF POTTERY VESSELS

One hundred instances of scorching or burning were recorded and 60 of these occurred on samian. The remainder were predominantly on coarsewares, along with a handful of sherds in each ware group. In most cases, the scorching or burning could be linked to firing conditions rather than usage. A Central Gaulish glazed cup from pit group **28131** in Period 4 was burnt, as were some sherds of PRW1, PRW6, PRW6X and MG from the same pit group. Some of the Period 2 NOG WH3 butt beaker sherds appeared burnt, as did an MVER mortarium from Period 4. The large number of burnt samian sherds compared with any other category is discussed in detail by Monteil (this chapter) and these were predominantly from the primary fills of Period 4 ditch groups **28158** and **28161**, and pit group **28131**, midden group **29959** as well as scattered sherds in other features.

Sooting was recorded on only three wheel-thrown sherds, one of which was a BB1 vessel of 2nd-century date. One grey ware body sherd from a rusticated jar with sooting came from the primary fill of the oven in Structure 37. Another sooted grey ware body sherd came from a posthole in Structure 37. In the case of hand-built vessels, the survival of burnt, carbon-rich deposits on the surfaces of some sherds (noted in the data tables) points to their use in cooking over open fires. Such deposits, generally known as 'food crusts', result from the seepage of fat through the walls of the vessel and its carbonisation during cooking, together with the accumulation of soot generated by the cooking fire. The majority came from groups that included pottery of Period 1 and 2, suggesting the hand-built pottery was not being used in the same way during later Periods.

There is evidence for the life of some vessels being extended through repair or adaptation. Four grey ware vessels had post-firing perforations in the body of bases. All were jars or beakers. A body and base sherd from ditch group **28162** had one perforation on the body and one on the base, each c.5mm in diameter. This was perhaps a makeshift strainer. A basal sherd from ditch group **28158** had a rough, c.28mm diameter hole in the centre of the base and a sherd from pit group **28131** had a perforation c.8mm in diameter. Four samian bowls and dishes, all from Period 4, have evidence of repair, and these, as well as adaptations made to samian vessels, are discussed in detail by Monteil (this chapter). In terms of reuse of ceramic vessels, a pot disc made from a sherd of hand-built pottery was recorded but no sherds of wheel-thrown pottery were used to make counters, discs or spindle whorls (Croom, Chapter 6).

One amphora sherd had a suspected graffito and one samian vessel was marked with an X. No other graffiti were found on the pottery, which is notable. None are present at Stanwick, but Tomlin reported 99 graffiti at *Cataractonium* (Tomlin 2002, 504), although Evans (2002a, 494–5) comments on their concentration in the fort groups compared with Bainesse, Catterick Bridge and Catterick Racecourse.

Amongst the hand-built pottery, no ceramic vessels were identified to be directly connected with manufacturing or craft production. The evidence of slag-tempered pottery implies some connection between pottery manufacture and high-temperature pyro-technologies, but the relatively small quantities involved might imply that this was of an opportunistic nature rather than regular or habitual.

In the wheel-thrown coarse pottery group, 25 records included characteristics that are (or may be) associated with pottery production. All these sherds came from Period 4 or were redeposited in later groups. Of these, 17 recorded partial reduction and these may be due to post-production burning so were not examined further. In seven instances, the sherds appeared overfired, and in another seven they were overfired to the extent that they had bubbled. Such conditions would be strong candidates for the waster category. A further five vessels had parts sheared off or wide cracks, and seven were distorted or dented, although this group may still have been serviceable. One vessel in early gritty ware 2 fabric GRC36 with a slightly distorted rim is not compelling evidence for on-site production. One sherd in a fabric similar to the silty ware OAA7 appeared overfired but came from the subsoil and the fabric identification was uncertain. The cracked and sheared-off sherds in OAA14 were much more convincing as waster material, and so were wasted, overfired and distorted sherds in GRA30, GRB32, GRB6, GRB66 and OAB19. The evidence for GRB6 suggests this does not belong in the same group as GRB6 at *Cataractonium* but rather is an overfired version of GRB66. Although distorted and dented vessels might well still be distributed away from the production site, and overfired vessels would not necessarily be unacceptable, especially in less settled times of Roman occupation, the cracked and bubbled broken sherds in GRA30, GRA32, GRB6 and OAB19 are good evidence for production nearby. Mortarium sherds were identified by Griffiths and Hartley as waster sherds. Unused mortaria were also identified (Griffiths, this chapter). Mortaria lacking signs of wear are most often found on or near production sites, so can indicate pottery manufacture taking place in the vicinity. The mortarium waster sherds came from both Periods 3 and 4.

REGIONAL AND OTHER COMPARISONS

Period 1

Scotch Corner lies in an area where a growing number of Late Iron Age and Early Roman settlements are being excavated and published (see Chapter 10). The hand-built assemblage exhibits a limited range of forms compared to most comparable sites in East Yorkshire, being dominated by everted-rim jars, vertical-rim jars and open jars. These forms are commonly observed at other sites in the region, such as Westermost Rough (Leary and Cumberpatch 2016) and Stanwick (Willis 2016b). Barrel jars are a widespread and long-lived form that appears to have seen continuous production from the Bronze Age to the Late Roman period, but is represented at Scotch Corner by a single example.

A notable aspect of the Scotch Corner assemblage is the presence of three possible bowls. Bowls are not considered to be a common feature of the Iron Age repertoire in eastern Yorkshire, although they are noted at Stanwick. Cumberpatch (this chapter) suggests that they represent the adoption by local potters of an imported vessel form prompted by changes in diet

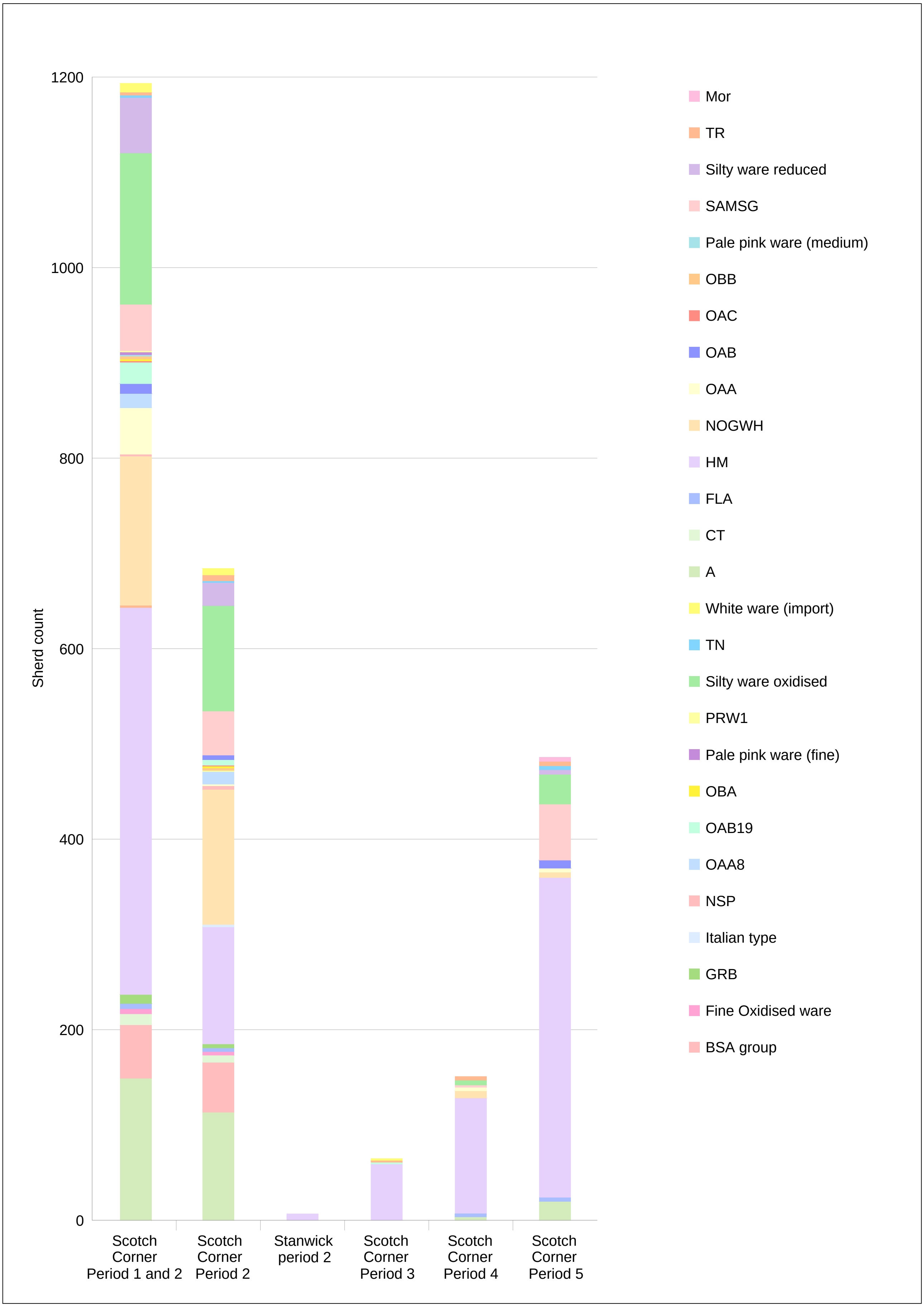


Figure 5.52: Scotch Corner Period 1–2 and Period 2 compared with Stanwick wares (by sherd count).

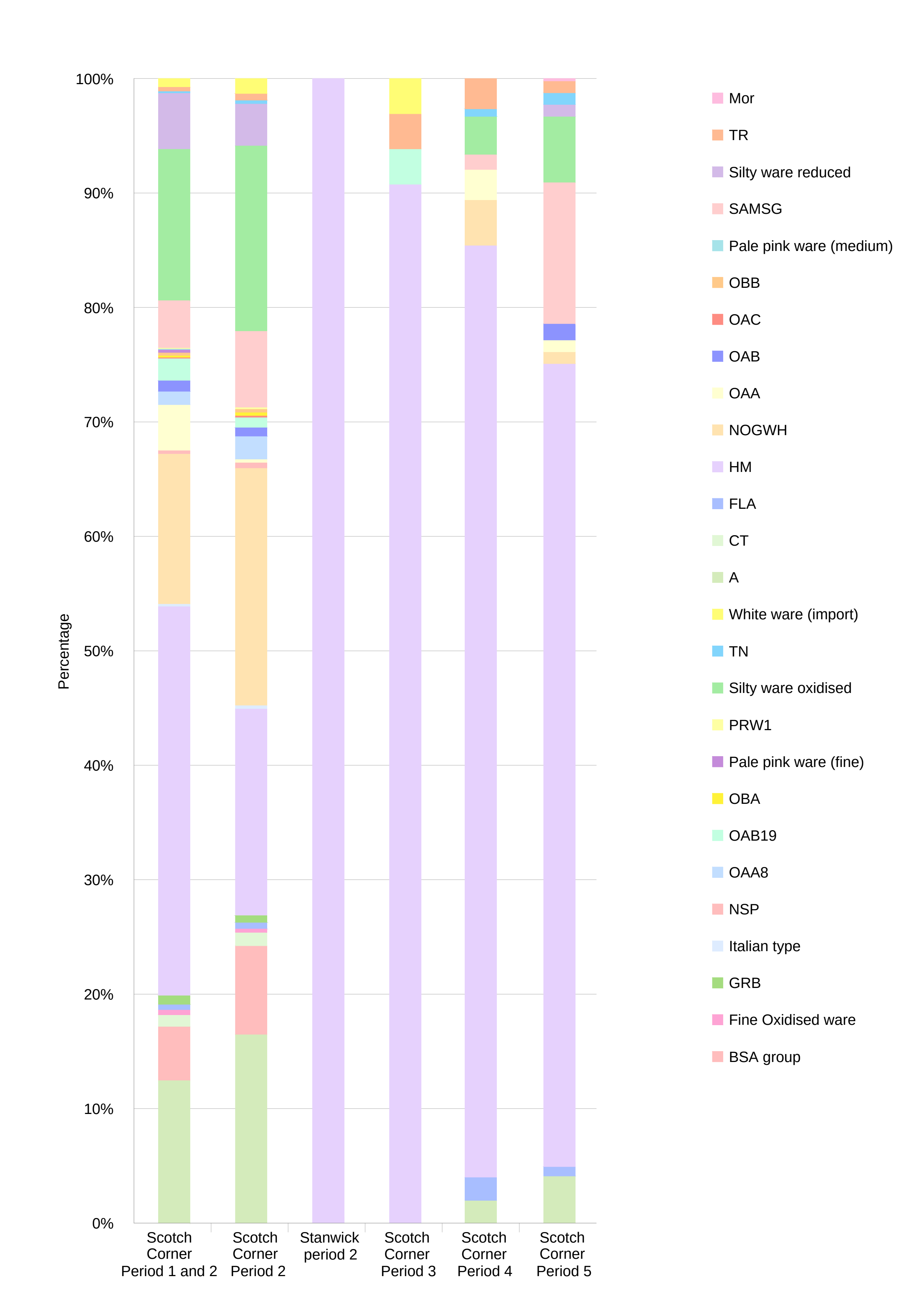


Figure 5.53: relative quantities of wares at Scotch Corner during Period 1–2 and Period 2 compared with Stanwick phase 2–5 (by sherd count, with Scotch Corner Period 2 and Stanwick phase 5 also shown using sherd weight).

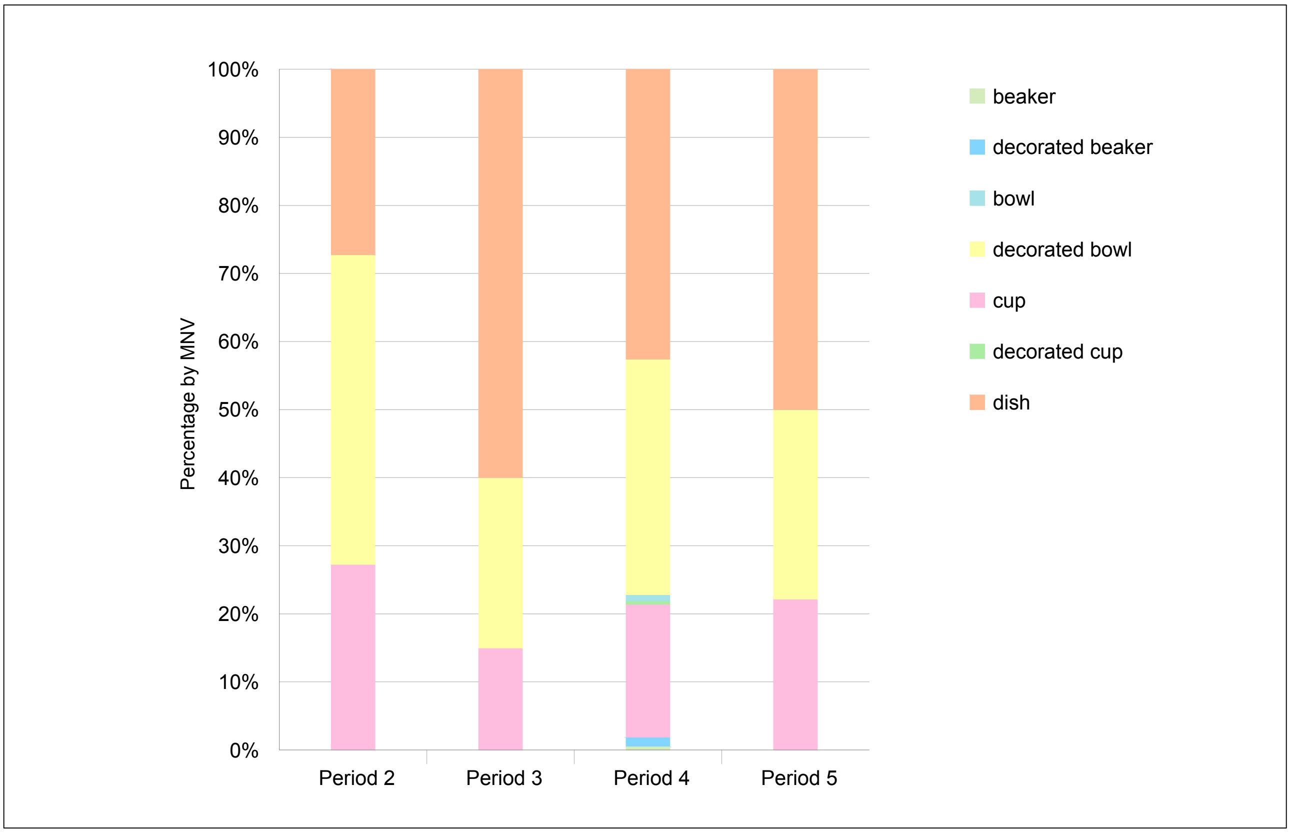


Figure 5.54: relative quantities of different vessel types within the samian ware group at Scotch Corner using MNV.

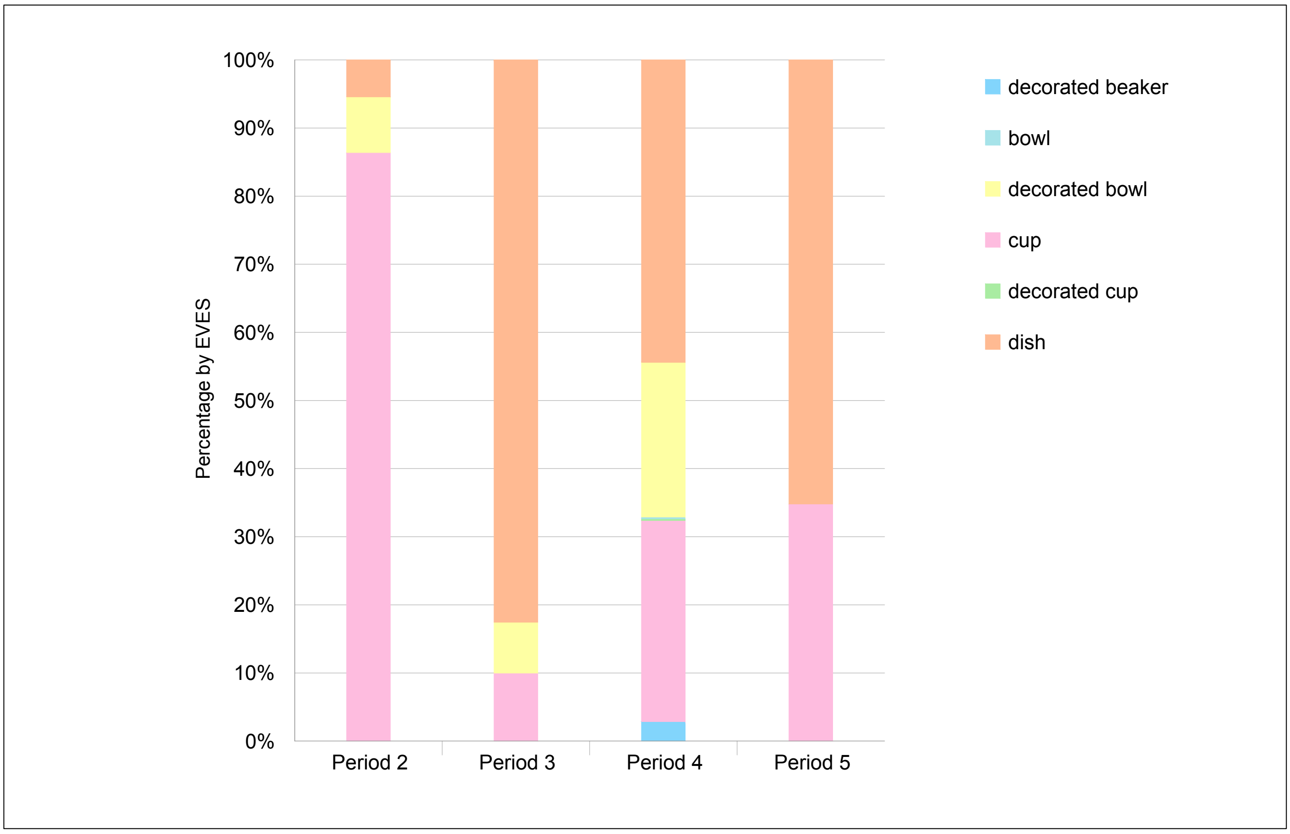


Figure 5.55: relative quantities of different vessel types within the samian ware group at Scotch Corner by EVEs.

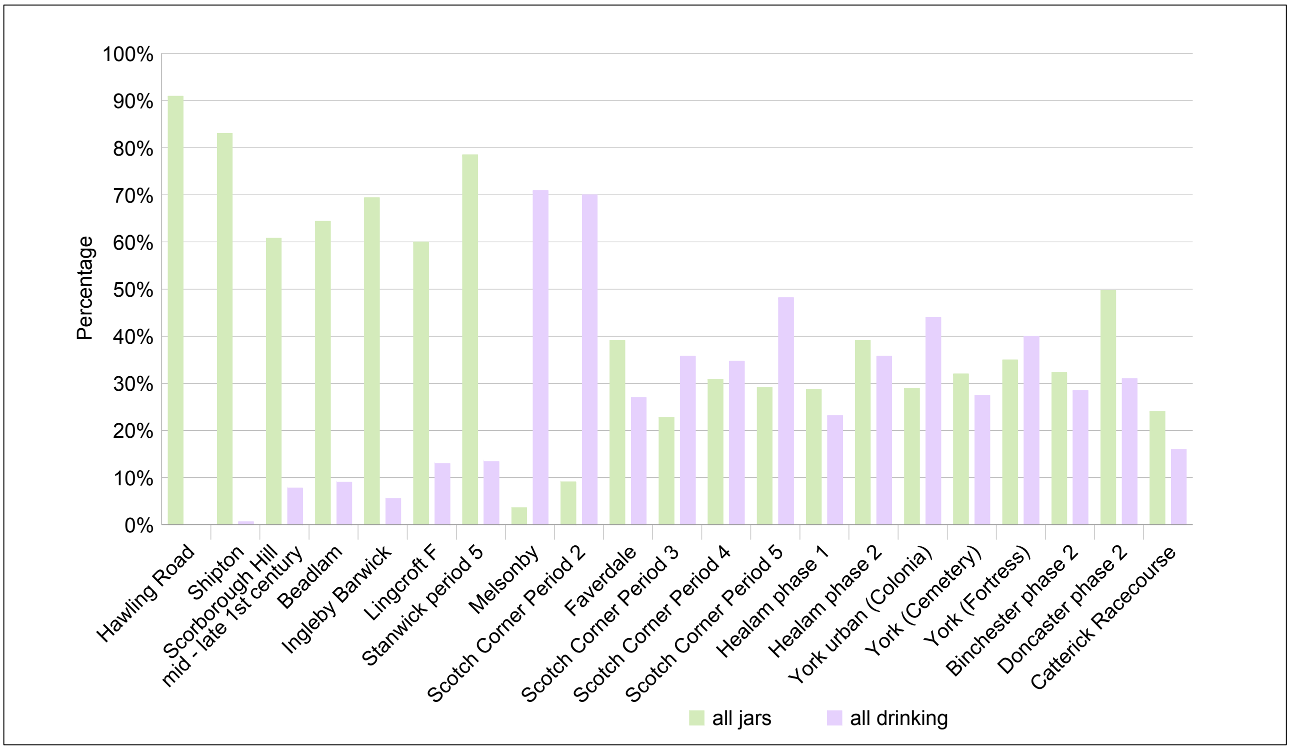


Figure 5.56: ratios of drinking related ceramics and jars at Scotch Corner by EVEs.

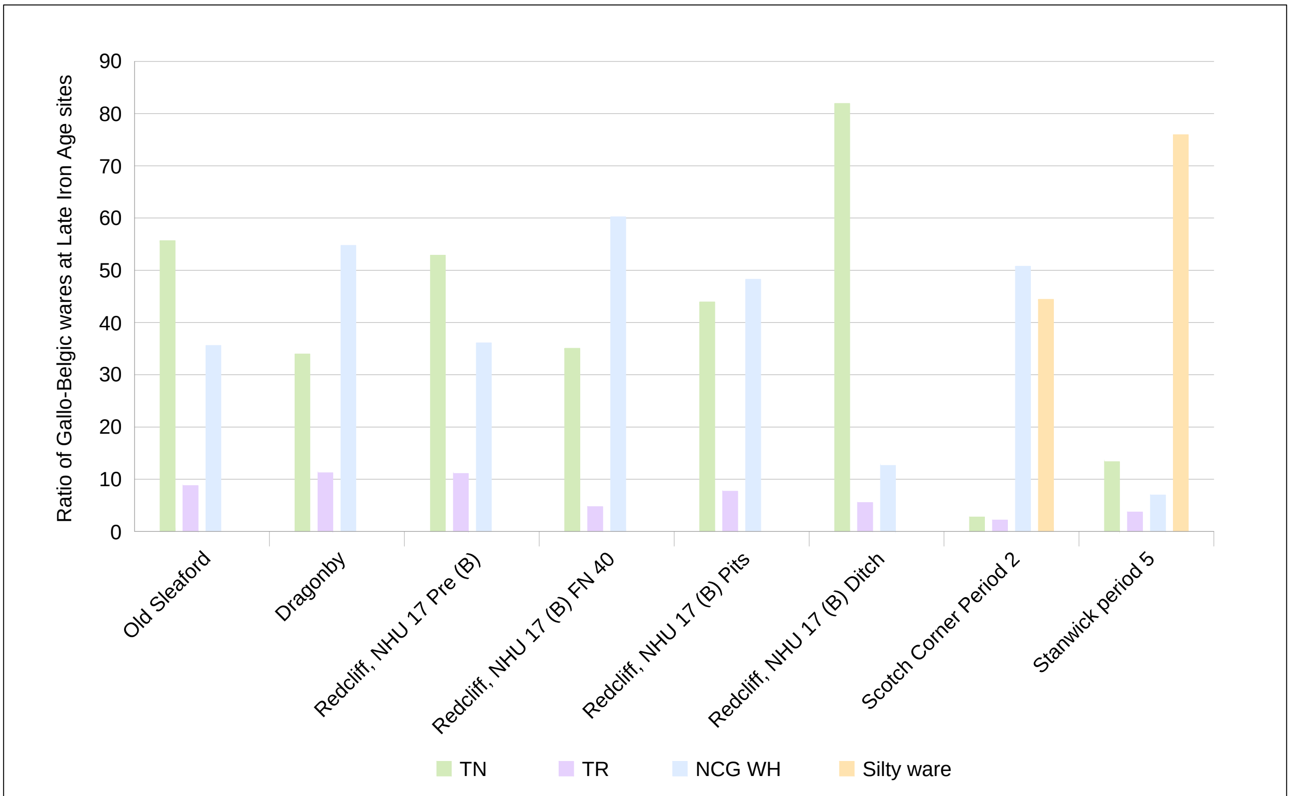


Figure 5.57: ratio of Gallo-Belgic wares at late Iron Age sites in the region.

or dining habits (Meadows 1997). This is observed more overtly at Scotch Corner in the copper-alloy vessel assemblage (see Croom, Chapter 6) and in the appearance of imported wares such as cups, samian bowls and mortaria indicative of some uptake of Roman traditions of food preparation and consumption.

The five Campanian amphorae sherds from Period 1 deposits are exceptional for Late Iron deposits in the north. Two Italian wine amphorae sherds and a single sherd of Baetican amphora were recovered at Stanwick period 4 deposits dating between 30/20BC and AD30/40 (Willis 2016b, 213–15).

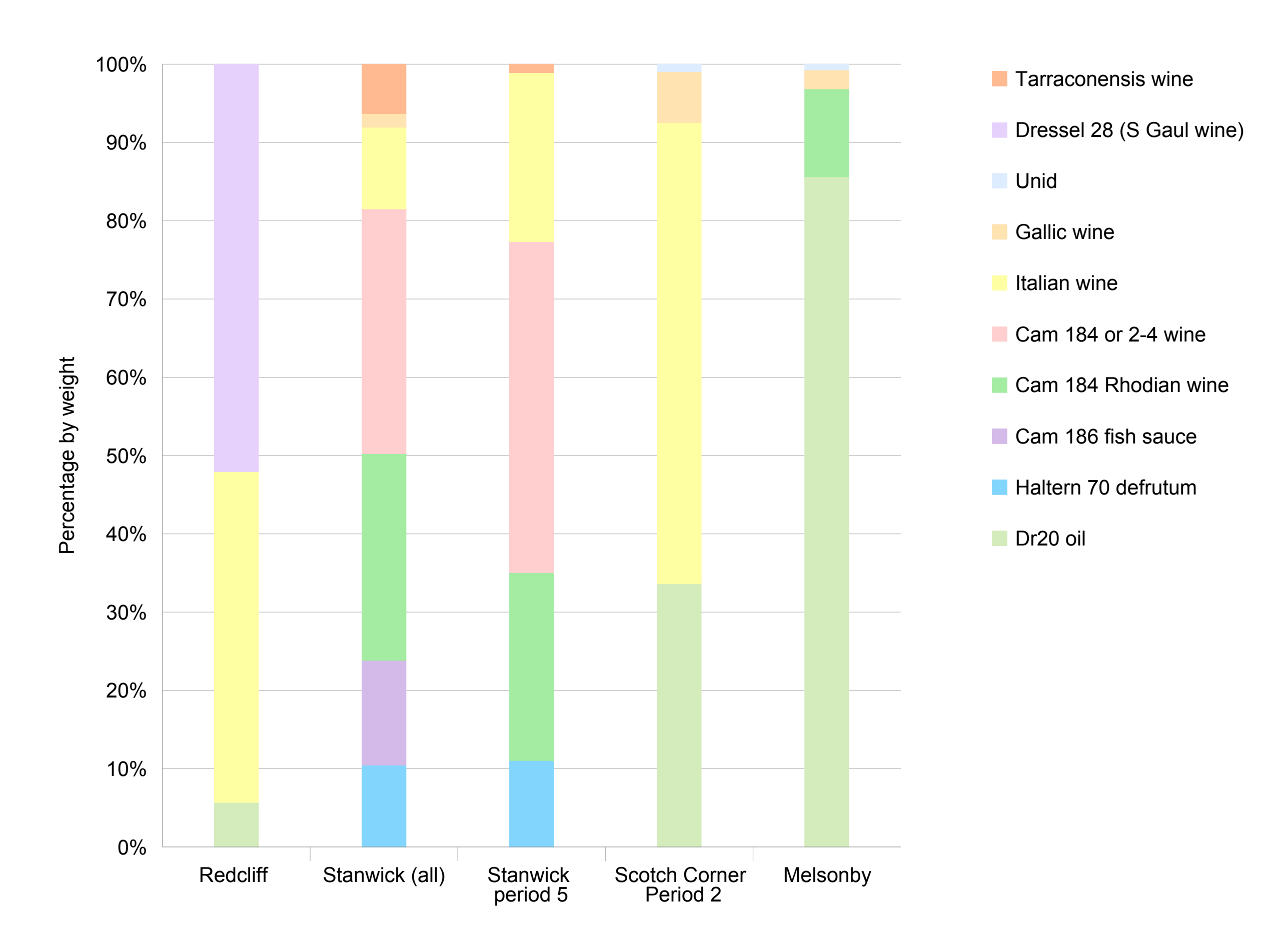


Figure 5.58: relative quantities of different amphorae at Scotch Corner by weight.

Period 2

In Period 2, the settlement at Scotch Corner overlaps chronologically with neighbouring Stanwick period 4.2 and 5.2, the beginning of Melsonby period 2 and perhaps also Thorpe Thewles period 3. Stanwick was receiving imports earlier than Scotch Corner and the range acquired in the Tiberian-Claudian period was different. The imports at Stanwick include some of the earliest types, such as a Central Gaulish flagon (Willis 2016b, 248), that are absent at Scotch Corner. Haselgrove (2016, 391) notes that, stratigraphically, the earliest imports at Stanwick of Italian wine amphorae, NOG WH3 beakers, flagons and terra rubra arrived c.AD1/10 in period 4.1. A second wave of imports, comprising South Gaulish samian, terra nigra, sherds from Baetican amphorae containing olive oil or olives and possibly silty ware, were present later in Stanwick period 4.2 (Willis 2016a, 214, table 11.6). Scotch Corner Period 2 overlaps with the end of Stanwick period 4 and the first half of period 5. At Stanwick, a greater range of imports are present in period 5 than period 4 and there is more South Gaulish samian and silty ware. The amphorae at Stanwick included sherds from a Rhodian wine amphora, a Baetican Dressel 20 oil amphora, Italian 'black sand' amphorae and a Tarraconensis wine amphora. No Rhodian or Tarraconensis amphorae were identified at Scotch Corner.

The assemblage from Scotch Corner is, of course, a much larger from a much larger excavation and the possibility that further excavation at Stanwick would change the nature of the ceramic assemblage, making it comparable to that from Scotch Corner or, perhaps, surpassing it in size and diversity, must always be borne in mind. The differences in the assemblages from the two sites can be seen clearly in Figure 5.52, where the pottery from Periods 1 and 2 combined and the pottery from Period 2 alone is compared with the Stanwick assemblages. Only period 5 at Stanwick comes near the quantities from Period 2. The Scotch Corner assemblage is strikingly diverse, while Stanwick is much less so (Fig. 5.52) and the proportion of hand-built pottery is larger at Stanwick when compared with Scotch Corner. Stark differences can be seen with amphora sherds forming a greater proportion of the Period 2 assemblage at Scotch Corner than in contemporary period 5 contexts at Stanwick. Some types found at Scotch Corner have not so far been identified at all from Stanwick, such as the Italian-type samian and the Italian black sand flagons (Cam 139) present at Scotch Corner. The quantities of terra rubra, silty ware and NOG WH3 butt and girth beakers are much greater at Scotch Corner during Period 2 than at Stanwick (Fig. RL17), although Stanwick does have a higher ratio of silty wares to any other Gallo-Belgic wares when compared to Scotch Corner (Fig. 5.53) indicating that the fine wares at Stanwick are coming from a different source, perhaps representing a different time of ceramic exchange to Scotch Corner.

The two assemblages have strikingly different ratios of vessel types. Stanwick period 5 is dominated by hand-built vessels, mostly jars. At Scotch Corner, beakers and cups make up over half the assemblage. In Stanwick period 5, the Gallo-Belgic imports and the silty wares are predominantly beakers with just one TR1C cup, one TR1C platter (Cam 6) and some terra nigra platter sherds. This predilection for large imported beakers is even more pronounced at Scotch Corner with very few platters being recovered (Fig. 5.43). Millett (2016) notes that decorated samian is unusually common at Stanwick, with over 59% of the total samian assemblage being decorated based on MNV. At Scotch Corner, in Period 2, decorated samian makes up c.47% of the samian assemblage when using MNV (if indeterminate sherds are excluded; see Fig. 5.54). At Melsonby, decorated samian reaches 39% of the samian assemblage. However, when using EVEs at Scotch Corner, the relative proportion of different vessel types comes out very differently, with Period 2 marked out by the dominance of cups (Fig. 5.55). If the cup/beaker vessels in all fabrics at Stanwick, Melsonby and Stanwick period 5 are compared, Stanwick stands out as having fewer of these vessels (Fig. 5.56). Given that decorated samian bowls may be associated with drinking activities, it may be that the inhabitants of Stanwick used more samian vessels for drinking than Gallo-Belgic vessels.

The situation at Melsonby is different again. This group is later with more Roman coarsewares and fine wares, amphorae and mortaria. The samian vessels were dated to c.AD55–75 and lacked the Claudian vessels and the Italian-type sigillata present at Scotch Corner. The proportion of terra rubra and terra nigra is correspondingly smaller (3.2% and 0.1% by sherd count and 0.4% and 0.04% by weight respectively) and no NOG WH 3 butt beakers or flagons were identified. This group has more in common with Scotch Corner Period 3. Similarly, only a single NOG WH or NOG WH copy butt beaker sherd and one terra nigra sherd were found at Thorpe Thewles (fabrics 7 and 14 respectively in Millett 1987a, 75, fig. 48, no. 11), comprising 3% and 2% respectively of the phase 3 assemblage, with South Gaulish samian making up 3% (all using weight; *ibid*., 73). NOG WH beaker were also identified at Piercebridge (Croom *et al*. 2008, 228) and Catcote (no. 3 in Long 1988, 27).

Aspects of the Period 2 ceramic repertoire can be paralleled at a number of sites in Yorkshire and Lincolnshire, including Redcliff, Dragonby and Old Sleaford (ceramic data Willis 1993; Elsdon 1996; 1997). Like Scotch Corner, a concentration of pellet mould fragments was found in features dated to the Pre-Roman Iron Age at Old Sleaford (Elsdon 1997). Scotch Corner and Stanwick contrast with the assemblages from Late Iron Age sites, such as Dragonby and Old Sleaford, in their high proportion of terra nigra, terra rubra, silty wares and NOG WH2–3 wares (Fig. 5.57) and amphora supply patterns (Fig. 5.58). The assemblages from Dragonby and Old Sleaford are not fully quantified, making comparisons somewhat difficult. Willis (1993) has quantified a number of key groups and this dataset is invaluable in providing a means of evaluating the relative quantities of key wares in the Late Iron Age to Early Roman period. Compared with the other three sites, Scotch Corner and Stanwick had little TN and high proportions of silty ware. Scotch Corner does have a large NOG WH2–3 assemblage like the other three. This is lacking at Stanwick. Willis also identified sherds of silty ware at Thorpe Thewles and Binchester, so its absence in the groups he studied at Redcliff, Dragonby and Old Sleaford is not likely to be an oversight (Willis 2016b). It appears that this group is not found elsewhere in the wider region and may well consist of Gallo-Belgic types that came from a different Continental source to the other terra rubra type vessels found in Britain. The Gallo-Belgic assemblages at Stanwick and Scotch Corner also contrast with those at Redcliff, Dragonby and Old Sleaford in having a predominance of beakers and cups but few platters (Willis 2016b, 245; see also Willis 1993, 923–4 for Redcliff Gallo-Belgic vessel types). At Dragonby and Old Sleaford, the Gallo-Belgic repertoire was more complete with reasonable quantities of each vessel type. Since the silty ware vessels at Scotch Corner and Stanwick are overwhelmingly beakers or small jars, this ware group skews the character of the Gallo-Belgic vessel type range still more.

Griffiths (this chapter) compares the Period 2 amphora assemblage with that from Late Iron Age oppida sites in the south of England and the Neronian fortress at Exeter. These Late Iron Age/Early Roman settlements had links with the Continent before AD43 and the similarity with the Period 2 amphora assemblage raises the possibility that Scotch Corner enjoyed similar links. At the local sites of Redcliff, Stanwick and Melsonby, significant differences can be seen in the amphora assemblages (Fig. 5.58). The group from Melsonby, with its emphasis on Dressel 20 oil amphorae, is consistent with its later date range extending into the Flavian period (see below for Flavian amphora groups). Although the Stanwick, Scotch Corner and Redcliff groups share the emphasis on wine amphorae, the sources are diverse, with Redcliff having more amphorae from South Gaul, Scotch Corner Period 2 having almost entirely Italian sourced wine, and Stanwick including Rhodian, Tarraconensian and an uncertain source. The group from Redcliff has not been fully published and Willis (2016b, 249) notes that one of the Dressel 2–4 amphora is Tarraconensian. Quantified data by phase is not available for Dragonby and Old Sleaford. At Dragonby, Williams (1996, 597–8) records Italian Dressel 2–4, Rhodian and Gauloise wine amphorae in addition to Dressel 20s, while at Old Sleaford only Dressel 20 and Dressel 2–4 amphorae (four of five sherds were Italian) were found (Darling and Williams 1997, 92). The emphasis on wine amphorae during Period 2 is clear, but the difference in sources of wine at each site is very marked and hints that this may not be trade but some other sort of exchange mechanism, perhaps embedded in the complex political relationships hinted at in the historic record of Tacitus (see Chapter 1). The absence of Rhodian amphorae, which seem to be particularly associated with military supplies resulting from a tribute levy imposed by Claudius, underscores this possibility. A sherd of amphora from Ingleby Barwick was identified as a possible Dressel 1 or 2–4 wine amphora (Heslop 1984, 31, fig. 7, no 6; Evans and Mills 2013, 84) and is a possible pre-Conquest import to a rural settlement. At Melsonby, the wine amphora sherds included a stopper, implying this vessel arrived unopened rather than as an empty but useful vessel. There is also a sherd from a Dressel 2–4 wine amphora from West Heslerton (Willis 1993, 970). Willis (1999, 21) further identified a Dressel 2–4 vessel from West Heslerton as Tarraconensian. In addition to amphorae proper, Italian black sand flagons were also present at Scotch Corner. The black sand flagon (Cam 139) is unusual and Fitzpatrick (1990, 122–4) records only three or four examples from Britain from Skeleton Green, *Camulodunum* and Sheepen, to which can now be added the examples from Redcliff recorded by Willis (1993, 924) and from further south, at Winteringham, by Precious (2000 8). Thus, wine amphorae and flagons were arriving in reasonable quantities to the major settlements and perhaps being redistributed in small numbers (as gifts?) to the smaller settlements in the region, along with small amounts of the imported tablewares. The Haltern 70 amphora from Stanwick is not found at the other sites. This vessel came from an unstratified level, so could have arrived later in the Roman period. This amphora type contained *defrutum*, a sweet syrup, or olives in syrup. It is in Period 4 contexts at Scotch Corner and at York.

Pre-Claudian Italian-type sigillata has been identified at Old Sleaford (Dickinson 1997), perhaps Dragonby (mentioned in Dickinson 1997, but not in Dickinson 1996) and on the Humber at Redcliff (Corder and Pryce 1938, 262) although this last vessel has been reassessed and dated 'Tiberian or very early Claudian'. Tiberian-Claudian samian is present at Stanwick and Old Winteringham (Millett 2016, 237–40 , Hartley and Pengelly 1976). Although samian is also present at Melsonby, Thorpe Thewles and Catcote, it is of Neronian or later date. In the immediate area, Stanwick and Scotch Corner stand alone in having such early samian imports (Fig. 5.59). Willis (1997, 45) has highlighted that, apart from Stanwick, the contemporary settlements with samian in Lincolnshire had a higher proportion of imported Gallo-Belgic wares than samian. Period 2 at Scotch Corner does not have the same pattern as Stanwick (Fig. 5.59). Melsonby also has more samian than Gallo-Belgic wares, but this is most likely a chronological characteristic. Looking at the samian as a proportion of the whole assemblage, Period 2 falls closer to the pattern at Stanwick and Melsonby and contrasts with the small quantities from the north Lincolnshire groups (Fig. 5.60).

There can be no doubt that these differences between the ceramics at Scotch Corner and Stanwick are marked. The sites are near enough to access the same imports geographically and the group from Scotch Corner is of such a size and from such an extensive area, with a wide variety of feature types, that some sort of collection bias can be ruled out. It appears that the group from Scotch Corner does, indeed, imply a site of special importance and unique character. The samian wares, in particular, contrast with the trend on other native sites of importance elsewhere in Britain, such as the oppida in the south, which favoured Gallo-Belgic wares rather than Roman samian wares. Compared with such sites in the south of England, all the pottery assemblages in this region are relatively small, making analysis particularly fraught. Many of the assemblages from the south are also not quantified in a comparable way, which makes comparisons even more difficult.

The coarseware jars from the region contrast with the southern groups in the continuance of hand-built

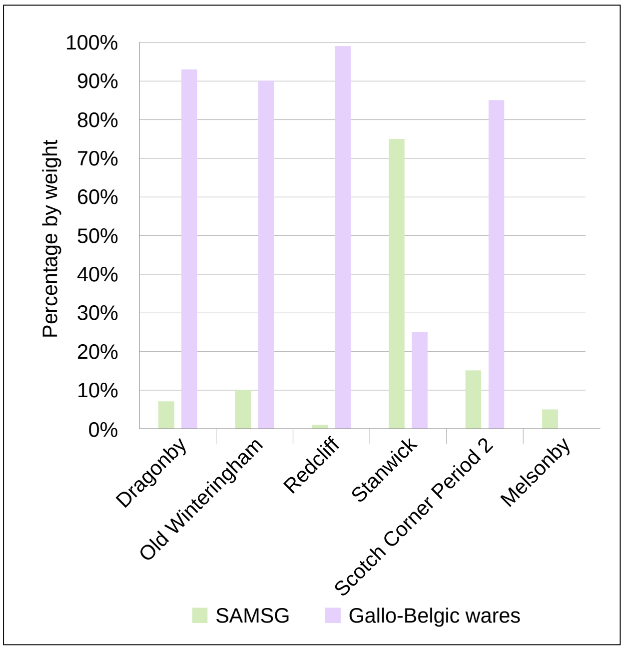


Figure 5.59: ratio of samian to Gallo-Belgic wares on Late Iron Age groups in Yorkshire and north Lincolnshire (by weight using data from Willis 1997).

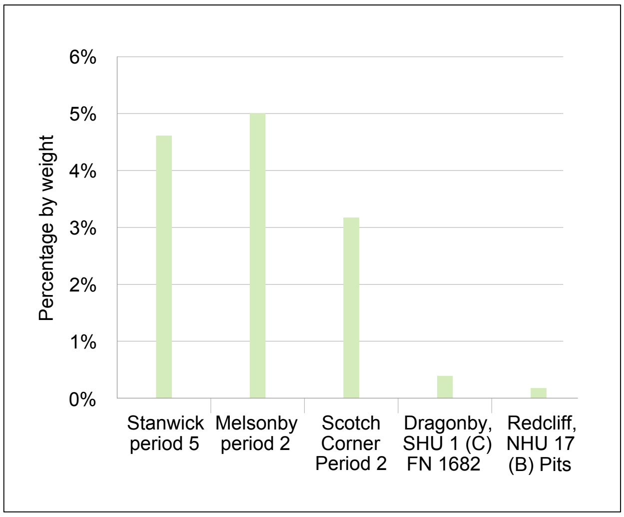


Figure 5.60 relative quantity of samian in the whole assemblage from Scotch Corner (by weight).

vessels, implying a lack of technological change resulting from contact with the Roman and Gallo-Belgic world, which the imports from Scotch Corner imply. This contrasts with the contemporary groups in Lincolnshire, in which wheel-thrown vessels in local fabrics and forms appear in the Late Iron Age. At Dragonby and Old Sleaford, this occurs in phases pre-dating the arrival of pre-Claudian Gallo-Belgic pottery (Elsdon 1996, fig. 19.4; 1997, 104, fig. 48).

The range of Gallo-Belgic pottery on the Yorkshire sites contrasts at many levels with those in North Lincolnshire but even more so with the groups from the south of England, where a wide and full range of Gallo-Belgic vessels were acquired, providing the vessels needed for both dining and drinking in a new way, even if the drinking vessels were more Celtic than Roman in style. At many of the Late Iron Age settlements in the south, such as *Camulodunum* (Hawkes and Hull 1947), Silchester (Fulford and Timby 2000), Prae Wood (Wheeler and Wheeler 1936), Bagendon (Clifford 1961), King Harry Lane (Rigby 1989) and Baldock (Stead and Rigby 1986), a wide range of Gallo-Belgic vessels are found, with platters, cups, bowls, beakers and flagons all well represented. Pitts (2010, fig. 2) has demonstrated the regional differences in the types of Gallo-Belgic pottery being used both in Britain and on the Continent, and it is certain that the North Yorkshire group, so far represented by Scotch Corner and Stanwick, is quite separate from the other regional grouping he isolated. In addition, there are distinct differences between the two site assemblages within this group, which suggest a different relationship with Roman and Gallo-Belgic society. While the occupants at Stanwick acquired samian, particularly decorated bowls, flagons and a beaker, and thus is plotted apart from the southern oppida sites on the correspondence analysis (*ibid*.), those at Scotch Corner preferred Celtic-sized Gallo-Belgic beakers during Period 2, so would be plotted separately from Stanwick and closer to the Old Sleaford/Dragonby/Redcliff group.

Pitts (2010) traces both chronological and regional differences in the 'oppida' assemblages from Britain. Stanwick and Scotch Corner Period 2 fall into the earlier part of his transitional chronological group (c.25BC–AD70). Of particular note is his remark that during this time 'the evidence hints at a centralized trade in complete eating and drinking services, rather than a more random accumulation of types that might be expected through less organized and more socially embedded exchange' (*ibid*., 44). This is precisely where the lack of dining vessels at Scotch Corner and Stanwick contrasts with these southern sites. Pitts further notes that samian imports were coming to Britain through a different Roman military distribution network to that used for the Gallo-Belgic imports. In the case of *Camulodunum* and Sheepen, Bidwell (1999, 490) was able to demonstrate continued Gallo-Belgic pottery importation at Sheepen but not at the Roman fortress and *colonia*. At Stanwick, Pitts (2010) considered that the presence of more samian and wine amphorae than Gallo-Belgic forms is an indicator that this group may have been a diplomatic gift. Pitts (*ibid*., 46) also suggested that this may have been the case with the early Italian-type samian from southern British sites.

Table 5.86: incidence of pre-Flavian imports in northern England (Healam Bridge, Leary 2017, 18 and 70; York, Monaghan 1997, 882; Malton, Greene 1979, 100; Piercebridge, Croom et al. 2008, 225 and 228; Binchester, Evans and Rátkai 2010, 203–17; Lincoln, Darling and Precious 2014, 14; Old Winteringham, Willis 1993, 896; Cataractonium, Leary in Ross and Ross in prep.; Aldborough, Snape et al. 2002, 103; Corbridge, Willis 2003, 134, pers. comm. and Dore contra Hanson et al. 1979, 54; Doncaster, Leary unpublished; Castleford, Rush 2000, fabric 8, fig. 44 no. 27; High Street, Sleaford, Elsdon 1997, 118–19; Ebchester, Willis 1993, 1000; Roecliffe, Dore 2005, 167).

Site/Fabric	Lyon CC	CG CC	CG GLZ	PRW6	Braives mica dusted ware	Carrot amphora
Healam Bridge	n	y	y	n	n	n
York	y	n	y	y	n	y
Malton	n	n	y	n	n	n
Piercebridge	n	n	y	n	n	y
Binchester	y	n	n	n	n	n
Lincoln	y	y	y	n	y	n
Old Winteringham	n	n	y	n	n	n
Cataractonium	y	y	y	n	n	y
Aldborough	y	n	n	y	n	n
Corbridge	y	n	n	n	n	y
Doncaster	y	n	n	n	n	n
Castleford	y	y	n	n	n	n
Old Sleaford	y	n	n	n	n	n
Ebchester	n	n	n	n	n	y
Roecliffe	n	n	n	n	n	y

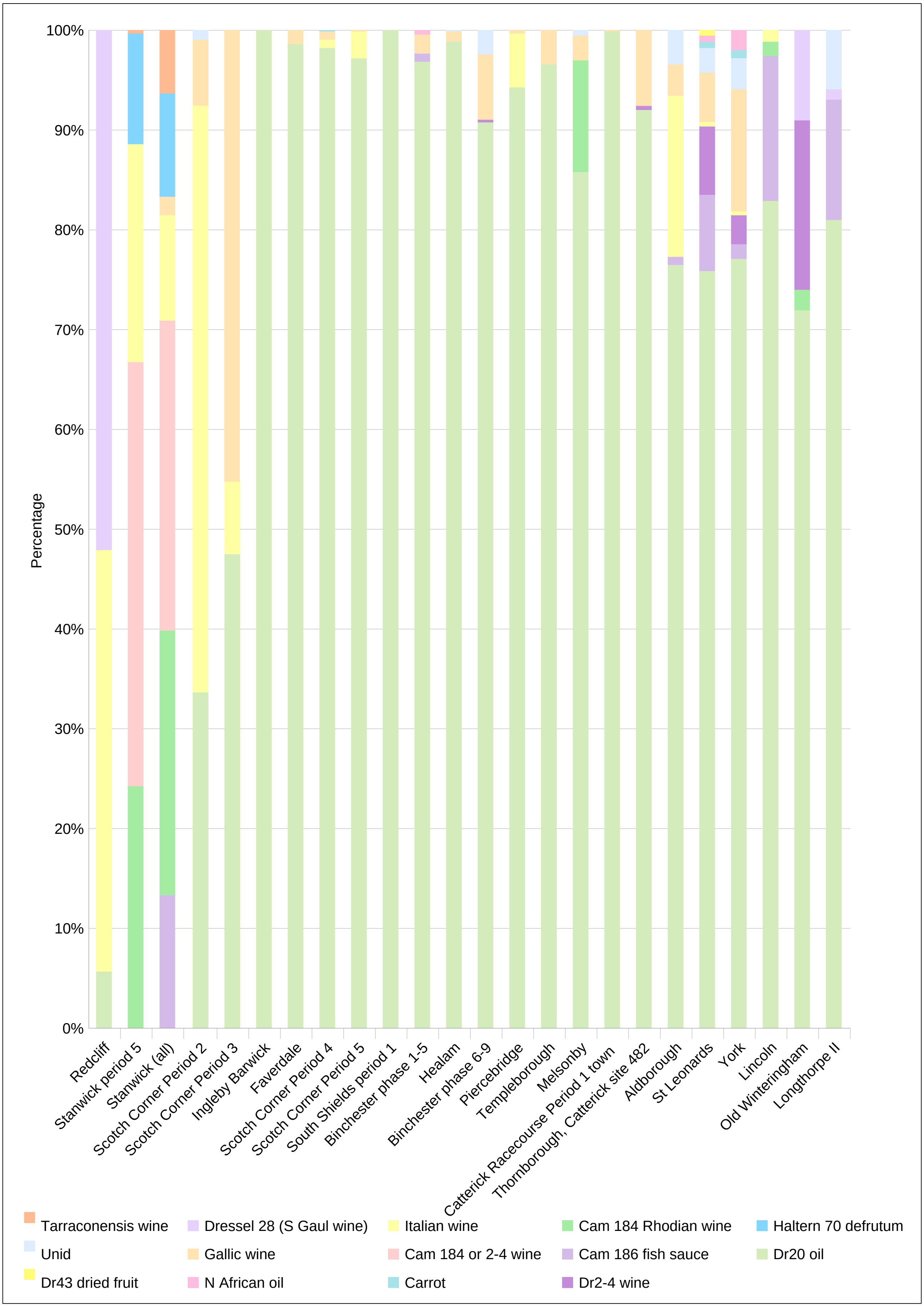


Figure 5.61: relative proportions of amphora types within the amphora assemblages from sites in the region.

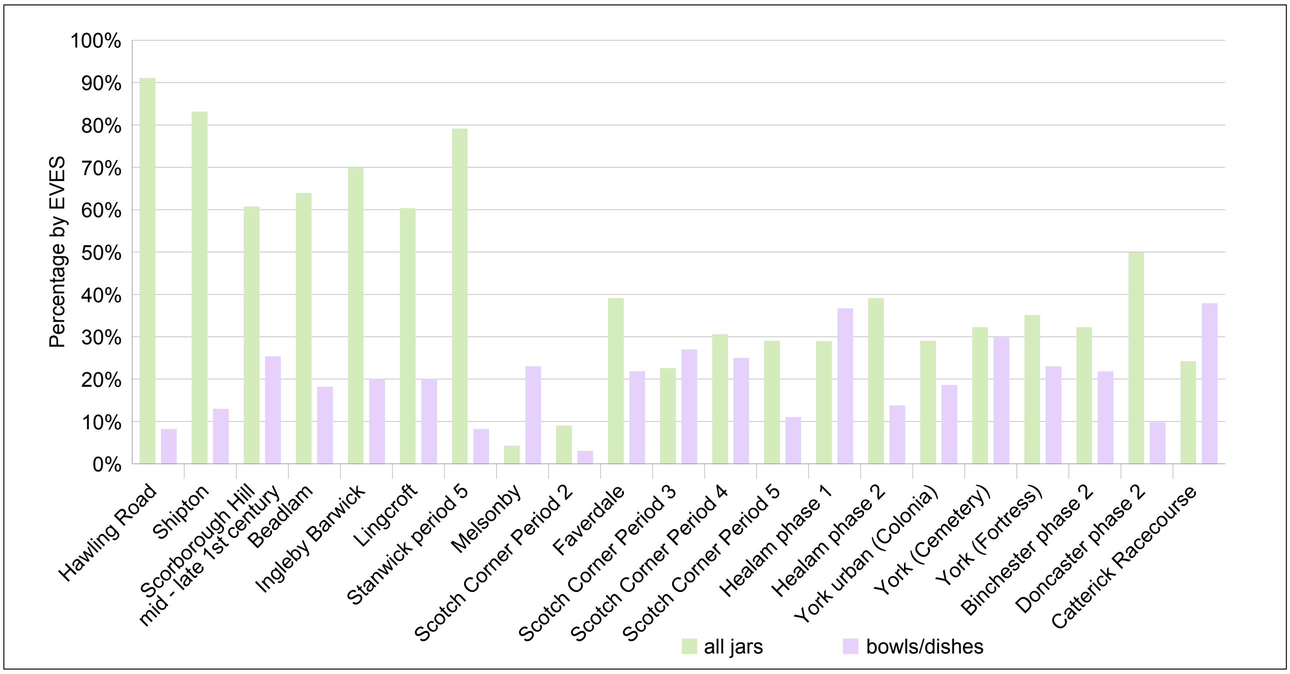


Figure 5.62: ratio of jars to bowls and dishes at Scotch Corner (by EVEs).

Thus, compared with the other contemporary British settlements, Stanwick and Scotch Corner stand out as different and these differences may represent different responses to the fast-changing cultural/political environment. The Claudian samian vessels from Stanwick and Scotch Corner may be diplomatic gifts from the Romans related to the early client relationship between them and the Brigantes (Haselgrove 2016, 436). The decorated samian vessels, including flasks, at Stanwick and the Gallo-Belgic beakers at Scotch Corner may have been selected in particular to suit the drinking habits of the Celts, as perceived by the Romans, and the recognition that dining paraphernalia was not as well-received a gift. The early Italian-style samian at Scotch Corner may indicate gift exchange at a still earlier stage, before the Claudian conquest. It seems certain that this ceramic exchange was largely restricted to individual settlements in North Yorkshire and even in Lincolnshire, with very little material trickling down to the rural settlements. This was followed by the importation of Gallo-Belgic drinking vessels and Italian wine amphorae in the Tiberian and Claudian period, presumably direct from the Continent, since parallels of the silty wares have not found elsewhere in Britain. As the Romans in Britain only appear to use the Gallo-Belgic vessels to very limited extent at this time, these must have come through a different exchange mechanism, one which was based on relationships with Gaul. Stanwick appears to have both a more insular assemblage than Scotch Corner, in that it has more hand-built jars and fewer imported wares overall, and a more Roman character, in that the imported wares it does have include a greater proportion of samian to Gallo-Belgic wares. Whereas Scotch Corner has more Gallo-Belgic drinking vessels with large capacity, Stanwick had fine samian bowls for mixing wine the Roman way and fine decorated flagons, the latter not found at Scotch Corner. The amphora assemblage from these various sites in the region also form a diverse assemblage with contemporary sites acquiring supplies from different sources implying, perhaps, an irregular supply and a more pragmatic approach to acquisition of whatever was available.

Period 3

The rather small and disparate Period 3 group is difficult to interpret. Chronologically this group could belong in Period 4 but more probably precedes it by a matter of one or two years (see above). Compared with Period 4, Period 3 has some distinct traits, in particular the predominance of Gallic wine amphorae in this small assemblage, the increased samian content from Period 2, the wheel-thrown coarsewares with late Neronian–early Flavian parallels and the absence of sherds dated after AD70.

Examples of the wheel-thrown grooved jars in early gritty ware can be identified at Stanwick site A (Wheeler 1954, fig. 11, no. 29) and site 9 (no. 127 in Willis 2016b), suggesting that they are indeed early in date. However, other parallels for this fabric/form and manufacturing technique combination are hard to find in the region. Early gritty ware 2 has been identified at *Cataractonium* (three examples of the early bowls with moulded rims) and the BSB group is also present in small quantities (c.10 sherds, including one rusticated body sherd) but no certain examples of the early gritty ware 1 and the grooved jar type has not been found there (Leary in prep.). This distribution would go some way to support a Neronian–early Flavian date for Period 3.

As noted above the proportion of hand-built jars declines sharply in Period 3 by all measures and Roman wheel-thrown vessels predominate (Table 5.43). Amphorae, North Gaulish mortaria and samian appear to be the only imported wares during Period 3, and the rest of the assemblage is made up of a wide-variety of wheel-thrown reduced and oxidised wares, some of which may have been made near the site, perhaps along the Triassic formations to the south or south-east. A shell-tempered wide-mouthed jar/bowl is probably from north Lincolnshire and may have been brought to the site by an individual rather than through trade.

At Camelon, in the Flavian phase, King and Swan (forthcoming) have identified a significantly diverse assemblage which appeared to be made up of many individual wares, each represented by a small number of vessels. Swan suggests such diverse ceramics were probably brought with the army and belong to a time before regular army supply mechanisms were established. The variety of fabrics in Period 3 may well reflect just such a situation, with some local manufacture, some in fabrics similar to the Pre-Roman Iron Age wares, some vessels carried with the army and imported samian, amphorae and mortaria.

In the amphorae assemblages, there is a notable swing from Italian in Period 2 to Gallic wine, with relatively few Dressel 20 oil amphorae (Griffiths, this chapter; Table 5.43 and Fig. 5.61). This contrasts with the normal pattern at Flavian military sites, where Dressel 20 amphorae make up 70%+ of any given assemblage (95% in the Flavian levels at Healam Bridge and 77% at York: Williams in Monaghan 1997, 968; all Dressel 20 at Binchester: Evans and Rátkai 2010, 118; Roecliffe has only Dressel 20 and carrot amphorae: Dore 2005, 167; *Cataractonium*: Williams 2002, 245). Even at pre-Flavian sites, such as Strutt's Park (currently unpublished, but has only one Gallic amphora sherd) and the earliest phase at Lincoln (Dressel 20s), a similar pattern is documented (Dressel 20 makes up 83% of the early Lincoln groups; Willis 1993, table 6.7). At Binchester, Evans suggests wine supplies were being brought by barrel not amphorae. Thus, the Period 3 group contrasts with what would be anticipated of a Flavian site and also with what is known of Neronian military sites to the south of the region. The group does, however, compare with that from the pre-Flavian period 4 at Silchester (Fig. 5.25; Griffiths, this chapter).

Mortaria first appear in Period 3 and included both imported and locally produced vessels. The presence of North Gaulish mortaria imports is remarkable and suggests exchange with the military. The manufacture of a type of mortarium particularly common on early military sites (Gillam 237) is further evidence for the local pottery manufacture suggested by the other Early Roman wares at this time. Mortaria in this form are particularly common on Neronian and Flavian military sites (Griffiths, this chapter). In this region, this form is known to have been made at York, as well as probably at Binchester and in the Lincoln industries (*ibid*.). The sherds from Period 3 are all in the reduced ware and are likely to be wasters of the more common oxidised fabric. In terms of fabric, the mortarium oxidised wares overlapped with the coarseware OAB19 group and fabric analysis is desirable to determine if they are, in fact, the same clay.

The wall-sided vessel from Period 3 may be of Neronian date and Hartley (see Griffiths, this chapter) considered it could be a local product. Neronian mortaria are known from other sites in this region. Imported wall-sided mortaria, of different types to the Scotch Corner example, are also known from Aldborough (no. 1 in Hartley 2002, 85) and Castleford (Rush and Hartley 2000, fig. 96, no. 114). At Faverdale, an early mortarium was identified in a hand-built local ware (Hartley 2012, 102–3, fig. 62, no. 4). For this vessel, Hartley suggests the best match is a type imported from the Eifel/Rhine area of Germany in c.AD40–65. As such, this would be an early instance of a mortarium being adopted and manufactured in this region in the pre-Flavian period using insular potting techniques. If the wall-sided mortarium is locally made this could be another pre-Flavian mortarium, this time in both Roman form and manufacturing technique.

The Period 3 assemblage contrasts with other early Flavian military sites in the region in the absence of key types, such as pre-Flavian imports of Central Gaulish fine wares and Lyon ware, both found in Period 4. These are found at a few sites along Dere Street in the region (Table 5.86). The only imported fine wares in Period 3 are redeposited Gallo-Belgic wares from Period 2, although some of the NOG WH butt beakers could be still in circulation, and the samian ware. By weight there is relatively more samian in Period 3 than in Period 4, but this is not the case by count (7% and 12% respectively) or EVEs (2% and 23% respectively). The samian vessel repertoire in Period 3 is also strikingly different from Period 4 (Figs 5.54 and 5.55) and also from military sites in the region that have more dishes than any other form. When this is compared with the repertoire of vessels from Period 3 in all wares, Period 3 and Period 4 are, in fact, quite close in general make-up and the bowl/dish group is still slightly higher than Period 4 (Fig. 5.62). The majority of the Period 3 beaker group are either coarseware beakers/small jars or redeposited Gallo-Belgic beakers.

The ceramic evidence, although limited in terms of size and range, is therefore consistent with a Neronian or very early Flavian date, probably with a civilian character drawing on pottery sources of Roman character. The gritty ware 1 rilled jars were also available to Stanwick site A and 9 and most of the wares in Period 3 continued to be used in Period 4 but were present in negligible quantities by the time the fort at *Cataractonium* was established. The unusual supply of wine amphorae, coupled with a lack of Roman fine wares other than samian, suggests this was essentially a native rural settlement at Period 4 with links to the Romans which enabled it to acquire Roman coarsewares, wine and samian ware vessels. The acquisition of locally made mortaria reflect a desire for this new vessel type which

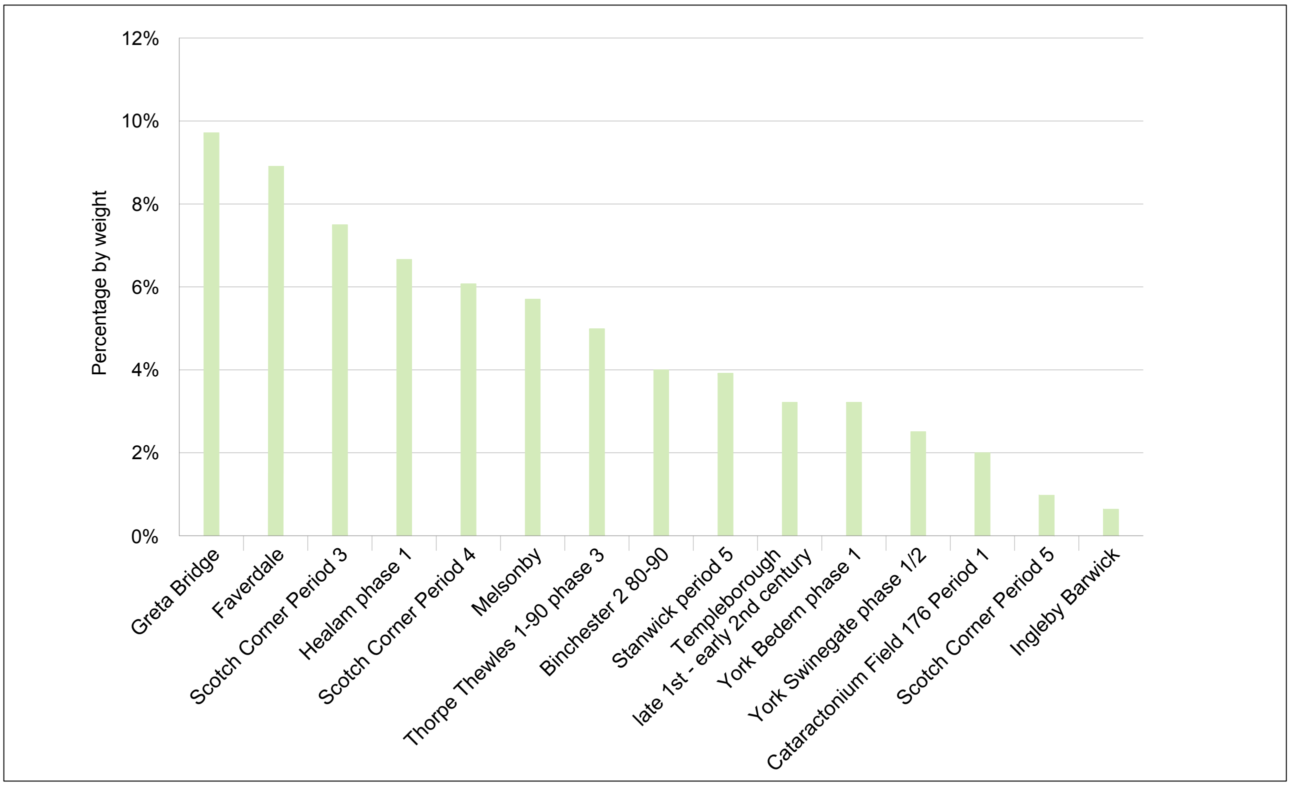


Figure 5.63: proportions of samian in total assemblages at sites in the region (by weight).

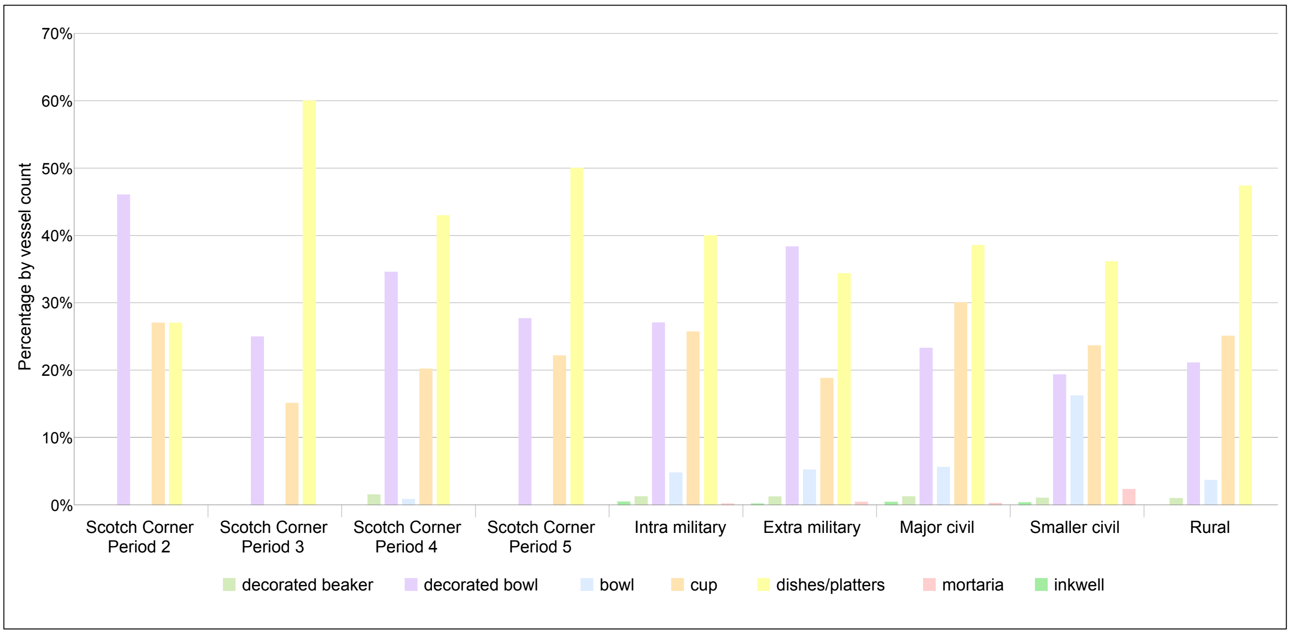


Figure 5.64: proportions of different vessels types within the samian group at Scotch Corner compared to Willis's (2005a) national averages by site type (Scotch Corner using vessel count).

may also be found at Faverdale. Samian ware makes up a relatively high proportion of the assemblage compared with other rural sites in the region. The vessels acquired display an unusual preference for dishes and in that respect the repertoire compares to the high level of dishes Willis (2005a, chart 17; see also Fig. 5.64) shows on rural settlements. On the other hand, the level of decorated bowls is more like military or military-related sites. This small group remains somewhat anomalous and does not fit readily into the pattern of ceramics from settlements already documented in the region.

Period 4

The assemblage in Period 4 contrasts strongly with that from Period 3 in terms of the range of Roman pottery, including amphorae and imported fine wares, many particularly associated with Early Roman military sites. Key types include Central Gaulish and Lyon fine wares, Braives mica-dusted ware, Pompeian red ware PRW6, terra nigra eggshell ware and copies, and carrot amphorae. The proportion of Lyon ware at 0.1–0.2% is, by any measure, very small but not unusual for British sites, excepting those such as London and Carlisle

(Willis 2003, figs 2–3). Although Lyon ware does occur at civilian settlements, such as at Old Winteringham (*ibid*., 134) and Old Sleaford (Elsdon 1997, 118–19) in Lincolnshire, Willis (2003, 132) considers the quantities negligible compared to military sites. At Piercebridge, Central Gaulish glazed ware was present at Holme House, a site with a 2nd-century roundhouse and villa. Croom *et al*. (2008, 228) suggest this and the NOG WH butt beaker (see above) were imports dating to the mid-1st century and belong to Roman pottery importation in the Claudian-Neronian period. Although the butt beaker is likely to belong to the Claudian or Tiberian-Claudian period, the glazed ware would fit better with the earliest military period in the region in the late Neronian or early Flavian period, since the 'pre-Flavian' fine ware range of Lyon and Central Gaulish colour-coated and glazed wares does not otherwise occur on sites in contexts that definitely pre-date the arrival of the Romans in the region. The imported PRW6 and mica-dusted wares from Braives, Belgium, are uncommon in the region. Other pre-Flavian fine wares are known from sites in the region: terra nigra eggshell ware was identified at Aldborough (Snape *et al*. 2002, 103) and Binchester (Evans and Rátkai 2010, 137).

The amphorae in Period 4 also mark the assemblage as different (Fig. 5.61). The carrot amphorae, like the pre-Flavian imports, are particularly associated with early military sites of Neronian and Flavian date. Howells (2009, 79, fig. 5) demonstrates a close link with legionary rather than auxiliary personnel and interprets the presence of carrot amphorae at Flavian *civitas* capitals in southern Britain as gifts creating 'networks of social obligation and personal patronage'. The distribution of sites with carrot

Table 5.87: common vessel forms in Period 4 and their presence at other sites in the region.

Vessel type group	**Catterick (Bell and Evans 2002; Leary in Ross and Ross in prep.)**	**York (types after Monaghan 1997)**	**Binchester (Evans et al. 2010)**	**Castleford (Rush 2000)**	**Roecliffe (Dore 2005)**
Carinated bowl with grooved rim BB group	y	BB	y	y	–
Reeded rim bowl BC group	y	BC	y	Y	–
round bodied bowls with moulded rims, BCb group	Rare	–	–	–	–
Flanged bowl with flat flange BF1	y	BF1	Y	Y	–
Bowls with grooved zones, BJ group	y	–	–	–	–
Disc mouthed flagon FD	–	FD	–	y	–
Large flagon with cordoned necks FK	y	–	y	y	–
Upright ring necked flagon JR	y	FR1	–	y	y
Spouted flagons FT	Y	FT	–	–	–
Honey pot HP	–	–	–	Y	–
Neckless everted rim jar JA	y	JA	y	Y	–
Reeded rim jar JF	larger vessels	JF	Y	Y	y
Neckless everted rim jar with zones of rouletting or combed wavy lines JM/JY	with rouletted decoration	–	–	with rouletted decoration	–
Everted rim jar with rebated necks JN1	–	–	–	–	–
Jars with arcing subdued rustication JR	y	JR	y	y	y
Jars with nodular rustication JR	–	JR	y	y	–
Rebated rim jars JVA	–	–	–	–	y
Jar with rilling JW	–	–	–	–	–
Jars with stabbed decoration JX	–	–	–	–	–
Ring and dot beaker KP	y	KP	y	y	–
Carinated beaker copying Cam 120, KS	–	–	–	y	–
G237 mortarium	y	y	y	–	–

amphorae along Ermine Street are also associated with the movement of other exotic food imports (Orengo and Livarda 2016) and further emphasise the close links of the site to military distribution networks. Carrot amphorae have also been identified at military sites in the region, such as at York (Williams 1997, 967–73), Piercebridge (Croom *et al*. 2008, 208), Ebchester and Roecliffe (Willis 1993, 1000; Dore 2005, 167).

The amphorae assemblage contrasts with that from the earlier levels in Period 3 contexts and at Redcliff. The large Dressel 20 component compares with Binchester rather than the sites further south. It has been established that, on Hadrian's Wall, wine was supplied in barrels from the Rhineland, resulting in a concomitant shortage of imported wine amphorae (Bidwell and Speak 1994). Evans (2002a, 481–2) noted a low level of Gallic amphorae at Binchester in phases 1–5 but not phases 6–9, nor at Thornbrough, Catterick. Based on this evidence, he suggests that wine was being supplied in barrels during this earlier period, while in the later periods it arrived in amphorae, unlike the supply to Hadrian's Wall. This low level of Gallic wine amphorae is evident at Scotch Corner in Period 4, and at Healam Bridge during phase 1, in contrast to the settlement in period 3. In Period 4 at Scotch Corner, the amphora assemblage is comparable to military sites in the area (Griffiths, this chapter).

In the Period 4 mortaria assemblage, Griffiths (this chapter) recognises the presence of imported North Gaulish mortaria and locally made Gillam 237 vessels, a type commonly found on Neronian–Flavian military sites. He notes that *Verulamium* mortaria arrive in relative abundance in Period 4. The mortarium assemblage contrasts with the early Flavian group from Blake Street, York, in the larger quantities of mortaria from *Verulamium* region kilns and fewer North Gaulish imports. At Binchester, in phase 2 (AD80–90), the North Gaulish imports make up 37% of the mortarium assemblage, while locally made mortaria make up 36% and *Verulamium* region just 11%. In phase 3 at the same site (AD90–95/100), the North Gaulish wares rise to 73%, with *Verulamium* region at 11% and local wares making up the rest. The North Gaulish mortaria continued to rise in number to a peak in the Trajanic period, which is unlike the pattern found at Scotch Corner, where they are eclipsed by the *Verulamium* products. At Scotch Corner, the local mortarium group, both Gillam 237 and variants, are supplied in slightly smaller numbers in Period 4 (28%) compared to Binchester (36%). Local manufacture of Gillam 237 type mortaria at Scotch Corner is suggested by the wasters and unused examples of this form that were identified. The manufacture of the Gillam 237 mortaria can be paralleled in the region at both York and Binchester (see no. 6 in Hartley 1995, 305; Evans and Rátkai 2010, 154). The oxidised fabrics used for these mortaria are very likely to be variations on the OAB19 coarseware fabric group used to make flagons. Flagons and mortaria are often made at the same kiln sites in the same fabrics. These mortaria were made by highly trained, specialist potters and the presence of wasters on the site suggests manufacture of these vessels by such potters near to the settlement.

Samian ware increases in Period 4 by sherd count and EVEs (12% and 23%) but not by weight (6%). Willis (2005a, 7.2.1) has noted that quantification by weight generally provides a lower proportion of samian compared to EVEs due to the thin-walled nature of samian ware compared to other wares. Taphonomic considerations, such as the effect of the 'abandonment' deposits in pit group **28131**, has affected these totals. Compared with Willis's (*ibid*.) average proportions of samian on different site types of the same date range (excluding amphora to be compatible with, resulting in 10% by weight and 23% by EVEs), Period 4 is comparable to the average of 10% for military sites by weight and falls just below the average of 25.5% for military sites by EVEs. Period 4 has a closer affinity to military assemblages and outstrips several military sites in the region (Fig. 5.63), as well as the near contemporary groups from the legionary fortress at Exeter. The assemblage is in marked contrast to those from rural settlements, such as Thorpe Thewles and Dragonby, and is around twice as large as that from Stanwick period 5.

The composition of the samian ware in Period 4 has a different signature to Period 3 and is a closer fit overall to the Roman sites quantified by Willis (2005a; Fig. 5.64). The level of decorated bowls and cups by vessel count suggests a military-related settlement rather than a fort. As on the rural sites, no inkwells were identified at Scotch Corner from Period 4, although there are six styli from the excavations (see Croom, Chapter 6; Monteil, this chapter).

The Period 4 coarsewares are made up primarily of 14 ware groups: the two early gritty wares, which first appeared in Period 3; the BSB group, also present in Period 3; a diverse group of fine grey wares, comprising small numbers of a wide range of fabrics; a medium sandy grey ware predominantly made up of GRB66; a local ware; quite a large group of oxidised ware (all OAB19) and a small group of fine oxidised wares; white wares of unknown source; hand-built wares; amphorae; mortaria; samian ware; the traded fine wares; and redeposited Period 2 pottery. The vessel types made in the early gritty wares and BSB group are early in character and not readily paralleled in regional assemblages of Flavian type, although groups as early as the start of Period 4 are in short supply. In the early gritty wares, good parallels for the rilled jars, stabbed, rouletted and combed jars (types JM, JY, JW, JX and JY) and the reeded-rim bowls with well-rounded reeds and moulded rims (types BCb) have not yet been identified at Healam Bridge, York, Roecliffe, Aldborough, Piercebridge, Greta Bridge or Binchester, nor further away at Malton, Templeborough and Castleford. However, the bowls and wide-mouthed jars (types BJ1–2 and WJA1–2) in the BSB group are similar to some found at Castleford phase 1 (c.AD71/4–86; Rush 2000, fig. 49, nos 104–5). A very small number of moulded-rim bowls in early gritty ware were recorded

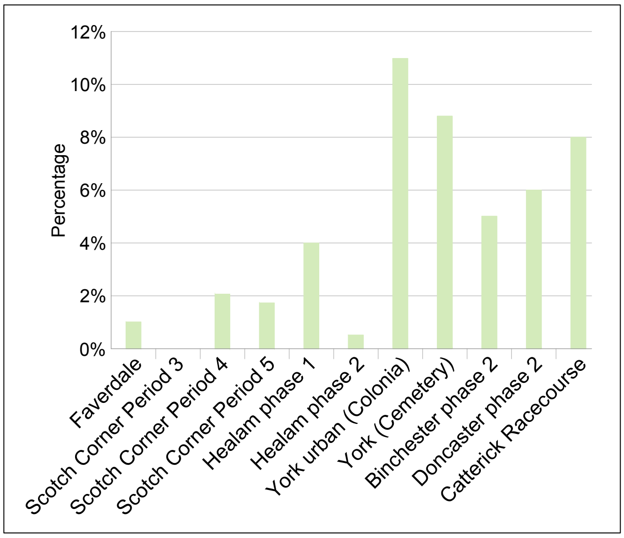


Figure 5.65: proportion of lids from Period 4 at Scotch Corner and other sites in the region (by EVEs).

at *Cataractonium* (Leary in Ross and Ross in prep.). At York, a stabbed jar (no. 3864 in Monaghan 1997) may belong to the JX group and a grooved jar to group JW (no. 3862 in *ibid*.), but both were too rare at York to be given a type series code. Similarly, a rebated-rim jar with grooved body from Roecliffe may be related to the early gritty ware rebated-rim jar group (no. 35 in Dore 2005). An unusual bowl from Binchester is similar to the BCb type bowls in gritty ware (O183.1; Evans *et al*. 2010) but was identified as Ebor 2 ware. Otherwise, these types are not found, aside from the rilled jar at Stanwick (Wheeler 1954, fig. 11, no. 29). The sites mentioned are all provided a later start date than Scotch Corner and it is likely that these ware groups are the earliest Roman coarseware pottery from the site. Period 4 seems to pre-date the manufacture of the standard Flavian vessel types in high quality finer, well-fired reduced and oxidised wares of the standard type found at the other Flavian period military sites in this region. The vessel types made in the putative earlier wares can be matched in late Neronian and early Flavian sites in other parts of Britain (see section above concerning early gritty and BSB wares), such as Longthorpe, Exeter, Fishbourne and *Camulodunum*.

Macroscopic examination of the two gritty ware groups disclosed similarities between gritty ware 1 and the hand-built quartz-tempered wares, and between gritty ware 2 and the late gritty grey wares thought to have been made around Catterick and Piercebridge, and specifically at the A66 kiln, in the 3rd and 4th century (Zant and Howard-Davis 2013). These similarities suggest that both groups were locally made by military potters. However, the group of bowls in early gritty ware 2 did compare well with forms made in Exeter Fortress ware, which itself includes a gritty ware (Exeter Fortress Ware B). When samples of both early gritty wares were submitted to Williams and Bidwell, both were rejected as Exeter Fortress ware and the possibility of a source to the south or south-east of Scotch Corner was instead suggested. Petrological and chemical analysis are needed to further determine the source of these wares.

The forms in the most common grey and oxidised wares (Table 5.87) compare very well with the Flavian groups in the region, such as at *Cataractonium* (particularly group 1 and 2, c.AD80–160: see Evans 2002b, 252–3; also see Leary in Ross and Ross in prep.), York (dated AD70+; Monaghan 1997), Castleford (phase 1, c.AD71/4–86; Rush 2000), Binchester (Evans *et al*. 2010) and Roecliffe (AD70–80; Dore 2005). The vessel types in these wares are typical of the Flavian period, including the disc-mouthed flagon, ring-necked flagon, spouted, rusticated jars with horizontal shoulder rustication, neckless everted-rim jars (type JN), carinated bowls (type BB), reeded-rim bowl with carinated bodies (type BC), and flanged bowls (type BF1). Some types were less common at other sites: rebated-rim jars (type JVA1; cf. Roecliffe no. 14 in Dore 2005), honeypots and related everted-rim jars (types HP1, JN1 and 3 at Castleford; nos 95–8 in Rush 2000) and reeded-rim jars (e.g. type JF at Castleford: nos 101–2 in Rush 2000; O6.8–9 and O11.7 at Binchester: Evans and Rátkai 2010; Malton: Swan 2002, fig. 4, no. 44; Roecliffe: no. 71 in Dore 2005; and York: type JF in Monaghan 1997). Some were extremely rare on other sites, such as the round-bodied bowl with moulded rims (type BCb), the bowl with grooved zones (type BJ), the rilled and stabbed jars and those with zones of combed wavy line decoration, all of which are types made in either ware group BSB or the early gritty wares. Coarseware beakers in Period 4 were small versions of the coarseware jars, except for some ring and dot beakers (cf. R26.4 at Binchester: Evans *et al*. 2010; and type KP2 at York: Monaghan 1997) and copies of the imported terra nigra eggshell ware carinated beakers (only paralleled at Castleford). The parallels for the types support a later date for these vessels that falls in the Flavian period and perhaps extended into the Trajanic period. The standardisation of both the fabrics and the forms in these groups would be in keeping with a slightly later date when military kilns with skilled potters had been established in the neighbourhood with full access to clay sources.

A group of large flagons with rebated or hooked rim and cordoned necks (type FK) in white ware are not local. The fabric of one of these flagons is close to a rather fine *Verulamium* white ware and would fit with Marsh and Tyers's (1978) type IJ. The white ware jar/beakers with painted ring-and-dot decoration are similar to examples from Castleford (nos 61 and 456 in Rush 2000) and similar jar/beakers were found at Nostell Priory in a group that included wasters of Flavian or Flavian–Trajanic date (Leary 2013).

The hand-built wares may, for the most part, be a mix of residual sherds and personal possessions. However, at least three hand-built jar sherds with rustication of Roman type were found in Period 4, and one carinated beaker of Roman type in a fine hand-built ware demonstrates that potters worked in a fabric used prior to the arrival of the Romans while at the same time adopting the new forms and surface finishes found in the Roman wheel-thrown repertoire. Such an interplay of techniques has also been recognised at Binchester (R45.1 for rusticated jar; Evans and Rátkai 2010). At Faverdale, a hand-built mortarium was identified by Hartley (2012, 102–3, fig. 62, no. 4) and the best parallel was considered to be an import found in contexts dating to c.AD40–65. If correct, and there was some doubt expressed regarding the best parallel, then this would be another site in the region where potters working in the hand-built tradition adopted Roman vessel types.

The types of vessels in the Period 4 assemblage can shed light on the character of the settlement. Evans (1993) studied a range of assemblages from settlement types in the North and found some key measures dividing rural settlements from military fort and urban sites, particularly the use of vessels, such as jars, tableware and drinking vessels. Comparing the ratio of jars to bowls and dishes at Scotch Corner in Period 4, the assemblage contrasts with all the rural sites and compares better with other sites along Dere Street that were associated with the military in terms of the bowl and dish component of the assemblage, which was higher than some of the military sites, including York and Doncaster (Fig. 5.62). The adoption of Roman-style dining is thought to be implied by bowls and dishes.

Another measure of such adoption of foreign manners is the use of beakers, cups and flagons. While the Period 4 assemblage contrasts markedly with the rural settlements, there is a striking level of drinking-related ceramics at Melsonby and Scotch Corner Period 2, but not at Stanwick (Fig. 5.56). The Period 3 and Period 4 assemblages and the Faverdale group are all closer to the military-related and fort groups and contrast with the urban settlement

Table 5.88: briquetage: summary of material and quantities.

Context	Period	Count	Weight (g)
10935	1	30	57
16345	1	2	9.6
16411	2	3	32.1
16435	4	20	121.8
24413	4	1	9.3
30069	1–2	142	218.8
30261	2	9	26.4
30269	1	11	7.1
30415	2	1	13.5
30440	2	311	455.9
30493	1–2	11	104.3
30578	1–2	14	46.6
30677	2	26	132.3
30839	1–2	1	10.4
30840	1–2	1	34.9
32285	2–3	2	11.1
Total		**585**	**1291.1**

at Catterick Racecourse and are higher than the number of drinking-related ceramics at Binchester and Healam Bridge phase 1. Given the strong representation of such ceramics in Period 2, it is perhaps no surprise to see this continued in Period 4 and, together with the other tableware, it illustrates how the inhabitants at this time embraced the full Roman dining experience, at least in terms of the ceramic vessels acquired.

Pottery lids are predominantly a Roman introduction. These are not represented in pre-Roman assemblages and are particularly common in the late 1st to 2nd century in the north (Evans 2002c, 472). A clear concentration can be seen on the military sites, and their levels were high in phase 1 at Healam Bridge (Fig. 5.65). Clearly, organic lids could have been in use, but the ceramic lids can sometimes be confidently linked to the arrival of foodstuff, as in the case with amphorae, where the thin lids of some of those used for wine would not survive opening. One Gallic amphora lid came from Period 4 (ditch group **28151**). The majority of the other ceramic lids were quite wide in diameter and would have been used with bowls rather than jars, suggesting that they were linked to the preparation and protection of food, perhaps to keep food warm rather than to prevent spillage of contents. They can therefore be linked to vessels such as the tripod bowl, the cheese press and the colander, all of which occur in Period 4 and represent the adoption of new ways of food preparation and cooking.

Overall, the Period 4 assemblage contrasts with assemblages from other sites along Dere Street in the region in date, in that it appears to start earlier than other forts and settlements and, although it has many of the characteristics of an early military site, it is somewhat closer to the settlements outside forts or industrial military-related sites in the north. The level of amphora supply is of the type associated with military sites at 15% of the assemblage by count (forts have 2.5–11% by count; Evans 2001, fig. 11). The exotic pre-Flavian type pottery imports present in Period 4 are also strongly associated with military sites, as well as settlements suspected of having military connections, such as that at Healam Bridge. The Flavian coarsewares are also well matched on these sites.

The Period 4 assemblage also appears to cover two distinct phases chronologically, one of which has pottery with early characteristics not present at other Flavian sites in the region, including small amounts of early gritty wares 1 and 2, and other wares, such as the BSB group, perhaps coming from sources in the south of Britain. The earlier ceramics are typologically late Neronian or very early Flavian. They are consistent with a time before military potteries producing the Flavian range of vessels to a high standard, such as at Catterick, York, Binchester and Aldborough, were established. Hints of this can be found at York in phase 1a, where rusticated ware R1, a non-Ebor grey ware with high relief rustication, is most common in the lowest levels, and non-local oxidised wares and 'native wares from diverse sources' were common (Monaghan 1997, 861). In addition, Monaghan notes small amounts of pre-Flavian wares and mortaria in smaller numbers, either Gallic imports or local, with a wide range of amphorae and common Gallic amphorae.

All these characteristics compare with Period 3 and the earliest pottery from Period 4. Although this earliest phase was considered Flavian by Monaghan, it does represent a ceramic repertoire that is repeatedly associated with the earliest stratigraphic phases at York. Wenham (1971, 48–9) describes just such a group from St. Mary's Abbey, which included a stamped Gallo-Belgic platter, pre-Flavian St Remy glazed ware, and marbled ware that was considered to date to about AD60. Cool (1998a, 301–5; see also Cool, this chapter) has later dated the glass from this site to the pre-Flavian period. This phase was very short, and the ceramics associated it with are likely to have been still in use after AD70 and deposited alongside the Flavian wares when discarded. It is, therefore, very unlikely that a group that was made up exclusively of this earliest ceramic phase would be found. Ottaway (2004, 33) adds a pre-Flavian coin dated to AD66 and pottery that could belong to the Neronian period from the earliest phase at Blake Street to the evidence from St Mary's for pre-Flavian activity at York (Hall 1997, 308–10; Monaghan 1997, 837). This ceramic group included the Gallo-Belgic imports at Scotch Corner: Lyon ware, Central Gaulish glazed ware and carrot amphorae.

Wilson (2009) has considered other evidence for pre-Flavian military activity north of the Humber, including coins and pottery. There is some evidence to suggest a Neronian presence around the cathedral on the peninsula at Durham City (Lowther *et al*. 1993, 77). As well as the evidence for pre-Flavian activity at Blake Street, York, Wilson (2009c) also proposes the group from Roecliffe may date earlier than AD70–90 as suggested by Dore (2005) based on the Claudian coin copies, which were noted as being slightly worn. Brickstock (2005) provides the coins from Roecliffe with a date range of late Neronian to early Flavian and Dickinson (2005) dates the samian to c.AD70–80. Wilson (2009) points out that the samian from Roecliffe includes Neronian types. Although Dore (2005, 167) records that there are no pre-Flavian beakers, there are vessels that first appear in the pre-Flavian period in the form of a Cam 16 terra nigra platter, imported Gallic mortaria dating to AD55–85, and *Verulamium* mortaria of AD60–90 date. As a pottery assemblage, the group from Roecliffe, like that from Blake Street and Scotch Corner Period 4, falls into the category of pottery dateable to the late Neronian to early Flavian period, which cannot yet be separated into distinct pre-Flavian and early Flavian groups.

It cannot be demonstrated conclusively that Period 4 began before AD70, but the pottery assemblage certainly contains types that are common in pre-Flavian groups, and which, if found without the Flavian types, would make up an assemblage of late Neronian character. At Scotch Corner, there are Roman pottery coarseware fabrics and forms not found at other Flavian sites in the region. This pottery was deposited together with the classic Flavian wares in the group **28131** pits during a cleaning event, perhaps marking the end of a period of occupation, and the sherd size and condition indicate that this early group was not residual in those contexts but was being used at the same time as the Flavian pottery from these pits. Therefore, it is not possible to

Table 5.89: weight of glass (g.) by colour and Period (contexts assigned to more than one Period have been placed in the latest one). PMB = pillar moulded bowls, all other categories are blown.

Colour	1	2	3	4	5	5+	Med.–Post–med.	None	Total
Polychrome PMB	–	–	–	1.9	–	2.2	–	–	4.1
Deep blue PMB	–	–	–	0.7	–	–	–	–	0.7
Yellow/brown PMB	–	–	–	42.8	–	–	–	–	42.8
Light green PMB	–	–	–	10.7	–	–	–	–	10.7
Blue/green PMB	–	–	4.5	41.9	–	5.9	–	0.9	53.2
Polychrome	–	–	–	75.2	–	–	–	–	75.2
Emerald green	–	–	–	2.1	–	–	–	–	2.1
Deep blue	–	2.4	2.3	165.8	12.4	0.4	1.3	1.8	186.4
Yellow/brown	–	0.2	0.1	2.2	0.3	–	–	–	2.8
Yellow/green	–	0.2	0.3	34.7	–	–	–	–	35.2
Light green	–	–	–	9.2	–	–	–	7.4	16.6
Colourless	0.2	–	–	40.5	38.9	–	–	–	79.6
Blue/green	0.2	7.9	86.8	235	1.7	2.3	–	96.2	430.1
Blue/green bottle	–	–	2.4	774.9	–	6.3	17.6	8.6	809.8
Total	**0.4**	**10.7**	**96.4**	**1437.6**	**53.3**	**17.1**	**18.9**	**114.9**	**1747.9**

untangle this chronology, but there are enough hints of pre-Flavian activity to advise caution before dismissing the possibility entirely.

Period 5

In Period 5, the range of wares narrows, and the vessel types change in relative proportions. The fine wares decline, with less than 1% of the assemblage by weight being samian ware. The pre-Flavian imports of Period 4 are no longer present, but the quantities of amphorae by weight rises steeply, particularly in the case of Dressel 20 oil amphorae. As well as a chronological progression, this indicates a possible change in function since, unlike Period 4, the Period 5 assemblage is not characterised by a strong presence of dining-related ceramics, but rather a shift towards the drinking-related repertoire identified in Period 2. Imports are still supplied to the sites; the full range of Roman pottery types are present but the samian vessels include fewer decorated bowls and do not fit well in any of Willis's groups (Fig. 5.64; Willis 2004). The high number of dishes is perhaps closer to the rural groups. Given the changes on the site, the abandonment of the Period 4 settlement and restriction of activity to roadside structures, such as Structure 39 (a possible stable serving local and/or passing road traffic), the ceramics seem to reflect the change in the function of the settlement.

BRIQUETAGE

Charlotte Britton

INTRODUCTION

Five hundred and eighty-five sherds (1291.1g) of briquetage were recovered from four Fields at Scotch Corner (Table 5.67). Briquetage was used in the production, transportation and storage of marine salt in Britain during the Iron Age and Early Roman period. The briquetage assemblage indicates that Scotch Corner was part of a supply network with the north-east coast in the 1st century AD and that salt was a commodity required and used by its population.

FABRIC AND FORM

All the briquetage sherds were of the same fabric, which had a light to dark grey interior with a pale red to dark red exterior. The fabric had been tempered with organic materials such as grass or chaff, evident in narrow voids on both the interior and exterior surfaces. More irregular-shaped voids on some sherds indicated that another organic material, such as wood or bark, was also used as temper. The fabric was micaceous, hard, and showed irregular fractures, highly comparable to that of the briquetage from Stanwick (fabric 100a; Willis 2016b, 256; Willis pers. comm.). This is the most commonly identified fabric across north-east England and its uniformity throughout the region indicates that there was either a 'centralised industry, a common technological practice and/or a short period of production [of briquetage vessels]' (Willis 2016b, 260).

In slight contrast to Stanwick fabric 100a, the sherds from Scotch Corner showed more frequent voids on the exterior surface, indicating that the fabric included more tempering. Adding chaff as temper improved workability of the clay, meaning briquetage vessels could be manufactured quickly and easily (Morris 2001a, 393). Tempering produced a porous fabric, suitable for drying and transporting salt (Willis 2016, 256), while porosity also reduced the propensity for cracking when the vessels were heated by forming voids during the expansion of the clay (Morris 2001a, 393). This ensured that briquetage was durable during high-temperature firing. The best-preserved fragments from Scotch Corner were typically 11–16mm thick, slightly thicker than those found at Stanwick, although similar to some examples from the east of England (*ibid.*, 256; Morris 2001b, 53, table 8).

Although briquetage assemblages from north-east England are fundamentally alike those from the south, they tend to be more fragmentary and recovered in smaller quantities. Briquetage fragments are susceptible to crumbling, due to the coarseness of the fabric and can be hard to recognise in archaeological assemblages (Willis 2016b, 257). Moreover, to remove the salt, briquetage vessels were probably broken, making archaeological recovery of complete vessels less likely (*ibid.*, 257). The largest assemblages at Scotch Corner came from fill **30069** of fire pit **30068** and fill **30440** of pit **30322,** and the sherds from both features were very fragmentary, most likely because the vessels had been broken before deposition. Due to both this and the absence of any rim sherds, the diameter and size of the briquetage vessels could not be estimated. However, the curve of the larger sherds, and the lack of angles or corner pieces, indicated that the vessels were probably cylindrical, rather than taking the form of a trough.

DISCUSSION

While salt-winning using briquetage continued in eastern England until at least the first half of the 4th century AD (Crowson 2001), it is currently uncertain how long briquetage vessels were used in the North East. Most of the briquetage recovered at Scotch Corner—562 sherds (1148.9g)—was from contexts dating to Periods 1–2, while the remainder (23 sherds, weighing 142.2g) from Periods 3–4 is likely to have been redeposited. The briquetage from Stanwick, the fabric of which closely resembles that found at Scotch Corner, dates to the 1st century AD (Willis 2016). According to the current evidence, the trade in salt is difficult to recognise archaeologically after the 1st century AD, when it may have fallen under Roman monopoly (Mattingly 2006, 363, 510). It is possible that briquetage containers may no longer have been used to transport salt, that it was conveyed by different means after the 1st century AD, and briquetage is therefore not present in the archaeological record after that time. It is commonly suggested (e.g. Willis (2016b, 261) that containers were possibly later made from organic materials, making them archaeologically invisible.

During the Iron Age and Early Roman period, salt was an essential product for flavouring and preserving foodstuffs. Archaeological sites in north-east England from which briquetage has been recovered differ in both size and function, indicating that briquetage vessels were transported widely and that salt was a much-used commodity in a variety of settings (*ibid.*, 260). The A1 scheme briquetage suggests that during the 1st century AD Scotch Corner was part of this trade network—which also encompassed Stanwick and probably many other sites—and which, as Willis explains (*ibid.*, 260), potentially involved other commodities. Briquetage was used both in the winning of salt by evaporation from brine and storing the product, and the ceramic salt containers often travelled from the coastal production centres to their place of consumption inland (*ibid.*, 259). It is not known where the examples from Scotch Corner originated, although the Tees estuary or the coast to either side are proximate sources.

Briquetage recovered at Scotch Corner by previous excavations is of the same fabric and date as that from the A1 scheme (*ibid*. 259; table 12.3). The fragmentary nature of the material means that the assemblages found represent only a small percentage of the vessels that arrived at the site, and do not fully represent the use and trade of the commodity (*ibid*. 261). Though modest in comparison to many collections from southern and eastern England, the assemblage from the A1 scheme excavations is the largest from the North East, making it valuable for Early Roman briquetage studies and marking out the importance and relevance of Scotch Corner within the regional trade network.

VESSEL GLASS

H. E. M. Cool

INTRODUCTION

All the vessel glass considered in this volume came from Scotch Corner. For the north of England, it is a quite remarkable group and from the outset raised questions about the nature of the occupation there. The wide range of colours seen in the assemblage (summarised in Table 5.89) and their relative proportions strongly suggest that a considerable proportion of the vessels reached the site prior to the Flavian military advance to the north, which is generally accepted to take place very early in the AD70s. Prior to considering the material in detail, it will be useful to summarise developments in the Roman vessel glass industries, as an appreciation of these is a vital foundation for understanding the place of the Scotch Corner vessels.

The use of glass vessels saw an explosive growth in the first half of the 1st century AD. The invention of glass blowing had taken place in the 1st century BC, but it is not until the Tiberian period that blown vessels start to appear in quantity. Alongside these, there were the families of vessels normally referred to as made by casting techniques, of which the most common form is the pillar moulded bowl. The taste was for brightly coloured vessels, both monochrome and polychrome, in both manufacturing methods. Claudian-Neronian assemblages tend to have a high proportion of these, together with blue/green vessels. Late in the Neronian period, tastes changed. The strong colours, such as deep blue and dark yellow/brown and polychrome vessels, went out of fashion and the preference was for the more lightly tinted shades, such as light green and truly colourless glass, again alongside blue/green. The vessel forms themselves changed as well. The main demand in the early to mid-1st century had been for tablewares, especially drinking vessels, and for unguent bottles. From the end of the Neronian period, utilitarian containers, such as the blue/green bottles, came to the fore. A mid- to late Flavian assemblage is thus very different to a Claudian-Neronian one.

Naturally, this change is a continuum. Some changes start earlier in the Neronian period. Some people looked after their glassware more carefully and for longer than others. Not everyone felt the need to consign their gaudy tablewares to the recycling bin and rush to buy the latest fashion. Nor did every glassworker change their product line overnight. On most sites, the changes that were happening between c.AD60 and c.AD80 are of interest but not central to the overall interpretation. On a site such as Scotch Corner, where there are many questions to be asked about the nature of the occupation at just that time, this background presents a particular challenge.

The overwhelming majority of the glass fragments came from the fills of pits and ditches assigned to Period 4 (the Flavian period). However, these are end-of-life contexts and, as will become apparent from the discussions that follow, an appreciable proportion of the fragments are likely to have come from vessels that were in use earlier. The challenge is to explore the data to see which vessels might have been in use by the inhabitants prior to the formal arrival of Romans, which vessels might have been

Table 5.90: comparison of the pillar moulded bowl assemblages at Claudian to Flavian sites (quantified by EVEs).

Site	Date	Polychrome	Monochrome	Blue/Green	Total
Colchester	Up to AD60/61	2	2.4	8	12.4
Sheepen 2007	Up to c.AD65	1	2	2.8	5.8
Kingsholm	AD60s	1.2	0.6	2	3.8
Usk	mid–AD50s to late AD60s	0.6	1	2.8	4.4
Castleford	AD71/3+	–	0.6	4.6	5.2
Blake Street, York	AD71+	–	–	7.8	7.8
Scotch Corner		0.4	1.2	2	3.6

in use contemporary with that presence, and what role the vessels played on the site.

There are a variety of assemblages from well-dated contexts elsewhere that can be used to aid this exploration, and these will be introduced at appropriate points. Here, though, the methodological obstacles that are in the way of direct comparison need to be considered. The problems with quantifying objects that are nearly always found broken is a vexed one. It has long been established that fragment count is a very unreliable measure. That is even more true on a site like this, where individual vessels can be represented by multiple fragments from different contexts (see Cat. nos 620, 622 and 637). Added to this is that the A1 scheme excavations employed extensive context sampling for recovery of environmental remains and small materials, which always increases the number of fragments in comparison to hand excavation. It is for this reason that weight has been used as one of the methods of quantification. Many of the sites that provide the useful, closely dated assemblages are excavations that took place prior to the advent of routine environmental sampling and are quantified by fragment count and not weight. For this reason, the unit of comparison will be the zonal Estimated Vessel Equivalents (EVEs). This method counts the number of zones of the profile the fragment retains and can be applied to assemblages that are well-catalogued. It thus allows inter-site comparison. Full details can be found elsewhere (Cool and Baxter 1996; 1999).

The next two sections focus on the typology of the material. The first looks at the forms that were in use more widely during the Claudian to early Neronian period and considers how long the individual forms could be expected to have remained in use. The second looks at the forms coming into use in the late Neronian period. In both sections, the different vessels are considered against the background of how common, or otherwise, they were generally and what sorts of sites they could be expected to be found on. The final discussion draws this together to consider what the vessel glass can reveal about the inhabitants at Scotch Corner.

Finally, it is useful to clarify some nomenclature. To use terms such as 'Roman' and 'native' can be seen as setting up a very simplistic dichotomy. We know there were many ethnicities amongst the incoming 'Roman' army and administration. Equally, the Brigantian inhabitants, or indeed any other indigenous group, were unlikely to have been an undifferentiated mass. However, in the context of this report, such terms are useful shorthand names and will be used to differentiate the two communities.

CLAUDIAN-NERONIAN VESSELS

The site produced a substantial number of pillar moulded bowls. One is purple and white (Cat. no. 598) and three are monochrome in very dark yellow/brown (Cat. no. 599), deep blue (Cat. no. 600) and light green (Cat. no. 601). The rest of the fragments are blue/green (Cat. nos 602–14). These bowls were extremely common throughout the Roman Empire in the 1st century and the colour progression is well understood (Cool and Price 1995, 16). Polychrome vessels were always in a minority and are becoming rarer in the second quarter of the 1st century. Monochrome bowls in colours other than blue/green become rare and disappear during the third quarter of the century. Blue/green bowls continue to be made and used after these colours, but they too have effectively disappeared by the end of the 1st century.

Table 5.90 places the Scotch Corner assemblage in context. This quantifies the pillar moulded bowls found in various closely dated assemblages. A brief overview of each of the comparative sites is provided here, though readers should refer to the referenced texts for further information. The Colchester assemblage dates to between AD43 and AD60/61 and consists of all the fragments found in the city centre excavations from contexts relating to the Boudican destruction and the earlier contexts from the fortress and *colonia* (Cool and Price 1995). Sheepen 2007 comes from the currently unpublished excavations at the Colchester Institute by the Colchester Archaeological Trust (Cool forthcoming a). The site, often known as *Camulodunum*, lies to the west of the Colchester fort and *colonia* and was occupied prior to the Claudian conquest. Occupation appears to cease in the AD60s, probably in association to the Boudican rising. The glass assemblage from Sheepen, therefore, is Tiberian to mid-Neronian in date. Kingsholm is an assemblage from a legionary fortress situated outside of Gloucester (Price and Cool 1985). The precise date is debatable but was within a window of c.AD49–66/7 (Hurst 1985, 122). Usk is another legionary fortress, the main occupation of which ceased in the late AD60s but appears to have been kept on a care and maintenance basis into the early Flavian period. The assemblage used for comparison here only includes the fragments from contexts that belong to the pre-Flavian fortress

Table 5.91: comparison of the Hofheim cup assemblages at Claudian to Flavian sites (quantified by EVEs; for the sites see the discussion of Table 5.90)

Site	Date	Coloured	Blue/Green	Total
Colchester	Up to AD60/61	2	4.6	6.6
Sheepen 2007	Up to c.AD65	0.6	2	2.6
Kingsholm	AD60s	1	1.4	2.4
Usk	Mid–AD50s to late AD60s	2.4	0.2	2.6
Castleford	AD71/3+	0.4	–	0.4
Blake Street	AD71+	0.4	2.2	2.6
Scotch Corner		0.2	1.4	1.6

(catalogued by Price in Manning *et al*. 1995). Castleford was a military base first occupied in AD71/3 (Cool and Price 1998) and Blake Street is an assemblage associated with a site in the legionary fortress at York founded c.AD71 (Cool *et al*. 1995). The precise data used for the table is in Appendix G.

As can be seen, the Scotch Corner assemblage clearly fits within the Claudian-Neronian assemblages rather than those associated with the Flavian military advance to the north. Very occasionally, a military site in the north will produce a fragment of a polychrome or a monochrome bowl, but it is the overall proportions of the different colours that have to be considered. When that is done there can be no doubt that the Scotch Corner assemblage is a Claudian-Neronian one.

The next question to be asked is whether these bowls were used by the native inhabitants or the Roman incomers. Table 5.90, with the possible exception of Sheepen, represents what Roman populations used. Any Roman unit living at a base beyond the formal frontiers of the Roman province in the late AD50s or 60s is likely to have brought with them an assemblage of bowls like the one at Scotch Corner. Indeed, the presence of polychrome and monochrome bowls at St. Mary's Abbey at York can be used to suggest the presence of just such a unit prior to the foundation of the legionary fortress at the start of the Roman annexation of the north (Cool 1998a). This was a small excavation conducted in the 1950s in the annexe area of the fortress, which also produced Gallo-Belgic terra nigra pottery (Rigby 1993, 726).

Polychrome pillar moulded bowls, however, were a form that native communities found a use for. Ingemark (2014, 31–2) has drawn attention to the fact that a disproportionate amount of the admittedly tiny number of pillar moulded bowls known from native sites in northern Britain fall into this category. Amongst these, the purple-and-white combination seen on Cat. no. 598 occurs twice out of the three known (Castlehill Wood, Stirlingshire, and Traprain Law, East Lothian). It is also the colour combination on the polychrome bowl from Stanwick (nos 1–2 in Price 2016, 262, fig. 13.1) and on the native hillfort at Dinas Powys (no. 2 in Harden 1963, 178). The purple and white colour combination is not rare overall within the Empire, but deep blue and white bowls, and those with shades of yellow/brown and white, are probably more common in Britain. The disproportionate occurrence of purple and white on the native sites may be just a coincidence, but it could be the result of deliberate choice.

It should be borne in mind that specialists in the study of ancient glass identify the translucent ground colour of a bowl according to the transmitted colour visible through a broken edge, whereas the original users would have seen the complete bowl in reflected light. Ground colours of deep blue or the yellow/brown shades retain their colour under such conditions but translucent purple glass of the thickness seen in a pillar moulded bowl appears very dark and the overall impression, especially in the lighting conditions pertaining in antiquity as opposed to modern museums, would have been of a vessel that verged on the black and white. Most interestingly, in the south of Britain, pre-Roman native communities also seem to have preferred purple and white hemispherical cast bowls (Cool 2018, 146–7). Again, the numbers are tiny because glass vessels are extremely rare prior to the Roman invasion of AD43, but the colour combination occurs disproportionately, viewed against the empire-wide distribution. It is beginning to seem likely that bowls with this black-and-white appearance had some special meaning or attraction for native communities.

Cat. no. 598, therefore, is a very good candidate for being a vessel that arrived at Scotch Corner with the other Claudian imports prior to the more formal advent of the Roman presence. Its context might hint at this as well. The bulk of the pillar moulded bowl assemblage came from pit fills and gullies in Fields 246 and 258, but Cat. no. 598 came from Field 265, which is a focus of where Claudian imports were found. One fragment came from the primary fill of a beam slot or gully associated with Structure 38. This fill is described as midden material, suggesting the fragment may have had a previous cycle of deposition before it came to rest in this context, and so the bowl it came from is likely to have had a long life on the site.

The rest of the pillar moulded bowl assemblage could have arrived any time from the Claudian period and so could have been in use by either community. Blue/green bowls were very occasionally reaching the native communities in this area, as two fragments from such bowls were found at Stanwick (nos 3–4 in Price 2016b, 262, fig. 13.1). The spatial separation between the polychrome bowl and the rest of the pillar moulded assemblage might point to them arriving at a different time, although it is interesting to note the presence of the dark yellow/brown bowl (Cat. no. 599) found in the primary fill of one of the enclosure ditches (group **28158**) in Field 258. This too would have appeared as a very dark glossy vessel in reflected light, possibly indicating a continued preference for this sort of colour on the site.

The dominant blown glass drinking vessel of the Claudian-Neronian period was a cylindrical wheel-cut cup made in bright colours and in blue/green glass, generally known as a Hofheim cup (Price and Cottam 1998, 71–3). The form was still in use at the time of the Flavian advance north, but during the AD70s it is effectively replaced by other forms of drinking vessels. This is well-demonstrated by its absence from the large glass assemblages from the earlier excavations at *Cataractonium* (Cool *et al*. 2002) and from elsewhere in the A1 scheme campaign of excavation around Catterick. The form may have been in use at Stanwick; an abraded, deep-blue body fragment was identified as coming from such a cup (no. 8 in Price 2016b, 263). At Scotch Corner, Cat. no. 629 in emerald green glass and Cat. nos 638–643 in blue/green glass all come from cups of this form. Table 5.91 indicates the Hofheim cups from the same sites that provided the assemblages in Table 5.90 (for data see Appendix G). The picture is not quite so clear-cut as it was in Table 5.90, but colours other than blue/green generally form an appreciable part of the earlier assemblages. The assemblage at Scotch Corner more closely resembles those from the Flavian sites. Again, the bulk of it comes from the pits and ditches in Fields 246 and 258. The only securely identified piece from Field 265 (Cat. no. 43) came from a bedding layer for RR5 (group **31799**) dated to the Mid- to Late Roman period and will be discussed in Ross and Ross (in prep.). As such, there is no certainty that the vessel it came from was ever in use in the area of Field 265.

On balance, therefore, it is most likely that the Hofheim cups arrived with the incoming Roman community rather than as part of the Claudian imports for the native one. This would match an interesting phenomenon that has been noted in the Claudian-Neronian contexts of Insula IX at Silchester. There the inhabitants seemed to have very little use for these relatively small drinking vessels, continuing to prefer ones with large capacities (Cool forthcoming b). At that time, of course, Silchester would not have been a formal part of the province but rather part of the client kingdom of the Atrebates. As such, its inhabitants may have been maintaining pre-Roman tastes. Certainly, on rural sites of the later 1st and 2nd centuries in Britain, it is noticeable that a preference for larger bowls rather than beakers and cups can be observed on such sites as used glass tablewares (Cool and Baxter 1999, 84).

Another drinking cup form that is well represented is the mould blown ribbed cup, represented here by the substantially complete Cat. no. 615 and fragments (Cat. nos 616–18). The form is certainly in existence by the early Claudian period (Price 1991, 67) and continues in use into the early Flavian period, as examples were found in phase 1 contexts (AD70s) at Castleford (nos 38–40 in Cool and Price 1998, 154, fig. 52). The presence of others at Carlisle would suggest that some at least continued in use into the early years of the AD80s (Price 1990, 166, fig. 159, nos 6–7).

Cat. no. 615 is a rare variant of the form as, in addition to the vertical ribs, there is a frieze of ivy leaves that runs around the lower body. A lower body and base fragment from Castleford have the same design (no. 39 in Cool and Price 1998, 154, fig. 52). In as far as it is possible to judge from the impression and cast of that piece, the two come from the same mould or at least the moulds they were made from were created from the same prototype. The Castleford cup was found in a floor surface associated with Structure L of the first fort and so must have been broken and deposited within the AD71/3–86 period (Abramson *et al.* 1999, 68). The major part of Cat. no. 615 comes from the fill of ditch **15859** in Field 246, which belongs to Period 3. The confirmation that this was a late variant of the type with a *floruit* of the late Neronian to very early Flavian period is most useful. The fragment of a cup very similar to these two is also known from the 1st-century legionary fortress at *Vindonissa* (Aargau, Switzerland), although without close contextual dating (Berger 1960, 55, no. 141, taf. 9). Clearly, given the close connection between the Scotch Corner and the Castleford vessels, it can be surmised that the same supply chain provided both and this was presumably connected with military supply. The other fragments of this form were widely scattered across the site (Fields 228, 246 and 258) in Period 4 contexts, suggesting it may well have been quite popular at Scotch Corner.

Substantial parts remain of a large, deep blue bowl (Cat. no. 622), which was found in the Period 4 fill of ditch **31806** in Field 246. Although the rim is missing, it is very likely to have been tubular like the blue/green rim fragment from a similar bowl (Cat. no. 644). These vessels frequently have applied true base rings with post technique scars, as on Cat. no. 622, and the base (Cat. no. 645) almost certainly came from one as well. The complete base has been grozed to turn it into a disc with a raised edge. When this was done is unclear, as the fragment was found in the subsoil of Field 258. As will be discussed in Ross and Ross (in prep.), the reuse of vessel glass to make a variety of objects is a noticeable feature of the *Cataractonium* glass assemblage, and the reworking of Cat. no. 645 could have taken place sometime after the main occupation at Scotch Corner.

Tubular-rimmed bowls were certainly in use by the early Claudian period, but it is not until the Neronian period that they became widespread and popular (Cool 2016a, 140–2; Price and Cottam 1998, 78–80). They were to become one of the staples in Flavian to mid-2nd-century glass assemblages in Britain. In such circumstances, it is tempting to see Cat. nos 622 and 645, which are both from Period 4 ditch fills, as associated with the late Neronian Roman presence in Scotch Corner. It can be noted though that Cat. no. 622 was a very large bowl and, as already noted, native communities seemed to have preferred large glass bowls. The closest parallel for Cat. no. 622, for example, is a deep blue bowl from a roadside ditch fill at Long Melford, Suffolk, which also included Neronian samian (Avent and Howlett 1980, 246, fig. 41). The site was originally a native pre-Roman community and, at the time the bowl would have been used and broken, native preferences were still likely to have been in force. Although the precise form of the deep-blue rim fragment (Cat. no. 623) cannot be identified, it too came from a moderately large open vessel and was found in a Period 2 primary ditch fill in Field 246, suggesting that such vessels did form part of the Claudian imports.

The assemblage contains fragments in a variety of colours that must have come from jugs, but it is not always possible to identify the precise form. Two can be discussed in this section, but the bulk will be considered in the next as, where they can be dated, a later Neronian date rather than an earlier one is most likely. Two of the fragments can be dated to the Claudian–early Neronian period based on their contexts, but in neither case can they be closely identified. The blue/green handle fragment (Cat. no. 646) from a Period 2 buried soil in Field 246 indicates the presence of either a jug or amphorisk as an early import, and the deep-blue body fragment (Cat. no. 626) from a Period 3 ditch fill might possibly be from a vessel with an open pushed-in base ring. This would suggest it was from either a jug or jar, as that was a common base formation on both in the 1st century. The dating of the context would allow a later Neronian use as well.

LATER NERONIAN-FLAVIAN VESSELS

The AD60s saw the beginning of a taste for truly colourless glass that had been deliberately de-colourised, but it was still a novelty in the late Neronian to early Flavian period. This is shown by its earlier rarity. The extensive excavations within the city centre at Colchester, for example, produced only a handful of colourless fragments from Boudican or earlier contexts (AD60/1) compared to large numbers of brightly coloured and blue/green vessels (Cool and Price 1995, table 1.4). Even by the end of the AD70s, it would still have been rare. At Pompeii, colourless blown vessels make up slightly less than 2% of a large sample of over 1500 vessels from the AD79 eruption layers (Cool 2016a, 258–91, tables A3.2–3). As is to be expected, therefore, it is rare at Scotch Corner, where the focus is on Claudian to early Flavian glass. Two vessels can be identified and there are only three other body fragments, one of which must be intrusive in its Period 1 context (**10952**).

In blown glass, the colour was initially used for drinking cups and beakers, which were externally ground. The commonest form made like this is a truncated conical beaker covered by facets on the body, which reflected the light (Price and Cottam 1998, 80–3). These facet-cut beakers were certainly in use by the end of the Neronian period, as fragments from them are found in the construction deposits of the phase 2 palace at Fishbourne, which is thought to belong to the mid-AD70s (nos 41–2 in Harden and Price 1971, 342, fig. 139). They continued in use throughout the rest of the 1st century and into the 2nd century. They are a regular find on military sites associated with the Flavian advance to the north. although generally in contexts dated to the later 1st century. Fragments have been recovered both from earlier excavations at *Cataractonium* (Cool *et al.* 2002, 220, nos 12–13, fig. 333) and the A1 scheme excavations. In this assemblage, the presence of one tall facet-cut beaker is indicated by fragments recovered from a Period 4 fill of a hollow-way in Field 246 (Cat. no. 637). It certainly indicates glass was still arriving at Scotch Corner after c.AD65.

While never found in large numbers facet-cut beakers are a regular feature of late 1st and early to mid-2nd-century glass assemblages. The other colourless vessel from Scotch Corner (Cat. no. 636) is a much rarer vessel. It is a handled, shallow bowl with high relief decoration. Sixteen fragments forming a considerable part of this vessel were found in five contexts in Field 265. The majority were found in the midden material between the roads dated to Period 4–5, but there were also four fragments from the Period 4 earth floor of Structure 38.

High relief vessels were also made by grinding the exterior of a blown blank and were first discussed as a group by von Saldern (1985). The majority of the family are truncated conical beakers of the same form as facet-cut beakers. Like facet-cut beakers, the exteriors have been well polished after the cutting, but it is generally not difficult to see traces of the original grinding even without the aid of a lens.

In the case of Cat. no. 637, the method of manufacture is not at all clear. Both the interior and exterior appear glossy, which normally indicates a blown blank, but with the aid of a lens it is possible to see relatively sparse grinding marks on both the interior and exterior. Grinding on both surfaces is normally an indication of a cast blank. While most members of the high-relief decorated vessels are open forms, two closed amphorisks are known (von Saldern 1985, 27–9, abbn. 1–2) and blowing the blanks for these would have been much easier than producing them via any of the casting techniques. Harden *et al*. (1987, 191 no. 101) suggested that the blank for one of the amphorisks was produced from a mould-blown blank. Producing free-blown blanks of appropriate thickness would not have been difficult for the 1st-century glass blowers, as it has been shown that the blanks of cameo vessels were blown, and those posed additional challenges in combining two or more layers of differently cut glass (Gudenrath 2010). The clue to why an open blown blank would have been internally ground has also been provided by research on the cameo vessels. They too were ground internally, and it has been suggested that this was so that any large bubbles in the blank would be revealed. These would provide points of weakness during the cutting and grinding the surface of the blank would reveal them, so that the pattern on the exterior could be adjusted to avoid them (*ibid.*, 28–30). Working with a colourless blank would have lessened the need for the internal grinding, but it may already have been established workshop practice by the time the colourless high-relief vessels came to be made.

However the blank was made, Cat. no. 637 has been very carefully polished after the cutting. Some areas of the raised motifs do retain clear indications of the grinding, but it is noticeable that they are in areas where it would have been difficult to polish with a cutting wheel, such as internally at the tips and externally on the concave face of the pointed motifs. The final stages of the production of this vessel would thus have been polishing with increasingly fine abrasive pastes applied via a polishing wheel that might ultimately have been made of a soft material like felt (Matcham and Dreiser 1982, 48–9).

It is not only the level of finish that marks this vessel out amongst the colourless high relief vessels known from Britain and indeed from elsewhere. The shape is one that has very rarely been found. A pair of very similar bowls were found in House VI.16.28 at Pompeii and would have been in use at the time of the eruption in AD79 (Sogliano 1908, 276–7, tav. 4, 4a; Ward-Perkins and Claridge 1976, no. 116; von Saldern 1985, 32, no. 6, taf. 5). They were slightly smaller than the reconstructed size of Cat. no. 637, with a rim diameter of 126mm and a height of 38mm, but in all other respects closely match details seen on the Scotch Corner vessel, including having a wheel-cut groove on the inside of the rim. From the Pompeii vessels it can be suggested that Cat. no. 637 would have had a third narrow circular rib on the base and a pair of ribbon handles jutting out on the same level of the rim and then joining the lower body, probably with a relief cut attachment. The small part of the upper handle attachment on Cat. no. 637 clearly indicates that the handle projected horizontally like those of the Pompeii bowl. On the Pompeii vessels, the raised motifs are a single row of kidney-shaped ovals with the same concave upper faces as Cat. no. 637.

Two fragments from a conical bowl with at least one handle were recovered from period 1 contexts at Fishbourne (Harden and Price 1971, 332–4, no. 29, fig. 138). It is not such a close parallel for Cat. no. 637, as the handle was attached a little below the rim and the decoration appears to be in lower relief. The vessel, however, did share the unusual groove inside the rim with the Pompeii and Scotch Corner vessels, and from the catalogue description appears to have shown a similar level of high-quality finish. Harden and Price considered the vessel to be cast but suggested the exterior could have been fire-polished, which would imply a glossy appearance like Cat. no. 637. They noted that it was not weathered, again like Cat. no. 637, which is crystal clear with no signs of iridescence. The importance of the Fishbourne fragments for Cat. no. 637 is the dating evidence and information about the possible status of the inhabitants they provide. They come from Fishbourne period 1 deposits, and so the vessel was most likely in use during the Neronian period and certainly before c.AD75, when the site was redeveloped to build the palace, which is generally agreed to have been that of Cogidubnus, the client king of the area. Given the developments within the later parts of period 1, there are grounds for thinking the site may have had royal connections before the building of the royal palace (Cunliffe 1971a, 74–6). Therefore, the vessel was likely to have been in use within a very high-status household, as was at least one other vessel of the general type known there (Harden and Price 1971, 336, no. 30, fig. 138).

It is notable that a fragment from another bowl that shares common features with Cat. no. 637 and the bowls from Fishbourne and Pompeii has come from a phase 1 context in Insula IX at Silchester (Cool forthcoming b). The context may be placed in the Claudian-Neronian, running into early Flavian, period. There has been the opportunity to compare the fragments from Scotch Corner and Silchester side by side and the quality and colour of the glass and the finish seen is very similar. The position of Silchester as part of the client kingdom of the Atrebates has already been discussed in connection with the Hofheim cups and it was noted that there is a pattern of use of glass vessels at the time that appears to be different to that seen in contemporary assemblages elsewhere.

High-relief colourless vessels are always rare (von Saldern 1991, 112; Price and Cottam 1998, 83). Examples with decoration in relief are known from northern military sites, as for example the fragment from Blake Street, York (Cool *et al.* 1995, 1652, no. 5926, fig. 737) but, in the experience of this author, they do not show the quality of finish observed on the Scotch Corner and Silchester vessels, nor that which is suspected on the Fishbourne one. So, the Scotch Corner bowl stands apart from what has been observed on other northern Roman sites but is linked with supply to the client kingdom of the Atrebates. The question has to be asked: what was the mechanism that brought Cat. no. 637 to the site? Casual trade would seem to be highly unlikely. The family of Cogidubnus could well have had both the wealth and the Romanised taste to acquire the latest fashions, but can the same be said for the inhabitants of Scotch Corner, be they the native inhabitants or the Roman military and/or traders who appear to have been there in the later Neronian period.

A find of a fragment of an obsidian vessel from Stanwick might provide a clue (Price 2016, 265–6). Obsidian vessels appear to have been extremely rare in the Roman world. It is worth remembering that within the hierarchy of materials at the time, true luxury to Roman eyes lay with vessels made of hard, and sometimes precious, stones. The fabled *murrhine* ware is generally believed to have been rainbow-coloured fluorospar (Lapatin 2014, 138, fig. 86), and rock crystal was especially esteemed (Vickers 1996, 50–1). The Stanwick obsidian vessel falls into this category of extreme luxury. It certainly stands apart from the range of other Roman imports at the site, and the most likely context for its presence there has to be within the ambit of a diplomatic gift to a client queen.

Within the hierarchy of materials, glass had quite a low position (Vickers 1996, 49). From the literary sources, it is clear that people had very mixed feelings about the material. They admired its transparency and the effects it produced but lamented that it did not cost enough (see Cool 2016b). Caution is necessary, therefore, before describing a Roman glass vessel as a luxury item. That said, it can be noted that Cat. no. 637 was fashioned using the same lapidary techniques that would have produced the esteemed stone vessels. It would have needed expert craftsmen both to make the blank, cut it to shape and finish it. It was very unlikely to have been cheap. The glass is completely clear with very few bubbles and when complete it would have resembled a rock crystal vessel. So, in this case, it seems reasonable to suggest that people would have considered it a luxurious item when they saw it. Given the presence of similarly made vessels at the royal site at Fishbourne, it is perhaps not too far-fetched to suggest that, like the obsidian vessel at Stanwick, such vessels might have been thought of as appropriate parts of a diplomatic gift. What is fairly sure is that this vessel stands outside of a supply system that might include passing traders or even the arrival of military detachments. Other items in the Scotch Corner glass assemblage do appear to be the types of vessels favoured by the late Neronian/early Flavian military, but this vessel finds no comparanda amongst the many military assemblages of that date.

As noted above, the precise forms of the glass jugs can only occasionally be identified. The best preserved is Cat. no. 620. This was found in numerous fragments scattered amongst the Period 4 fills of pit group **28131** in Field 258. Two very similar fragments have been catalogued with it, although these were found some distance away in the same field in the fills of a ditch and pit which form group **28162**. The jug is deep blue with opaque white marvered patches. It would have had a ribbed conical body with open pushed-in base ring and an angular handle with a central rib. The style of the jug belongs to Isings's (1957) form 55, which was a common form from the Neronian period to the mid-2nd century (see Price and Cottam 1998, 155–7). The bichrome style of opaque white marvered patches, developed in the Tiberian period, was commonest in the Claudian-Neronian one and was going out of use in the AD70s and 80s (Cool 2016a, 147). Therefore, a jug with the features observed on Cat. no. 620 would most likely have been made in the AD60s or early 70s and arrived at Scotch Corner as part of the later Neronian activity.

It has been suggested that tablewares with opaque white marvered decoration may have been present at Stanwick, although the surfaces of the fragments did not retain any white colour (nos 5–7 in Price 2016, 263). A similar level of ambiguity applies to the blue/green fragment (Cat. no. 621). The surface has a blotchy appearance which may be the remains of white spots blown very thinly. It was found in a Period 4 latrine fill and it is possible that the chemical conditions in such a context may have altered the surface of a monochrome fragment of glass, but this would be unusual and none of the other glass fragments from the context show such an effect. Opaque white glass was normally applied to brightly coloured grounds but were occasionally applied to blue/green vessels, as on a collared jar from a pre-Boudican context at Colchester (Cool and Price 1995, 109, no. 764, fig. 7.2).

A blue/green globular ribbed jug (Cat. no. 649) is represented by seven fragments from the same latrine fill that produced Cat. no. 621. This has a relatively wide neck, probably tooled at the base, although the position of the break on the shoulder makes this uncertain. The body fragments have vertical ribs that run into the neck junction and there is an open pushed-in base ring. Other than the width of the neck these features are typical of the later Neronian to early 2nd century form (form 52b in Isings 1957; Price and Cottam 1998, 150–2). The thickness of the wall would be more typical of jugs of the later Neronian period than the ones of the Claudian–early Neronian, and the lower body has bands of wear of a type often seen on the later jugs. On balance, therefore, a later Neronian date is likelier than one earlier. Another ribbed shoulder fragment (Cat. no. 650) might have come from a similar jug or a contemporary collared jar (Price and Cottam 1998, 137–8).

Other jugs in deep blue (Cat. no. 627) and blue/green (Cat. nos 648–9) glass are indicated by fragments of handle, and the light green body fragment Cat. no. 635 is possibly from a ribbed conical. Cat. no. 625 (deep blue) and Cat. no. 632 (yellow/green) come from vessels with open, pushed-in base rings and, like Cat. no. 626 discussed in the previous section, might be from a jug or a jar. The shoulder fragment (Cat. no. 650) also falls into this category.

The yellow/green mask medallion (Cat. no. 631) would also have originally come from a jug and would have been positioned at the base of the handle, as on the jug from a Flavian burial at Litlington, Cambridgeshire (Anon. 1978, 37, no. 65a). They were made by applying a blob of hot glass on the shoulder and then impressing it with a stamp to leave a face in relief. The glass left outside the stamp was often left as a raised ring, giving the impression that the face sits inside a bordering frame. In Roman Britain, they can be found still attached to broken parts of the jug they were applied to, such as the one found in a context dated to the first quarter of the

Table 5.92: distribution of blue/green bottle types (weight in g).

	Field					
Bottle type	**228**	**228 II**	**246**	**258**	**265**	**Total**
Cylindrical	–	–	54	240.4	11	305.4
Square	–	–	–	8.7	–	8.7
Hexagonal	–	–	–	–	1.1	1.1
Prismatic	21.7	5.7	8.8	89.3	43.3	168.8
Undiagnostic	–	–	46.3	279.5	–	325.8
Total	**21.7**	**5.7**	**109.1**	**617.9**	**55.4**	**809.8**

2nd century in London (Wardle 2011, 493, no. G31, fig. 393). However, a substantial number of them have clearly been reused. The shoulder of the jug is grozed away behind the medallion and only the tip of the handle attachment, which normally extends onto the top of the head, remains.

Cat. no. 631 is a reworked piece like this, and there is no way of telling the precise form of the jug it came from, or even whether it arrived on the site still attached to the jug. The reworking is rather crude and has removed not just the body of the jug but also a large part of the border and parts of the details at the sides of the face. There is also a large flake missing from the rear of the piece where there is a bulbous expansion caused during manufacture when the glass was being impressed. It is possible that the crude reworking was done subsequently to the first reworking, as a small part of the border remains and behind it the body of the jug has been neatly removed as normal. The removal of parts of the border means that details of the moulding by the lower face are missing. However, leaves from a wreath remain on either side of the upper face. This identifies the face as belonging to Bacchus, god of wine. Depictions of other protagonists of the Bacchic cult, such as Silenus, are also sometimes found on the medallions (Cool and Price 1995, 118–19), an appropriate adornment for a vessel that could have been used in serving wine.

In Britain, there are two groups of medallions that could plausibly have come from the same stamp or a stamp made from the same prototype. One shows a slightly sharp-featured Bacchus and has been found at several locations in the centre of Colchester, as well as in London, Caistor St. Edmund and Wroxeter (Cool and Price 1995, 118). An additional example is known from Sheepen on the west side of Colchester (Cool forthcoming a). The second group has an image with a larger, slightly fuller face and broader ringlets or ribbons either side of the lower face. Examples of this type have been noted at Wroxeter, Mancetter, Abergavenny, London and Redland, Shropshire (Cool 2015, 20). The removal of the details at the sides of the face of Cat. no. 631 makes it difficult to be certain that it belongs to the second group, but the overall size of the face and its details are very similar. There is one example of the second group from *Vindonissa* in a Tiberian context associated with the legionary fortress (Berger 1960, 42, no. 90, taf. 6), which indicates than Cat. no. 631 may well have been of some antiquity before it arrived at Scotch Corner. Certainly, the wear visible on the projecting parts of the face would be consistent with it having been carried in a pouch with other objects for some time.

Discussing the example from Sheepen draws attention to the strong military links that these reworked mask medallions depicting Bacchus have in Britain, not just of the two groups noted here but also examples with the same face type that must have come from other stamps. Given there were other styles of head that could have been reworked and occasionally were, this figure type does appear to have been disproportionately favoured by soldiers stationed in Britain in the Claudian-Neronian period. It is useful to recall that Bacchus was not only the god of wine but also a saviour god with a role in triumphing over death (Henig 1984, 201). It is possible that these mask medallions, with their image of the god, were comforting amulets for men in border areas, where the likelihood of having to fight for their lives was not just a theoretical possibility. If this is correct, then a likely scenario for the arrival of Cat. no. 631 at Scotch Corner would have been as a personal possession of a soldier

Table 5.93: distribution of vessel glass by colour and Field (weight in g; PMB = pillar moulded bowls, all other categories are blown).

	Field							
Colour	**220**	**223**	**228**	**228 II**	**246**	**258**	**265**	**Total**
Polychrome PMB	–	–	–	–	–	–	4.1	4.1
Deep blue PMB	–	–	–	–	0.7	–	–	0.7
Yellow/brown PMB	–	–	–	–	–	42.8	–	42.8
Light green PMB	–	–	–	–	10.7	–	–	10.7
Blue/green PMB	–	–	–	–	21.4	31.8	–	53.2
Polychrome	–	–	–	–	–	75.2	–	75.2
Emerald green	–	–	–	–	–	2.1	–	2.1
Deep blue	–	–	0.7	–	176.3	6.7	2.7	186.4
Yellow/brown	–	–	0.1	–	2.4	–	0.3	2.8
Yellow/green	–	–	–	–	3.1	32.1	–	35.2
Light green	1.5	–	–	0.1	7.1	7.8	0.1	16.6
Colourless	0.2	–	–	–	8.9	0.2	70.3	79.6
Blue/green	–	0.5	1.3	–	143.1	266.8	18.4	430.1
Blue/green bottles	–	–	21.7	5.7	109.1	617.9	55.4	809.8
Total	**1.7**	**0.5**	**23.8**	**5.8**	**482.8**	**1083.4**	**151.3**	**1749.3**

who arrived as part of the Roman presence. Possibly more far-fetched, but still possible, is the idea that it might have been taken from a soldier as a trophy. Its final deposition in a primary fill of a gully forming part of the apsidal Structure 33 is intriguing. Could this still recognisable object have been deliberately placed there as a form of foundation deposit?

A curious aspect of this assemblage is that small unguent bottles are relatively rare when compared to forms such as pillar moulded bowls and Hofheim cups. Normally in Claudian-Neronian assemblages, as they served as packaging for material such as perfumed oils used not only in personal hygiene, but also in dining rituals and in religious ceremonies. They can occur in some numbers both in military assemblages, such as the Neronian one from Kingsholm (Price and Cool 1985, 44), and in urban ones, such as the material from the pre-Boudican contexts found at One Poultry, London (Wardle 2011, 494). At Scotch Corner, there was one blue/green rim fragment from an unguent bottle or flask with rolled-in rim. This

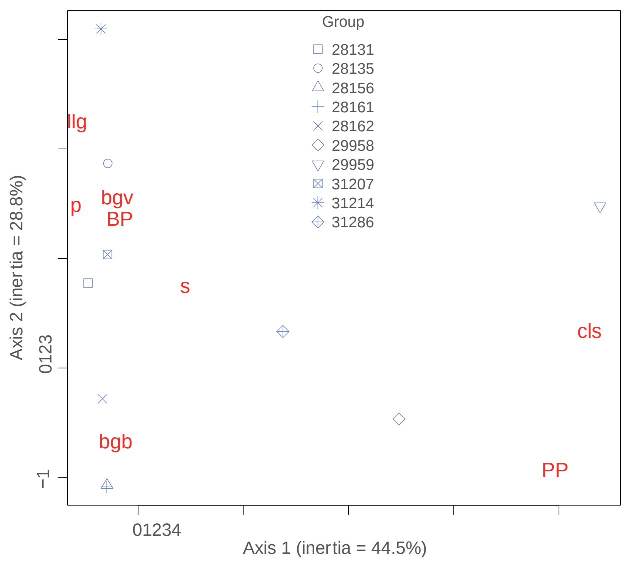


Figure 5.66: correspondence analysis of data in Table 5.94.

would indicate it belonged to a vessel that arrived in the late Neronian period or later, as the preferred rim finish in the Claudian to early Neronian period was for sheared rims (Cool 2016a, 62). The base fragment (Cat. no. 652) came from a tubular unguent bottle, which was the dominant form of the Claudian-Neronian period that went out of use early in the Flavian period (Price and Cottam 1998, 169–71).

One of the major changes in glass vessel assemblages of the Flavian period is the rapid rise in the use of utilitarian blue/green containers in the form of square and cylindrical bottles (Price and Cottam 1998, 191–8). While containers such as this are known in Claudian contexts, they are rare, which can be demonstrated by the paucity of fragments in pre-Boudican (AD60/1) contexts at Colchester (Cool and Price 1995, table 1.4) and those prior to the earthquakes of c.AD62–4 at Pompeii (Cool 2016a, 153). By the time Castleford was occupied, for example, they are clearly an expected part of the glass assemblage. A waterlogged midden (trench 14, phase 1c) produced fragments of this type of vessel (Cool and Price 1998, 174, nos 284–5, 288). Phase 1 at Castleford is dated to AD71/4–86 and the midden is likely to have belonged to the early to middle part of this. Bottle fragments also form a large part of the vessel glass assemblage from the early Flavian military installation at Roecliffe (Allen 2005).

The distribution of the bottle fragments generally through time is shown in Table 5.89 and by type in Table 5.92. As is to be expected, 95% comes from Period 4 contexts, whereas for the total assemblage the figure is 82%. Cylindrical bottles are in the majority compared to the prismatic forms. This indicates that the supply of bottles is unlikely to extend into the later Flavian period, as by then the use of cylindrical bottles was dying away and the prismatic forms, normally square bottles where they can be identified, were dominant. Of particular note amongst the bottle assemblage is Cat. no. 660. This comes from a cylindrical bottle, as indicated by the vertical scratch

Table 5.94: distribution of vessel glass by colour in selected Period 4 groups (weight and abbreviations as in Table 5.72; letters in brackets are symbols used in Fig. 5.66).

	Polychrome PMB	Blue/green PMB	Polychrome	Strong colours	Light green	Colourless	Blue/green vessels	Blue/green bottles
Group	**(PP)**	**(BP)**	**(p)**	**(s)**	**(llg)**	**(cls)**	**(bgv)**	**(bgb)**
28131	–	24.9	63.6	9.9	7.8	–	47.2	143.8
28135	–	–	–	–	–	–	6.8	2.3
28156	–	–	–	0.5	–	–	14.8	168.2
28161	–	–	–	–	–	–	10.2	119.2
28162	–	–	3.8	2	–	–	3.6	23.5
29958	1.9	–	–	2.2	–	21.2	1.7	32.9
29959	–	–	–	–	–	9.3	4.9	–
31207	–	–	–	–	–	–	22.3	17.6
31214	–	–	–	–	1.3	–	14.9	–
31286	–	6.1	–	3.8	–	8.7	3.4	17.5

marks that are typical of the form and indicate that they were kept in close-fitting containers, from which they had to be removed for use. It also has a wide wheel-cut line, and decoration such as this is extremely rare on cylindrical bottles in the north-western provinces. One was found at the official complex at Pentre Farm, Flint, and in discussing that Price (1989, 79, 82 no. 24, fig. 30) drew attention to comparanda in the eastern Mediterranean and North Africa and suggested that it may have travelled a considerable distance. This raises the interesting possibility that the same may be true here and that Cat. no. 660 originally arrived with some exotic contents. Cylindrical bottles were obviously refilled after their original contents was used up, but it should always be kept in mind that bottles were, in the first instance, used as packaging.

There are also a number of body fragments whose forms cannot be identified, although all would happily fit into a Claudian to early Flavian milieu. They include fragments of ribbed glass in deep blue (Cat. no. 628), dark yellow/brown (Cat. no. 630) and yellow/green (Cat. no. 633), suggesting the presence of more ribbed vessels than is indicated by the discussion of the forms that could be identified. Finally, a fragment of blue/green mould blown glass can be noted (Cat. no. 619). It comes from a convex-curved vessel and is decorated with small pellets set in quincunx.

DISCUSSION

As will be clear from the detailed considerations of the vessel forms represented at Scotch Corner, the assemblage stands apart from what can normally be expected in northern Britain. It is overwhelmingly a Neronian assemblage going into the early years of the Flavian period. There are few signs that the settlement was still receiving glass in the final two decades of the 1st century. If it had been, a higher proportion of lightly tinted and colourless vessels and of square bottles could have been expected. Equally, although vessels with a *floruit* that covers the Claudian period as well as the Neronian period are present, the forms that were going out of use in the Claudian and early Neronian period are generally absent. There is, for example, no cast glass other than the pillar moulded bowls. It seems likely, therefore, that the Claudian imports that are present in other materials included few glass vessels.

This would not be unusual within a British milieu. Where native sites in southern Britain can be shown to be receiving Augustan pottery in some quantities, contemporary glassware is very rare. A recent review of the Arretine pottery stamps of c.10BC to AD25 from southern Britain was able to identify 110, of which 49 came from *Camulodunum* and 29 from Silchester (Bird 2018, 204). The *Camulodunum* figure is now likely to be increased, given the excavations at the Colchester Institute, the results of which are currently undergoing analysis. The equivalent figures for contemporary glass vessels are six from *Camulodunum* (including the Colchester Institute material) and two from Silchester (Cool 2018; forthcoming a). Glass vessel use on pre-Roman settlements in the north was similarly sparse with regard to Claudian-Neronian material. Even at Stanwick, the assemblage found was very small at only 32 fragments (Price 2016, 262). This is even more surprising when it is realised that, during the Claudian-Neronian period, glass vessels poured into the province of Britannia to the south, and so in theory would have been more easily available to the inhabitants of Stanwick and Scotch Corner than glass vessels would have been to the inhabitants of *Camulodunum* and Silchester.

Against this background, it would be tempting to see the glass vessels as being part of the material culture that arrived with the Roman presence in the later Neronian period. While some undoubtedly were, the overall pattern has both similarities and differences to the sort of glass assemblages found at Claudian-Neronian military sites. These seem a reasonable point of comparison, as it may be presumed that the Roman presence in Scotch Corner at that time was likely to have been a military one, even if in an administrative or diplomatic role (see Chapter 10). The quantities of pillar moulded bowls, Hofheim cups and ribbed mould-blown cups can happily be placed within a Roman milieu, but the unguent bottles that would be expected are rare. Equally, there are items in the assemblage, such as the purple and white pillar moulded bowl and the large, deep blue, tubular-rimmed bowl, that can be shown by comparison to other sites to have been very much to native tastes.

Looking at the distribution of the glass assemblage across the areas excavated (see Table 5.93), Field 265 had a small assemblage in comparison to Fields 246 and 258, so it is interesting that both the polychrome pillar moulded bowl (Cat. no. 598) and the exceptional colourless handled bowl (Cat. no. 637) were found there. Table 5.94 summarises the glass from a subset of Period 4 stratigraphic groups. They were selected on the grounds they had produced 5g or more of glass from two or more colour categories. Group **28158** would have fallen within these conditions but the presence within it of a substantial part of a heavy, dark yellow/brown pillar moulded bowl distorts the pattern seen in the other Groups and so has been excluded from the correspondence analysis plot presented in Figure 5.66. There it can be seen that there is a clear division between group **29959**, characterised by the presence of fragments of the purple and white polychrome pillar moulded bowl and the colourless bowl, groups **28156**, **28161** and **28162**, characterised by blue/green bottles, and **28131**, **28135**, **31207** and **31204**, characterised by blue/green pillar moulded bowls and blown tablewares in polychrome, blue/green and light green glass. It will of course depend on what the assemblages of other materials depict, but it would be tempting to see this as a division between the Roman inhabitants on the left of the plot and the native ones on the right. Group **29959** consists of the contexts associated with Structure 38. The pillar moulded bowl was not in use during its existence, as it was found in a building trench, but the area may well have been a continuing focus for the elite native inhabitants in Scotch Corner.

Finally, another curious feature of the assemblage may be considered, which is the level of preservation of several of the vessels. This ranges from the virtually complete ribbed cup (Cat. no. 615), through the large parts of Cat. nos 622 and 637 to Cat. nos 599 and 620, which are represented by more than is normally expected in a Roman glass assemblage. Glass, after all, can be and was recycled, normally leading to a much lower recovery of fragments than is the case with pottery vessels.

There does not appear to be any particular focus for this disposal of substantial parts of vessels. The stratigraphically earliest is the ribbed cup. Most came from a ditch fill in Field 246 and, as the missing fragment came from a cleaning layer, there might be the possibility that this was deliberately placed there as part of a structured deposit. Of the other two vessels with large parts, the colourless bowl was found in both the floor levels of Structure 38 and midden deposits in the same area, while the fragments of the deep blue bowl were in the fills of different ditches in Field 246. Field 258 produced the fragments of the polychrome jug which came from various contexts in the pits of group **28131**, and the dark yellow/brown pillar moulded bowl from the primary ditch fill of group **28158**. Cat. nos 599, 620, 622 and 637 do not seem likely to have been disposed of in any other way than as rubbish, possibly because the site was outside of the normal recycling system. That so much glass was being so casually disposed of is a most interesting contrast to the situation seen in the small assemblage from Stanwick, where Price (2016, 264) drew attention to the very small size of the fragments and that it might suggest that there glass was a commodity to be reused.

Catalogue of glass vessels

Pillar moulded bowls

All fragments are wheel-polished internally and below rim, the exterior of body is fire-polished.

597. One upper and one lower body fragment, not joining. Very dark translucent purple with opaque white speckles; fragment from interior of lower body; bowl was probably made from canes with two rings of white dots around a central one in the purple ground. Each fragment retains a part of a very narrow rib. Upper fragment Dimensions: 22 x 15mm. Weight: 2.2g. Lower fragment Dimensions: 17 x 15mm. Weight: 1.9g. EVE 0.4. Upper fragment: Field 265; Context **31523**, colluvial deposit between roads RR5 and RR6, RF13024. Period 5+. Lower fragment: Field 265; Structure 38; Group **29958**; Context **31748**; primary fill of gully/beam-slot **31724**. Period 4. Figure 5.67.

598. Three rim, 11 body fragments and 7 chips; two rim and two body fragments joining. Dark yellow/brown. Parts of at least three ribs remaining. Exterior of rim only lightly polished apart from rim edge which is heavily ground. Wide abraded band on interior of lower body. Rim Diam: c.160mm, present height: 76mm. Weight: 42.8g. EVE 0.6. Field 258; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers **3246** and **4612**. Period 4. Figure 5.67.

599. Base fragment. Deep blue. Retaining edges of two ribs. Dimensions: 17 x 13mm. Weight: 0.7g. EVE 0.2. Field 246; Context **16381**, fill of gully **16378**. Period 4. Not Illustrated.

600. Rim and body fragment. Light green. Part of one rib. Exterior of rim only lightly polished with heavy polish on interior of rim. Rim Diam: 160mm, present height: 35mm. Weight: 10.7g. EVE 0.4. Field 246; Group **31261**; Context **24105**; levelling deposit over stone **24104**, **24195**, RF10189. Period 4. Figure 5.67.

601. Rim and upper body fragment. Blue/green. Exterior of rim zone tooled but only ground at edge; interior of rim zone heavily ground, interior of body lightly ground. Parts of two narrow ribs. Also, one small lower body fragment retaining one rib, possibly from the same vessel. Rim Diam: 110mm, present height: 31mm. Weight: 12.7g. EVE 0.6. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Figure 5.67.

602. Rim and upper body fragment. Blue/green. Lower part of rim; upper part of body retaining edge of wide (?) rib. Dimensions: 25 x 17mm. Weight: 3.5g. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Not illustrated.

603. Rim fragment. Blue/green. Upper edge of rim. Dimensions: 12 x 10mm. Weight: 0.9g. Field 246; Context **15772**, subsoil, RF10139. No Period. Not illustrated.

604. Upper body fragment. Blue/green. Retaining part of one narrow rib, tooled at top. Dimensions: 20.5 x 18mm. Weight: 1.6g. EVE 0.2. Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. Not illustrated.

605. Lower body fragment. Blue/green. Retaining part of two narrow ribs; narrow wheel-cut line on interior. Dimensions: 32 x 20mm. Weight: 3.2g. EVE 0.2. Field 246; Context **31817**; fill of ditch **31816**. Period 4. Not illustrated.

606. Lower body fragment. Blue/green. Retaining part of one rib; wide abraded band on interior. Dimensions: 36 x 18mm. Weight: 3g. EVE 0.2. Field 258; Group **28131**; Context **15351**; fifth fill of pit **15349**. Period 4. Not illustrated.

607. Lower body fragment. Blue/green. Retaining part of one rib; wide abraded band on interior. Dimensions: 21 x 14mm. Weight: 1g. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**. Period 4. Not illustrated.

608. Edge of lower body and part of base. Blue/green. Part of three narrow ribs tapering to points. Dimensions: 35 x 47mm. Weight: 5.9g. Field 258; Group **28132**; Context **27202**; aggregate surface of RR10. Period 5+. Not illustrated.

609. Edge of lower body and part of base. Blue/green. Part of two tapering ribs. Dimensions: 40 x 29mm. Weight: 6.1g. EVE 0.2. Field 246; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**, RF10197. Period 4. Not illustrated.

610. Edge of lower body and part of base. Blue/green. Part of three very shallow ribs. Dimensions: 35 x 29mm. Weight: 6.7g. EVE 0.2. Field 246; Group **31218**; Context **15980**; third fill of ditch **15829**, RF10149. Period 4. Not illustrated.

611. Body fragment. Blue/green. Retaining part of one rib. Dimensions: 28 x 27mm. Weight: 4.5g. Field 246; Context **15783**; second fill of pit **15762**. Period 3. Not illustrated.

612. Body fragment. Blue/green. Retaining part of one rib. Possibly deliberately flaked along part of edge of rib to produce sharp point. Dimensions: 29 x 18mm. Weight: 3.2g. Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**. Period 4. Not illustrated

613. Body fragment. Blue/green. Retaining part of one chipped rib. Dimensions: 14 x 12mm. Weight: 1g. Field 258; Group **28139**; Context **26922**; primary fill of ditch **26700**. Period 4. Not illustrated.

Mould blown Vessels

614. Ribbed cup in six joining pieces lacking c.20% rim and side, base complete; much of rim edge chipped and missing. Blue/green. Mould blown. Curved rim edge cracked off and not ground; concave-curved upper body with pronounced carination to convex-curved body, upper part has regular vertical ribs (47 extant) terminating in two horizontal ribs; lower body has horizontal leaf frieze with an undulating central rib with short stem and three lobed leaves (perhaps ivy leaves) branching off on alternate sides (11 extant); concave base with three concentric mouldings. Made in a three-part mould with mould seam visible in concave-sided upper body running into ribbed zone; base mould from the upper horizontal rib, as no mould seams visible in foliage frieze or base. Rim Diam: 95mm, Base Diam: 45mm, Height: 48mm, wall Th: 1–4mm. Weight: 84.8g. EVE 1. five fragments: Field 246; Context **24298**; fill of ditch **15859**. RF10150. Period 3. 1 fragment: Field 246; Group **31207**; Context **15517**; cleaning layer over ditch intersection, RF10192. Period 4. Figure 5.68.

615. Ribbed cup; rim fragment. Blue/green. Mould blown. Slightly outbent rim, edge cracked off and ground; concave-curved upper body with pronounced carination to lower body with parts of three vertical ribs preserved. Rim Diam: c.80mm, present height: 22mm, wall Th: 2.5mm. Weight: 2g. EVE 0.4. Field 246; Context **24560**; second fill of posthole **24559**. Period 4. Figure 5.68.

616. Ribbed cup; two non-joining lower body fragments. Deep blue. Retaining three and two vertical ribs. Dimensions: 9 x 8mm, 11 x 6mm, wall Th: 2mm. Weight: 0.6g. EVE 0.2. Field 228; Context **28262**; primary fill of oven/kiln/corn drier **28256**. Period 4. Not illustrated.

617. Ribbed cup (?); body fragment. Deep blue. Part of one shallow rib. Dimensions: 9 x 4mm, wall Th: 1mm. Weight: <0.05g. Field 258, Structure 35; Group **28178**; Context **27485**; second fill of ditch **27484**. Period 4. Not illustrated.

618. Two body fragments. Blue/green. Convex-curved with circular hemispherical pellets set in quincunx. Larger fragment thickening to one edge possibly from lower body; smaller fragment thinner with pellets set more closely together, possibly from upper body. (?)Upper fragment Dimensions: 23 x 8mm, wall Th: 1.5mm. (?)Lower fragment Dimensions: 26 x 14mm, wall Th: 1.5–4mm. Total weight (both sherds): 2.1g. Field 258; Group **28158**; Context **26441**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers **3246** and **4612**. Period 4. Figure 5.68.

Polychrome blown Vessels

619. Conical jug; 41 body and two joining handle fragments. Translucent deep blue ground with opaque white marvered patches; small bubbles within blue glass. Ribbon handle with central rib. Two joining slightly convex-curved body fragments retain parts of two vertical ribs, lower part of ribbed handle attachment; three fragments from wide, slightly convex-curved lower body retaining outer part of open pushed-in base ring; one fragment from base of open pushed-in base ring showing light wear; other body fragments consistent with a slightly convex-curved body sloping out with prominent narrow ribs on upper part of body becoming shallower lower down. Figure 5.69.

Handle section (excluding rib)—Dimensions: 34 x 4mm, wall Th: 2-1.5mm. Total Weight: 67.4g. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**, RF10073. Period 4. (17 fragments).

Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**. Period 4. (3 fragments).

Field 258; Group **28131**; Context **26183**; third fill of pit **26179**. Period 4. (11 fragments).

Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. (10 fragments).

Field 258; Group **28162**; Context **26034**; fill of pit **26033**, RF12503. Period 4. (1 fragment).

Also, one fragment from rounded carination to lower body retaining one rib finishing just below carination. Not retaining any opaque white marvering but of the same shade of blue and with a similar bubble structure. Weight: 2g. Field 258; Group **28162**; Context **27378**; third fill of ditch **26035**. Period 4. Figure 5.69.

620. Body fragment. Blue/green with (?) opaque white. Convex-curved. Close-set oval spots of various sizes, very possibly opaque white marvered spots blown extremely thin. Dimensions: 54 x 51mm, wall Th: 2mm. Weight: 7.8g. Field 258; Context **27045**; 11th fill of well/ latrine **27032**. Period 4. Not illustrated.

Monochrome glass vessels

Deep blue

621. Tubular-rimmed bowl, 14 body fragments and complete base fragment, two of body fragments join base. Colour streaky in upper body; many bubbles often elongated. Upper body curving out to missing rim; cylindrical body curving into wide flat lower body thickened centrally; true base ring with post technique scars. Base ring worn. Rim Diam: c.190–200mm, Base Diam: 74 x 72mm, Height: at least 80mm, wall Th: 2–3mm. Weight 157g. EVE 0.8. Field 246; Context **31807**; fill of ditch **31806**, RF13102. Period 4. Field 246; Context **15894**; fourth fill of ditch **15643**, RF10152. Period 4. (two of body fragments, one joining base). Figure 5.70.

622. Bowl or jar, rim fragment. Out-turned rim, edge fire-rounded. Rim Diam: 110mm, wall Th: 1.5mm. Weight 0.9g. Field 246; Context **24423**; primary fill of ditch **24422**, RF11484. Period 2. Figure 5.70.

623. Open vessel; rim fragment. Fire-rounded edge with edge of (?) trail below. Dimensions: 9 x 5mm, Thickness: 1mm. Weight: 0.1g. Field 258; Context **26061**; seventh fill of oven **26307**. Period 4. Not illustrated.

624. Base fragment, approximately half extant. Side curving into flat base with slight central thickening. Base Diam: 35mm, wall Th: 2mm. Weight: 7.6g. Field 246; Group **31256**; Context **15746**; foundation layer for fabric of RR10, RF10143. Period 4–5. Not illustrated.

625. Base and three body fragments. Possibly from edge of open pushed-in base ring showing heavy wear. Base fragment—Dimensions: 11 x 10mm. Weight: 1.3g. Field 258; Context **27395**; silty layer along western edge of site. Period medieval–post-medieval. Not illustrated.

626. Lower body of jug or jar. Many small bubbles. Convex-curved side curving into (?) open pushed-in base ring. Dimensions: 24 x 23mm, wall Th: 2mm. Weight: 2.1g. Field 246; Group **31283**; Context **24204**; fourth fill of ditch **24309**, RF11465. Period 3. Not illustrated.

627. Handle edge fragment. Dimensions: 7 x 6mm, Thickness: 3mm. Weight: 0.2g. Field 246; Context **15650**, fill of gully **15645**. Period 4. Not illustrated.

628. Body fragment. Small bubbles. Prominent rib with heavy wear. Dimensions: 22 x 23mm, wall Th: 1mm. Weight: 1.5g. Field 246; Context **24053**; fill of pit **15852**, RF10172. Period 2. Not illustrated.

Also, two other body fragments each with one rib. Field 258; Group **28132**; Context **26958**; aggregate surface of RR10. Period 5+. Field 258; Context **15001**; subsoil. Not allocated to Period. Not illustrated.

Emerald green

629. Cylindrical cup; body fragment. Straight side curving into lower body. Two abraded bands. Dimensions: 32 x 19mm, wall Th: 2mm. Weight: 1.8g. Field 258; Group **28165**; Context **26015**; second fill of ditch **26014**, RF12502. Period 4. Not illustrated.

Yellow/brown

630. Body fragment. Dark yellow/brown. One rib in shallow relief. Dimensions: 10 x 10mm, wall Th: 1mm. Weight: 0.3g. Field 265; Structure 39; Group **29955**; Context **31704**; second fill of urine pit **31717**. Period 5. Not illustrated.

Yellow/green

631. Mask medallion with fragment of handle and side of jug. Applied oval medallion with flat border. Well-moulded, rounded face with features in high relief; hair shown as undulating ridges, central part obscured by lower part of extant applied handle attachment; head band running across forehead between bunches of leaves on either side. Trail from formation of medallion runs across the forehead, around the left eye and across the cheek and mouth from right to left. Outer flat margin only extant by leaves on left-hand side; rest of medallion border grozed close to edge of face, removing any ringlets if present. Body of jug removed by grozing and large flake removed from rear oval expansion where medallion was pressed into the body of the jug. Wear visible on projecting parts (eyebrow ridges, tip of handle attachment, nose and chin). Dimensions: 37 x 31mm, Max thickness: 23mm. Weight: 23g. Field 258; Structure 33; Group **28149**; Context **2706**; primary fill of gully **15165** and **27085**, RF12518. Period 4. Figure 5.70.

632. Jug or jar; two base or body fragment. Part of open pushed-in base ring. Largest fragment Dimensions: 23 x 18mm, wall Th: 2–3mm. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Not illustrated.

633. Two Body fragments. Convex-curved; each with one rib. Largest fragment Dimensions: 29 x 20mm, wall Th: 1.5mm. Weight: 2.6g. Field 258; Group **28131**; Context **26205**; fourth fill of pit **26201**. Period 4. Not illustrated.

Also, one other body fragment with edge of rib. Field 246; Group **31286**; Context **24267**; fill of hollow-way **31244**, RF11471. Period 4. Not illustrated.

Light/green

634. Conical jug (?); seven body fragments. Straight sided with vertical ribs; largest fragment has ribs dying out. Largest fragment Dimensions: 60 x 16mm, wall Th: 1.5mm. Weight: 7.3g. Field 258; Group **28131**; Context **15350**; sixth fill of pit **15349**. Period 4. Not illustrated.

Also, two other body fragments each with rib. Field 258; Group **28131**; Context **26910**, fill of pit **26909**. Period 4. Field 246; Group **31214**; Context **16021**; fourth fill of ditch **15804**, RF10151. Period 4. Not illustrated.

Colourless

635. Facet-cut beaker; three body fragments. Straight side, interior glossy. Elongated diamond-shaped facets set in quincunx, largest fragment retains four rows. Largest fragment Dimensions: 30 x 30mm, wall Th: 3mm. Weight: 8.7g. Field 246; Group **31286**; Context **24267**; fill of hollow-way **31244**, RF11471. Period 4. Figure 5.71.

636. Handled shallow bowl. Seven rim fragments, eight body fragments and one body and base fragment producing almost complete profile. Surfaces glossy with traces of grinding marks internally and externally. Vertical rim, edge cracked off and ground; one rim fragment retaining edge of horizontal handle. Slightly convex-curved upper body convexity more pronounced over lower body; base ground flat leaving at least two narrow concentric raised rings with V-shaped profile. Basal grinding has reduced thickness of vessel and produced a point of weakness with majority of lower body fragments broken immediately inside the edge of the base. Wide wheel-cut groove on interior of side below rim. Side decorated by two rows of motifs in high relief. Largest group of conjoined fragments around lower body has alternating discs and oval pointed leaf shapes placed vertically with the points pointing alternately up and down. Discs and petals also placed below rim edge where petals are arranged horizontally, two extant petals point in different direction. Tips of petals retain distinct wheel-cut facets and grinding clearly noticeable on inner curve up to point. Under magnification, grinding can be seen on upper edges of discs and petals, upper faces of motifs smoothly concave with slight traces of grinding marks. Rim Diam: 145mm, Base Diam: c.70mm, Height: 41mm, wall Th: 3mm, Thickness with high relief decoration: 6–7mm. Weight: 70.3g. Field 265; Structure 38; Group **29958**; Context **31707**, earthen floor of structure. Period 4. Field 265; Structure 39; Group **29959**; Context **31709**, midden deposit below structure. Period 4. Field 265; Group **29959**; Context **31747**, midden material. Period 4. Field 265; Context **31733**, midden material between RR5 and RR6. Period 4–5. Field 265; Structure 38; Group **29958**; Context **31753**; earthen floor of structure. Period 4. Figure 5.71.

Blue/green

637. Cylindrical cup; one rim and one joining body fragment, also two non-joining fragments. Vertical rim, edge cracked off and ground; wide wheel-cut groove with abrasions either side below rim; wide wheel-cut groove on upper body. Rim Diam: c.80mm, present height: 25mm, wall Th: 1mm. Weight: 1.9g. EVE 0.4. Field 258; Group **28131**; Context **15350**; sixth fill of pit **15349**. Period 4. Figure 5.71.

638. Cylindrical cup; lower body fragment. Wide wheel-cut groove above, abraded band below. Dimensions: 39 x 15mm, wall Th: 1mm. Weight: 1.2g. EVE 0.2. (probably from the same vessel as no. 41). Field 258, Unstratified. Not illustrated.

639. Cylindrical cup; one rim fragment. Also, three body fragments possibly from the same vessel. Slightly inturned rim, edge cracked off and ground; straight side. Wide wheel-cut groove below rim edge with two abraded lines on upper body. Present height: 28mm, wall Th: 1.5mm, Weight: 1.6g. EVE 0.4. Field 265; Group **31799**; Context **31553**; foundation layer for RR5. Mid- to Late Roman. Figure 5.71.

640. Cylindrical cup; rim fragment. Slightly inturned rim, edge ground. Abraded band below rim. Rim Diam: c.80mm, present height: 10mm, wall Th: 2mm. Weight: 0.4g. EVE 0.2. Field 246; Group **31285**; Context **24248**; fill of ditch **24102**; RF11457. Period 3. Not illustrated.

641. Cylindrical cup; body fragment. One wide wheel-cut groove. Dimensions: 15 x 18mm, wall Th: 2mm. Weight: 0.8g. Field 246; Group **31263**; fill of curving gully **16398**. Period 4. Not illustrated.

642. Cylindrical cup; body fragment. Straight side curving to lower body. Two abraded bands above curve. Dimensions: 27 x 8mm, wall Th: 2mm. Weight: 0.6g. EVE 0.2. Field 258; Context **26564**; fill of ditch **26563**. Period 4. Not illustrated.

Also, two other body fragments each with two close-set abraded bands probably from cylindrical cups. Field 258; Context **26472**; fill of pit **26471**. Period 4. Field 265; Context **31539**; buried soil layer. Mid- to Late Roman. Not illustrated. Also, one body fragment with abraded band. Field 246; Context **15704**; fill of pit **15703**. Period 3. Not illustrated.

643. Tubular-rimmed bowl; rim fragment. Rim bent out and down; heat affected and distorted. Dimensions: 17 x 18mm, depth rim: 16mm. Weight: 4.1g. EVE 0.2. Field 258; Group **28156**; Context **26437**; fill of ditch **15179**, **15183**, **15222**, and **15324** between slots with section numbers **3246** and **4612**. Period 4. Not illustrated.

644. Tubular-rimmed bowl; complete base. Flat base with oval applied true base ring, diagonal tooling marks; post technique scars. Side grozed; base ring worn. Base Diam: 54 x 51mm, present height: 15mm. Weight: 81.6g. EVE 0.4. Field 258; Context **15001**; subsoil. No Period. Figure 5.71.

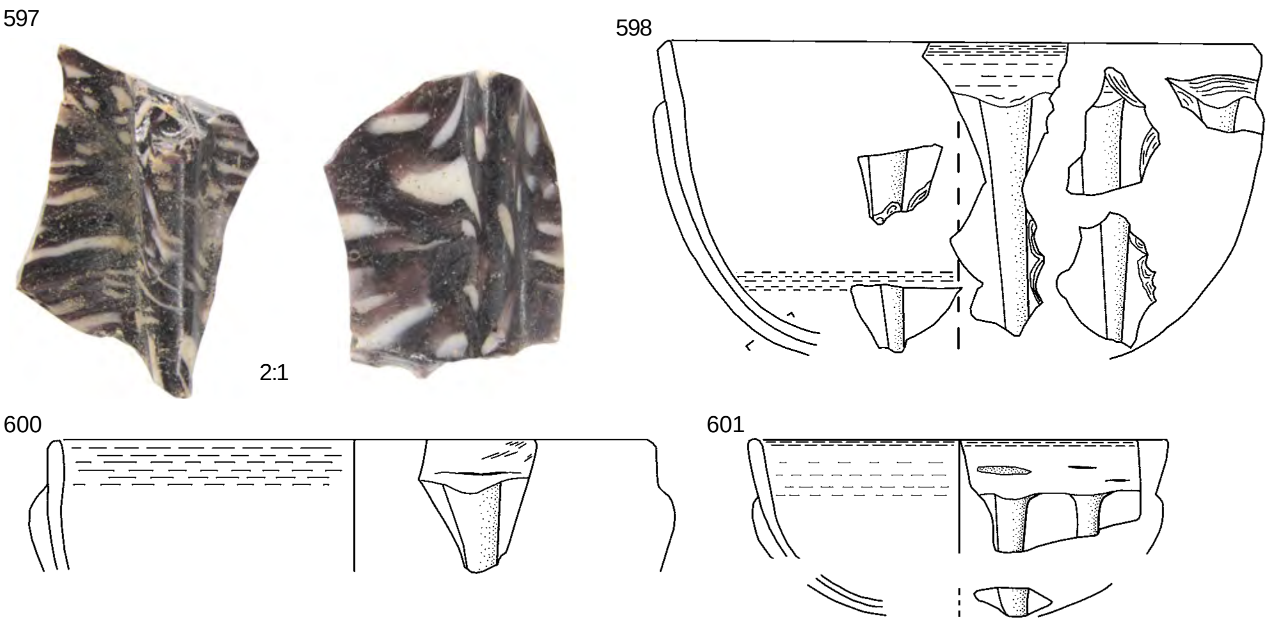
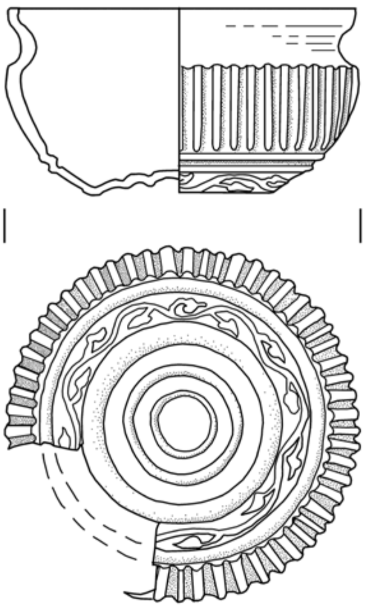
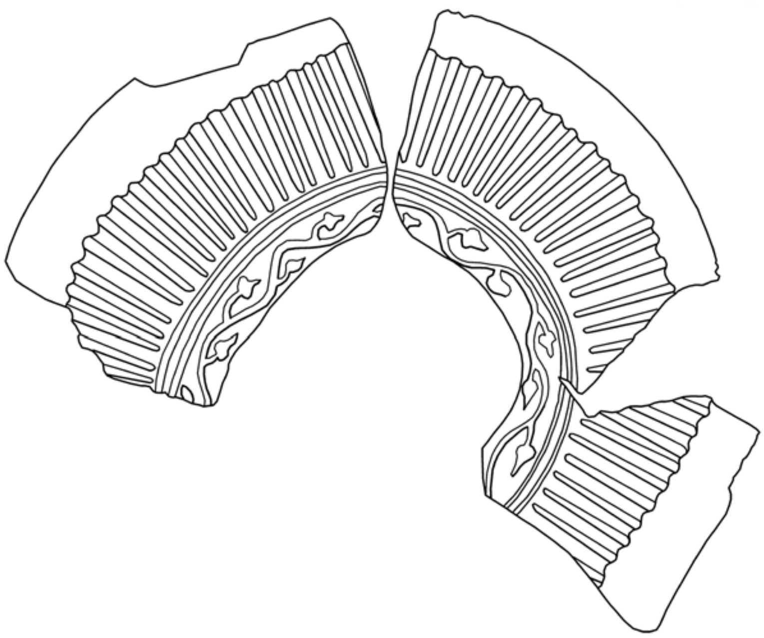


Figure 5.67: vessel glass, Cat. nos 597–601. All vessels are illustrated at 1:2 unless stated otherwise.

614

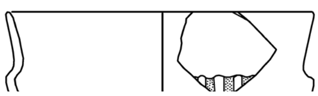


1:1



not to scale

615



618

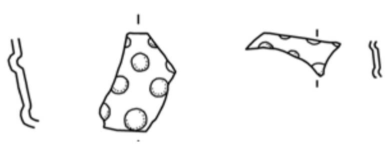


Figure 5.68: vessel glass, Cat. nos 614–615 and 618.

619

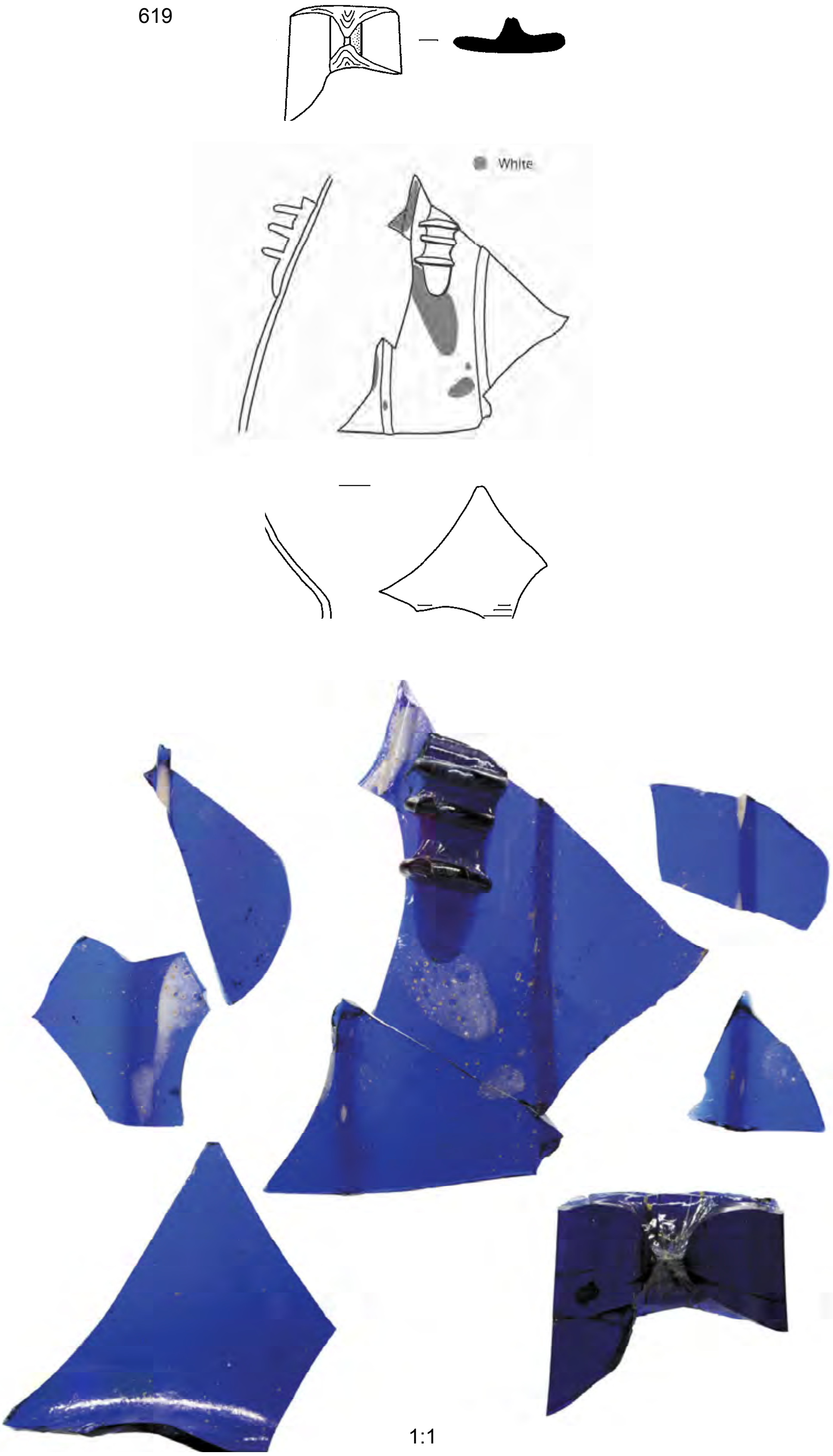
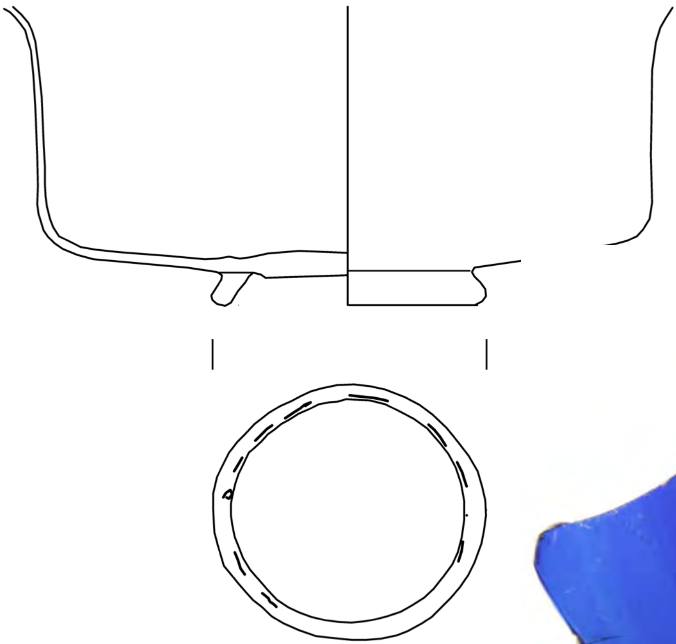


Figure 5.69: vessel glass, Cat. no. 619.

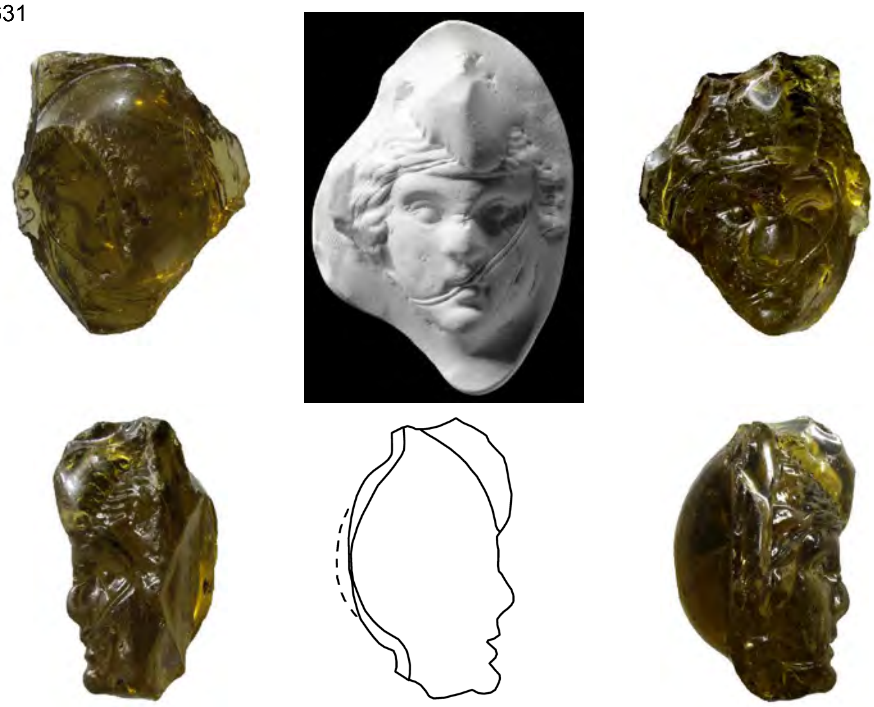
621



622

not to scale

631



1:1

Figure 5.70: vessel glass, Cat. nos 621–622 and 631.

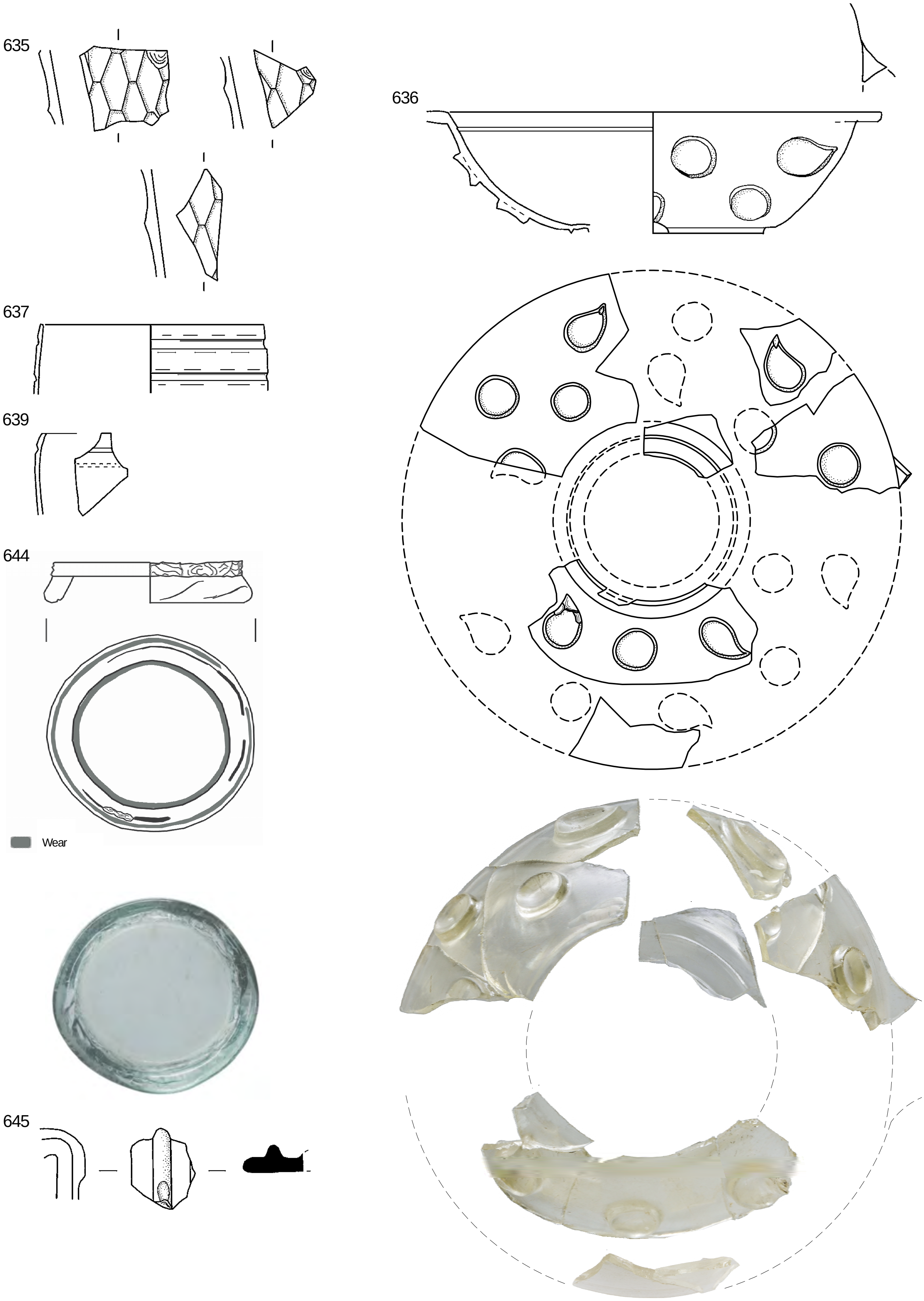


Figure 5.71: vessel glass, Cat. nos 635–637, 639 and 644–645.

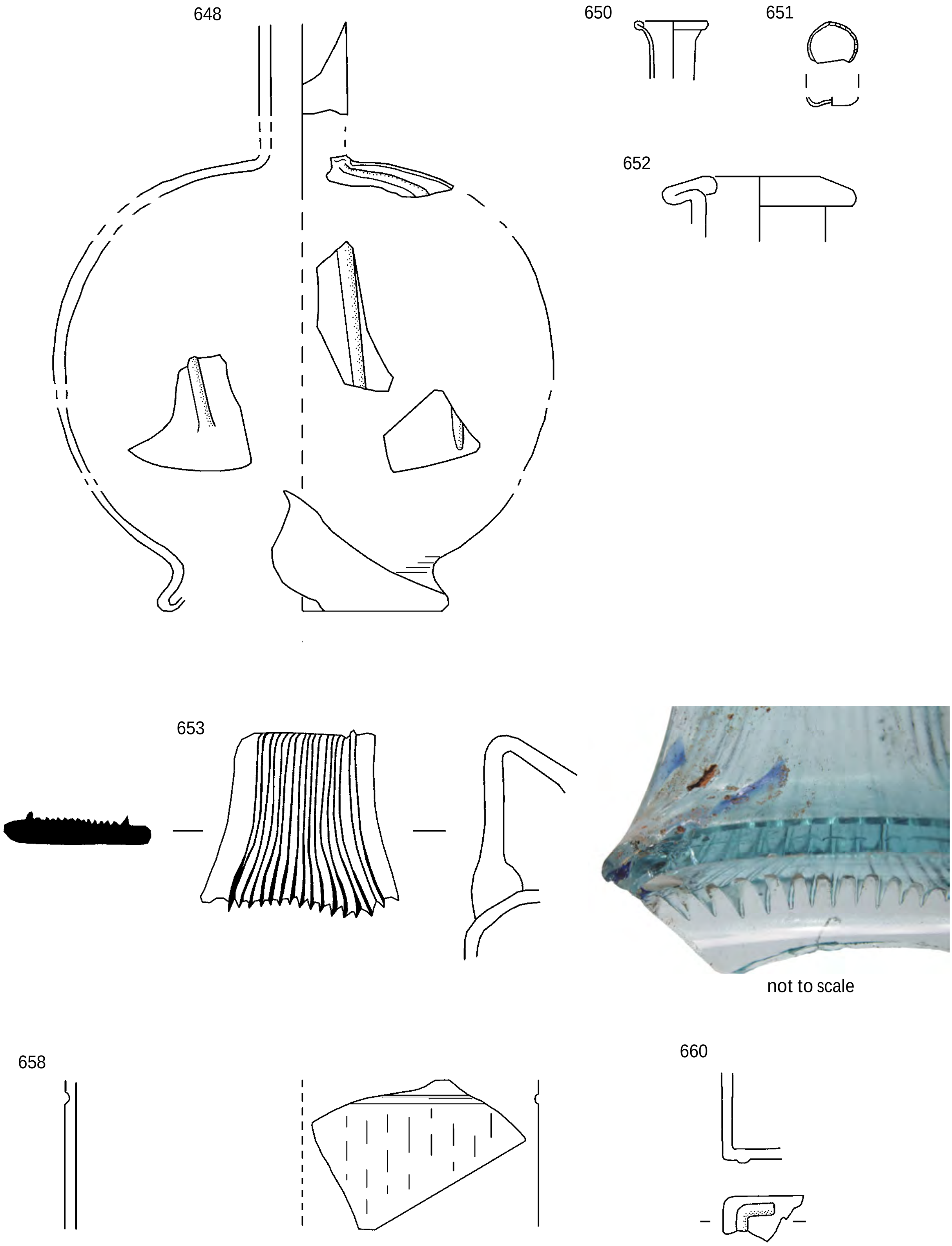


Figure 5.72: vessel glass, Cat. nos 648, 650–653, 658 and 660.

645. Jug; handle fragment. Angular ribbon handle with one side missing; one prominent rib with edge of second section (excluding rib) 23+ x 6mm. Weight: 7.4g. EVE 0.14. Field 246, Structure 48iv; Context **16277**; buried soil overlying **24984**, RF11524. Period 2. Figure 5.71.

646. Jug; handle fragment. Edge of handle attachment with (?) central rib retaining fragment of shoulder. Dimensions: 13 x 6mm. Weight: 1g. Field 258; Group **28131**; Context **26769**; third fill of pit **15406**. Period 4. Not illustrated.

647. Jug; handle and shoulder fragment. Curved shoulder retaining one prong from lower handle attachment. Dimensions: 20 x 10mm. Weight: 2.4g. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26582**. Period 4. Not illustrated.

Also, one fragment from edge of upper handle attachment of jug or bottle. Field 258; Context **26265**, bioturbation. No Period. Not illustrated.

648. Globular jug; one neck, five ribbed body and one lower body and base fragment (none joining). Cylindrical neck; wide shoulder broken at edge of tooled junction with neck and retaining parts of three shallow vertical ribs; body fragments each preserve one rib, one prominent and one dying out; convex-curved lower body (without ribs) curving into open pushed-in base ring with bands of wear on lower body. Neck Diam: 30mm, Base Diam: 100mm, present height (lower body): 40mm, wall Th: 2–3mm. Weight: 41.6g. EVE 0.56. Field 258; Context **27045**; 11th fill of well/latrine **27032**. Period 4. Figure 5.72.

649. Globular jug or collared jar; shoulder fragment. Convex-curved. Parts of five converging narrow prominent ribs. Dimensions: 47 x 33mm, wall Th: 3mm. Weight: 10.6g. Field 258; Group **28131**; Context **27006**; third fill of pit **27005**. Period 4. Not illustrated.

Also, six fragments with parts of ribs. Field 246; Context **15633**, subsoil overlying ditch intersection, RF10132. Not allocated to Period. Field 258; Group **28133**; Context **15064**; second fill of ditch **15063**. Period 4. Field 258; Group **28131**; Context **26184**, fourth fill of pit **26179**. Period 4. Field 258; Group **28133**; Context **26213**; fill of ditch **26212**. Period 4. Field 265; Structure 38; Group **29958**; Context **31707**; earthen floor of structure. Period 4. Field 265; Context **31501**, Subsoil. Not illustrated.

650. Flask or unguent bottle; rim fragment and neck fragment. Many elongated bubbles. Funnel mouth with edge rolled in; cylindrical neck. Rim Frag: 25mm, present height: 20mm, wall Th: 1.5mm, Weight: 0.8g. EVE 0.4. Field 246; Group **31286**; Context **2409**; group number for south-east to north-west hollow-way funnel and aggregate surfaces converging with Dere Street. Period 4. Figure 5.72.

651. Unguent bottle; base fragment. Side curving into shallow concave base. Base Diam: 10mm, wall Th: 1.5mm. Weight: 0.6g. EVE 0.2. Field 258; Group **28156**; Context **27313**; fill of ditch **15179**, **15183**, **15222**, and **15324**, RF12580. Period 4. Figure 5.72.

652. Bottle; rim fragment. Rim bent out, up and in. Cylindrical neck. Rim Diam: 65mm, present height: 22mm. Weight: 12.7g. EVE 0.17. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222**, and **15324**, RF10028. Period 4. Figure 5.72.

Also, one heat-affected bottle rim fragment probably from a different vessel. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222**, and **15324**, RF10028. Period 4. Not illustrated.

653. Bottle; handle and shoulder fragment. Almost complete angular reeded handle lacking upper attachment but retaining outer fold from it; lower attachment retains part of shoulder curving over to side. One side of lower part of handle retains streaks of deep blue glass. Most probably from a prismatic bottle. Height (of handle): 60mm, handle section: 46 x 7mm. Weight: 84g. EVE 0.34. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**, RF10074. Period 4. Figure 5.72.

654. Bottle; handle fragment. One side of upper part of handle with folded upper attachment retaining part of neck. Handle section >27 x 8mm. Weight: 16.1g. EVE 0.17. Field 246; Group **31207**; Context **24146**; cleaning layer over stone raft group **31261**. Period 4. Not illustrated.

Also, one chip from the side of a bottle handle with return trail. Field 258; Group **28161**; Context **15187**; fill of ditch **26317**. Period 4. Not illustrated.

655. Bottle; handle fragment. One side of reeded handle with lower attachment retaining part of shoulder. Handle section >31 x 12mm. Weight: 32.5. EVE 0.17. Field 258; Group **28156**; Context **26437**; fill of ditch **15179**, **15183**, **15222**, and **15324** between slots with section numbers **3246** and **4612**. Period 4. Not illustrated.

Also, four strain-cracked fragments from lower attachment of reeded bottle handle. Field 258; Context **15300**; second fill of ditch **15232**. Period 4. Not illustrated.

656. Cylindrical(?) bottle neck and shoulder fragment. Cylindrical neck with tooling marks at base; horizontal shoulder. Cylindrical body fragment with pronounced bulge at top. Neck Diam: c.50mm, Width (bottle): at least 150mm, Shoulder thickness: 4mm. Non-joining body fragment body diameter: c.150–60mm, Shoulder thickness: 4mm. Weight: 61.9g. EVE 0.51. Field 258; Group **28161**; Context **26377**; fill of ditch **15027** between slots with section numbers 3249 and 3202. Period 4. Not illustrated.

657. Cylindrical bottle; two joining shoulder and side fragments. Edge of shoulder curving over smoothly to side and retaining tips of reeds from a lower handle attachment. Wear on shoulder. Body Diam: c.160mm, Shoulder thickness: 5mm. Weight: 29.1g. EVE 0.17. Field

258; Group **28161**; Context **26377**; fill of ditch **15027** between slots with section numbers 3249 and 3202. Period 4. Not illustrated.

658. Cylindrical bottle; body fragment. Cylindrical side. Wide and deep wheel-cut line; vertical scratch marks. Dimensions: 45 x 70mm, wall Th: 3mm. Body Diam: c.160–70mm. Weight: 9.7g Field 246; Context **15535**; fill of curving gully **15534**, RF10147. Period 4. Figure 5.72.

659. Cylindrical bottle; body fragment. Cylindrical side. Two bands of light deliberate abrasions or possibly wear. Some vertical wear marks. Dimensions: 34 x 20mm, wall Th: 2mm. Weight: 2.5g. Field 258; Group **28158**; Context **26617**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886** between slots with section numbers 3291 and 4611. Period 4. Not illustrated.

660. Square bottle, lower body and base fragment. Base design L-shaped moulding in corner. Present height: 29mm. Weight: 5g. EVE 0.34. Field 258; Context **15242**; primary fill of pit **15215**. Period 4. Figure 5.72.

661. Cylindrical bottle; shoulder and side fragment. Shoulder curving over smoothly to side; horizontal ridge in low relief at top of side. Vertical scratch marks. Dimensions: 32 x 23mm, wall Th: 3.5mm. Weight: 3.7g. Field 258; Group **28131**; Context **15436**; third fill of pit **15437**. Period 4. Not illustrated.

662. Re-used cylindrical bottle fragment. Semi-circular body fragment with curved edge flaked; possibly originally an attempt to perforate it. Vertical scratch marks from previous use. Dimensions: 30 x 16mm, wall Th: 3mm. Weight: 2.9g. Field 246; Group **31286**; Context **24091**; disturbed upper fill of hollow-way **31244**, RF10197. Period 4. Not illustrated.

663. Re-used(?) prismatic bottle body fragment. Two edges with flaking, joining at an acute angle. Dimensions: 25.5 x 14mm, wall Th: 5g. Weight: 2.8g. Field 258; Context **26328**; second fill of pit **26325**. Period 4. Not illustrated.

CHAPTER SUMMARY

Rachel S. Cubitt

The ubiquity throughout the stratigraphic sequences of the closely dateable ceramic assemblage makes it a key resource for the Periodisation of the archaeology at Scotch Corner and sites to the south. In conjunction with the vessel glass and other artefactual and environmental evidence, the ceramics provide insights to the character of the activities at these locations.

Early contact, perhaps through the medium of gift exchange, is evident in imported Roman and Gallo-Belgic ceramics and goods. This most probably accounts for the presence of certain types of ceramics in pre-Roman Period 2. The exchange that brought these vessels to the area may have been with Romans, or with Gaul specifically, as the assemblage includes Gallo-Belgic wares that were not widely used by the Romans.

Dramatic variation is evident in the ceramic signature, made up of both ‘local’ and ‘exotic’ wares, in Periods 3 and 4 which suggests change in the character of the occupants of the settlement. ‘Local’ materials constitute the hand-built pottery, and perhaps some of the Period 3 and 4 coarsewares, at a time when the local ceramic supply moved from hand-built to wheel-thrown vessels. Finds of wasters belie pottery manufacture somewhere nearby during Period 4. The ‘exotic’ vessels from Periods 2–4 originate from numerous locations, such as southern and south-eastern England, France (Flanders, Lyon, and northern, central and southern Gaul), Italy and Spain, with a switch away from Gallo-Belgic sources over time. Gallic wine was imported in Period 3, but the Period 4 amphorae predominantly contained Spanish olive oil and exotic comestibles.

While a subsistence economy may have been the lot for some at Scotch Corner, the exotic vessels and their contents speak of the presence of individuals with access to luxury goods. Amongst the ceramics, gift exchange is suggested as one of the means by which certain objects may have arrived at Scotch Corner; for example, an exceptional Italian-type sigillata dish (Cat. no. 616) is the first of its kind found north of the Humber. In the glass assemblage, a colourless shallow bowl (Cat. no. 637) from a high-status household has parallels at Pompeii, Silchester and Fishbourne Palace, and the means by which such an extravagant item arrived at Scotch Corner may have been outside the normal systems of trade and military supply.

Returning to the ceramic assemblage, the Period 3 vessels are an unusual mixture, including Roman types that were probably made locally, and several ware groups not identified elsewhere in the region. The latter may have been brought by the army from wherever they came from at a time when the area was not yet pacified enough for local pottery production and normal trade, a situation suggested for the oddly diverse assemblage from Flavian Camelon. This earliest pottery is not found separated from the Flavian supplies but mixed in, as the whole date range is only c.20 years (Period 3 and Period 4); Romans must be the source of these wares. Importantly, it does not necessarily imply a military presence; it is more likely that the military were nearby somewhere and providing pottery for the site. In Period 4, by contrast, the assemblage is closer to what might be expected for a fort or military-related/official settlement. Amongst the samian, for example, both Fields 246 and 265 have assemblages much more like a military extramural settlement or an ‘industrial site’.

The vessel glass assemblage gives a different impression of the military occupation of the site. It has both similarities to and differences from the sort of glass assemblages found at Claudian-Neronian military sites. Certain elements of the assemblage are likely to have arrived prior to the generally accepted date of the Roman military advance in the north, such as some of the pillar moulded bowls. Other pieces, while chronologically consistent with the advance, do not reflect a typical early-Flavian military assemblage.

Beyond dating information and indicators of certain cultural or social groups, the vessels also have much to tell about contemporary life and activity through consideration of their functions. Ceramic vessels that are related to food preparation, cooking, dining and drinking form a key part of the assemblage in Periods 2–5 and full details of the various forms of dishes, bowls and platters, and their fabrics, are provided in Appendix E. The glass assemblage, which includes some notable well-preserved vessels, comprises cast, mould-blown and free-blown vessels identified as tablewares and containers. As with the amphorae, some of the glass bottles were present because they served as packing for consumables.

Both Iron Age and Roman drinking customs are represented amongst the ceramics, and the early imported wares are suggestive of Gallo-Roman cultural influence on the native population. The presence of the relevant imported wares only at certain sites in the region is suggestive of a highly stratified society, in which only the upper echelons had access to wine. Amongst the glass assemblage is Cat. no. 631, a medallion from a jug that most likely depicts the face of Bacchus, Roman god of wine, which was subsequently reworked into an amulet. While tempting to associate this item with drinking, it is likely to have alternative meanings, with Bacchus also revered as a saviour god.

Specialist ceramic food-preparation vessels of Roman affinity included a cheese press, a colander and a tripod cooking vessel; these help to build a picture of the range of foodstuffs available at Scotch Corner and how they may have been consumed. Vessels, such as the amphorae, are a proxy for the goods they contained, which do not survive in the archaeological record and are otherwise invisible. Foodstuffs imported from the Continent included Italian wine, olive oil from Spain, fish sauce, dates and dried fruit. Locally produced food supplies are less evident, perhaps having been transported and stored in perishable containers. Salt is one exception, and cheese another, with the press suggestive of local cheese making. The small assemblage of briquetage from Scotch Corner is evidence that salt was used by people working and living at the site during the 1st century AD, and that Scotch Corner had trading links with coastal communities in north-east England. Lastly, the activities reflected in the pottery assemblage are not limited to the preparation and consumption of foodstuffs. Washing, perhaps with olive oil, and the use of perfumes is suggested, and Roman tazze (incense burners) indicate that religious or ceremonial practices took place.

CHAPTER 6
RECORDED FINDS

Alexandra Croom, Richard Brickstock, John Cruse and Elizabeth M. Foulds
with contributions from Rachel S. Cubitt

INTRODUCTION

Rachel S. Cubitt

This chapter describes artefacts catalogued individually, in accordance with the A1 road scheme post-excavation strategy (Russ *et al*. 2017). It includes coins, other objects recorded as small finds, querns and pigments but does not include items classified as bulk finds, such as glass and ceramic vessels (Chapter 5), manufacturing and building materials (Chapter 7) and environmental remains (Chapter 8). The information presented here can be used in conjunction with the stratigraphic evidence to address the research questions established for Scotch Corner (see Chapter 1). For example, the finds can help pinpoint the date at which people were active at the site, the nature of that activity and the identity of the people involved.

The coin assemblage, although small, is significant. It allows the beginning of coin use at Scotch Corner to be dated with some confidence to the early Flavian period (c.AD69–96), although the difficulties of distinguishing between late Neronian and early Flavian based on numismatic evidence alone is acknowledged. The impression given is of coinage newly arrived with the advent of Roman personnel. The territory of the Brigantes is not traditionally known for coin production or for the use of coins, although this must now be re-evaluated considering the pellet moulds (see Landon, Morley-Stone and Ponting, Chapter 7). Three possible pellets are catalogued as part of the coin report. Brickstock goes on to consider the longevity of coin use at Scotch Corner.

The small finds assemblage spans the Iron Age and Roman periods and the continuity of certain object types across this transition is considered. The British/Iron Age objects comprise indicators of both high status in the form of horse gear, and low-status tools either for domestic or industrial use. Iron brooches (e.g. Cat. no. 687) provide an example of an object type that became increasingly common in northern Britain and may signify the introduction of new types of clothing that required different types of fasteners. Such brooches were more frequently used in the Roman period, although this example pre-dates the arrival of Roman individuals at Scotch Corner and, along with the accompanying clothing, would have been a genuine symbol of wealth and status at that time. The miniature sword (Cat. no. 830) is one of several items in the assemblage with intrinsic significance. It is the first example of its kind from a British archaeological site to be found complete with its scabbard and epitomises the incorporation of native and Roman stylistic and technological elements into a single object.

Many of the Roman small finds came from early Flavian contexts and are indicative of a Romanised society. There is evidence for a high-status community of both sexes that had time for leisure and personal maintenance and possessed the equipment for formal social occasions such as dining. Rare and unusual objects from this period, such as the amber statuette fragment (Cat. no. 774) and miniature sword (Cat. no. 830), are described and discussed in detail. Numerous objects are considered to have been the personal possessions of Roman individuals arriving at Scotch Corner. Parallels can be drawn between the assemblage and those from southern England. The community had a literate component, although whether this was restricted to those with an administrative role is unknown. The portion of the assemblage recorded under military equipment is notably small. It has been highlighted, however, that the means by which such items enter the archaeological record probably differ when compared to other classes of object, with casual or accidental loss not being major contributors (Bishop 2011, 115–17). Among the military finds are pieces of horse harness. Of these, Cat. no. 838 is from the same context as a fragmentary melon bead. The bead assemblage is dominated by this type, which may have been used on horse harnesses, as discussed by Hoffman (2003) and attested by recent finds in London (Marshall and Wardle forthcoming). Most of the melon beads were found in enclosure ditches surrounding paddocks in Period 4 contexts of Field 258, and in which equid remains were also present. However, as outlined by Foulds, other decorative and amuletic functions for these beads must also be considered.

Querns and millstones embody evidence for the economy at Scotch Corner. They imply large-scale cereal processing using developed technology. The paucity of environmental remains indicative of cereal processing suggests that this took place outside the excavated areas (see Baines, Chapter 8). The types of querns provide evidence for both Iron Age and Roman technology, including imported lava rotary querns, as well as locally made copies.

The overall quern signature falls between the patterns for those of military and non-military sites. The mixture of grinding equipment suggests an unusual balance of influences. When examined in more detail, cereal processing until c.AD70 was carried out using saddle and beehive querns, with no apparent sign that Roman technology was being used. Post-AD70, imported disc querns and locally produced copies dominate the assemblage. It is unclear whether this switch from saddle/beehive querns to disc querns was a result of social changes or merely due to the progressive adoption of more efficient querns. Some of the Iron Age equipment was discarded before the end of its useful life. However, most of the lava stones were worn to exhaustion, perhaps indicating that they arrived at Scotch Corner before AD70.

The millstones, on the other hand, incorporated advanced Continental technology. They imply a military component in the settlement's Flavian grinding equipment, as the army would be the only likely user of such capital-intensive and high-output apparatus. The presence of millstones in the assemblage is noteworthy and constitutes both a very early example of powered stones and the earliest dated example of stones that fall into the 'bow tie' type (see Cruse, this chapter for explanation).

A small number of tools are described among the small finds assemblage, some of which could perhaps be related to processing pigments. Fragments of three different pigments were recovered, and analysis has shown them to be rose madder, Egyptian blue and azurite. Such discoveries are rare in the archaeological record. The location of these materials and their potential uses are discussed.

METHODS AND CATALOGUES

All finds were cleaned and packaged according to recognised guidelines (English Heritage 1995; Watkinson and Neal 2001; CIfA 2014). All iron artefacts were X-rayed to aid in the identification of finds in line with the A1 scheme post-excavation strategy (Russ *et al*. 2017). Where comparison is made to finds recorded under the Portable Antiquities Scheme (PAS), PAS ID numbers are quoted. Full object descriptions and images are held under these unique identifiers on the PAS database (www.finds.org.uk/database).

Finds described in this chapter have been allocated a unique catalogue number (Cat. no.), continuing the number sequence from Chapter 5, which is used to refer to individual records in the catalogues and on the accompanying figures. Catalogue entries are presented in the following format:

[Catalogue number]. [Description]. [Measurements/ dimensions]. [Obj. date]. Field [no.]; Group [no.]; Context [no.]; [context description]; Period: [no./ description]; RF[no.]. Figure [no.].

COINS

Richard Brickstock

The excavations in Fields 246, 258 and 265 produced a closely dateable assemblage of 21 Roman coins relating to the years of the Flavian conquest in the early AD70s (rather than much earlier) through to the mid-2nd century. Together with other early finds from *Cataractonium* (see Ross and Ross in prep.) and previously published material from Roecliffe (Brickstock 2005), the coins make a significant contribution to knowledge of the route and timing of the Roman advance northwards into Brigantian territory.

The assemblage consists of three Republican *denarii*, two probable Claudian copies, two Neronian *asses*, a *denarius* of the civil war period, ten Flavian coins of various denominations, two Trajanic *dupondii*, and a *denarius* of Antoninus Pius. Although small, it provides significant information that allows the beginning of coin use at Scotch Corner to be identified with some accuracy (this date signalling the date of the Roman conquest, as opposed to either the foundation of the Iron Age settlement or the first contact with Romans).

DISCUSSION

Given that all 21 Roman coins came from three adjacent fields to the north of Scotch Corner, it is appropriate to begin by considering the entire assemblage from a chronological perspective, before discussing the coins in their individual contexts.

Chronological overview

Prior to the Roman advance, the inhabitants of the region around Scotch Corner had rarely, if ever, encountered coinage. British tribes in southern Britain produced coinage from the late 2nd century through to the mid-1st century BC (the practice finally ceasing with the death of Boudica in AD61), but none are known to have been produced in the territory of the Brigantes and circulation of coinage north of the Humber appears to have been extremely limited. The number of coins recovered from Stanwick is extremely small (a silver coin of the Corieltavi, three Augustan *denarii*, a Claudian copy, and a couple of much later coins; Haselgrove 2016, 182–90). The four Early Roman coins may represent gifts or losses by visiting Roman officials (and the others later casual losses), but they are scarcely sufficient in number to argue their use as currency by the local inhabitants.

The large numbers of 'pellet moulds' recovered from various contexts at Scotch Corner (and discussed in detail in Chapter 7) therefore represent a most remarkable discovery with the potential to force substantial revision of current ideas on Late Iron Age coinage.

The proposed Period model (informed by ceramics and glass and corroborated by the radiocarbon dates and Bayesian modelling undertaken by SUERC), places pellet production in Periods 1 and 2 (starting between c.55BC and AD15 and ending before c.AD55). The only confirmed primary deposits of discarded moulds were probably early 1st century AD, but there was a peak in deposition in early Period 2 (between c.AD15 and AD43), and a great deal of disturbance and re-deposition thereafter, extending into Periods 3 and 4, which represent the dawn and establishment of Roman military presence.

Pellet moulds are normally assumed to be for the production of coin blanks (and plausible alternative theories for their function are lacking), but although residues found in the Scotch Corner moulds prove that they had been used, only a single (gold-alloy) pellet was recovered, and nothing at all (coinage or otherwise) that might represent the finished product of the production process. It seems hard to escape the conclusion, therefore, that coin blanks (or, less likely, finished coins) were being traded abroad in the years prior to the Claudian invasion (either to southern England or even continental Europe). One possibility, purely speculative at this stage, is that blanks were being traded via the Tees and Humber estuaries with the northernmost settlements of the Corieltavi for the production of their own coinage. Probable mint sites are known in the more southerly parts of Corieltavian territory (Old Sleaford in Lincolnshire, and Leicester), but none thus far further north.

Any moulds deposited in early Flavian (i.e. Roman) contexts almost certainly represent unintentional redeposits (contrary to the initial thought that these might represent a 'last gasp' act of resistance by Venutius against the Roman advance in c.AD69–70), and can have no direct connection to the Roman-period occupation of the area.

The Romans, already for many generations a coin-using society, brought their own coinage with them, and it is this coinage that can be seen in the Scotch Corner assemblage. Indeed, 13 of the 20 Roman coins are of Republican and early Imperial types that could have been in the pockets of soldiers arriving in c.AD71. The remainder are four later Flavian asses, two Trajanic *dupondii* and a *denarius* of Antoninus Pius.

Various numismatic criteria can be used for recognising early Flavian sites, including:

- the presence of some pre-Flavian coin, especially bronze, but also Republican *denarii*;
- the presence of Claudian copies, driven from circulation early in the Flavian period;
- Flavian coins of AD71–3 outnumbering those of AD77–8;
- a predominance of lower denominations, especially *asses*, in the assemblage as a whole; and
- the presence of some little-worn coins (recorded as slightly worn on both faces).

It is apparent from Table 6.1 that Scotch Corner satisfies all these criteria:

- eight pre-Flavian coins, including bronze, and three very worn Republican *denarii*;
- two probable Claudian copies (badly corroded), thought to have been produced in the period c.AD54–68 and circulated into the early AD70s until eclipsed by the plentiful Flavian coinage;
- five coins of AD71–3, as opposed to only three of AD77–8;
- a predominance of *asses* and *dupondii* (eight and three, respectively) over *sestertii* and *denarii* (two and six, respectively); and
- a *denarius* of Vitellius, minted in the first half of AD69 and exhibiting very little circulation wear, and thus probably deposited in the first half of the AD70s rather than much later.

All this (and the *denarius* of Vitellius in particular) would appear to indicate that the beginning of Roman occupation dates to the early AD70s, the obvious historical context being the advance of Cerialis in AD71,

Table 6.1: Scotch Corner legible coins.

Period	Quantity and denomination	Wear
Republican	3 denarii	(VW)-EW (3)
probable Claudian copies	2 asses	Corroded (2)
Nero, late, 65–6	2 asses	?VW (2)
Civil War, 69	1 denarius	?SW/SW (1)
Vespasian, 70	1 denarius	W-VW (1)
71	2 sestertius; 1 dupondius; 1 as	W-VW (4)
77–8	4 asses	?SW-1 (1); W-VW (3)
Trajan	2 dupondii	?SW-W(1); ?W-VW (1)
Antoninus Pius	1 denarius	SW-W (1)

but it should, in fairness, be admitted that it is almost impossible to draw a definitive numismatic distinction between a date under Nero in the late AD60s and a Flavian one in the very early AD70s.

The coins from Roecliffe, the likely precursor of Aldborough (Table 6.2), present a very similar picture and the same conundrum, in that an early Flavian date is probable but a late Neronian one remains possible. Prior to the A1 scheme excavations under consideration here, this was the only such assemblage north of the Humber. Comparison between the two assemblages might suggest that, of the two, Roecliffe is the earlier by a small margin (note the greater number of Claudian copies and also the greater preponderance of *asses* and *dupondii* over higher denominations, i.e. 18:5). The main point of divergence between the two assemblages is in the degree of circulation wear noted, as none of the later coins at Roecliffe are more than slightly worn, which is consistent with abandonment of the site in the early AD80s or thereabouts. By contrast, much of the Flavian coinage from Scotch Corner exhibits considerable wear, arguably indicating a number of decades in circulation prior to deposition.

Figure 6.1 displays the Scotch Corner coins by mint date but also provides suggested (albeit subjective) deposition dates based on a quantification of circulation wear observed in mid-2nd-century hoards (Brickstock 2017), which is perhaps a more accurate indicator of coin use at a particular period than is provided by the coins' mint dates alone. This technique is admittedly subjective but appears to provide useful results, confirming, for example, that most of the coinage recovered from the Antonine Wall (Republican to Flavian and later, as at Scotch Corner) was deposited during the Antonine period rather than earlier (Brickstock forthcoming).

According to this methodology, it would appear that, although Scotch Corner produced only three coins that dated later than the reign of Vespasian, and thus appears superficially to be predominantly Flavian, much of the assemblage may have been deposited not in the Flavian period but during the earlier years of the 2nd century, during the reign of Hadrian (AD117–38). Therefore, the overall assemblage (which concludes with a single Antonine issue) provides strong evidence for continued coin use well into the 2nd century, though this does not necessarily contradict the view that the general intensity of occupation was by that stage much reduced.

Contextual analysis

Field 246

Three coins and one possible pellet were found in Field 246, and the main numismatic interest here lies in the hundreds of fragments of pellet mould, which are discussed in Chapter 7. The specific contexts of the three coins are uninformative, since all three were recovered from subsoil (two from **15502** and the other from **24047**), and the suspected pellet (the possible product of the pellet moulds) came from the subsoil (**24134**; Cat. no. 686; Morley-Stone, Chapter 7).

Despite the paucity of contextual information, the three coins provide an interesting chronological spread. They comprise an extremely worn Republican *denarius* (minted in 87BC), a little-worn *denarius* of Vitellius (minted in the first half of AD69) and a *sestertius* of Vespasian (minted in AD71). Thus, superficially, the assemblage might seem to end in the early Flavian period and the coin of Vitellius, since it exhibits only a slight amount of circulation

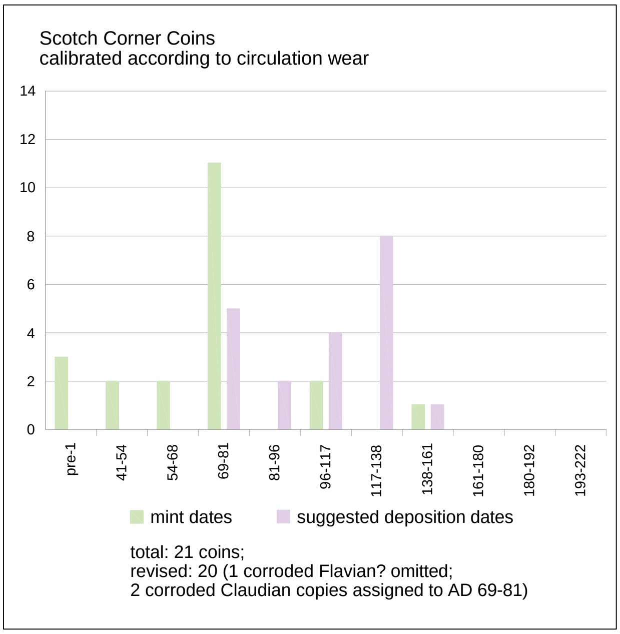


Figure 6.1: coins by mint date and calibrated according to circulation wear.

Table 6.2: Roecliffe legible coins.

Period	Quantity and denomination	Wear
Republican	2 denarii	VW
Augustus	1 denarius	W
Claudian copies, all G3/4	7 asses	Corroded (7)
Nero, late, AD64–8	1 as	SW
Civil War, AD69	1 denarius	SW
Vespasian, AD71–2	3 dupondii; 1 as	SW (4)
AD71–9	2 dupondii; 4 asses	SW (4); Corroded (2)
AD77–8	1 sestertius	SW

wear, certainly provides the most obvious numismatic evidence for early Flavian occupation at Scotch Corner. The Republican coin, which is extremely worn, as one might expect after more than 150 years in circulation, would sit happily in this context, but it could equally be a later 1st- or even 2nd-century deposit. The coin of Vespasian, however, also appears significantly worn (though corrosion products make the identification a little uncertain) and, if the assessment is accurate, this coin, far from providing an early end date for occupation in the area, may not have been deposited until well into the 2nd century, quite possibly as late as the reign of Hadrian.

Field 258

Twelve coins were recovered from Field 258: one extremely worn Republican *denarius*, two probable Claudian copies, and eight, probably nine, Flavian issues. Together they present a typical numismatic snapshot of an early Flavian site according to the criteria outlined above, but the degree of wear exhibited by the seven definitively identifiable Flavian coins makes it probable that this is a picture of an early site reflected in later 1st- and early 2nd-century deposits.

The comments made of the Republican coin found in Field 246 apply equally well to the Field 258 example, which was recovered from a medieval or post-medieval plough furrow (Cat. no. 664). A later 1st- or early 2nd-century date of deposition is likely, but a more accurate estimate than that is inadvisable.

The probable Claudian copies provide (if the identifications are correct) unequivocal evidence of Flavian occupation. They are generally believed to have been produced in the period c.AD54–68 to alleviate a shortage of genuine small change. They circulated widely but were rapidly driven from circulation with the introduction of plentiful fractional coinage by Vespasian in the early AD70s.

The Flavian coins are also suggestive of a Flavian site founded in the early AD70s: early issues are equal in number to later (four of each) and lower denominations (*dupondii* and *asses*) outnumber the higher (*denarii* and *sestertii*) by 3:1. All were recovered from Period 4 contexts and all (except one) were from primary or secondary pit or ditch fills. The exception being the sole *denarius*, an issue of the first half of AD70, which was found in the upper fill of pit **26582** (Cat. no. 672). All except one of the Flavian coins were worn or very worn, suggesting that their deposition occurred sometime in the early decades of the 2nd century rather than much earlier.

Field 265

Field 265 produced six coins: a Republican *denarius*, two late *asses* of Nero, two Trajanic *dupondii*, and a *denarius* of Antoninus Pius. Between them, they provide further indication of Flavian occupation and the only 2nd-century issues from the Scotch Corner excavations.

The Republican *denarius* (an issue of L. Thorius Balbus minted in 105BC) was recovered from the earthen floor of Structure 38 (Cat. no. 665). As with the other Republican *denarii* from the excavations, it is extremely worn and could plausibly have been deposited at any stage in the later 1st or early 2nd centuries.

The presence of two *asses* of Nero, issued in c.AD65–6, provides another pointer towards early Flavian occupation. However, both are tentatively assessed as very worn, which would again indicate a much later date of deposition, perhaps as late as the reign of Hadrian. One was recovered from fill **31591** of pit **31610** (Cat. no. 669) and the other from midden deposit **31709** below Structure 39 (Cat. no. 670).

A *dupondius* of Trajan (Cat. no. 682) came from the same fill as Cat. no. 669 (fill **31591**), confirming the 2nd-century date for that context. This coin exhibits a fair degree of wear, consistent with deposition a decade or two later than its mint date, i.e. probably well into the reign of Hadrian (AD117–38) rather than that of Trajan (AD98–117). The other *dupondius* from Field 265, also possibly an issue of Trajan (Cat. no. 683), came from the foundation layer of a Period 5 building (Structure 39). This coin shows a lower degree of wear, and therefore probably represents a slightly earlier deposit, either later Trajanic or early Hadrianic.

The latest Roman coin in the assemblage is a *denarius* of Antoninus Pius, recovered from a cobbled surface (Cat. no. 684). It bears the reverse legend COS IIII, which dates it to AD145–61 but no more precisely than that. It shows some circulation wear, implying at least a few years before deposition, probably late in the reign of Pius or shortly thereafter.

Field 267a

A single coin was recovered from topsoil in Field 267a. It is a post-medieval issue, almost certainly a 17th-century Scottish turner (2d piece) of either Charles I or Charles II.

CATALOGUE

In the catalogue below, references to comparanda are as follows:

- *The Roman Imperial Coinage* (unless otherwise noted these are Volume I [Second edition], Volume II, Volume II [Second Edition] and Volume III; Sutherland 1984; Mattingly and Sydenham 1926; 1930; Carradice and Buttrey 2007);
- *Roman Republican Coinage* (Crawford 1974); and
- *The Scottish Coinage* (Stewart 1967).

In addition, the following conventions have been used:

- die axis: recorded according to the hours of the clock;
- a copy or counterfeit of a particular ruler or issuer is denoted by single quotation marks, e.g.

'CLAUDIUS II', and by the use of a lower case 'c' in the catalogue reference, e.g. c. of 261 = a copy of RIC 261. The use of the word 'of' indicates that a precise catalogue reference has been obtained; for official issues and copies 'as' is used to denote an incompletely catalogued coin; and

- condition of the obverse and reverse (e.g. W/VW): 'UW'= unworn, 'SW' = slightly worn, 'W' = worn, 'VW' = very worn, 'EW' = extremely worn, 'C' = corroded.

664. L. SAUFEIUS, 152BC; Denomination: *Denarius*. Wear: EW/EW+. Die axis: 10. Obverse: helmeted head of Roma, r.; behind, X; Reverse: Victory in *biga*, r.; below L SAVF (ligatured); in ex. ROMA. Catalogue: CRAW 204/1. Mint: Rome. Field 258; Context **15070**; fill of plough furrow 26749; Period: medieval–post-medieval; RF10008. Figure 6.2.

665. L. THORIUS BALBUS, 105BC; Denomination: *Denarius*. Wear: EW/EW. Die axis: 12. Obverse: I.S.R downwards; Head of Juno Sospita r. wearing goat skin; Reverse: bull charging r.; D, above; below, L.THORIVS; in ex., BALBVS. Catalogue: CRAW 316/1. Mint: Rome. Field 265; Group **29958**; Context **31731**; earthen floor of Structure 38; Period: 4; RF13081. Figure 6.2.

666. L. RUBRI DOSSENI, 87BC; Denomination: *Denarius*. Wear: (VW-)EW/EW. Die axis: 6. Obverse: head of Juno, r.; behind, SOS downwards; Reverse: *Triumpha*; *quadriga*; in. ex. [L.RVBRI] (off bottom of flan). Catalogue: CRAW 348/2. Mint: Rome. Field 246; Context **24047**; Period: none; RF10165. Figure 6.2.

667. Probably 'CLAUDIUS I', AD'41–54' Denomination: '*As*'. Wear: C/C. Die axis: 12? Obverse: [TI CLAVDIVS CAEAR AVG PM TRP IMP] ?Head l.; Reverse: ?Minerva r. [S-C]. Catalogue: c. of ed.2 100/116. Mint: 'Rome'. Field 258; Group **28149**; Context **15303**; fill of gully **15302** in Structure 33; Period: 4; RF12513. Figure 6.2.

668. Possibly 'CLAUDIUS I', AD'41–54'?; Denomination: '*As*'. Wear: C/C. Die axis:? Obverse: ?Head l.; Reverse: ?Minerva r. [S-C]. Catalogue: c. as ed.2 100/116. Mint: 'Rome'. Field 258; Group **28129**; Context **27169**; fill of ditch **27168**; Period: 4; RF12569. Figure 6.2.

669. NERO, c.AD65–6; Denomination: *As*. Wear: C/?VW. Die axis: 12? Obverse: [NERO CLAVD CAESAR AVG GER PM TRP IMP P] or sim.; Reverse: [ARA PACIS] in ex.; Altar enclosure. Catalogue: as 315; ed.2, as 458. Mint: Lyon. Field **265**; Context **31591**; primary fill of pit **31610**; Period: 5; RF13060. Figure 6.3.

670. NERO, c.AD66; Denomination: *As*. Wear: ?VW/C. Die axis: ? Obverse: [IMP NERO CAESAR AVG] P MA[X TRP PP]; Reverse:—. Catalogue: as 342; ed.2, as 533. Mint: Lyon. Field 265; Group **29959**; Context **31709**; midden deposit below Structure 5; Period: 4; RF13087. Figure 6.3.

671. VITELLIUS, Jan–Jun AD69; Denomination: *Denarius*. Wear: ?SW/SW. Die axis: 6. Obverse: A VITELLIVS [IMP GER]MAN; Reverse: [CONS]ENSVS EXERCITVVM Mars stdg. L. Catalogue: ed.2 20. Mint: Tarraco? Field 246; Context **15502**; subsoil; Period: none; RF11533. Figure 6.3.

672. VESPASIAN, Jan–Jun AD70; Denomination: *Denarius*. Wear: W-VW/W-VW. Die axis: 6. Obverse: IMP CAESAR VESPASIANVS AVG; Reverse: COS ITER [TR POT] Pax seated l. Catalogue: 10; ed.2 29. Mint: Rome. Field 258; Group **28131**; Context **26661**; upper fill of pit **26582**; Period: 4; RF12553. Figure 6.3.

673. VESPASIAN, AD71; Denomination: *Sestertius*. Wear: ?VW/C. Die axis: 6. Obverse: [IMP CAES] VESPASIA[N AVG PM TRP PP COS III]; Reverse: [IVDAEA CAPTA SC]. Catalogue: 424; ed.2 159. Mint: Rome. Field 246; Context **15502**; subsoil; Period: none; RF12889. Figure 6.4.

674. VESPASIAN, AD71; Denomination: *Sestertius*. Wear: ?VW/VW (C). Die axis: 6. Obverse: [IM CAES VESPAS(IAN) AVG PM TPR PP COS III]; Reverse: [IVDAEA CAPTA] in ex. SC, Vesp. stdg. r.; palm; Judaea std. r. Catalogue: 427; ed.2 167/235. Mint: Rome. Field 258; Context **15400**; fill of pit **15259**; Period: 4; RF10085. Figure 6.4.

675. VESPASIAN, AD71; Denomination: *Dupondius*. Wear: ?W-VW/C. Die axis: 6. Obverse: [IMP CAES VE]SPASIAN [AVG COS III]; Reverse: [VICTORIA AVG] SC Victory adv. l., fixing shield to trophy, etc. Catalogue: ed.2 283 (not in ed.1). Mint: Rome. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**; Period: 4; RF10099. Figure 6.4.

676. VESPASIAN, AD71; Denomination: *As*. Wear: ?W-VW/W-VW. Die axis: 6. Obverse: IMP CAES VESP[ASIAN AVG COS III]; Reverse: A[E]QVI[TAS AVGVSTI] S[C]. Catalogue: 482; ed.2 287. Mint: Rome. Field 258; Context **26715**; primary fill of pit **26713**; Period: 4; RF12587. Figure 6.5.

677. TITUS under VESPASIAN, AD77–8; Denomination: *As*. Wear: ?W-VW/W-VW(C). Die axis: 6. Obverse: [T ES IMP] AVG F TR[P COS VI CENSOR]; Reverse: [P]ROV[IDENT] in exergue; in field [SC], Altar with side panels. Catalogue: Vespasian 785; ed.2 V1270. Mint: Lyon. Field 258; Context **15242**; primary fill of pit **15215**; Period: 4; RF10077. Figure 6.5.

678. TITUS under VESPASIAN, AD77–8; Denomination: *As*. Wear: ?W-VW/W-VW. Die axis: 6. Obverse: [T CAES IMP AVG F TRP COS VI CENSOR]; Reverse: [PROVIDENT] in exergue; in field SC, Altar. Catalogue: Vespasian 785; ed.2 V1270–2. Mint: Lyon. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**; Period: 4; RF12501. Figure 6.5.

Figure 6.2: Roman coins, Cat. nos 664–668.

Figure 6.3: Roman coins, Cat. nos 669–672.

Figure 6.4: Roman coins, Cat. nos 673–675.

Figure 6.5: Roman coins, Cat. nos 676–679.

Figure 6.6: Roman coins, Cat. nos 680–686.

679. TITUS under VESPASIAN, AD77–8; Denomination: *As*. Wear: ?W-VW/C. Die axis: 6. Obverse: [T CAES IMP AVG F TPR COS VI CENSOR]; Reverse: [PROVIDENT] in exergue; [SC] in field, ?Altar. Catalogue: as Vespasian 785; ed.2. V1270–2. Mint: Lyon. Field 258; Group **28131**; Context **27054**; secondary fill of pit **27005**; Period: 4; RF12519. Figure 6.5.

680. TITUS under VESPASIAN, 77–8; Denomination: *As*. Wear: C/?SW-W. Die axis: 6. Obverse: [T CAES IMP AVG F] T[RP COS VI CENSOR]; Reverse: Spes standing l. with flower; [SC] in field. Catalogue: Vespasian 786; ed.2. V1273. Mint: Lyon. Field 258; Group **28131**; Context **15418**; primary fill of pit **15349**; Period: 4; RF15252. Figure 6.6.

681. ILLEGIBLE, possibly Flavian fragment, AD69–81?; Denomination: *As*?. Wear: C/C. Die axis: ? Obverse:—. Reverse:—. Catalogue:—. Mint:—. Field 258; Group **28146**; Context **15244**; secondary fill of ditch **15243**; Period: 4; RF10056. Figure 6.6.

682. TRAJAN, AD98–117; Denomination: *Dupondius*. Wear: ?W-VW/C. Die axis: ? Obverse: Bust of Trajan, r.; Reverse:—. Catalogue:—. Mint: Rome. Field 265; Context **31591**; primary fill of pit **31610**; Period: 5; RF13064. Figure 6.6.

683. Probably TRAJAN, AD98–117?; Denomination: *Dupondius*. Wear: ?SW-W/C. Die axis: 6? Obverse: Rad. head r.; Reverse: ?Standing figure. Catalogue: —. Mint: Rome. Field 265; Group **29955**; Context **31663**; foundation layer of Structure 39; Period: 5; RF13232. Figure 6.6.

684. ANTONINUS PIUS, AD145–61; Denomination: *Denarius*. Wear: SW(-W)/SW-W. Die axis: 7. Obverse: ANTONINVS - AVG PIVS PP; Reverse: TRP COS IIII Virtus stdg. L. Catalogue: 154. Mint: Rome. Field 265; Group **29953**; Context **31544**; cobbled surface; Period: 5+; RF13001. Figure 6.6.

685. Probably CHARLES I/II Scottish, 1632–78?; Denomination: 2d turner. Wear: C/C. Die axis: 12? Obverse: ?[CR] Crowned; Reverse: Thistle. Catalogue: as Stewart 239. Field 267a; Context **32400**; Period: none; RF13383. Not illustrated.

686. Pellet? Ball of gold and copper alloy. Diam: 7mm; Th: 5mm; Wt: 0.84g. Field 246; Context **24134**; subsoil; Period: none; RF11450. Figure 6.6. See Chapter 7 for further discussion of this object.

SMALL FINDS

Alexandra Croom with contributions on the beads from Elizabeth M. Foulds

The small finds assemblage consists of objects in amber, bone, copper alloy, fired clay, glass, iron, lead, pottery, silver and stone. All the artefacts recovered were studied and basic information recorded in a database. Only those items that could be identified or were otherwise of interest have been catalogued in detail. Items such as scraps of copper-alloy sheeting, featureless iron bars and rivulets of molten lead have not been included in the catalogue, although the information is available in the online resource (see Appendix H). All the iron was X-rayed and then examined by hand, and pieces chosen for cleaning and conservation. The minimum number of nails and hobnails was calculated by counting surviving heads. The assemblage produced very little post-Roman material, which mainly consisted of clay pipe fragments, horseshoes and nails, which are not discussed here.

IRON AGE

A total of 20 Iron Age artefacts came from Periods 1–3, all but three of them stone objects. Ten artefacts came from Period 4, over half of them made from metal, and there were a further two unstratified metal pieces. Objects first made in the Iron Age continued to be made throughout the Early Roman period. Therefore, while some of those in Period 4 could be residual Iron Age pieces, others could be Roman in date.

Dress and personal adornment

The iron brooch (Cat. no. 687) was complete when it was deposited in the drip gully (**16306**) of Structure 50ii (see Chapter 2, Fig. 2.55b). It is a type of strip brooch that has generally been found on sites dating to the late 1st century BC and the 1st century AD, perhaps dying out as a type at around the time of the conquest (type DURO 7a; Mackreth 2011, 150). Wearing brooches was not a common practice north of the Humber during the Iron Age, with the area around Stanwick being at the very edge of the practice (Allason-Jones and Haselgrove 2016, 191; see also the distribution of PAS finds in Garrow 2008, fig. 2.6a).

The iron loop (Cat. no. 688) is small enough to have been used as a finger-ring, but such simple rings could also have served as ferrules, collars, and attachment or connecting loops.

687. Incomplete iron strip-bow brooch. Mackreth (2011), type DURO 7a. L: 57mm, W: 23mm, H: 22mm. Late 1st century BC to mid-1st century AD. Field 246; Group **31280**; Context **16307**; fill of penannular gully **16306** in Structure 50ii; Period: 1; RF11534. Figure 6.7.

688. Complete small iron loop, with a circular cross-section, slightly thinner on one side. Diam: 22mm (external), 16mm (internal), Th: 5mm. Field 246; Context **24053**; fill of pit **15852**; Period: 2; RF10171. Figure 6.7.

Horse gear

As is typical of Late Iron Age material from northern England, most of the copper-alloy finds relate to horse harness and vehicle fittings. The fragment of bit, with one surviving attachment loop from a side-link, comes from a single-bar snaffle bit (Cat. no. 689). The central bar expands slightly to the middle but does not have the typical well-defined central collar (well-represented in the Melsonby Hoard; Palk 1984, figs C48–9), although there is a parallel for this simple form of bar from Middlebie (MacGregor 1976, no. 5; Palk 1984, fig. C42, no. SB6). The bit has a mouth width of c.79mm, which is large for this type (mean 6.5mm; Palk 1984, fig. 18). The single-bar bit has been dated to the mid- to late 1st century AD (*ibid.*, 82).

The fitting (Cat. no. 690) was used for attaching or guiding a leather strap. It is long and has a noticeable curve. While this example may simply be a decorative pendant, the curve suggests it may be related to so-called 'rein hooks', such as that from the Melsonby Hoard and one recently found near Durham (MacGregor 1962, fig. 7, no. 22; PAS ID: DUR-B03969). These both have a similar attachment loop behind a small decorated head and a long, curved body but they are both hinged and do not have an open body.

The two dumb-bell toggles (Cat. no. 691 and Cat. no. 692) may have also been used on horse harness, as the dumb-bell shape was used on a harness slide from Bainesse (Brickstock *et al*. 2007, fig. 13, no. 48), and on strap unions in the Middlebie horse harness hoard (Davis 2014, figs 9.18–20), although alternative uses are as fastenings for bags or clothing. Cat. no. 691 has an attachment loop on one side; although not as common as plain toggles, a number of dumb-bell toggles with an arched loop are known, including examples from Fridaythorpe and Market Weighton, East Riding of Yorkshire (PAS ID: NLM-03D124 and NLM-03D124), and Somerford Keynes, Gloucestershire (Crummy 1983, fig. 9.16, no. 58), but the pointed sides of the loop on the Scotch Corner example are unusual. A plain loop would make it easy to sew the toggle to leather or cloth, but this pointed form of loop would suggest the toggle was attached by thread round its centre, while the pointed cover protected the thread from wear.

The vehicle fitting (Cat. no. 693) is possibly a linch pin from a chariot or cart. Similar fittings were found in the mid-1st-century hoard from Santon, Norfolk ('baluster ferrule'; Davis 2014, fig. 8.58), and the type seems to have been common in East Anglia (Spratling 1972, 80, fig. 48). Comparable pieces were used as terminals on iron linch pins of square cross-section, such as the complete examples found at Bigbury, Kent (Ward Perkins 1940, fig. 1, nos 1–2). The Scotch Corner example does not have the transverse piercing seen on linch pins, but one end does have a square internal shape, while some similar pieces with the same square profile also retain traces of iron (Tebbutt 1961, plate XLV, nos 3–5). The piece is either a variant form of linch pin, or a fitting of matching form used elsewhere on the vehicle. Examples of this type have been found on Early Roman sites, such as Colchester (Boudican destruction deposits; Spratling 1972, fig. 48, nos 136A and C); Longthorpe (Claudio-Neronian; Webster 1987, fig. 23, no. 28) and Wroxeter (no dating given; Webster 2002, fig. 4.17, no. 141).

689. Central bar from a copper-alloy single-bar horse bit, with a roughly triangular cross-section in the centre and rectangular-sectioned loops. Still attached to one loop is the attachment loop from the side-link, which has a more silver colour to the surface than the bar. The loops of the bar were not cast in one but have two arms that bend round to meet on the outer edge. There are only slight signs of wear on the loops. File marks are still visible on both bar and attachment loop. L: 100mm, W (bar): 9mm, W (loop): 18mm, Th: 7mm; side-loop W: 18mm, Th: 6mm. Iron Age. Field 265; Context **31505**; subsoil; Period: none; RF13009. Figure 6.7.

690. Copper-alloy strap mount with D-shaped cross-section and a rectangular strap loop projecting from the back. L: 108mm, W: 23mm, Th: 4mm, Th including loop: 12mm. Late Iron Age or Early Roman. Field 265; Context **31501**; subsoil; Period: none; RF13003. Figure 6.7.

691. Small copper-alloy dumb-bell toggle with mouldings on all sides. Cast as part of it is a pointed oval cover of triangular cross-section, which creates a tunnel on one side of the toggle. L: 22mm, Diam: 9.5mm, Diam. (hole): 2–3mm. Field 258; Context **15123**; secondary fill of ditch **15121**; Period: 4; RF10017. Figure 6.7.

692. Small copper-alloy dumb-bell toggle. It is unclear if an area of corrosion represents the remains of an attachment of some type. L: 14mm, Diam: 7mm. Field 265; Group **29972**; Context **31790**; colluvial deposit infilling hollow-way **31728**; Period: 4; RF13228. Figure 6.7.

693. Cast copper-alloy fitting with ribbed decoration. Although it has a circular cross-section, the interior of one end is rectangular. L: 44mm, Diam: 37mm (maximum), L (interior): 22 and 17mm, W (interior): 21 and 16mm. 1st century BC to mid-1st century AD. Field 258; Group **28131**; Context **27016**; secondary fill of pit **27015**; Period: 4; RF12514. Figure 6.7.

Weapons

The length of narrow copper-alloy edging (Cat. no. 694) from a Period 2 pit probably comes from a scabbard. Such guttering is rare on Iron Age scabbards in the north, but one from Pilling, Lancashire, had 4mm-wide guttering down the whole of its length, and one from Flasby, North Yorkshire, had edging made from sheeting on its long chape (Stead 2006, fig. 106, no. 233 and fig. 97, no. 200).

694. U-shaped copper-alloy edging pierced on each side by a hole at one end, covered in thin iron corrosion or staining. It has been deliberately flattened and was perhaps being kept as scrap. L: 90mm, W: 7mm, B: 3mm, Th: 0.8mm, Diam. (hole): 2mm. Field 228; Context **28082**; primary fill of pit **28099**; Period: 2; RF12610. Figure 6.8.

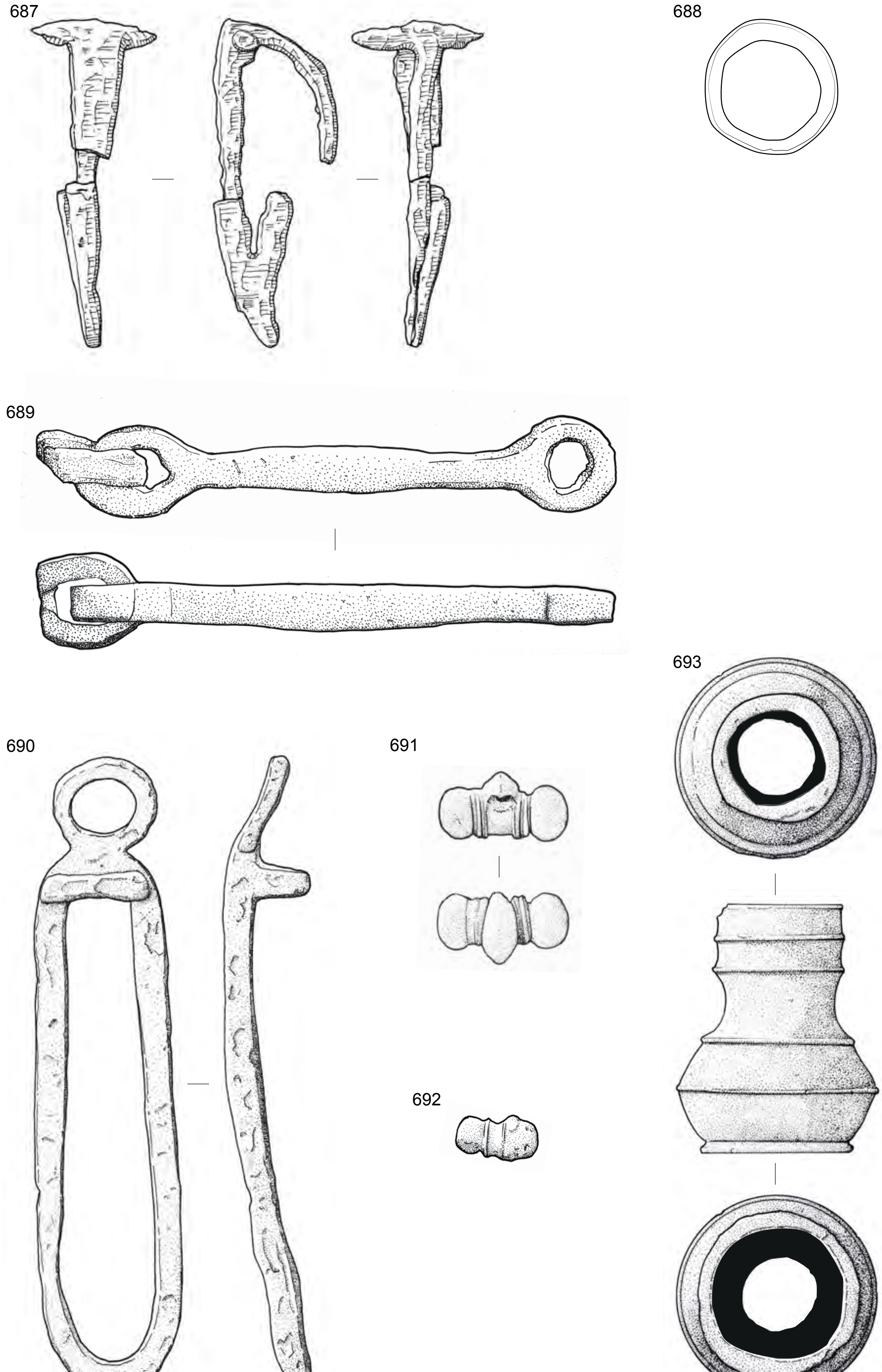


Figure 6.7: small finds, Cat. nos 687–693.

Feasting

A second piece of edging (Cat. no. 695), from Period 4, has one short side and one long and is more likely to be rim binding from a tankard or tub (cf. Davis 2014, figs 8.8–9; Horn 2015, fig. 1). These containers continued to be made in the Early Roman period and, if this is not a residual Iron Age fragment, it may represent a native-style item in use in the Flavian period. Fragments of mainly straight edging in a range of sizes were found in the Melsonby hoard (MacGregor 1962, 52, no. 134; British Museum acc. no. 1847, 0208.162).

695. Slightly curved copper-alloy strip with one edge curved under. It is covered with iron corrosion on both surfaces. L: 135mm, W: 12mm, Th: 0.4mm. Field 228; Context **28366**; primary fill of well **28342**; Period: 4; RF12615. Figure 6.8.

Metalworking

Marks on the small fragment of gold sheet (Cat. no. 696) show two pieces with a curved edge had been quite roughly cut from it. The sheet was found in a Roman (Period 4) context, but the presence of workshops using precious metals in Periods 1–3, and the lack of evidence for non-ferrous metalworking in Period 4, suggests this is a residual Iron Age fragment, either from sheet-gold working on the site, or as a piece of scrap kept for recycling. Little gold-work of the period survives in northern England, but several fragments of decorated gold sheet were found in the Melsonby hoard (MacGregor 1962, fig. 14, no. 111; British Museum acc. no. 1847, 0208.101).

696. Very small fragment of gold sheet with cut marks on two edges. L: 9mm, W: 6mm, Th: 0.25mm. Field 246; Group **31208**; Context **15898**; layer overlying **15899** in RR4; Period: 4; RF12883. Figure 6.8.

697. Minute fragment of gold sheet. L: 3mm, W: 1mm, Th: 0.25mm. Field 258; Group **28131**; Context **26771**; fifth fill of pit **15406**; Period: 4; RF15250. Not illustrated.

Textile production

The fired clay cylinder (Cat. no. 698) is a native-style spindle-whorl, perhaps of Iron Age date. Similar examples come from the Bronze Age/Early Iron Age site at Staple Howe, North Yorkshire, and later examples of slightly different forms from Thorpe Thewles (Brewster 1963, fig. 74, nos 11–13; Swain 1987, fig. 49, nos 1 and 5).

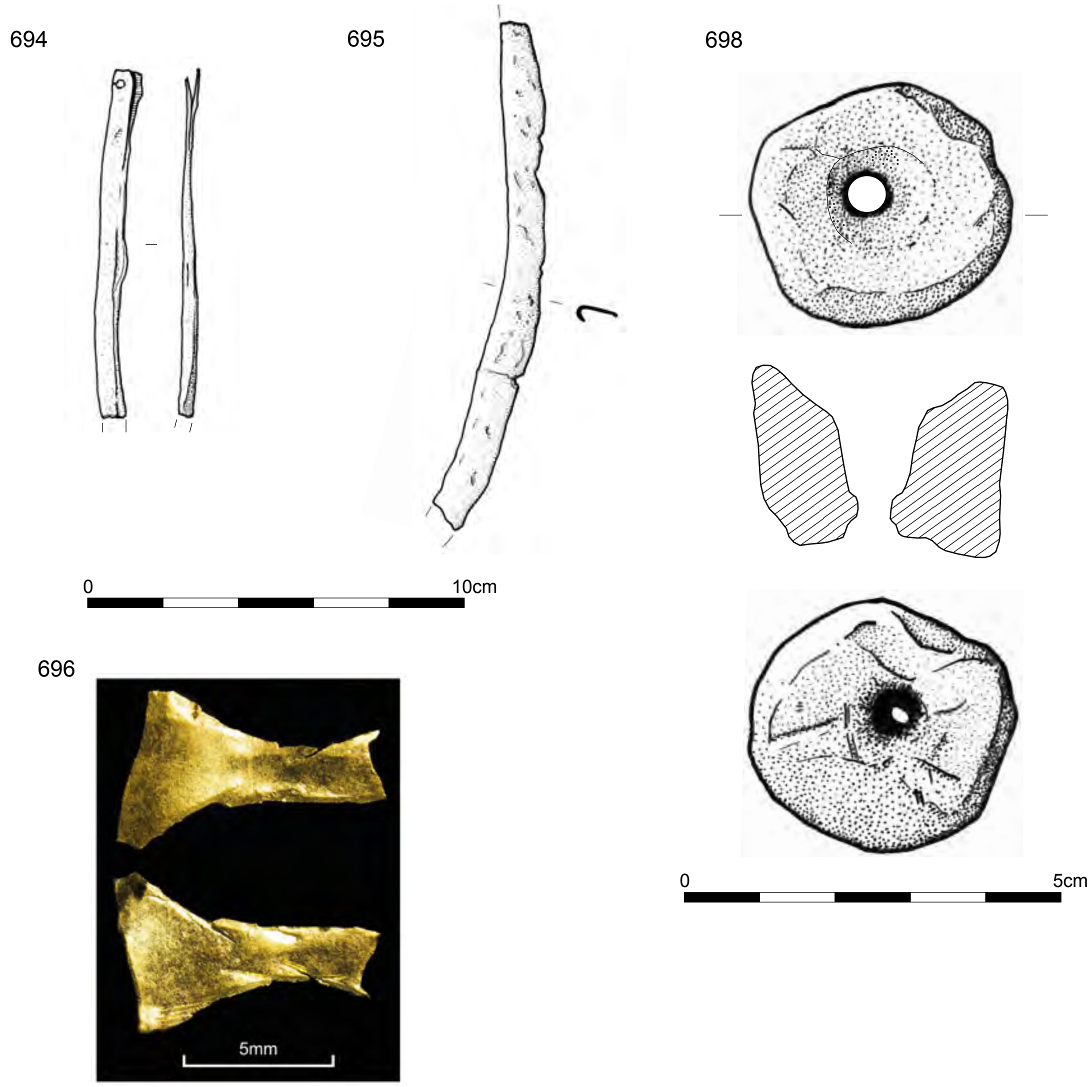


Figure 6.8: small finds, Cat. nos 694–698.

698. Roughly made fired clay spindle-whorl pierced by a hole, slightly cupped at one end. Oxidised sandy fabric, burnt dark grey and brown in places. L: 23mm, Diam: 33mm, Diam. (hole): 7mm. Field 246; Context **31817**; fill of ditch **31816**; Period: 4; RF13101. Figure 6.8.

Coarse stone tools

Cobbles

Water-worn cobbles were a common form of hand tool during the Iron Age. They were unmodified before use and can therefore only be identified by their wear patterns, so that if the cobble found in a Middle Iron Age context (Cat. no. 699) was used as a tool, it had not been used for long enough for wear patterns to develop before being discarded. The tools could be used for coarse pounding of foodstuffs, such as grain, nuts and plants, or for finer grinding of the same foodstuffs, as well as herbs, pigments or minerals. Flat slabs could also be used for grinding and mixing pigments and medicines. Some tools could also be used for smoothing and polishing cloth, preparing leather or smoothing wood, while natural cobbles, often vaguely rectangular in shape, were also used as whetstones for sharpening knives and other tools. Although the variety in the shape of the stones chosen as tools might indicate they had different functions, it is probable many of them were multi-functional tools. The wear patterns on some certainly shows that a single tool could be used in very different ways; Cat. no. 703, for example, could be held so that the wide flat sides were usable or held more like a pen so that the shorter diagonal end could be used. Both grinding and smoothing would create smooth surfaces on the stone, but those with a very glossy, polished surface are assumed to be smoothers and polishers. There are no obvious pounders in the assemblage; most seem to have been used for fine grinding or smoothing, having one or more polished faces.

Flat and wide

These are generally fine-grained grey cobbles, but the shape was probably more important than the stone-type. Cat. no. 700 has one smoothed face, with a highly polished patch. Cat. no. 701 has two smooth faces and a bevelled edge; it may have been used as a whetstone or some form of rubber or smoother (Lowther 2016, 284). Cat. no. 702 has smoothed faces, but it is uncertain whether it was used as a tool.

699. A rounded cobble possibly used as a tool. L: 79mm, W: 74mm, Th: 55mm. Iron Age. Field 197; Group **11063**; Context **25565**; fill of penannular gully **25564** in Structure 60iv; Period: 1; RF13731. Not illustrated.

700. An incomplete flat cobble with evidence of a polished patch on one face. L: 80mm, W: 80mm, Th: 24mm. Iron Age. Field 246; Context **24753**; wall foundation in penannular gully **24758** in Structure 48ii; Period: 1; RF12921. Figure 6.9.

701. An incomplete flat, fine-grained sandstone pebble with two smooth surfaces and at least one chamfered edge. This may have been used as a whetstone or some form of rubber or smoother. L: 71mm, W: 15mm, Th: 14mm. Iron Age. Field 201; Group **11930**; Context **11950**; fill of inner penannular gully **11949** in Structure 66; Period: 1; RF13730. Figure 6.9.

702. A flat cobble with slightly smoothed faces and one pointed end. L: 86mm, W: 53mm, Th: 17mm. Iron Age. Field 246; Group **31280**; Context **16339**; fill of penannular gully **16338** in Structure 50ii; Period: 1; RF11535. Not illustrated.

Flat and narrow

Similar stones to those described above. Cat. no. 703 has very fine score marks on one face and Cat. no. 704 has a triangular cross-section with one very smooth face. Cat. no. 705 looks like a whetstone but has quite polished faces.

703. A flat, narrow cobble with smoothed faces and one pointed end, which has a worn, bevelled edge. The two wide faces and one narrow face have fine scratch marks. L: 115mm, W: 37mm, Th: 18mm. Iron Age. Field 246; Context **31016**; fill of gully **31011**; Period: 1; RF12919. Figure 6.9.

704. A long thin cobble fragment with a roughly triangular cross-section and one very silky face with faint striations. L: 95mm, W: 19mm, Th: 16mm. Iron Age. Field 258; Context **26522**; fill of pit **26521**; Period: 4; RF12561. Figure 6.10.

705. A rectangular cobble with the wide faces smoothed from use. L: 74mm, W: 32mm, Th: 24mm. Iron Age. Field 246; Group **31276**; Context **16397**; third fill of penannular gully **24982** in Structure 47iv; Period: 2; RF11542. Figure 6.10.

Rounded

The rounded examples are of a different type of stone, with a speckled cream and red/black exterior. Cat. no. 706 is a large oval stone, with one smooth, discoloured, face. Cat. no. 707 is only a fragment but has the remains of three flattened surfaces. However, it is broken and has a burnt exterior and may have been used as a pot-boiler (see below).

706. An oval cobble of roughly triangular cross-section with a smoothed lower surface. Flaking on the pointed end also suggests limited use as a pounder. L: 140mm, W: 90mm, Th: 45mm. Iron Age. Field 246; Context **16435**; third fill of trench **16410**; Period: 4; RF11543. Figure 6.10.

707. A fragment of a rounded cobble with at least three flattened surfaces. L: 70mm, W: 55mm, Th: 45mm. Iron Age. Field 246; Group **31270**; Context **24715**; fill of penannular gully in Structure 48iii; Period: 1; RF12908. Figure 6.11.

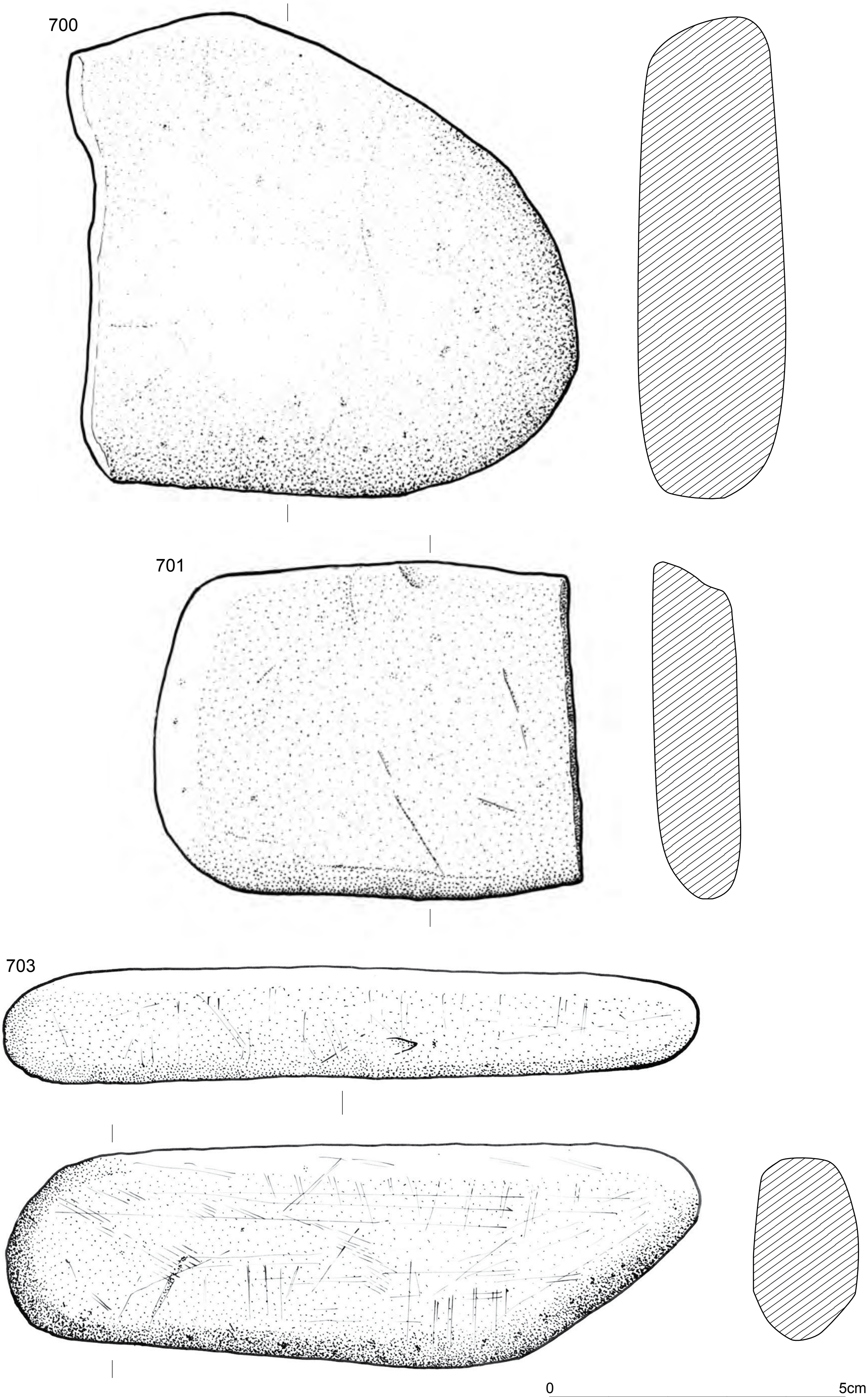


Figure 6.9: small finds, Cat. nos 700–703.

Other cobbles

Other cobbles in the stone assemblage show no obvious sign of use, but may have been tools.

708. Broken cobble, possible tool. One face slightly smoothed. Flat and wide. L: 77mm, W: 63mm, Th: 34mm. Iron Age. Field 246; Context **31156**; secondary fill of ditch **31092**; Period: 2–3; RF13732. Not illustrated.

709. Broken long, grey stone, possible grooves on one face. L: 103mm, W: 51mm, Th: 34mm. Iron Age. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**; Period: 4; RF12819. Not illustrated.

710. Large flat oval, possible cobble tool. L: 148mm, W: 76mm, Th: 45mm. Iron Age. Field 223; Group **30875**; Context **30773**; secondary fill of posthole **30771**; Period: 2–3; RF15251. Not illustrated.

Burnt cobbles

Cobbles, often broken and displaying signs of burning. Such fire-cracked stones may have been used for heating water, creating steam or cooking food by retained heat (Lowther 2016, 286).

711. Broken cobble with signs of burning/heat damage. L: 66mm, W: 53mm, Th: 41mm. Iron Age. Field 246; Group **31270**; Context **24715**; fill of penannular gully in Structure 48iii; Period: 1; RF15294. Not illustrated.

712. Broken cobble with signs of burning/heat damage. L: 75.3mm, W: 49.3mm, Th: 54.8mm. Iron Age. Field 246; Group **31272**; Context **24762**; secondary fill of gully **24761**; Period: 2–3; RF12914. Not illustrated.

713. Broken cobble with signs of burning/heat damage. L: 106.6mm, W: 71.2mm, Th: 43.5mm. Iron Age. Field 246; Context **16411**; secondary fill of trench **16410**; Period: 2; RF11540. Not illustrated.

Burnisher

An ironstone nodule (Cat. no. 714) had been extensively used as a polisher or burnisher.

714. A short nodule of ironstone with a triangular cross-section with at least four of the five faces polished and covered in fine striations. L: 32mm, W: 32mm, Th: 21mm. Iron Age. Field 246; Context **16411**; secondary fill of trench **16410**; Period: 2; RF13733. Figure 6.11.

Balls

There were three examples of balls; one from pit **24708** (Cat. no. 715) and two from the fill of the penannular ditch of Structure 47iii (Cat. nos 716 and 717). The second two at least appear to be water-worn pebbles, but deliberately shaped stone balls have been found on sites in south-east Scotland and north-east England, and locally at Stanwick and Street House (Lowther 2016, 284), and suggested uses are as gaming pieces, weights, sling-stones or ceremonial pieces (*ibid.*, 284), although some may have been collected and kept simply because they were intriguing objects in their own right. A palette, pierced stone disc and whetstone were found in Roman or later contexts (Cat. nos 771, 772 and 824); all are types that were used in both the Iron Age and Roman period.

715. A slightly flattened, buff sandstone ball. Diam: 58mm, H: 42mm. Iron Age. Field 246; Context **24708**; fill of pit **24707**; Period: 2; RF11590. Figure 6.11.

716. A roughly spherical cobble, with one area of spalling. Speckled cream stone. W: 58mm, H: 52mm, Weight: 276g. Iron Age. Field 246; Group **31267**; Context **24934**; upper fill of penannular ditch **24932** in Structure 47iii; Period: 2; RF13748. Figure 6.11.

717. A small oval pebble. Speckled cream stone. L: 43mm, W: 37mm, Th: 28mm, Weight: 72g. Iron Age. Field 246; Group **31267**; Context **24934**; upper fill of penannular ditch **24932** in Structure 47iii; Period: 2; RF13749. Figure 6.11.

ROMAN

Dress and personal adornment

Brooches

The Scotch Corner fields produced a total of nine copper-alloy brooches. There were two certain pre-Flavian brooches (Cat. nos 718 and 719), while the rest are Flavian or later. Although the trumpet and headstud brooches continue to be made well into the 2nd century, none need be later than the 1st century.

The pre-Flavian brooches consist of a P-shaped bow (Aucissa) brooch (Cat. no. 718) and a probable Hod Hill type (Cat. no. 719). Both were first brought over from the Continent by the Roman army and, due to their date, are more common south of the Humber (the only other examples of Aucissa brooches north of the Humber are from Aldborough and Rudston; Bayley and Butcher 2004, 151, figs 166 and 167). The earliest brooch of British design and manufacture in the assemblage is the pre-Flavian or Flavian Colchester derivative 'dolphin' brooch (Cat. no. 720), which is equally rare north of the Humber (there is an outlier at Corbridge; *ibid.*, fig. 171). An example from Brough, East Riding of Yorkshire, has similar wide wings (Corder and Romans 1938, fig. 9, no. 2).

The enamelled fantail (Cat. no. 721) is likely to date to the late 1st century AD. Mackreth (2011, 126) dates fantails from before AD80 to the mid-2nd century, but at Castleford it was noted that their fantails with discs were only found in 1st-century contexts (Cool and Philo 1998, 31), and mainly came from the *vicus* rather than the fort.

Two further enamelled brooches are headstuds, although they are of different types. An incomplete brooch from the workshop enclosure ditch in Field 246, probably dating to the late 1st century, did not have a loop for a chain at its base (Cat. no. 722). The second

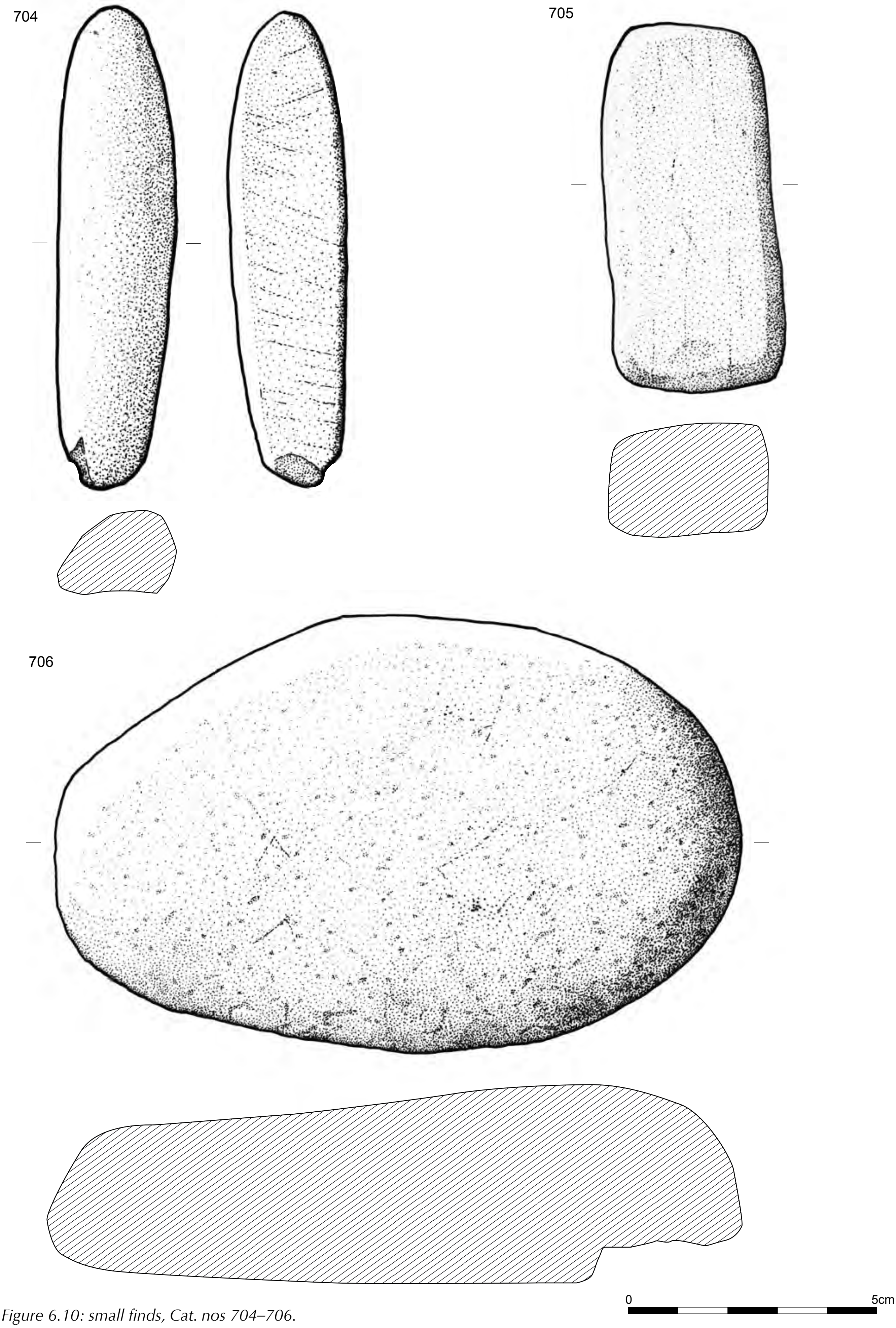


Figure 6.10: small finds, Cat. nos 704–706.

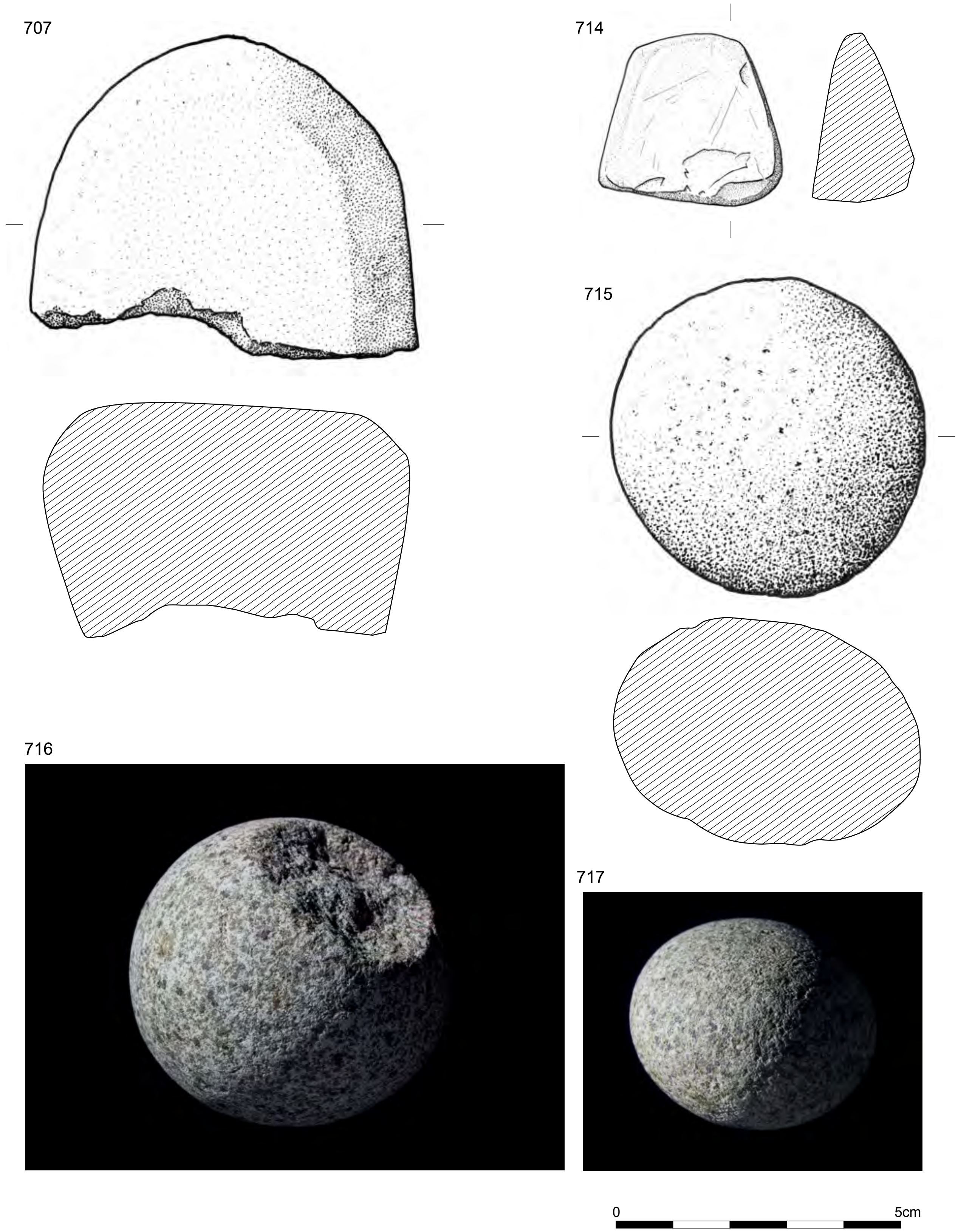


Figure 6.11: small finds, Cat. nos 707 and 714–717.

headstud brooch (AD50–150) had a loop made from the spring wire and closed by a grooved collar (Cat. no. 723). When worn in pairs on the shoulders to fasten a woman's tunic, brooches with such loops could have a decorative chain hung between them, and Cat. no. 723 still had a short length of chain connected to its loop by a small ring. Pairs of headstud brooches, complete with surviving chain, are known from London (Wardle 1998, fig. 19) and from near Market Weighton, Yorkshire, (with an oval-loop chain; PAS ID: YORYM-5589D6).

Most trumpet brooches also had similar loops and may have been used primarily by women. The Scotch Corner fields produced three trumpet brooches of varying designs, one of which was also decorated with enamel. Cat. no. 724 has an axial bar (square cross-section) with a thin sheet of copper alloy wrapped round it (not quite meeting) to make it circular, which is of a different alloy to that used for the rest of the brooch. Cat. no. 725 is an unusual type with a prominent grooved knob, the moulding of which extends round the back of the bow, and a slight rilled moulding between ridges both above and below. Both the head and the bow are decorated with grooves, and the underside of the foot has three grooves forming a triangle. The front of the knob and the bow just above it are both worn. The third trumpet brooch is a very battered fragment from a road surface in Field 258 (Cat. no. 726). The earliest trumpet brooches date to before AD75 and they probably continued to be made until at least the middle years of the 2nd century (Bayley and Butcher 2004, 160–1, 163).

718. Incomplete copper-alloy P-shaped bow (Aucissa) brooch with an iron axial bar and no surviving decoration other than the ridges on the bow. L: 34mm, W: 17mm, H: 16mm. AD43–70. Field 258; Group **28131**; Context **15064**; secondary fill of ditch **15063**; Period: 4; RF12507. Figure 6.12.

719. Incomplete copper-alloy bow brooch in poor condition; probably a Hod Hill. It has a bow with a flat back (with surviving file marks) and a ridge that runs the complete length; the edges and front of the bow are badly damaged, and any decoration is now lost. The bow widens to meet the head, which has a slot for a hinged pin and an iron axial pin. Impressions in the soil when it was in the ground suggest it had short arms (overall W: 18mm) and was at least 44mm, long. Cf. Mackreth (2011, plate 98) no. 14637; Bayley and Butcher (2004, 76) group d. L: 33mm, W: 8mm, H: 10mm. AD43–70. Field 258; Group **28131**; Context **15407**; sixth fill of pit **15406**; Period: 4; RF12544. Figure 6.12.

720. Incomplete copper-alloy hinged Colchester derivative 'dolphin' brooch. It has no decoration other than a moulding and grooves on the end of the wings, which are very wide for the length of the bow. Mackreth (2011) type CD H, 4k. L: 48mm, W: 44mm, H: 22mm. Pre-Flavian to Flavian. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**; Period: 4; RF12508. Figure 6.12.

721. Incomplete copper-alloy fantail brooch with disc. There is turquoise enamel in the central roundel and traces of red in the inner circle; that in the outer circle is decayed. The top and right-hand triangle in the foot also have traces of red enamel. The damaged projections on the sides of the disc are likely to have two prongs (cf. Mackreth 2011, plate 86, nos 5589 and 11876). Mackreth (2011), type TR 4.1. L: 35mm, W: 16mm, H: 12mm. Late 1st century. Field 265; Context **31590**; colluvial deposit between roads; Period: 5+; RF13059. Figure 6.12.

722. Incomplete copper-alloy headstud brooch with a hinged pin. It has a raised triangular stud, instead of the more common circular one, and two rows of triangles filled with traces of a now-green enamel. Mackreth (2011) HDST type 2, but the edges are too damaged to see if they were originally toothed. L: 29mm, W: 20mm, H: 11mm. Mainly late 1st century. Field 246; Context **15635**; secondary fill of ditch **15643**; Period: 4; RF10134. Figure 6.12.

723. Complete copper-alloy headstud brooch with a ring of red enamel in the stud and rectangles of red alternating with now-green enamel down the bow. It has a sprung pin with seven coils and the chord held by a forward-facing hook. The chain loop is incomplete but had a pendant loop, now incomplete, attached. Another loop was associated with the brooch, fastened with a grooved collar and a small fragment of foxtail chain in poor condition. Mackreth (2011), type HDST 3a. L: 60mm, W: 17mm, H: 19mm, chain L: 24mm, Th: 3mm. Second half of 1st century to mid-2nd century. Field 265; Context **31791**; midden material beneath RR6; Period: 4; RF13227. Figure 6.12.

724. Incomplete copper-alloy enamelled trumpet brooch with a sprung pin. Red enamel is used for the decoration on the head and the two rows of triangles down the bow. It has an elaborate knob, with a flattened version of the moulding on the back of the bow, and rilled decoration below it and on the foot. Mackreth (2011), TR type. L: 59mm, W: 16mm, H: 26mm. Late first to mid-2nd century. Field 258; Context **26231**; Group **28133**; secondary fill of ditch **15063**; Period: 4; RF12526. Figure 6.13.

725. Unusual copper-alloy trumpet brooch with prominent grooved knob, with incomplete pin. Cf. Mackreth (2011, plate 82, no. 5221), type TR 1.3b2, including Prestatyn mould, although this has a different head type, and *ibid.* (2011, plate 83, no. 5234) with rectangular head. L: 43mm, W: 18mm, H: 21mm. Late 1st or early 2nd century. Field 265; Context **31795**; aggregate surface in hollow-way **31728**; Period: 1–3; RF13231. Figure 6.13.

726. A section of the head of a small copper-alloy trumpet brooch, in poor condition. L: 15mm, W: 7mm, Th: 8mm. Flavian to mid-2nd century. Field 258; Context **26658**; aggregate surface of trackway; Period: 5+; RF12563. Figure 6.13.

Bangles

The two fragments of glass bangles are both Type 2Ai bangles (Price 1988, 342), made of translucent blue-green glass with a twisted cord of dark blue and white (Cat. nos 727 and 728). There is also another residual fragment in a mid- to late-Roman context from Field 265 (RF13041; to be catalogued in Ross and Ross in prep.). The earliest glass bangles have been found in legionary fortresses in the south and it was the military who brought them to the north (Ivleva 2018, 2). This type is considered to be essentially Flavian in date (Hunter *et al*. 2009, 137), but all three examples here are residual.

727. Fragment of Type 2Ai glass bangle (Price 1988, 342). Translucent blue-green, with a twisted cord of dark blue and white. W: 9mm, H: 7mm. Flavian. Field 246; Context **15502**; subsoil; Period: none; RF10180. Figure 6.14.

728. Fragment of Type 2Ai glass bangle (Price 1988, 342). Translucent blue-green, with a twisted cord of dark blue and white. W: 10mm, H: 7mm. Flavian. Field 265; Context **31519**; fill of plough furrow adjacent to grave **31507**; Period: medieval–post-medieval. RF13012. Figure 6.14.

Finger-rings

The silver ring from pit **31610** (Cat. no. 729) is unusual in having a circular cross-section and decoration of unevenly spaced transverse grooves. This is a comparatively simple design for a silver ring and is not very common. A similar ring with transverse grooves, although ones that extend round the outer edge but not the inner, was found in a context with 2nd-century pottery at Wakefield, West Yorkshire (PAS ID: SWYOR-3FAA73).

The copper-alloy ring (Cat. no. 730) has a simple expanded bezel with a setting of orange enamel. Similar rings with purely decorative enamel settings have been found at Castleford, including one from a context dated to c.AD85–100 (Cool and Philo 1998, 58, nos 162, 169–70, and fig. 18, nos 162 and 165, with missing setting). The small size suggests it was worn on the upper part of the finger or by a woman. The penannular loop (Cat. no. 731) is a suitable size for a finger-ring, but could equally be an attachment loop, or a convenient way to store a length of wire.

All three of the iron rings are incomplete, but all expand at the bezel for a glass or stone fitting. Cat. no. 732 contains a very small intaglio standing slightly proud of ring within a wide bezel, while Cat. no. 733 has a larger intaglio, also standing proud, with an extremely narrow margin to the bezel to either side. The third ring, Cat. no. 734, has a long, flat bezel, but the setting is empty.

729. Silver ring made from a circular cross-sectioned rod, slightly flattened on both faces, that has been welded together to form an annular loop. There are unevenly spaced transverse grooves that taper but continue on the inner surface of the loop, although they do not extend round the outer edge, leaving a 2.5mm gap. It is unclear if this is intentional or the result of heavy wear evenly distributed round the entire loop. SEM-EDS analysis indicates a silver content of 98.4% (see Chapter 9). Diam: 27mm (external), 19mm (internal), Th: 4mm. Field 265; Context **31591**; primary fill of pit **31610**; Period 5; RF13057. Figure 6.14.

730. Incomplete copper-alloy finger-ring with simple expanded bezel with a setting of orange enamel. L: 18mm, Diam: 14.8mm (internal), Th: 2–5mm. 1st or 2nd century. Field 258; Context **15000**; topsoil; Period: none; RF12597. Figure 6.14.

731. Penannular copper-alloy loop of roughly circular cross-sectioned wire, with overlapping terminals. Poor condition. L: 17mm, W: 17mm, Th: 2mm. Field 265; Context **31746**; fill of ditch **31787**; Period: 4; RF13222. Figure 6.14.

732. Incomplete iron ring with expanded bezel set with small oval intaglio (Cat. no. 735), with a narrow band of sub-rectangular cross-section. W: 12mm (bezel), 5mm (band), Th: 4mm. Field 258; Group **28131**; Context **26661**; upper fill of pit **26582**; Period: 4; RF13623. Figure 6.14.

733. Incomplete iron ring with an oval hoop that expands towards the shoulders to accommodate an intaglio (Cat. no. 736). L: 31mm, W: 26mm, Th: 14mm (max), 5mm (min). 1st or 2nd century. Field 265; Context **31591**; primary fill of pit **31610**; Period: 5; RF13062. Figure 6.14.

734. Incomplete iron ring with an oval hoop that expands slightly towards a wide flat bezel with an empty setting for an intaglio. L: 23mm, W: 15mm, Th: 9mm (bezel) and 4mm (band). 1st or 2nd century. Field 265; Group **29955**; Context **31660**; fabric of Structure 39; Period: 5; RF13078. Figure 6.14.

Intaglios

The exact shapes of the two intaglios are unclear as both are still set in iron rings. Cat. no. 735 has a very slightly convex face with a rounded edge between the face and the narrow, bevelled edge (cf. Zienkiewicz 1986, fig. 45, profile D or E). It is a very small stone but has quite a detailed carving of a leaping lion (cf. Henig 1978, plate XX, no. 640). An attacking lion can represent power and strength, but the presence of the star suggests this lion has astrological significance, either representing the Zodiac or as a solar symbol (Swift 2017, 187). Such an interpretation is given to a walking lion with a crescent moon above it and a tail transformed into an ear of corn on an unprovenanced intaglio now in the Fitzwilliam Museum, Cambridge; the three lines on the end of the tail on the Scotch Corner intaglio could conceivably have been intended as just such an ear (Henig 1994, 168, no. 358). The identification of the oval object underneath the lion is uncertain, since while lions are shown with the head of a deer or a goat, or with a crescent moon lying

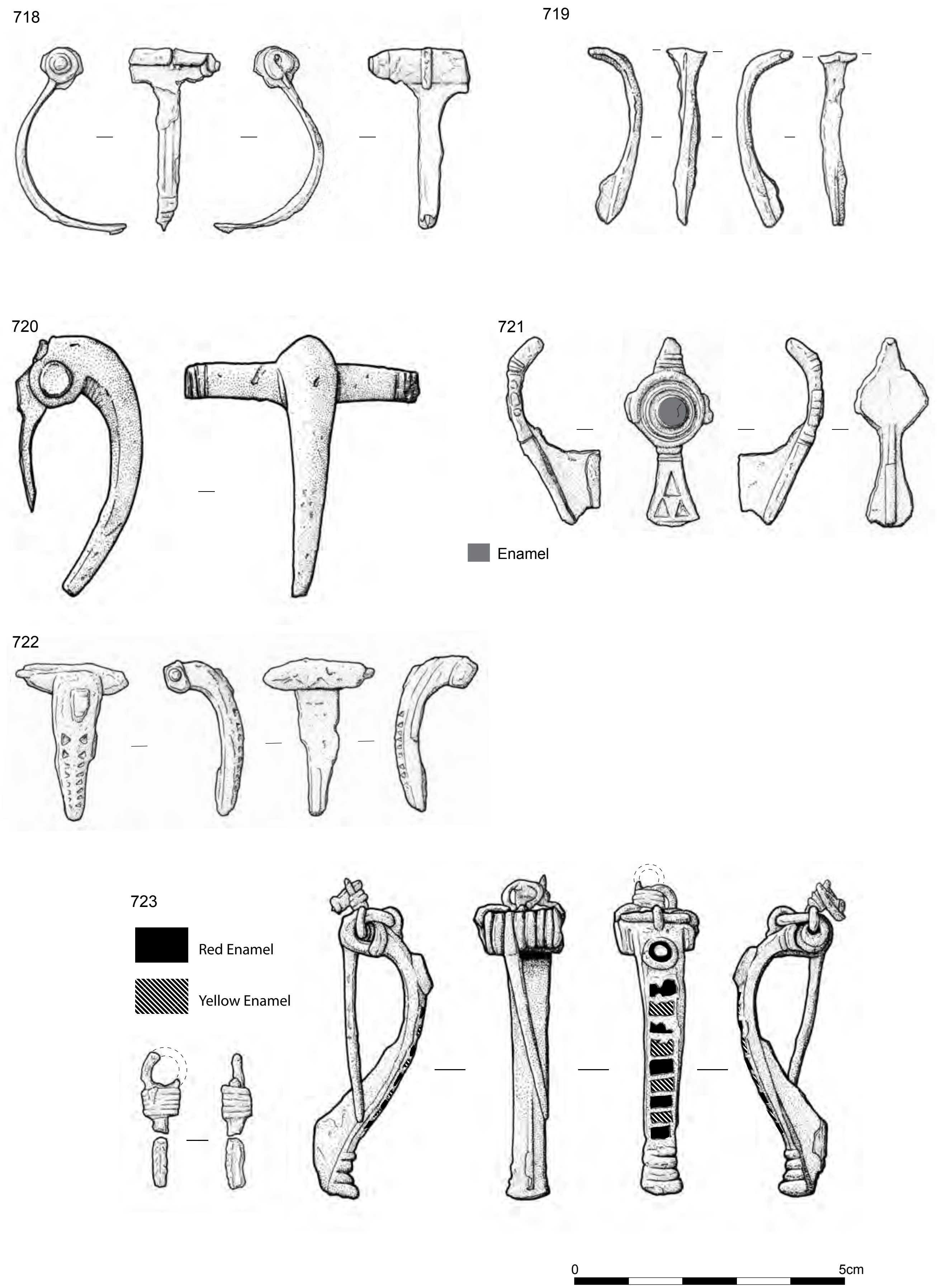


Figure 6.12: small finds, Cat. nos 718–723.

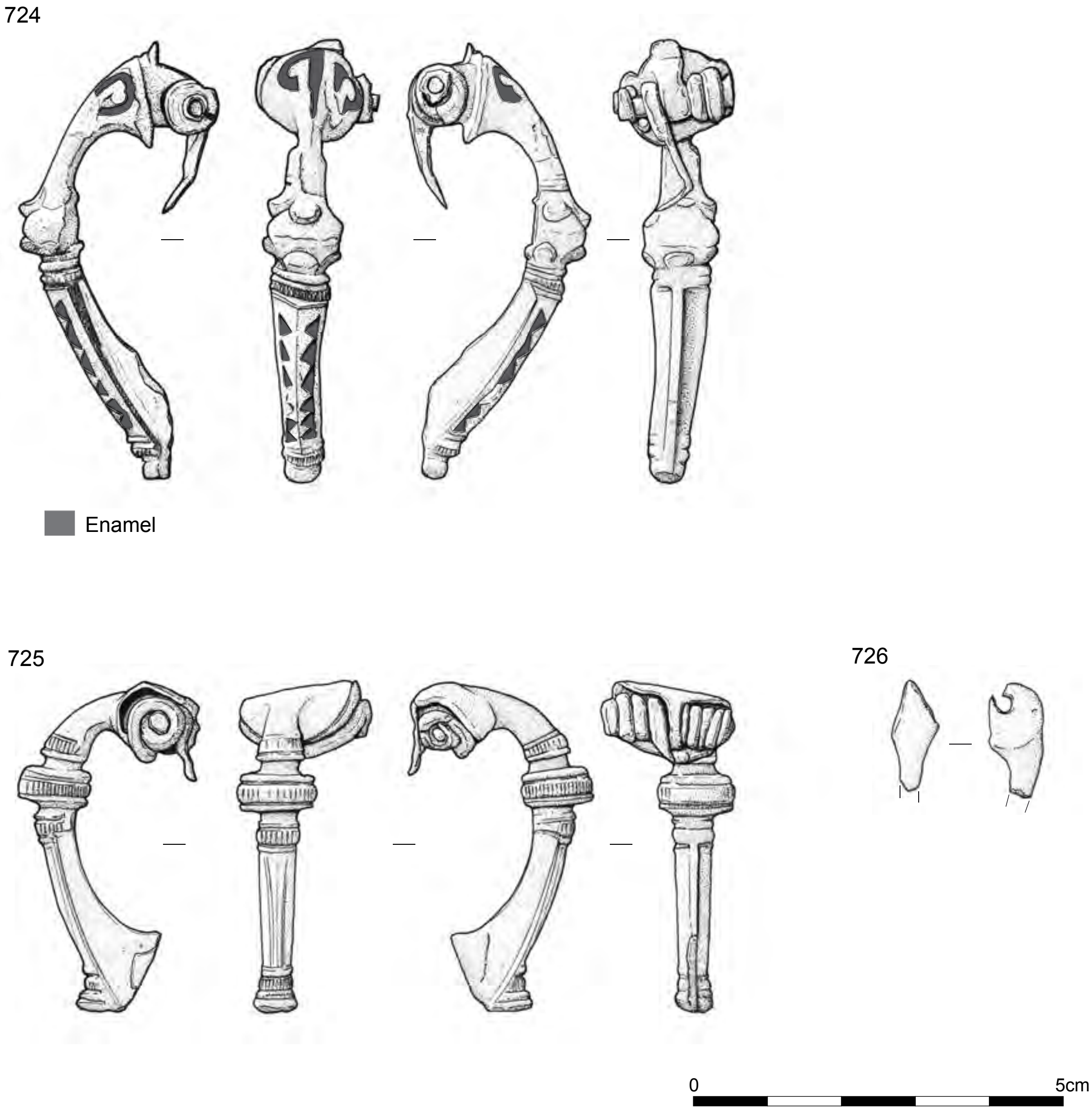


Figure 6.13: small finds, Cat. nos 724–726.

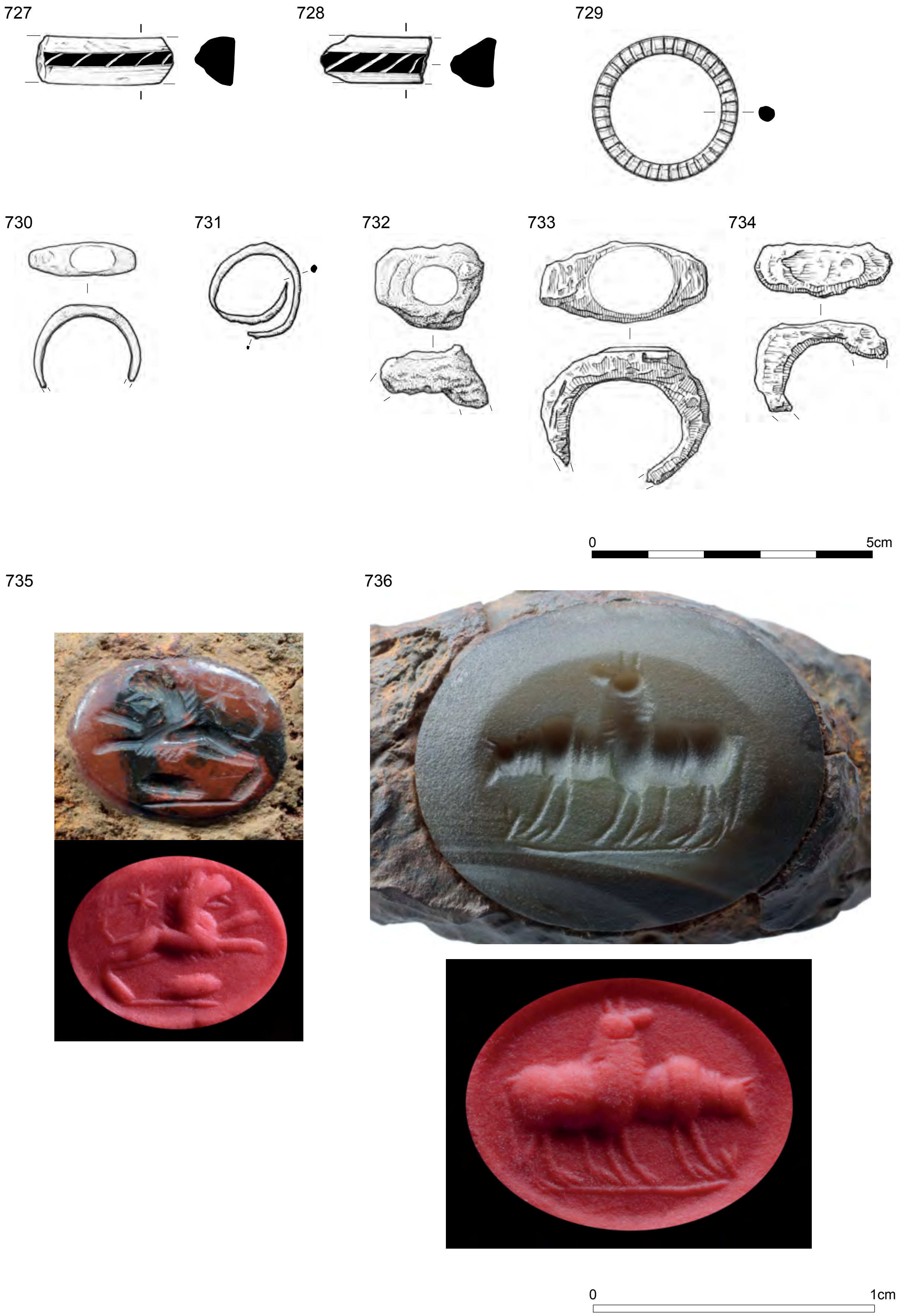


Figure 6.14: small finds, Cat. nos 727–736.

almost on its back alongside a star, there is no parallel for anything of this shape (cf. Zwierlein-Diehl 1979, taf. 95, 552; Hamburger 1968, plate V, no. 108, also no. 113). The mottled colouring and the small size of the stone makes the image hard to see, which is typical of 1st- and 2nd-century intaglios where the colour of the stone in the ring was just as important as its use as a seal, and the full detail of the carving was not visible until it had been impressed in the wax.

The second intaglio (Cat. no. 736) has a slightly convex face with quite a wide bevelled edge (cf. Zienkiewicz 1986, fig. 45, profile J). The stone has an unpolished surface, and the edge of the intaglio shows some chipping. The pastoral scene of grazing cattle is quite common on intaglios and reflects the ideal of peace and prosperity found in the countryside (cf. Henig 1978, plate XIX, nos 597–9).

735. Small oval intaglio in opaque red jasper with irregular black markings, set in the remains of an iron ring (Cat. no. 732). It shows a lion leaping to the left over an unidentified oval object just above a ground line; while a moon or star is sometimes shown underneath a lion this is not usually depicted with a ground line present, and those lions shown with a deer's head usually have it in its mouth or between its paws. Between the lion's mane and its raised tail with three hairs there is an eight-point star. L: 9mm, W: 7mm, 9mm (ring). 1st or 2nd century. Field 258; Group **28131**; Context **26661**; upper fill of pit **26582**; Period: 4; RF13623. Figure 6.14.

736. Oval intaglio with bevelled edges in translucent banded agate, set in an iron ring (Cat. no. 49). The stone is a dark khaki in colour with a darker band with pale margins and lines towards the lower edge. It depicts two grazing cattle standing on a ground line. One has a raised head and the other lowers its head to a clump of grass. L: 15mm, W: 12mm. 1st century AD. Field 265; Context **31591**; primary fill of pit **31610**; Period: 5; RF13062. Figure 6.14.

Beads

Elizabeth M. Foulds

Individual beads are quite often found at Iron Age and Roman settlement sites. Their presence is usually attributed to accidental loss, rather than intentional deposition. The challenge with single beads is that supporting contextual information to demonstrate how they were used at the time of their loss is generally absent. For example, was the bead used in an earring, a necklace, a bracelet, or in some other way? Furthermore, by their nature, multiple beads are used together to create a whole object, which means that when single beads are found there can be no understanding of the other types (shape, size, colour) of beads that they were used with and the patterns that were created from them. It is normally the case that this information can only be gained from funerary contexts, where collections of beads are found together and were sometimes worn by the deceased individual. Despite this, analysis of individual beads found by archaeological excavation can provide an indication of people present at a site in the past.

A small assemblage of beads was found in the excavations of Late Iron Age and Early Roman period deposits. Although most were found in Period 4 contexts (c.AD96–122), two were found in earlier contexts.

There is not a standard for recording or reporting on Roman-period glass beads. This section largely follows the protocol set out for Iron Age glass beads (Foulds 2017), as well as terminology and reporting structures as set out by key authors (Guido 1978; Swift 2000).

A total of 26 beads was recovered, which were made of amber, copper alloy, faience, glass and jet (Table 6.3), along with some unidentifiable amber flakes. Eight of the beads could be described, but not dated further as they were not chronologically distinctive. Perhaps what is most unusual about the assemblage is the proportion of faience beads compared to glass beads.

Amber and jet

Several small amber fragments (Cat. nos 737–8) were found in two contexts (**24062** and **26162**). None of these fragments made up a complete bead, but in each of the groups there was a fragment with the remains of the perforation hole, which suggested that at least two of the fragments were from beads. Amber was used in prehistoric Britain, especially prior to the Iron Age (Beck and Shennan 1991). Its use during the Roman period, particularly as a part of magic, has also been noted (Davis 2018).

One jet bead of large diameter was found (Cat. no. 739). Jet was used for complex Early Bronze Age necklaces (e.g. Woodward and Hunter 2015), but was not used extensively during the Iron Age, although there are similar large rings from Iron Age burials at Wetwang Slack (Dent 1984, grave 421) and Kirkburn (Stead 1991, grave K6) in East Yorkshire. Use of jet for jewellery in the Roman period grew from as early as the 2nd century AD; later, it regained popularity as a material for devotional accessories in the medieval period and for decorative jewellery in the Victorian period (Allason-Jones 1996). This bead cannot be directly attributed to a specific period on stylistic grounds.

737. Five amber fragments from a bead, with a least one retaining a partial perforation. Undiagnostic. Field 246; Group **31261**; Context **24062**; buried soil; Period: 4; RF13196. Not illustrated.

738. Two fragments of amber. One fragment has a partial perforation channel. Undiagnostic. Field 258; Context **26162**; secondary fill of well **26153**; Period: 4; RF14504. Not illustrated.

739. Almost half of a large jet ring bead. Diam: c.33mm, H: 76.6mm. Undiagnostic. Field 201; Context **11963**; fill of ditch **11906**; Period: post-medieval; RF10103. Figure 6.15.

Faience
The largest proportion of beads were faience melon-type beads. It is not clear how they were used, but there is some evidence to suggest that strands were carried, if not worn (Scatozza Höricht 1989; see also finds with skeleton no. 2 in Casa del Menandro room 19 in Allison 2006, 82), and there has been suggestion that they had other decorative uses, such as on horse harnesses (see Hoffman 2003 for an overview). There is also evidence to suggest that melon beads were used as amulets for an apotropaic purpose (Höpken 2003; Simmonds *et al*. 2008, cremation burial 1266; Ridgeway *et al*. 2013; Cooper 2014), which may not be exclusive of other uses.

All the melon beads were found in Field 258, but only five were complete. The remaining 11 examples ranged from less than 10% to approximately 50% complete. Complete height measurement permits estimation of original diameter dimensions using the diameter:height ratio of 1.2. This shows that most of the beads were of comparable size to other melon beads found in Britain (from a sample of 180).

The group of five melon beads found together in the secondary fill of pit **14510** (Cat. nos 743–7) are noteworthy. All were complete, except for Cat. no. 746, and were of a similar size. When beads are found in the same context in a feature other than in burial contexts, it becomes tempting to suggest that they were used together. As discussed above, there are examples in Britain and in Italy that suggest that multiple melon beads were strung together, and this seems plausible in this case.

740. Approximately one quarter of a faience melon bead with traces of dark blue on the surface. H: 19.8mm. 1st–2nd centuries AD. Field 258; Context **15282**; fill of pit **15281**; Period: 4; RF10065. Not illustrated.

741. Two small fragments of a turquoise faience melon bead. 1st–2nd centuries AD. Field 258; Context **15300**; secondary fill of ditch **15232**; Period: 4; RF10061. Not illustrated.

742. Less than one quarter of a faience melon bead with bright turquoise glaze remaining intact. 1st–2nd centuries AD. Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**; Period: 4; RF10068. Not illustrated.

743. Complete turquoise faience melon bead. Diam: 14.6mm, H: 12.4mm, perforation Diam: 6.1–6.3mm. 1st–2nd centuries AD. Field 258; Context **15411**; secondary fill of pit **15410**; Period: 4; RF10094. Figure 6.15.

744. Complete turquoise faience melon bead, but possibly malformed or damaged. Diam: 12.5mm, H: 10.2mm, perforation Diam: 4.9–5.2mm. 1st–2nd centuries AD. Field 258; Context **15411**; secondary fill of pit **15410**; Period: 4; RF10093. Figure 6.15.

745. Complete turquoise faience melon bead. Diam: 12.4mm, H: 10.1mm, perforation Diam: 5.3–5.7mm. 1st–2nd centuries AD. Field 258; Context **15411**; secondary fill of pit **15410**; Period: 4; RF10092. Figure 6.15.

746. Five fragments of a turquoise faience melon bead making up approximately 50% of a bead. H: 10.5mm. 1st–2nd centuries AD. Field 258; Context **15411**; secondary fill of pit **15410**; Period: 4; RF10089. Not illustrated.

747. Complete turquoise faience melon bead. Diam: 13.4mm, H: 15.1mm, perforation Diam: 5.5–6.0mm. 1st–2nd centuries AD. Field 258; Context **15411**; secondary fill of pit **15410**; Period: 4; RF10088. Figure 6.15.

748. Less than one quarter of a faience melon bead with bright turquoise glaze. H: 10.7mm. 1st–2nd centuries AD. Field 258; Context **15457**; secondary fill of gully/beam-slot **27001**; Period: 4; RF10095. Not illustrated.

749. Complete turquoise faience melon bead. Diam: 14.2mm, H: 11.4mm, perforation Diam: 6.2mm. 1st–2nd centuries AD. Field 258; Group **28161**; Context **26294**; fill of ditch **26317**; Period: 4; RF12531. Figure 6.15.

750. Less than one quarter of a faience melon bead with bright turquoise glaze. H: 8.1mm. 1st–2nd centuries AD. Field 258; Context **26328**; secondary fill of pit **26325**; Period: 4; RF12536. Not illustrated.

Table 6.3: summary of beads by Field and material.

Material	Type	Date	Count
Amber	–	–	2
Copper alloy	Annular	–	1
Faience	Melon	1st–2nd centuries AD	16
Glass	Annular/globular	–	4
	Gold-in-glass	usually Late Roman	1
	Segmented (3)	1st century AD+	1
Jet	Ring	–	1
Total			**26**

751. Half of a faience melon bead with traces of turquoise. Diam: 16.4mm, H: 11.7mm, perforation Diam: 8.8–9.2mm. 1st–2nd centuries AD. Field 258; Context **26488**; fill of ditch **26487** and cistern **26223**; Period: 4; RF12537. Not illustrated.

752. Approximately one quarter of a faience melon bead with traces of bright turquoise glaze. H: 14.5mm. 1st–2nd centuries AD. Field 258; Group **28167**; Context **27082**; fill of ditch **27081**; Period: 4; RF12525. Not illustrated.

753. Less than one quarter of a faience melon bead with traces of blue on the surface. H: 13.8mm. 1st–2nd centuries AD. Field 265; Context **31684**; midden material adjacent to RR3/RR5; Period: 4; RF13070. Not illustrated.

754. Almost one half of a faience blue melon bead with traces of bright blue glaze in the voids created by the ribbing. H: 13.9mm. 1st–2nd centuries AD. Field 265; Group **29961**; Context **31774**; foundation layer of RR6; Period: 4; RF13223. Not illustrated.

755. Approximately one quarter of a faience melon bead with traces of blue on the surface. H: 13.6mm. 1st–2nd centuries AD. Field 265; Group **29972**; Context **31790**; colluvial deposit infilling hollow-way **31728**; Period: 4; RF13230. Not illustrated.

Copper alloy

There was a single annular bead made from copper alloy (Cat. no. 756). There are no typologies of Roman copper-alloy beads, but an increasing number have been identified. Given their size, it is unlikely that they were used for jewellery in the traditional sense and may have been for decorating other things.

756. Complete copper-alloy annular bead. Diam: 16.2mm, H: 8.4mm, perforation Diam: 8.8mm. Undiagnostic. Field 246; Context **15565**; disturbed aggregate north-west of Dere Street; Period: 5+; RF10141. Figure 6.15.

Glass

Of the six glass beads, two were Roman types. These include a gold-in-glass type (Cat. no. 760) and a triple segmented dark blue bead (Cat. no. 759). Gold-in-glass beads were made by layering small amounts of colourless glass and gold foil, which gives the appearance of a solid gold bead. They are usually considered to be a late Roman type (Guido 1978, 94), but this example was found in a Period 1–2 palisade trench, making it very early. Due to its small size, it is possible that the bead is intrusive in this context. Segmented beads are another staple of the Roman types and give the appearance of several smaller annular beads strung together negating the need to make many small beads. Sometimes, this type appears to be a crimped tube of glass, rather than making clear definite conjoined segments, but this example is of the latter type. Both beads would have been used on jewellery.

The remaining four beads are all globular or annular in shape. They are not closely dateable but warrant brief remark. Cat. no. 762 is only one quarter of a very small translucent green globular bead, so little more can be said, but is of a size and colour that would have been used on jewellery. Cat. no. 761 was made from a translucent mid-brown glass. It has one flat side, while the other size is convex, suggesting that it was made from a droplet of glass that was subsequently perforated while still hot, and roughly finished. Both Cat. no. 758 and Cat. no. 757 are large translucent dark annular beads. Cat. no. 757 has the remains of baked clay lining the inside of the perforation, which is likely to be left-over from the manufacture process. Similar baked-clay lining was found at the glass bead workshop excavated at Gresham Street, London (Casson *et al.* 2014). Both beads are too large for the styles of jewellery worn in the Roman period, but they are not unusual finds at Late Iron Age or 1st-century AD sites.

757. Half of a translucent cobalt blue annular bead with clay lining inside the perforation. Diam: 21.6mm, H: 15.1mm, perforation Diam: 8.2mm. Undiagnostic. Field 258; Group **28131**; Context **15360**; primary fill of pit **15386**; Period: 4; RF10071. Figure 6.15.

758. Half of a translucent cobalt blue annular bead. Spherical bubbles in the glass. No weathering on surface. Diam: 15.6mm, H: 8.1mm, perforation Diam: 6.5mm. Undiagnostic. Field 258; Group **28131**; Context **26207**; sixth fill of pit **26201**; Period: 4; RF12535. Figure 6.15.

759. Complete translucent dark blue bead with three segments. Diam: 5.1mm, H: 8.5mm, perforation Diam: 1.3mm. 1st century AD+. Field 258; Group **28156**; Context **26437**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12885. Figure 6.15.

760. Globular gold-in-glass bead. One perforation end has been smoothed, but the other has a slight collar possibly from being attached to another bead. Diam: 6.3mm, H: 4.8mm, perforation Diam: 1.9mm. Usually late Roman. Field 223; Context **30859**; fill of palisade trench **30580**; Period: 1–2; RF12779. Figure 6.15.

761. Complete translucent brown annular bead made by piercing a drop of molten glass. Diam: 8.8mm, H: 3.4mm, perforation Diam: 1.4mm. Undiagnostic. Field 265; Context **31733**; midden material between roads RR5 and RR6; Period: 4–5; RF14550. Figure 6.15.

762. Approximately one quarter of a translucent green globular/spherical glass bead. H: 4.2mm. Undiagnostic. Field 267a; Group **33103**; Context **31836**; fill of palisade trench **31835**; Period: 2; RF14505. Not illustrated.

Footwear

A minimum of 171 hobnails were recovered from Fields 258 and 265, although the majority (n=110) came from just three features. There were four groups containing over 20 hobnails, and therefore likely to be from a sole

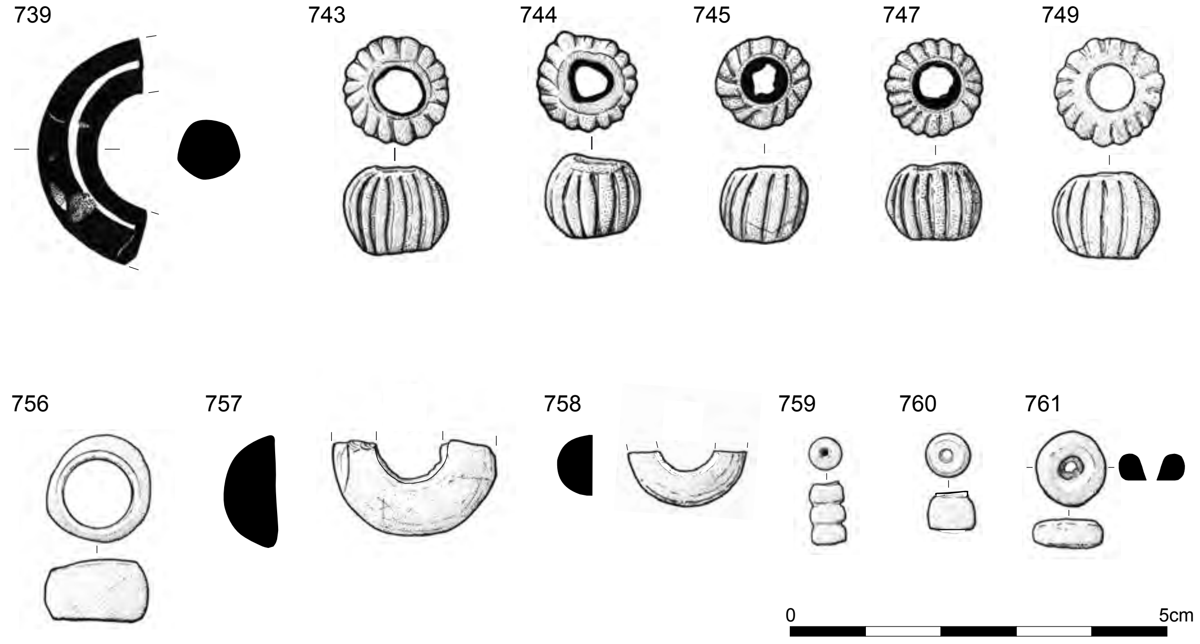


Figure 6.15: small finds, Cat. nos 739, 743–745, 747, 749 and 756–761.

that was complete or largely complete at the time of deposition. Three of the groups came from ditches, a common dumping ground for worn-out footwear, along with other rubbish. There were at least 52 hobnails from enclosure ditch group **28150** in Field 258, mainly with c.9mm-diameter heads, which were found in two groups of 26 (Cat. nos 763 and 764). The other sole came from enclosure ditch group **28150** (Cat. no. 765) and had 37 surviving hobnails, measuring c.11mm in diameter, from a sole c.10mm thick, including some little-worn examples.

The fourth group (Cat. no. 766) was found in the earthen floor (**31707** and **31743**) of Structure 38 in Field 265 and consisted of hobnails in two different sizes, some of which were worn almost flat while others were still conical, which could represent fragments from more than one item of footwear; the floor layers contained a lot of other refuse and the hobnails are likely to be rubbish rather than a deliberate deposit of a complete shoe.

763. A nailed shoe with at least 26 iron hobnails. Diam: 9mm. Field 258; Group **28150**; Context **26586**; fill of ditches **15315**, **26585**; Period: 4–5; RF12549. Not illustrated.

764. A nailed shoe with at least 26 iron hobnails. Diam: 9mm and 11mm. Field 258; Group **28150**; Context **15314**; fill of ditch **15315**; Period: 4–5; RF12586. Not illustrated.

765. A nailed shoe with at least 37 iron hobnails. Diam: 10–11mm, L: 26mm, Th: c.10mm. Field 258; Group **28158**; Context **26943**; primary fill of ditch **15173**, **15229**, **15279**, **15329** and **26886**; Period: 4; RF12556. Not illustrated.

766. Nailed shoe or fragments of shoes with at least 20 iron hobnails. Diam: 8–9mm and 11–12mm. Field 265; Group **29958**; Context **31707**, **31743**; earthen floor of Structure 38; Period: 4; RF13728. Not illustrated.

Toilet and medicine

There are three fragments of mirror in high-tin copper alloy, probably representing a total of two mirrors. Two are in a very dark green, almost black metal, and vary in thickness between 1.3mm and 2.3mm (Cat. no. 767). The third, very small, fragment is mid-green in colour and is only 0.7mm thick (Cat. no. 768). The mirrors were perhaps commonly kept in wooden cases, since the high percentage of tin in the alloy made them very brittle (Lloyd-Morgan 1995, 125; 2005, 187), and Cat. no. 767 shows evidence of reuse after damage. The outer edge has been filed down and no longer follows the same curve as the concentric grooves on the faces, so it is probable the mirror has been broken and re-shaped at some time. The extensive scratch marks on the surface are paralleled on fragments of mirrors from the Flavian site at Roecliffe (Bishop 2005, fig. 28, nos 17–18).

Many, if not all, of the Early Roman mirrors found in Britain were imports from workshops in Nijmegen and are most common in southern England (Eckardt and Crummy 2008, 32). The mirrors indicate the presence of people with the leisure time and inclination for grooming and an interest in their personal appearance; while activities, such as shaving, the applying of cosmetics and hair-styling would be carried out by slaves, the subject wanted to see the results for themselves. In the Iron Age, mirrors seem to have been associated with women, but in the Roman period they also seem to be used by men (*ibid*., 31–2).

Cat. no. 769 might possibly be a toilet implement from a chatelaine set; it has an attachment loop and cast grip decorated with bead and reel. The flat blade suggests it was a nail cleaner, but it does not have the usual bifid tip, while its asymmetrical shape is more reminiscent of curved picks (*ibid.*, fig. 59, nos 95 and 1331, fig. 106). There are fine wavy lines running down the length of the piece from its manufacture which would have created a patterned blade. A shank from pit **26582** that tapers towards each end could be a cosmetic implement or pin (Cat. no. 770).

Cat. no. 771 has a roughly oval smoothed patch in the centre of the upper surface where it has been used as a palette for the dry grinding or wet mixing of fine powders for medicine, pigments or cosmetics. The size of the stone suggests a more industrial use than the fine mixing of cosmetics or medicines usually carried out on the professionally produced Roman palettes made from fine-grained stones (*ibid*., 39, figs 11a–b and g). It was recovered from an unstratified context and such a simple palette could be either Iron Age or Roman in date.

767. Two fragments of a flat copper-alloy mirror. Towards the centre of the outer face there is a spiral of three to four fine grooves, surrounded by a slightly deeper groove (Diam: 20mm). There are very fine concentric manufacturing lines over the whole surface. The reflective face has two groups of very fine grooves near the edge, but they would not have been very visible. The rest of the surface has fine scratches running in all directions across it from polishing. Diam: c.75mm, Th: 1.75mm. Field 258; Group **28131**; Context **15076**; fill of pit **15296**; Period: 4; RF10014; not illustrated; and Group **28156**; Context **15178**; fill of equivalent ditches **15179**, **15183**, **15222**, and **15324**; Period: 4; RF10026. Figure 6.16.

768. Minute fragment of a copper-alloy mirror with one glossy surface with very fine incised concentric grooves. The other face has fine manufacturing grooves and some scratch marks. L: 15mm, W: 8mm, Th: 0.7mm. Field 258; Context **26522**; fill of pit **26521**; Period: 4; RF12559. Not illustrated.

769. Small copper-alloy pick with an incomplete suspension loop, a grip with central beading and a thin, flame-shaped blade. L: 40mm, W: 9mm, Th: 3mm (grip), 0.7mm (blade). Field 265; Group **29957**; Context **31695**; foundation layer of RR5; Period: 4; RF13071. Figure 6.16.

770. Shank from an incomplete copper-alloy pin or cosmetic implement. L: 80mm, Diam: 2.5mm. Field 258; Group **28131**; Context **26661**; upper fill of pit **26582**; Period: 4; RF12564. Not illustrated.

771. A roughly rectangular sandstone slab split along bedding planes and with an unworked lower surface. L: 175mm, W: 120mm, Th: 30mm. Field 267a; Context **31854**; 19th fill of well **31848**; Period: 4; RF13729. Figure 6.16.

Textile manufacture

Pierced discs were made from stone in both the Iron Age and Roman period, although Cat. no. 772 was unstratified. This finely made example may have been used as a spindle-whorl for the production of thread, but pierced discs made in a range of materials and with varying degrees of care are found in large numbers and may have had other uses as well, such as tallies, accounting tokens, or line weights. For two lead examples, see Cat. nos 859 and 860.

772. A well-finished pierced disc in sandstone pierced by a countersunk hole. Diam: 43mm, Th: 12mm, hole Diam: 5mm. Field 201; unstratified; Period: none; RF6521. Figure 6.16.

773. Well-made pierced pottery disc cut from the wall of a hand-made vessel in a local traditional ware, with slightly off-centre hole. On part of the disc, the edges of the ‘upper’ surface (the exterior of the vessel) have been either carefully chamfered or become worn through some form of use. Diam: 33mm, Th: 6mm, hole Diam: 5mm. Field 258; Group **28162**; Context **26199**; secondary fill of cistern/well **26196**; Period: 4; RF12512. Figure 6.16.

Domestic utensils and furniture

Amber statuette

The statuette (Cat. no. 774) is a fragment from the torso of a male figure. The top has a circular scar where the head has broken off and another on the left-hand side where the statue’s right arm has broken, and there is some spalling on the front and damage to the edge of the left arm. The man is wearing a short-sleeved tunic, visible on his right arm and upper chest. There is a strong diagonal ridge across the back of the figure which represents the (rolled) edge of the mantle (*pallium*) he wears over the tunic; this runs under his right arm and diagonally across his chest to his left shoulder. It continues over his shoulder and then vertically down his back; the end of the mantle is missing. Between the two ridges on the back there is some gentle modelling of the folds of the mantle, unlike the quite bold projections of the ridges. The right-hand side of the piece is damaged, but from parallels it is likely his left arm is hidden under the mantle; there is some slight hint of the shape of the body and arm under the cloth on his chest. The lower part of the body and the feet are missing.

The figure is an actor, the most popular subject chosen for amber statuettes, but the lack of a head and any attributes held in the hand makes it impossible to identify what stock figure was intended. The best parallel for this piece comes from Pompeii and shows an actor in his *pallium* holding his hand up to his head (Nava and Salerno 2007, 286, no. IV.53).

Although the amber almost certainly came from the Baltic, it was taken via Central Europe to Italy for carving and then sold on from there (Morris 2010, 98). Aquileia in the north had several amber workshops that produced a wide range of items, from simple beads to complex containers, but statuettes do not seem to have been a major item in their repertoire. Strong lists 10 examples of actor statuettes, all from Italy, but as most were found in the south, he suggested a production site in Campania rather than Aquileia (Strong 1966, 91; plate XL, nos 110 and 112; Nava and Salerno 2007, IV.43–4, IV.51, IV.53). Although over 258 pieces of amber are known from all periods of Roman Britain, the majority of them are simple beads (Morris 2010, 98–9). There are a few carved objects, but this is the first example of a statuette.

774. Incomplete amber statuette of a male actor draped in a *pallium*. L: 25mm, W: 24mm, Th: 11mm. 1st or 2nd century. Field 246; Context **16272**; subsoil; Period: none; RF11519. Figure 6.17.

Vessels

In the Roman world, copper-alloy vessels were used for cooking, serving food and wine at the table and washing, either in the bath house or for washing hands at the table. All five vessels recorded here were for use at the table. The most complete vessel was a small lathe-turned bowl with concentric grooves and ridges on both interior and exterior of the base and two grooves near the rim (Cat. no. 775). There was also the base of a second example of very similar size, although not an identical vessel, that had been cut down for reuse as a disc (Cat. no. 776). These may have come from wine ladles with vertical handles or from small cups (e.g. type K1 or type L1; Tassinari 1993, 156, no. K1210 and 163, nos L1111–3). A third small vessel, cast with projecting cordons on the exterior rather than being a spun bowl (Cat. no. 779), is also probably a wine ladle (cf. Radnóti 1938, taf. VIII, nos 43–4; taf. XXVII, no. 8; den Boesterd 1956, plate IV, no. 109). Fragments of two larger vessels are likely to come from handled pans thought to have been used for serving wine (cf. *ibid.*, xxi, plate II, nos 23–4). Cat. no. 777 came from the rim of the vessel and Cat. no. 778 from a handle (type G4; Tassinari 1993, 120–1). Ceramic evidence for wine consumption in the form of amphorae is outlined in Chapter 5.

There was also a single folded rivet (Cat. no. 780; also called a 'paper-clip' patch) of the type used for mending sheet metal, such as thin-walled vessels. In the medieval period, individual ones were used to fill small holes and multiple examples were used to attach larger metal patches (Egan 1998, fig. 144). They are not as common in Roman contexts, but a number were found in a 1st-century collection of metalworking scrap at Carlisle (Howard-Davis 2009, fig. 404, nos 10–12).

775. Incomplete lathe-turned copper-alloy ladle or cup, with no rim surviving, decorated with at least two grooves. Diam: 50mm, Th: 1mm. Field 258; Group **28139**; Context **26541**; third fill of ditch **26698**; Period: 4; RF12545. Figure 6.17.

776. Base of a small lathe-turned copper-alloy ladle or cup that has been deliberately cut down into a disc. Diam: 23mm, Th: 1–3mm. Field 258; Group **28131**; Context **26660**; secondary fill of pit **26582**; Period: 4; RF12554. Figure 6.17.

777. Fragment of a rounded-rimmed copper-alloy pan or bowl. Very little of the original surface survives, but where it does there is evidence for a white metal coating on both exterior and interior. Diam: c.180mm, Th: 1.5mm (min). 1st century AD. Field 258; Context **26269**; layer adjacent to well **26153**; Period: 4; RF12527. Figure 6.17.

778. Fragment of a copper-alloy pan handle with a trilobate suspension hole. L: 24mm, W: 32mm, Th: 4mm (max). 1st century AD. Field 258; Group **28143**; Context **15335**; fill of posthole **15334**; Period: 4; RF10067. Figure 6.17.

779. Rim fragment from a small, cast copper-alloy vessel with a triangular grooved rim. Very little of the original surface survives, but where it does is almost black in colour. Diam: c.70mm, Th: 1–31mm. 1st century AD. Field 258; Group **28165**; Context **26015**; secondary fill of ditch **26014**; Period: 4; RF10091. Figure 6.17.

780. Incomplete 'paper-clip' patch made from copper-alloy sheet, used to mend metal vessels. L: 14mm, W: 10mm, Th: 0.3mm. Field 265; Group **29958**; Context **31707**; earthen floor of Structure 38; Period: 4; RF14566. Figure 6.17.

Security

The few items relating to security consist of one possible door key, a few fittings from boxes and a seal box thought to be used to protect valuables in transit. While identification cannot be certain, the size of the square-sectioned iron handle with a small loop at the end is not much wider than the handle itself (Cat. no. 781), which suggests it might be part of a lift-key for a door latch (cf. Manning 1985, plate 40, no. O32). A more sophisticated lock, from a box or small cupboard, is represented by a copper-alloy lock-bolt (Cat. no. 782). The incomplete copper-alloy stud (Cat. no. 783) has a triangular upper section that identifies it as a version of a lion-headed stud, although there is no evidence for the depiction of the mane and the face. Iron corrosion on the 'snout' suggests the iron shank pierces the stud, as seen on some other examples (PAS ID: SUR-5942EA and NMS-942A42). These studs were used on lock-plates and as decoration on small caskets that were frequently used in cremation burials (Biddulph *et al.* 2011, fig. 115, no. 265 and fig. 122, nos 1–6). They were common in the Flavian period but have been found in contexts of Claudian to Antonine date (Borrill 1981, table XLVI).

The seal box (Cat. no. 784) is complete and still retains the remains of the sealing, identified through scientific analysis as beeswax (see Badreshany, Chapter 9). Andrews (2012) lists only eight other examples of seal boxes with this shape and tinned and punched decoration, of which only one has feathered decoration

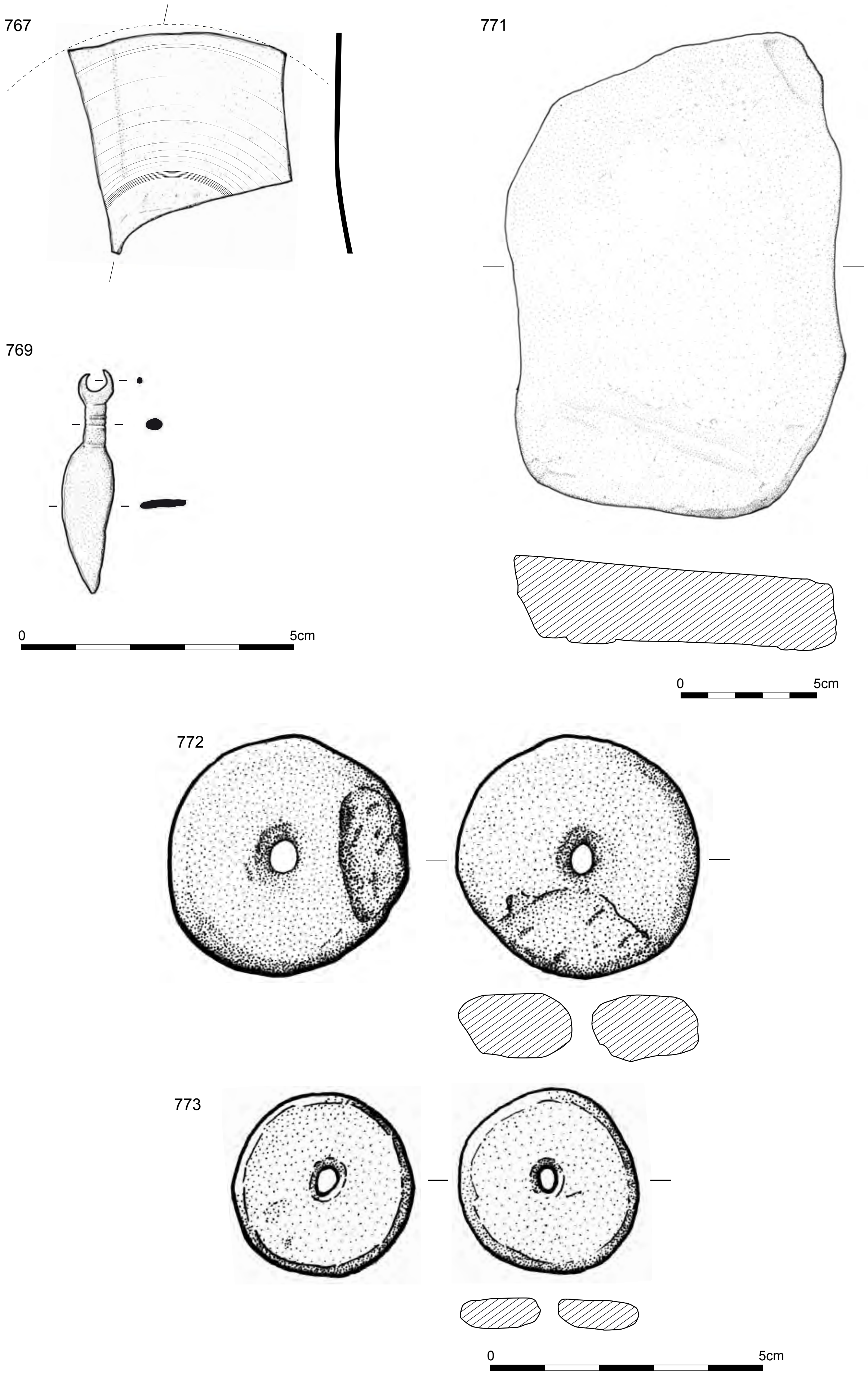


Figure 6.16: small finds, Cat. nos 767, 769 and 771–773.

(from a late 1st- to early 2nd-century context at Cirencester; Viner 1998, fig. 194, no. 58). An example from Maiden Castle is pre-Flavian in date (Andrews 2012, 72), and the small number of boxes with this method of design suggests it was not a long-lived type. It is thought they were used to seal leather or cloth pouches and bags containing money or other valuables, especially when in transit. Examples of seal boxes decorated with busts and animals show the hinge would usually go at the top, although on the examples with feather decoration this would mean the decoration was upside down. The motif of feathers may reference the eagle associated with Jupiter and the Roman state.

781. Incomplete, slightly curved, iron rod handle of roughly square cross-section, with one tapering end curled into a loop. L: 100mm, W: 11mm, 15mm (loop). Field 258; Group **28131**; Context **26661**; upper fill of pit **26582**; Period: 4; RF13624. Figure 6.18.

782. Incomplete copper-alloy bolt from a lock for a box. L: 39mm, W: 16mm, Th: 5mm. Field 246; Group **31286**; Context **24091**; upper fill of hollow-way **31244**; Period: 4; RF10196. Figure 6.18.

783. Incomplete, copper-alloy stylised lion-headed stud with circular steps topped with a triangular element. It is pierced by a square-sectioned iron rod. Diam: c.16mm, L: 12mm, rod W: 6mm. Possibly 2nd century. Field 265; Context **31505**; subsoil over RR6; Period: medieval–post-medieval; RF13011. Figure 6.18.

784. Complete copper-alloy acorn-shaped seal box with tinned and punched feather decoration. The decoration consists of an outer ring of punched dots and three rows of overlapping feathers, with the outlines created by a series of short overlapping diagonal grooves and the filaments by fine and shallow continuous lines. The base has three holes arranged in a triangle with an additional hole in the centre. Andrews's (2012) type P4-D7. For results of contents analysis, see Chapter 9. L: 28mm, W: 18mm, H: 7mm. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**; Period: 4; RF12511. Figure 6.18.

Leisure and recreation

There was one olive/dirty yellow (Cat. no. 785), 13 white and nine 'black' glass counters. One of the white counters has a small black dot near the centre of the counter, but it is poorly defined and was probably not intentional (Cat. no. 796).

Black and white counters were the most common type of counters in the 1st century AD but went out of production during the 2nd century. The 'black' glass is actually very dark yellow-brown, blue or green glass, as can be seen here on the two broken examples (Cat. no. 798 and Cat. no. 805). As is usual, the 'black' counters are slightly larger than the white (Price 1995, 129). While these counters are known to have been used for board games, it is likely they were also used for accounting purposes by the army (*ibid.*, 130), which could explain the mismatch between numbers of the black and white counters. Ditch Group **28156** produced the largest number of counters, comprising seven white, one olive/dirty yellow and one black (Cat. nos 785, 789–91, 794–7, 800).

A small, incomplete disc of crinoidal limestone and another from a reused pottery sherd may be small counters (Cat. nos 806 and 807); a larger pottery disc (Cat. no. 809) may have been used as a tally or for accounting.

785. Small circular glass counter, in a slightly olive/dirty yellow colour. Diam: 12mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27299**; fill of equivalent ditches **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12577. Figure 6.18

786. Small circular glass counter, white. Diam: 12mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Context **15001**; subsoil; Period: none; RF33727. Not illustrated.

787. Small circular glass counter, dull white. L: 13mm, W: 12mm, 6mm. 1st–2nd centuries AD. Field 258; Context **15001**; subsoil; Period: none; RF10058. Not illustrated.

788. Small chipped glass counter, white. L: 14mm, W: 13mm, Th: 6mm. 1st–2nd centuries AD. Field 246; Group **31207**; Context **24146**; cleaning layer over stone raft group **31261**; Period: 4; RF11468. Not illustrated.

789. Small glass counter with a high gloss, slightly bluish white. L: 14mm, W: 13mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27313**; fill of equivalent ditches **15179**, **15183**, **15222** and **15324**; Period: 4; RF2581. Not illustrated.

790. Small glass counter, slightly bluish white. Diam: 15mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **15213**; fill of equivalent ditches **15179**, **15183**, **15222** and **15324**; Period: 4; RF10036. Not illustrated.

791. Small circular glass counter, white. L: 15mm, W: 14mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **15224**; secondary fill of equivalent ditches **15193**, **15223**, **26042**, and **26886**; Period: 4; RF10048. Not illustrated.

792. Small circular glass counter, dull white. Diam: 16mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Context **26396**; fill of pit **26223** and ditch **26487**; Period: 4; RF12558. Not illustrated.

793. Small circular glass counter, white. Diam: 16mm, Th: 6mm. 1st–2nd centuries AD. Field 265; Context **31501**; subsoil; Period: none; RF13002. Not illustrated.

794. Small circular glass counter (broken), white. L: 16mm, W: 14mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27313**; fill of equivalent ditches **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12578 and RF12583. Not illustrated.

795. Small circular glass counter, dull white. L: 18mm, W: 17mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27299**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12576. Not illustrated.

796. Small circular (slightly misshaped) glass counter, white. L: 18mm, W: 18mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27313**; fill of ditch 15179, 15183, 15222, and 15324; Period: 4; RF12582. Not illustrated.

797. Small oval glass counter, slightly bluish white. L: 19mm, W: 15mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **15072**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF10010. Not illustrated.

798. Small incomplete oval in poor condition; very dark blue metal (appearing black) with some white streaks. Diam: 12mm+, Th: 7mm. 1st–2nd centuries AD. Field 258; Context **26658**; aggregate surface of trackway; Period: 5+; RF12548. Not illustrated.

799. Small circular glass counter, black. Diam: 15mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28131**; Context **26004**; primary fill of pit **26002**; Period: 4; RF12506. Not illustrated.

800. Small glossy circular glass counter, black. L: 15mm, W: 14mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28156**; Context **27299**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12574. Not illustrated.

801. Small slightly misshaped glass counter, black. L: 16mm, W: 14mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28154**; Context **27093**; fill of ditch **15271**, **26073**, **26187**, **26253**, **27019**, and **27092**; Period: 4; RF12520. Not illustrated.

802. Small circular glass counter, dull black. Diam: 17mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Context **15001**; subsoil; Period: none; RF12538. Not illustrated.

803. Small circular glass counter, black. L: 17mm, W: 15mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Context **15312**; fill of pit **15311**; Period: 4; RF10063. Not illustrated.

804. Small circular glass counter, black. L: 17mm, W: 16mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28131**; Context **15363**; third fill of pit **15336**; Period: 4; RF12515. Not illustrated.

805. Small incomplete glass counter, very dark green metal appearing black. Diam: 18mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28142**; Context **15387**; fill of ditch **15413**; RF10082. Not illustrated.

806. A small plano-convex piece of soft grey crinoidal limestone, possibly shaped into a disc, but incomplete. Diam: 12mm, H: 4mm. 1st–2nd centuries AD. Field 267a; Context **32435**; secondary charcoal-rich fill of pit **32450**; Period: 2–3; RF13742. Not illustrated.

807. A small disc of uneven thickness cut from a buff-coloured coarse ware. Diam: 22mm, Th: 7–8mm. 1st–2nd centuries AD. Field 265; Group **29955**; Context **31663**; foundation layer of Structure 39; Period: 5; RF13077. Not illustrated.

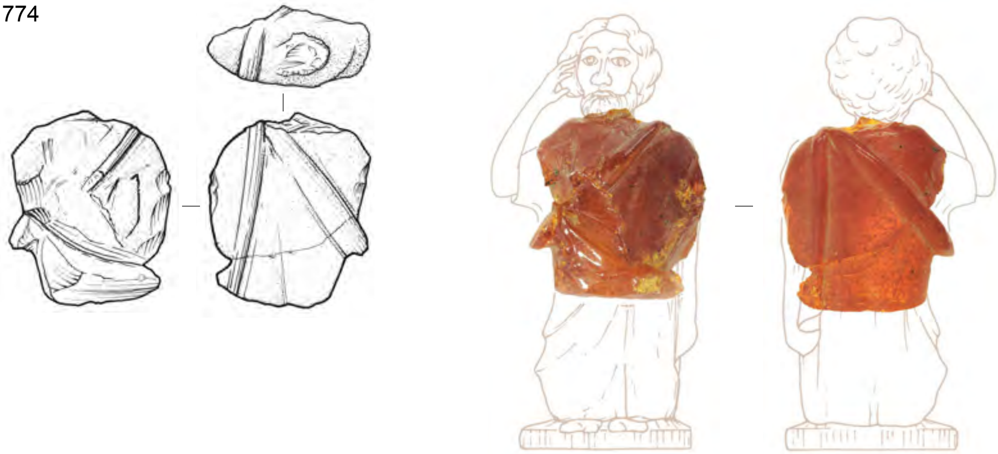
808. Pottery disc cut from wall of flagon or similar, with remains of a handle scar on the exterior. Fabric OA B19. Diam: 42mm, Th: 6mm. 1st–2nd centuries AD; probably Neronian–early Flavian. Field 265; Context **31511**; fill of roadside ditch **31510**; Period: 4; RF13010. Figure 6.18.

Literacy

The six styli from Fields 258 and 265 were all made of iron and were plain and undecorated. There were three with poorly differentiated points and rectangular erasers; one (Cat. no. 809) has an eraser wider than the handle in both directions (cf. Major 2015a, fig. 531, no. 18). Cat. nos 810 and 811 came from the same context within the ditch fill group **28156**, which also produced three other styli, all missing their points. Two of these came from context **15182** (Cat. nos 812 and 813) and have similar short, probably originally rectangular erasers; on one, the handle tapers toward the eraser. The fourth stylus from the group has an undifferentiated point and an incomplete eraser that expands gradually out of the handle (Cat. no. 814; Manning 1985, type 1a).

Styli were used on wax tablets, most of which seem to have been imported or made from imported wood. They were used, or reused, for legal documents, letters, accounts and note-taking. That ink-tablets were also used on the site is suggested by the two narrow-bladed knives with decorative copper-alloy plates (Cat. nos 815 and 816) that have been identified as penknives for sharpening reed pens (Eckardt and Crummy 2008, 35). The junction between a bone or wooden handle and the iron blade was covered by brass-coloured plates that were attached by three copper-alloy rivets (cf. Manning 1985, plate 53, no. Q2). On Cat. no. 815, two, if not all three of the rivets were made of a different alloy to the plates and have a distinct coppery colour. The knife was found with the remains of two copper-alloy fittings, which may have perhaps decorated a leather sheath for it. For a possible pen nib, see Cat. no. 857.

774



(Reconstruction by Roger Simpson)

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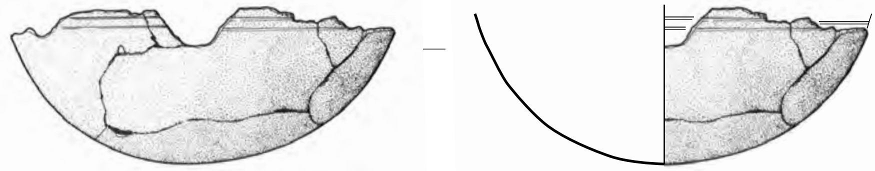

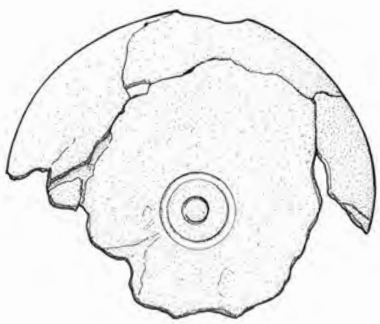

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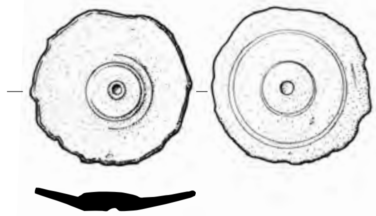

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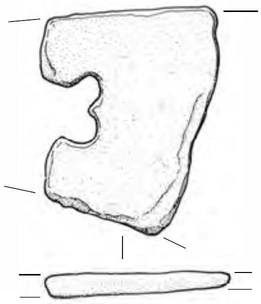

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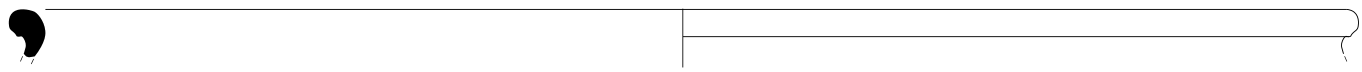

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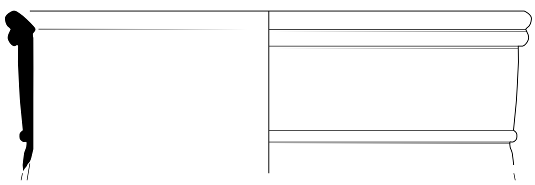

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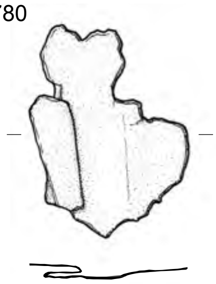

Figure 6.17: small finds, Cat. nos 774–780.

809. Incomplete iron stylus with a circular cross-section handle and an incomplete long rectangular eraser. Cf. Major (2002) type 8. L: 118mm, D: 6mm. Field 265; Group **29958**; Context **31743**; earthen floor of Structure 38; Period: 4; RF13218. Figure 6.19.

810. Iron stylus with a circular cross-section and a long rectangular eraser. Cf. Major's (2002) type 8. L: 131mm, D: 7mm. Field 258; Group **28156**; Context **27313**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13626. Figure 6.19.

811. Iron stylus with a sub-square cross-section and a long rectangular eraser. Cf. Major (2002) type 8. This is very similar to the other stylus from this context, but longer. L: 155mm, Th: 5mm. Field 258; Group **28156**; Context **27313**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13829. Figure 6.19.

812. Incomplete iron stylus with a circular cross-section handle tapering slightly towards the point and a damaged, but possibly short rectangular eraser. L: 76m Diam: 6mm, W: 8mm (eraser). Field 258; Group **28156**; Context **15182**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF10030. Not illustrated.

813. Incomplete iron stylus with a circular cross-section handle tapering towards the straight-sided rectangular L: 100mm, Diam: 7mm, W: 8mm (eraser). Field 258; Group **28156**; Context **15182**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF10031. Figure 6.19.

814. Incomplete iron stylus with a 'long' eraser expanding out of the handle. L: 70mm, Diam: 6mm, W: 11mm (eraser). Field 258; Group **28156**; Context **27299**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13625. Figure 6.19.

815. Incomplete narrow-bladed iron knife with copper-alloy decorative binding. Manning (1985) type 1c. Found with two fragmentary copper-alloy fittings. L: 95mm, W: 18mm, Th: 9mm; Fitting L: 19mm, W: 13mm, Th: 1mm. 1st–2nd centuries AD. Field 258; Group 28131; Context **26183**; third fill of pit **26179**; Period: 4; RF12532. Figure 6.19.

816. Small fragment of a narrow-bladed iron knife with copper-alloy decorative fitting. Manning (1985) type 1c. L: 29mm, W: 16mm, Th: 7mm. 1st–2nd centuries AD. Field 258; Group **28162**; Context **27408**; third fill of ditch **26035**; Period: 4; RF12589. Not illustrated.

Transport

There were two fragments of hipposandals. There is one from the front part, with a hooked neck (Cat. no. 817), and one from the heel (Cat no. 818). These were temporary shoes used on traction animals to prevent them slipping in wet or icy conditions, particularly on slopes, or for injured animals (Crummy 2011, 61; Dixon and Southern 1997, fig. 79).

817. Incomplete iron hipposandal, with part of the plate and front hooked neck surviving. Manning (1985) type 1. L: 61mm, W: 70mm, Th: 3mm. Field 258; Group **28133**; Context **27098**; secondary fill of ditch **15063**; Period: 4; RF12517. Figure 6.20.

818. Incomplete iron hipposandal, with only the hooked heel surviving. Manning (1985) type 1. L: 115mm, W: 44mm, Th: 11mm. Field 258; Group **28132**; Context **15237**; aggregate surface of RR10; Period: 5+; RF10054. Figure 6.20.

Tools

Most of the identifiable tools are chisels, probably for both carpentry and metalworking. Cat. no. 819 was a mortise chisel with an unusually short shank that has been broken and re-sharpened. As the name suggests, this type of chisel was principally used to cut slots in wood, but it was a common Roman form and may have been used as a general-purpose chisel (Manning 1985, 23). It was used with a mallet, so the wooden handle was usually socketed to absorb the shock of the blows. This example continued to be used even after the wooden handle broke, as the top of the socket has been flattened. A larger mortise chisel from Chilgrove villa, Chichester, suffered a similar fate (Down 1979, fig. 46, no. 10).

The lack of a bevelled edge to the blade of Cat. no. 820 may mean this is a metalworking chisel rather than a woodworking chisel. Cat. no. 821 is bent and incomplete, but has a rectangular cross-section that changes to square, and a head made by hammering one end so that it becomes wider but thinner than the shank. A very similar object from Hod Hill has been identified as a chisel, possibly of Iron Age date, although other suggestions include a wood-turning tool, handling rod (i.e. scrap from manufacturing) or as a fitting to hold iron tyres on to wooden wheels (Manning 1985, 24, plate 11, B44; Buxton and Howard-Davis 2000, 271, fig. 73, no. 151; Mould 2010, 299, fig. 122, no. 1333).

A circular-sectioned rod with a conical terminal might be the end of a handle from a form of pincers or tongs (Cat. no. 822); tools now identified as twitches for use with horses and metalworking tongs are known that have similar handles (Down 1989, fig. 27.9; Blake 1999, 19, no. 3812; Heeren 2009, fig. 5). A steelyard beam from Icklingham, Suffolk, also has a similar terminal used as a stop but also has the angular cross-section typical of most steelyards (Manning 1985, plate 52, no. P42).

The possible leatherworking awl (Cat. no. 823) has a slightly bent tip, probably from where the tang projected from the wooden handle and was hammered over, as suggested for examples from London (Manning 1985, pl. 16, nos E12–13). The only certain whetstone (Cat. no. 824) was in a fine-grained calcareous sandstone, showing more signs of use on the two long, narrow faces than the wider faces.

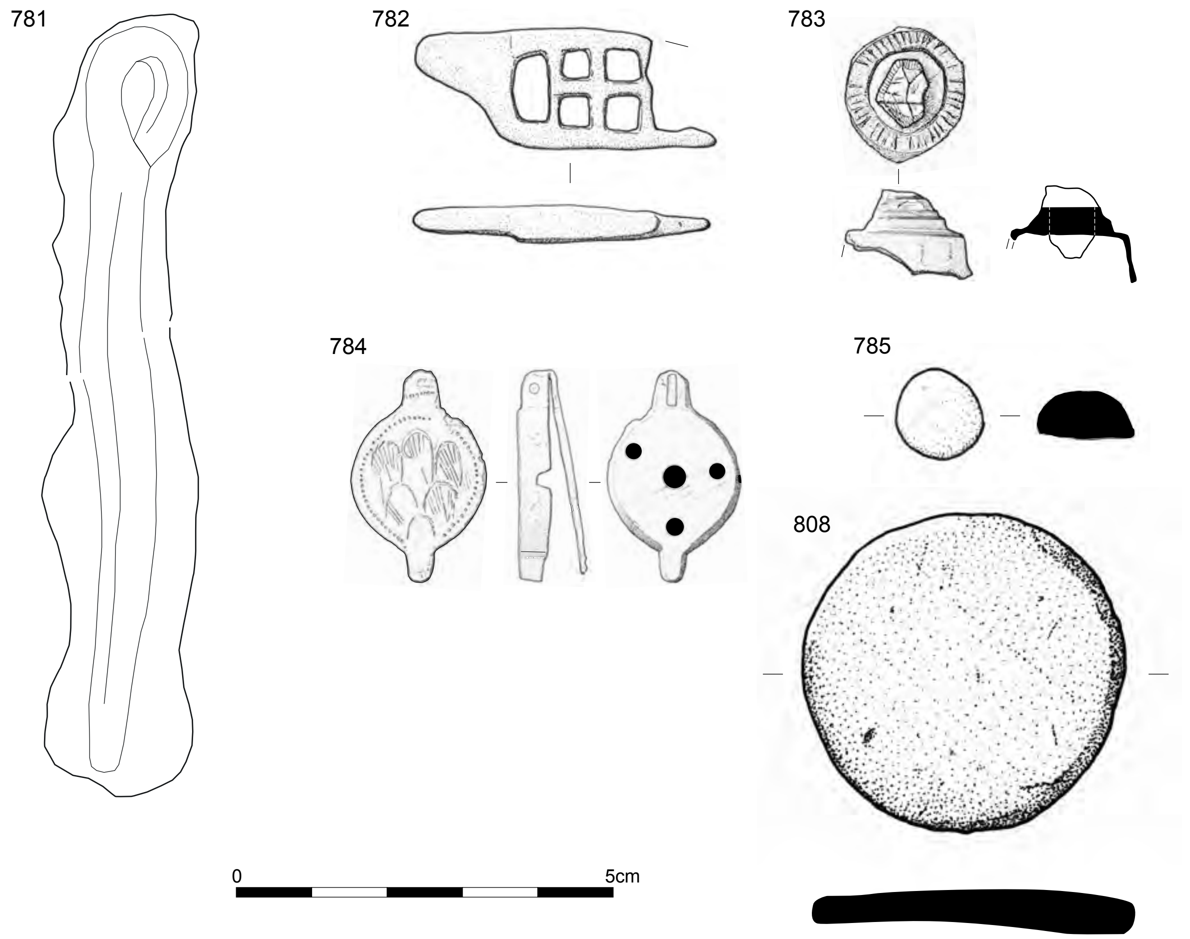

Figure 6.18: small finds, Cat. nos 781–785 and 808.

819. Well-used iron-socketed mortise chisel. The top has been damaged from repeated striking at an angle. L: 72mm; W: 28mm (socket), 10mm (blade), H: 19mm, Th: 5mm. Field 258; Context **15113**; primary fill of pit **15077**; Period: 4; RF13621. Figure 6.21.

820. Complete iron chisel with expanded head and a square cross-section shank that tapers to a rectangular-sectioned blade. As this was found in a disturbed context alongside material of modern date it is not certainly Roman in date. L: 79mm, W: 9mm, Th: 7mm. Field 246; Context **24148**; disturbed aggregate fabric of RR10; Period: modern; RF13617. Figure 6.21.

821. Possible iron chisel, incomplete, with wide blade and square-sectioned tang. L: 45mm, W: 15mm (blade), 6mm (tang). Field 246; Group **31214**; Context **16021**; upper fill of ditch **15804**; Period: 4; RF13737. Figure 6.21.

822. An incomplete iron rod with a projecting conical terminal. L: 68mm, Diam: 8mm. Field 258; Group **28131**; Context **27016**; secondary fill of pit **27015**; Period: 4; RF13619. Figure 6.21.

823. Thin iron rod with circular cross-section, slightly hooked at one end, possibly an awl. L: 113mm, Diam: 7mm. Field 258; Context **27428**; fill of posthole **27427**; Period: 4; RF13746. Figure 6.21.

824. Fine-grained calcareous sandstone whetstone with a rectangular cross-section. L: 128mm, W: 38mm, Th: 29mm. Field 265; Group **29960**; Context **31751**; clay levelling layer between RR5 and RR6; Period: 4; RF13219. Figure 6.21.

Fasteners and fittings

The small spherical-headed tack (Cat no. 825) may have been used purely decoratively or as a rivet to attach mounts (cf. Colchester; Crummy 1983, fig. 134, nos 4122 and 4124); Cat. no. 826 may have had a similar function. The thin, square-sectioned shank on Cat. no. 827 suggests this is also a tack rather than the head of a hair- or dress-pin, although the large head is more certainly decorative. The shank on Cat. no. 828 is damaged and the cross-section is not clear, but this could also be a tack rather than a pin. The flat-headed tack with a very short shank (Cat. no. 829) is likely to have also been used for decoration. The unriveted ends of those with surviving shanks suggest use on wood rather than leather, so many of these are possibly box fittings.

825. Short copper-alloy tack with spherical head and roughly square cross-sectioned shank. L: 14mm,

Diam: 5mm, shank W: 2mm. Field 265; Context **31518**; compacted sand layer between RR5 and RR6; Period: 5+; RF13018. Figure 6.22.

826. Incomplete copper-alloy tack with a roughly spherical head and a square cross-sectioned shank. L: 13mm, head Diam: 6mm, shank W: 3mm. Field 258; Context **26252**; fill of gully **26251**; Period: 4; RF12528. Figure 6.22.

827. Incomplete copper-alloy tack with large spherical head, slightly flattened on two sides. The incomplete shank has a square cross-section. As this comes from a post-Roman layer it is not certainly Roman. L: 15mm, Diam: 9mm (head), 2mm (shank). Field 228; Context **27748**; sand overlying Dere Street. Period: medieval–post-medieval; RF12601. Figure 6.22.

828. Incomplete copper-alloy tack or pin with a spherical head but very little shank surviving. L: 12mm, head Diam: 8mm. Field 265; Group **29972**; Context **31790**; colluvial deposit infilling hollow-way **31728**; Period: 4; RF13229. Figure 6.22.

829. Small copper-alloy tack with flat circular head and very short circular cross-sectioned shank. Diam: 8mm, L: 7mm. Field 258; Group **28131**; Context **26663**; fifth fill of pit **26682**; Period: 4; RF12566. Figure 6.22.

Military

Miniature sword

Cat. no. 830 is a rare example from Britain of a miniature iron-bladed sword in a scabbard, and the most complete example known so far. The hilt consists of a ribbed bone grip made in one piece and a separate guard with groove decoration; the pommel does not survive. The copper-alloy scabbard has U-shaped guttering on the sides and a separate chape pierced by a central hole for attachment. The suspension loop, now broken, was made from a bent copper-alloy strip and attached to the scabbard by two copper-alloy rivets; the top edge is straight, and the lower end is curved.

While the surviving hilt is Roman in style, the scabbard shows mixed British and Roman influence. The terminal on the end of the scabbard is closer to Roman designs than native British, and copper-alloy guttering was common on Roman scabbards for Mainz-type swords up until the Flavian period and occasionally on the later Pompeii-type scabbards (cf. Bishop and Coulston 2006, 78 and 82; Stead 2006, fig. 56, no. 55 and fig. 72, no. 97), although, as has been noted above, guttering is occasionally found on Iron Age scabbards. The form of the scabbard suspension, however, is distinctly British. In the 1st century, Roman swords were attached to the belt using four rings on the sides of the scabbard rather than by a front-facing scabbard slide, as used from the 2nd century onwards. In contrast, Iron Age swords were attached by a suspension loop on the back of the scabbard. Stead has shown that Iron Age swords followed different traditions in northern and southern Britain, with the suspension loop in the north always placed between half and one third of the way down the scabbard, while in the south it was always placed near the top (Stead 2006, 68; Hunter 2016b, 14–15). A number of Iron Age scabbard slides from the south even have a flat top edge and a curved lower edge, as seen on the miniature sword, and although most of these date to the La Tene period, there is one example from Owslebury, Hampshire, that could date to the Late Iron Age/Early Roman period (Stead 2006, fig. 81, no. 116; for earlier examples see fig. 46, no. 6 and fig. 56, no. 54). Swords that mixed elements from both the northern and southern traditions began to appear during the 1st century AD, such as the sword from nearby Stanwick, which has the suspension loop near the top of the scabbard, although the form of the loop is very different to the southern examples (Allason-Jones and Lowther 2016, 273, fig. 14.4). The distinctive southern-type loop on the miniature sword suggests that the sword was most likely a personal item belonging to someone who had bought or made it when living in the south. It represents a hybrid British/Roman weapon, reflecting the short-lived but distinct fashion for Roman soldiers to use hybrid swords during the conquest period in Britain up until the Flavian period (Bishop and Coulston 2006, 82; Hunter 2016b, 16–18).

The most common form of miniature sword on the Continent is associated with bone scabbards. These are carved in one piece, have attachment loops at the sides and a horned terminal and it is thought their design was based on the swords of Greek heroes, as depicted in Roman art, rather than a contemporary sheath (Kiernan 2009, 80). The majority of scabbards are between 55mm and 75mm long (Béal and Feugère 1987, fig. 2), and the swords, with bone ribbed grips and guards decorated with a groove, tend to have blades not very much longer than the hilt (Fig. 6.23a; Béal and Feugère 1987, fig. 10, no. 9a, 11,25; Kiernan 2009, fig. 3.22, nos ii–iii and v), although some longer examples are known (Fig. 6.23b). A second type of miniature knife, found in the Limousin, France, has a copper-alloy scabbard, but both decorated scabbard and hilt design are very different to the Scotch Corner sword (Kiernan 2009, fig. 3.23).

The Scotch Corner sword, with its long blade and copper-alloy scabbard of contemporary design, comes from a slightly different tradition. The exact length of the blade is uncertain since it cannot be removed from its scabbard, but it is unlikely to be much shorter than the scabbard, which would mean it has a blade approximately twice the length of its hilt. An even longer sword from London, without a scabbard, may come from the same tradition (Fig. 6.23c; Greep 1981). The other miniature swords known from Britain all come from the south-east. There is a bone grip and a bone scabbard from *Verulamium*, which could come from either a Scotch Corner type sword or the Continental short blade type, a bone scabbard from Colchester of the short blade type, and an unusual copper-alloy handle with the remains of an iron

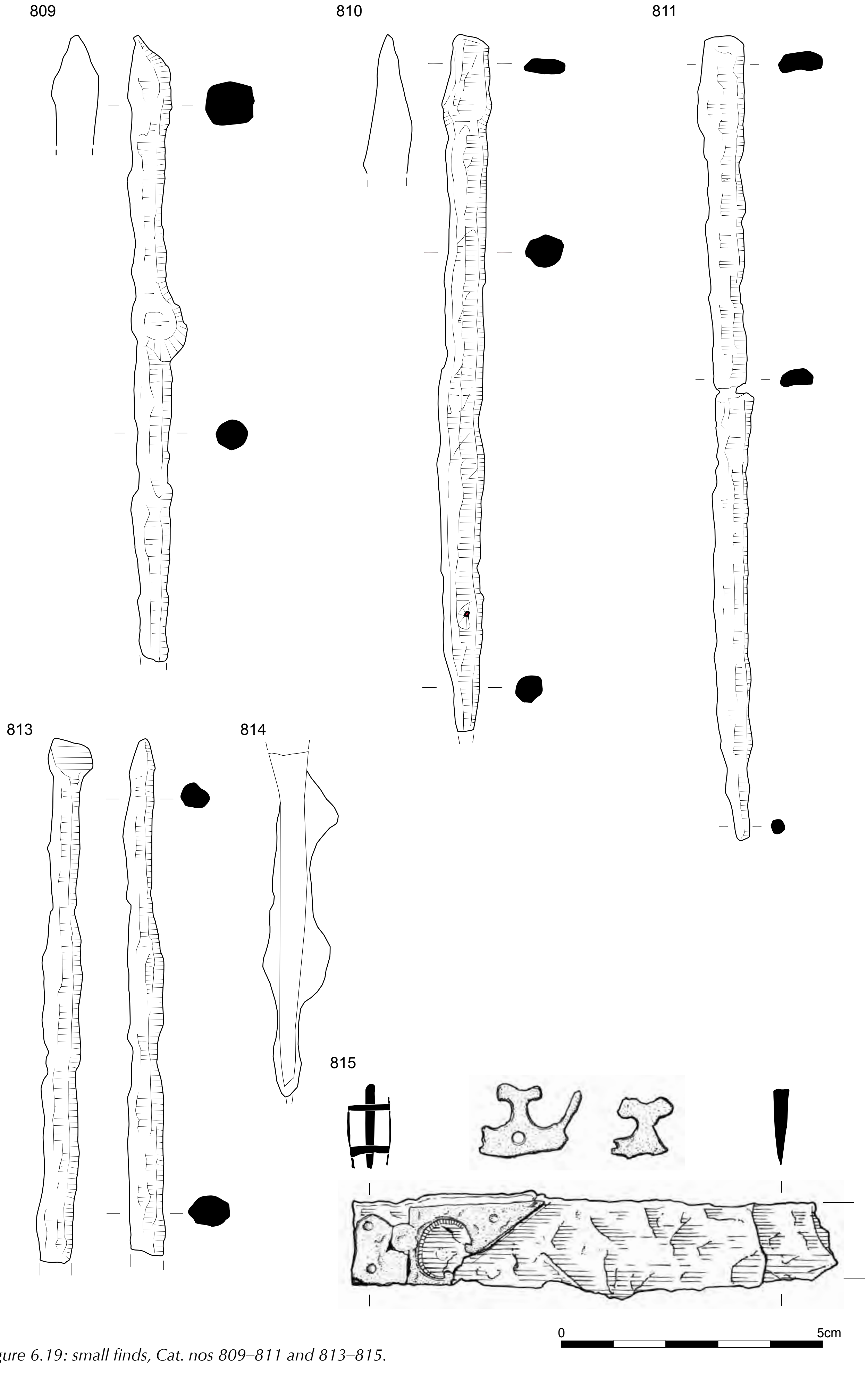

Figure 6.19: small finds, Cat. nos 809–811 and 813–815.

blade from North Elmham, Norfolk (Greep 1981, 103, fig. 2, nos 2 and 13; PAS ID: NMS-9D89B1).

There is debate about the function of miniature swords and whether they were votive offerings or small pocket knives, although other functions, such as simple novelties, cannot be discounted, given that miniature objects still appeal to people today. The presence of an iron blade and a working scabbard might suggest they were intended to be functional, and although they have very short grips that are awkward to use for any length of time, small functional knives are known with similar-sized grips (Kiernan 2009, 83). The length of the grip would suggest they were intended for occasional use, similar to a modern penknife, rather than sustained use, such as during meals. Roman knives almost always have a sharp cutting edge on only one side of the blade, resulting in a triangular cross-section, while swords have cutting edges on both sides and a diamond-shaped cross-section. Although some of the miniature swords have the single-edged blades typical of knives, others have cutting edges on both sides, mimicking those found on full-sized swords (Fig. 6.23). Therefore, such blades are not usually knives given a grip and a sheath to make them look like swords, but miniature swords that could be used as knives. They no doubt had interest as curios and may have been bought or given to someone in reference to their occupation as a soldier, past or present.

830. Miniature sword with iron blade, bone grip and guard, and copper-alloy scabbard. L: 119mm, W: 18mm, Th: 6mm. 1st–2nd centuries AD. Field 258; Group **28231**; Context **26004**; primary fill of pit **26002**; Period: 4; RF10098. Figure 6.22 and Figure 6.23.

Other military equipment

There is very little definitively military equipment other than some pieces of horse harness. There is one certain iron projectile head, and two possible examples. Cat. no. 831 is a common type, with a socket and a long head, and is likely to be an artillery bolt-head. Cat. no. 832 is also socketed, but from a much narrower shaft of c.5mm diameter. It is incomplete and in poor condition, but it appears to have a narrow blade with a narrow rectangular cross-section, similar to examples found at *Vindolanda* with very long, sharp-tipped blades; however, a similar object from London, with decoration and a rounded tip to the blade, has been identified as a medical spatula (Manning 1985, plate 34, no. L3; Birley 1996, fig. 14, nos 95–6). As Cat. no. 832 is incomplete, its identification is uncertain. The final example (Cat. no. 833) is also incomplete, so it is impossible to say if it had a socket or a tang (cf. Howard-Davis 2009, fig. 361, no. 19 and fig. 362, no. 23). The size of this type means it lies somewhere between a possible arrowhead or a very light artillery bolt-head; it could also potentially be a pilum head (Bishop pers. comm.). The iron ferrule (Cat. no. 834) was attached to a shaft of at least 18mm in diameter; as there is no visible means of attachment, it may have been heated and shrunk onto the wood. It is possible that it comes from a civilian staff or tool.

A relatively thin, flat stud attached to a thin copper-alloy strip (Cat. no. 835) has a shank that has been cut and hammered over a small washer; this method of attachment indicates it was used on leather rather than metal or wood. The gap between the washer and the sheet suggesting it was attached to material measuring c.1.5mm thick. While it could come from an item of military equipment such as a belt or harness fitting such studs are usually attached directly to the leather (cf. Padley 1992, fig. 22, no. 4), and it is possibly a fragment of an articulated armguard, albeit with a rivet larger than those on most surviving examples (Bishop pers. comm.). The only other possible items of military dress are two of the brooches (Cat. nos 718 and 719) with are types closely associated with the army.

The fragments of Roman horse harness are typical of 1st-century styles and consist of at least two strap fasteners and a junction loop. There was an incomplete 'female' strap fastener (Cat. no. 836) with the remains of two holes with slightly recessed settings for studs of c.6.5mm diameter (cf. Bishop 1988, fig. 54, type 3a) and a fragment of a 'male' example (Cat. no. 837) with a T-shaped terminal (*ibid.*, fig. 55, type 3a). A third fragment, with a setting for a stud (Cat. no. 838), comes from either a strap fastener or a junction loop (cf. *ibid.*, type 1 in figs 50, 52 and 54–6). Cat. no. 839 is a much simpler, very plain junction loop, apparently with only a single rivet shank (cf. *Vindonissa*; Unz and Deschler-Erb 1997, taf. 62, no. 175, and no. 1754 for a single shank). Although narrow strap slides, such as Cat. no. 840, are not common in the 1st century AD, the baluster motif is found on harness mounts of the period and its flimsy nature is closer to the Roman fittings than the more robust Iron Age pieces (Augst; Deschler-Erb 1999, taf. 37, no. 700; and *Vindonissa*; Unz and Deschler-Erb 1997, taf. 63, no. 1817).

Another possible item of horse harness is the iron tongue from a large buckle; the size would fit better with a harness than as an item of personal equipment (Cat. no. 841). It does, however, come from an unstratified context and could be post-Roman in date.

831. Socketed iron bolt-head with a long sub-square-sectioned head, damaged at the tip. Manning (1985) type 1. L: 100mm, head W: 15mm, Diam: 8mm (internal socket). Field 246; Context **15515**; upper fill of ditch **15643**; Period: 4; RF10116. Figure 6.24.

832. Incomplete iron projectile head or spatula with a long thin socket, partially opened up for its entire length, and the remains of a flat, narrow blade. L: 65mm, internal Diam: 5.5mm, blade W: 8mm. Field 258; Group **28156**; Context **27313**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13830. Figure 6.24.

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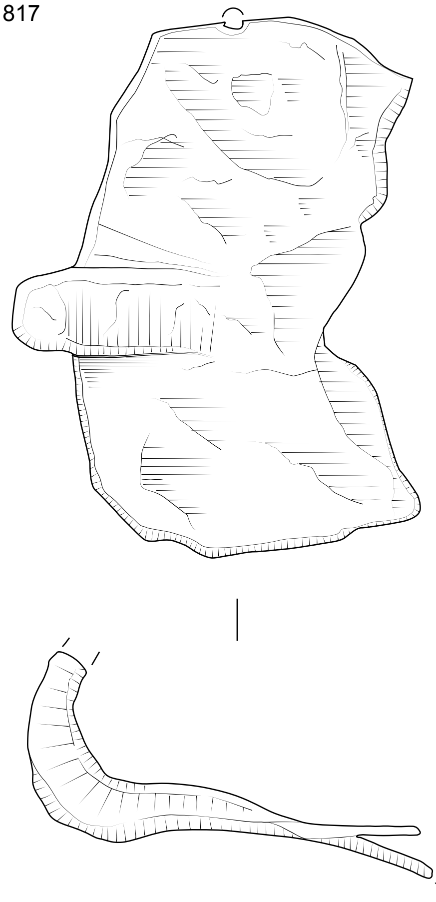

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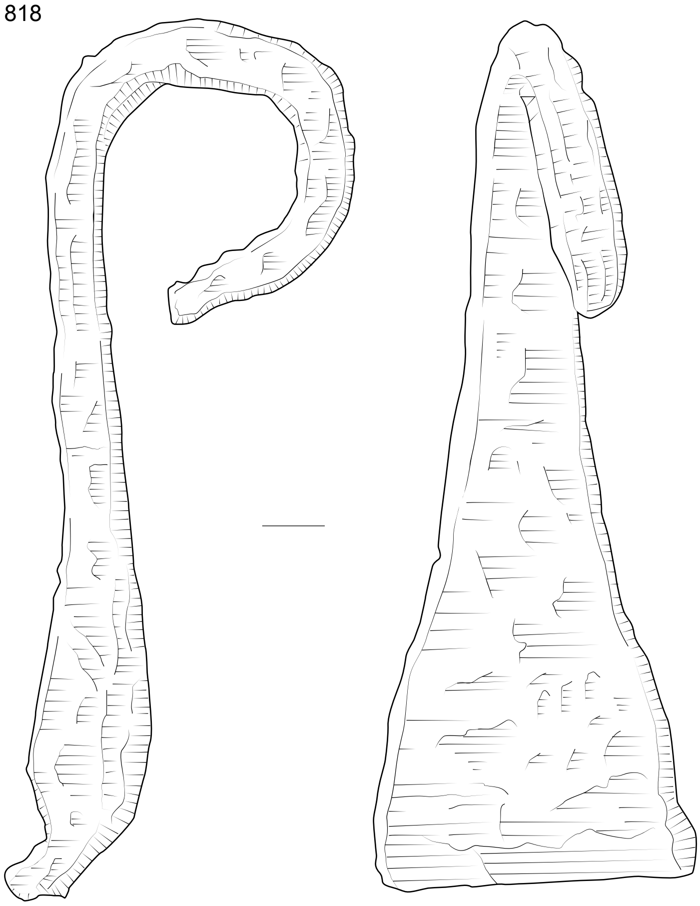


Figure 6.20: small finds, Cat. nos 817–818.

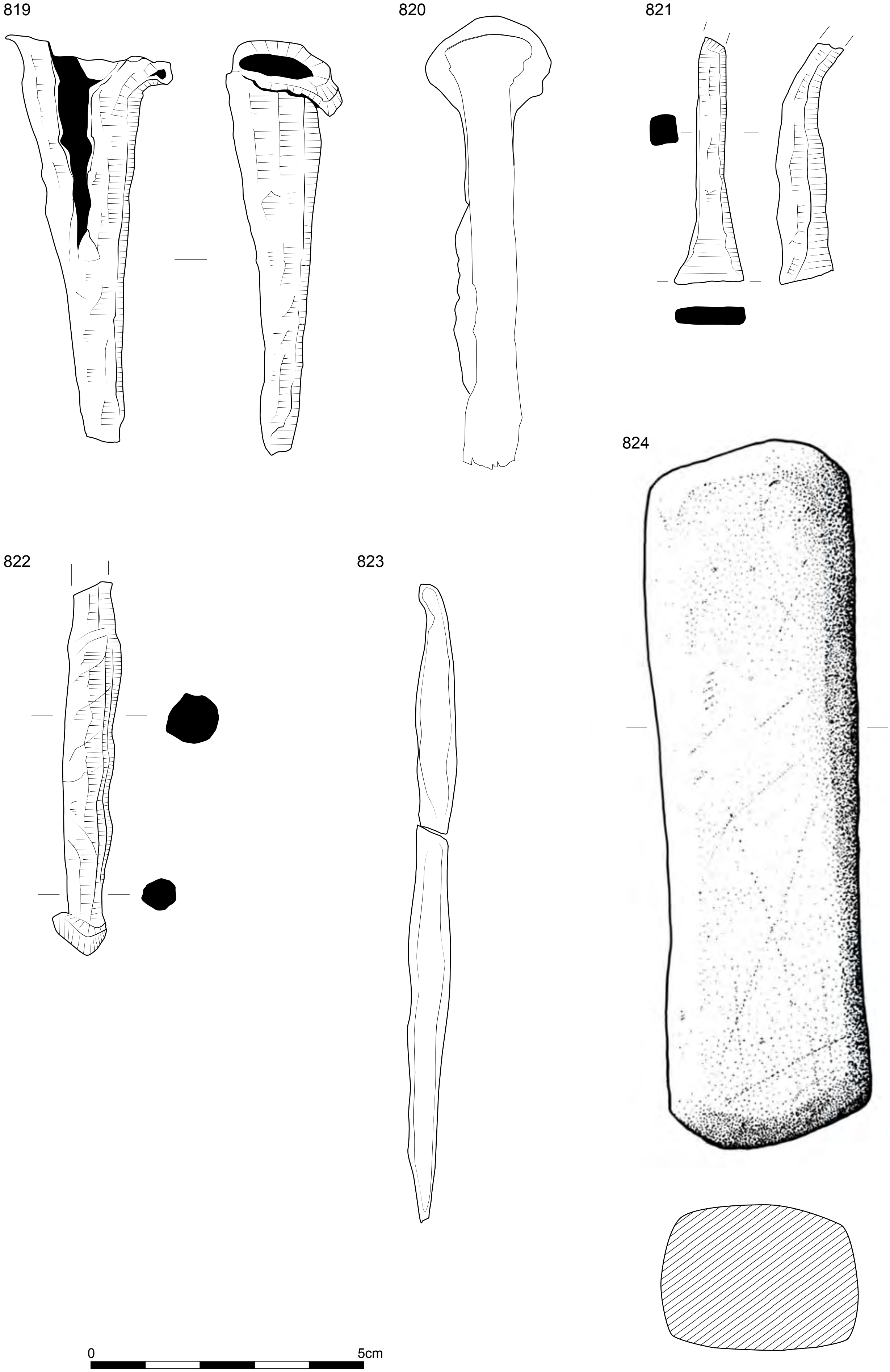


Figure 6.21: small finds, Cat. nos 819–824.

833. Incomplete iron projectile head of roughly circular cross-section. L: 36mm, Diam: 10mm. Field 258; Group **28156**; Context **26437**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13618. Figure 6.24.

834. Conical iron ferrule with no visible means of attachment. L: 79mm, Diam: 26mm (external), 18mm (internal), socket Diam: 60mm. Field 265; Group **29961**; Context **31681**; running surface of RR6; Period: 4; RF13099. Figure 6.24.

835. A flat, circular copper-alloy stud attached to a thin sheet or strip that has one surviving edge that projects 5mm, beyond the stud itself. The shank has a circular, domed washer stud. Diam: 18mm, H: 4mm; washer Diam: 6mm, H: 2mm; sheet L: 24mm, W: 18mm, Th: 0.8mm. Field 265; Context **31770**; fill of ditch **31771**; Period: 1–3; RF13221. Figure 6.24.

836. An incomplete copper-alloy strap fastener (female) with a hollowcast moulding below the remains of a flat plate with the remains of two holes with slightly recessed settings for studs of c.6.5mm diameter. Cf. Bishop (1988), fig. 54, type 3a. L: 25mm, W: 13mm, Th: 4mm. 1st century AD. Field 265; Context **31746**; fill of ditch **31787**; Period: 4; RF13226. Figure 6.24.

837. Incomplete copper-alloy strap fastener (male) with T-shaped terminal and the remains of two holes with concentric grooves on the flat plate. Bishop (1988), fig. 55, type 3a. L: 33mm, W: 13mm, Th: 4mm. 1st century AD. Field 265; Context **31504**; imported sand levelling layer; Period: 5+; RF13025. Figure 6.24.

838. Incomplete copper-alloy piece of horse harness, from the end of a waisted plate used to attach a junction loop or strap fastener to the leather. L: 28mm, W: 12mm, Th: 1.5mm. 1st century AD. Field 258; Group **28131**; Context **15358**; fifth fill of pit **15386**; Period: 4; RF12505. Figure 6.24.

839. Undecorated copper-alloy junction loop, with a single (surviving) integral cast rivet shank projecting from the rear, although the narrower end of the mount is in poor condition. L: 64mm, W: 8.5mm and 5mm, Th: 1.5mm and 1.7mm. 1st century AD. Field 265; Context **31523**; colluvial deposit between RR5 and RR6; Period: 5+; RF13067. Figure 6.24.

840. A relatively flimsy copper-alloy strap-slide with a narrow-decorated face for a strap c.33mm, wide. L: 38mm, W: 8mm, H: 13mm, Th: 2mm. Field 265; Context **31501**; subsoil; Period: none; RF13006. Figure 6.24.

841. Slightly bowed iron tongue from a large buckle, of roughly circular cross-section until flattened for curling round the hinge pin (which does not survive). The size suggests it could come from horse harness rather than military equipment. L: 53mm, Diam: 4mm, hole Diam: 5mm. Field 202; Context **6016**; subsoil; Period: none; RF13638. Figure 6.24.

Structural items

Nails

A minimum of 391 nails (as represented by surviving heads) were found during the excavations (Table 6.4), although only 85 of these were complete or nearly complete; only examples of interest have been catalogued in detail. Lengths ranged from 15mm up to 130mm, with 80% within the range of 40–60mm (Table 6.5). Modern practice is to use nails that are either twice or three times the length of the thickness of the wood being attached, so these were suitable for wood 13–30mm thick and would have been used for fastening timber wall-cladding, flooring, ceramic tiles or shingles and door hinges (Shirley 2001, 145). While larger nails could be under-represented, since they may have been more commonly picked up for recycling (Manning 1985, 134), there was also much less need for them. The use of large nails and spikes over 100mm (which make up only 6% of the surviving complete nails), such as Cat. no. 842, was mostly associated with heavy timbers used as framing for floors and roofs, and when reinforcing scarf joints (Ulrich 2007, 59; figs 4.3 and 4.8), but may also have been used for repair work; in the same way, evidence from the medieval period documents that large-sized nails were purchased to fix rafters and to mend a storm-damaged gate (Salzman 1997, 304).

The majority of the nails can be classified as Manning (1985) type 1, the most common type in Roman Britain. The shorter nails tended to have flat heads, while the longer nails had both flat and domed heads. There were only two examples that could be identified as possible T-shaped nails (type 3; *ibid*.). The size of the head of the nail is usually in the region of twice the width of the shank. Those with large heads but thin or short shanks were intended primarily for decoration. One has a short but thick shank and appears to have a rectangular head (Cat. no. 843). The other is closer to a stud than a nail, with a short thin shank and a large, flat head (Cat. no. 844; overall height c.26mm). The most likely use for decorative nails of this size is on doors.

Approximately 88% of the stratified nails came from Period 4, although there was a small quantity from Periods 1–3. Iron nails are rare on Iron Age sites, although one of the few sites to produce them in any number was Stanwick (Allason-Jones and Lowther 2016, table 14.1; Scott 2017, 314). A study of 38 native farmstead sites in northern England shows that 71% did not produce any nails, 13% produced nails in association with Roman material, and only two sites produced nails that could possibly be Iron Age in date, so the presence of nails at Stanwick may be a result of the site's status. The Romans principally used nails in construction, for temporary structures, for coffins and for attaching fittings, such as affixing hinges to boxes but were rarely used for fastening joints either in structures or furniture. It is unclear if the nails in Iron Age contexts represent the use of new construction techniques or the presence of large chests.

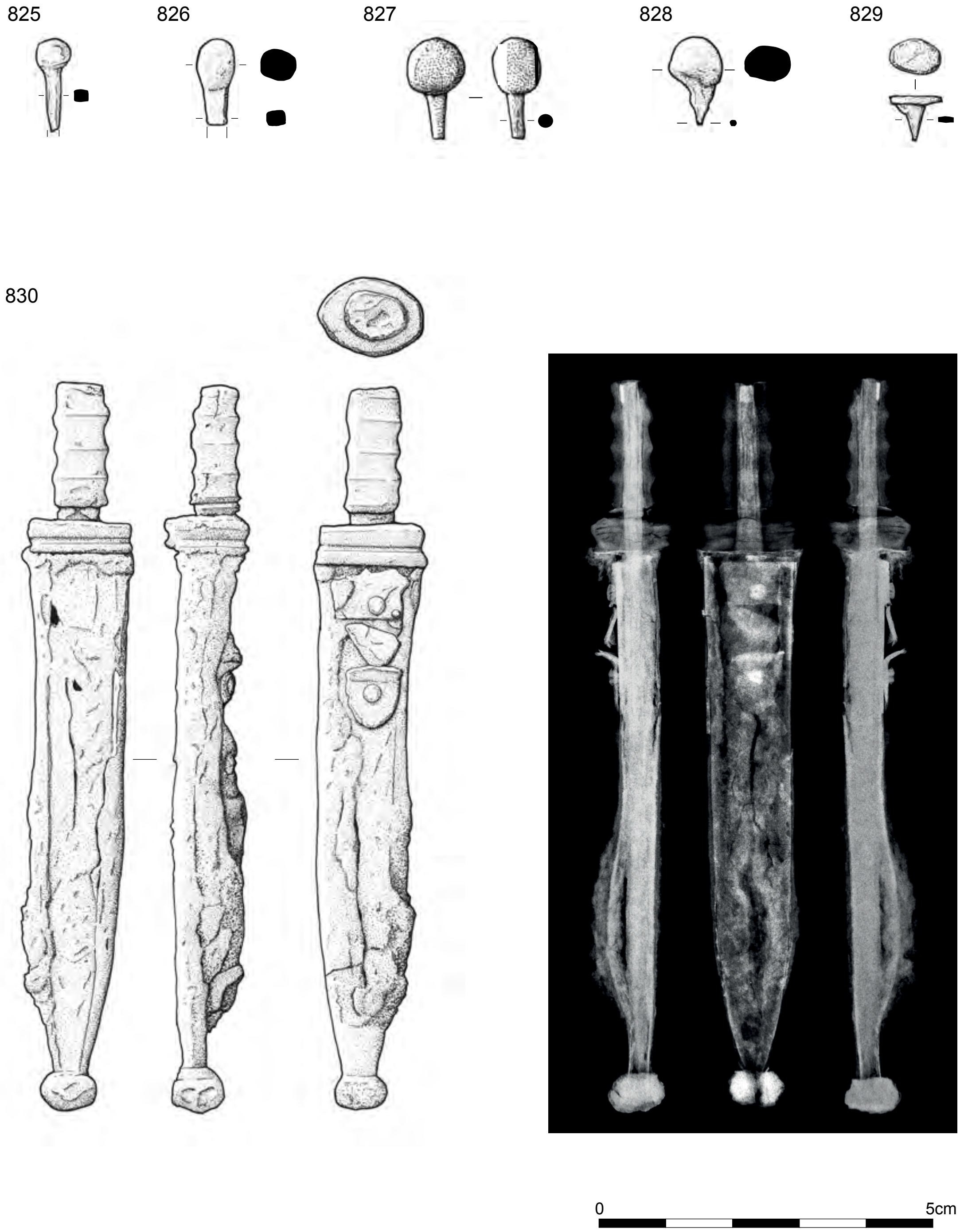


Figure 6.22: small finds, Cat. nos 825–830.

Figure 6.23: miniature swords: a) Rheingönheim (after Béal and Feugère 1987); b) unknown provenance, Musée de Saint-Germain-en-Laye (after Béal and Feugère 1987); c) London. Scale 1:2, redrawn by A. Croom; d) Scotch Corner.

The two staples (Cat. nos 845 and 846) may have been used to fasten pieces of wood together, to attach fittings or act as bolt-keepers, among other uses. A spiked loop could be used to hold a rope or chain in position or, when fitted with a pendant loop, used as a door or furniture handle. They may also have been used to fasten doors or shutters open, or as a tethering ring. The complete double-spiked loop (Cat. no. 847) has an oval loop and the very ends of the spikes are bent outwards, indicating it was used on timber at least 38mm thick. A second spiked loop was unusually small and might well have been used as a hinge element from a box (Cat. no. 848). There was one single-spiked loop, which had the same function as the double-spiked version but was more typically used in masonry walls rather than timber (Cat. no. 849).

Lead was used in construction, and run-offs of molten lead and fragments of cut sheets (such as RF12614; not illustrated) show that lead was being worked at Scotch Corner. Two very similar castings, which were perhaps used to hold something organic in position, came from a well in Field 258 (Cat. no. 850) and a ditch in Field 246 (Cat. no. 851). The liquid lead was poured into a deep, tapering, rough-sided depression that contained at least two flat-sided strips, producing a roughly semi-circular piece of lead with two impressions.

842. Large iron spike with rounded head and square-sectioned shank. L: 210mm, shank W: 15mm, head Diam: 35mm. Field 258; Group **28156**; Context **15224**; secondary fill of ditch **15193**, **15223**, **26042**, and **26886**; Period: 4; RF10045. Figure 6.25.

843. Short iron nail with rectangular head. H: 43mm; head L: 31mm, W: 20mm. Field 258; Group **28166**; Context **27489**; secondary fill of ditch **26263**; Period: 4; RF13741. Not illustrated.

844. Iron nail or stud with a large circular flat head, and a short shank with a rectangular cross-section. Manning (1985) type 7. Diam: 43mm, H: 25mm, shank W: 9mm, Th: 6mm. Field 258; Group **28131**; Context **26504**; fill of pit **26503**; Period: 4; RF13622. Figure 6.25.

845. Incomplete iron staple, for attaching wood. L: 47mm, W: 31mm, Th: c.5mm. Field 246; Context **16197**; aggregate surface of south-west to north-east hollow-way (pre-Dere Street); Period: 3; RF10156. Figure 6.25.

846. Incomplete iron staple with a short arm. L: 38mm, W: 9mm, H: 21mm, Th: 5mm. Field 246; Context **31028**; secondary fill of gully **31026**; Period: 4–5; RF13735. Not illustrated.

847. Complete double-spiked iron loop with oval loop and the very end of the spikes bent outwards. L: 72mm, W: 24mm, Th: 9mm (min). Field 258; Group **28131**; Context **27226**; third fill of pit **27224**; Period: 4; RF12573. Figure 6.25.

848. Small double-spiked iron loop. L: 24mm, W: 15mm, Th: 7mm. Field 258; Group **28156**; Context **15178**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF13727. Figure 6.25.

849. Incomplete single-spiked iron loop. L: 55mm, W: 30mm, Th: 11mm. Field 246; Context **31817**; fill of ditch **31816**; Period: 4; RF13103. Not illustrated.

850. Long, roughly semi-circular lead casting. L: 59mm, W: 12mm, Th: 30mm. Field 258; Context **26010**; secondary fill of well **26253**; Period: 4; RF12500. Figure 6.25.

851. Tapering, roughly semi-circular lead casting. L: 27mm, W: 27mm, Th: 38mm. Field 246; Context **24304**; primary fill of ditch **15869**; Period: 4; RF11474. Figure 6.25.

Miscellaneous

Very little worked bone or antler was recovered. The sole object of interest is a large antler loop (Cat. no. 852). Although some cancellous material has been left exposed on the interior, the piece is well-made and polished. It has broken just where the interior surface on both sides of the loop is heavily worn, with the cross-section reduced to a D-shape, half the thickness elsewhere. One possibility for its function is as a connecting loop for two opposing leather straps. Large iron loops like Cat. no. 853 could have many different uses, including handles or tethering loops and as part of chains and horse harnesses. The function of the small oval lead loops (Cat. nos 854 and 855) is unclear.

Cat. no. 856 and Cat. no. 857 are a class of artefact traditionally identified as ox-goads, used when droving cattle or guiding draught animals. They are, however, found in surprising numbers on Roman sites, considering it is quite a specialist piece of equipment. Ox-goads were also used in the medieval period, but very few iron examples have been identified in the archaeological record (Goodall 2011, fig. 7.11, nos F131–3), and in many periods nothing more than a sharpened stick was used. Small examples of such 'goads' were certainly used as pen-nibs, as illustrated by those at *Vindolanda* fort that have been found attached to hollow wooden handles and acted as a fountain pen, with one still retaining traces of ink (Birley 2002, 35; fig. 26). It has been suggested that some of the larger examples, such as Cat. no. 856 with its long spike, may have been used as candlesticks in the manner of medieval examples that were inserted into a wooden base or socketed stone (Goodall 2011, 299, fig. 11.7, nos J83–J93; cf. the discussion of another Roman example with a long spike from Springhead; Biddulph *et al*. 2011, 256–7, fig. 111, no. 266). The internal diameter of the 'goads' is about 12mm, which is close to the typical size for candles used in iron candlesticks (14mm; Eckardt 2002, 246). It is probable these objects had different uses according to their size and only appear similar now because they lack their wooden components.

The small size of the central hole in the roughly square lead block of uneven thickness (Cat. no. 858) means it could not have been used as a spindle-whorl, so is likely to be a weight for fishing gear, hunting nets or similar. While the pierced disc (Cat. no. 859) could have been used as a spindle-whorl, a second example (Cat. no. 860) was too roughly made and of such uneven thickness that it would not make an efficient whorl, and one or both may have been used as a different form of line-weight.

The fragment of chain (Cat. no. 861) came from an unstratified deposit, and although the figure-of-eight link was the most common type in the Roman period it continued to be used in the medieval period, so this piece is not certainly Roman (Manning 1985,139; Goodall 2011, 302). None of the links are complete but can be reconstructed as being c.40mm long and are unusually thin. The function of Cat. no. 862 is unknown.

In addition to the two amber beads and statuette discussed earlier, five minute flakes from an unknown object in light orange amber were found in pit **12152** (Cat. no. 863). The group of flakes are too small for identification but may have come from a bead, as these are the most common amber object (Morris 2010, 99, appendix 5–9). However, their size precludes any formal identification of their original purpose.

852. Incomplete antler loop of oval cross-section. W of loop: 45mm, W: 7mm, Th: 9mm. Field 258; Group **28131**; Context **26205**; upper fill of pit **26201**; Period: 4; RF12846. Figure 6.26.

853. Annular iron loop with a rectangular cross-section. Diam: 39mm, W: 4mm, Th: 5mm. Field 258; Group **28131**; Context **15424**; secondary fill of pit **15423**; Period: 4; RF10097. Figure 6.26.

Table 6.4: number of nails (counted by presence of a head) by Period.

Period	No.
1	1
2	11
2–3	2
3	4
2–4	5
4	317
4–5	7
5	14
5+	14
U/S	16
Total	**391**

Table 6.5: number of complete nails by length.

Length (mm)	No.
10–20	1
20–30	1
30–40	11
40–50	20
50–60	23
60–70	15
70–80	7
80–90	1
90–100	0
100–110	1
110–120	1
120–130	2
130–120	2
Total	**85**

854. Roughly D-shaped lead loop, with a thin, uneven cross-section. L: 27mm, W: 18mm, Th: 2.5mm. Field 246; Context **24298**; fill of ditch **15859**; Period: 3; RF11518. Figure 6.26.

855. Oval lead loop of roughly rectangular cross-section. L: 24mm, W: 16mm, Th: 6mm. Field 258; Context **26522**; fill of pit **26521**; Period: 4; RF12560. Not illustrated.

856. Iron rectangular-sectioned strip curled into two loops with a very long spike. L: 49mm, Diam: 18mm (external), 11–13mm (internal). Field 258; Context **27073**; fill of ditch **15404**; Period: 4; RF13620. Figure 6.26.

857. Iron strip with one and a half twists in the loop and an incomplete spike. Diam: 20mm (external), c.11mm (internal), H: 26mm, Th: 8mm. Field 265; Group **29959**; Context **31709**; midden deposit below Structure 5; Period: 4; RF13629. Figure 6.26.

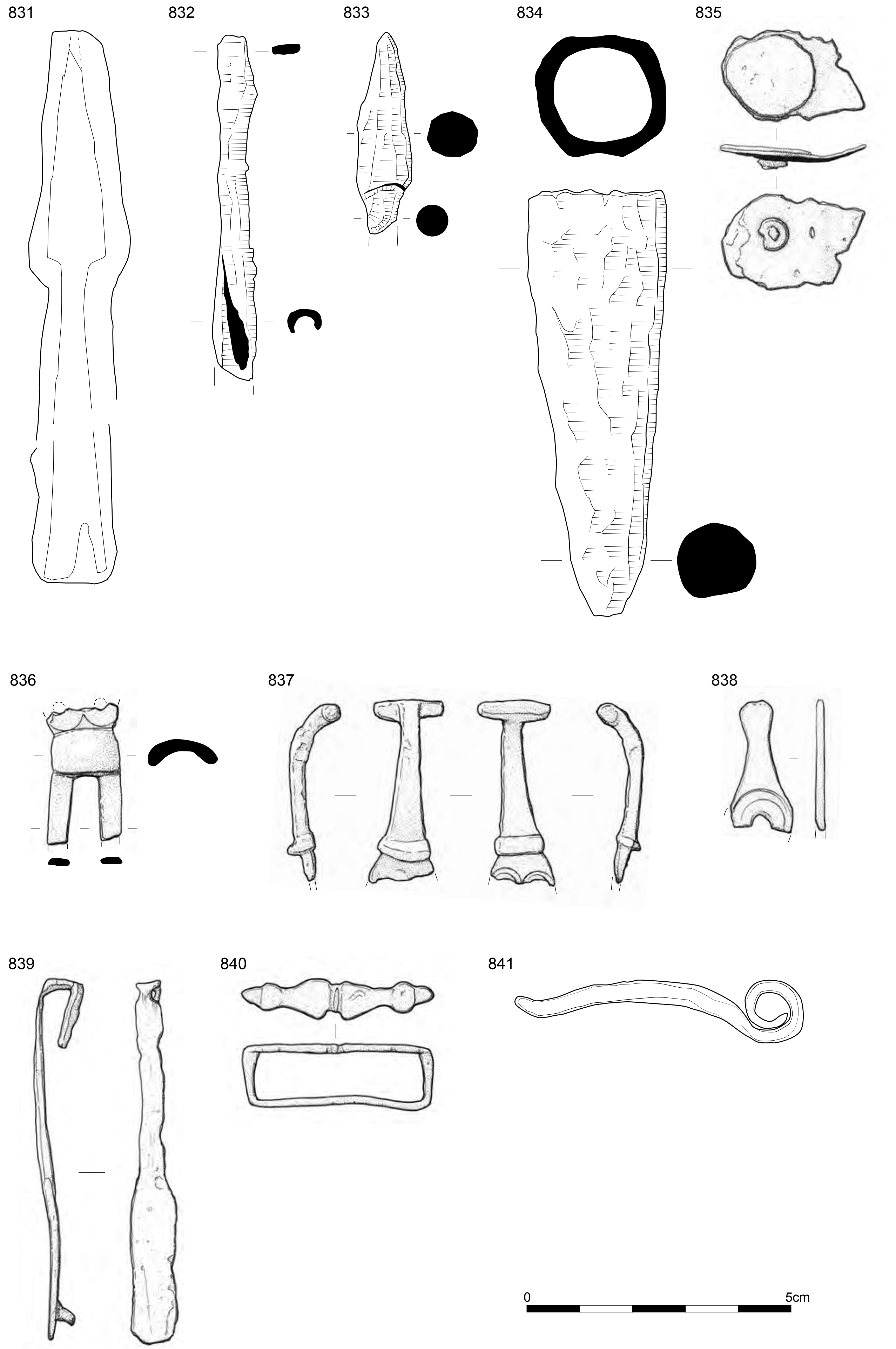


Figure 6.24: small finds, Cat. nos 831–841.

858. Roughly square lead weight of uneven thickness pierced by small central hole. L: 23mm, W: 22mm, Th: 10–12mm, hole Diam: 2.5mm. Field 258; Group **28156**; Context **27313**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12579. Figure 6.26.

859. Small pierced lead disc. Diam: 24mm, Th: 6mm, hole Diam: 5mm. Field 246; Group **31287**; Context **15887**; loose aggregate surface along north-west side of Dere Street; Period: 5+; RF10145. Not illustrated.

860. Roughly made circular lead disc of uneven thickness, with slight collar round the oval central hole on one side. Diam: 27mm, Th: 4–7mm, hole Diam: 5–6mm. Field 265; Group **29958**; Context **31589**; earthen floor of Structure 38; Period: 4; RF13058. Figure 6.26.

861. Fragment of an iron chain of at least five figure-of-eight shaped links, with a rectangular cross-section. link L: c.40mm, W: 12mm, Th: 1.5mm. Field 258; Context **15000**; topsoil; Period: none; RF33074. Figure 6.26.

862. An incomplete, roughly triangular-shaped iron bar of rectangular cross-section, with a small projection on one side. Unknown function. L: 115mm, W: 17mm, Th: 7mm. Field 258; Group **28133**; Context **15409**; fill of ditch **15408**; Period 4; RF10087. Figure 6.26.

863. Five minute flakes of light-orange amber. As the pieces have rounded edges, this is not something that has disintegrated recently, but were flakes when they entered the archaeological record. L: 5mm. Field 217; Context **12153**; fill of pit **12152**; Period: 1–5; RF14545. Not illustrated.

DISCUSSION

Alexandra Croom with discussion of the beads by Elizabeth M. Foulds

Period 1

There were few finds from Period 1 and, with only two exceptions, all these come from Field 246. Five are stone tools, although Cat. no. 699 is more dubious than the rest, and there is one possible pot-boiler (Cat. no. 707). The only other object of note is the iron brooch (Cat. no. 687) from the gully of Structure 50ii. The pin was complete and within the catch-plate when the brooch was deposited, so this is likely to have been a deliberate inclusion in the gully. The use of brooches in the Late Iron Age was more common in southern England than in the north, but the increasing numbers found in the region of Stanwick suggest the practice was slowly spreading north and the communities in this area were being influenced by the culture of the south (Allason-Jones and Haselgrove 2016, 191–4). This could simply involve a change of methods of fastening clothes, such as moving from using pins to more secure brooches, but could represent the introduction of new types of clothing, such as wearing cloaks rather than capes, or tubular tunics fastened at the shoulder rather than T-shaped tunics, but the change was happening in the region before the arrival of the Romans, who introduced the more widespread use of brooches.

Period 2

The stone tools in Period 2 are similar types to those from Period 1, but in addition there were stone balls of a type found commonly on British sites in south-east Scotland and occasionally on some sites in the north-east, suggesting connections to the north. Their exact function is unknown, but they do not appear to be tools. They are too large for use as sling-shots or gaming pieces and may have had some ritual or ceremonial use (Haselgrove 2016, 431).

The presence of a number of iron nails in Period 2 indicates contact with the Romans. They were found close together in Field 246, with at least ten in the gully of Structure 47iv and in a gully that ran across it. They ranged from 40mm to 70mm long, and half of them were bent in a distinctive way, perhaps as a result of being removed from wood in preparation for being recycled as raw material.

Period 3

There was a small number of nails (minimum four), which were more widely spread across the sites than in Period 2, and an iron staple (Cat. no. 845). The only other artefact of note was a small lead loop of unknown function or date (Cat. no. 854).

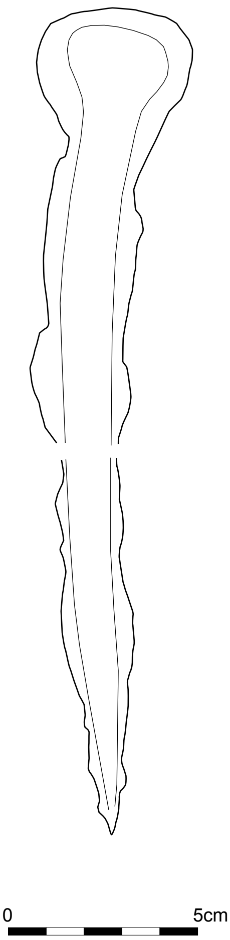
The Iron Age finds

The assemblage of Iron Age finds is a mix of high-status items relating to horse gear and low-status cobble tools. The stone tools were used mainly for grinding, smoothing or polishing, which could be for either domestic or industrial processes. The great majority were found in Field 246, which has produced evidence for both the working of precious metals and the use of pigments, so the tools may have been used for grinding precious metal ores (the only ores that were finely ground) or for producing pigments.

In contrast, the copper-alloy finds were found across Fields 228, 258 and 265. Horse gear was one of the main elements of social display in the Late Iron Age, alongside weaponry and items relating to feasting and personal adornment, and was used to express status, power and identity; horse riding would have been the preserve of the elite (Hunter 2008, 131–2 and 136). The five pieces of horse gear mainly come from harness, but there is a vehicle fitting from a chariot or carriage. The other copper-alloy finds consist of a single find perhaps related to weaponry (Cat. no. 694; Period 2) and one to feasting (Cat. no. 695; Period 4).

While the dumb-bell toggles might possibly have been used on clothing and the iron loop as a finger-ring, the one certain item of personal adornment was the iron brooch. The brooch is of a type found mainly in south-west England and is evidence of some form of contact with people south of the Humber. Such contact has also

842



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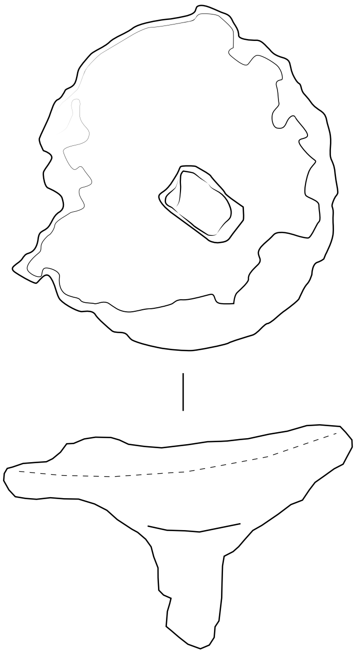

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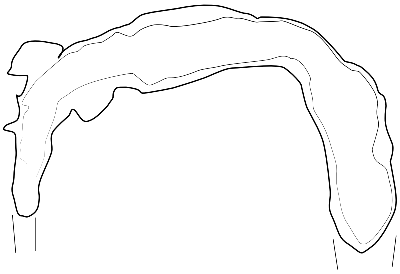

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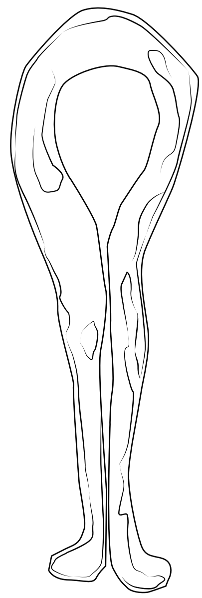

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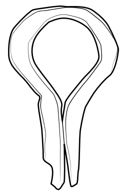

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851

Figure 6.25: small finds, Cat. nos 842–848 and 850–851.

been seen at Stanwick, where it was argued that two brooches could also have been imported from the south, as well as an Iron Age silver coin from the East Midlands (Haselgrove 2016, 182, 427 and 431). The importation of unusual pieces, such as the brooches, perhaps with items of clothing that would have been of equal, if not greater, worth would have reinforced the status of the elite.

All but one of the copper-alloy fittings and pieces of edging came from contexts dating to Period 4 or later, and while they may be residual Iron Age pieces, pre-Roman designs continued to be made into the 2nd century and may represent pieces in use during the Flavian period.

Period 4

The bulk of the finds and the items of personal adornment, domestic items, structural fittings, tools, military equipment and the evidence for literacy reflecting a Romanised society were found in Period 4 contexts.

The small quantity of possible military equipment (including horse harness) comes from four different fields, but with the majority from Field 265 despite the small size of the area. The possible weaponry consists of a ferrule (probably, but not certainly, from a spear) and a number of projectile heads. There are no buckles, mounts or strap-ends from belts other than one possible stud, and no armour fittings; the stud came from a feature dated Period 1–3 and is the earliest dated military item.

In contrast, there were five pieces of horse harness, which were all standard items of strap fittings apart from one slightly unusual strap slide. As can be seen from these examples, Roman military fittings were often quite flimsy and easily broken, so the lack of pieces certainly from a soldier's equipment is noticeable. Two-thirds of all the harness fittings, Roman and British, come from Field 265, where there was a possible stable (Structure 39) beside RR6, although none are directly related to it. The fittings may come from soldiers or officials using the road and stables; civilian use is less likely, as in both British and Roman life during this period horse-riding was associated with the nobility (Bishop 1988, 116).

The miniature sword, although not precisely an item of military equipment, does reflect how the army was incorporating influences from their surroundings at the time of the conquest and adopting native elements during a time of change (Hunter 2008, 136). If it was designed to be used as a knife, it would surely have appealed to someone with a military background.

The two pre-Flavian brooches, the Aucissa and the Hod Hill (Cat. nos 718 and 719), were types that originated on the Continent and were first brought to Britain by the military; they may indicate the presence of soldiers, although they have been found in civilian contexts (Bayley and Butcher 2004, 190). Of the nine Roman brooches, at least five are of types that may have been worn by women to fasten their tunic. This high number of brooches potentially used by women is not unusual, as women wore pairs of brooches on the shoulders in the 1st and 2nd centuries and could use yet more to secure an undertunic and mantle, while men used a single brooch on their cloak. One of them (Cat. no. 723), the only example deposited complete, still retained part of the chain that was sometimes hung between the shoulder brooches. This form of continental costume was adapted in some parts of southern England in the Late Iron Age but only became widespread in the north with the arrival of the Romans. It is noteworthy that half the brooches came from the north end of Field 258, from the series of pits (group **28131**) and from the fill of ditch **15063** (group **28133**). The fills of these features were very similar, with high-quality domestic rubbish including pottery and glass, and may come from the same source.

Most of the bead assemblage can be attributed to contexts from Period 4. Most were faience melon beads, but it is currently unclear how they were used. There was only one bead, a segmented type (Cat. no. 759), that was likely to have been used on a necklace or other dress ornament. This adds to the small amount of evidence for women at Scotch Corner, along with the brooches. The bead type suggests that the individual who wore the jewellery dressed according to at least some elements of Roman fashions, rather than solely local indigenous ones.

Field 258 also produced all the fragments of copper-alloy vessels, although they were not concentrated in any particular area. In both British and Roman life, feasting with guests was an important social occasion. The form that Roman dining took depended on status and space, with the rich reclining in purpose-built dining-rooms and those lower down the social scale sitting upright in less formal surroundings. The formal dining of the rich required suitable tableware, which would have included items for the mixing and serving of wine. The copper-alloy vessels are incomplete, but the three ladles or small bowls (Cat. nos 775, 776 and 779) suggest formal dining, and its attendant practices, was happening nearby.

The enclosure ditch group **28156** in Field 258 seems to have been used for rubbish from some form of administrative centre perhaps associated with Structure 31. Five out of the six styli recovered, all utilitarian examples, were found in these ditches, while a penknife was also found in the ditch of a neighbouring enclosure to the immediate east (Cat. no. 816). The enclosure ditches surrounding Structure 31 also included nine glass counters and another came from the adjacent enclosure ditch to the east; it is thought that such counters could be used for calculations using a counting board, so this group might relate to accountancy rather than a discarded game.

A second penknife came from one of the pits (**26179**) of group **28131**, which seem to contain some structured deposits as well as redeposited midden material. The miniature sword was found in the primary fill of pit **26002**, along with an incomplete brooch. Although the miniature sword was broken it does not seem to have been ritually 'killed', as the damage was to the handle and not the blade itself; the tang of the blade had sheared off just below the pommel, which meant there was no easy way to repair and replace it and, without the pommel, the already-short handle was not long enough to use with ease. It was, however, still recognisably a miniature sword, and miniature weapons are a well-known form of votive offering. This knife may have been chosen for deposition as being representative of the identity of its owner (Kiernan 2009, 7) or as a symbol of strength and protection.

The only recognisable tools that have survived are small and no doubt give an incomplete picture of the activities being carried out. There were chisels for working both wood and metal, and three possible spindle-whorls for producing thread (Cat. nos 772, 773 and 859). There was a single whetstone for sharpening tools, knives and razors, but the only surviving knives were penknives and the elaborate miniature sword.

Period 5

The quantity of finds from Period 5 was much smaller than Period 4, but did produce three of the five finger-rings, all from Field 265. Two, a silver ring and an iron ring set with an intaglio (Cat. no. 729 and Cat. no. 733), were found in the primary fill of pit **31610**. As both were of some value and probably complete on deposition, this seems to be a deliberate deposit. The rings could have been chosen due to the fact they were very personal items belonging to the individual, or as symbolic of the sun, wheel or money, or a representation of the cycle of life, eternity or protection (for rings and loops found at temple sites, see Woodward and Leach 1993, table 20).

Period 5+

The most significant find was that of the amber statuette, the only example known from Roman Britain. Although amber was occasionally used for beads during the Iron Age, it was generally rare, and even in the Roman period, when larger quantities were imported, it was never common. Therefore, very few people in the region, Roman or British, would have seen it before (Morris 2010, fig. 2.13; tables 4.11–12). Thus, the statuette represents a luxury, imported or brought from Italy, and would have been a prestige item for public display. The complete statue was only about 50–60mm tall, and the translucent nature of the material meant the details of the carving were best seen close up. It was perhaps handed round to guests for them to appreciate, possibly demonstrating its electrostatic properties in the process to show off its inherent magic at the same time.

QUERNS

John Cruse

Querns were recovered from Scotch Corner, Woodside and Gatherley Villa. The total assemblage contains fragments of a surprisingly wide variety of artefacts, from 18 (or perhaps 19) items of grinding equipment, currently weighing 131kg, although their estimated weight when intact is suggested to have been c.391kg. They were amassed at Scotch Corner and nearby fields over a relatively short time period of 60–70 years and provide insights into how cereal processing priorities changed, with pre-invasion practices being adapted to utilise the latest Roman technology. The stones are discussed according to the chronological development of grinding technology. This section also presents estimates of the degree of wear experienced by the querns, using criteria recently developed by the Yorkshire Quern Survey (YQS).

SADDLE QUERNS, RUBBERS AND MORTARS

The area between Fields 197 and 246 (Woodside to Scotch Corner) yielded the remnants of five grinding tools, weighing 31kg and representing artefacts with an estimated intact weight of c.45kg. None were found in Fields 258 or 265, further north at Scotch Corner. One fragment (Cat. no. 868) was likely to be part of a shallow, circular stone mortar, but the other four (Cat. nos 864, 865, 866 and 867) were all informal grinding tools. They could loosely be described as 'probable saddle querns or rubbers', technology that goes back to the Neolithic period.

Such a description reflects a limited understanding of the key characteristics of these artefacts. Somewhat different methods are used to distinguish between the lighter, thinner upper stones (or 'rubbers'), suitable for manual operation by the grinder, and the thicker, heavier lower stones (or 'saddle querns') that were fixed in the ground (see Cruse 2017). An additional hindrance for interpreting the role of these tools is that, prior to deposition, they were usually deliberately damaged, a practice originally brought into Britain by the earliest Neolithic farmers (*ibid*.). Thus, throughout prehistory, undamaged rubbers and saddle querns (such as Cat. no. 865 and Cat. no. 866; Fig. 6.27) are rare finds, especially in Roman period contexts, and the two examples thus merit close attention.

In later prehistory, grinding with a saddle quern seems to have usually involved the two-handed operation of the upper stone, the length of which exceeded the maximum width of the saddle quern. The operator could thus hold both sides of the rubber and comfortably move it back and forth across the length of the saddle quern's grinding surface. Using data from the YQS archive, such a grinding action tends to create artefacts with recognisable features (Table 6.6).

Applying these general criteria to the four examples (Table 6.7), the most consistent indicators of their function are their:

- weight (all less than 10kg);
- predominately level profile lengthwise; and
- lack of any marked concavity across their width.

These criteria suggest the stones were used as upper stones or 'rubbers'. As a group, they are surprisingly thick, which could indicate that they had been only

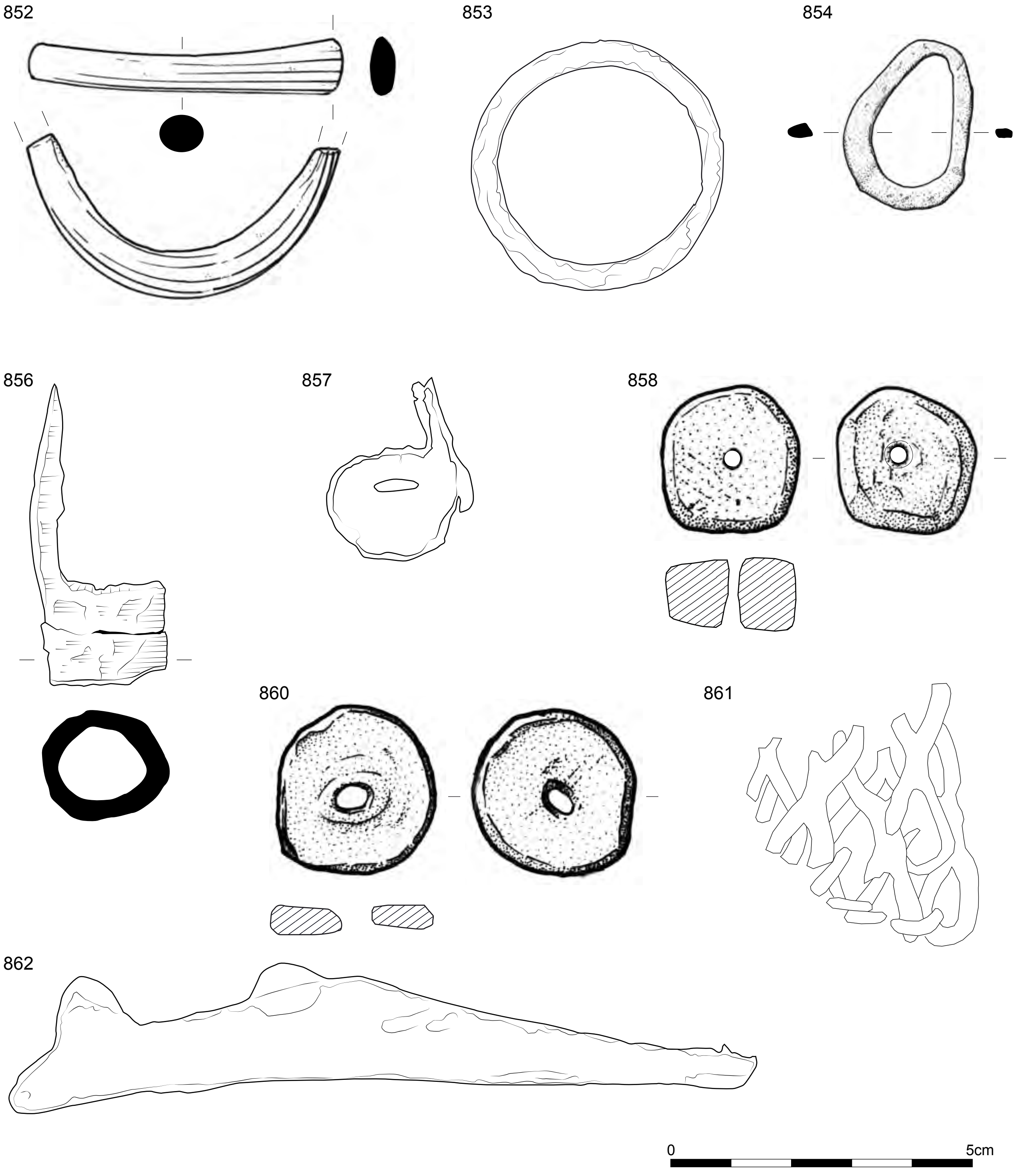


Figure 6.26: small finds, Cat. nos 852–854, 856–859 and 860–862.

lightly used, with two of them also being longer or wider than expected. The concavity of the grinding surface on Cat. no. 866 could be the result of some secondary reuse as a saddle quern.

The absence of any unambiguous saddle querns from the assemblage is notable, as they would have undoubtedly been present, but were presumably deposited elsewhere. It is also noted that both the intact rubbers share a similar type of deposition (i.e. Cat. no. 865 was found in a ring gully of Structure 66 and Cat. no. 866 came from gully **15923**). One possible reason for their preservation in an undamaged state could be that they were components within a 'placed deposit', perhaps abandonment of the features or the site. It is also noted that the intact rubbers (Cat. nos 865 and 866) were both little worn when they were discarded. The absence of the usual fragmentation stage could suggest a non-standard pattern of disposal.

864. Rubber fragment (50–80% complete) made from a rectangular slab, with one end removed. Its grinding surface is worn smooth, with fine pecking on one side. Although flat lengthwise, it is convex across its width, suggesting operation with a two-handed movement. The upper surface is roughly hammered flat. Edges are apparently undamaged natural boulder surfaces. Lithology: Fine grain sandstone. Grinding surface L: >160mm (perhaps 250–300mm originally); W: 100mm; Th: 100mm. Weight: 5kg (est. intact 6–8kg). YQS 7088. Field 199; Group **11063**; Context **25565**; fill of ring gully **25564** (Structure 60iv); Period: 1; RF11601. Not illustrated.

865. Complete rubber made by halving a naturally rounded boulder. The bulk of its grinding surface is flat, lengthwise, but the final 40mm at the narrower end is somewhat angled (perhaps as a hinge fracture from boulder splitting). The grinding surface is flat across its width, implying use in a two-handed mode. The external sides are unworked. Lithology: Fine grained sandstone. L: 280mm; W: 170mm; maximum Th: 105mm. Weight: 7.5kg. YQS 7087. Field 202; Group **11929**; Context **11931**; fill of penannular gully **11912** (Structure 66); Period: 1; RF10102. Figure 6.27.

866. Probable complete large rubber made by splitting and then trimming a naturally rounded boulder. The rare complete lengthwise profile of the grinding surface suggests two-hand use, with its central area worn into a c.14mm concavity, but with c.30mm of the outer edges relatively flat and unworn (suggesting wear against a saddle quern with a c.290mm-wide grinding surface). The profile across the grinding surface is flat. One side was trimmed more roughly than the other, which had a neatly picked bevel. Around 70% of the base was undressed. Lithology: medium- to coarse-grained Millstone Grit. Maximum L: 385mm; maximum W: 190mm; max Th: 90mm. Grinding surface measures: 370mm x 150mm. Weight: 8.0kg. YQS 7110. Field 246; Context **15924**; fill of fence-line/gully **15923**; Period: 5; RF10162. Figure 6.27.

867. Fragment (c.60–80% complete) of a probable large rubber made by splitting a naturally rounded boulder. Prior to deposition, it was broken across its width and c.70% of grinding surface edge was removed. The lengthwise profile of the grinding surface is flat, but across its width, it is convex (10mm). Lithology: fine grained sandstone. L: >240mm; maximum W: 240mm; maximum Th: 90mm. Weight: 5kg (est. intact weight: 6–8kg). YQS 7089. Field 246; Context **24638**; secondary fill of penannular ditch **24983** (Structure 47iii); Period: 2; RF11552. Not illustrated.

868. Fragment (c.30%) of a probable mortar. An alternative interpretation as the higher end of a saddle quern is less plausible. An apparently circular, dished, artefact with a broad, peck-dressed rim of variable thickness (70–100mm). The central area is 45mm thick but has no central perforation. Abrasive wear appears to be focused on the inner area of the rim, implying a single-handed rubber, used in a circular motion. The inward sloping edges are neatly peck-dressed circular, in a manner unsuitable for a saddle quern. Lithology: fine grained sandstone, probably from the Alston Formation of the Wensleydale Group (the nearest outcrops are 19km away). Diam: 350mm +/-20mm (external), c.290mm (internal); rim H: 70–100mm. Weight: 5.394kg (est. intact weight: c.15kg). YQS 7856. Field 246; Context **31124**; fill of gully **31011**; Period: 1; RF12922. Not illustrated.

BEEHIVE QUERNS

The area of Scotch Corner, between Fields 220 and 246, yielded the remnants of two upper and two lower beehive querns, weighing 56kg and representing artefacts with an estimated original weight of c.93kg. No beehives were found from roadside sites north or south of Scotch Corner.

With only 13 rough-outs being recorded from the 562 beehives of Heslop's (2008) corpus (i.e. just 2.3% of the total), the largely intact rough-out (Cat. no. 872; Fig. 6.27) is a comparatively rare survival (see Table 6.8). As such uncompleted querns were clearly unused, it might be expected that they would be consistently taller than ordinary working querns, which had suffered wear through usage. In practice, this was found to be only partially true (Table 6.9), as four of the Heslop rough-outs had heights as low as 130–60mm. Recent data on 34 beehive rough-outs from the Derwent Valley, Derbyshire (Palfreyman and Ebbins forthcoming, table 1), also confirms a similar variability in the height of rough-out querns (Table 6.9), but that the majority are in excess of 190mm high. Previous studies (Cruse 2018) have shown that the typical heights of beehive querns in the Heslop (2008) corpus range from c.260mm to a minimum of c.100mm. So, it can be assumed that stones with heights of 260–200mm have experienced 'minimum wear', that 199–150mm is 'average wear' and 148–100mm is 'well worn'. In areas such as the Wolds, where the more compact 'bun' querns are common due to the limitations of the local Jurassic rocks, this attribution will obviously need some adjustment. An estimate of the intact weight of a beehive can be used to independently check this wear estimate. Encouragingly, the 28kg weight of rough-out Cat. no. 872 (Fig. 6.27) compares reasonably well with that of 175 examples in YQS records, as only the 10 heaviest of 125 weighed beehives exceeded 28kg and the lightest 10 stones averaged 10kg. Using these values as indicative of 'unused' and 'virtually exhausted' respectively, an independent estimate of the wear for the Scotch Corner beehives can be derived (Table 6.10).

From these two independent but reasonably consistent estimates, the following observations can be made:

- when they were discarded, used beehives Cat. nos 869 and 871 and rough-out Cat. no. 872 were far from exhausted; and

- the anomalous thinness of Cat. no. 870 is unusual, but with its pre-AD43 context, it is unlikely to have been a disc quern.

Fragmentation of beehive querns was a common practice (Heslop 2008) and is recognisable in the assemblage in terms of the deliberate grinding surface edge removal from Cat. no. 869, together with the damage to the hopper rims on Cat. no. 871 (Fig. 6.27) and to Cat. no. 872 (Fig. 6.27). For two of the beehives (Cat. no. 870 and Cat. no. 871), this initial treatment was followed by division of the querns into quadrants. Both deliberate actions are entirely typical of pre-invasion practices in the area and, in post-invasion times, indicative that users, presumably from the 'native' population, continued to treat their beehives in the traditional manner.

869. Nearly complete (85–90%) beehive drum-shaped lower stone. Approximately 75% of the grinding surface edge has been removed by between five and seven separate impacts. The exterior was finished with regular tooling from a round-tipped hammer. The grinding surface is very lightly worn and almost flat (maximum concavity 1mm). Its peck-dressing is evident around the off-centre spindle hole, but the outer margins have been worn smooth. Slight traces of ferruginous concretions on the grinding surface and the outer surface. Lithology: medium-fine grained sandstone, reddish at fractures, light brown/pale yellow on weathered surfaces. Well-sorted and rounded grains with no larger inclusions or fossil pits. Diam: c.350mm; maximum H: 161mm; conical spindle hole is 31mm wide and 28mm deep (worn smooth around lip). Weight: 17.1kg (est. intact weight: 19–20kg). YQS 7099. Field 220; Group **11060**; Context **10941**; secondary fill of C-shaped gully **10939** (Structure 4); Period: 1; RF6515. Figure 6.27.

870. Fragment (20%) of a probable shallow drum-shaped beehive lower stone. It is broken radially, but with no evidence of the central spindle. Large percussion void left by hammer used to break the stone. Grinding surface is convex, with flatter lip around periphery. Grinding surface and fracture surface very heavily coated with ferruginous concretions. Original surface of base is unworked, but the side-walls have been worked up with coarse hammering, with a round-headed hammer. Lithology: medium grained, orange-grey sandstone, well-sorted, angular grains, with black flecks, possibly limonite. No fossil pits or larger inclusions. Possibly Yoredale sandstone. Diam: c.360mm; rim H: 50mm; maximum H: >82mm. Weight: 4.2kg (est. intact weight: 21kg). YQS 7103. Field 223; Group **30895**; Context **30482**; primary fill of penannular gully **30297** (Structure 6); Period: 1; RF12778. Not illustrated.

871. Fragment (20%) of a beehive upper stone, fashioned from a somewhat rectangular riverine boulder. A portion of the hopper edge had been removed and it was then divided vertically through the feed-pipe into a quadrant. Large, conical hopper. The worn grinding surface is slightly convex and c.5% asymmetric. A single conical handle-hole, 46mm wide and 52mm deep. Only a trace of the feed-pipe. Lithology: fine grained sandstone, reddish grey, well-sorted and rounded grain in dense matrix. The form has been adapted from a somewhat rectangular riverine or glacial boulder, with peck-marks on the corners to form a more hemispherical shape. Diam: c.310mm; maximum H: c.220mm; hopper W: c.150mm; hopper depth: 100mm. Weight: 6.2kg (Est. intact weight: 25kg). YQS 7100. Field 246; Group **31261**; Context **24147**; buried soil; Period: 4; RF11472. Figure 6.27.

872. Nearly complete (99%) beehive upper stone rough-out. Approximately 20% of the 'hopper' rim is damaged. The 'hopper' is shallow and conical, but no feed-pipe or handle-hole(s) have been cut. The

Table 6.6: typical dimensions for rubbers and saddle querns.

Typical maximum grinding surface dimensions	Rubber	Saddle quern
Length (mm)	200–300	200–500
Width (mm)	100–200	150–350
Thickness (mm)	50–80	60–200
Artefact profile	Grinding surface horizontal along length	Grinding surface downwards along length
Grinding surface profile	Convex across length	Concave across width
Weight (kg)	2–8	10–40+

grinding surface is flat, unused and neatly circular (Diam: 315mm). However, the exterior surface appears uncompleted, as at its maximum diameter, 60mm above the grinding surface, it has an irregular diameter (320mm x 350mm), where initial peck dressing has not yet removed evidence of its original rough dressing into shape with a hammer. Lithology: fine grain sandstone. Grinding surface Diam: 315mm; maximum H: 205mm; hopper W: 100mm; hopper depth: 55mm. Weight: 28kg. YQS 7096. Field 246; Group **31261**; Context **24159**; levelling deposit over stone **24104** and **24195**; Period: 4; RF11473. Figure 6.27.

DISC QUERNS

Fields 246, 258 and 265 at Scotch Corner yielded three lava quern fragments that were >5% intact (weight 3.7kg, originally 42kg), together with seven groups of featureless fragments (weight 3.0kg), the significance of which is assessed below (Table 6.9). In addition, fragments from four local sandstone disc querns were found (weight 25.2kg, originally 84kg) (Table 6.12).

Considering the imported lava querns first, the evidence is modest, both in the small numbers found and by their limited survival. The largest piece was a 10% fragment (Cat. no. 875; Fig. 6.27) and the smaller, abraded items were potentially residual. From YQS records, it is known that the weight of an intact lava hand quern varies between c.30kg (unused) to 6kg (exhausted). For this analysis, it is conservatively assumed that:

- more than 1kg of featureless lava from a single context represents a definite quern;
- between 0.5kg and 1kg is a probable quern; and
- all samples from a single context weighing less than 0.5kg can be ignored as residual.

On this basis, Scotch Corner yielded three lava querns (Cat. nos 873, 874 and 875), all of which were recognisable upper stones, together with a further, probable, but featureless, lava quern from fill **26852** (group **31256**) within the enclosure surrounding Structure 31 (Chapter 4, Fig. 4.22).

Their general dimensions are consistent with those found in much larger assemblages, such as No1 Poultry, London (Hill *et al*. 2011, 350), which established that unused upper lava querns had rim heights of 120–30mm. These maximum heights were also evident on imported, but unfinished lava quern rough-outs excavated at Wellington Row, York, (YQS unpublished analysis). YQS data suggests that once a rim was reduced to c.30mm thickness, an upper stone was exhausted. With these two independent assessment methods, the degree of wear can be estimated with some surprisingly consistent results (Table 6.12). From this limited evidence, the lava querns were more heavily used than their equivalent disc querns, made from local stone (see below).

Turning to the four disc querns made from local materials (Cat. nos 876, 877, 878 and 879), it is noted that, once again, only upper stones have been found, perhaps hinting that lower stones were treated differently. It is also striking how faithfully each of these locally made querns, well-dated to AD69–96, reproduce the features of their contemporary lava querns (Table 6.13). Buckley and Major (1998, 247) noted a similar phenomenon at Castleford, where copies of lava querns made in local millstone grit were present from the early to mid-70s AD. They assumed that these copies were the products of local contractors who were servicing the requirements of the fort and *vicus*. Wright (2002, 269), in her discussion of the lava querns at Catterick, noted that 'the elbow-shaped handle socket, piercing the side and the upper surface just behind the rim, is particularly characteristic of the earlier rotary forms at Mayen'. This L-shaped perforation enabled a looped, split pin to be inserted to secure a vertical wooden handle. Thus, the local disc quern copies were mimicking most of the features of their imported lava cousins.

Table 6.7: attributions of Cat. nos 864–867.

Cat. no.	Field	Context	Date	Complete-ness	Length (mm)	Width (mm)	Thickness (mm)	Artefact profile	Grinding surface profile	Weight (kg)	Most likely
864	197–199	25565	Late Iron Age–AD43	50–80%	>160 [200–320?]	120	100–<70	Flat/sloping	Convex lengthwise	>5 [6–10?]	Rubber
865	201	11931	Late Iron Age–AD43	100%	280	170	105	Mainly flat	Flat	7.5	Rubber?
866	246	15924	AD69–96	100%	385	190	90	Horizontal/concave	Sl concave lengthwise	8	Large rubber?
867	246	24638	AD43–54	60–80%	>220 [280–360?]	240	90	Horizontal	Convex lengthwise	5 [6–8?]	Large rubber?

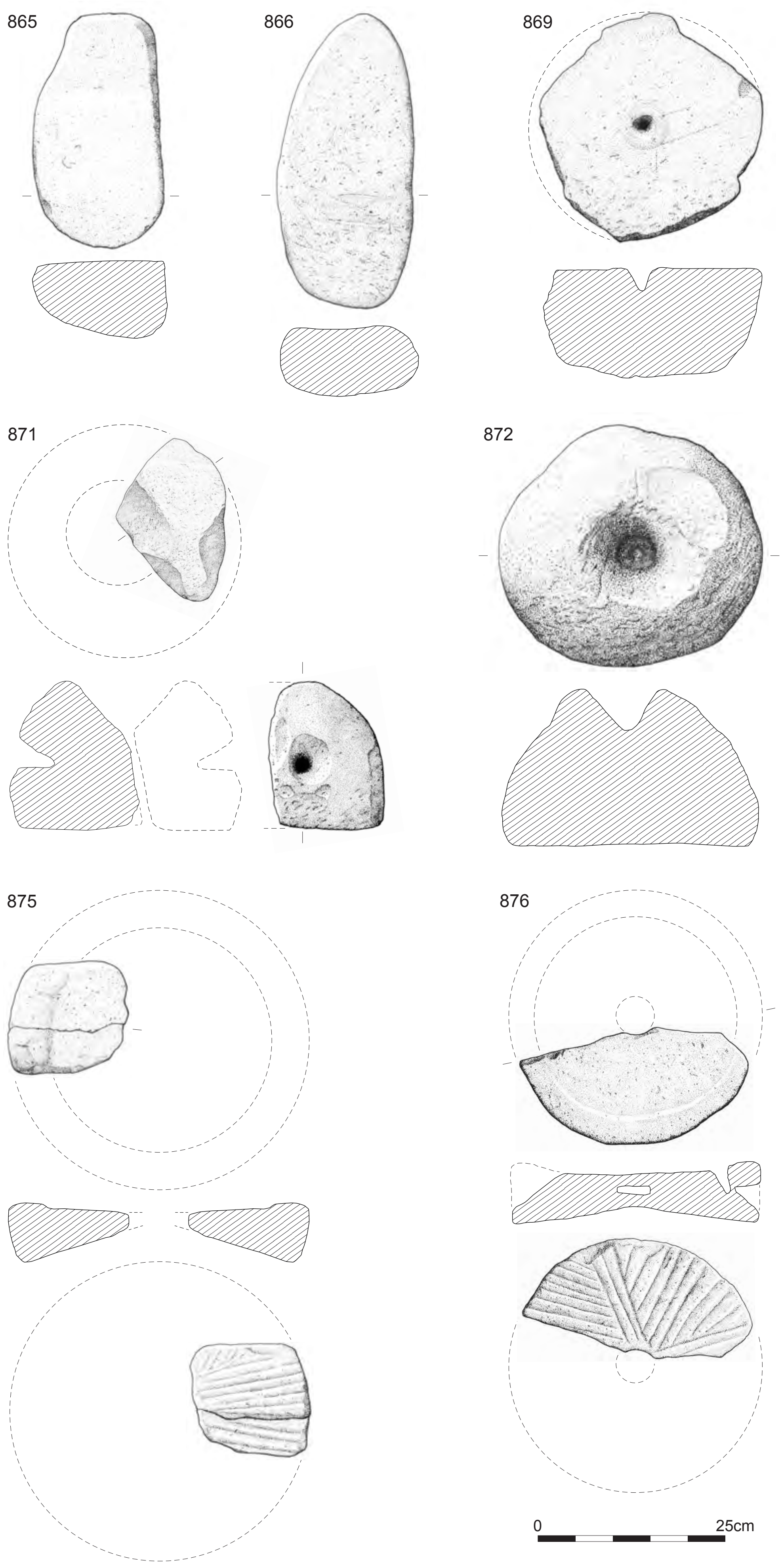


Figure 6.27: querns, Cat. nos 865–866, 869–872 and 875–876.

It is notable that Cat. no. 876 (Fig. 6.27) and Cat. no. 877 (Fig. 6.28) both opt for symmetrical patterns of grinding surface grooving. This contrasts with those normally applied to imported lava querns, which usually used an asymmetric pattern of 'harps'. Such groove patterns enable the grain to be cut by a scissor action, but only when the upper stone is rotated in the correct direction (Watts 2002). Data on the patterns of 82 lava disc querns of c.400mm diameter (from YQS archives) shows that 60% rotated anti-clockwise, 11% were used clockwise. However, a minority of 29% of the lava querns opt for symmetrical patterns, which are usually interpreted as the quern being used with a 'back-and-forth' movement. Comparable disc querns made from local stone have yielded fewer examples with these grinding surface patterns (only 44), and these feature clockwise movement more strongly, with 43% being anti-clockwise, 29% clockwise, but only 29% were used 'back-and-forth'.

The reason why the two Scotch Corner disc querns used this non-standard grooving pattern could be that the manufacturers were meeting a local preference for this mode of quern operation. Alternatively, it could be argued from the rynd-slots on Cat. nos 876 and 877, that these upper stones used an external driving mechanism to rotate continuously This latter case could indicate that the grooving pattern was not selected for its grinding efficiency, but that it was intended to perform some other form of processing duty (such as crushing malted barley or de-husking grain).

As the design of the local querns appears to be closely modelled on their lava prototypes, a similar approach can be used to assess how heavily they were used before discard (Table 6.14).

Compared with the wear estimates for lava querns, the local stones experienced far less use, so their ultimate disposal was not driven by exhaustion. It may also be significant that three of the querns (Cat. nos 877, 878 and 879) were used as components in road-fill, perhaps suggesting that, some time after being abandoned from being used for grinding, the querns were reused as rubble.

There was less evidence for 'ritual' pre-disposal damage to the grinding surface or hoppers of the disc querns, compared to the beehive querns. As lava querns tend to shatter when fragmented, this leaves few signs of any special treatment. However, the more robust querns made from local stone do retain such features better. Thus, Cat. no. 876 has its elbow handle slot deliberately removed (perhaps also on Cat. no. 879) and there is also extensive grinding surface edge removal on this quern (such linear fractures between two points on the G/S edge being termed 'chordal'). In addition, all these querns were roughly divided before disposal. So, although these Roman-influenced disc querns may well date somewhat later than the period of beehive use, some of the familiar pre-Roman disposal practices seem to have continued.

Table 6.8: beehive quern data.

Cat. no.	Field	Context	YQS no.	Part	Complete-ness	Diameter (mm)	Height (mm)	Lithology	Intact weight (kg)	Period
869	220	10941	7099	Base	85–90%	c.350	161	Sandstone	19–20	4
870	223	30482	7102	Base	20%	c.360	>82	Sandstone	21	1
871	246	24147	7100	Upper	25%	310	210–230	Sandstone	25	4
872	246	24159	7096	Upper	99%	315	205	Sandstone	28	4

Table 6.9: height ranges of beehive quern rough-outs (after Heslop 2008; Palfreyman and Ebbins forthcoming).

Quern height (mm)	North Yorkshire and South Durham examples	Derwent Valley examples
130–189	4 (31%)	7 (21%)
190–249	5 (38%)	24 (70%)
>250	4 (31%)	3 (9%)

Table 6.10: summary of the estimated beehive wear.

Cat. no.	Height (mm)	Estimated wear from height	Weight (kg)	Estimated wear from weight	Interpretation
869	161	Average	c.19.5	55%	Average wear
870	>82	Well worn	21	65%	> Average wear
871	c.220	Min wear	25	5%	Modest wear
872	205	No wear	28	0%	Unused

873. Rim fragment (8–10%) of a lava upper disc quern that was broken radially, surfaces abraded, and corners rounded. Upper surface is flat, with a narrow (25mm) outer flange, raised 13mm. The wall face is vertical, but no striae survive. The grinding surface is concave (9º), with traces of parallel grooving. Lithology: lava. Too little of the rim survived to measure the radius. However, as a typical central eye is 80–100mm diameter, this suggests an overall diameter of c.380mm (which is typical for a hand quern). The rim is 60mm thick, but >15mm at the 'eye'. Weight: 1.114kg (est. intact weight: 12kg). Estimated wear: 70–90%. YQS 7104. Field 246; Context **15504**; subsoil above aggregate Roman road surface; Period: none; RF10111. Not illustrated.

874. Fragment (5%) of an abraded lava upper disc quern, with rounded edges. The upper surface is flat, the edge is rounded, and the grinding surface is smooth with traces of an outer lip, but no grooving remains. Lithology: lava. Typical Diam: 400mm (+/-50mm); rim Th: 40mm. Weight: 0.439kg (est. intact weight: 9kg). YQS 7106. Field 258; Group **28148**; Context **15342**; fill of ditch **15258**; Period: 4; RF10075. Not illustrated.

875. Fragment (10%) of a lava upper disc quern in two, joining pieces. Upper surface: flat, outer flange 50mm wide, but any decorative grooves abraded away. Edge is vertical, but any striae abraded away. Grinding surface is concave (c.15º) with traces of two harp patterns, indicative of an anti-clockwise rotation. Lithology: lava. Diam: c.425mm (+/-25mm); Rim height: 80mm; Centre height c.20mm. Weight: 2.1kg (est. intact weight: 21kg). YQS 7064. Field 265; Group **29961**; Context **31681**; running surface of RR6; Period: 4; RF13100. Figure 6.27.

876. Fragment of an upper disc quern of local stone, broken radially. Upper surface is flat, with traces of decorative parallel grooves and a 35–40mm wide outer flange, raised 5mm. The edge is vertical, with traces of striae. A rynd-slot (20mm deep, 35mm wide) is set into the feed-pipe. Roughly at 90º to this rynd axis, there was an elbow slot for a handle fixing, but this was damaged by a chordal impact, presumably before a second elbow slot was created at 130º to the damaged one. The grinding surface is 10º concave, with an unusual, very neat pattern, consisting of two cruciform grooves, infilled by parallel, angled grooves (15–20mm apart, 3–5mm deep and 8–10mm wide), which suggest movement on a back-and-forth basis. Lithology: grey, medium grained, Millstone Grit. Diam: 380mm; Rim height: 80–5mm, Centre height 40mm; feed-pipe Diam: 60mm; damaged elbow handle slot had one conical hole >20mm in diam. and 50mm deep; the 'replacement' elbow had two conical holes on opposing faces measuring 35mm in diam. and 30mm deep. Weight: 5.718kg (est. intact weight: 18kg). YQS 7093. Field 258: Context **15220**; third fill of pit/latrine **15219**; Period: 4; RF10059. Figure 6.27.

877. Fragment of an upper disc quern of local stone, broken across a diameter, through a rynd-slot (35mm long, >20mm wide, 18mm deep), set into its upper surface, which has a 60mm wide outer flange. A rynd-slot (35mm long, >20mm wide, 18mm deep) is cut into the upper surface. The edge is vertical and peck-dressed into rough striae. The feed-pipe is coarsely pecked. The grinding surface is concave (10º), with a simple radial pattern of 4–5mm wide, 2–4mm deep grooves (totalling c.24 when intact). Lithology: fine-grained sandstone. Diam: 375mm; Rim height: 110mm; Centre height 65mm; hopper Diam: 80mm; hopper depth: 15mm; feed-pipe Diam: 60mm. Weight: 9kg (est. intact weight: 18kg). YQS 7065. Field 265; Context **31523**; colluvial deposit between RR5 and RR6; Period: 5+; RF13069. Figure 6.28.

878. Rim fragment (10–15%) of an upper disc quern of local stone, broken radially, with feed-pipe edge removed. Upper surface dressed flat with a 19mm wide chisel, with a 40mm wide outer flange, and 15mm high. Wall face is neatly pecked vertical, with rounded edges and possible traces of burning. Grinding surface is concave (5º) and worn smooth. Lithology: light brown, fine-grained sandstone. Diam: c.400mm; Rim height: 75mm; Centre height <45mm (est. c.20mm). Weight: 2.5kg (est. intact weight: 18kg). YQS 7095. Field 265; Group **29964**; Context **31700**; fabric of RR3; Period: 4; RF13079. Not illustrated.

879. Fragment (25–30%) of an upper disc quern of local stone. After a chordal removal (which could possibly have removed an elbow handle slot, similar to Cat. no. 876), the remaining core was roughly halved. On the upper surface, the outer flange (55mm wide and 15mm high) has an abraded rim. The shallow hopper was pecked, with the dressing getting heavier and coarser towards the feed-pipe. A conical depression at the inner edge of the hopper (40mm long,15mm wide, 3mm deep) was apparently burnt. The shallow depth suggests it is unlikely to be a rynd-slot. The vertical wall face had vertical striae (10–15mm apart and 2mm deep). The grinding surface was markedly concave (15º) and worn concentrically. A flattening of the outermost 10mm of the grinding surface suggests use with a slightly smaller (c.380mm) lower stone. Lithology: light brown, fine grained, well-sorted sandstone. Diam: 400mm; Rim height: 100–10mm; Centre height: 40mm; hopper Diam: 300mm; hopper depth: 25mm; feed-pipe Diam: 60mm. Weight: 8kg (est. intact weight: 30kg). YQS 7061. Field 265; Group **29961**; Context **31681**; running surface of RR6; Period: 4; RF13212. Not illustrated.

MILLSTONES

Field 258 at Scotch Corner contained fragments from two millstones, weighing 12.4kg and representing two stones originally weighing c.127kg (Table 6.15). Assuming that their context was well-sealed and thus secure, it presents exciting evidence that advanced Roman technology was being used to power mechanically driven millstones as early as the late 1st century AD.

The preservation of around a quarter of the outer circumference of Cat. no. 880 (Fig. 6.28) enables its diameter to be determined with some confidence. At

Table 6.11: disc quern data.

Cat. no.	Field	Context	YQS no.	Part	Complete-ness	Diam. (mm)	Rim height (mm)	Eye diam. (mm)	Lithology	Period	Weight (kg)	Intact weight (kg)
873	246	15504	7104	Upper	8–10%	c.380	60	–	Lava	u/s	1.144	12
–	246	16268	–	?	c.2%			–	Lava	4	0.37	–
874	258	15342	7106	Upper	5%	c.400	40	–	Lava	4	0.439	9
876	258	15220	7093	Upper	30–35%	380	80–85	60	Millstone grit	4	5.718	18
–	258	26852	–	?	<10%			–	Lava	4	1.753	–
–	258	15280	–	?	<5%			–	Lava	4	0.665	–
–	258	15280	–	?	<1%			–	Lava	4	0.006	–
–	258	26441	–	?	1%			–	Lava	4	0.155	–
–	258	26685	–	?	<1%			–	Lava	5	0.018	–
875	265	31681	7064	Upper	10%	c.425	80	–	Lava	4	2.1	21
877	265	31523	7065	Upper	50–55%	375	110	60	Sandstone	5+	9	18
878	265	31700	7095	Upper	10–15%	c.400	75	–	Sandstone	4	2.5	18
879	265	31681	7061	Upper	25–30%	400	110	60	Sandstone	4	8	30

c.625mm, it is too large and heavy to be a hand quern, so it is clearly a millstone (Shaffrey 2015, 58). On its inner edge, it preserves a neatly worked, vertical face (125mm long and 75mm thick) which can only be interpreted as the outer face at the extremity of a central perforation of a 'complex eye'. Such features are increasingly recognised and fall into two main varieties:

- Twin Feed-Pipe Millstone: This variant has three separate perforations, with a circular central 'eye' (presumed to be used by the driving mechanism) flanked on either side by either D-shaped or oval feed-pipe openings. To date, 25 definite UK examples have been recorded by YQS. A rare, intact example was found during the A1 road-widening at Healam Bridge (Cruse and Gaunt 2017, 203–8). The bulk of the dated UK examples are post-AD250, but there is a single millstone from Bromham, Bedfordshire, which is dated to AD150–70 (Tilson 1973, 61).

- 'Bow-Tie' or 'Butterfly' Eye: This variant has a single perforation, with opposing triangular (or circular) openings, set on either side of a circular (or rarely a rectangular) central feature. Twenty-one UK examples are known to YQS, but there is no consensus on the function of its component elements, with some authorities interpreting the opposing voids as fittings for a massive rynd, which penetrates, rather than is merely inset, into the millstone. Alternatively, Peacock (2013, 119) sees these opposed outer openings as being 'to facilitate the feed of the grain'. This latter explanation is to be preferred, as it mirrors the functional attribution of the separate elements of the Twin Feed-Pipe millstones. The 10 dated UK examples of 'Bow-Tie' eyes on YQS records are earlier than the Twin Feed-Pipe variants, being largely AD150–275. The earliest well-dated 'Bow-Tie' example is from Northfleet villa, Kent, and dates to AD120–50/60 (Shaffrey 2011, 372). The orientation of the surviving face of the outer perforation on No 17 suggests that it was triangular.

It is noted that another c.600mm-diameter millstone has been reported from Stanwick, which also has a 'complex eye' (Heslop 2016, fig. 15.3, no. 14). One feature which aids its interpretation is its 'distribution groove' set into the grinding surface at 260mm diameter, which skirts the outer edge of the 'eye'. This groove served to route the grain evenly between the grinding surfaces, thus confirming that the two outer perforations served as opposed feed-pipes. When published, its post-AD70 context had no other comparable local parallels, so the millstone was attributed to later Roman activity (Haselgrove 2016, 283 and 417, fig. 15.3, no. 14). In

Table 6.12: summary of the estimated lava disc wear (where unused is defined as 30kg weight and a rim height of 120mm; exhausted is defined as a weight of 6kg and rim height of 30mm).

Cat. no.	Intact weight (kg)	Estimated wear from weight	Rim height (mm)	Estimated wear from height	Interpretation
873	12	75%	60	65%	> Average wear
874	9	88%	40	89%	Extreme wear
875	21	37%	80	45%	< Average wear

Table 6.13: lava quern features replicated in locally made querns.

	Cat. nos			
Lava quern feature	**876**	**877**	**878**	**879**
Diameter (typically 400mm +/–25mm)	Yes	Yes	Yes	Yes
Outer flange on upper surface	Yes	Yes	–	Yes
Decorated upper surface	Yes	–	–	–
Rynd–slot in upper surface	Yes	Yes	–	–
Elbow slot for handle	Yes	–	–	?
Vertical striae on wall face	Yes	Yes	–	Yes
Concave grinding surface	Yes	Yes	Yes	Yes
Pattern of grooves on grinding surface	Yes	Yes	–	–
Period of deposition	Period 4	Period 5	Period 4	Period 4

the light of Cat. no. 879, this late dating may be worth revisiting (see below).

'Bow-Tie' millstones are also found on the Continent. Recently published dated examples include one from Pacé, Ille-et-Villaine, in France (before the early 2nd century AD; Labaune-Jean *et al*. 2011, 465–6, fig. 5, fait 376) and two stones from Belgium: one from Heers (AD175–250; no. 35 in Hartoch 2015, 220) and another from Herk-de-Stad (AD 150–250; no. 40 in *ibid*., 240–3). Therefore, this variant has a wide contemporary distribution. Both authors assume that the millstones were animal powered.

Millstones with 'Bow-Tie' eyes tending to have earlier dates than those with twin feed-pipes, with a potentially contemporary 'Bow-Tie' millstone (RF515/952) being found nearby at Stanwick, North Yorkshire (Heslop 2016, 285), and 'Bow-Tie' millstones being noted as having a wider north-west European background, are all indicators suggesting that the 'complex eye' of Cat. no. 880 was most probably also a 'Bow-Tie'. The other millstone fragment from the same context (Cat. no. 881) has a larger, but undetermined, diameter and a different lithology. As such, while it does appear to be from a second millstone, little more can be said about it, apart from it reinforcing the evidence for the early adoption of powered milling.

880. Rim fragment (c.17%) from an upper millstone in two joining pieces broken radially, from either side of a neatly pecked, vertical edge of a 'D-shaped' feed-pipe on the outside of a 'complex eye'. The bulk (c.95%) of the upper surface has been removed, leaving a narrow 20mm dressed band along the outer edge of the feed-pipe. The estimated 110mm rim thickness may be an underestimate, if parallels to Stanwick rf915/952 are accepted as that was 140mm thick (Haselgrove 2016, 283 and 417, fig. 15.3, no. 14). The vertical outer wall face has traces of striae. The grinding surface is random-pecked flat and probably somewhat concave. The outer c.50mm of the grinding surface has been worn smoothest. Lithology: fine- to medium-grained sandstone, with sparse quartz pebbles up to 8mm long. Millstone Grit. Diam: c.625mm; Rim height: >85mm (perhaps 110mm); Centre height 75mm. Max width of 'D-shaped' feed-pipe: >125mm (expected range 50–140mm). If symmetrical, separation of outer faces of feed-pipe is 255mm (expected range 210–320mm). No data to distinguish whether the 'complex eye' had distinct twin feed-pipes or was a continuous 'bow-tie' variant. Weight: 8kg (est. intact weight: 47kg). YQS 7066. Field 258; Group **28156**; Context **27299**; fill of ditch **15179**, **15183**, **15222**, and **15324**; Period: 4; RF12575. Figure 6.28.

881. Two non-joining rim fragments from a probable millstone with common features and lithology, assumed to be from the same millstone. RF10050: 3–4% fragment, with a neatly pecked dressed upper surface (but no sign of any grinding wear) and a flat external edge inclined inwards at 10º. The assumed grinding surface has been completely removed. RF10038: 2–3% fragment, also has a pecked (assumed) upper surface and an inclined edge

Table 6.14: summary of estimated local stone disc wear (unused is defined as c.30kg weight and c.120mm rim height; exhausted is defined as c.6kg weight and c.30mm rim height).

Cat. no.	Intact weight (kg)	Estimated wear from weight	Rim height (mm)	Estimated wear from height	Interpretation
876	18	50%	80–85	42%	Average wear
877	18	50%	110	11%	Modest wear
878	18	50%	75	50%	Average wear
879	30	0%	110	11%	Very little wear

(plus a featureless fragment). Lithology: reddish-brown, medium to coarse sandstone. Millstone Grit. Large diameter, probably >750mm; rim H (RF10050): >85mm; rim H (RF10038): >70mm. Weight (RF10050): 2.35kg; weight (RF10038): 2.061kg (est. intact weight: perhaps 80kg). YQS 7103. Field 258; Group **28156**; Context **15213**; fill of ditch **15179**, **15183**, and **15324**; Period: 4; RF10050 and RF10038. Not illustrated.

LITHOLOGY

With the exception of the lava querns, assumed to be imported from quarries in the Eiffel mountains, the assemblage is characterised by an apparent use of nearby resources. Where stone can be sourced, it is mainly Millstone Grit, which is locally available, though the two millstones, as specialist items, may have come from suppliers further afield. There is no indication that Jurassic sources from the North York Moors were being used, presumably because their milling characteristics are inferior to other local stones (Heslop 2008, 39).

SIGNIFICANCE OF THE ASSEMBLAGE

The site yielded 18 (or 19) stones. When compared with those from a more quern-rich and longer-lasting settlement, such as Wattle Syke (West Yorks), which had 95 stones (Cruse *et al*. 2013, 166–9), this is not a large assemblage. However, assuming that it is representative, its analysis provides some noteworthy results. The earliest Periods at Scotch Corner, dating from the Late Iron Age to AD54 (Periods 1 and 2), yielded only three probable rubbers (Cat. nos 864, 865 and 867) and two beehive querns (Cat. nos 869 and 870). The small size of this initial assemblage indicates that their cereal processing needs were relatively low-key. The absence of any Roman-inspired querns between AD14 and AD69 could suggest that the settlement's priorities remained unaltered until Flavian times, when there was a significant change post-AD69. Imported lava hand querns (Cat. nos 873, 874 and 875) now appear, accompanied by their variants made in local stone (Cat. nos 876, 877, 878 and 879), together with two powered millstones (Cat. nos 880 and 881), while the rubber (Cat. no. 886) and the beehive querns (Cat. nos 871 and 872) either continued in use or were residual depositions.

The querns from the nearby contemporary site at Stanwick (Heslop 2016, 276–84) show some intriguing parallels. The quern collection was again relatively small, with only 17 stones reported, of which 10 were from dated contexts. In the initial quern-using phase (c.25BC–AD35), which coincided with the earliest imports of Gallo-Roman ceramics, only two beehives were found. During the succeeding stone-built settlement phase (c.AD35–70), the quantity and range of Roman imports increased, but cereals continued to be processed using local beehive querns, of which seven were found (Haselgrove 2016, 394). As noted above, a millstone with a 'Bow-Tie' perforation was also discovered, which had been broken up and reused as posthole packing, cut into these period 5 deposits. Although the excavator interpreted this as an isolated late Roman event, it could equally well reflect a late phase of the main phase of site activity, prior to abandonment at c.AD70.

In his discussion of the Stanwick querns, Heslop (2016, 282) noted that no flat rotary querns have come from Iron Age settlements on the Northumberland coastal plain or along the A1/M1 corridor in Yorkshire. The Scotch Corner evidence further supports this statement, as not only were there no flat rotary hand querns found pre-AD43, but it suggests that they continued to be ignored for the next 25 years. This apparent aversion to using the latest Roman grinding technology, at the same time as members of the local elite were enthusiastically using other prestigious imported goods, could reveal something about class divisions within the settlement. Could it be that the cereal processing was carried out by a 'Brigantian' underclass of women or slaves who, unlike their masters, had no access to contemporary Roman technology? The absence of any well-finished beehives and the 'poor quality of the drilling' of the Stanwick stones (Heslop 2016, 282) would further support the suggestion that flour grinding was not a prestigious activity.

DISCUSSION

Although the continued use of rubbers and saddle querns into the Early Roman period has been frequently found elsewhere, it does suggest an element of continuity, with this tool kit still being used for some processing tasks that rotary querns were considered inappropriate for. However, it is difficult to decide on the significance of the rare survival of two undamaged rubbers. In the absence of any other evidence that they had been part of a 'special deposit', it presumably suggests that their users had, by this stage, stopped the pre-invasion practice of fragmentation before deposition. Turning to the rotary querns, it can be noted that none were found from routeway and roadside sites in Fields 199–219 and that the whole collection came from Fields 220, 223 and 246 at Scotch Corner. With four beehives, four or five of

Table 6.15: millstone data.

Cat. no.	Context	YQS no.	Part	Complete-ness	Diameter (mm)	Rim height (mm)	Lithology	Date AD	Weight (kg)	Intact weight (kg)
880	27299	7066	Upper	17%	c.625	>85	Millstone grit	Period 4–5	8	47
881	15213	7103	Upper?	c.6%	>750	>85	Millstone grit	Period 4	4.4	c.80

lava and four disc querns made from local stone, this is a modestly-sized assemblage for a period of 60–70 years of occupation.

Lava hand querns were standard issue to the Roman army on the Rhine. After the invasion in AD43, they quickly appear in southern England (i.e. pre-Boudican London), where their technological benefits (lighter, easier to use and yielding a finer flour) ensured that their use spread rapidly, peaking in the mid-2nd century AD (Major 2015b). All the lava fragments except Cat. no. 873, which was unstratified, came from post-AD69 contexts, but it is possible that some of the well-used Scotch Corner lava querns could have been introduced as part of a pre-AD70 cultural package. After being worn to exhaustion, their abraded remnants could then constitute some of the post-AD69 residual lava debris.

The presence of local copies of lava querns in Flavian contexts provides confirmation of the Castleford evidence that local manufacture was established in the area soon after the arrival of the army led by Cerialis in AD71, if not before (Buckley and Major 1998, 243). The mixture of rotary quern types suggests an unusual balance of influences at Scotch Corner. At other non-military, 'civil' settlements in North Yorkshire, YQS records show that the beehive querns tend to dominate the 'local' disc querns in assemblages by a factor of between three and six, with lava querns being quite scarce. However, at 'military' sites, which were well-connected within the official supply network, the proportions are reversed, with lava querns being most strongly represented, locally made discs being frequently found, but with only a few beehives present.

Over the life of the site, the proportion of the disc quern types at Scotch Corner falls somewhere between these extremes. One possible scenario would be that the early occupants originally used saddle and beehive querns, with these being phased out of operation by Flavian times, while some still had plenty of 'life' in them. The residents seem to have replaced them with disc querns, sourced both from local manufacture and from the military import system. It can be speculated whether this switch was technically driven (by the disc querns' superior performance), socially motivated (due to the civilian users wishing to demonstrate their conformity to a more 'Romanised' diet) or a consequence of a strong military utilisation of this roadside settlement. The presence of the millstone (see below) could also support an explanation linked to army influences, but techniques have not yet been developed to enable distinction between these possible explanations. The disposal of part-worn local disc querns into road make-up could suggest that, by this point, the associated settlement had been abandoned.

The presence of one definite and one probable millstone (Cat. nos 880 and 881) is worthy of note. Assuming that their context is secure, their date of AD69–c.110 places them among the earliest powered millstones yet reported from the UK. By this point, water-powered mills had already been established on the Continent. The earliest archaeologically dated watermill is at En Chaplix, Switzerland (AD57/8), which Wilson (2002, 11) interprets as 'suggesting that by then water-mills were already embedded in the economies of even fairly marginal parts of the Empire'. The basalt millstones at Chaplix, with their quite steeply inclined grinding surfaces, presumably derived their shape from the human- or animal-powered Pompeiian mills, which are commonly found around the Mediterranean (Castella and Anderson 2005, 160).

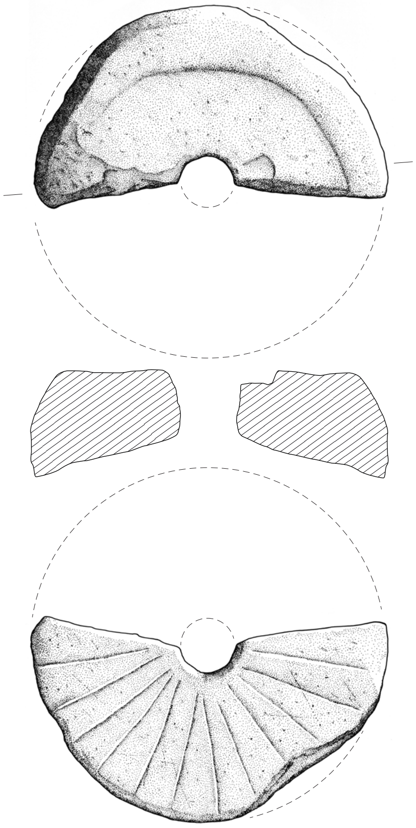
Following the Claudian invasion, animal- (or slave)-powered Pompeiian mills, such as the Flavian examples in London (Allen 2012, 260), were rare (and cumbersome) imports into southern Britain. As a large scale, but mobile, consumer, it might be expected for the Roman army to adopt a more flexible technology, so the choice of powered disc-shaped millstones made from local stones would be a logical development.

The other significant fact about Cat. no. 880 is the presence of a complex central 'eye', which (as already discussed) appears to be a 'Bow-Tie' variant. If so, it would be the earliest dated UK example of a millstone with such a feature, preceding the AD120–50/60 millstone from the Northfleet villa (Shaffrey 2011, 372) by perhaps half a century. Should this early date be regarded as a surprise? In the parallel development of the hand quern, a contemporary British variant already had separate perforations to feed the grain, i.e. SF 2326 dating from AD80–95 at Castleford (Buckley and Major 1998, 245).

The idea of separating the rotary and grain-feeding roles can be traced back to the design of military hand querns in the Rhineland, well before the Claudian invasion. Baatz (2010, 607–14) has noted that the earliest fragmentary examples, with a central 'eye' to align the stone and 'offset, rectangular chute-holes' to 'feed in the mill-charge', come from Waldgirmes (Hesse), with very early 1st-century AD military dates, but thereafter are replaced by querns with triangular (or circular) 'chute-holes'. Comparable hand querns are found elsewhere in Germany into the first half of the 2nd century AD. With this background, it can be seen that Flavian military users in northern England were already familiar with the idea of grinding equipment incorporating 'role separation' into its design, so its application to a powered millstone would merely reflect contemporary practice on the Continent.

The presence of the Scotch Corner millstones thus implies that, somewhere nearby, there had been an episode of large-scale cereal processing using some 'cutting edge' Roman technology. In view of the absence of an obvious local water course to drive a waterwheel, the motive power for Cat. no. 880 was presumably provided by either animals or humans. The millstone's larger diameter and higher rotation speed (due to the presumed use of gearing) enabled much higher rates of

877



880

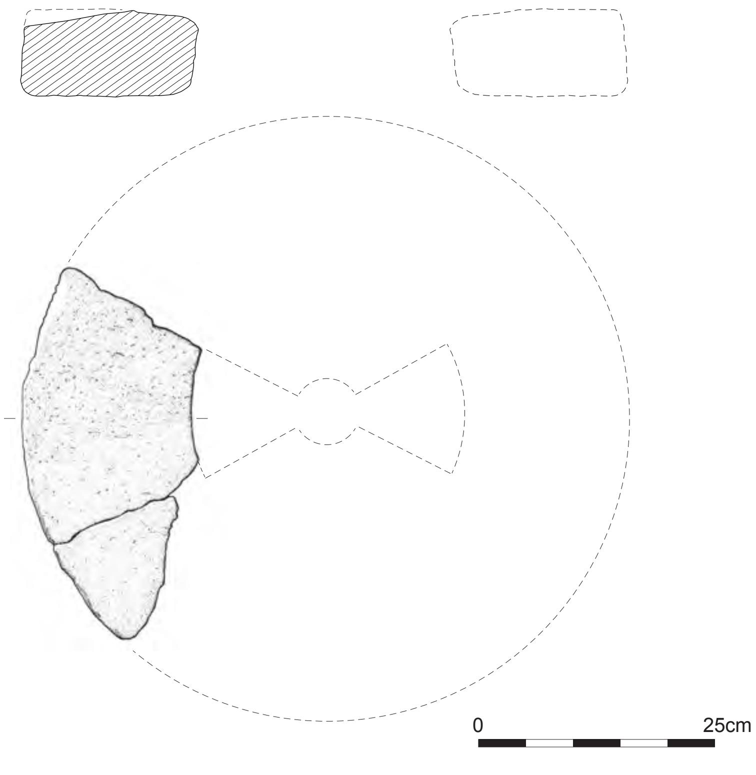


Figure 6.28: querns, Cat. nos 877 and 880.

flour production than was possible by using hand querns. After the military takeover of the area, the Roman army is likely to be the only plausible organisation with the need for such processing capacity and which also had the resources to install it. The presence of the millstones therefore suggests that a unit of the army food supply system was operating in this strategic location at some stage after the Cerialian invasion in AD71.

PIGMENTS

Elizabeth M. Foulds

Material found in Periods 2 and 3 contexts at Scotch Corner provides evidence for at least two, and possibly three, types of pigment. All three were discovered in Field 246 in spatially close contexts. Such finds are rare, but not entirely unparalleled. The find spots and possible uses of the pigments are outlined and discussed below.

ROSE MADDER

In a complex of intercut field boundaries, traces of a powdery pink substance (Cat. no. 882) were recovered from fill **24140** of ditch **15884**, along with fragments of pellet mould, hand-built pottery, and animal bone. Analysis has shown this material to be an organic pigment, potentially 'rose madder' (see Badreshany, Chapter 9). This pigment is gained from the root of the common madder plant (*Rubia tinctorum*).

882. Small lumps of pink sediment, probably a dye or pigment such as rose madder. Field 246; Context **24140**; fill of ditch **15884**; Period: 2–3. Not illustrated.

EGYPTIAN BLUE

A small lump (no more than 20mm across) of blue stone (Cat. no. 883) was recovered from the third fill (**24641**) of penannular gully **24982** in Structure 47iv (Period 2). Other finds from this feature included fragments of amphora, beakers, a flagon and possible honeypot, samian ware, and a crucible (Cat. no. 889). Scientific analysis of the sample revealed it to be Egyptian blue ($CaCuSi_4O_{10}$; see Beeby, Chapter 9). This synthetic pigment, a copper calcium silicate, is perhaps one of the most-researched ancient pigments. It is produced by fusing lime and silica with an alkali flux and a copper compound, which gives it the distinctive blue colour (Hatton *et al.* 2008).

Although an Egyptian invention, production of the pigment had increased by the Roman period and may have even been manufactured outside Egypt and the Near East in Italy (Lazzarini and Verita 2015), but it was certainly used extensively throughout the Roman Empire (Tite *et al.* 2008, 147). Tite and Hatton (2007) suggest at least four production centres based on their study of 27 samples. Once produced, the pigment was formed into balls up to 15mm across and traded in this form. Two such balls, measuring approximately 30mm in diameter, were found by excavations at *Verulamium* in Room 4 dated to c.AD130–50 (Frere 1972, 55). The pigment balls were ground into a powder that could be used as paint on wall plaster (e.g. Duran *et al*. 2010) or sculpture (Skovmøller *et al*. 2016) and portable figurines (Fostiridou *et al*. 2016). It is not clear what the value of Egyptian blue pigment was, but Skovmøller *et al.* (2016) make the argument that during the Roman period it would have been relatively inexpensive, especially when compared to azurite and lapis lazuli.

883. Small lump of Egyptian blue pigment. Field 246; Structure 47iv; Group **31276**; Context **24641**; third fill of penannular gully **24982** in structure; Period: 2. RF11551. Not illustrated.

AZURITE

A further blue lump (Cat. no. 884) was recovered from the fill (**24298**) of ditch **15859** (Period 3), also located within the complex of inter-cut field boundaries. Among the other items recovered from the same context were fragments of pellet mould. Scientific analysis of this material was undertaken (see Beeby, Chapter 9) and the results indicate bands of azurite, a copper carbonate hydroxide mineral ($Cu_3(CO_3)_2(OH)_2$), within the sample. Azurite is a naturally occurring mineral that was used as a blue pigment as early as the Neolithic (Duran *et al.* 2010; Skovmøller *et al.* 2016; Shoemark, Chapter 9).

Samples were taken from the excavated area of Scotch Corner suspected to be rich in natural copper deposits (see Gardiner, Chapter 7). One sample contained small fragments of a very blue material Gardiner suggests may be azurite, however, no further analysis was carried out. Local copper and copper minerals (including azurite) are known from a deposit at Middleton Tyas, which was mined in the 19th century. It is possible that the azurite example from Scotch Corner is completely natural and reflects the nearby geology. However, given that the ditch complex also included the rose madder pigment along with some other unusual finds (pellet mould, crucible fragments, and the ribbed glass cup (Cat. no. 614), perhaps the inclusion of the azurite mineral in the ditch fill reflects use of local resources. It is possible that mining for azurite occurred during the prehistoric period (Newman 2016, 13). Whether this continued into the Roman period is unclear.

884. Small lump of azurite. Field 246; Context **24298**; fill of ditch **15859**; Period: 3. Not illustrated.

DISCUSSION

Discovery of raw pigments at Iron Age and Roman period sites is very rare and comparative examples are sparse. Therefore, the examples from Scotch Corner are significant because of the number of different pigments represented in the assemblage. The known uses for rose madder, Egyptian blue and the azurite, if the find spot can be taken to be evidence of intentional collection and use, are summarised below. However, direct links to the processes within the industrial complex are not immediately apparent and they may not be related. The finds assemblage discussed by Croom (above) includes cobble tools that could have been used for grinding and mixing pigments (among other uses). There could be some significance in the fact that eight of the 13 cobble tools (mainly Period 1 or Period 2) were found either in the gullies of the complex of roundhouses with evidence for industrial processes in Field 246, or in their vicinity.

In both the Iron Age and Roman periods, pigments were ground for use on the body. The pigment perhaps most associated with Iron Age Britain is woad (*Isatis tinctoria)*, which is thought to have been used as body paint or dye by the native Britons. This comes from Julius Caesar's (*Commentarii de Bello Gallico* 1.1; McDevitte and Bohn 1869), in which he refers to blue *vitrum*, which can be translated as either 'glass' or 'woad' (meaning the plant *Isatis tinctoria*). However, archaeological evidence for pigments used on the body in Iron Age Britain is limited to copper-alloy mortar and pestle sets, whereas Roman evidence for cosmetic use is attested by a range of containers, scoops and probes, and mixing pallets. Other than woad, there is little understanding of how other pigments, if there were any, were utilised.

Beyond the body, pigments were used to decorate the interior of Roman buildings and some were used to add colour to portable items of material culture. All three of the pigments found at Scotch Corner are known to have been used as paints and could have been used on plaster, wood, leather and other materials (Morgan 1992, 85). An analytical study of painted wall plaster from Roman sites in Britain found 14 different pigments to have been employed (Morgan 1992, 82). The list includes both madder and Egyptian blue, the latter being described as a common occurrence among the sample analysed, the former less so (*ibid.*).

Objects painted with rose madder have been recognised (Daniels *et al.* 2014) and Egyptian blue has been found to have been painted onto sculpture (Skovmøller *et al.* 2016) and portable figurines (Fostiridou *et al.* 2016). Azurite has been detected on Cretan School icons (Karapanagiotis *et al.* 2013) and an Etruscan painted terracotta slab from Ceri (Bordignon *et al.* 2007). Out of the three Scotch Corner pigments, only rose madder can be used as a textile dye and its use throughout antiquity has been noted (Daniels *et al.* 2014).

CHAPTER SUMMARY

Alexandra Croom and Rachel S. Cubitt

The small finds are illustrative of the change from Iron Age to Roman culture at Scotch Corner and, by implication, an introduction of new people and ideas into the area in the Roman period. How this perception corresponds with the other excavated evidence is considered in Chapter 10. Periods 1–3 produced Iron Age items of material culture, such as dress accessories, horse gear, weaponry, tools and querns. The small finds suggest that indigenous Late Iron Age trading and local manufacturing, further discussed in Chapter 7, was subsumed by Roman diplomatic, administrative and military intervention in the early Flavian period (Period 4), a narrative that is corroborated by other remains from Scotch Corner. High-status individuals are represented, both native and Roman, the latter arriving with a suite of 'Roman' material culture that can be paralleled in other parts of Early Roman Britain.

The Iron Age finds are characteristic of farmsteads in northern England, including only a small number of finds and few items of metalwork. The majority of finds from Periods 1–3 are stone tools, numerous of which have been found in the north. As they often seem to be multi-purpose tools, the tools could have had both domestic and productive uses. Large items of Iron Age metalwork that are not found as part of a hoard are more commonly recovered from Roman sites and/or as chance finds, and this is reflected here; the vehicle fitting was found in a Roman context and the horse fitting was unstratified. Such fittings were long-lived types and could have been made in the Iron Age, in the Flavian period or, indeed, as late as the 2nd century.

During the Iron Age, the elite used decorative metalwork, especially for three main areas of display: warfare, horse-riding and feasting. These interests continue into the Roman period but are represented in new ways. The Romans were equally interested in feasting, for example, but introduced new tableware, such as copper-alloy pans and ladles, which were designed for ceremonies involved in mixing and flavouring wine rather than the consumption of beer or mead. Instead of fittings for chariots, the decorative fittings for horse harness were now those used by cavalry soldiers. Overall, there is little military equipment in the assemblage, consisting largely of the items of cavalry harness, and it is noticeable that most are associated with the Roman road junction.

While the iron brooch suggests that the fashion of using brooches as fasteners may have started during the Iron Age, presumably for the elite, in the Roman period it became more widespread for both men and women; changes in fashion also saw new forms of footwear, including those made with hobnails. The large increase of nails in Period 4 and the presence of other iron fittings used in construction, such as staples, spiked loops and possible decorative door studs shows that there were considerable changes in architecture as Roman culture spread.

Tools were not common in the assemblage and simply indicate that woodworking and cloth production were taking place, both of which are to be expected in any form of settlement. The querns, however, indicate large-scale grain processing, as well as smaller scale, domestic use. This presumably required administration, which may have involved use of the styli, penknives and counters (if used in accountancy), although the pens may also have been used for the more leisurely activities of letter writing and literature. Life for some would have included reading and writing and it was now a world where everything could be recorded permanently, marking a distinct change from the oral tradition of the Iron Age. Society also became monetised and coins were not only in the hands of the rich. The copper-alloy ladles, used for serving wine from large bowls after it had been mixed, indicates the presence of people taking part in formal dining somewhere in the area. The rare amber statuette, brought or bought from Italy, also suggests people of some status or rank.

Considering the settlement's date and that it did not endure long enough to take on its own character with the creation of new, local sources of supply items, the assemblage of finds unsurprisingly has many affinities with those from southern England. Some of the finds must have been brought in by the first Romans, as is suggested for some of the coins and the early brooches. The design of the miniature sword certainly suggests it was made in the south and, given the rarity of the object type, was perhaps brought north as a personal possession rather than as the result of long-distance trade. Although many of the Roman small finds cannot be closely dated, those that can be support the more detailed dating supplied by the pottery, coins and glass. There are two pre-Flavian brooches and three that probably date to the late 1st century AD, as well as glass bangles, copper-alloy vessels and horse harness fittings. Items with a wider 1st- to 2nd-century date range include the amber statuette and beads, four brooches, melon beads, finger-rings, penknives and glass counters. The coins provide the best form of dating, with Roman occupation believed to be starting by the early AD70s and continuing into the 2nd century.

Certain finds, such as the amber statuette and miniature sword, have an intrinsic significance to artefact studies on account of their rarity and will become key points of reference for further work on material culture of the contact period. The millstones are notable for being among the earliest powered examples yet reported from Britain and prompt discussion regarding the origin of their technological design. The coins supplement ideas of the route and timing of the Roman advance northwards. The coins, in outline, relate to the conquest era, i.e. most likely to the Cerialian advance in c.AD71, and not earlier. Both the coins and the degree of wear on them suggest occupation into the early decades of the 2nd century, but the pellet moulds must relate to earlier, Iron Age, manufacture.

The pigments from Field 246 at Scotch Corner are an exceptional and intriguing rare find. Evidence for how they were used is not forthcoming from their archaeological context and it has not been possible to further address this question within the parameters of the A1 scheme. A number of possible uses have been outlined, and it might well be that different colourants were put to different uses. They certainly suggest that it was within the purview of the residents to obtain and use both local and imported materials. In publishing what is known about these items, it is intended that they should be considered as part of any future work on Roman pigments and for comparison with any new discoveries. It is to be hoped that this might, in turn, allow the Scotch Corner finds to be better understood.

CHAPTER 7
INDUSTRIAL ACTIVITY AND BUILDING MATERIALS

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INTRODUCTION
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This chapter is divided into two sections. The first covers the evidence for industrial activity recorded at Scotch Corner and the second covers excavations examined in this monograph. In discussing the evidence, the research questions outlined in Chapter 1 are dealt with directly. Chief amongst the manufacturing activities identified is the production of precious metal pellets, attested to by the discovery of numerous fired-clay pellet mould fragments. The assemblage is located the furthest north of any recorded to date, as well as being one of the largest. The morphological and scientific analysis of the pellet mould fragments leads to observations on the character of the activity for which they were used. Surface compositional analysis confirms the identification of one of two items initially identified as pellets. The implications of the pellet mould fragments are discussed in the concluding section of the chapter, along with a summary of the other industrial activity identified. The coin pellet moulds (CPM) were assigned RF numbers during excavation and post-excavation processing. Each piece of CPM was later assigned a CPM number by Landon during analysis. A concordance between the RF numbers and CPM numbers is shown in Table 7.1.

The second part of this chapter outlines the evidence for building materials recovered by the excavations and addresses questions about the nature of the buildings they represent. While only limited evidence was found, it is nevertheless possible to hypothesise about the types and forms of buildings that might have been present at or near to the excavation sites.

INDUSTRIAL ACTIVITY
COIN PELLET MOULDS
Mark Landon, Jake Morley-Stone and Matthew Ponting

An assemblage of 1948 fragments of suspected coin pellet mould (CPM) was recovered during the excavations, weighing 12,604g in total. The fragments were found both singly and in groups within 70 contexts in the southern part of Field 246 at Scotch Corner (see Figs 3.3 and 3.59). They were restricted to a well-defined area, covering 1460m^2. The contexts in which CPM was found included gullies, ditches, pits, a well, buried soils and subsoil. The largest group (fill **31000** of ditch **31017**) weighed 3519g and comprised a total of 365 fragments. The morphological evidence is suggestive of a single episode of mould manufacturing. The nearest approximation of date of manufacture is before the pre-AD43 date of the first episode of deposition. Subsequent deposition and redeposition appears to have occurred over a long period, potentially close to a century.

Of the fragments submitted for examination, 1319 proved to be coin moulds. These weighed 10,433g with a total of 2971 holes, of which 795 were complete and 2176 were incomplete. Of the holes, 350 were so fragmentary that it was impossible to make any deduction of the original diameter. Two tray forms were determined to be present within the assemblage: a pentagonal 50-hole tray, known as the *Verulamium* form (Landon 2016) and a rectangular 100-hole tray, the first occurrence of this type, which is here defined as the Scotch Corner form (Fig. 7.1). It is possible, but not certain, that fragments from Blackfriars, Leicester (Landon 2014, 39) and Old Sleaford (Elsdon 1997, 53) also derive from trays of this form.

Hole sizes are in two broad groups: larger and smaller (see below). *Verulamium* form trays with both larger and smaller holes were present.

Surface finishes have generally not survived in the Scotch Corner material, and a very high proportion of fragments exhibit excoriation and abrasion. There are two main reasons for this: first, the ferociously acid soil is not conducive to the preservation of ceramics; second, the fabric of the Scotch Corner CPM is particularly friable and susceptible to mechanical abrasion and weathering. The very poor state of preservation severely restricts the amount that can be gleaned from the material.

Gross morphological data used for the analysis of the assemblage was obtained using the standard CPM Recording Protocol and Database Key version 2.9 (Landon 2016, 1834). This was noted on 1000 pre-printed record cards and entered into a Microsoft Excel database. This data can be found in Appendix J.

Fragment size

The average weight per fragment is 7.92g, the average number of holes is 1.08, and the average dimensions are Length 1=30.40mm and Length 2=27.26mm (Fig. 7.1). These metrics are within the normal spectrum associated with British CPM assemblages. By way of comparison, the BRR16 assemblage from Braughing has an average fragment weight of 8.60g and average dimensions of Length 1=33.2mm and Length 2=30.72mm (Landon 2019). Nevertheless, the state of preservation in the Scotch Corner assemblage is not good overall.

As Table 7.2 shows, fragments from *Verulamium* form trays with larger holes tend to be slightly larger than

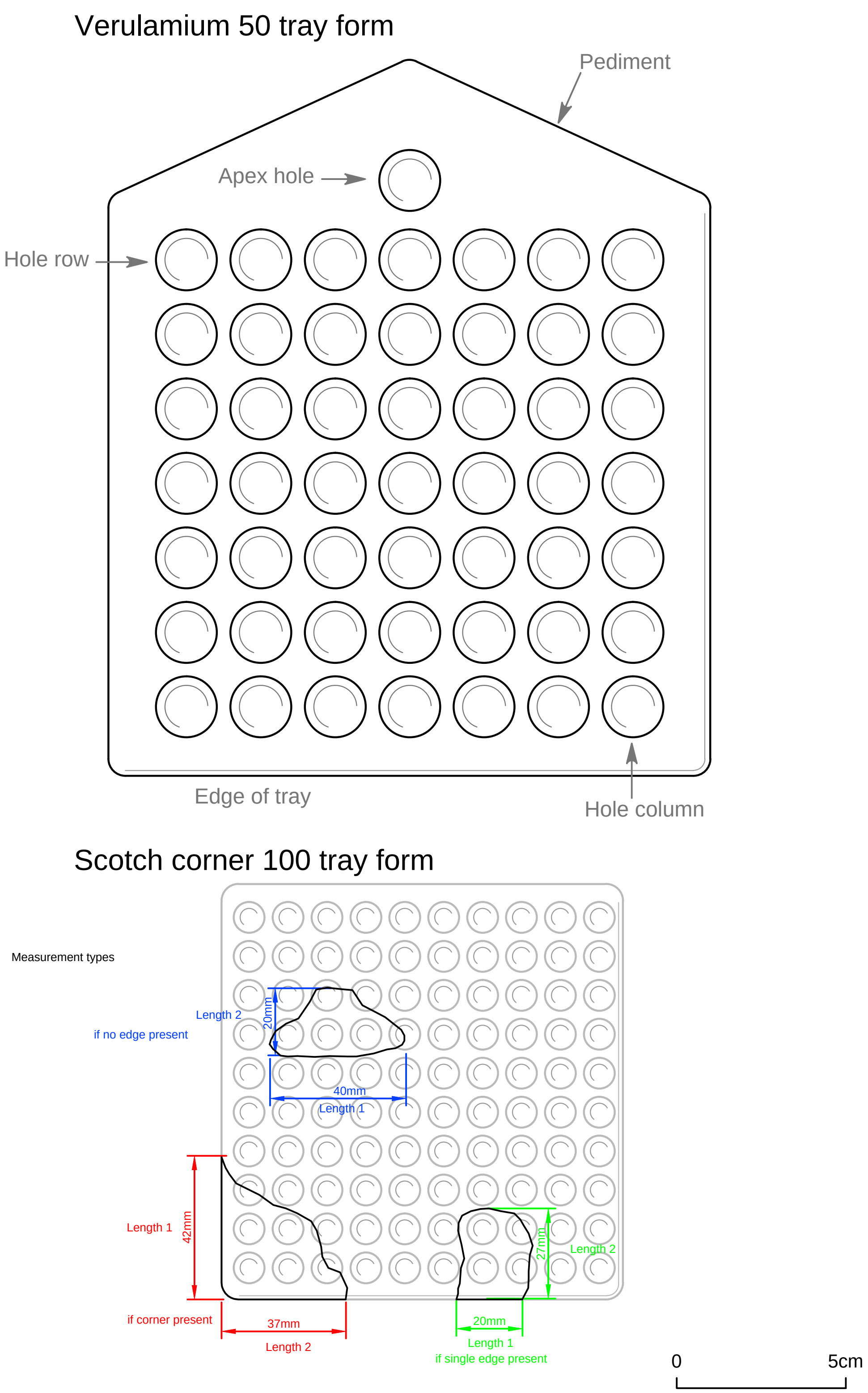

Figure 7.1: comparison of Verulamium and Scotch Corner form CPM trays showing how the Length 1 and Length 2 measurements have been established for different fragment types.

Table 7.1: concordance between Recorded Find numbers (RF no.) and CPM numbers assigned to coin pellet moulds.

Context	RF no.	CPM nos
15896	10158	4–6
15896	10160	7–11
24004	10161	38–43
24015	10163	44–69
24052	11466	113–127
24125	10188	179–182
24127	10190	183–190
24200	10193	204
24201	10194	205–209
24238	11453	229–256
24361	11507	290–293
11516	11516	294–295
24409	11502	296–303
24429	11483	314–318
24581	11501	322
24664	11557	361
24664	11558	362
24664	11559	363
24664	11560	364
16491	11562	355
31047	11563	611
31047	11564	612
24664	11566	366
24664	11567	367
24664	11568	368
24664	11569	365; 369
24664	11570	370
24664	11572	372
24664	11573	373
24664	11574	374
24664	11575	375
24664	11576	376

Context	RF no.	CPM nos
24664	11577	371; 377
24664	11578	378
24664	11579	379
24664	11580	380
24664	11581	381
24664	11582	382
24664	11583	383
24664	11584	384
24664	11585	385
24664	11586	386
24664	11587	387
24664	11588	388
24664	11589	389
15896	13165	350
16372	12887	352
25015	13163	356–359
24238	13164	360
24769	11595	399
24664	11596	390
31000	12911	409–507
31000	12926	523–597
31000	13162	598-609
31028	12915	610
31047	11563	611-612
31066	12917	613
31069	12909	614-622
31069	12925	623-624
31112	12320	625
31144	12924	626
31147	12923	627
31501	13005	628

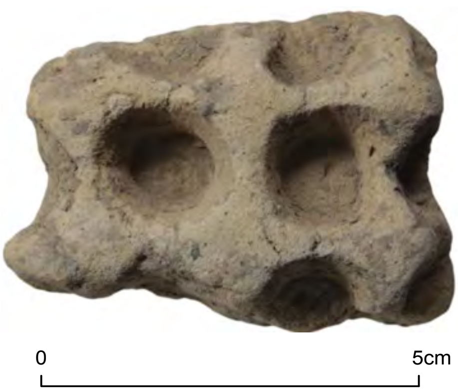

Figure 7.2: CPM 54 from above, showing holes slighting each other.

Table 7.2: average lengths for fragments of Verulamium form CPM trays with smaller and larger hole sizes.

Hole group	Length 1	Length 2
Smaller	30.52	28.2
Larger	34.84	29.71

fragments from trays with smaller holes. This is probably because the *Verulamium* form trays with larger holes tend also to be thicker than fragments with smaller holes, and so might be expected to better withstand rough usage.

The holes

The overwhelming majority of fragments that evince the method of hole manufacture show incontrovertibly that the holes they bear were made individually using a single-pointed dibber. There are 59 fragments in the

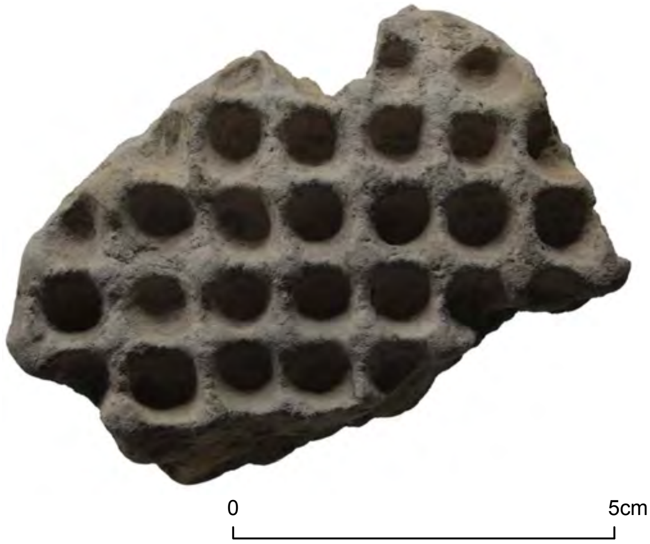

Figure 7.3: CPM 179 from above, showing possible use of a multi-pronged dibber.

Table 7.3: CPM hole size groups in the Scotch Corner assemblage.

	Smaller hole-size group	Larger hole-size group
Largest average hole base diameter	6.95mm	13.23mm
Smallest average hole base diameter	3.00mm	9.95mm
Diameter range	3.95mm	3.28mm
Largest volume	204.36mm3	1384.39mm3
Smallest volume	34.71mm3	552.71mm3
Volume range	169.65 mm3	831.68mm3

Table 7.4: ratio of smaller to larger holes from four CPM assemblages.

Assemblage	Ratio
Puckeridge	14.60 : 1
Blackfriars, Leicester	0.46 : 1
Ford Bridge, Braughing	30.79 : 1
Scotch Corner	3.30 : 1

assemblage showing hole slighting in one axis (e.g. Fig. 7.2), and 49 fragments showing holes slighting in two axes. There is also a single fragment (CPM no. 179 from fill **24125** of ditch **15859** in Field 246), which shows signs that the holes on it may have been made using a multi-pointed dibber (Fig. 7.3). If this is true, then this is the first instance of the use of such a tool in Britain.

The hole sizes fall into two broad groups: one larger and one smaller (Table 7.3). Although this is true of the majority of CPM assemblages (Landon 2014, 56–60; 2016), the Scotch Corner groups are very much at the lower end of the spectrum. It should be remembered that hole diameters and volumes bear very little necessary relation to the size of the pellets cast in them (Landon 2016, 25). Of those holes for which a size can be attributed with confidence, there are 2012 with a diameter smaller than 7.5mm and 609 with a diameter larger than 7.5mm. Across the total assemblage, therefore, the ratio of smaller to larger holes is slightly more than 3:1; compared to results from other assemblages where this question can be interrogated, it can be seen that the Scotch Corner material sits at the lower end of the range (Table 7.4).

While all of the larger hole size fragments for which the form of the parent tray can be assessed with certainty derive from trays of the *Verulamium* type, the fragments with smaller holes that display diagnostic signs of tray form are from both *Verulamium* and Scotch Corner forms, although the ratio of small-hole *Verulamium* form trays to small-hole Scotch Corner form trays works out to between 1:6 and 1:6.67.

Using an augmented Minimum Trays formula (for the basic formula, see Landon 2016, 63–4), it is possible to generate approximations both for the minimum number of trays in the pre-depositional assemblage and for the minimum output of pellets from the operation:

- There was a minimum of 22 larger hole size *Verulamium* form trays, with a capacity of 1100 pellets.

- There were at least seven smaller hole size *Verulamium* form trays, with a total capacity of 350 pellets.

- There was a minimum of 22 small hole Scotch Corner 100 form trays, with a total capacity of 2200 pellets.

A low-end estimate of the output from the original operation would be 3650 pellets, assuming a reasonably close relationship between the size of the retrieved assemblage and the size of the original assemblage. If this does not hold, then a pellet output derived from the augmented Minimum Trays formula simply expresses what can be deduced about the retrieved assemblage. Since several of the features that yielded CPM were linear and continued beyond the area excavated, and they were not dug in their entirety, this must affect the weight accorded to these estimates.

In all events, this estimate of output is consistent with a single, medium-sized episode of minting, perhaps of the same order of magnitude as seen in the 2007 assemblage from Ford Bridge, Braughing. The major difference between the two is that the Ford Bridge assemblage was found in a single deposit, while that from Scotch Corner was found spread over 70 contexts across an area of several hundred square metres.

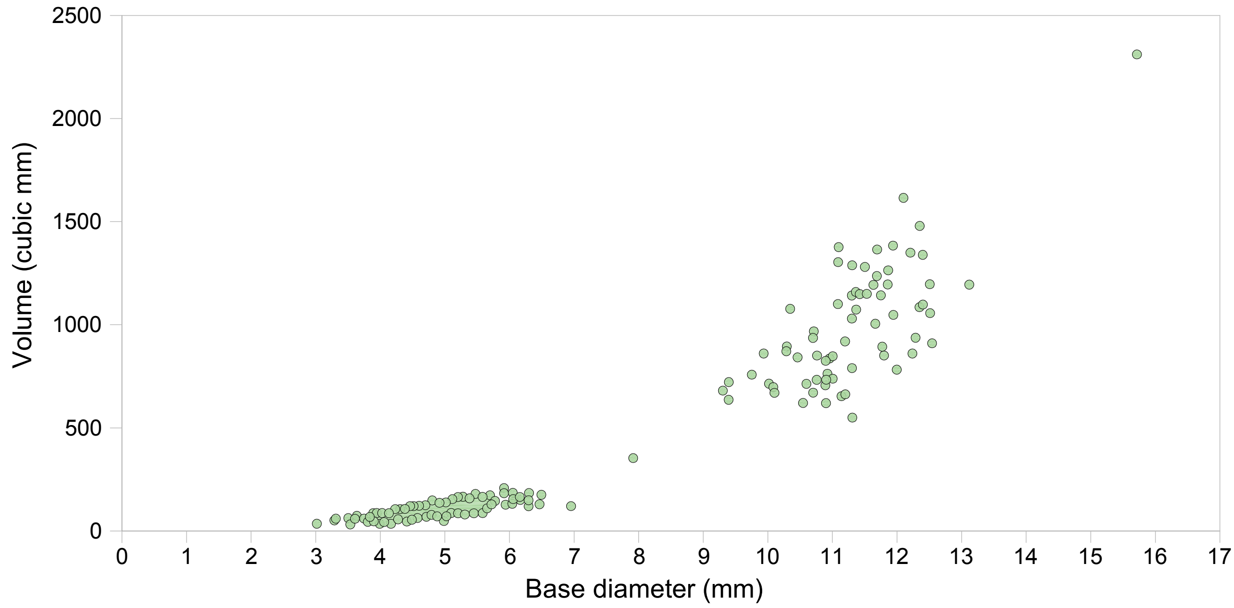

Figure 7.4: CPM value scatter of volume and base diameter for the two hole-size groups.

Table 7.5: Position types in the Scotch Corner CPM assemblage.

Count of Position types							
0	1	2	3	4	5	6	7
40	174	268	1	24	54	12	0

Table 7.6: CPM edge profiles at Scotch Corner analysed by type.

Profile code	**Profile type**	**Count of profile types**		**Sum of profile types**
		Profile 1	**Profile 2**	
1	I-section	2	1	3
2	Lazy S	21	2	23
3	Straight section	12	4	16
4	Angled section	1	2	3
5	Rolled	139	29	168
6	Overhang	53	9	62
7	Other	0	0	0
8	Uncertain	24	8	32
Total number of profile types		252	55	

Figure 7.4 shows that the degree of control over hole diameter and volume is typical for British coin moulds. The roughly 4mm spread in hole base diameters in each group echoes very closely the 4mm intra-tray variation achieved experimentally using a single dibber (Landon 2016, appendix 1). This means that, in each hole-size group, the holes could have been made with a single dibber. Although it cannot be proven that this was the case, it does reinforce the impression of homogeneity and suggests that the assemblage is the result of a single episode of manufacture.

The far greater degree of variation in volume shown by holes in the larger hole-size group is exactly as predicted: a 1mm variation in depth or diameter has a greater effect on the volume of a larger hole than a smaller hole (Landon 2016).

As a final word on hole sizes, mention must be made of a most unusual fragment from fill **31000** of ditch **31017** (Field 246; CPM no. 495). This fragment, which may derive from a *Verulamium* form tray, is only the second found in Britain that can be claimed to bear two hole sizes (the other was found during the 2008 excavation at Merlin Works, Leicester; D. Parker, pers. comm.). However, the Scotch Corner fragment is more convincing. The holes in the Merlin Works fragment differ by less than the 4mm spread, as confirmed experimentally (Landon 2016, appendix i), and can be generated by the application of a single dibber to wet clay. The Scotch Corner fragment, on the other hand, has two holes with a base diameter of between 4.4mm and 5.1mm, and one with a diameter greater than or equal to 10mm. The metallurgy of this fragment is also remarkable (see Morley-Stone, this volume). While it would be unwise to build a theory on the basis of a single fragment, the information garnered from CPM no. 495 is consistent with models of decentralised tray manufacture and individual contributions to a common minting episode.

The fabrics

Petrographic analysis was not undertaken. Based on visual examination, one of the more unusual qualities of the assemblage is the extreme rarity of supra-microscopic vesiculation and vitrification. In the 2007 Ford Bridge, Braughing (Landon 2016), assemblage, 16.00% of the fragments exhibited vitrification to some degree, while 41.11% of the fragments from the 2014 Blackfriars assemblage (Landon 2014) exhibited vitrification. At Scotch Corner, the figure is 3.26%.

The clay used at Scotch Corner is much more refractory than has been seen before in Britain. The clays commonly used elsewhere do not seem to have been selected for their ability to withstand great heat. As a result, the smiths who used the moulds were compelled to make strenuous efforts to maintain reducing conditions during the pellet fusion process to prevent the pellet from sticking to the mould. It has been suggested that carbon was included in the fabric of the moulds (Tylecote 1962, 1034), while others have suggested the inclusion of crushed bone (M. Ponting, pers. comm.). Fragments of CPM from Hertfordshire are commonly coated with chalk wash (van Arsdell 1989; Landon 2016), while Herzman and Townsend (2018) used borax to achieve the same result during experiments. However, none of these expedients would seem to have been necessary at Scotch Corner. Odiot, writing about the CPM from Levroux, notes that the clay used to make the trays from which the assemblage derives contained a very high fraction of kaolin (Tournaire *et al*. 1982, 421). This would have been able to withstand a temperature of at least 2000°C. However, this does not apply to the fabrics used at Scotch Corner, which instead contain a very substantial fraction of sand; this is one of the factors that contributes to their extreme friability.

In summary, whatever contributes to the observable refractoriness of the Scotch Corner CPM, its effectiveness is demonstrated by the fact that not a single trapped pellet was found in the entire assemblage.

The trays

There are 573 fragments to which a Position Type code has been assigned (see Table 7.5): 7.00% had no obvious position (Type 0); 30.37% were 'middle' fragments (Type 1); 46.94% were edges (Types 2 and 3); and 15.71% were corners (Types 4, 5, 6 and 7). All of these percentages are comparable with nationally obtained averages. As a result, there is nothing unusual about the Scotch Corner assemblage in terms of its composition.

Edge profiles

In some cases, the edge profiles of a tray make it possible to identify and discern different methods of tray manufacture, and this can enable us to begin to discriminate between

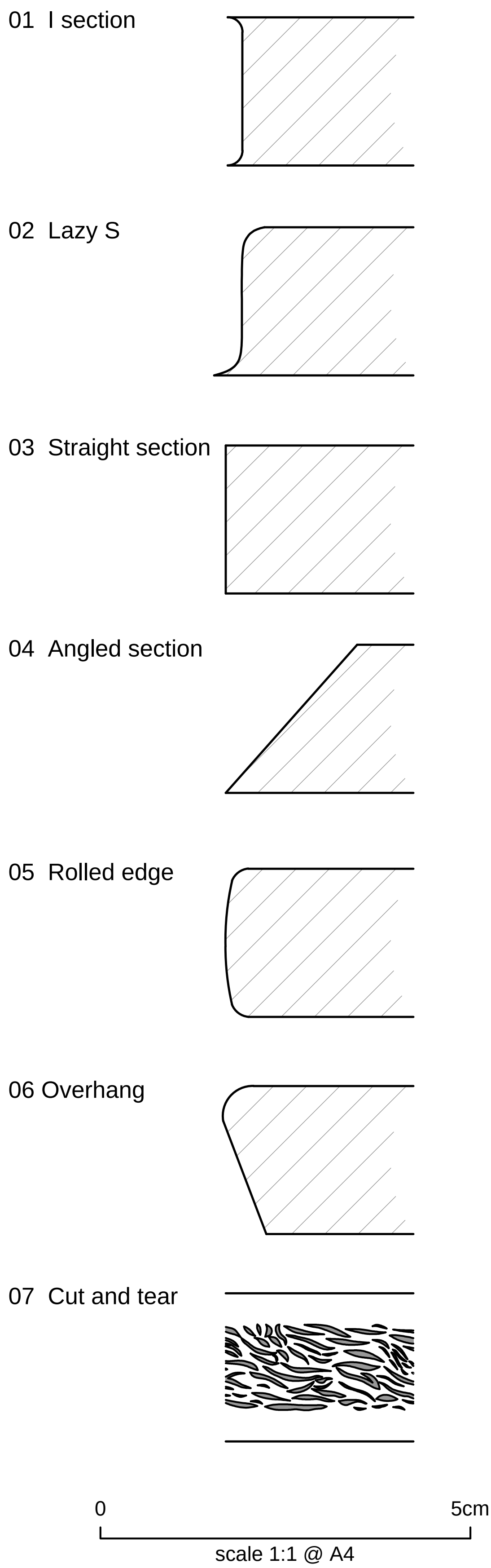

Figure 7.5: examples of different profile types observed on coin pellet moulds (after Landon, 2016).

Figure 7.6: CPM 229 in profile, exhibiting a 'Lazy S' profile type.

Table 7.7: edge thickness bands of CPM trays.

Thickness band	Range in mm
1	≥10.14,<14.14
2	≥14.14,<18.14
3	≥18.14,<22.14
4	≥22.14,<26.14
5	≥26.14,<30.14

different 'hands' involved in the production of some of these trays (Table 7.6). This was only possible for fragments of trays with profiles that had indubitably been made in 'bowl moulds' (Landon 2016, 21).

A new Type Six profile subtype was noted: the Scotch Corner 'Overhang' (Fig. 7.5). As with the most commonly observed profile, the Type Two 'Lazy S' (Fig. 7.6), the new profile type was certainly the result of the type of mould used to produce the tray. However, what is most important to note is that the two types could not be produced in a single mould. Confirmation of this idea was provided by the fact that the two profile types never appear together on corner fragments. Therefore, it is possible to distinguish two basic tray manufacturing groups in the material.

Tray thickness

The maximum thickness of a fragment from the assemblage is 30.04mm, while the minimum is 10.14mm. The average thickness of Scotch Corner tray fragments (18.48mm) is very close to the national average of 18.11mm. However, the spectrum and distribution of fragment thicknesses from Scotch Corner is unique, as has been noted of every assemblage examined to date. Using maximum intra-tray variation in edge thicknesses on corner fragments with mould-made profiles (3.79mm, rounded up to 4mm), it is possible to demonstrate with some confidence that several moulds of each profile type (see Fig. 7.5 for examples of types) must have been used to make the parent trays of fragments in the assemblage with mould-made Type Two and Type Six profiles.

Applying the 4mm maximum intra-tray variation to the total range of edge thicknesses generates five 'thickness bands' (Table 7.7). While it is not claimed that 'thickness bands' are anything more than a convenient way of dividing up the 20mm range between least and greatest thickness, it is nonetheless possible to state that, for instance, a mould-made edge fragment in band 1 could not have been made in the same mould as fragments in bands 3–5.

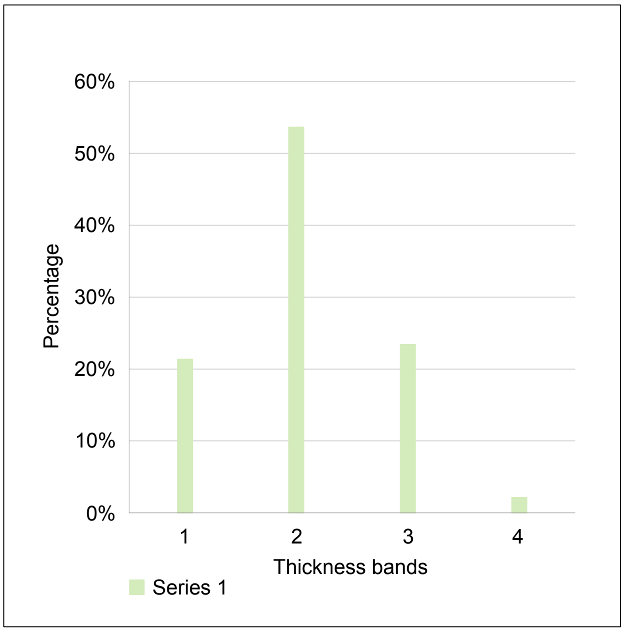

Figure 7.7: CPM small-hole thickness bands.

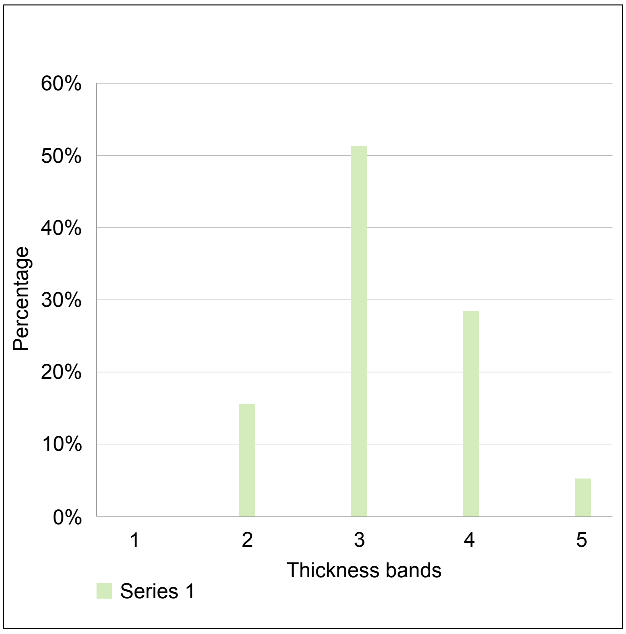

Figure 7.8: CPM large-hole thickness bands.

When these results are combined with the data for hole base diameter groups, there is a strong correlation between the two datasets as shown in Figures 7.7 and 7.8. In other words, larger holes tend to appear on thicker trays. Here, there is another clear point of difference between two groups of trays in the assemblage.

Signs of heating: oxidisation

Given that each heating episode of 800°C and above has the potential to 'reset' the oxidisation state of a fragment of ceramic, depending on the presence or absence of oxygen during heating, the location and intensity of oxidisation upon a ceramic fragment will provide information about the nature of the final heating episode to which it was subjected. However, there is an important proviso about the way in which this is applied. Because oxidisation can take place at a temperature considerably lower than the melting point of the alloys that the pellets were made of, it is uncertain whether what can be seen reflects conditions of the hearth during use or those of the clamp kiln during the manufacture of the CPM trays.

Table 7.8: percentage of oxidised CPM fragments in four British assemblages.

Assemblage	Percent
Blackfriars, Leicester	13.56
Puckeridge	3.91
Ford Bridge, Braughing	5.21
Scotch Corner	9.94

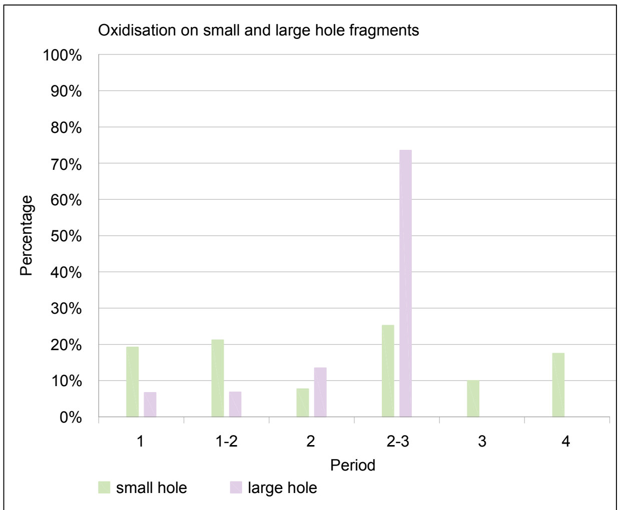

Figure 7.9: CPM oxidisation on small-hole and large-hole groups by Period.

The first aspect to consider is the proportion of oxidised fragments to the total number of individually listed fragments in the assemblage, and how this compares with levels seen in other British assemblages.

At nearly 10%, the proportion of oxidised fragments at Scotch Corner is at the higher end of the scale but is by no means exceptional. Firstly, this would seem to imply that oxidisation was not an intrinsic part of the process of use. Secondly, even if it was an accidental part of the process—despite the refractory fabric that the majority of the Scotch Corner was made of—reducing conditions were maintained for 90% of the episode. On the other hand, if the oxidisation was the result of a secondary episode of heating following use, then once again this was not applied to more than a small fraction of the assemblage.

To determine whether there are chronological patterns in the frequency of the appearance of oxidisation, the rates of deposition for each hole size group across the different Periods noted at Scotch Corner (as outlined in Chapter 1) were examined and expressed as percentages of the total number of oxidised fragments in each hole size group. Figure 7.9 demonstrates that the rates of deposition of oxidised fragments differ widely across the two hole-size groups. Small-hole oxidised fragments are dispersed relatively evenly across six consecutive Periods, with a variation of less than 10%, whereas large-hole oxidised fragments peak very sharply in the interstitial Period 2–3, and do not appear in any of the later contexts. There is no obviously deducible reason for this, but it is another example of the differences in treatment between the two hole-size groups.

The final aspect of oxidisation to be considered is the location of oxidisation upon individual fragments (Fig. 7.10). Since the assemblage comprises a mere 53 small-hole group fragments and 19 large-hole fragments out of an assemblage total of 1319 fragments, it would be unwise to analyse the data in minute detail. Nevertheless, there are several valid observations to be made.

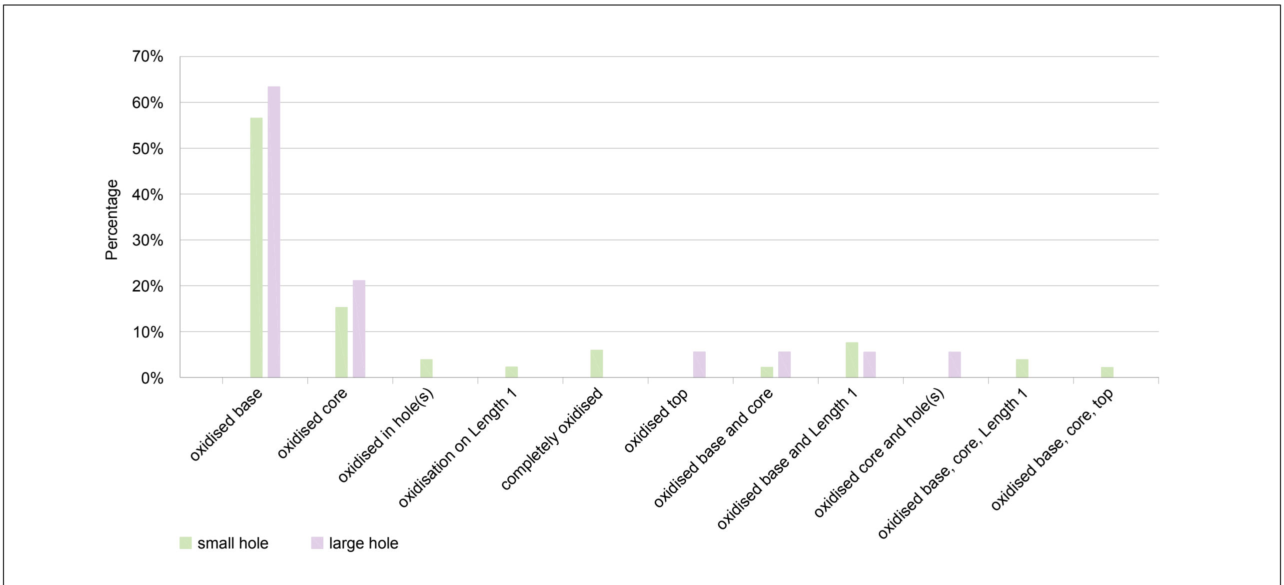

Figure 7.10: location of oxidisation upon small-hole and large-hole fragments from Scotch Corner CPM.

The first of these is that, in most examples, oxidisation is very patchy and indicates that it is accidental rather than purposeful. This can lead to two entirely different interpretations because it is consistent both with the idea that it represents an accidental presence of oxygen during the process of use, as well as the possibility that material was included in a relatively low-temperature secondary heating episode, such as a bonfire.

Second, there seems to be a broad similarity between the two groups of coin mould in terms of the percentages of fragments with at least some degree of oxidisation to the base. This is especially so when this is the only sign of oxidisation on the fragment. This is also the case where there is at least some degree of oxidisation to the core of a fragment, again particularly when this is the only sign of oxidisation on the fragment. This is noteworthy because, together with the spatial proximity in deposition, it is one of the only points of similarity in the treatment of the two groups of coin mould from Scotch Corner. As observed above, the prevalence of oxidisation of the base is not necessarily a consequence of use. It could result from a casual secondary heating episode and is by no means the most common location of oxidisation at other sites. At Blackfriars, Leicester, 75% of the oxidised fragments had only oxidised cores (Landon 2014). Oxidisation of the core without any other signs of oxidisation is perhaps more consequential, since it would seem to indicate that, while the cortex has been subjected to reducing conditions, the core of the fragment has remained oxidised. This would be consistent with the original firing of a tray under oxidising conditions, followed by a second, relatively brief, episode of heating under reducing conditions, which one might reasonably conclude took place during use.

The deposits

Large-scale excavations of British sites yielding coin moulds are woefully few, and even fewer of these have recorded the data to a standard that enables all the available information to be gleaned. The circumstances surrounding the excavation and analysis of this group allows, for the first time, the context of the coin mould deposition to be analysed in depth across a large area.

Over the past 12 years, it has become increasingly apparent that four aspects of deposition are crucially important for understanding the circumstances in which a minting operation took place:

- date;
- composition and size of the CPM groups;
- accompanying material (pottery, bone, charcoal, metal and metal-working debris, other craft residues); and
- circumstances of deposition (surface, pit, ditch or gully) and associated structures.

Date

The CPM deposits at Scotch Corner are spread across the five main Periods of activity identified (see Chapter 1). It should be noted that although deposition and redeposition occurred over a long period, potentially nearly a century, the morphological evidence is strongly suggestive of a single, early episode of coin mould manufacture at an unknown location. It should also be noted that, although many of the fragments showed signs of use, no firm evidence—such as an associated metalworking hearth—was found during the excavation for the actual use of these coin moulds at this site, and so the nearest approximation of the date of use would be before the pre-AD43 date of the first episodes of deposition.

The best candidate for a primary deposit of pellet mould fragments is that in pit **24014** in Field 246, a feature associated with Structure 51i, which is dated to c.55BC–AD15. There is a major caveat to be introduced here, however, as date of deposition is not necessarily linked to date of use. More than one major CPM assemblage has clearly spent some time exposed to the elements before arriving at its final resting place (e.g. those from Ford Bridge and Puckeridge, Braughing; see Landon 2016). At Turner's Hall Farm, Hertfordshire, the CPM (336 fragments, weighing a total of 1095g) were dumped in a pit as part of the clearing of the site prior to the construction of a Roman villa (Landon and Metcalfe in Landon 2016). Because of the generally friable nature and abraded condition of the Scotch Corner pellet moulds, there is no way of distinguishing moulds which had undergone above-ground weathering from those which had not; given also that the site has not been excavated in full, there can be no guarantee that the earliest deposit has actually been found.

Composition and size of the CPM groups

Attempts to characterise individual deposits of CPM have largely failed to show any meaningful trends in composition, which perhaps indicates that their make-up is governed more by chance than by intent. However, the aggregation of contexts by Period has allowed some significant patterns to emerge.

As can be seen from Table 7.9, Periods 1 and 1–2 have the largest average weight per fragment, which tends to suggest that these are quite possibly primary, in the sense of initial and deliberate, deposits. However, the difference in weight per fragment across the Periods is not sufficiently great, on its own, to determine whether deposits attributed to other Periods are secondary, in the sense of redeposited. To ascertain this, it is necessary to look at average weight per context per Period (Table 7.10).

The CPM found in Period 1 and 1–2 contexts, which accounts for 2674g of the total weight recovered, is composed of three deposits dated to Period 1 and nine dated to Period 1–2, while CPM from later Periods tends to be found in greater numbers of smaller average weight across more contexts (Tables 7.9 and 7.10). This is entirely consistent with a single, early episode of

Table 7.9: number of fragments and weights of CPM recovered from Scotch Corner per Period.

Period	Fragments per Period	Weight (g) per Period	Average fragment weight (g) per Period
1	93	1011	10.87
1–2	153	1663	10.87
2	89	475	5.34
2–3	630	4933.8	7.83
3	88	596	6.77
3–4	0	0	0
4	219	1632.7	7.46
4–5	1	23	23
None	17	91.7	5.39

Table 7.10: average context weight of CPM recovered from Scotch Corner per Period.

Period	Contexts per Period	Average context weight (g) per Period
1	3	337
1–2	9	184.78
2	5	95
2–3	19	259.67
3	4	149
3–4	0	0
4	24	68.03
4–5	1	23
None	5	5.39

minting, followed by several episodes of redeposition. In particular, the CPM found in Period 4 contexts, which accounts for 1632.70g of the total weight recovered, is composed of many relatively small sub-assemblages, and supports the idea that these deposits are more expedient than purposeful. That there is an evident slowdown in the rate of deposition, as well as a significant diminution in average fragment size during the latter part of Period 2, is perhaps also indicative of a single, early minting episode, followed by curation or display before the bulk of the moulds were deposited in the interstitial Period 2–3.

It is, nevertheless, worthwhile to compare the figures for average fragment weight and average weight per context with those for the 17 presumably residual fragments derived from contexts not ascribed to any particular Period (mostly subsoil and buried soil surfaces). The average fragment weight for these is 4.76g, which must surely reflect time spent 'kicking around' the working area, as opposed to being dumped in pits and ditches. In whatever way the deposits of CPM in the ditches, pits and gullies were stored before their final deposition, they were obviously better protected than this class of residual fragment.

With every assemblage of less than 60 CPM fragments recorded using the protocol adopted here, it has been noted that there are never enough corners. If all the holes in an assemblage are counted up and this figure is divided by the number of holes on the tray form(s) present in the assemblage (where known), the 'Minimum Tray' figure is calculated, i.e. the minimum number of whole trays required to account for the holes found. If the Minimum Tray figure is then multiplied by the number of corners on the tray forms(s), this generates the number of corners required by the number of trays. In all of these assemblages, it has been found that there is a minimum shortfall of corners of at least 30%, and as much as 85%. It has been suggested elsewhere (Landon 2014, 71–3; 2016, 119–21; Landon and Morley-Stone forthcoming) that the selective removal of corners for separate deposition is the most likely explanation for this phenomenon. In fact, four structured deposits have been identified at three different sites in Britain (two at Braughing/Puckeridge, one at *Verulamium* and one at Bagendon), each including corner fragments of coin mould and a single Late Pre-Roman Iron Age coin, with the exception of Bagendon where there are two coins.

Scotch Corner is no exception. Three different groups of trays have been noted here: a 100-hole Scotch Corner rectangular form with small holes; a 50-hole *Verulamium* pentagonal form with small holes; and a 50-hole *Verulamium* pentagonal form with large holes. Using this knowledge and the hole data used to generate the Minimum Trays figure above, it can be stated with some confidence that in the retrieved assemblage there should be at least 88 corners derived from the rectangular tray form, 35 corners from the small-hole *Verulamium* form, and 110 corners from the large-hole *Verulamium* form, for a total of 233 corners. However, there are only 90 corners (for 14, it is not possible to determine the hole size of the parent tray) in the entire assemblage, a shortfall of at least 61.37%.

Furthermore, the rate of corner loss is far from uniform across the two hole-size groups. It is rarely possible to distinguish small-hole *Verulamium* tray fragments from small-hole Scotch Corner tray fragments. As in preceding calculations, attribution must therefore be carried out on a proportional basis for the 14 corner fragments of uncertain hole size. On the observed ratio of three small-hole fragments to one large, and rounding to integers, 10 indeterminate corners can be allocated to the small-hole group, and four to the large-hole group.

It is relatively certain, therefore, that there should have been 133 corners from small-hole trays, and there are 72 (54.14% of this total) in the retrieved assemblage. On the same basis, there should have been 110 corners from large-hole trays, but at best there are 23 (20.90% of the predicted total). Almost four in five corners are not present.

This is another clear and demonstrable point of difference between the two hole-size groups, yet there are more points of interest to be gleaned from this approach. Interstitial Period 2–3 yielded more CPM than any other Period at Scotch Corner, with 19 contexts containing 630 fragments that weighed a total of 4933.80g. A single context dated to Period 2–3 (Field 246, fill **31000** of ditch **31017**) contained more CPM fragments than the other 18 put together: 3519.00g, as opposed to 2029.10g. To some degree, a sample of this size might be expected to reflect the composition of the entire assemblage, but this is far from being the case. The ratio of smaller holes to larger in the entire assemblage has been noted above (about 3.3:1) yet in fill **31000** the ratio is 0.95:1.

As can be seen from Table 7.11, four out of six CPM-yielding Periods (including the two earliest, which contain the most likely candidates for primary deposits) included not a single corner fragment from a large-hole tray. By contrast, 18 of 19 identifiable large-hole corner fragments were found in Period 2–3 contexts, of which 15 came from fill **31000**. The number of large holes in fill **31000** is 291, enough for six trays, which would imply 30 corners; therefore, there is 50% of the large-hole corner fragments that might be expected.

Why fill **31000** should be so different is not clear. Its average fragment weight (9.64g) is very close to the assemblage average of 9.56g, so it seems less likely that this is a primary deposit. The quantity of corner fragments in this context as opposed to others is noted but cannot be explained.

Table 7.11: number of large hole CPM corner fragments recovered by Period.

Period	Large hole corners
1	0
1–2	0
2	0
2–3	18
3	1
4	0

Accompanying material

These data are of exceptional importance, because they provide a detailed contemporary picture of what was going on in the vicinity of each of the deposits of pellet moulds. Table 7.12 is therefore of considerable importance for understanding the contexts in which the use and deposition of coin moulds took place, both at Scotch Corner and more widely across the whole of Britain.

Comparison is at the heart of the method used here for the study and understanding of the gross morphology of CPM. Any study of an individual assemblage that does not involve comparison in many aspects with other assemblages will be of very limited value.

At Scotch Corner, the first point to be noted is that no *single* type of find is universally associated with CPM. This seems to suggest that there is no common factor linking the 70 deposits of CPM at Scotch Corner, which in turn suggests that final deposition here was not necessarily immediately subsequent to use. This accords well with what has been noted of other assemblages (Turners Hall Farm, Puckeridge, and Ford Bridge, Braughing, all in Hertfordshire; see Landon 2016), where it can be demonstrated that a significant amount of time elapsed between use and final deposition.

The most frequent find type associated with deposits of CPM at Scotch Corner is fired clay, which appears in 38 out of 70 CPM contexts. This is not an unexpected association, since the hearths on which metal was heated were made of clay. Indeed, one might have anticipated that the association would be quite usual were coin mould deposition to occur shortly after use.

A find type that one might expect to have accompanied CPM, if deposition followed swiftly on use, is charcoal. In fact, it is found in association with only 25 out of 70 deposits of CPM at Scotch Corner. Food waste—i.e. cereal grains and animal bone—is a more frequent adjunct, found in 30 out of 70 contexts. Three of the Braughing/Puckeridge assemblages yielded significant quantities of animal bone, which has been interpreted as feasting debris (Hunn 2007 and pers. comm.). If, as Landon (2016, 178–9) has suggested, based on grain casts noted on CPM, the manufacture and use of coin moulds often occurred following harvest, this may indicate that this

Table 7.12: finds associated with deposits of CPM.

Period	Contexts per Period	Char-coal	Food waste	Food prep. waste	Fired clay	Slag	Crucible/ casting mould	Lead debris	Copper debris	Iron debris	Indust-rial waste	Amph-ora	Samian	CBM	Glass
1	3	1	1	0	2	0	0	0	0	1	1	0	0	0	0
1–2	9	5	5	0	3	1	3	0	0	0	2	0	0	0	0
2	5	4	4	0	5	2	0	2	0	0	4	1	2	0	1
2–3	19	6	6	0	6	3	2	3	1	0	5	3	1	1	2
3	4	1	2	0	6	3	2	3	1	0	5	3	1	1	2
4	24	8	10	2	14	6	4	4	2	1	11	8	13	4	3
4–5	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
None	5	0	2	2	2	1	0	1	1	0	1	1	3	3	2

was also true of the Scotch Corner material. There are eight instances of grain casts at Scotch Corner, a higher proportion than at either Puckeridge or Braughing.

A final point to note relates to Period 4. This is the only Period in which every type of accompanying find is present, and the suspicion must be that this is yet another indication that pellet mould deposits in this Period are secondary. What we see is a jumble of material thrown together by chance, emblematic of nothing more than the need to clear an area of rubbish.

Circumstances of deposition and associated structures

The area within which the coin mould deposits occurred was relatively large but well defined, similar in some respects to Blackfriars, Leicester, in that it was bounded by ditches and the coin moulds were divided into many 'packets' around this area. However, there were also significant differences. First, there were clear concentrations of coin mould fragments in Field 246 at Scotch Corner, whereas at Blackfriars the size of individual deposits was generally very small (five fragments and fewer). Second, the major deposits at Scotch Corner have clear focal points, while at Blackfriars the scatter appeared almost random. Finally, while the deposits at Blackfriars were not obviously associated with any of the excavated structures, at Scotch Corner four groupings of CPM are associated with circular buildings that, because of the unusual width of their entrances, have been plausibly identified as workshops (Table 7.13).

In Field 246, fills **16396**, **24664** and **31047** are from the ring-gullies on the perimeter of the circular buildings, which leads to the suspicion that they might be discards rather than purposive deposits. Of these gully deposits, two—fills **16396** and **31047**—are both relatively 'late' and so small that it would be hard to see them as anything other than residual. Fill **24664** is more substantial; it is earlier and could be proposed as a primary deposit but, in terms of its relation to Structure 43, it does not look exceptional. Fill **24015** of pit **24014**, on the other hand, is obviously much more significant. Not only is it larger and earlier than other deposits of CPM associated with structures, it is unique in that it was found in a pit set inside the perimeter of Structure 51i (see Chapter 2, Figs 2.47 and 2.55a); deposits made within Iron Age buildings are often both deliberate and meaningful. This must surely reinforce the impression that this is a primary deposit, as has already been suggested above.

As Table 7.14 shows, only 14 finds of coin mould came from contexts defined as 'surfaces'. All the rest were in ditches, pits and gullies. While the Scotch Corner material is in keeping with other assemblages from across Britain (see Table 7.15), it would be easy to overstate the importance of this; material deposited on a surface will disappear far more quickly and readily than material that has been deposited in a ditch, a pit, or a gully.

Taking find location, the composition of individual and accompanying finds data together, it also becomes apparent that no symbolic deposits akin to those noted at *Verulamium*, Braughing and Bagendon have been found at Scotch Corner (see above, 'Composition and size of the CPM groups').

Two groups of coin pellet mould

Perhaps of greater significance are several indications revealed during the analysis of the gross morphological data. Despite an absence of clear spatial patterning in the deposition of the various types and 'hands' across the various contexts, there is a strong possibility that there are two distinct traditions represented in the assemblage. Some of the evidence has been mentioned already: the 'incompatible' edge profile types, which coincide with the two different tray forms present; the strong (but not absolute) correlation between tray form, hole size and thickness; the widely differing percentages of corner loss between the two groups of pellet mould; and the metallurgical differences between the two groups (see below).

Table 7.14: CPM find locations at Scotch Corner.

Period	Ditch	Pit	Surface	Gully
1	2	1	0	0
1–2	3	5	0	1
2	2	1	1	1
2–3	15	3	0	1
3	3	0	1	0
3–4	0	0	0	0
4	14	0	7	3
4–5	0	0	0	1
None	0	0	5	0

Table 7.13: deposits of CPM at Scotch Corner associated with Structures.

Period	Context	Structure	Type	CPM fragments per context	CPM weight per context	Average fragment weight per context
1	24015	51i	pit	81	1158	14.3
1–2	24664	43	gully	40	517	12.93
2–3	16396	44	gully	1	14	14
4	31047	49	gully	2	23	11.5

Taken together, the patterns of similarity within each group build into a picture of two separate tray-making operations, which may have come together at the point of use (the metalworking hearth) and were then certainly deposited and redeposited together in several episodes following an intermediate period, during which they were again treated slightly differently (the selective removal of corners). That the deposits that were found were not structured, formal acts are perhaps shown by the absence of a common ratio of small holes to large across all the deposits (see Table 7.17). By way of comparison, the all-Period ratio is 3.29:1 (see Table 7.16).

As Table 7.17 demonstrates, across Britain the ratio of smaller to larger holes does not appear to have been fixed. It seems that it was governed more by factors other than any monetary relationship (four quarter-staters to one stater, for example). It is not certain what these factors might have been, but the obvious candidates must be either the availability of metals or the requirements of demand.

The most telling difference between the two groups of coin mould at Scotch Corner is one of skill. The larger-hole fragments are of the tried and tested *Verulamium* form. They are very competently made and are usually fairly thick and solid, like the Blackfriars *Verulamium*-form trays. When they do not exhibit the Old Sleaford-type 'rolled' profile, which seems to have been modified in a two-stage process, they have the 'Lazy S' profile—the most common of all the profile types in Britain. The holes were made on the face that had been bottom-most when the tray was in the mould. This is a manufacturing technique that works very well; the trays can accommodate 50 holes with ease and would seem well able to withstand the vicissitudes of use.

Table 7.16: ratio of small CPM holes to large in the Scotch Corner assemblage by Period.

Period	Small holes per Period	Large holes per Period	Ratio small:large holes
1	217	59	3.68 : 1
1–2	404	44	9.18 : 1
2	106	45	2.36 : 1
2–3	602	360	1.67 : 1
3	165	34	4.85 : 1
4	474	53	8.94 : 1
4–5	0	2	0:01
None	10	4	2.5 : 1

Table 7.15: selected other CPM find locations countrywide.

Site	Context	No. of fragments
Henderson Collection, Braughing	Uncertain	64
Ford Bridge, Braughing	Possibly midden deposit	1163
Puckeridge	Uncertain	2739
Wickham Kennels, Braughing	Ditch deposit	4
Gatesbury Track, Braughing	Pit deposit	Unknown
Isolated finds, Braughing/Puckeridge	No context	5
Bagendon 1981	Pit deposits	9
Old Sleaford	Ditch deposit	4600+
Turners Hall Farm, Harpenden	Pit deposits	305
Bagendon 1954–56	Uncertain, near furnace	68+
Fison Way, Thetford	Some in ditch, some loose	109 + 'scraps'
Bath Lane, Leicester	Uncertain	3
Merlin Works, Leicester	Ditch deposit	300+
Rochester	Uncertain	10
The Ditches, Bagendon	Ditch deposit and surface	Uncertain
Verulamium Insula XVII	Beneath Roman rampart	c.10
Verulamium Insula XVII	'Belgic' foundation trench	1
Verulamium Insula XVII	Floor in 'Belgic' building	c.8
Verulamium, Bluehouse Hill	Pit deposit	'Many fragments'
Verulamium, St. Michael's Bakery	In pre-Roman black silt	3
Verulamium, Insula XXVIII, Building 3	Unstratified	1
Verulamium, Insula XXVIII, Building 4	Below Roman building	2
Verulamium, Prae Wood	Uncertain	4.36 kg.
Verulamium, 'Six Bells Pub'	Probable pit deposit	'Large quantity'

Table 7.17: ratio of small to large CPM holes at three British sites.

Site	Ratio small:large holes
Ford Bridge, Braughing	16.82 : 1
Blackfriars, Leicester	0.44 : 1
Puckeridge	14.33 : 1

The Scotch Corner 100 form trays are a different matter. The craftspeople who made them understood that, in order to accommodate 100 holes, the surface area on which they were to be made would need to be as large as possible. They also seem to have understood the problem of adhesion of clay within the tray mould (Landon 2016, appendix i). In order to accomplish the first and avoid the second, at least some of those making this type of tray decided to use a mould that flared outwards from bottom to top, thus creating the Scotch Corner 'Overhang' edge profile. Unlike trays with a 'Lazy S' edge profile, the holes were made on the face that had been uppermost in the mould.

While at first glance this might appear an effective, even elegant, solution there are clear indications that it was not practicable. Although not tested experimentally, there will be a point at which a slab of wet clay becomes impossible to manoeuvre without either folding or splitting. Therefore, this must place an upper limit on the surface area of the slab on which the holes are to be made. For the makers of the Scotch Corner 100 form trays, this upper limit meant that the holes would have to run very close to the edges of the slab, and it was this requirement that revealed a second problem with this tray design; placing the holes close to the edges of the tray meant that they transgressed onto the overhang. Consequently, on several fragments, holes either slighted the top edge of the tray or pierced the lower face of the overhang. There are four instances of holes slighting the edge of the tray in the assemblage (e.g. Fig. 7.11). All have small holes; two have Scotch Corner Overhang profiles; one is too damaged to classify and one (a corner fragment) has a 'Straight Section' and a 'Rolled Edge' profile.

It is not a major flaw—at worst, it affected no more than two holes on a slab—but it is the sort of mistake that would have been corrected very quickly in subsequent episodes of tray manufacture. It seems very likely that this was the first time these artisans had been required to make trays with 100 holes, and quite possibly the first time they had been asked to make CPM trays of any sort. The differences in manufacturing technique—as revealed by tray thickness and edge profile—between the two hole-size groups very strongly suggest that there were two workshops making trays at Scotch Corner. One workshop (making *Verulamium* form trays) was experienced, but the other (making Scotch Corner 100 form trays) had perhaps never made pellet mould trays before.

Figure 7.11: hole slighting edge (Length 2—shorter edge—of CPM 116, from above).

Final thoughts on gross morphology

The presence of two markedly different groups at Scotch Corner—a finding supported by SEM-EDS work (see below)—proves that simple production models do not apply. While the minting seems to have taken place here, production of coin moulds seems to have been dispersed. This would appear to indicate that the production of coin pellets, and hence the production of the coin, was not necessarily controlled by a unitary authority, such as a monarch or council. Instead, it suggests the presence of more than one person, family or body in the area with the power to command the issue of money.

SCIENTIFIC ANALYSIS OF THE PELLET MOULDS

Jake Morley-Stone

Methodology

Following Landon's morphological study, 18 samples of CPM were selected, sectioned and assessed at the microscopic level for heating markers and metallic residues using scanning electron microscopy with energy-dispersive analysis (SEM-EDS). Samples were selected following the morphological results presented above, resulting in two core sample groups to match the hole size groups present within the assemblage (3–7mm and 9–14mm; Table 7.18). CPM 495 was selected to be part of this study, as holes of both size ranges are present on this fragment, with the interest of seeing how the data produced from the fragment compares against the rest of the sample set.

Previous studies have largely employed X-ray fluorescence (XRF) to identify metallic residues within pellet moulds (Braughing: Craddock and Tite 1981; *Verulamium*: Frere 1983; Old Sleaford: Heyworth and Wilthew 1997; Robbins and Bayley 1997), but the results do not always allow for accurate alloy reconstructions due to the 'broad-brush' nature of data from surface readings (Dungworth 2000, 83–4). In order to reconstruct the composition of the alloy(s) being cast into pellets, it is necessary to analyse the microscopic inclusions of metal trapped within the clay fabric. To do this reliably, microanalysis is required, and so the decision was made to employ SEM-EDS to analyse the samples. Using SEM-EDS to analyse sectioned samples of the mould fragments allows for greater rigour in observing and recording any metallic residues, as the analytical equipment can be focused directly onto residues observed within the microstructure.

Each area of residue was analysed in triplicate and an average calculated. As per normal practice, standard alloys of known composition were analysed alongside the ancient samples to ensure good accuracy and precision of the analytical data produced. The standard reference metals used were AGA1 and AGA3 (MBH Ltd).

Alongside the chemical analysis, the SEM-EDS allows for an assessment of the ceramic microstructure, providing an avenue to investigate the firing and environmental conditions that the moulds have been subjected to. Several morphological features within ceramics can be attributed to specific firing environments, with vesiculation and vitrification being the most commonplace. Vesiculation occurs when gases trapped within the clay body expand during the firing processes, creating large spherical voids within the mould fabric, while vitrification is the process during which ceramic fabric melts when heated to the appropriate temperature (>c.1000°C) and can be seen within the microstructure as the mineral crystals merged into a single cohesive mass (Rice 1987, 103–4).

The results of the microstructural morphology study and the SEM-EDS compositional analysis are presented and discussed separately below.

The furnace environment and pellet production techniques

Initial observations

Although the external morphology of the moulds has been presented above, prior to preparing the samples for SEM analysis, initial observations of the assemblage were indicative of the furnace environment to which the moulds had been exposed. The fragments, both un-sectioned and sectioned, show evidence of being fired within a reducing atmosphere.

Many fragments display a grey/dark grey colouring on the upper surface, which then remains unchanged or fades to a light grey/red colouring throughout to the fragment base. Bar three outliers, no fragments showed oxidisation of the topside surfaces. This patterning is telling of the conditions in which the moulds were fired and used and is discussed with the SEM results below.

Observations in the microstructure

Following sample preparation, the fragments were observed in section at the microscopic level via the SEM. Features present within the ceramic microstructure were extremely revealing in regard to the technological processes behind pellet manufacture. Many diagnostic features characteristic of the temperatures that the moulds had been exposed to were observed, the most common being instances of vesiculation and vitrification towards the topside and hole linings of the fragments (Figs 7.12 and 7.13), which was also a feature of the assemblages analysed by Tournaire *et al*. (1982). A 'stitched-together' micrograph of the complete section for CPM 209 was created to better highlight the common pattern of firing features observed within the microstructure of the moulds (Fig. 7.13).

CPM 591 displayed further markers of excessive firing temperatures beyond the point of vitrification. Needle-like silica mineral formations were observed near the top surface of the mould being absorbed into the vitrified matrix (Fig. 7.14). This process of mineral formation is

Table 7.18: CPM sampled for SEM analysis.

CPM number [subgroup]	Context	Hole base diameter group (mm)	Notes
4	15896	9–14	Two samples taken
6[c]	15896	9–14	–
56	24015	9–14	–
69[g]	24015	3–7	–
124	24052	3–7	–
154	24086	3–7	–
164	24086	3–7	–
209	24201	3–7	Heavily vitrified surface
254	24238	9–14	–
352	16372	9–14	–
357	24015	3–7	–
475	31000	3–7	–
495	31000	–	Both sizes present
502	31000	9–14	–
527	31000	3–7	–
548	31000	9–14	–
588	31000	9–14	–
591	31000	9–14	–

known to occur within ceramics that have been exposed to temperatures upwards of 1050–1200°C. (Rice 1987, 103–4). Additionally, a few fragments also exhibited signs of vitrification throughout the mould and down to the base (see Fig. 7.15).

All samples examined showed evidence of vesiculation within their microstructure, although not all showed evidence for vitrification. It was a noticeable trend that moulds without evidence of metallic residues did not show heavy signs of vesiculation or vitrification, hinting towards either their under-firing, lack of use, or loss of vitrified surface layers; this merits further investigation.

Thin elongated voids were observed in several samples, which were distinct from the spherical vesicles left behind by the firing process. Visible within a micrograph of CPM 588 (Fig. 7.16), it is presumed that the voids are shadows left behind by organic-based inclusions, such as plant matter or sawdust, to aid the initial firing of the moulds. During firing, the organic matter helps to prevent cracking due to any excess water, as the carbon reacts with the oxygen and allows it to escape as CO_2 (Tylecote 1962, 102; Rice 1987, 104–7).

Discussion

Technologically speaking, the temperature of the furnace environment must have been able to reach a range of c.1000–1100°C to melt the copper component or alloy thereof (bronze) that was intended to make up part of the final pellet composition (copper having the highest melting point compared to silver and gold). Following the results presented above, a clear picture of the firing and pellet production processes emerges. For the most part, the condition of the ceramic moulds confirms they were fired in a reducing atmosphere in an environment capable of achieving the necessary range temperatures. Further to this, the pattern of vesiculation and vitrification, and observed mineral

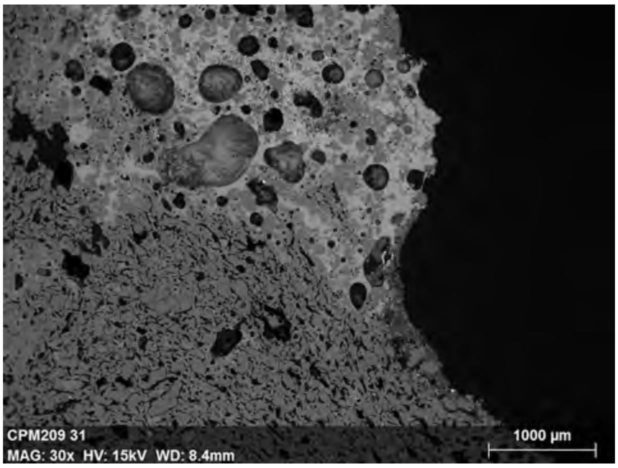

Figure 7.12: vesiculated and vitrified ceramic in CPM 209. Iron oxide-rich phases can be observed surrounding the vesicles in the top half of the micrograph (light grey).

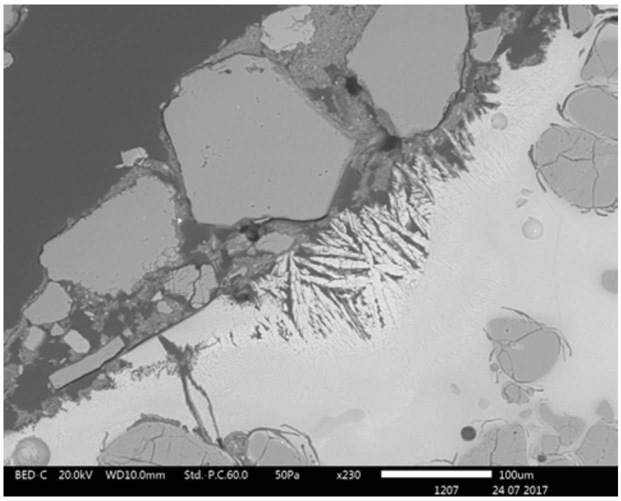

Figure 7.14: needle-like silica mineral formations in the section of CPM 591.

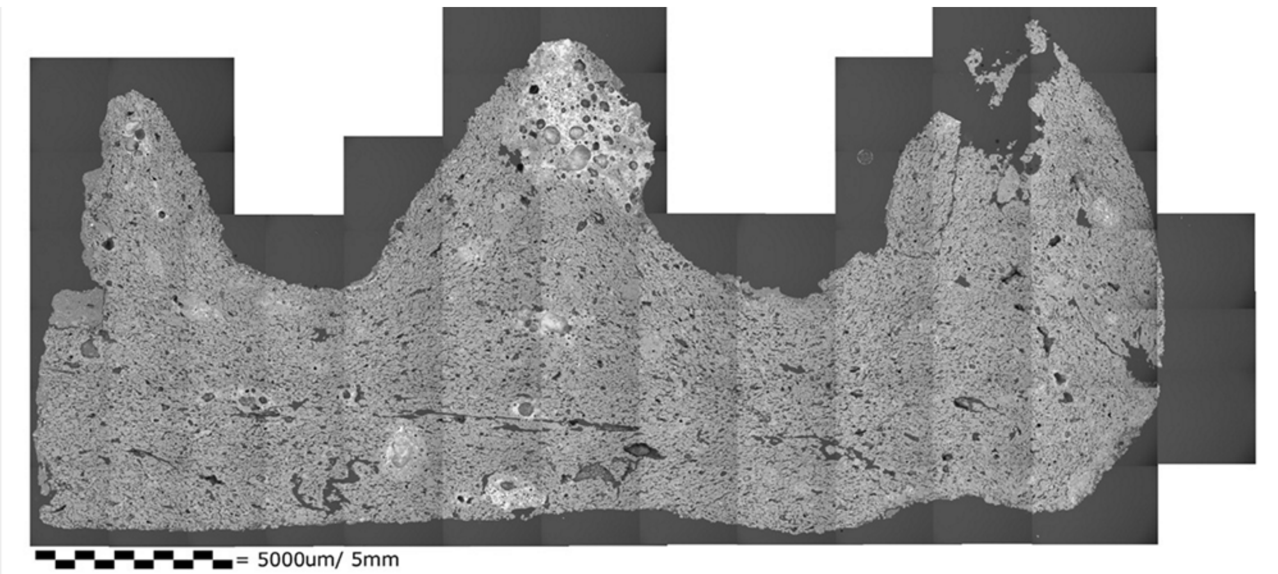

Figure 7.13: a compiled micrograph to show the cross-section of CPM 209. Note the area of heavily vitrified and vesiculated ceramic on the left and central bridges between hole depressions.

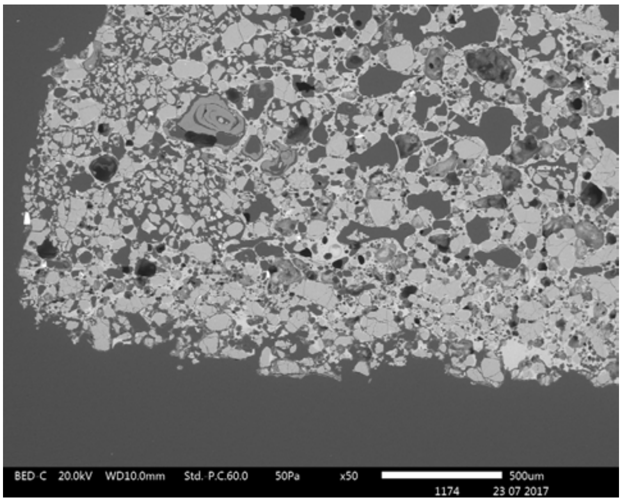

Figure 7.15: vitrification towards the base of CPM 548.

transformations suggests the topside of the moulds reached higher temperatures, in the range of 1050–1200°C (Rice 1987, 103–4).

How such temperatures were achieved is also open to interpretation and not so clear within the results of this study. It is likely that, once the moulds were placed within the furnace environment, additional charcoal was heaped over the tops of the moulds and air was blown through via bellows. The interpretation originates from an experimental project by Tylecote (1962) that explores methods in which pellet moulds could be used to produce pellets of precious metal alloy. Tylecote argued that pre-weighed metal granules or powders were added to the moulds and then fired, fusing the metals into spherical pellets. To reach the necessary range of temperatures he argued that the hot air was blown over each individual hole in succession, leading to the suggestion that powdered forms of metal were impractical due to their tendency to scatter under blasts from the tuyère. Support for this method of manufacture can be seen throughout the literature (for example, van Arsdell 1989, 47; Northover 1992, 265), although the scarce experimental work has provided little in terms of critical assessment for metal introduction techniques, focusing more on the production and striking of coins over production of pellets (see de Jersey 2009; Herzman and Townsend 2018).

Alternatively, molten metal could have been poured into moulds to produce pellets, but the variance and inconsistency of weights in pellets produced this way is not consistent with the requirements of coinage and therefore does not favour pouring as a preferred technique (Tylecote 1962, 103; van Arsdell 1989, 47; Landon 2016, 170–2). Evidence from the Scotch Corner study favours the 'in situ melting' technique because of several factors, the most important being the extent of vitrification on the topside of the moulds. Practically speaking, if metals were being poured into the moulds in a molten state, the moulds would not need to be subjected to extreme temperatures for a prolonged period beyond the initial ceramic firing and would therefore display a

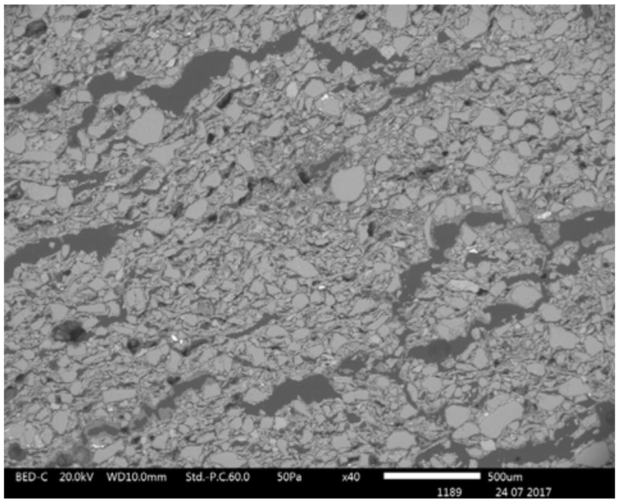

Figure 7.16: horizontal voids (dark grey) within the ceramic matrix of CPM 588, indicative of organic-based inclusions.

different pattern of vitrification than that observed on the Scotch Corner moulds. Further to this, evidence of metal residues on the bridges between holes would arguably be observed more frequently than is the case. In addition, the high variance within the metallic residue, or 'prill' compositions analysed (see below) is consistent with separate alloys being formed within the moulds from pre-prepared combinations of granulated metals. These data are consistent with the interpretations put forward by Tylecote five decades ago, although they still lack the clarity required to make concrete conclusions.

Moulds from *Verulamium* and Braughing show evidence for the application of a release and fluxing agent (calcareous in nature) to the mould holes before the melting of the metals (Freestone 1980, 129; Landon 2016, 54). In the case of pellet moulds, a fluxing agent is designed to prevent loss of the melted alloys through 'wetting' of the mould lining during melting and assist in the removal of pellets post-melting. Fluxing agents can be made of various substances, including charcoal (Bagendon: Landon and Morley-Stone forthcoming) or calcium carbonate (*Verulamium*, Braughing). No evidence for fluxing agents was observed on the fragments from Scotch Corner; however, the ceramic matrix did contain phases of high-alumina content that may have provided the moulds with refractory properties to better withstand the heat to which they were subjected.

Whether or not moulds were a single-use artefact or could withstand multiple uses has already been mentioned in discussion; however, critical analysis of this concept is still in its early stages. A recent experimental study by Herzman and Townsend (2018) has suggested that moulds with ideal refractory properties and fluxing agents could last up to ten melts before cracking due to heat exposure. Research is currently being undertaken to better understand pellet production techniques through the detailed analysis of recent finds and an extensive programme of experimental research.

The metallurgy

The CPM results

All samples selected and sectioned were assessed for metallic residues, with 14 fragments (78%) showing evidence of trapped alloy residues within the ceramic matrix. The prills were easily identifiable from the surrounding ceramic microstructure as bright white formations in back-scattered electron mode (BEI; Fig. 7.17). Without exception, all of these were found near the top surfaces of the fragments, with the majority inside the lining of the mould holes themselves. In total, 44 of the residues analysed comprised elements (copper, silver, gold, tin and lead) typical of a precious-metal alloy composition (Table 7.19). Other metallic residues included large iron phases that had formed during the firing process, typically observed in areas of heavy vesiculation (e.g. Fig. 7.12) These iron-oxide-rich phases are a feature similarly observed on vitrified fragments of crucible from Housesteads fort, Northumberland (Dungworth 2001, 11).

Table 7.19: SEM-EDS results of the 44 precious metal residues observed within the CPM sample moulds.

Prill ID	CPM no.	Sulphur %	Iron %	Nickel %	Copper %	Zinc %	Silver %	Tin %	Gold %	Antimony %	Lead %	Total
SC1	CPM 4	0	0	0	34.22	0	5.95	0	59.83	0	0	100
SC2	CPM 4	0	0	0	9.3	0	1.38	0	89.32	0	0	100
SC3	CPM 4	0	0	0	1.06	0	42.43	0	56.51	0	0	100
SC4	CPM 124	0	0	0	6.73	0	93.27	0	0	0	0	100
SC5	CPM 124	0	0	0.91	41.03	0	48.6	0	0	0	9.47	100.01
SC6	CPM 124	0	0	0.57	32.22	0	63.78	0	0	0	3.43	100
SC7	CPM 124	0	0	0	30.71	0	61.31	0	0	0	7.98	100
SC8	CPM 124	0	0	1.02	41.36	0	47.94	0	0	0	9.67	99.99
SC9	CPM 124	0	0	0	37.99	0	55.44	0	0	0	6.58	100.01
SC10	CPM 154	0	0	0	49.5	0	50.5	0	0	0	0	100
SC11	CPM 209	0	0	0	40.85	0	59.15	0	0	0	0	100
SC12	CPM 209	0	0	0	3.27	0	96.73	0	0	0	0	100
SC13	CPM 254	0	0	0	0	0	12.75	0	87.25	0	0	100
SC14	CPM 352	0	0	0	83.23	0	16.77	0	0	0	0	100
SC15	CPM 352	0	0	0	51.69	0	48.31	0	0	0	0	100
SC16	CPM 352	0	0	0	44.3	0	55.7	0	0	0	0	100
SC17	CPM 352	0	0	0	34.03	0	65.97	0	0	0	0	100
SC18	CPM 352	0	0	0	26.28	0	73.72	0	0	0	0	100
SC19	CPM 357	0	0	0	65.6	0	34.4	0	0	0	0	100
SC20	CPM475	0	0	0	73.77	0	26.23	0	0	0	0	100
SC21	CPM 475	0	6.22	0	0	0	0	93.78	0	0	0	100
SC22	CPM 495	0	0	0	61.24	38.76	0	0	0	0	0	100
SC23	CPM 495	0	0	0	2.45	0	2.08	0	95.47	0	0	100
SC24	CPM 495	0	0	0	86.58	0	13.42	0	0	0	0	100
SC25	CPM 502	0	0	0	63.73	0	36.27	0	0	0	0	100
SC26	CPM 502	14.85	8.98	0	76.17	0	0	0	0	0	0	100
SC27	CPM 527	0	0	0	11.16	0	88.84	0	0	0	0	100
SC28	CPM 527	0	0	0	28.51	0	38.58	0	0	0	32.9	100
SC29	CPM 527	0	0	0	0	0	19.21	0	0	0	80.79	100
SC30	CPM 548	0	0	0	0.99	0	23.51	0	75.5	0	0	100
SC31	CPM 548	0	0	0	23.22	0	8.36	0	68.41	0	0	99.99
SC32	CPM 548	0	0	0	1.73	0	5.56	0	92.71	0	0	100
SC33	CPM 548	0	0	0	3.54	0	2.36	0	94.1	0	0	99.99
SC34	CPM 548	0	0	0	3.12	0	1.47	0	95.41	0	0	100
SC35	CPM 548	0	0	0	22.1	0	3.79	0	74.12	0	0	100
SC36	CPM 588	0	0	0	1.83	0	0	0	98.17	0	0	100
SC37	CPM 588	0	0	0	91.14	0	8.86	0	0	0	0	100
SC38	CPM 588	0	10.89	0	43.34	0	0	0	0	32.48	13.29	100
SC39	CPM 591	0	0	0	54.57	0	45.43	0	0	0	0	100
SC40	CPM 591	0	0	0	54.52	0	45.48	0	0	0	0	100
SC41	CPM 591	0	0	0	14.08	0	0.73	0	85.19	0	0	100
SC42	CPM 591	0	0	0	3.14	0	0	0	96.86	0	0	100
SC43	CPM 591	0	0	0	54.16	0	45.84	0	0	0	0	100
SC44	CPM 591	0	0	0	58.76	0	41.24	0	0	0	0	100

As Table 7.19 indicates, various other elements were observed (i.e. iron, sulphur, etc.), but these may not be indicative of the pellet compositions. In the case of SC26, the presence of sulphur and iron are probably derived from the surrounding ceramic and not part of the prill composition. Likewise, the presence of antimony and iron in SC38 is presumed to have the same cause, though the antimony could also be a trace element within the metal. Residues containing traces of nickel (SC5, 6 and 8) and zinc (SC22) are probably linked to the copper used in the alloy, and in the case of SC22, the zinc proportions have become magnified as a natural result of the firing process (Dungworth 2000, 84–5).

The largest prill observed (SC12) came from CPM 209 and was discovered on the reverse side of the sample, on a section of mould that became exposed during the polishing process. The prill is visible to the naked eye and spherical in shape, with a diameter of c.250µm (Fig. 7.18). The analysis showed the prill has a composition of 96.7% silver and 3.3% copper.

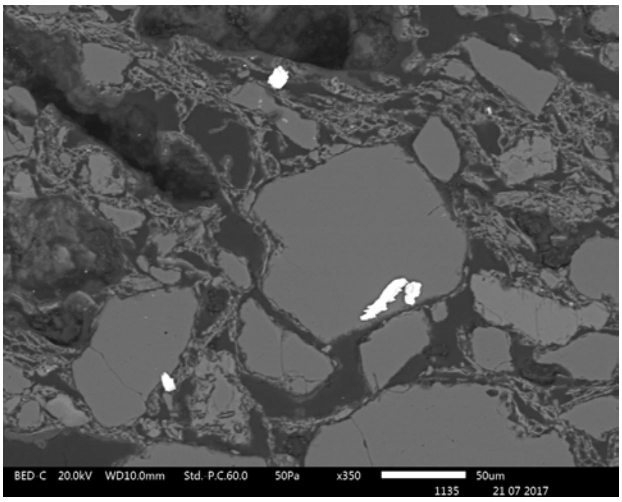

Figure 7.17: metallic inclusions are observed as bright inclusions against the darker silica-alumina matrix of the ceramic.

Other residues observed were too small or corroded for analysis and were disregarded. Each metallic prill varied in size, shape, and condition, with some showing signs of being heavily affected by the environmental conditions of the surrounding soils and weathering processes following their use and deposition (Figs 7.19 and 7.20). These observations play a significant role in the interpretation of the SEM-EDS results. The benefit of using the SEM as opposed to XRF is that these factors are more visible within the dataset and, having been more readily identified, can be considered to a greater extent within the data analysis.

Standard reference materials

Analysis of the standard reference alloys alongside the moulds shows high precision and accuracy for the silver and copper values (Table 7.20), particularly in the silver, with a precision value of ±1.34 and variance of 1.48%. The gold and tin measurements (35% and 90% respectively) showed greater variance within the standard dataset; however, given the relatively low levels present, a larger variance in the results is not unexpected.

Full results of the standard reference materials, alongside the raw data from the SEM-EDS analysis are presented in Appendix J.

Alloy reconstruction

There are various ways that the compositional data can be presented and interpreted, but not all of these can be discussed here. To that end, focus has been on a discussion of pellet alloy reconstruction, comparison with previous studies and an assessment of the data in light of Landon's morphological study. The results support the view that the pellet moulds were used to produce pellets of precious metal alloys and agree with previous studies at sites, including Old Sleaford (Robbins and Bayley 1997, 59–67) and *Verulamium* (Frere 1983, 30–2). The EDS analysis did not detect

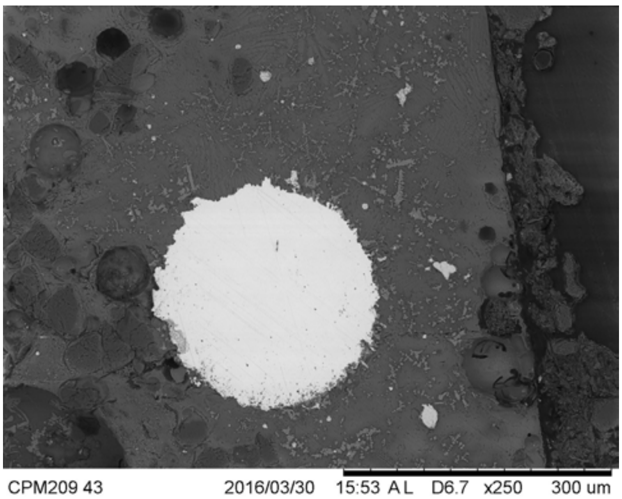

Figure 7.18: prill SC12, a large silver-copper residue within CPM209. The dark grey edge to the right represents the interior wall of a mould hole.

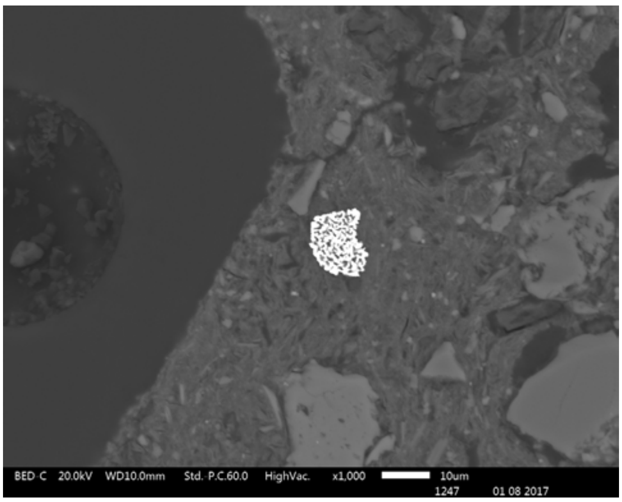

Figure 7.19: prill SC23; CPM 495. The dark pores within the bright white prill are indicative of elemental leaching.

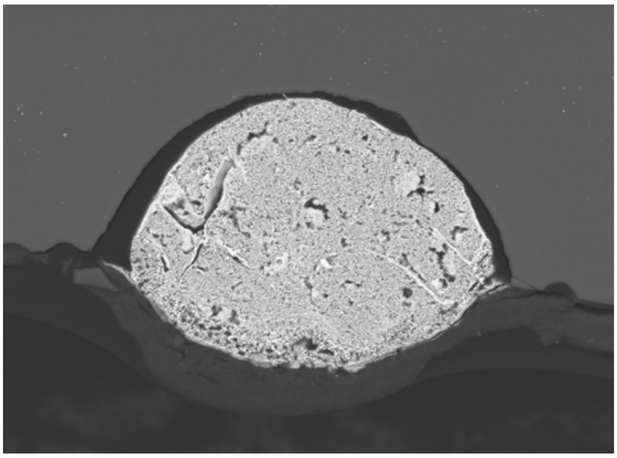

Figure 7.20: prill SC42; CPM 591. An extremely porous residue. As with SC23 above, the porosity indicates a likely absence of copper or silver due to environmental processes.

any significant levels of tin or zinc and so therefore rules out the possibility of the moulds being used to produce pellets of bronze or brass. Nevertheless, before assertions can be made about the intended use of the pellets, consideration needs to be given to the limits of the analytical data and what these tell of the specific alloy compositions.

When assessing the compositional data produced by the EDS analysis, care must be taken to ensure that the data are not over interpreted. Looking at the Scotch Corner data, it became apparent that, despite focusing the analytical equipment directly onto the residues themselves, the structure of the residues may have a greater impact on data quality than initially thought. The effect of possible copper leaching and other environmental processes on the alloyed prills has altered the compositions, making it more difficult to make accurate assertions regarding the intended pellet alloys. This problem is not unique to this study, but is a general issue faced when attempting to reconstruct alloys from only the residues within moulds and crucibles. Recent work shows that direct correlation is not always possible (Dungworth 2000; Kearns *et al*. 2010) and in the absence of pellets securely associated with the trays, the conclusions rely solely on the statistical analysis of the prill data.

With the above issues taken into consideration, the results of the analyses of the 44 prills were stripped of trace elements and re-normalised to represent the core components of the alloys present. The dataset divides into two distinct groups: a gold ternary alloy (gold, silver and copper) and a silver-copper binary alloy.

The gold-alloy prills

Table 7.21 shows the adjusted data for the gold-alloy prills. With just 14 prills, the size of the dataset restricts the use of complex statistical analyses, although some broad interpretations can still be made by use of some basic statistical techniques.

Although small, the average of the dataset suggests an alloy composition of c.83:9:8, gold:silver:copper. The standard deviations are relatively high, reflecting the considerable variation in the measured values. Because silver and copper are more chemically reactive than gold, and thus more affected by the post-depositional processes to which the moulds were subjected, they will tend to be under-represented within the surviving residues (the Old Sleaford study suggests copper would be over-represented due to ‘wetting’ of the mould fabric (Robbins and Bayley 1997, 61), but environmental conditions at Scotch Corner will have leached-out some of the copper and silver in the original alloy residues. With copper and silver under-represented, and gold over-represented, it is difficult to calculate the exact pellet compositions being produced, but there is no doubt that this alloy was indeed a ternary gold-silver-copper alloy. Suggestions for what these data mean in terms of composition is intrinsically linked to the discussion of intended purpose for the pellets being produced, and as such is presented in the section discussing pellet use below.

Table 7.20: results of the standard reference materials, highlighting the precision and accuracy of the analysis.

	Silver %	Copper %	Lead %	Gold %	Zinc %	Tin %
AGA1 target	77.7	20	–	1.5	–	–
AGA1 recorded average (26)	78.2	20.21	–	1.41	–	–
Accuracy	0.01	0.01	–	–0.06	–	–
Precision	1.68	0.94	–	0.29	–	–
Coefficient of variation	2.15	4.67	–	20.85	–	–
AGA3 target	91.1	5	2	1	1	1
AGA3 recorded average (26)	90.59	5.09	2.15	0.41	0.83	0.98
Accuracy	–0.01	0.02	0.07	–0.59	–0.18	–0.02
Precision	1.34	0.37	0.74	0.27	0.29	0.89
Coefficient of variation	1.48	7.3	34.24	65.82	35.55	89.97

Table 7.21: compositions of the gold-alloy prills, stripped of trace elements and re-normalised with averages.

Prill ID	CPM no.	Group	Copper %	Silver %	Gold %
SC1	CPM 4	9–14	34.22	5.95	59.83
SC2	CPM 4	9–14	9.3	1.38	89.32
SC3	CPM 4	9–14	1.06	42.43	56.51
SC13	CPM 254	9–14	0	12.75	87.25
SC23	CPM 495	3–7	2.45	2.08	95.47
SC30	CPM 548	9–14	0.99	23.51	75.5
SC31	CPM 548	9–14	23.22	8.36	68.42
SC32	CPM 548	9–14	1.73	5.56	92.71
SC33	CPM 548	9–14	3.54	2.36	94.1
SC34	CPM 548	9–14	3.12	1.47	95.41
SC35	CPM 548	9–14	22.1	3.79	74.12
SC36	CPM 588	9–14	1.83	0	98.17
SC41	CPM 591	9–14	14.08	0.73	85.19
SC42	CPM 591	9–14	3.14	0	96.86
Average			8.63	7.88	83.49
Standard deviation			10.31	11.37	13.61

The silver-copper prills
The remaining prills, which were silver-copper alloys in composition, represented a more complex dataset to consider, as the prills were equally spread between both hole base diameter groups (discussed further in the next section). The question to be asked is whether two distinct silver-copper alloys were being used for pellets, or if the same silver-copper alloy was being shared between both groups. To this end, the dataset was treated as three groups: results for each size group and a further group considering all the data together (Table 7.22 and 7.23). From a statistical standpoint, much like the gold prills discussed before, it is clear that the preservation of the prills mixed with post-depositional effects have increased the variance within the dataset. Therefore, caution is advised when interpreting the results.

In terms of alloy composition, the two groups share close, yet distinct compositions. For the 3–7mm moulds, the average prill composition measures 62:38 silver-copper, while the 9–14mm shows an average composition of 41:59 silver-copper. Though seemingly distinct, the two groups overlap significantly when plotted on a scatter graph (Fig. 7.21). Therefore, the conclusion is to view the data as a single alloy, with an average composition of 52% silver to 48% copper (just shy of a perfect 50:50, a composition associated with Iron Age issues of coinage; de Jersey 2009, 262). When presented on a histogram (Fig. 7.22), these data show a normal distribution, highlighting a single consistent alloy composition.

These observations suggest further questions regarding the production process, as it would now seem that a single silver-copper alloy was being used in the creation

Table 7.22: prills of silver-copper composition stripped of trace elements and re-normalised.

Prill ID	CPM no.	Group	Copper (%)	Silver (%)
SC4	CPM 124	3–7	6.73	93.27
SC5	CPM 124	3–7	45.78	54.22
SC6	CPM 124	3–7	33.56	66.44
SC7	CPM 124	3–7	33.37	66.63
SC8	CPM 124	3–7	46.32	53.68
SC9	CPM 124	3–7	40.66	59.34
SC10	CPM 154	3–7	49.5	50.5
SC11	CPM 209	3–7	40.85	59.15
SC12	CPM 209	3–7	3.27	96.73
SC14	CPM 352	9–14	83.23	16.77
SC15	CPM 352	9–14	51.69	48.31
SC16	CPM 352	9–14	44.3	55.7
SC17	CPM 352	9–14	34.03	65.97
SC18	CPM 352	9–14	26.28	73.72
SC19	CPM 357	3–7	65.6	34.4
SC20	CPM 475	3–7	73.77	26.23
SC24	CPM 495	9–14	86.58	13.42
SC25	CPM 502	9–14	63.73	36.27
SC27	CPM 527	3–7	11.16	88.84
SC28	CPM 527	3–7	42.5	57.5
SC37	CPM 588	9–14	91.14	8.86
SC39	CPM 591	9–14	54.57	45.43
SC40	CPM 591	9–14	54.52	45.48
SC43	CPM 591	9–14	54.16	45.84
SC44	CPM 591	9–14	58.76	41.24

Table 7.23: averaged composition of the re-normalised results.

	Copper	Silver	Standard Deviation
3–7mm (13)	37.93	62.07	±20.98
9–14mm (12)	58.58	41.42	±20.06
All (25)	47.84	52.16	±22.71

of both the silver-copper pellets in the 3–7mm group, and then mixed with gold to produce the ternary alloy pellets in the 9–14mm moulds.

Alloy to hole-size distribution

When looking at the compositional data against the hole base diameter groupings presented by Landon, a clear pattern emerges. The compositional data suggests that larger pellets of ternary gold alloys and small pellets of silver-copper were being produced from the moulds. Apart from a single outlier, prills containing gold were found exclusively within the 9–14mm group (Fig. 7.23). The outlier prill belongs to CPM 495, a fragment exhibiting two distinct holes sizes, and is perhaps evidence of something altogether separate to the regimented pellet size distributions seen otherwise.

The fact that the gold alloy is exclusive to the larger mould group is significant, as it matches similar observations reported in previous studies (Collis 1985; van Arsdell 1989, 47). The presence of so many silver-copper prills within the larger holes can be explained as being the result of gold's fundamental elemental stability. When melting an alloy of ternary composition, it is not unlikely that the silver and copper will wet the surface of the moulds without leaving a trace of the gold component. This is supported by the fact that both ternary and binary prills are observed within the same fragments (SC39–44, for example). Although this is the most likely explanation, there may also be evidence of a larger silver-copper pellet being produced in the same moulds as gold alloy pellets, although this is harder to prove, particularly given the small dataset.

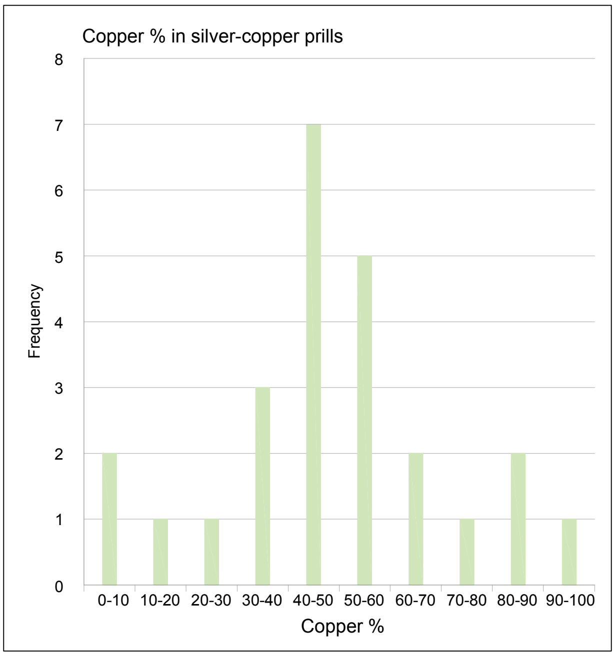

Figure 7.22: histogram of the copper percentage in the silver-copper prills, highlighting a normal distribution of the data.

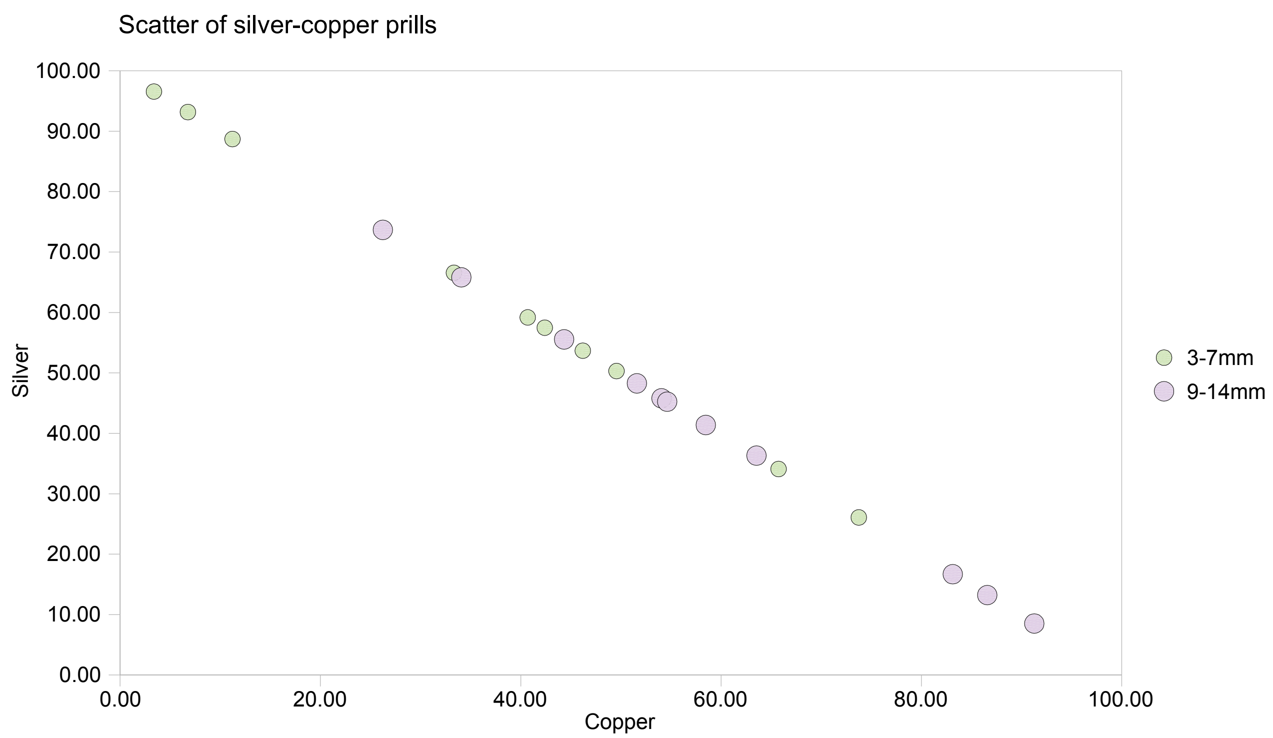

Figure 7.21: scatter plot of the silver-copper prills' compositions.

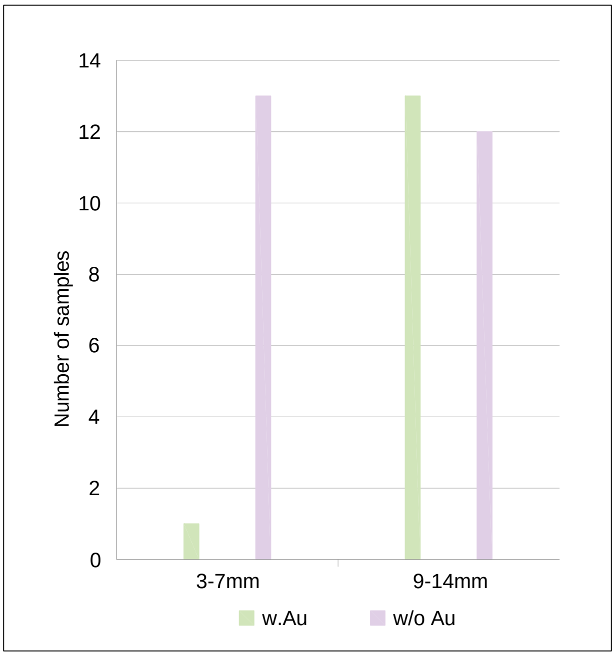

Figure 7.23: distribution of prill alloy compositions against the hole base diameter groups presented by Landon in his discussion of the holes. Note that all but one instance of gold alloy (w. Au) were found exclusively in the 9–14mm group.

Discussion of multiple-use pellet moulds is very much in its infancy and requires further study.

Pellet use

In the 1980s, a key debate within the emerging field of pellet mould studies focused on the intended use for the pellets produced in the moulds and is colloquially referred to within the literature as the 'Casey–Collis' debate (Robbins and Bayley 1997, 66). Since their earliest recorded discovery, pellet moulds have been linked to the production of Iron Age coinage, but the argument is often presented as fact rather than critically discussed. In 1983, John Casey declared his support of a study by Sellwood (1980), which drew attention to the mismatch between the volume of known pellet mould holes and the volume of predicted coinage in circulation. This led Sellwood to conclude that pellet moulds were not being used for coin production. His alternative interpretation was that pellets of a specific copper alloy/bronze were being made for use in the production of mirrors and other artefacts. This is verifiably not the case for the Scotch Corner moulds, as it has been shown the pellets produced in these moulds were not of a copper alloy/bronze composition (though copper is a component). Sellwood's model has since been challenged by subsequent discoveries of both moulds and coinage, although support for non-coin-related pellet manufacture has continued to appear, e.g. Casey (1983), Haselgrove (1987; 2017), and more recently from Gruel *et al*. (2015) regarding the near Continent.

Collis countered Casey's support for Sellwood's work in 1985 arguing that, despite the absence of a direct link, analytical and circumstantial evidence suggested coinage is still the best hypothesis for the use of pellets to date. Additionally, in discussing the Old Sleaford moulds, Robbins and Bayley (1997, 66) draw attention to the scarcity of silver-alloy artefacts other than coinage in the Late Iron Age (though silver brooches may have been more common than now appears the case (C. Haselgrove pers. comm.). Collis's argument still rings true to this day and has been supported in many subsequent works (Robbins and Bayley 1997; Landon 2016; Herzman and Townsend 2018). In the case of Scotch Corner, the data regarding the gold-silver-copper alloy can be taken further in considering use.

Ternary precious-metal alloys produced in the Late Iron Age occur within a limited range of artefacts types, the two main groups being coinage (gold staters and divisions) and adornments (torcs, bangles, etc.). In order to assess pellet purpose, the moulds must be considered against contemporary examples. This has been done by comparing the gold-alloy prill data against Late Iron Age artefacts of similar ternary composition (Fig. 7.24).

As Figure 7.24 shows, there is clear interconnectedness in the compositions of both artefact types, and the close associations are suggestive of the intended use for pellets produced from these moulds. However, there is much to consider. It should be remembered that the average value extrapolated from the gold-alloy residues in the Scotch Corner fragments has a high degree of variance (Table 7.21), and that the taphonomic processes following deposition have undoubtedly affected the chemical composition. An increase in the copper content (and to a lesser extent silver) will bring the average down the graph (Fig. 7.24) in a south-easterly direction towards the later examples of Iron Age coinages (c.20BC to c.AD40; Creighton 2000, 224).

As most artefacts within these two categories are from hoards, dating can be difficult and often relies on the *terminus post quem* of the artefacts in the assemblage (the earliest possible date of production attributable to the latest object in a given assemblage). The contemporaneity of the data plays a key role in pellet interpretation, as pellet manufacture peaked at Scotch Corner in the earlier 1st century AD, while the majority of torc-bearing hoards tend to have deposition dates in the 1st century BC: Ken Hill, Snettisham hoards c.70BC (Stead 1991, 455); the Ipswich gold torcs c.75BC (Owles 1969, 210); or 2nd century AD: the Snettisham Roman jeweller's hoard c.AD150 (Johns 1997). Towards the end of the Late Iron Age, copper and silver were increasingly used to debase the gold content in artefacts, with torc alloys dropping to below 25–30% gold (Northover 1992, 275). It should also be noted that two-thirds of the Snettisham hoards (A–L) were characterised as copper-based alloys, with Northover taking this further and arguing that the Snettisham smiths may have been unable to access the new 'red gold' alloy composition that the contemporary Iceni coinage had begun utilising for their coinage (*ibid*., 275–6).

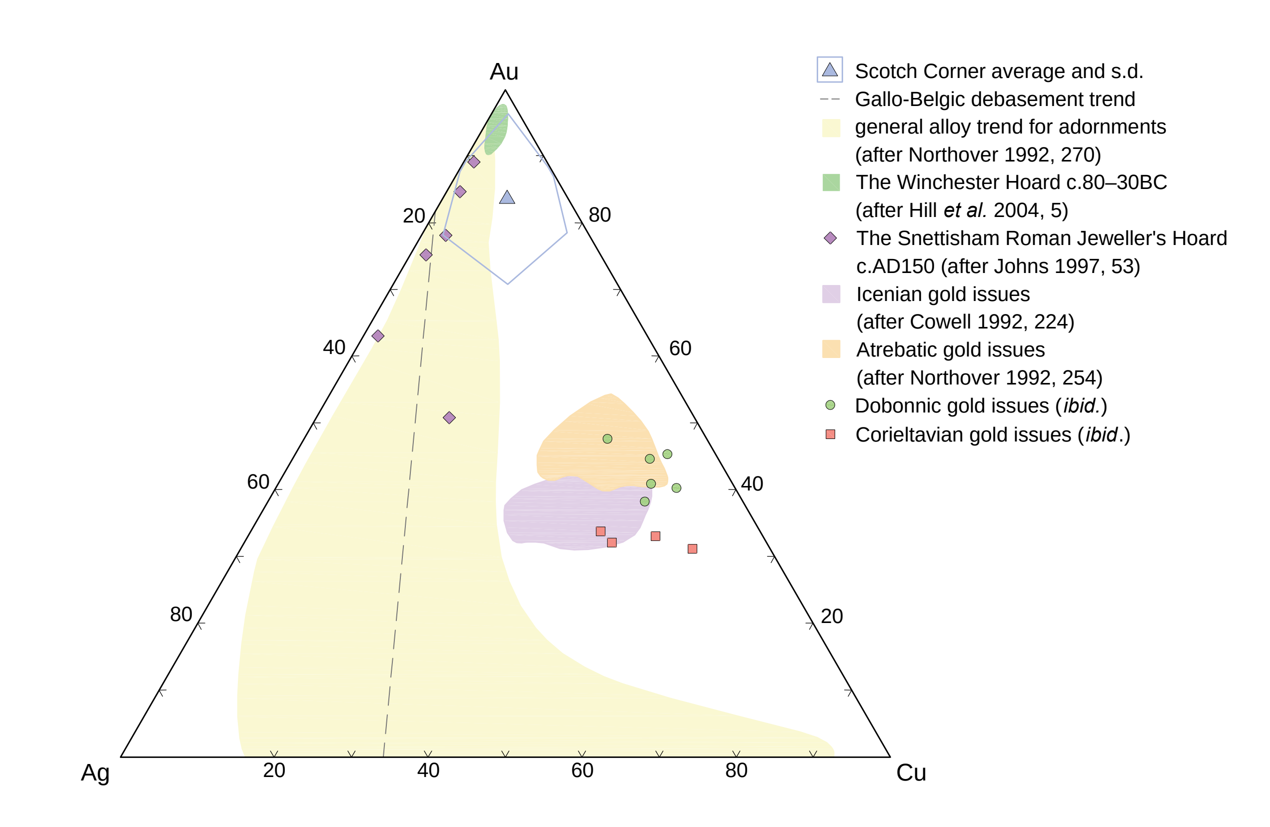

Figure 7.24: the Scotch Corner average gold-alloy prill composition against various coin types and artefact hoards. The standard deviation of the average has been mapped to give a visual aid to understanding the variance in the Scotch Corner dataset (discussed in text).

Evidence for production of Iron Age coinages continues to remain elusive, except where an artefact type, such as pellet moulds, offer a simplistic interpretation for a production model of controlled small pieces of valuable alloy. On the other hand, trends in the discussion surrounding the production of adornments have often considered the resources and production that goes into their creation, something that coinage is yet to experience. It has long been accepted that coins were often recycled for their precious metal content into other artefact types (Stead 1991, 462; Northover 1992, 269–76; Hill *et al*. 2004, 4–6). Amongst other examples, torcs on the near Continent from Montans and Civray are thought to be produced from recycled staters (Eluère 1987, 36), while Hoard F at Snettisham contained a sectioned Gallo-Belgic stater in association with deposited torcs and scrap metal (Stead 1991, 462). The recent Le Câtillon II hoard, in which silver ingots and items of jewellery were discovered alongside approximately 70,000 Iron Age coins (Waterhouse 2016) and the Shorwell hoard in which 157 Iron Age coins were discovered alongside three silver ingots also lend support to the debate. In the case of the Shorwell hoard, one silver ingot was noted to have a 'coin-like slot' in the surface where a coin failed to melt fully into the ingot (Rudd 2006, 33) and analyses suggest that the ingots were manufactured from Durotrigan silver staters (De Jersey 2014). Though in this instance the purpose may not have been recycling, the ingots do present proof of process.

While the ideas presented here do not provide a definitive and exclusive model for the processing of pellets into coinage, the model does highlight the fact that coinage has often been considered a raw resource in the production of other artefact types, and we must therefore consider the earlier stages in this interconnected production line, and how these Late Iron Age coinages came to be created in the first instance.

Most of the 'industrial' zone of the Scotch Corner settlement was not excavated, so a full estimate of the scale of industrial activity cannot yet be made. The evidence is not yet sufficient to support the claim that manufacture of pellets and/or subsequent minting of coinage took place there during the settlement's lifespan. Furthermore, the scarcity of Iron Age coinage at Scotch Corner and surrounding sites (Melsonby, Stanwick and Piercebridge) gives little support to such a model (see Haselgrove 2016, 182–4). New evidence from Braughing hints at the possibility of pellet moulds being curated beyond their practical use. The Braughing assemblage comprises a collection of moulds that may represent different instances of production, possibly from different locales, being brought together to a single location for deposition. It is not beyond the realms of possibility that the Scotch Corner moulds follow a similar pattern. Rather than Scotch Corner being a site for coin minting in Iron Age northern England, it could potentially be argued that the moulds were never used at Scotch Corner and that this was merely the location of their final deposition.

Final remarks

In the authors' opinion, as pellet mould studies continue to develop and datasets increase, the view that these artefacts are intrinsically linked to minting coinage will prove to be correct. However, knowledge of Iron Age coin composition is still woefully inadequate. Most analyses of Iron Age coins have been non-destructive, because of rarity and art-market value, resulting in data of questionable accuracy. A small hoard of seven Iron Age gold staters has been analysed by SEM-EDS after carefully abrading a small area on the edge of each coin. The compositions were found to be lower in gold and silver and higher in copper than previously published results for the same coin types obtained by standard non-destructive methods (Ponting *et al*. 2017); thus, the available analytical data for Iron Age coin compositions themselves need to be used with caution. Nevertheless, the published chemical compositions can be used to give an approximate idea of the sorts of alloys that were used. The alloy types identified by the quantitative EDS analyses of the metal prills trapped within the ceramic moulds are clearly consistent with what is known about the alloys used to make Iron Age coins of various types. Perhaps crucially, these specific alloy recipes are rarely found in any artefact types other than coins and although it is not possible to calculate the exact compositions of the pellets produced in the moulds from the analyses of the remaining prills, these new data are robust enough to allow the identification of broad alloy categories and estimates of probable compositions. Furthermore, the growing body of evidence for specific alloys matching the observed mould size distributions is convincingly like the patterns observed amongst the denominations of ancient Iron Age coinage and can no longer be regarded as mere coincidence.

As the first occasion on which the use of the Landon coin mould recording protocol has been properly integrated with cutting-edge SEM and SEM-EDS technology, the results have far exceeded the most optimistic expectations. The agreement between the metallurgy and the gross morphology enables, for the first time, speculation about the socio-economic environment in which the moulds were used that is firmly rooted in hard data.

Table 7.24: details of the CPM samples analysed.

Sample ID	Field	Context	RF no.	Weight (g)
SCP1	246	24146	11450	0.835
SCP2	246	24069	10179	0.599

The results appear to demonstrate that the moulds were manufactured for specialists to carry out work for at least two commissioning bodies.

METALLURGICAL ANALYSIS OF TWO 'COIN PELLETS'

Jake Morley-Stone

On top of the substantial deposits of pellet moulds discovered at the site, two 'pellets' of metal were recovered and sent for metallurgical analysis: Cat. nos 885 and 686. Cat. no. 885 is best described as a small lump of corroded copper-rich metal (due to green colouration), while Cat no. 686 is a sub-rounded spheroid of alloyed metal. On preliminary observation, the 'pellets' are distinctly dissimilar in morphology and may not both represent 'pellets' from a pellet mould. Due to project limitations, an in-depth analysis of the compositions was not possible; however, qualitative SEM-EDS data from the surfaces of the pellets were recorded and are presented below.

As Tables 7.24 and 7.25 show, both samples contained notable amounts of precious metals. Aluminium, silicon and calcium were also recorded, but were considered residue from the surrounding soils and disregarded. Based on the available data, a distinct conclusion for each sample can be deduced.

Sample SCP2, the copper lump, appears to be just that. No traces of silver or gold, nor tin or zinc were observed in the spectra, and the high iron content on the surfaces may also be attributed to the soil environment, leading to the conclusion that Cat. no. 885 is likely to be a miscellaneous lump of debris from a copper-working episode at the site. Destructive analysis may identify the alloy constituents below the corroded surface; however, it is unlikely this debris represents a pellet produced from a pellet mould.

The surface analysis of SCP1 (Cat. no. 686, see Chapter 6) returned promising results, highlighting a ternary alloy of gold, silver and copper. When compared to the data in Figure 7.24, the composition would be placed firmly in the Iron Age coinage grouping and away from compositions associated with jewellery and adornments. While tantalising, it must be remembered that the data here represents the exposed surface of the pellet and is qualitative in nature. Further research will be necessary to ascertain the true composition of the pellet. Following this, comparisons can then be made against the SEM-EDS results from the pellet mould analysis, and to compositional data available of Iron Age coinages. The discovery of this pellet represents

Table 7.25: normalised SEM-EDS results from surface analysis of the samples.

Sample ID	Gold (%)	Error (%)	Copper (%)	Error (%)	Silver (%)	Error (%)	Iron (%)	Error (%)	Total (%)
SCP1	42.18	0.7	39	0.6	18.82	0.3	–	–	100
SCP2	–	–	31.22	0.7	–	–	68.78	1.3	100

a unique opportunity to bridge the data gap between pellet moulds and the coins they are argued to have helped produce.

Catalogue

885. Small lump of corroded copper-rich metal. Field 247; Context **24069**; fill of French drain; medieval or post-medieval; RF10179. Not illustrated.

OTHER NON-FERROUS METALWORKING ANALYSIS

R. G. Mackenzie

Approximately 2kg of residues thought to relate to non-ferrous metal manufacturing were recovered from the fields excavated at Scotch Corner. The assemblage is made up of the following range of materials: 39g of metal, 153g of slag, and 1.6kg of fired clay. The latter includes a small number of fragments of crucible and possibly casting moulds. It is noted in the ferrous metalworking section that a large part of the overall metalworking assemblage (c.19.5kg) consists of fragments of oxidised orange-red fired clay that are devoid of obvious residues that are indicative of metal production. It is possible that the fragments of clay could be from hearths, ovens, kilns or other features not necessarily associated with metal production.

The strongest evidence of non-ferrous metal manufacturing was recovered from Fields 246 and 258, with a concentration in the 'industrial area' of Field 246 (Fig. 2.48), although it is worth noting that this evidence was recovered from secondary contexts, such as the fills of pits and ditches. During assessment, various pieces in the assemblage were identified as having potential for metallurgical and/or chemical analysis. These pieces include fragments of corroded copper alloy and technical ceramics, such as possible fragments of crucibles and/or casting moulds. The pieces selected for analysis are listed in Table 7.26.

Analysis

The main aim of the analysis was to investigate what range of non-ferrous metals were being worked and, if possible, explore whether these were connected with the manufacture of coin pellets. A second aim was to investigate some of the fragments of possible casting moulds identified at assessment to try and confirm whether they are related to casting of metals.

The approach to analysis varied depending on the type of material and state of its preservation. X-ray fluorescence (XRF) was used for analysis of some metal fragments, as it is an established method, used by Dungworth (1995) in his comprehensive study of Iron Age and Roman copper alloys from northern Britain. Prior to the assessment of the assemblage by the author, several non-ferrous metal items had been submitted for indicative XRF analysis at Durham Archaeological Research Consultancy (DARC); the results are shown in Table 7.27. The identification of the alloys follows Dungworth (1997).

As a technique for determining the average chemical composition of a metal object, XRF has limitations, the main one being that it only analyses the surface layer; although this can be mitigated by cleaning patination or corrosion from the surface being analysed, there are other limitations that make it unsuitable for some types of artefact. These limitations are discussed in more detail by Pollard and Bray (2014, 217–21).

As XRF is not well suited to detecting and analysing microscopic traces of metal on or embedded within the surface of refractory ceramics, a Scanning Electron Microscope with energy dispersive X-ray analyser (SEM-EDS) was used for exploratory analysis of crucibles and possible mould fragments to look for metallic residues on their inner surface and, if found, determine their composition.

The fragments of copper alloy analysed varied in both size and condition. While XRF could be used on prepared areas of the more robust, less corroded items, smaller pieces, such as the corroded fragments (Cat. no. 898) from Field 258, industrial layer **27026** were first X-rayed to check for the presence of solid metal. The X-ray results were used to select fragments that were most likely to contain metal capable of withstanding

Table 7.26: non-ferrous artefacts selected for metallurgical and/or chemical analysis.

Field	Context	Cat. no.	Count	Weight (g)	Comments
201	11944	–	2	5	Possible fragments of metallurgical crucible
246	24082	–	1	12	Possibly fragments of crucible or mould (Note: pellet mould dump context)
246	24218	–	1	3	Possibly fragments of crucible or mould
246	31000	895	1	1	Possible non-iron slag (Note: primary pellet mould dump context)
246	31000	893	5	18	Possibly fragments of crucible or mould (Note: pellet mould dump context)
246	31000	894	2	33	Possibly fragments of crucible or mould (Note: pellet mould dump context)
258	27026	898	6	6	Possible fragments of copper-alloy manufacturing waste

Table 7.27: results of XRF analysis of Scotch Corner metals.

Field	Context	Cat. no.	Silicon	Iron	Copper	Zinc	Tin	Lead	Notes
228	27623	897	< LOD	0.061	84.907	9.630	3.749	0.759	Brass
246	15513	903	0.185	< LOD	78.214	0.162	15.365	4.769	Bronze, ingot or casting sprue
246	16278	904	0.408	0.018	83.834	3.371	6.041	4.132	Copper alloy – leaded gunmetal
246	16411	888	< LOD	< LOD	97.438	0.050	< LOD	0.309	Copper
246	24052	900	5.897	93.297	0.190	< LOD	0.161	< LOD	Copper
246	24093	901	< LOD	< LOD	86.510	0.342	9.011	1.847	Bronze
246	24093	901	0.167	0.027	79.695	16.869	0.360	0.113	Brass
246	24265	891	< LOD	0.151	83.184	1.578	11.297	1.174	Bronze
* all elemental values given as weight %. ** Below Levels of Detection abbreviated <LOD									
Identification of alloys follows Dungworth (1997)									

preparation for analysis. The selected pieces were encapsulated in cold setting resin before being sent to DARC for analysis. At DARC, the mounted pieces were ground and polished using established methods (Vander Voort 1999). Due to the small size of the areas of solid metal in the corroded pieces, the composition of the metal was obtained using SEM-EDS. The results of the SEM-EDS analysis are shown in Table 7.28.

Interpretation of results

The exploratory SEM-EDS analysis did not find any metallurgical deposits on the inside surface of any of the crucible fragments and potential casting moulds analysed. The potential casting mould fragments were small and abraded, with only indistinct depressions, possibly where thin strips of metal had been cast. Parts of the surface of some fragments were blackened, suggesting exposure to a reducing atmosphere/or possibly soot. None of the fragments of fired clay have impressions of complex-shaped artefacts, such as brooches or horse fittings. As no traces of metal were found on the surface of the possible mould fragments, their interpretation remains provisional at best.

Field 228 produced one 2g fragment of brass (Cat. no. 897) from fill **27623** (Period 2–4) and two fragments of undiagnostic metallurgical slag weighing 83g from fill **27637** (Period 4); these contexts are recorded as ditch fills.

The metal finds from Field 246 largely consist of small undiagnostic fragments that could be offcuts or scraps of metal from manufacturing stages. The XRF analysis revealed that they were composed of either bronze, brass or leaded gunmetal (see Table 26).

The most interesting metal find from Field 246 is the cone-shaped bronze fragment (Cat. no. 903) from fill **15513**. Although **15513** is thought to be a plough furrow dating from the medieval to post-medieval period, it is possible that Cat. no. 903 is earlier in date and had been redeposited by the later ploughing (see Chapter 3). The shape of the bronze object is a very close match to the internal shape of one of the crucibles (Cat. no. 892) from Field 246, fill **24886** of ditch **24081**, and ingots produced by allowing the metal to cool within crucibles is mentioned by Farley (2012, 109).

Analysis of the fragment of possible metallurgical slag from Field 246, fill **31000** of ditch **31017** (Cat. no. 896), suggests that it is unlikely to relate to the production of metal and it may be a type of fuel ash residue.

Approximately 60 corroded copper-alloy prills/scraps (Cat. no. 898) were extracted from 40 soil samples taken from a 3m by 2m grid (industrial layer **27026**) on the south-eastern boundary of the enclosure in Field 258 (see Chapter 3, Fig. 3.28). Six prills were selected

Table 7.28: results of the SEM-EDS analysis of slag (Cat. no. 896) from context 31000. Entries in the table marked '– ' equal 'not detected'.

Cat. no. 895	MgO	Al2O3	SiO2	P2O5	K2O	CaO	FeO	TiO2	SrO
Area 1	–	6.818	15.48	33.375	0.463	38.678	1.65	–	–
Area 2	–	8.521	18.634	31.718	0.934	35.788	2.292	–	2.113
Area 3	–	8.333	14.704	31.098	1.408	36.298	2.146	2.18	–
Area 4	5.427	14.907	32.362	6.533	3.568	5.302	31.059	0.843	–
Area 5	–	5.728	5.163	13.029	–	4.894	71.186	–	–
Average	5.43	9.66	17.41	16.89	2.49	15.50	34.80	1.51	
Standard Deviation	–	4.73	13.80	12.73	1.53	18.01	34.67	0.95	–

for SEM-EDS analysis, which revealed that they were all composed of copper, with no traces of elements used in the production of bronze or brass. The soil samples also contained approximately 90 small pieces of corroded copper-alloy production residues weighing 19g.

Catalogue

886. Unidentifiable copper-alloy object, possibly casting waste. Field 246; Structure 56; Group **31216**; Context **16103**; fill of penannular gully **15609** in structure; Period 1; RF14541. Not illustrated.

887. Two ceramic fragments; possibly part of a mould or hearth lining. Field 246; Group **31206**; Context **24769**; seventh fill of ditch **24760**, primary pellet mould; Period 1–2; RF11594. Not illustrated.

888. Small lump of corroded copper-alloy metalworking debris. Field 246; Context **16411**; secondary fill of ditch **16410**; Period 2; RF11545. Not illustrated.

889. Incomplete ceramic crucible. Field 246; Structure 47iv; Group 31276; Context **24640**; primary fill of penannular ditch **24982** in structure; Period 2; RF11556. Not illustrated.

890. Two fragments of non-ferrous industrial waste. Field 246; Context **15896**; secondary fill of gully **16202**; primary pellet mould dump; Period 2; RF15299. Not illustrated.

891. Fragment of copper alloy metalworking debris. Field 246; Group 31283; Context **24265**; secondary fill of ditch **24309**, primary pellet mould dump; Period 2–3; RF11463. Not illustrated.

892. Ceramic crucible. Field 246; Context **24886**; fourth fill of ditch **24081**; Period 2–3; RF14011. Not illustrated.

893. Possible fragments of a crucible or mould. Field 246; Context **31000**; eighth fill of ditch **31017**; Period 2–3; RF12926. Not illustrated.

894. Possible fragments of a crucible or mould. Field 246; Context **31000**; eighth fill of ditch **31017**; Period 2–3; RF12916. Not illustrated.

895. One fragment of non-ferrous slag. Field 246; Context **31000**; eighth fill of ditch **31017**; Period 2–3; RF12913. Not illustrated.

896. Fragment of copper-alloy casting waste. Field 246; Context **31000**; eighth fill of ditch **31017**; Period 2–3. Not illustrated.

897. Globular piece of copper-alloy metalworking debris. Field 228; Group **28435**; Context **27623**; primary fill of ditch **27621**; Period 2–4; RF12809. Not illustrated.

898. Sixty corroded fragments of copper-alloy metalworking debris or prills. Field 258; Context **27026**; industrial layer in north east of field; Period 2–4; RF14562. Not illustrated.

899. Three fragments of copper-alloy casting waste. Field 258; Context **27007**; fill of pit **27008**; Period 4; RF12521. Not illustrated.

900. Small lump of corroded copper-alloy metalworking debris. Field 246; Context **24052**; third fill of ditch **15869**; secondary pellet mould dump; Period 4; RF11467. Not illustrated.

901. Fragment of copper-alloy metalworking debris. Field 246; Context **24093**; fill of gully/wheel rut **24089**; Period 4; RF11515. Not illustrated.

902. One fragment of non-ferrous industrial waste. Field 246; Context **16280**; fill of gully **31263**; Period 4; RF11531. Not illustrated.

903. Conical copper-alloy fragment. Possibly an ingot or casting sprue. Field 246; Context **15513**; fill of plough furrow **16042**; medieval or post-medieval; RF10114. Not illustrated.

904. Two fragments of copper-alloy metalworking debris. Field 246; Context **16278**; subsoil; no Period; RF11529. Not illustrated.

905. One fragment of possible copper ore. Field 258; Context **15157**; natural drift geology clay; no Period; RF10023. Not illustrated.

Discussion

The small amount of visually diagnostic non-ferrous production materials and residues appear to relate to copper-alloy production. This is reflected in the results of the samples analysed.

At least two potential sources of copper ore exist close to Scotch Corner; one is thought to have been the quarry to the immediate west of excavated areas (Fig. 1.11; Chapter 1), while the other is at Middleton Tyas, c.1.5km east of Scotch Corner. Ore may also have been present in copper-bearing faults across the excavations and wider area (see Chapters 1–2). Some fragments of ore-bearing rock were found in the excavated areas; one 18g fragment from Field 258, fill **27226** of pit **27224**, and approximately 30g of small fragments of possible roasted limestone were recovered from soil samples from Field 258 (industrial layer **27026**). Context **27026** also contained the corroded copper prills (Cat. no. 898) mentioned above.

The presence of ore-bearing rock and the copper prills in Field 258 suggests that smelting may have been carried out in the immediate area; however, the paucity of diagnostic slag means that this suggestion is tentative. It is possible that the smelting may have been carried out at the mine sites to save transporting the ore, although more recent stone/ore extraction at both the adjacent quarry and Middleton Tyas are likely to have destroyed much, or all, of the evidence of Iron Age–Roman ore extraction at the excavation sites.

Three hearth bases were found in Field 246, but no residues were found within them to link the hearths with the production of non-ferrous metals. There were no concentrations of charcoal associated within the hearth bases, but there was a spread of charcoal across the entire industrial area of Field 246 (see Chapters 2–4).

The seven fragments of non-ferrous metal from Field 246 that were analysed included examples of brass, bronze, copper, as well as a copper alloy (Cat. no. 904), the composition of which fits with Dungworth's (1997) definition of leaded gunmetal. The range of copper alloys broadly corresponds with those discussed in Dungworth (*ibid*., 907) for the Roman period in northern Britain. The presence of a fragment of gunmetal could suggest the recycling of brass and bronze (*ibid*., 905–6).

Other evidence of non-ferrous metal manufacturing included a fragment of gold (Cat. no. 697). If pellets were being produced by re-melting pre-weighed pieces of non-ferrous metals in the pellet moulds, as suggested by Farley (2012, 111), this might explain both the fragment of gold, and possibly, the small fragments of corroded copper alloy found in industrial layer **27026** (Cat. no. 898). However, as observations gleaned from the pellet moulds themselves support the 'in situ melting' technique, such an interpretation of these scrap fragments is rendered unlikely.

One small piece of slag (Cat. no. 897) weighing 1g was analysed by SEM-EDS for its potential to relate to silver production, but no presence of silver in the fragment was detected (see Table 7.28).

A large proportion of the metal production residues assemblage consists of fragments of orange-red coloured fired clay that are devoid of any residues that are clearly diagnostic of metal production. It is worth noting that most fragments have abraded edges, although it is unclear whether this occurred pre- or post-deposition. If it did occur prior to deposition, it suggests that the fragments may have been exposed above ground for some time before being buried/disposed of.

The fired clay was recovered from secondary contexts, such as ditches and pits. Although some fragments were in the same deposits as pellet mould fragments, there is no physical evidence to link them. Parts of the surface of a few of the clay fragments are blackened, which suggests that the clay was exposed to a reducing rather than oxidising atmosphere. The methods used to produce non-ferrous metals are likely to have required a reducing atmosphere in the hearth; this could have been made easier with some sort of superstructure over the hearth to control the level of oxygen. Hammer (2003, 16–20) suggests different types of hearths that could have been used for copper-alloy casting. It is worth noting that no fragments of tuyères or associated technical ceramics were present in the assemblage.

It is possible that the fired clay originated from hearths used for metal production, but there is limited supporting evidence for this. An alternative interpretation could be that the material was from kilns or domestic hearths/ovens, where clay may have been exposed to localised reducing conditions.

The craftspeople producing the non-ferrous metals may have been 'metal-workers' manufacturing a range of metal goods, rather than specialists in either non-ferrous or ferrous metals. There is no evidence to suggest that complex non-ferrous casting techniques (i.e. investment casting) were being carried out in the areas excavated. There are a few contexts where both ferrous and non-ferrous manufacturing residues are present, such as fill **24984** of penannular gully **24988** (Structure 48iv), and it is possible that both types of metal were produced using the same hearths. However, in most cases, the ferrous residues are only present as trace levels of micro-residues. It is worth noting that small amounts of micro-residue, such as fine flake hammerscale and spheroidal hammerslag, could have been redistributed on dirty and/or muddy objects, clothing or soles of footwear.

COPPER-RICH DEPOSITS FROM FIELD 258

Lynne F. Gardiner

Forty c.300ml samples were taken from a gridded area overlying a suspected copper-ore-rich area in Field 258 at Scotch Corner. This section presents one element of their analysis.

Methodology

A grid of 0.5m spacing was overlaid on a 3m by 2m area containing copper-bearing deposits. Two contexts were represented in this grid (industrial layers **27025** and **27026**; Chapter 3, Fig. 3.28) and all the samples from points on the grid were assigned to sample code **27026AB**, with additional markers to represent their grid location (Fig. 7.25). A further five spot-samples were taken from areas that appeared to have a high concentration of copper-based material.

Prior to wet sieving, a 50ml sub-sample was taken from each sample for potential XRF analysis. The remainder of each sample was wet sieved using a 250µm sieve. The air-dried residues were then sorted for all artefacts/ecofacts using a x45 magnification stereo microscope (having been sorted through a 2mm and 1mm sieve). All data were recorded using a pro forma recording sheet, transferred onto Microsoft Excel and presented in Table 7.29.

Results

Most of the samples did not yield traces of copper. Those that did were mostly <10 fragments of ?malachite (Fig. 7.26a). However, the yield from the subjective samples (C3.1, C3.2 and C3.3) was >70 fragments of ?malachite. Directly 0.75m south of this grouping, sample A3.5 yielded five fragments of a very blue material (?azurite; Fig. 7.26b).

Other points to note

The samples from D2, D3, D3.4, D4, C3.1, C3.2 and C3.3 contained 'pink' geology (possibly cuprite/chalcotrichite; Fig. 7.26c). This was absent from all the other samples.

Fossils, particularly crinoids, which are fossilised marine organisms (Fig. 7.26d), were observed in C3.1, C3.2, C3.3, D2 and D3.4. Fossils were absent in the remaining samples.

Discussion

Copper ores exist naturally in the vicinity of Scotch Corner. Hornshaw (1975, 31) has stated that the limestone at Middleton Tyas (c.1.5km to the east) that contained the ore is near to the surface or presented as outcrops. Crinoids are common in some limestone, so may have their origins within the limestone from Middleton Tyas.

The paucity of fossils and 'pink' geology outside of the ?malachite yielding samples suggested that the ores were being brought to the area and crushed; the small fragments of ?malachite and crinoids released from the limestone were an indication of the ore/geology having been processed into smaller fragments for working. However, it is difficult to ascertain whether the copper-rich deposits originated on site—this is possible as there is limestone outcropping at Scotch Corner—or from nearby, such as Middleton Tyas, or even as far as the prehistoric copper mines in south-east Scotland or Cumbria (Bayley *et al*. 2008, 40).

The lack of charcoal in the samples also indicated that no copper smelting was occurring in the gridded area. The paucity of any artefactual material indicated that the non-copper-bearing samples may be naturally occurring geology.

FERROUS METALWORKING

R. G. Mackenzie and David Starley

Approximately 26.5kg of material thought to relate to ferrous metal manufacturing was recovered from the excavations. This includes micro-residues extracted from bulk soil samples. The strongest evidence of ferrous metal production was recovered from Gatherley Villa (Fields 200, 201, 202 and 203), with some evidence of ferrous metalworking at Scotch Corner (Fields 246, 258 and 265). There were trace levels of ferrous metal production by-products in other Fields, but these were recovered from secondary deposits.

A large part of the assemblage (19.4kg) consisted of fragments of oxidised orange-red fired clay. Almost all the fragments of fired clay were devoid of any diagnostic residues or morphology indicative of ferrous metal production.

Analysis

The material was visually examined using a x5 magnification hand lens and a magnet. Where relevant, fresh fracture surfaces were examined, and geological streak tests carried out. Metallurgical micro-residues, such as flake hammerscale and spheroidal hammerslag, were sorted from bulk soil samples and quantified by context.

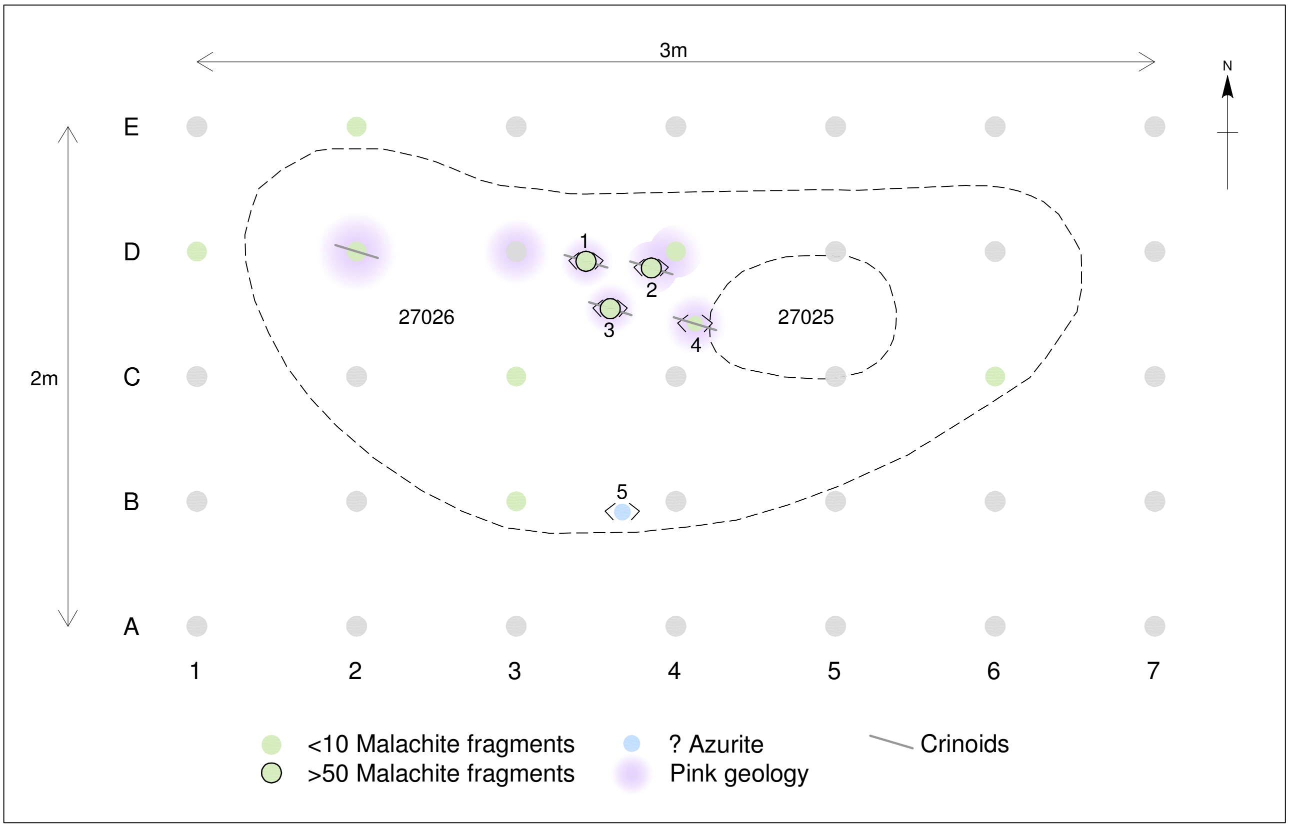

Figure 7.25: plot of the copper-based finds.

Table 7.29: details of the samples taken from copper-rich deposits in Field 258.

Sample no.	Colour	Texture	Lithology	Weight (g)	Volume (ml)	Components	Sub-sample weight (g)	Sub-sample volume (ml)	Copper ores (fragments)	Pink geology	Fossil	Finds
A1	mid-yellowish brown	loose	silty sand	250	150	stone<1cm 20%: sand 80%	47.8	30	–	–	–	EWC (1)
A2	mid-brown	loose	silty clay	258	250	stone>1cm 5%: stone<1cm 15%: sand 80%	86.9	60	–	–	–	–
A3	mid-brown	loose	sandy silt	251	200	stone>1cm 10%: stone<1cm 20%: sand 70%	111.6	70	–	–	–	
A3.5	dark brown	friable	clayey silt	930	500	stone<1cm 20%: sand 80%	42.7	35	5 (very blue)	–	–	–
A4	mid-brown	loose	clayey silt	229	150	stone>1cm 5%: stone<1cm 15%: sand 80%	105.4	75	–	–	–	–
A5	mid-brown	loose	silty sand	242	150	stone>1cm 5%: stone<1cm 25%: sand 70%	77.2	55	–	–	–	–
A6	pale brown	loose	sandy silt	267	150	stone>1cm 10%: stone<1cm 20%: sand 70%	119.3	75	–	–	–	–
A7	pale yellowish brown	loose	silty sand	221	150	stone>1cm: stone<1cm 20%: sand 70%	57.2	45	–	–	–	–
B1	mid-brown	loose	clayey silt	262	200	stone<1cm 20%: sand 80%	98.9	60	–	–	–	–
B2	mid-brown	crumbly	sandy silt	272	250	stone<1cm 10%: sand 90%	96.1	60	–	–	–	–
B3	mid-brown	loose	sandy silt	235	200	stone<1cm 10%: sand 90%	47.6	30	1	–	–	–
B4	mid-brown	loose	silty sand	292	175	stone>1cm 5%: stone<1cm 25%: sand 70%	119.6	70	–	–	–	–
B5	dark brown	loose	sandy silt	232	200	stone>1cm 5%: stone<1cm 15%: sand 80%	81.3	55	–	–	–	–
B6	mid-brown	loose	silty sand	256	150	stone>1cm 5%: stone<1cm 15%: sand 80%	105.5	70	–	–	–	–
B7	dark brown	loose	clayey silt	228	200	stone<1cm 10%: sand 90%	41.5	30	–	–	–	–
C1	mid-brown	Sticky	silty clay	205	300	stone>1cm 5%: stone<1cm 15%: sand 80%	58.5	50	–	–	–	–
C2	mid-brown	Sticky	sandy clay	209	300	stone<1cm 10%: sand 90%	39.3	35	–	–	–	Industrial waste/fuel? (1)
C3	dark brown	friable	sandy clay	225	175	stone<1cm 10%: sand 90%	25.9	20	3	–	–	–
C3.1	dark brown	friable	clayey silt	189	150	stone>1cm 5%: stone<1cm 15%: sand 80%	59.2	50	83	yes	yes	–
C3.2	dark brown	sticky	clayey silt	191	150	stone>1cm 5%: stone<1cm 15%: sand 80%	52.5	40	78	yes	yes	Bone (1)
C3.3	dark brown	sticky	clay	166	100	stone<1cm 20%: sand 80%	40.4	25	136	yes	yes	–
C4	mid-brown	sticky	Silty clay	272	300	stone>1cm 5%: stone<1cm 15%: sand 80%	45.1	30	–	–	–	–
C5	mid-brown	sticky	silty clay	272	200	stone<1cm 10%: sand 90%	54	40	–	–	–	–

Table 7.29: details of the samples taken from copper-rich deposits in Field 258 (continued).

Sample no.	Colour	Texture	Lithology	Weight (g)	Volume (ml)	Components	Sub-sample weight (g)	Sub-sample volume (ml)	Copper ores (fragments)	Pink geology	Fossil	Finds
C6	dark brown	sticky	silty clay	197	200	stone<1cm 10%: sand 90%	51.8	50	3	–	–	–
C7	mid-brown	loose	sandy silt	231	150	stone>1cm 10%: stone<1cm 20%: sand 70%	90.1	55	–	–	–	–
D1	mid-brown	loose	sandy silt	237	150	stone>1cm 5%: stone<1cm 15%: sand 80%	52.3	30	1	–	–	–
D2	dark brown	sticky	silty clay	219	175	stone,1cm 20%: sand 80%	28	25	1	yes	yes	–
D3	dark brown	sticky	clay	217	200	stone>1cm 5%: stone<1cm 25%: sand 70%	28.7	25	–	yes	–	–
D3.4	dark brown	sticky	clay	246	300	stone<1cm 20%: sand 80%	28.5	25	8	yes	yes	–
D4	dark brown	sticky	clay	205	150	stone>1cm 10%: stone<1cm 30%: sand 60%	23.3	25	2	yes	–	–
D5	dark brown	sticky	silty clay	246	200	stone>1cm 5%: stone<1cm 15%: sand 80%	68.3	50	–	–	–	–
D6	mid-brown	loose	silty sand	220	150	stone>1cm 5%: stone<1cm 15%: sand 80%	51.4	30	–	–	–	–
D7	mid-brown	loose	silty sand	253	175	stone>1cm 5%: stone<1cm 25%: sand 70%	126.6	75	–	–	–	–
E1	mid- to dark brown	friable	sandy silt	266	200	stone>1cm 10%: stone<1cm 20%: sand 70%	131.4	90	–	–	–	–
E2	dark brown	friable	clayey silt	209	150	stone<1cm 10%: sand 90%	46.6	35	1	–	–	–
E3	dark brown	sticky	silty clay	253	150	stone<1cm 20%: sand 80%	35.2	25	–	–	–	–
E4	mid-brown	loose	sandy silt	241	150	stone>1cm 10%: stone<1cm 30%: sand 60%	97.3	55	–	–	–	–
E5	mid-brown	loose	sandy silt	246	200	stone>1cm 10%: stone<1cm 30%: sand 60%	114.6	110	–	–	–	–
E6	dark brown	friable	clayey silt	239	150	stone>1cm 10%: stone<1cm 20%: sand 70%	118	70	–	–	–	–
E7	mid-brown	loose	sandy silt	230	150	stone>1cm 10%: stone<1cm 20%: sand 70%	90.3	65	–	–	–	–

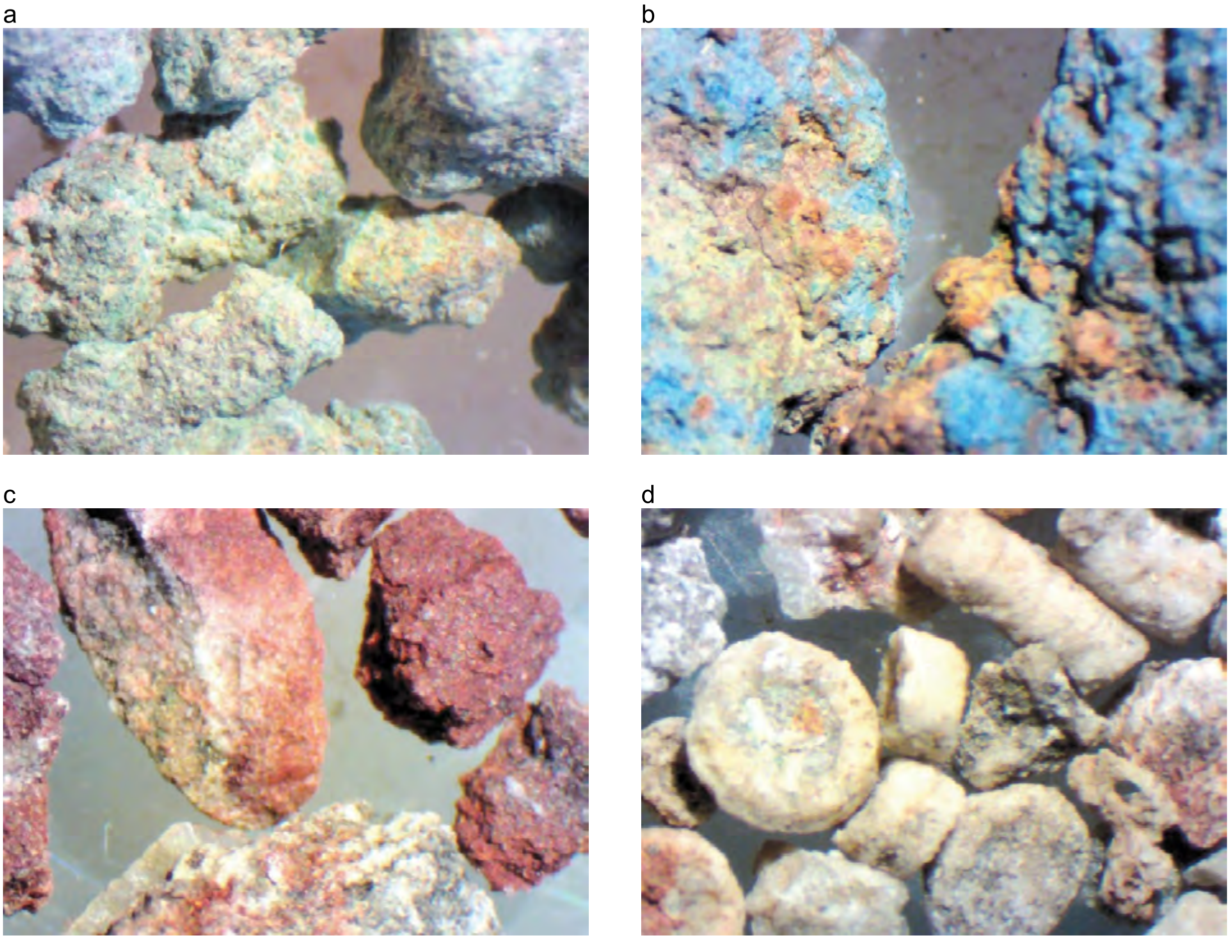

Figure 7.26: ores and geology (at x45 magnification) a) ?malachite, b) ?azurite, c) 'pink' geology (?cuprite/ chalcotrichite), d) crinoids.

For brevity, flake hammerscale are referred to below as flakes and spheroidal hammerslag is referred to as spheres.

The various types of macro slag in the assemblage were quantified and categorised using the following process descriptors: iron smelting, iron smithing, undiagnostic metalworking (i.e. could relate to either ferrous or non-ferrous metal production), fuel ash slag or undiagnostic slag, with the latter potentially including the by-product of other manufacturing processes such as pottery making, glass making. etc. An overview of the assemblage is given in Table 7.30.

The results are presented first by area and then by Period. They are then considered as they relate to specific structures and feature groups.

Gatherley Villa

The assessment of ferrous metal manufacturing residues from Gatherley Villa was carried out by Starley (2017) and the interpretation section of his report is included below. The first-named author has reviewed the residues and agrees with Starley's findings. The iron manufacturing residues at Gatherley Villa were found in Period 1 contexts.

Examination of the 6kg of debris from Fields 201 and 202 on the east side of Dere Street revealed clear, if limited-scale, evidence for iron smithing particularly in the form of a smithing hearth bottom and hammerscale. Further evidence associated with this suggested that the smelting of iron had also been carried out. A block of slag, unexpectedly large for smithing, was considered to be a furnace bottom. The evidence for smelting was supported by large, robust, fragments of fired clay, some of which indicated heating under reducing conditions and significant quantities of fayalitic run slag. Given the coinciding location of these two groups of material, it would seem likely that the smithing was undertaken to consolidate a bloom of iron from the furnace. The frequent presence of spheroidal rather than flake hammerscale supports this activity rather than the forging of artefacts. Concentrations of fired, iron-rich granule-like stone may be associated with the smelting, but whether these are roasted ore fines or debris from incidentally heated rock is unclear, as similar material is also present, albeit in far smaller quantities, elsewhere from the excavations. There was no evidence for the smelting or working of metals other than iron.

Pit **11938**, from which the bulk of the debris was recovered, may have originally been dug to incorporate the base of a furnace, although the debris did not appear to be undisturbed and in situ. The similarity of the slag from this feature with that from ditch terminus **11945** and a feature identified as a posthole (**11904**)

Table 7.30: an overview of the ferrous metalworking assemblage.

Field	Fired clay		Metal		Smelting		Smithing		Metallurgical		Undiagnostic		Hammerscale	
	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)
197	–	–	–	–	–	–	–	–	–	–	–	–	4	–
201	20	1271	–	–	2	2694	1	19	19	1695	18	149	74	–
202	–	–	–	–	–	–	–	–	1	7	1	5	1	–
219	–	–	–	–	–	–	–	–	–	–	–	–	3	–
220	15	212	–	–	–	–	–	–	–	–	–	–	1	–
223	85	1144	–	–	–	–	–	–	–	–	1	0	2	–
228	65	622	–	–	–	–	7	90	6	32	1	0	10	–
229	4	51	–	–	–	–	–	–	–	–	–	–	6	–
246	493	4236	–	–	–	–	9	394	12	531	12	163	122	–
258	1089	8837	6	10	–	–	–	–	11	152	3	0	162	–
265	127	2852	1	46	–	–	1	237	18	483	12	152	313	–
267	12	261	–	–	–	–	1	48	1	178	1	2	2	–

suggests that the three features all relate to an episode of iron smelting, which may precede the construction of Structure 66. However, this relationship is based only on the drip gully of the roundhouse cutting the pit, which was not entirely clear (see Chapter 2). A photograph of the supposed posthole shows heat-reddening of its lip, raising the possibility that this also had some heating function, again just possibly the base of a hearth or furnace. The identity and forms of this or these furnaces is not conclusive, but the evidence of the debris suggests a non-tapping type where the slag descended into a basal void rather than being tapped from the front of the furnace, as later Iron Age and most Roman furnaces tended to be.

It should be stressed that the quantity of debris present was small, less than might be expected from a single smelting operation. This may be due to the lack of stratified deposits, particularly working floors, or because other material lay to the east of the pit, beyond the limits of the excavated area. However, based only on the amount of material recovered, iron production does not appear to have been a major economic activity for the inhabitants of the settlement.

Scotch Corner

The evidence of ferrous metal manufacturing in Fields 220, 223 and 229 consisted of micro-residues, and these were present in trace amounts only (i.e. less than six pieces). Thirteen pieces of micro-residues relating to iron smithing were found in Field 228, as well as a 90g fragment of possible smithing hearth slag. The latter was recovered from the secondary fill of ditch **27633**.

Field 267a produced two fragments of undiagnostic metallurgical slag weighing 226g from fill **32449** of pit **32450** and **32205** of penannular gully **32204** (Structure 27; Chapter 3, Fig. 3.83) that date to Period 2–3; these contexts are recorded as fills of a pit and gully.

The largest quantity of diagnostic ironworking residues was recovered from Fields 246, 258 and 265. However, the sub-assemblage of diagnostic ferrous metalworking residues from Field 246 is relatively small.

Trace levels (i.e. one to three pieces) of micro-residues were present in a number of contexts spread across Field 246. Slightly elevated levels (seven flakes and eight spheres) were found in Period 2 fill **15895** of gully **16202**, which also contained two small fragments of undiagnostic slag. Small amounts of micro-residues were also found in Period 4 fill **16148** of ditch **15928** (three flakes and seven spheres), Period 3 fill **24234** of ditch **24102** (two flakes and seven spheres) and Period 4 fill **24841** of pit **24840** (11 flakes and five spheres). Nine fragments of possible smithing slag, weighing 394g in total, were recovered from Period 4 fill **24852** of ditch **24842**. One of the fragments found weighed 360g and is probably a smithing hearth bottom. The distribution and secondary deposition of ferrous metal production residues in Field 246 means that it is impossible to relate them to a relevant feature or specific area of the field; however, if taken as a whole, the type and amount of residues found is indicative of small-scale iron smithing.

Field 258 has more ferrous metal production micro-residues than any other field at Scotch Corner. There is a low level of micro-residues (i.e. one or two pieces) widely distributed over the field, and it is notable that they were all found in Period 4 contexts. There were slightly higher concentrations of micro-residues in five pit and ditch fills. The first of these, fill **15424** of pit **15423**, contained an iron ring (Cat. no. 853) and a nail, in addition to 12 flakes. The third fill (**26204**) and fourth fill (**26205**) of pit **26201** between them contained 18 spheres and 46 flakes, as well as fragments of iron.

Fill **27231** of ditch **26155** contained eight spheres and six flakes, together with a fragment of iron. Fill **27460** of pit/latrine **27461** contained 13 spheres, 18 flakes, an iron nail and one unidentified iron object; fill **27460** also contained three fragments of possible slagged hearth lining weighing 12g in total. Two small fragments of slag with traces of red-orange coloured clay hearth lining were found in fill **15294** of gully **15295** (one piece, 10g in weight) and fill **15342** of ditch **15258** (one piece, 27g in weight).

Field 265 contained slightly higher levels of iron smithing micro-residues compared to other fields at Scotch Corner. The micro-residues were concentrated in contexts dating from Periods 4 and 5. As well as the general low background of micro-residues (i.e. less than five pieces per context), there were elevated levels in some features, such as Structure 39 (Chapter 4, Fig. 4.77; 12 flakes and 51 spheres) and Structure 38 (Fig. 4.39; 23 flakes and 42 spheres). The micro-residues in Structure 39 were concentrated in the midden deposit (**31709**) below the structure and consisted of several fragments of possible metallurgical slag (13 fragments, 293g in total); the slag is not diagnostic of a specific production process, but it could be an undiagnostic by-product of iron smithing. The residues from Structure 38, on the other hand, were found relating to the earthen floor of the structure (group **29958**) and contained two fragments of macro slag, one as a fragment of fuel ash slag (3.8g), and the other a fragment of undiagnostic slag (14g).

Catalogue

906. Fragment of ferrous industrial waste. Field 246; Context **24771**; fill of hearth **24748**; Period 4–5; RF12906. Not illustrated.

907. Fragment of ferrous industrial waste (slag). Field 246; Context **24135**; subsoil; unstratified; RF11451. Not illustrated.

Discussion

Iron production in the Iron Age consisted of three distinct processes: the smelting of iron ore in bloomery furnaces to produce metallic iron; refining the metal to produce trade iron; and the production of finished objects from the trade iron (McDonnell 1987).

Bloomery furnaces produced a pasty lump of iron and slag, or 'bloom', which was then forged to reduce the volume of slag and consolidate the iron into a solid bar of metal that could be traded; referred to as primary smithing. Secondary smithing would entail further stages of heating and forging to produce finished objects, and this was often carried out in a different location to the original smelt (Mackenzie 2012).

Historical methods of iron production can produce distinctive residues that are diagnostic of their production process; however, smelting and smithing processes also produce a high proportion of indistinct undiagnostic slags, which are impossible to attribute to a specific process. The difficulties of determining the process origin of archaeological slags from the Iron Age to medieval period are discussed by Bachmann (1982, 31) and McDonnell (2001, 163).

Flake hammerscale and spheroidal hammerslag micro-residues are also indicators of iron smithing. Flake hammerscale consists of small (typically 1–3mm) 'fish-scale' like fragments of the oxide/silicate skin, which are dislodged by mechanical or thermal shock when iron is forged. Spheroidal hammerscale (or slag spheres) results from the solidification of small droplets of liquid slag expelled from within the iron during hot working (Starley 1995; Young 2012).

The picture painted by the ferrous metal production residues at Scotch Corner and the other A1 scheme sites is one of small-scale production, perhaps to fulfil demand in the immediate area, rather than the supply of iron goods on a commercial scale. Except for the smelting evidence in Field 223, all the ferrous metal production residues relate to smithing.

Apart from a feature (cut **11904**) in Structure 66 at Gatherley Villa (Field 201), which could be the base of a smelting furnace, there are no other structures or features in any of the fields that can be positively attributed to ferrous metal production. The difficulties of identifying smithing hearths is discussed by Schrüfer-Kolb (2004, 31–3), who mentions that smithing hearths tended to be built above ground level to make them easier to use, unlike smelting hearths, which required better insulation and were usually sunk into the ground. They explain that the main reason why smithing hearths do not appear in the archaeological record as frequently as expected is because forging can be carried out over any open fire that produces enough heat (*ibid*.). It does not, therefore, tend to leave diagnostic traces.

In his discussion of iron production in the Roman period in northern Britain, Wilson (2002, 17) notes that by the later Iron Age, at least in the area of the North Yorkshire Moors and Tabular Hills, iron production had become well-enough established to lead to a differentiation between low-skilled and high-skilled ironworkers. The existence of skilled metalworkers who specialised in the production of complex and elaborate items, such as swords, cauldrons, torcs and shields, is also suggested by Hill (1995, 62). Both authors suggest that the presence of iron smithing evidence on almost every Pre-Roman Iron Age site in Britain probably relates to working simple mundane objects, such as nails. A small settlement would have had someone capable of making and repairing simple items, with more complex ironworking done by more specialist smiths, either those based in larger settlements or itinerant ironworkers moving between settlements.

Wilson (2002) also highlights the often-overlooked distinction between smithing and smelting. Smithing was far more common than smelting, presumably because the latter was a specialist craft. As evidence of smelting was only found in Field 201 during Period 1, it suggests this may have been the work of itinerant ironworkers rather than an established practice at the settlement.

OTHER FIRED CLAY

Charlotte Britton

A total of 8286 fragments (23,834.8g) of fired clay dating from the Iron Age to the modern period was recovered from the excavations. A total of 28.4g was attributed to ferrous metalworking debris and 740 fragments (1573g) to non-ferrous metalworking (Table 7.31). Both assemblages are discussed by Mackenzie (see above). The fired clay discussed here constituted 7546 fragments (22,233.4g), of which all but 28 fragments (56.6g) came from Scotch Corner.

The assemblage consisted primarily of non-diagnostic oxidised orange-red and reduced fragments, devoid of obvious residues indicative of metal production (Table 7.32). It was consequently difficult to distinguish between deliberate or accidental firing. The fragments were probably associated with hearths, ovens, kilns or other domestic high-temperature processes that took place on site during the Late Iron Age to Early Roman period.

The remainder of the assemblage comprised burnt or vitrified fragments. These were not diagnostically attributable to metalworking; however, vitrification indicates that a higher temperature was used, which could imply that an industrial and/or larger scale process, rather than a small-scale domestic one, had taken place. Conversely, clay from such processes may show no vitrification, so it is important to bear in mind that the material may have industrial or metallurgical origins even though there is no physical evidence to confirm it.

Methodology

The material was first assessed by Mackenzie, with additional fragments considered by Britton. The material was examined by eye and where possible distinctive features, such as possible burning, vitrification and/or plant impressions, were commented on. The results of the analysis are discussed by location and Period.

Results

Fired clay was recovered from across the Scotch Corner excavations, with the highest concentrations in Fields 246 and 258 and dating to Period 4 (Table 7.33). A total of 81 fragments (682.6g) recovered from unstratified contexts, while clearly associated with high-temperature processes, revealed little about the practices that took place on site.

Woodside

A total of 10 fragments (8.6g) of fired clay came exclusively from Structure 60iv (fill **25565** of gully **25564**). Structure 60iv, a roundhouse dated to the Middle to Late Iron Age (Period 1), was represented by a hurdle trench. Charcoal, burnt animal bone and heat-affected pottery from gully fill **25565** suggested that Structure 60iv had burned down, whereupon it was replaced by the final iteration of the building (Structure 60v; see Chapter 2). The small amount of undiagnostic fired clay is considered to be remains resulting from the combustion of the hurdle.

Gatherley Villa

Two fragments (9g) of non-diagnostic fired clay came from Gatherley Villa: one from fill **6062** of pit **6060** and one from fill **11943** of gully **11920** (Structure 66), dating to Period 1. Although evidence of pre-Roman iron smithing was evident in Structure 66, and all the fragments were found close to other metalworking debris, the fired clay showed no signs of vitrification or exposure to extreme temperatures (Starley 2017). The fragments may well have been associated with the metalworking process that took place here but may possibly have derived from a different high-temperature feature, such as a domestic hearth or oven.

Selgarth Farm

A total of 16 fragments (30g) of fired clay was recovered from Selgarth Farm, all of which came from Period 1 contexts. Nine of the fragments came from the terminals and adjacent segments of a drip gully (group **7513**) associated with Structure 67 (see Chapter 2). Most of the fragments showed indications of having been burnt and possibly displayed vitrified residue on the surface. It is therefore possible that the fragments were associated with metallurgical processes in some way. However, no other evidence of metalworking was found nearby, and it is considered more likely that these fragments—and the remainder of the undiagnostic fired clay from Selgarth Farm—were by-products of pre-Roman domestic high-temperature processes.

Scotch Corner

A significant amount of fired clay not associated with metalworking came from the Scotch Corner excavations, with 7534 fragments (22,275.8g) from Fields 220–67, deriving from contexts that collectively span the settlement's occupation.

Period 1–2

A total of 1111 fragments (3917g) of fired clay was recorded from Period 1–2 contexts, from Fields 220, 223, 246 and 267a. Most of the fragments recovered from Field 220 and 267a were non-diagnostic of origin. Most of the fragments in Field 220 were recovered from group **11060** and the artefactual and environmental evidence suggests that the structure this group was associated with, Structure 4, was primarily domestic (see Chapter 2). Fired clay was also recovered from fill **10956** of pit **10955**, fill **10968** of posthole **10967** and fill **11053** of gully **11051**, indicating the fired clay in Fields 220 and 267a primarily derived from domestic high-temperature processes. In Field 223, 52 fragments (292g) came from Structure 13, for which fire pit **30164** was a focal point, and it is likely the fired-clay fragments were a by-product of this feature (see Chapter 2). Some of the fragments from Field 223 had plant impressions, probably deriving from grass culms (J. Baines, pers. comm.) indicating that vegetation was used as temper. One fragment from fill **30812** of palisade trench **30577** displayed a possible paw print in the surface of the clay.

Most of the Period 1 material from Field 246 derived from pits **24014** and **24296** and Structure 43 gully **24663**, and as such was related to potential primary deposits of coin pellet mould. The material displayed no residues related to metalworking or indications that the fragments were used specifically as moulds. Most of the assemblage is from pit **24014** within Structure

51i, which was at the centre of pellet manufacture. The deposit showed no sign of in situ burning although it is considered that the fired clay was still likely to be part of activities associated with the process of coin pellet mould manufacture (see Chapter 2). As Landon notes above, the clay coin pellet mould assemblage displays an 'uncharacteristic rarity of both vesiculation and vitrification'. Therefore, the fired clay fragments that do not retain specific mould characteristics or vitrification were very probably still associated with coin pellet production, deriving from hearths dedicated to manufacturing. In addition, some of the fired clay from Field 246 had clearly been fired to very high temperatures, indicated by the burning on the surface of the clay. These fragments came from Structures 47 and 48i, which probably related to textile production (see Chapter 2). As fired clay is not a product of such activities, the assemblage recovered here probably instead derived from other industrial activities.

Period 3

A total of 324 fragments (1232.2g) of fired clay was recovered from Period 3 contexts in Fields 223, 228, 246 and 267a. The fragments from Fields 223, 228 and 267a constituted a very small amount of the total Period 3 assemblage and showed no features indicative of metal production. They therefore probably derived from other high-temperature processes such as hearths or ovens or were perhaps redeposited from elsewhere.

Most of the fired clay from Period 3 contexts came from Field 246 and was related to CPM deposits in ditch **15859**, well **24297** and ditch **31017**. The latter contained the largest group, with 708 fragments (1621.9g) from fill **31000**. The material from **31000** was related to the largest CPM group and it is possible that this was in fact redeposited from Periods 1–2 (see Chapter 3). As with the assemblage from pit **24014**, the fired clay recovered here may be associated with coin pellet production, possibly deriving from hearths dedicated to the pellet mould manufacturing process. Although fragmentary, the fabric and shape of some of the fired clay from Period 3 possessed features that indicated they were pieces of casting moulds. Other examples appeared to have been fired to very high temperatures, indicated by the burning on the surface of the fabric, possibly signifying they were specifically related to industrial rather than domestic activities.

Table 7.31: fired clay from Scotch Corner by count and weight.

Material	Association	Count	Weight (g)
Fired clay	Ferrous metalworking	–	28.4
Fired clay	Non-ferrous metalworking	740	1573
Fired clay	Non-metalworking	7546	22233.4
Total		8286	23834.8

Period 4

The Period 4 assemblage of fired clay was the largest recovered from Scotch Corner, with 5857 fragments (15,900.4g) from Fields 228, 229, 246, 258 and 265.

The assemblage from Field 228 was mainly from ditches associated with the Stainmore road (RR1; see Chapter 2). Some fragments were partly vitrified and so were possibly related to kilns, furnace linings or similar. However, the remainder of the assemblage was non-diagnostic and may have derived from domestic ovens or fire pits (see Chapters 2–4).

The assemblage from Field 229 amounted to four fragments (60g). Most of the assemblage came from the secondary fill of fire pit **33749**. The clay was heavily fired and clearly constituted a by-product of the pit's use. The remainder of the Field 229 assemblage was associated with ditch **33798**, providing no clues as to its origin.

A large assemblage of fired clay dating to Period 4 was recovered from Field 246. A small proportion of the fired clay came from coin pellet mould dump deposits (**24147**, **24160**, **24413**, **24757** and **24759**). It is probable that some of the fragments were associated with the coin pellet production and derived from hearths dedicated to the process of manufacturing the moulds. Many of the additional fragments from Field 246 showed signs of vitrification and burning and so were likely to be by-products of kiln or furnace linings. The remainder of the assemblage, however, was non-diagnostic and probably came from domestic processes. One fragment from fill **16020** of pit **16019** displayed the impression of a thumb or finger on the surface. The assemblage showed that a variety of industrial and domestic high-temperature processes were taking place over the settlement located in Field 246 during Period 4.

The highest concentration of fired clay was recovered from Field 258, totalling 3949 fragments (9484.4g). The largest collection came from ditches in groups **28156**, **28158** and **28161**. The fired clay from these features were often vitrified and burnt. In addition, a large concentration of fired clay came from refuse pits in group **28131**. Many fragments were heavily reduced, in a light-grey fabric, in contrast to the characteristic oxidised orange-red of the rest of the assemblage. This indicated that the fragments in these groups were by-products of extremely high-temperature processes that were probably industrial in nature, and that they were possibly used on multiple occasions. A small assemblage of fired clay with a burnt surface also came from oven/kiln/corn drier **27529**. One fragment of fired clay from fill **26207** of pit **26201** displayed a fossil mollusc impression on the surface. Amongst the remaining assemblage from Field 258, there were some vitrified and burnt fragments, although the majority was non-diagnostic and therefore probably derived from domestic processes. As with Field 246, the assemblage of fired clay from Field 258 indicated that a variety of

Table 7.32: fired clay by location and Period.

Location	Gatherley VIlla		Scotch Corner		Selgarth Farm		Woodside		Total count	Total weight (g)
Period	**Count**	**Weight (g)**	**Count**	**Weight (g)**	**Count**	**Weight (g)**	**Count**	**Weight (g)**		
Unknown			81	682.6					81	682.6
Middle Iron Age–1							10	8.6	10	8.6
1	2	9	722	2385	16	30			740	2424
2			188	983					188	983
3			109	509					109	509
4			5595	14577.4					5595	14577.4
5			67	188					67	188
1–2			201	549					201	549
1–4			36	41					36	41
2–3			215	723.2					215	723.2
2–4			140	729					140	729
4-5			13	123.6					13	123.6
5+			105	153					105	153
Mid–Late Roman			22	332					22	332
Medieval–post-medieval			7	11					7	11
Post-medieval			15	189					15	189
Modern			2	10					2	10
Total	**2**	**9**	**7518**	**22185.8**	**16**	**30**	**10**	**8.6**	**7546**	**22233.4**

manufacturing and domestic high-temperature process were taking place in the settlement during Period 4.

A large assemblage of 523 fragments (2137g) of fired clay dating to Period 4 was recovered from Field 265. A high proportion of the fragments showed signs of vitrification and exposure to very high temperatures. The remainder of the Field 265 assemblage was non-diagnostic and most likely related to domestic processes, such as those from group **29971**, an oven (see Chapter 4).

Period 5

A total of 102 fragments (643.6g) of fired clay was recovered from Period 5 contexts in Fields 229, 246, 258 and 265. The assemblage from Fields 229–58 was small and not diagnostic of origin, may have been redeposited, and provide little information about the high-temperature processes taking place in this Period. The material from Field 265, however, was more abundant, with most of the assemblage coming from Structure 39. The structure was perhaps associated with food preparation during Period 5 and the assemblage of fired clay may have resulted from ovens in the vicinity (see Chapter 4).

Post-Roman

A total of 129 fragments (363g) of fired clay was recovered from Fields 246, 258 and 265, from contexts dating from Period 5 to the modern period. Most of the assemblage was recovered from demolition or modern layers, is probably therefore redeposited and consequently uninformative.

DISCUSSION

The assemblage of fired clay from Scotch Corner points to a wide range of high-temperature activities being carried out throughout the Late Iron Age and Roman periods. A lot of the fired clay derived from locations where there was no evidence for metalworking and the material was devoid of any such indications. Although it is difficult to distinguish between deliberate or accidental firing, the fired-clay assemblage discussed here suggests that many of the high-temperature processes taking place were linked to other forms of industrial activity and/or were domestic in nature. The occurrence of fired clay in contexts from all Periods indicates that such activities occurred throughout the lifetime of the settlement. Results of this analysis suggest that specific areas were used more for industrial activities, while others were essentially domestic in nature. For example, the assemblages dating from Period 1 at Woodside and Selgarth Farm were suggestive of domestic use, whereas the assemblage from Gatherley Villa was more likely industrial in character, not least because the assemblage was found amongst metalworking debris.

Overall, most areas at Scotch Corner site probably saw mixed use. The highest concentration of fired clay, and so the strongest evidence of high-temperature processes, was recovered from Period 4 contexts in Fields 246 and 258. The concentration of material from these fields indicated large-scale industrial activities occurred alongside domestic processes. This cohesion of domestic and industrial processes comments on both the nature of the settlement at Scotch Corner and mirrors evidence collated from fired clay assemblages elsewhere in the region, for example from Healam Bridge (Starley 2018). Taken in isolation, fired clay can reveal little about a site; when considered alongside additional assemblages pertaining to industrial activity, however, the fired clay informs on both the domestic and manufacturing nature of the settlement.

BUILDING MATERIALS

CERAMIC BUILDING MATERIAL

Chrystal M. L. Antink

This section presents the ceramic building materials (CBM) recovered from Early Roman-period contexts, with a focus on the Scotch Corner excavations. A total of 343 fragments of CBM weighing 14,815g were found (see Table 7.34 for a summary of forms). Material that was identified as modern is not discussed here. Because the CBM is so sparse, it is not possible to draw significant conclusions. CBM appears to be present earlier (Period 3) than might be expected in the area, although most of the material was found in Period 4 contexts, suggesting increased interaction with Roman culture at that point. It was also notable that no ceramic components of hypocausts were recovered, perhaps owing to the early date of contact at Scotch Corner.

Methodology

The CBM was examined following published standards (Archaeological Ceramic Building Materials Group 2002). Fragments were recorded by weight, form (where possible) and any complete dimensions. Fabrics were examined under a x30 hand lens to enable the compilation of a fabric series (see Fabric Series, below). Any unusual firing characteristics, stamps and external effects were noted.

Fragments determined to be Roman but not more specifically identifiable to form (such as *lydion*, *bessalis*, *parietalis* and *tubulus*) were recorded as brick if the two parallel faces had a thickness of more than 30mm, as tile if they were less than 30mm thick, or as brick/tile if there was not a complete measurable dimension.

The results of the analysis of the CBM are presented first by Period (for the material from contexts assigned to a Period; Table 7.35), and then as they relate to specific structures and feature groups. Much of the material was recovered from contexts without a tight stratigraphic sequence, such as cleaning layers, or from features that span more than one Period. This material is described in detail in Appendix K. Much of the material derived from Period 4 contexts, where it was represented by a variety of fabrics and forms, with a concentration of bricks assigned to Fabric 8.

Fabric series

A fabric series (Table 7.36) was developed for the A1 scheme excavations, only a portion of which is considered here. The series is, for this reason, non-

Table 7.33: fired clay by location, Field and Period.

Location	**Scotch Corner**															
Field	**220**		**223**		**228**		**229**		**246**		**258**		**265**		**267**	
Period	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)
Unknown	–	–	2	12.1	–	–	–	–	6	222	65	393.5	8	55	–	–
Middle Iron Age–1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1	57	101	38	270	–	–	–	–	627	2014	–	–	–	–	–	–
2	–	–	93	593.3	–	–	–	–	32	117	–	–	–	–	63	272.7
3	–	–	–	–	9	53	–	–	99	449	–	–	–	–	1	7
4	–	–	–	–	43	296.7	4	60	1176	2889.3	3885	9235.4	487	2096	–	–
5	–	–	–	–	–	–	–	–	–	–	3	1	64	187	–	–
1–2	–	–	170	345	–	–	–	–	31	204	–	–	–	–	–	–
1–4	–	–	–	–	–	–	–	–	–	–	–	–	36	41	–	–
2–3	–	–	2	1.4	–	–	–	–	194	709.8	–	–	–	–	19	12
2–4	–	–	–	–	48	408	–	–	28	72	64	249	–	–	–	–
4–5	–	–	–	–	–	–	5	10	2	59.6	1	4	5	50	–	–
5+	–	–	–	–	–	–	–	–	9	4	96	149	–	–	–	–
Mid–Late Roman	–	–	–	–	–	–	–	–	–	–	–	–	22	332	–	–
Medieval–post-medieval	–	–	–	–	–	–	–	–	6	4	1	7	–	–	–	–
Post-medieval	–	–	–	–	–	–	–	–	–	–	–	–	15	189	–	–
Modern	–	–	–	–	–	–	–	–	2	10	–	–	–	–	–	–
Total	**57**	**101**	**305**	**1221.8**	**100**	**757.7**	**9**	**70**	**2212**	**6754.7**	**4115**	**10038.9**	**637**	**2950**	**83**	**291.7**

Table 7.33: fired clay by location, Field and Period (continued).

Location	Gatherley VIlla				Selgarth Farm		Woodside				Total count	Total weight (g)
Field	**201**		**202**		**214**		**197**		**199**			
Period	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)		
Unknown											81	682.6
Middle Iron Age–1							4	7.6	6	1	10	8.6
1	1	5	1	4	16	30					740	2424
2											188	983
3											109	509
4											5595	14577.4
5											67	188
1–2											201	549
1–4											36	41
2–3											215	723.2
2–4											140	729
4–5											13	123.6
5+											105	153
Mid–Late Roman											22	332
Medieval–post-medieval											7	11
Post-medieval											15	189
Modern											2	10
Total					**16**	**30**	**4**	**7.6**	**6**	**1**	**7546**	**22233.4**

sequential and reflects only the material from Scotch Corner. The fabric series will be presented in its entirety by Ross and Ross (in prep.).

Results by Period

Periods 1–3

The CBM from Periods 1–3 amounted to 32 fragments, weighing 1042g. All the fragments were recovered from Field 246; although there is a mix of forms, the majority are undiagnostic fragments weighing under 10g each. Of note are four adjoining fragments of an *imbrex* from one of the upper fills (**24308**) of a possible well (**24297**). The fabric was well made, hard, and carried a signature (Fig. 7.27). However, **24308** was disturbed by a land drain, so the integrity of its depositional context is uncertain.

Table 7.34: ceramic building material forms by count and weight.

Form	Count	Weight (g)
Brick	46	5334
Brick/tile	119	2649
Imbrex	13	1631
Land drain	9	171
Pantile	3	52
Tegula	13	3015
Tile	14	996
Undiagnostic	124	781
Unknown	2	186
Total	**343**	**14815**

Two fragments of possible brick appear to have been worked into a weight. It has been intentionally rounded and retains a perforation made prior to firing. The object was found in fill **15912** relating to Structure 57 (Fig. 7.28).

Period 4

The majority of the CBM assemblage was recovered from Period 4 contexts, particularly from Field 246 (56 fragments, weighing 5387g) and Field 258 (201 fragments, weighing 6477g). The assemblages were very different from each other in terms of the forms present, the fabrics and quality of the material.

The assemblage in Field 258 was composed primarily of brick (66% by weight), followed by brick/tile (29%) and a small proportion of *tegula* (1%). The fabric across the different forms was consistent and was identified exclusively as Fabric 8. In addition, the assemblage was very soft, most likely from underfiring, and this condition occurred across all types of contexts. In contrast, the assemblage from Field 246 consisted of a different range and proportion of forms: *tegula* (49% by weight), *imbrex* (23%), and tile (12%). There were 14 identifiable fabrics from Field 246, represented by hard and soft examples and with no discernible pattern related to forms. The roofing forms were notably harder than the brick or tile, and thus were possibly the product of a different manufacturer.

Period 5

There were only four fragments of CBM in total from Period 5 contexts, and of these only one was identifiable to form: a *tegula* fragment from Field 246, weighing 88g.

Results by structures and groups

CBM was recovered from a variety of structure and group types, mostly relating to Period 4. However, there was not enough to positively identify any building or feature that would have been chiefly built of such material.

Structure 57

Structure 57 (Chapter 3, Fig. 3.88) was a rectangular building with a sunken floor in Field 246, which was overlain by a substantial quantity of stone, presumed to be from its collapse. A small quantity of CBM (341g) was recovered from associated contexts. Along with some soft, undiagnostic fragments, there was a possible tile fragment of Fabric 8, which appears to be the dominant fabric in Field 246 during Period 4, as well as the possible weight made from CBM noted above. None of the fragments were able to suggest whether CBM was used structurally in the building, but its presence at Scotch Corner is indicative of at least some contact with Roman manufacturers. As this building is proposed to be a Period 3 construction, based on pottery evidence and stratigraphic relationships with later features, the association of the CBM may be significant due to the early date. Use of CBM was not part of the native tradition and would not be anticipated outside Roman styles of buildings. As such, its use would be unexpected until a later date in the Scotch Corner area, unless it preceded the arrival of the Roman army as an expression of cultural influence, ambassadorship, or gifting, as has been suggested at Stanwick (Fitts 1998).

Group 31207

Group **31207** (not illustrated) derives from hand-cleaning over the Period 4 stone raft group **31240** in Field 246. It consists of a small collection of *imbrices*, *tegulae*, and tile of Fabrics 14 and 15. There was a mix of hard and soft versions of the fabrics, but some are similar enough that they could have been fired in the same batch. The association with 1st- to 2nd-century artefacts and hand-made pottery of Iron Age tradition suggests an early date. Given that it is relatively well made compared with some of the unquestionably later material from Scotch Corner, it could be a contact-period assemblage. As Roman military rule became entrenched generally in the mid- to late 1st century AD, CBM production transitioned from a military to a civilian occupation, and there is a noticeable deterioration in product quality across Britain as time goes on (Brodribb 1987, 141; Smith 2017, 209).

Group 31284

Group **31284** comprised a series of ditches and gullies that appear to respect Structure 40, a rectangular building in Field 246 (Period 4; Chapter 4, Fig. 4.45). Ditch **15537** contained seven undiagnostic fragments in fill **16031**, a fragment of *imbrex* in fill **15667** and a fragment of tile in fill **16026**. Both of the latter were produced in Fabric 21. However, the building was constructed from posts and hurdles, and it is considered unlikely that the CBM is related to this structure, given that a fully tiled roof would require substantial support. A rectangular tradition of building is at odds with the more prevalent circular native structures that are evident in earlier Periods in Field 246 (Structures 43, 47, and 48), but there are extensive examples of these building forms co-existing in the Late Iron Age to Roman transitional period (Allen 2016).

Structure 34

A group of CBM from contexts associated with Period 4 Structure 34 in Field 258 (Chapter 4, Fig. 4.25) contained brick/tile that was all of Fabric 8. The fragments may in fact all be from a single object that was broken up and spread, but the fabric is soft and heavily abraded, so no fragments could be refitted. The function of the structure is unclear; it appears to be built with beams and posts, and associated finds included Roman pottery and industrial waste. It has been suggested that Structure 34 may have been used to regulate access between enclosures (see Chapter 4). The eight CBM fragments, totalling 267g, are unlikely to have been structurally functional, perhaps shoring up areas of soft ground if they were intentionally located there.

Structure 31 and groups 28156, 28158 and 28161

Period 4 groups **28156**, **28158** and **28161** collectively make up two maintained and repeatedly recut perpendicular ditches in Field 258. They followed the

Table 7.35: CBM by Period and form.

Period	Brick		Brick/tile		Imbrex		Tegula		Tile		Undiagnostic		Unknown Roman		Land drain		Pantile		Total count	Total weight (g)
	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)		
1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	–	–	–	–	–	–	–	–	3	85	2	11	–	–	–	–	–	–	5	96
3	–	–	5	340	5	407	–	–	–	–	15	123	1	62	–	–	1	14	27	946
4	40	4743	110	2043	8	1224	9	2659	7	714	84	445	1	124	1	6	1	2	261	11960
5	–	–	–	–	–	–	1	88	–	–	3	8	–	–	–	–	–	–	4	96
Mid–late Roman	1	106	–	–	–	–	1	88	3	136	4	22	–	–	–	–	–	–	9	352
Medieval – Post-medieval	3	143	1	12	–	–	–	–	1	61	2	15	–	–	–	–	–	–	7	231
Post-medieval	–	–	–	–	–	–	–	–	–	–	2	4	–	–	–	–	–	–	2	4
Post-medieval – Modern	–	–	–	–	–	–	–	–	–	–	3	107	–	–	–	–	–	–	3	107
Modern	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8	165	–	–	8	165
None (subsoil)	2	342	3	254	–	–	2	180	–	–	9	46	–	–	–	–	1	36	17	858
Total	**46**	**5334**	**119**	**2649**	**13**	**1631**	**13**	**3015**	**14**	**996**	**124**	**781**	**2**	**186**	**9**	**171**	**3**	**52**	**343**	**14815**

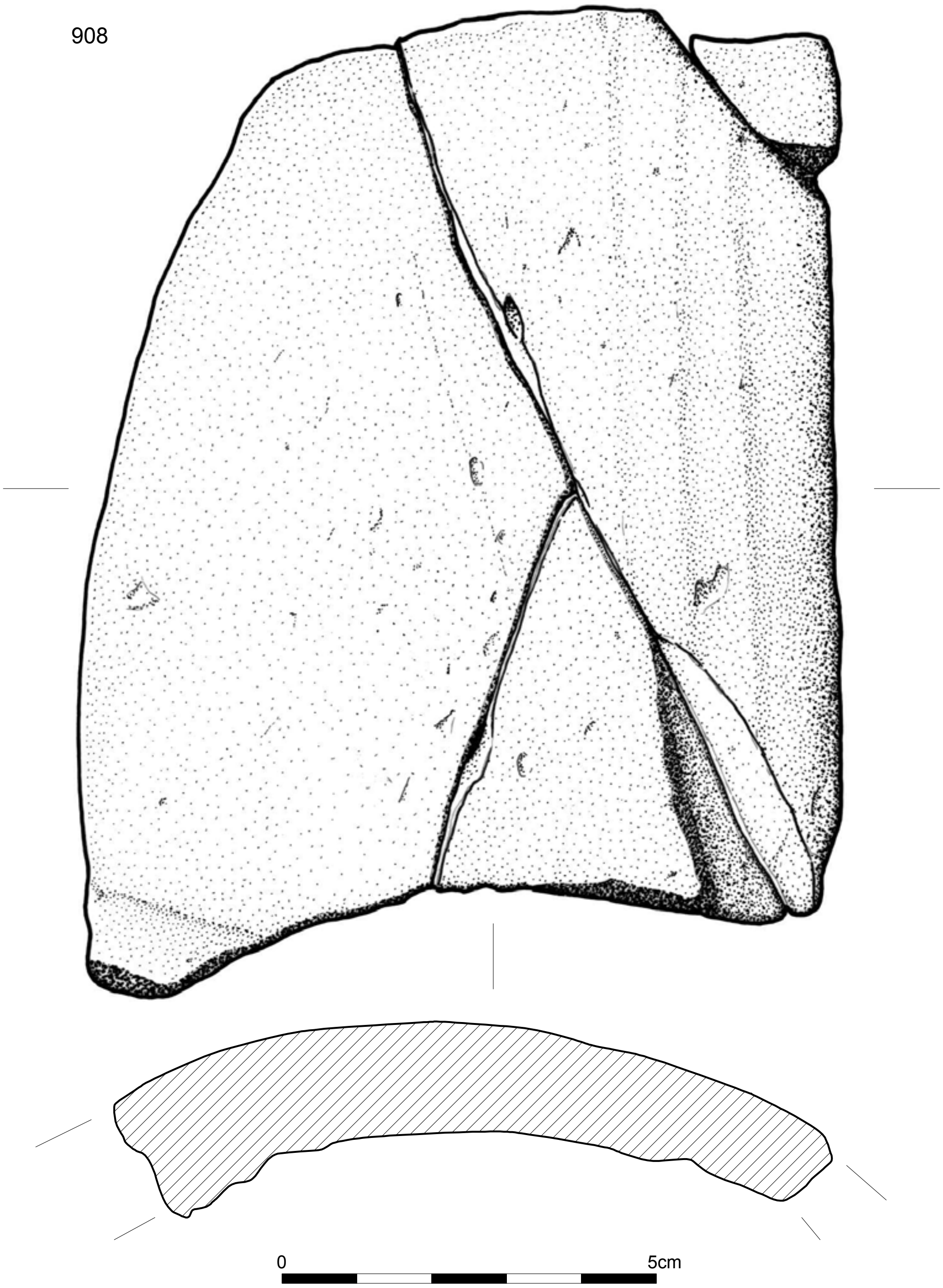

*Figure 7.27: four adjoining fragments of an imbrex from fill **24308** of possible well **24297**.*

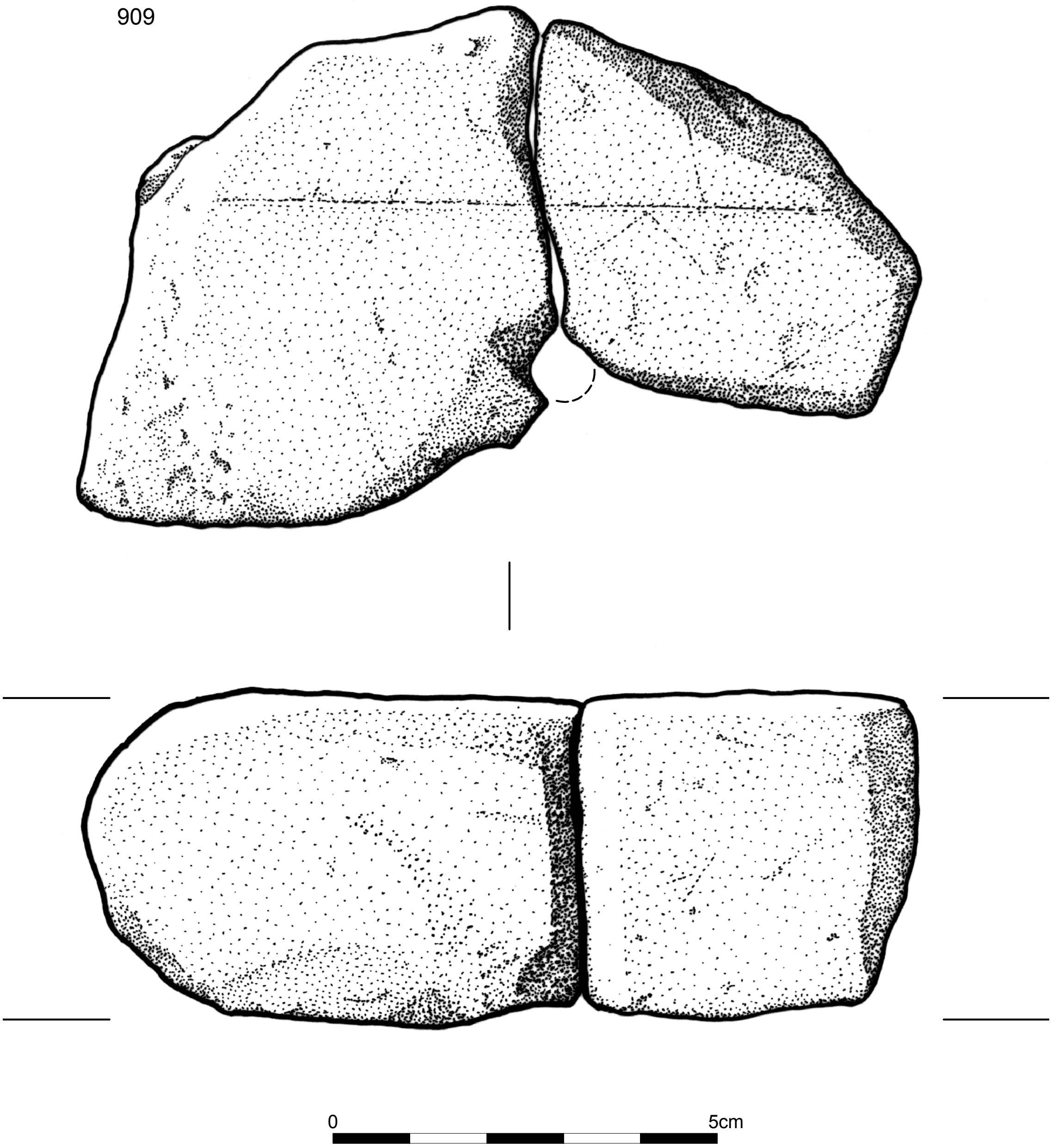

Figure 7.28: two fragments of possible brick that appear to have been worked into a weight.

Table 7.36: description of CBM fabrics from Scotch Corner.

Fabric	Quartz	Mica	Black flecks	Chalk	Red firing clay pellets	White firing lenses	Red firing lenses	Black firing lenses	Voids	Other
99	one–offs/ modern	–	–	–	–	–	–	–	–	–
0	too small for identification	–	–	–	–	–	–	–	–	–
1	sparse; coarse	occasional; very fine	moderate; fine	–	–	frequent	–	–	occasional ?from organics	–
2	occasional; coarse to very coarse	sparse; very fine	–	sparse; coarse	sparse; coarse, very coarse	–	–	–	–	–
5	frequent; fine to coarse	sparse; very coarse	–	–	sparse; fine	sparse	–	–	–	–
6	sparse; very fine	–	sparse; very fine	sparse; very coarse	–	–	occasional	–	–	–
7	moderate; fine to coarse	–	sparse; fine	–	–	occasional	–	occasional	occasional ?from organics	sparse, very coarse iron–rich ?burnt pellets
8	sparse very coarse (5.5mm); occasional fine	sparse; very fine	occasional; fine to coarse	occasional; fine	occasional; coarse	sparse	–	–	–	–
9	moderate; fine	sparse; very fine	–	–	sparse; fine	–	–	–	–	–
11	sparse; coarse	occasional; very fine	moderate; fine	–	–	–	–	sparse	–	–
13	frequent; coarse to very coarse	–	–	sparse; fine	moderate; coarse	sparse to occasional	–	–	–	–
14	abundant; coarse to very coarse	–	–	occasional; coarse	–	–	–	–	–	–
15	moderate; coarse	–	sparse; coarse	–	sparse; very coarse	–	–	–	–	–
16	occasional; coarse	–	moderate; fine	occasional; coarse	occasional; coarse	–	–	–	–	–
21	frequent; coarse to very coarse	frequent; very fine	occasional; fine to coarse	frequent; coarse to very coarse	frequent; coarse to very coarse	occasional	–	–	–	–
22	abundant; coarse to very coarse	–	–	occasional; coarse	sparse; coarse, may be unburnt iron pellets	–	–	–	–	occasional burnt iron pellets

same alignments as Structure 31, a rectangular beam- and post-built building located inside an enclosure formed by the ditches (Chapter 4, Figs 4.21 and 4.22), although no CBM was associated with this feature. There are nearly 500 individual finds from the ditch fill contexts, including worked flint, glass vessels, quern stones and imported Roman pottery. Nearly 6kg of CBM was retrieved and all the material was identified as either brick or brick/tile in Fabric 8. The fabric was soft, and the fragments somewhat abraded, so no joins could be found.

Two incomplete bricks were discovered bonded together, one on top of the other, at c.45° off-square (Fig. 7.29). They were not mortared, but rather the soil conditions, possibly combined with incomplete firing and similarity of fabric, had fused their faces together. Although they no longer retained both lateral measurements, the most complete length of one was 256mm, making it either a large *bessalis* or a small *pedalis* or *lydion*. Their individual thicknesses were c.39mm, putting them in the average range for any of these brick types nationally (McComish 2015). They represent the largest fragments of CBM from Scotch Corner. The bricks might be compared to the 'fired clay slabs or tiles' from shallow late prehistoric features at King Harry Lane, St. Albans (Stead and Rigby 1989, 52). The examples from St. Albans were likened to similar items from Baldock, Hertfordshire, which were cautiously identified as briquetage or salt-licks, but the Scotch Corner examples appear to have squarer sides and are more 'finished' and were likely to be intended as building material. Comparable CBM fragments were found in various contexts relating to ditches and pits in Field 258. Additionally, the positively identified briquetage from Scotch Corner (see Britton, Chapter 5) has a significantly different fabric, hardness, and character to the CBM recovered nearby.

The higher concentration of CBM in ditch groups **28156**, **28158** and **28161**, combined with the array of other classes of finds from the same features, suggests a Romanised habitation of considerable status in the vicinity, and Structure 31 seems the most likely candidate.

Discussion

Roman structures in the early exploration and contact phases of Roman expansion through Britain tended to be wooden or wattle-and-daub construction, as they were quicker to source material for and build; however, this can render such buildings archaeologically nearly invisible (Zant and Howard-Davis 2013, 139), as the only evidence (postholes and beam slots) are significantly harder to find than brick or dressed stone that may survive deposition. As Roman influence spread, both militarily and culturally, the opportunity to establish brickworks did as well. Brick- and tile-making was seasonal work, as the clay required time to weather once it had been dug out, and building and firing the kilns demanded significant resources. The length of this process therefore required established control of both the land and the material, and alternative building materials that are easier to come by may have been preferred.

Ready sources of limestone and sandstone are available in the Scotch Corner area, and sandstone especially has been used structurally in nearby Roman buildings for walls, floors, *pilae* and roofing (see for example at *Cataractonium*: Ross and Ross in prep.; and Binchester: Ferris 2010, 418). It was common for stone to be used in conjunction with CBM. Frequently, Roman walls that were faced with dressed stone or tile built around a rubble core had courses of brick or tile extending through them to help tie the structure together, stone buildings had tiled roofs, and stone *pilae* might be capped with brick flooring. Therefore, the proportion of CBM in Roman building can vary significantly. Both CBM and dressed Roman stone were also highly reused in the Roman period and after, either in their original form or as rubble, and so may be transported some way from their point of primary use. The Anglo-Saxon church at Escomb, Co. Durham, is thought to have used much material from the nearby Roman fort at *Vinovia* and Roman tile, possibly from the fort of *Navio*, can still be seen in the tower walls of Peveril Castle, Derbyshire. Similarly, the Anglo-Saxon crypt at Hexham was constructed using Roman stonework from Corbridge and Chesters (Bidwell 2010) Considering this, interpreting the original use of CBM recovered from anywhere but its primary context must be tentative.

There are a few key features apparent in the Scotch Corner CBM. First is the difference in the proportion of forms between the different areas of excavation; Field 246 was dominated by roofing material while, just to the south, Field 258 had significantly more bricks. That the *tegula*:*imbrex* ratio for Field 246 is not 1:1 is unsurprising; if they were simply to be used for a roof, there would need to be two fewer *imbrices* per row of *tegula*, as they were not placed on the gable ends. *Imbrices* are, owing to their curved profile, also much more likely to be broken and rendered unidentifiable. Brodribb (1987, 11–12) provides calculations based on material from Beauport Park for the quantity of tiles needed to make a Roman roof: 15m^2 would require 160 *tegulae* and 152 *imbrices*. So, even if each fragment of *tegula* (11) and *imbrex* (13) from Field 246 represented an individual tile, these figures are still nowhere near able to account for even a modest tiled roof. However, both these classes of CBM were useful in their own rights: *tegula* as floor, wall or structural tiles (with or without the flanges knocked off), while *imbrices* made excellent gutters. The fact that 15 fabrics were identified across all classes of Roman CBM from Field 246 suggests material originated from a wide variety of production sites, owing either to the longevity of the Scotch Corner settlement as local supplies were used up or the lack of a convenient local source, perhaps at the start of the site's life.

Bricks are, in a way, less flexible in their application, and are generally structural, either as *pilae*, floor surfaces, arches or in walling (in courses, or as quoins in stone-built walls or as the facing of rubble-filled walls). They are, of course, useful singly as working surfaces, but it is unlikely that it would be worth the resources to produce small batches for non-structural use. The majority of the CBM from Field 258 that was identifiable was brick, followed by brick/tile; there was only a single example of a possible *tegula*. More significantly, the only identifiable fabric from the field was Fabric 8, and all the CBM was quite soft, owing to either inhospitable soil conditions, underfiring during production or both. Fabric 8 was identified from across the A1 scheme and may point to a local production centre; the bricks from Scotch Corner may represent one batch produced for a single major structural project that the excavations have not identified.

There was a notable lack of box flue from anywhere in the Scotch Corner excavations. Box flues can only be securely identified from fragments that include traces of their key diagnostic features, namely vent cuts, sooting on sanded faces, substantial keying, or sharply turning sherds. Fragments without these features may be mistaken for tile and thus box flues may be under-represented. Hypocaust systems were first used sometime in the early 1st century BC: Seneca, who died in AD65, described box flues as being invented in his lifetime in his *Moral Letters to Lucilius* (Letter 90; Brodribb 1987). It is unlikely this new technology would make it to the far reaches of the frontier quickly.

Except for Structure 31, no structures at Scotch Corner appear to have been convincingly built using CBM, although there were 'Romanised' rectangular structures that coexisted with, and eventually usurped, the native round tradition. Similar architectural chronologies can be observed from Holme House villa at Piercebridge (Cool and Mason 2008) and at Baldock, Hertfordshire (Stead and Rigby 1986). It would not be at all surprising, especially at early sites where initial Roman contact was made, for less permanent buildings to be erected. Thatched or shingled Roman roofs would not be unusual and leave very little trace (Atkinson and Preston 2015), whereas tiled roofs sometimes leave deposits of collapsed material, unless they have been completely robbed away. Manufacturing CBM necessarily exploits a significant amount of labour, resources and infrastructure and should only be expected as Roman control, either militarily or culturally, became the norm.

Lastly, it should be borne in mind that the overall assemblage of CBM from the Scotch Corner excavation is exceedingly small given the size of the area investigated, barely more than 15kg from 5.2ha. No extensive conclusions should be drawn from so little data, but the findings do establish avenues for further investigation.

Conclusions

While not all the research questions outlined in Chapter 1 can be approached through the lens of CBM, some insights are possible. The CBM coincides with a significant quantity of other classes of finds of the 1st to early 2nd century AD. Period 3 seems early for CBM to occur in this area, so collaboration with other material researchers may reaffirm or cast doubt on this conclusion. It is unclear what function the CBM fulfilled, as so little of it has been recovered and none conclusively from its place of primary function. However, it does not appear that the Roman way of life supplanted the native traditions wholesale; rather, some of the material culture was brought into the local area, either as traded objects or high-status gifts from the empire.

While there is some small spatial variation in the classes of CBM from Scotch Corner, there is so little present that no significant conclusions can be drawn. The vast majority of the CBM was from Period 4, suggesting more intensive interaction between the local population and Romans at that time. Rectangular buildings clearly became predominant and the evidence suggests these were largely timber framed. As there is not enough CBM to construct even a single modest building, it must be concluded that whatever structure they were intended for is likely to be outside the area of excavation. It is also significant that no hypocaust material, in either ceramic or stone, was recovered from Scotch Corner, most likely signifying an early site that existed before such technology was widespread.

No kiln sites of a similar date have been discovered in the immediate Scotch Corner area that produced either CBM or other ceramic objects. Comparison with material from other sites along the Roman roads, including petrological analysis, may suggest a trend for the origin of different fabrics. It has been proposed that some of the mortaria recovered from Scotch Corner was made locally (see Griffiths, Chapter 5), and was of the same fabric as the CBM (Griffiths, pers. comm.). Kilns producing pottery and CBM concurrently have been excavated at Silchester (Fulford *et al*. 2017), demonstrating the feasibility of this practice. If the origins of the CBM from Scotch Corner can be unpicked, it opens the possibility of clarifying broader questions of the nature of the Roman influence on the local area. As CBM was a military, as opposed to civilian, product in the first centuries of Roman incursion into Britain, it implies an early military presence in the area that was sufficiently established to undertake a process that involved significant control of land and resources.

Catalogue

The catalogue consists of illustrated fragments of CBM and a group of interest from Field 258. Only measurements of complete dimensions are given. The full dataset is provided in Appendix K.

Table 7.37: mortar, opus signinum and daub by count and weight.

Material	Count	Weight (g)
Daub	2	122
Mortar	7	11.5
Opus signinum	1	1
Total	10	134.5

Figure 7.29: two incomplete bricks bonded to one another.

Table 7.38: description of the mortar, opus signinum and daub from Scotch Corner.

Field	Context	Recorded Find number	Material	Count	Weight (g)	Constituents/comments	Munsell colour
228	28378	–	mortar	3	2.3	abundant coarse angular quartz, occasional coarse to fine fired clay pellets, sparse fine to coarse charcoal; well-sorted and hard.	10YR 6/2
246	24083	–	opus signinum	1	1	occasional coarse angular quartz, moderate fine to coarse stony inclusions, frequent fine to very fine orange ceramic inclusions; hard.	10YR 8/3
258	15363	–	daub	1	42	common fine to coarse angular quartz, sparse coarse iron pellets, occasional fine red clay pellets; similar to CBM fabric 15; clay unevenly fired, no complete dimensions, one flattened face; soft.	10YR 6/3
265	31537	13032	daub	1	80	common fine to coarse subangular quartz, occasional very fine mica, sparse coarse red-firing clay pellets; two finger-made parallel lines run across the face of the fragment; it is unclear if the complete dimension has been retained; soft.	7.5YR 7/6
267	32449	–	mortar	4	9.2	abundant fine to medium angular quartz, occasional coarse to very coarse charcoal, occasional coarse rounded ironstone; hard but friable.	10YR 7/1

911

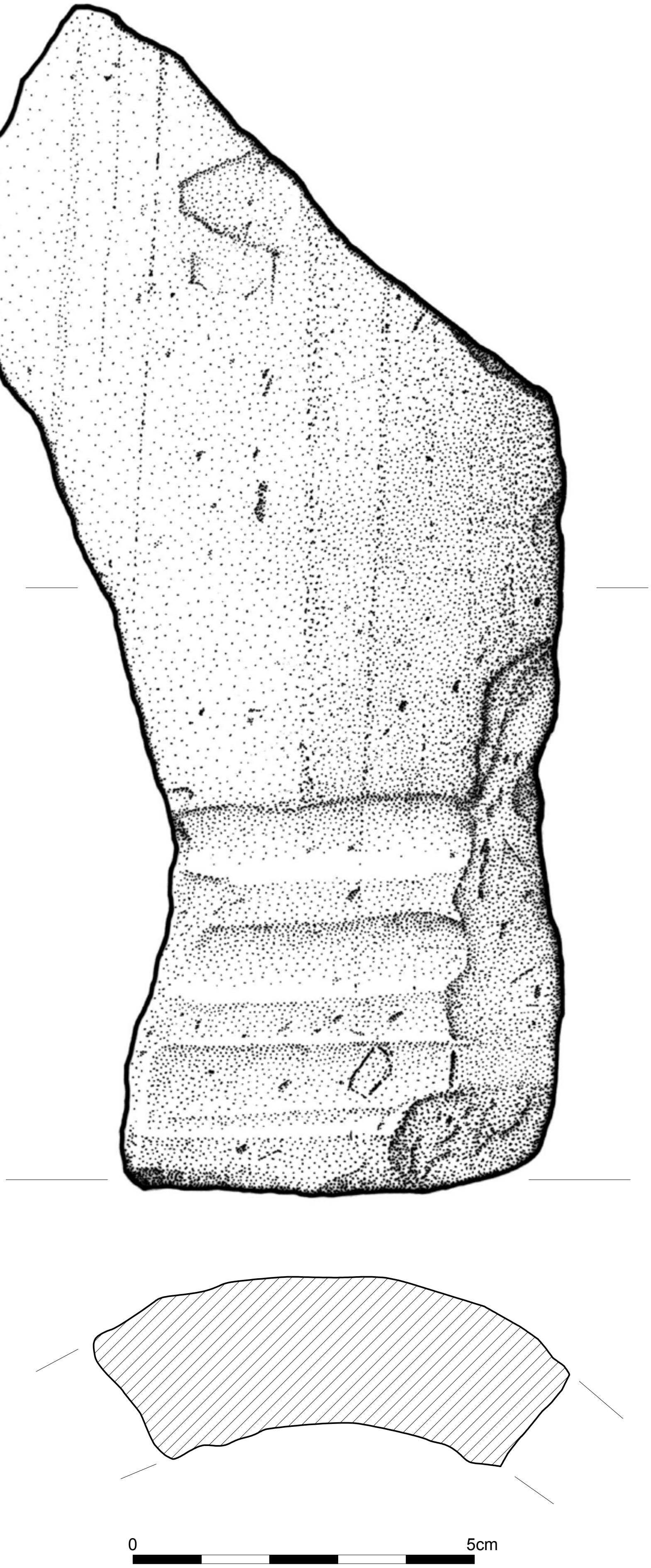

Figure 7.30: one imbrex fragment with three finger marks parallel to remaining basal edge. Fabric 21 (very hard).

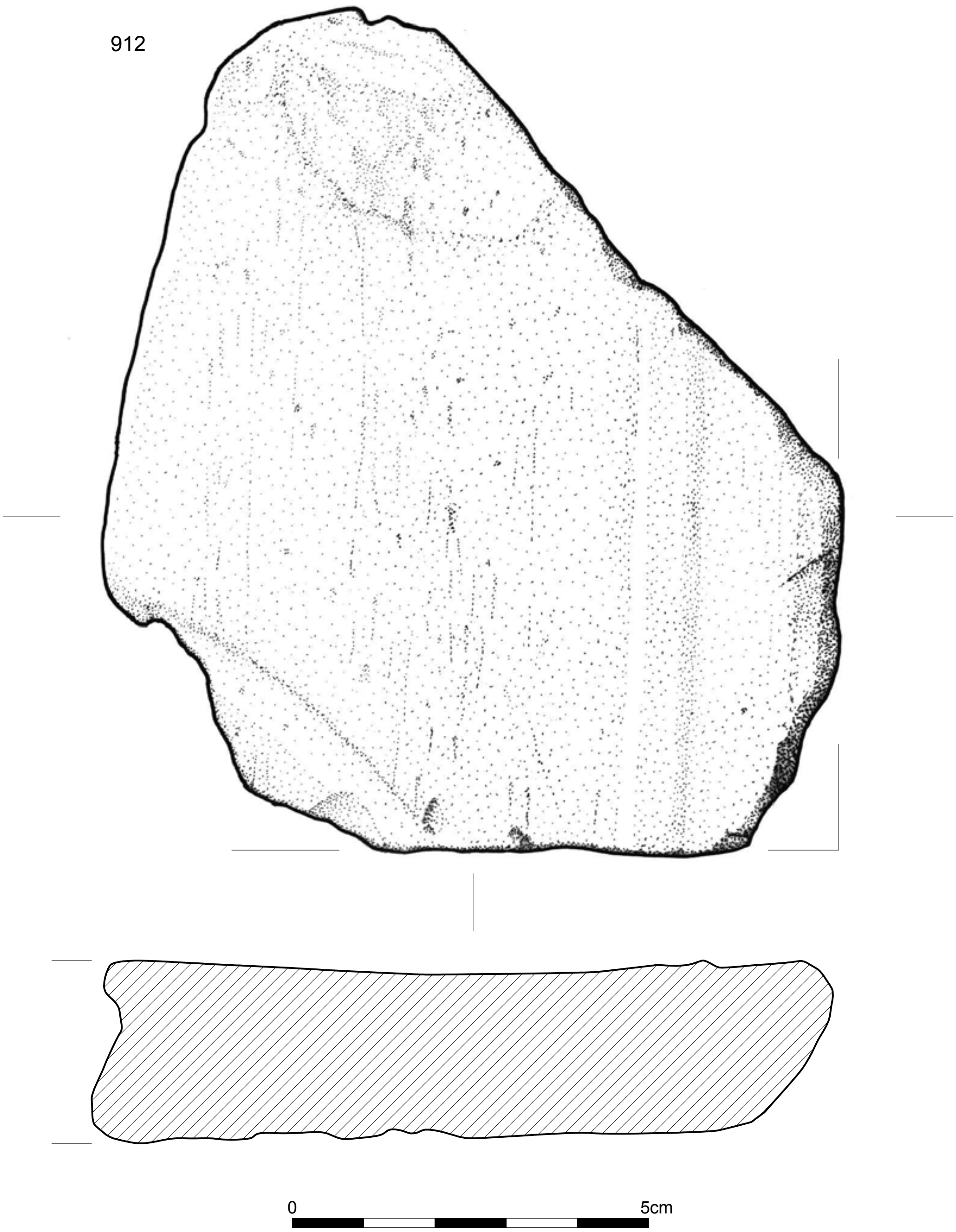

Figure 7.31: one tegula fragment with flange broken away, but partial cutaway type C5 or B6 (after Warry, 2006) remaining, one remaining corner and two edges, faint single-finger-made semi-circular signature starting from lower edge.

908. One highly fired *imbrex* (four adjoining fragments) with a partial signature curving away from (broken away) basal edge, and one remaining adjacent edge, very similar to *imbrex* from context **16026**. Fabric 21 (hard). Thickness: 18mm. Weight: 341g. Field 246; Period 3; Context **24308**. Figure 7.27.

909. One possible brick (two adjoining fragments) with a nail/peg hole 7.8mm diameter created before firing as evidenced by the reduced core pattern. It appeared to be secondarily worked into a circular weight. Fabric 2 (soft). Thickness: 42mm. Weight: 287g. Field 246; Period 3; Context **15912**; RF15051. Figure 7.28.

910. Two bricks (28 fragments) fused together at an angle due to poor soil conditions (as opposed to mortared) with four total remaining edges. Fabric 8 (soft). L: 256mm; Thickness (of one): 39mm. Weight: 3463g. Field 258; Period 4; Context **26862**. Figure 7.29.

911. One *imbrex* fragment with three finger marks parallel to remaining basal edge. Fabric 21 (very hard). Thickness: 19mm. Weight: 325g. Field 246; Period 4; Context **16026**; RF5439 Figure 7.30.

912. One *tegula* fragment with flange broken away, but partial cutaway type C5 or B6 (after Warry 2006) remaining, one remaining corner and two edges, faint single-finger-made semi-circular signature starting from lower edge. Fabric 8 (hard). Thickness: 25mm. Weight: 297g. Field 246; Period 4; Context **31139**; RF5479. Figure 7.31.

MORTAR, OPUS SIGNINUM AND DAUB

Chrystal M. L. Antink

A total of 10 fragments of mortar, *opus signinum* and daub with a combined weight of 134.5g were found (see Table 7.37).

The materials were examined with a x40 binocular microscope. The aggregate components and inclusions were described to the level of detail possible with visual examination, and the Munsell colour was recorded.

The mortar, *opus signinum* and daub are too sparse and fragmentary to be of any analytical value. They are described and catalogued fully in Table 7.38.

STONE ARCHITECTURAL FRAGMENT

Alexandra Croom

Two fragments from a gutter stone were recovered from the road surface **24148** of RR10 in Field 246 (Cat. no. 913). The complete length of the stone survives, but not its width. The top surface of the surviving wall is flat and well worked, unlike the sides and base. A much longer, but equally shallow, gutter with flat-topped sides was found associated with pieces of a water fountain in the courtyard of the *mansio* at *Cataractonium* (Blagg 2002, figs 370–1) and it is possible these pieces came from a location where appearance, as well as functionality, mattered. There are extensive remains of mortar, or a very roughly applied plaster, within the channel, and small patches of a different mortar (whiter and with larger inclusions) on the upper face of the wall towards one end of the stone.

Catalogue

913. Stone gutter. L: 570mm, W: 190mm, Th: 120mm, channel depth: 40mm. Field 246; Context 24148; disturbed aggregate road fabric; modern. RF13743. Not illustrated.

CHAPTER SUMMARY

Rachel S. Cubitt and Chrystal M. L. Antink

The key outcome of the analyses presented in this chapter has been to demonstrate the range of craft/industrial activities attested in the artefactual record. Of primary importance amongst these is the pellet manufacturing. Understanding this cache of material has required a collaborative approach between the material and stratigraphic studies. The outcome of that research can be summarised as follows in terms of answers to the A1 scheme research questions. Taken together, the artefactual and stratigraphic evidence (outlined in Chapters 2 and 3) supports the interpretation of a workshop area, presenting a rare opportunity to consider mould trays with associated contextual evidence.

The evidence for pellet manufacture is primarily in the form of the pellet mould fragments, which have been described and researched in a way that permits detailed comparison with other published material (see Landon 2016). As part of this work, compositional analysis of precious metal prills trapped within the fabric of the mould fragments was undertaken. A possible pellet (Cat. no. 686; see Chapter 6) has undergone qualitative surface analysis. The analytical work indicates the use of precious metals, specifically a ternary alloy of gold, silver and copper, along with a silver-copper binary alloy. Other evidence for precious metals at the site is in the form of a gold offcut (Cat. no. 696) and gold sheet fragment (Cat. no. 697). The relationship between these fragments and the pellet manufacturing operation has not been fully determined. Croom (Chapter 6) outlines the paucity of other gold work from this area at this date. A connection offers the simplest solution but is not demonstrable.

The manufacturing activity extends from the late 1st century BC to the mid-1st century AD. The most likely undisturbed deposit of discarded moulds probably dates to the early 1st century AD and is associated with Structure 51i. The peak of deposition appears to be in Period 2. Special treatment of the fragments in terms of selection of particular elements was noted and parallels similar observations elsewhere. A major result of the detailed investigation of the pellet mould fragments, considered alongside the stratigraphic data, has been to flesh out the life cycle of the manufacturing operation, the scale of which is worthy of comment. An output of 3650 pellets is postulated as the low end of the estimates.

The first stage in the process was to make the trays. Comparing and contrasting with examples from elsewhere in Britain demonstrates that the Scotch Corner assemblage comprises more than one manufacturing approach, including a previously unrecorded form of mould tray. It is postulated that some of the artisans working on the tray manufacture were doing so for the first time. However, the group of manufacturers included at least some 'experts' with experience of the mould trays employed elsewhere in Britain. Other indications of expert involvement and a keen understanding of the process and its outcomes were garnered from other aspects of the study of this material, the stratigraphic features apparently designed to permit recovery of previous metals lost during the pellet manufacturing process being one example (see below). Wherever the tray-making operation was taking place, whether in the wider unexcavated Scotch Corner settlement or further afield, the two types of mould tray were brought together at the point of use and were found mingled in their contexts of deposition.

Regardless of where they were made, that the trays were designed for forming metal pellets is not in doubt. Evidence suggests that a single medium-sized, or several small, episodes of pellet manufacturing took place over Periods 1 and 2 at Scotch Corner. Mould trays are often referred to as coin moulds; however, there have been recent arguments made against them being used exclusively for coinage. While referencing this debate, Ponting, Landon and Morley-Stone settle on coinage as the product, seeing the pellet-moulding process as being indivisible from coin manufacture. The evidence from Scotch Corner perhaps prompts further questions rather than offers firm conclusions, and the following summary of the potential inferences aims to keep an open mind.

The method of producing coinage from moulds, such as those found at Scotch Corner, is multi-stage. The probable pellet that was recovered from the excavation can be termed globular, matching the descriptor that Tylecote (1986, 114) applies to as-moulded pellets. Once cast, the pellets are thought to have been struck while hot to produce a flan or blank (stage 2), and then further struck to produce a coin (stage 3; *ibid*., 115). Haselgrove assents to a staged process (Landon 2016, 60), although with the balance of stages altered to emphasise the disbursement of the coins post-production, reflecting the mindset of an archaeologist rather than a metallurgist. Evidence that pellet production was taking place, albeit perhaps in the wider Scorch Corner settlement rather than within the excavated area, derives both from the mould fragments and the globular pellet recovered, with the latter determined to have a composition comparable to that of coinage.

Artefactual evidence for the second and third stages of the process as outlined by Tylecote has not be recognised within the Scotch Corner assemblage. However, the great rarity of the items that might be connected to this process in Iron Age Britain as a whole means that their absence cannot be taken as evidence for the absence of coin minting at this site. Only a handful of Iron Age coin dies are known, all from southern Britain. Coin flans are also known, and where recorded on the Portable Antiquities Scheme database also have a southern distribution (Haselgrove 2018). The heavy tool used for striking, most likely a hammer, may have been indistinguishable from similar tools used for other purposes.

If coins were being made from the pellet moulds discovered then they were Iron Age, as the gold alloy is not consistent with Roman gold coinage of this period, which is assumed to be essentially pure gold bullion (Butcher and Ponting 2015, 6). It is notable then that the Brigantes are considered not to have been a monetary society and certainly there are no known coins of their issue. The large corpus of pellet moulds from Braughing/Puckeridge comes from an area where the local tribes were unusual in the degree to which their day-to-day economy had become monetised (Landon 2016, 60). This appears in contrast to the very limited evidence that exists for coin use in the north in Late Iron Age Britain, as outlined in Chapter 1.

Taking all of these things together, how can the presence of the pellet mould fragments at Scotch Corner be explained? First there is clearly the possibility that the assemblage represents minting at Scotch Corner linked to an issue of Brigantian coinage, which to date is otherwise unrecognised in the archaeological record. New coin types continue to be added to the corpus, augmented by increased reporting of metal-detector finds through the Portable Antiquities Scheme. Between the publication of the catalogues of British Iron Age coinage by Van Arsdell (1989) and Cottam *et al*. (2010), 418 new types were recognised. On the other hand, given the relative absence of Iron Age coins in northern Britain altogether, a new type from this area might be considered unlikely.

A second possibility is that the pellet moulds are representative of a coin-minting operation, the component stages of which were taking place across more than one location, only one of which is within the excavation area. The 19th-century find of a hoard of Gaulish gold globules-à-la-croix at Netherurd in the Scottish Borders shows that plain Iron Age coins could sometimes travel a long way beyond their area of origin (in their case present-day northern France; Tylecote 1986, 114; Haselgrove 2009); the same might conceivably be true of gold globular pellets produced in one place for later conversion into coin in another. This model would work equally if the same authority were controlling all of the process stages across the locations, or if the pellets were traded or exchanged further afield with another authority who undertook the minting.

Ponting *et al*. (this chapter) postulate that Scotch Corner might in fact represent the other end of the process, being instead the place where the spent pellet moulds have been collected together post-minting. Certainly, the evidence suggests that craftspeople occupying the site had the knowledge to attempt reclamation of precious metal lost during the manufacturing process, perhaps another indication of specialism amongst the Scotch Corner metalworkers. Unless itself a reclaimed item, the presence of the gold pellet is harder to reconcile with this option. Locations for the other stages of manufacture and reasons for production to be divided in this way remain to be determined. If within the wider settlement of Scotch Corner, issues around the lack of identified Brigantian coinage must still be tackled.

The remaining possibility is that the final product of the manufacturing at Scotch Corner is non-numismatic. The lack of homogeneity in the composition of the prills within the pellet mould fragments (Table 7.22) is notable. In a region where there is no developed monetary economy, the bullion value of coinage is key, thus consistence of alloy might represent an important consideration in interpreting these results. The tightly plotted results for each of the four Iron Age coin types shown in Figure 7.22 are a demonstration of such a lack of alloy variation. Further, Landon's (2016, 182–3) study of coin pellet moulds from multiple sites does not offer any support to previous work attempting to equate hole size with specific coin denominations. Non-coin precious metal objects of the Iron Age fall into the category of adornments. Within that range, there may have been different intended products with the alloys characterised in the analysis, perhaps offering different qualities in terms of colour and hardness, etc. Although high for the Late Iron Age, the average gold composition of the ternary alloy prills does appear to have some coincidence with the plotted values for adornments (see Fig. 7.22). However, the conversion of adornment into pellet would be an equally valid process, perhaps accounting for some of the alloy variability and for the cut fragments of sheet gold mentioned above.

By way of summary, the nature of the evidence from Scotch Corner perhaps directs itself towards a similar conclusion to that drawn by Landon in his study of other pellet mould groups. It is not necessarily the case that pellet manufacturing and/or coin minting operated by and through the same mechanisms across all of Iron Age Britain (Landon 2016, 183). The comparative evidence brought to bear on the Scotch Corner material throughout this chapter is highly instructive and demonstrates clear points of comparison and contrast. However, the conclusions from study of other sites need not be directly transferable to the material here.

Other metalworking activities are also evidenced at Scotch Corner, reinforcing the impression of a concentration of manufacturing at the settlement. Non-ferrous casting is illustrated by crucible fragments and a possible ingot, although evidence for what was being cast is absent. The possible investment mould fragments are described by Mackenzie as debatable. There is only slim overlap in the areas where ferrous and non-ferrous metalworking are attested. Evidence for ferrous metalworking in the form of smelting, refining and smithing has been outlined by Mackenzie. The strongest impression of ferrous metalworking is noted at Gatherley Villa in Period 1. The evidence was for iron smithing and there was nothing to indicate other metalworking taking place. Small-scale smithing is also attested in Field 246 in Period 4.

The ironworking as a whole is described as small scale, perhaps appropriate to satisfy local demand. There is evidence for both iron smelting and smithing activity. A possible smelting furnace is postulated at Gatherley Villa in Period 1, although the quantity of associated debris is small and less than might be expected from a single smelting operation. This scarcity of associated debris and the specialisation required for smelting, as opposed to smithing activity, leads to the suggestion of itinerant workers being involved. Smithing activity was more widely evidenced across the areas and Periods which, as the authors state, reinforces the impression given in the literature of this being a more widespread practice. The other fired-clay assemblage outlined and discussed by Britton allows loci of hot-working activity to be identified, relating to manufacturing and/or domestic activity. A cohesion of both processes at Scotch Corner is noted, along with a commercial signature from Gatherley Villa in the same Period as the possible smelting furnace.

The CBM was recovered with a substantial quantity of other classes of finds of the 1st to early 2nd century AD at Scotch Corner. There was very little CBM altogether, and none of it seems to have been found in its place of primary use; it is therefore unclear what its purpose was, as it can be used for more than structural material. Overall, the quantity of Roman building material does not suggest it culturally supplanted the native tradition (see Chapter 6); rather, Roman material culture was being imported or gifted to the local community.

The significant majority of CBM came from Period 4, which is indicative of a higher frequency of interaction between Romans and the local population at that time. The evidence suggests that timber-framed, rectangular buildings became dominant duting this Period. As so little CBM was found (insufficient to construct or roof even a single modest building), it must be concluded that whatever structure the CBM was intended for—if it was used structurally at all—is outside the area of excavation. Of note is that Scotch Corner completely lacked hypocaust material in either stone or ceramic. While this might suggest a lower-status settlement, in the case of Scotch Corner the archaeological evidence demonstrates that this is not the case. Therefore, it is more likely that the settlement was occupied before hypocaust technology became widespread. The suggestion that the CBM was of the same fabric as some mortaria found at Scotch Corner, combined with the knowledge that CBM was generally a military product in the early period of the empire, implies the established presence of the Roman military.

CHAPTER 8
ANIMAL AND PLANT REMAINS

Elizabeth Wright, Jonathan Baines and Hannah Russ, with a contribution from Julie Shoemark

INTRODUCTION
Jonathan Baines

The animal and plant remains from Woodside, Gatherley Villa, Scurragh House, Selgarth Farm and Scotch Corner provide a view of the diets and economy of the people living at these locations in the Late Iron Age and Early Roman periods. The evidence from these settlements presents a varied nutrition of meat, fish, shellfish and plant foods, all of which are consistent with this time period, but within which there is tentative evidence for change arising from the influence of the Roman Empire. The raw data for the assemblages discussed in this chapter are available in Appendices L–O, which can be accessed via the ADS.

Although the presence of the Roman army and its civilian officials did not leave behind any exotic ingredients (with the possible exception of a single mineralised grape pip at Scotch Corner, which may be intrusive), their influence in the region marked the organic record, in particular with butchery waste and suggestions of woodcraft. Concentrations of animal and plant remains near the road junction within the Roman settlement at Scotch Corner are interpreted as debris from temporary, but dedicated, activities in the otherwise transient atmosphere typical to the setting on a busy road. The high proportions of older cattle and sheep bones, as well as traces of bedding and fodder in the enclosures may suggest animals were kept nearby as living resources of wool, milk, traction or conveyance. Identification of chicken remains, small salmonid vertebra and rye grain stand out as examples of the settlement's rural character being infused with contact outside the community. As the beneficiary of traffic and consumption befitting a roadside economy, it is no surprise that finds of a distinct quantity of equid, cattle and their required fodder imply a dense settlement. However, the bone and plant assemblages clearly represent a sample of a community that better fits the label of consumer than producer. The record obtained from the settlement periphery, for instance, revealed a similar spectrum of domestic debris as was preserved in the core, and few traces of cultivation, breeding or food processing were in evidence.

The data presented in this chapter can be used in concert with the archaeological evidence described in Chapters 2–4 to go some way to addressing the research questions outlined in Chapter 1, and all are brought together in Chapter 10. While the many bulk samples provide information about the road junction's economy in general, the relative homogeneity of the bone and plant assemblages are difficult to interpret in terms of the wider context of economy, trade or particular farming regimes in the Late Iron Age and Early Roman periods in north-east England. Moreover, the evidence suggests more complexity than might be expected for a straightforward rural settlement. The principal spatial variation in ecofact distribution was due to temporal circumstance and, apart for the workshop enclosure, not representative of areas in the settlement with a distinct function or suite of activities. Aspects of the assemblages allude to the presence of nearby running water, for instance the eel and riparian vegetation, as well as the possible damp habitat of enclosure ditches. However, they do not elucidate uses of water in the community, nor do they clearly relate to the excavated features interpreted as intended for the collection of water. Finally, no evidence was ascertained for production of surplus. On the contrary, there are indications, albeit small, that additional food was walked in on the hoof and that some grain was brought in (cf. cattle butchery in group **29959** and the nearby corncockle (a cornfield annual) in pit **26002**, Period 4, Field 258).

MAMMAL AND BIRD REMAINS
Elizabeth Wright

Gatherley Villa, Selgarth Farm and Scotch Corner are the only excavations included in this volume that yielded mammal and bird remains. Of these, Scotch Corner produced by far the largest number of remains and this assemblage forms the main focus of the analysis below. Most of the remains from this location were recovered from contexts that were attributed to Period 4 (broadly the Flavian period) and very few are from the earliest-dated occupation in the Late Iron Age.

The assemblages from Gatherley Villa and Selgarth Farm are small and do not allow for much discussion. The assemblage from Scotch Corner, however, is important, as rural sites with animal bone assemblages dated to the Early Roman period are rare in northern England.

MATERIAL AND METHODS

Hand-collected and sampled material is presented separately for analysis in order to account for biases introduced by the recovery methods.

Mammal and bird bones from all the excavations discussed in this volume were recorded using the system outlined by Bertini Vacca (2012). This system records a pre-defined set of skeletal parts ('diagnostic zones') that are defined as 'countable'. These are then used in the quantification of species and body parts. All selected elements were recorded (and counted) where just one pre-defined 'zone' was present. If a specimen had characteristics of archaeological interest that were worth recording, but it did not belong to a 'diagnostic zone', it was recorded as 'uncountable', but still referred to if important. Vertebrae and ribs were recorded as present or absent for each context and according to three size categories: small (e.g. hare/cat), medium (e.g. pig/sheep) and large (e.g. horse/cattle). Horncores and antlers were recorded when a complete transverse diameter was present but were not used in taxonomic quantifications.

Surface preservation was recorded as 'awful', 'bad', 'medium', 'good' and 'excellent', according to how much of the original cortical bone surface was still visible. Identifications were made with the help of the reference collection held at Northern Archaeological Associates, in addition to the use of identification atlases and papers (e.g. Schmid 1972; Barone 1976; Prummel 1988; Cohen and Serjeantson 1996). The distinction of sheep (*Ovis aries*) and goat (*Capra hircus*) was attempted using the criteria of Schmid (1972) and Clutton-Brock *et al*. (1990) for horncores, Payne (1985) and Halstead *et al*. (2002) for teeth, and Boessneck (1969), Kratochvil (1969) and Zeder and Lapham (2010) for postcranial remains, although no specimens were assigned to goat in this assemblage. The identification of deer remains followed Prummel (1988) and Lister (1996). Lagomorphs were identified according to size (*sensu* Albarella and Davis 1994).

Species frequencies are presented using the Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI). Body part frequencies are presented using Minimum Number of skeletal Elements (MNE) and Minimum Animal Units (MAU). Butchery and burning marks were recorded where present. The presence of gnawing marks by carnivores and rodents, as well as pathologies and trauma in the specimens, was also recorded.

The fusion of post-cranial bones for all taxa was recorded as 'fused', 'fusing' or 'unfused' (Davis 1992; Albarella and Davis 1994). Tooth wear stages were recorded for cattle and pig according to Grant (1982), and for sheep/goat according to Payne (1973; 1987). Mandibular wear stages were attributed to age categories according to

Table 8.1: Number of Identified Specimens (NISP) of mammal and bird remains from Gatherley Villa (hand-collected only).

Taxa		**Period**		**Total**
		1	**Post-medieval**	
Bos taurus	Cattle	1	–	1
Sus domesticus	Pig	1	134	135
Ovis/Capra	Sheep/goat	3	1	4
Total		**5**	**135**	**140**

O'Connor (1988) for cattle and pig, and Payne (1973) for sheep/goat. Maxillary tooth eruption and wear was recorded for pigs, according to Wright *et al*. (2014). Jaws that could not be directly attributed to age categories using these systems (i.e. the tooth furthest back in the jaw was missing), but which still had at least two teeth with recordable eruption/wear, were given estimated attributions following Grant (1982) for cattle, Wright *et al*. (2014) for pig, and Payne (1973) for sheep/goat.

A series of measurements were taken on bones and teeth for a number of different species. The criteria for the measurements followed von den Driesch (1976) in most cases, but additional measurements were taken according to Davis (1992) and Payne and Bull (1988).

The full recording protocol and the recorded data are presented in Appendix L, which can be viewed and downloaded from the ADS.

RESULTS

Remains were assigned to five Periods spanning the Late Iron Age to the Early Roman period (see Chapter 1).

Gatherley Villa

A small number of hand-collected countable remains, comprising a total of 140 specimens, was recovered from Gatherley Villa (Table 8.1). The majority were attributed to the post-medieval period, with only five teeth attributed to Period 1. All bone specimens displayed medium or good surface preservation, but only teeth were recovered from Period 1, indicating that conditions for preservation may not have been ideal here.

The five loose teeth attributed to Period 1 consisted of three from sheep/goat; one from cattle; and one from pig, which constitutes the main domestic species exploited at this time. Although there were no further countable remains recovered during sampling, several contexts attributed to Period 1 contained unidentifiable burnt and calcined bone fragments. All these contexts were from gully fills related to Structures 62 (contexts **6461** and **6485**), 63 (contexts **6230**, **6269**, **6272**), 65 (context **6043**) and 67 (context **11473**).

Selgarth Farm

A total of 24 countable specimens were recovered at Selgarth Farm (Table 8.2), all of which were collected by hand. Twenty-three of these could not be assigned to a specific Period. The final specimen, attributed to Period 1, is a loose equid maxillary premolar or molar. Additionally, a few contexts contained unidentifiable and uncountable burnt and calcined bone fragments, which were recovered through sampling. These were from gully fills related to Structures 67 (contexts **7407** and **7458**) and 68 (context **7571**).

Scotch Corner

Scotch Corner produced by far the largest assemblage of mammal and bird bones of all the excavations, with 1203 hand-collected specimens. Although

Table 8.2: Number of Identified Specimens (NISP) of mammal and bird remains from Selgarth Farm (hand-collected only).

Taxa	Period		Total
	1	None	
Sheep	–	23	23
Equid	1	–	1
Total	**1**	**23**	**24**

this assemblage is not very large compared to urban Roman sites, it is a sizeable collection for a roadside settlement, particularly from the north of England, and is particularly significant because of its early date. The assemblage from Period 4 is the basis for most of the analysis presented here, as only a very small number of specimens can be attributed to the Pre-Roman Iron Age (Period 1). Only Period 4 yielded more than 100 specimens. Where Periods would normally be combined for analysis in order to increase sample size, Period 4 is often presented on its own, as it makes up most of the assemblage, and provides a robust sample by itself that reflects a distinct time period.

Preservation

Bone surface preservation at Scotch Corner was average, with a majority of bones displaying a 'medium' state (Fig. 8.1). However, there was some variation, which can be seen between the three main feature groups (the only groups that contained more than 50 specimens each). The best preservation was seen in group **29959** (which combines a number of midden contexts) and group **28131** (which relates to a number of pit contexts), with slightly worse preservation observed in group **29955** (contexts related to Structure 39, including foundation and surface layers). This pattern may reflect differences in preservation between the contexts in which the remains were deposited. Middens and pits tend to have relatively good preservation when compared to foundation and surface layers, where bones might be expected to be disturbed after deposition, and therefore more vulnerable to wear.

Carnivore gnawing was relatively uncommon and rodent gnawing was completely absent (Table 8.3). Only 16 specimens showed any indications of gnawing, all of which were from Periods 4 and 5, and amount to a very low proportion of the material overall. Context group **28131** was the only group to contain multiple gnawed specimens, which indicates that the material in these pits was accessible to carnivores at some point, presumably before being deposited in the pits. Further discussion of the different context groups is provided below.

Species representation

Table 8.4 presents the NISPs from the hand-collected assemblage (n=1203), while Table 8.5 presents NISPs from samples (n=164). Table 8.6 presents all the identified articulating elements and partial skeletons from the assemblage.

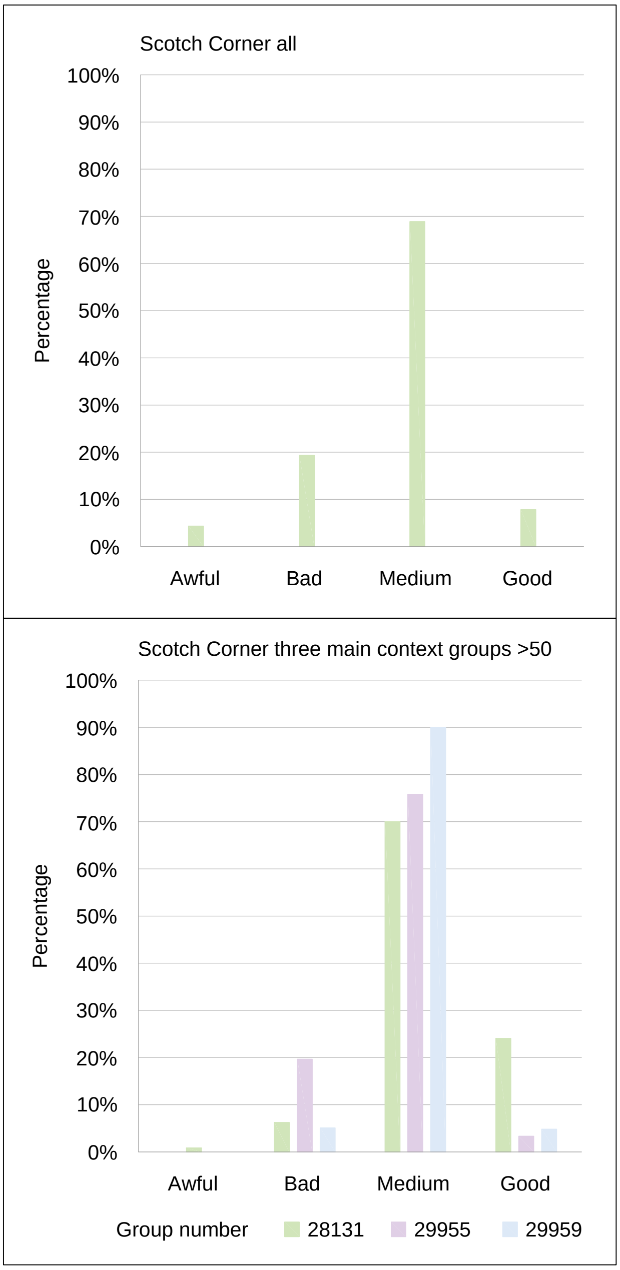

Figure 8.1: surface preservation at Scotch Corner (top) and in the three main feature groups containing greater than 50 specimens (bottom).

The assemblage at Scotch Corner was dominated by domestic cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*) and pig (*Sus domesticus*) remains. Equids (*Equus sp.*) and dogs (*Canis familiaris*) were also present. Wild mammals were represented by some possible countable deer remains, but also one uncountable red deer (*Cervus elaphus*) antler fragment, as well as hare (*Lepus*), and one specimen from a small rodent (subfamily *Murinae*). Sheep was identified but not goat. As a result, the likelihood is that most caprine remains belong to sheep, and this group is referred to as such for the rest of the chapter.

In terms of birds, galliforms were best represented, the majority of which were chicken (*Gallus gallus*) or likely to be chicken, as pheasant was rare in Britain during this time. Raven (*Corvus corax*) and a possible swan (*Cygnus sp.*) were also represented, as well as passerines.

Table 8.3: levels of gnawing in Period 4 Period and 5. There was no evidence of gnawing in the material from Periods 1–3.

Taxa	Periods 4–5		
	Gnawing NISP	Total NISP	%
Cattle	2	458	0.4
Pig	1	123	0.8
Sheep/goat	13	279	4.7
Total	**16**	**860**	**1.9**

*Table 8.4: Number of Identified Specimens (NISP) of mammal and bird remains from Scotch Corner (hand-collected) by Period. *indicates that this number includes some articulating material.*

Taxa		Period															Total
		1	1–2	1–3	2	2–3	2–4	3	4	4–5	5	5+	Medieval–post-medieval	Post-medieval	Modern	None	
Cattle	Bos taurus	4	2	4	7	4	8	2	392*	21	45	27	12	–	8	4	540
Pig	Sus domesticus	–	1	3	2	2	–	–	117	3	3	4	4	3	1	3	146
Sheep/goat	Ovis/Capra	1	2	1	11	7	2	2	247	15	17	24	2	3	–	4	338
?Sheep/goat	?Ovis/Capra	–	–	–	–	–	–	–	5	–	1	–	–	–	–	1	7
Sheep	Ovis aries	–	–	–	–	–	–	–	20	1	2	–	–	–	2	–	25
Deer/cattle	Cervus/Bos	–	–	3	1	–	–	1	20	–	3	1	1	1	–	1	32
Sheep/goat/roe deer	Ovis/Capra/Capreolus	–	2	2	–	2	1	–	7	1	–	–	–	–	–	–	15
?Deer	?Cervus	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Equid	Equus	–	–	–	–	1	–	1	41*	1	2	7	–	–	–	2	55
Dog	Canis familiaris	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Chicken	Gallus gallus	–	–	–	–	–	–	–	18	2	2	1	–	–	–	–	23
Chicken/pheasant	Gallus/Phasianus	–	–	–	–	–	–	–	10	2	2	1	–	–	–	–	15
Raven	Corvus corax	–	–	–	–	–	–	–	3	–	–	–	–	–	–	–	3
?Swan	Cygnus sp.	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Small murinae	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Total		**5**	**7**	**13**	**21**	**16**	**11**	**6**	**449**	**46**	**78**	**66**	**19**	**7**	**11**	**15**	**1203**

Table 8.5: Number of Identified Specimens (NISP) of mammal and bird remains from Scotch Corner (from sample) by Period.

Taxa		**Period**											**Total**
		1–2	**2**	**2–3**	**2–4**	**3**	**4**	**4–5**	**5**	**5+**	**Medieval–post-medieval**	**Post-medieval**	
Cattle	Bos taurus	1	1	–	–	–	13	2	–	–	1	1	19
Pig	Sus domesticus	2	8	–	–	1	18	–	–	–	–	–	29
Sheep/goat	Ovis/Capra	1	4	3	2	3	72	–	7	1	–	–	93
?Sheep/goat	?Ovis/Capra	–	–	–	–	–	1	–	–	–	–	–	1
Deer/cattle	Cervus/Bos	–	–	–	–	–	–	–	1	–	–	–	1
Sheep/goat/roe deer	Ovis/Capra/ Capreolus	–	1	–	–	–	3	–	–	–	–	–	4
Equid	Equus	–	–	–	–	–	1	–	–	–	–	–	1
Dog	Canis familiaris	–	–	–	–	–	1	–	–	–	–	–	1
Hare	Lepus europaeus	1	–	–	–	–	–	–	–	–	–	–	1
Chicken	Gallus gallus	–	–	–	–	–	4	1	–	–	–	–	5
Chicken/ pheasant	Gallus/Phasianus	–	–	–	–	–	2	–	–	–	–	–	2
Passerine	Passeriformes	–	–	–	–	–	6	–	–	–	–	–	6
Human	Homo sapiens	–	–	–	–	1	–	–	–	–	–	–	1
Total		**5**	**14**	**3**	**2**	**5**	**121**	**3**	**8**	**1**	**1**	**1**	**164**

Table 8.6: list of identified articulating elements and partial skeletons.

Context	**Period**	**Species**	**NISP**	**Details**
15422	4	Equid	3	Metacarpal with first and second phalanges
26126	4	Bos	2	First and second phalanges
27573	4	Sus	NC	Lateral second and third phalanges
31709	4	Bos	2	Left radius and ulna

In the hand-collected assemblage, cattle were the most common species (n=540), followed by sheep/goat (n=338) and then pig (n=146). Equids were represented by 55 hand-collected specimens, which is a relatively high number for such a small Roman assemblage. Therefore, this species has been included in the calculations for %NISP.

The assemblage retrieved from samples has a higher number of sheep/goat and pig remains than cattle when compared to the hand-collected assemblage. In addition, all the small bird remains were retrieved from samples. This reflects that the remains of smaller species and elements are more easily missed during hand collection.

According to NISP, cattle make up the highest proportion of the domestic assemblage (considering cattle, pig, sheep and equid) at around 50%. Sheep account for approximately 30%, while pig makes up c.10% and horse 5% (Table 8.7; Fig. 8.2). This pattern reflects the Period 4 remains, which dominate the assemblage. Period 5, which has the second highest quantity of remains, shows an increase in the importance of cattle and sheep/goat. However, this assemblage is made up of only 65 specimens; thus, this pattern could relate to sample size. Minimum Number of Individual (MNI) values indicate that sheep were of greater importance in Period 4, and cattle less so, than indicated by NISP (Fig. 8.3), as they are represented by a similar proportion to cattle (around 40%).

Spatial distribution of different species groups

Most remains are from deposits associated with a small number of context groups (Table 8.8). Two of these groups in particular have produced the largest number of remains: **28131** (a group of pit contexts in Field 258) and **29959** (a group of midden contexts in the south of Field 265). Both of these context groups have been attributed to Period 4, although they are thought to have quite different depositional histories. The pits forming group **28131** are thought to be earlier storage pits, backfilled with material from an earlier midden (see Chapter 4), whereas group **29959** is more likely to contain material at its original point of deposition (this is discussed further in the butchery and discussion section). Group **28131** is dominated by sheep remains, and has the best representation of chicken, whereas group **29959** is dominated by cattle remains.

Other context groups that yielded more than 20 hand-collected specimens are:

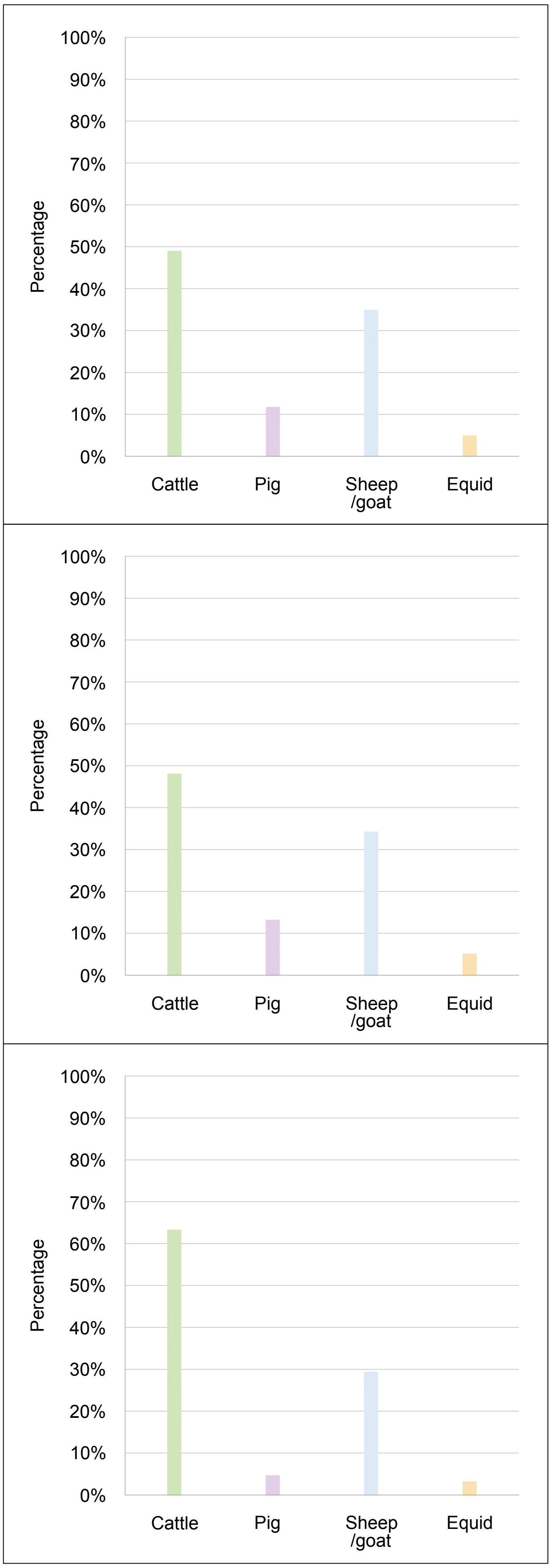

Figure 8.2: (left) %NISP for hand-collected remains for the four main species at Scotch Corner, with all Periods combined (top), and for Period 4 (middle) and Period 5 (bottom). Counts have been adjusted for comparability between the different species in the following ways: partial skeletons are counted as one bone; pig metapodials have been divided by two; upper incisors have been excluded; pig first premolars have been excluded; and cattle, pig and sheep phalanges have been divided by 2. Data are provided in Table 8.7.

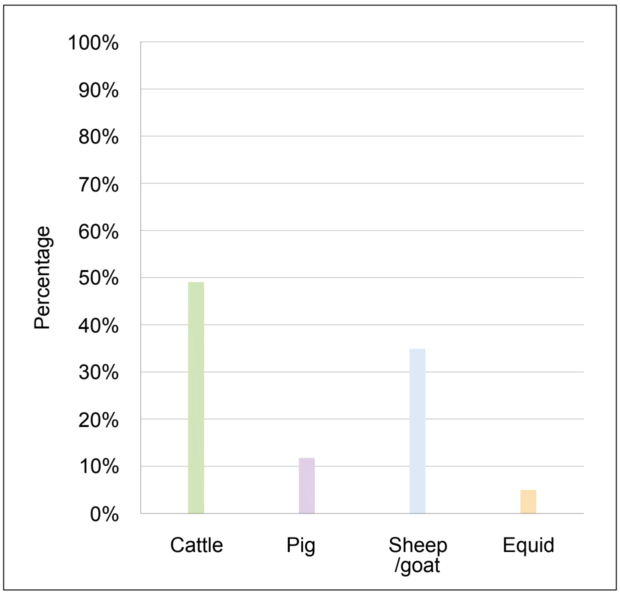

Figure 8.3: %MNI for hand-collected remains for the four main species at Scotch Corner in Period 4.

Field 258: group **28133** (fills from the south-west to north-east ditch in the north-east of Field 258; Chapter 4, Figs 4.33 and 4.34) and **28161** (fills of a south-east to north-west segmented ditch in the centre-west corner of Field 258; Figs 4.21 and 4.34). Both of these groups contained less than 30 specimens, which was not enough to demonstrate a clear pattern. Group **28133**, however, is dominated by equid remains. These are mostly teeth, which could possibly be from the same jaw. Therefore, they may not indicate a particularly high deposition of equids in this area.

Field 265: group **29955**, which contains contexts related to a roadside stable Structure 39 (Chapter 4, Fig. 4.77); context group **29958**, containing contexts related to Structure 38 (Fig. 4.39); and context group **29972**, containing contexts related to a colluvial deposit (Fig. 4.16). These groups show a broadly similar pattern to group **29959**, with cattle tending to dominate. Group **29955** is thought to contain material from slightly later than the other groups in this area and has been assigned to Period 5.

Element representation

Skeletal element distributions are provided for cattle, pig, sheep and equid for Periods 4 and 5 (Tables 8.9 and 8.10). Frequencies of skeletal elements have been presented using Minimum Animal Unit (MAU) values rather than NISP in order to eliminate any bias from elements that occur more frequently in the body (see Binford 1984). The highest MAU value for each species is taken as the Minimum Number of Individuals (MNI). The formulae used to calculate these values are provided

Table 8.7: raw data used for %NISP and %MNI in Period 4 and Period 5.

Taxa	NISP	%NISP	MNI	%MNI	Element
Period 4					
Cattle	374	48	14	39	Third molar
Pig	102.5	13	5.1	14	Metacarpal
Sheep/goat	266.5	34	15	42	Tibia
Equid	39	5	2	6	Radius
Total	782	100	36.1	100	
Period 5					
Cattle	41	63	2	–	Scapula
Pig	3	5	0.5	–	Radius
Sheep/goat	19	29	1.5	–	Multiple
Equid	2	3	0.5	–	Premolar/molar
Total	**65**	**100**	**4.5**	**–**	

Table 8.8: context groups containing more than 20 hand-collected specimens.

Taxa	**Period 4**												**Period 5**		**Total**
	28131		**28133**		**28161**		**29958**		**29959**		**29972**		**29955**		
	Bones	**Teeth**	**Bones**	**Teeth**	**Bones**	**Teeth**	**Bones**	**Teeth**	**Bones**	**Teeth**	**Bones**	**Teeth**	**Bones**	**Teeth**	
Hand–collected															
Cattle	28	15	2	1	3	4	10	7	170	25	23	3	36	7	334
Pig	21	19	2	–	3	–	4	8	10	4	2	4	1	2	80
Sheep/goat	48	13	2	1	6	3	18	6	13	8	–	1	13	4	136
Sheep	6	3	–	1	–	–	2	1	–	–	–	–	1	1	15
?Sheep/goat	–	–	–	–	–	–	–	–	–	–	1	–	1	–	2
Cattle/deer	1	–	1	–	–	–	1	–	11	–	2	–	3	–	19
?Deer	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Sheep/goat/roe deer	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Equid	1	–	1	9	–	–	2	–	1	–	3	–	1	–	18
Dog	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1
Chicken	15	–	2	–	–	–	1	–	–	–	–	–	2	–	20
Chicken/pheasant	8	–	1	–	–	–	–	–	1	–	–	–	2	–	12
Raven	–	–	–	–	1	–	1	–	1	–	–	–	–	–	3
Small murinae	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1
Total	129	51	11	12	14	7	39	22	207	37	31	8	60	15	643
Total bones + teeth	180		23		21		61		244		39		75		
From sample															
Cattle	–	2	–	–	–	–	–	–	–	1	–	1	–	–	4
Pig	6	1	–	–	–	–	–	1	–	–	–	–	–	–	8
Sheep	6	7	–	–	1	7	4	3	–	3	1	–	2	2	36
Equid	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Chicken/pheasant	3	–	–	–	–	–	–	–	–	–	–	–	–	–	3
Passeriform	6	–	–	–	–	–	–	–	–	–	–	–	–	–	6
Total	21	10	0	0	1	7	4	4	0	5	1	1	2	2	58
Total bones + teeth	31		0		8		8		5		2		4		

Table 8.9: skeletal element distribution for the four main domesticates in Period 4.
NB: highlighted cells indicate highest MAU values, which double as MNI.

Element	Bos		Sus		Ovis		Equid	
	MNE	MAU	MNE	MAU	MNE	MAU	MNE	MAU
Mandibular								
Incisors	14	1.75	16	2.70	1	0.10	0	0.00
Canines	–	–	8	4.00	0	0.00	0	0.00
Premolars	33	5.50	11	1.80	41	6.80	0	0.00
M1+M2	44	11.00	14	3.50	52	13.00	0	0.00
M3	28	14.00	8	4.00	21	10.50	0	0.00
Maxillary								
Incisors	–	–	2	0.30	0	0.00	0	0.00
Canines	–	–	6	3.00	0	0.00	0	0.00
Premolars	8	1.33	12	2.00	2	0.30	2	0.33
Premolar/molar	1	0.08	0	0.00	0	0.00	11	0.92
M1+M2	18	4.50	3	0.80	16	4.00	0	0.00
M3	15	7.50	3	1.50	4	2.00	2	1.00
Molar	7	1.17	0	0.00	1	0.20	0	0.00
Unknown								
Incisors	0	0.00	0	0.00	0	0.00	1	0.08
Postcrania								
Cranium	1	0.50	0	0.00	0	0.00	0	0.00
Atlas	3	3.00	1	1.00	1	1.00	0	0.00
Axis	0	0.00	0	0.00	1	1.00	0	0.00
Scapula	12	6.00	6	3.00	3	1.50	1	0.50
Humerus	25	12.50	3	1.50	12	6.00	2	1.00
Radius	27	13.50	5	2.50	17	8.50	4	2.00
Ulna	10	5.00	6	3.00	3	1.50	1	0.50
Metacarpal	6	3.00	10.25	5.13	22	11.00	3	1.50
Pelvis	9	4.50	2	1.00	8	4.00	2	1.00
Femur	16	8.00	3	1.50	0	0.00	2	1.00
Tibia	12	6.00	5	2.50	30	15.00	0	0.00
Astragalus	9	4.50	1	0.50	3	1.50	0	0.00
Calcaneum	11	5.50	3	1.50	6	3.00	0	0.00
Scaphocuboide	2	1.00	0	0.00	0	0.00	0	0.00
Metatarsal	8	4.00	1.75	0.88	20	10.00	1	0.50
Phalanx 1	19	2.38	1	0.13	5	0.63	3	0.75
Phalanx 2	6	0.75	3	0.38	1	0.13	1	0.25
Phalanx 3	6	0.75	0	0.00	1	0.13	0	0.00

Table 8.10: skeletal element distribution for the four main domesticates in Period 5.
NB: highlighted cells indicate highest MAU values, which double as MNI.

Element	Bos		Sus		Ovis		Equid	
	MNE	MAU	MNE	MAU	MNE	MAU	MNE	MAU
Mandibular								
Incisors	2	0.25	1	0.16	–	–	–	–
Canines	–	–	1	0.50	–	–	–	–
Premolars	4	0.67	–	–	6	1.00	–	–
M1+M2	3	0.75	–	–	6	1.50	–	–
M3	2	1.00	–	–	2	1.00	–	–
Maxillary								
Incisors	–	–	–	–	–	–	–	–
Canines	–	–	–	–	–	–	–	–
Premolars	2	0.33	–	–	2	0.33	–	–
Premolar/molar	–	–	–	–	–	–	1	0.50
M1+M2	2	0.50	–	–	2	0.50	–	–
M3	2	1.00	–	–	–	–	–	–
Molar	–	–	–	–	–	–	–	–
Unknown								
Incisors	–	–	–	–	–	–	–	–
Postcrania								
Cranium	1	0.50	–	–	–	0.00	–	–
Atlas	–	–	–	–	–	0.00	–	–
Axis	–	–	–	–	–	0.00	–	–
Scapula	4	2.00	–	–	–	0.00	–	–
Humerus	3	1.50	–	–	–	0.00	–	–
Radius	1	0.50	1	0.50	3	1.50	–	–
Ulna	2	1.00	–	–	1	0.50	1	0.08
Metacarpal	1	0.50	–	–	1	1.00	–	–
Pelvis	1	0.50	–	–	–	0.00	–	–
Femur	2	1.00	–	–	1	0.50	–	–
Tibia	3	1.50	–	–	3	1.50	–	–
Astragalus	–	–	–	–	–	0.00	–	–
Calcaneum	–	–	–	–	1	0.50	–	–
Scaphocuboide	2	1.00	–	–	–	0.00	–	–
Metatarsal	1	0.50	–	–	1	1.00	–	–
Phalanx 1	6	0.75	–	–	2	0.25	–	–
Phalanx 2	2	0.25	–	–	–	0.00	–	–
Phalanx 3	–	–	–	–	–	0.00	–	–

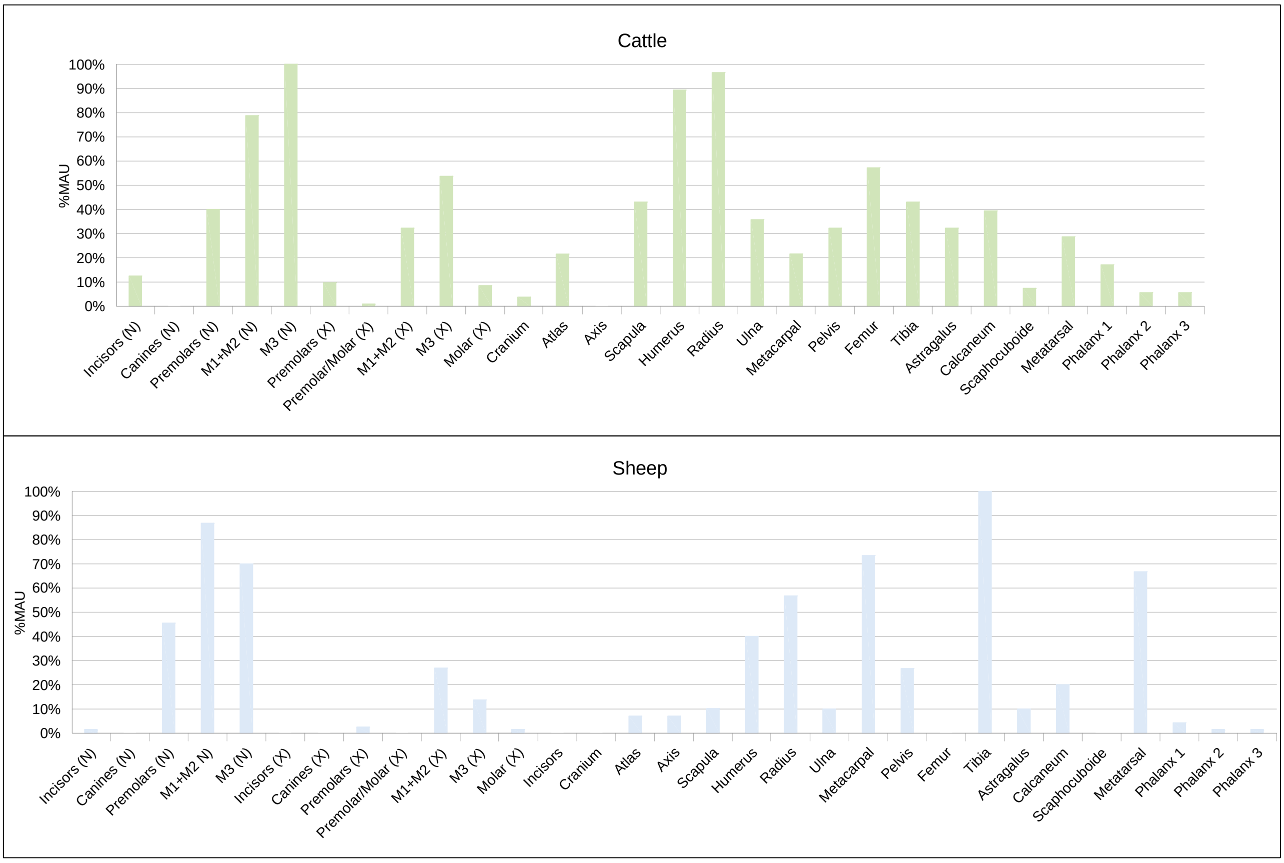

Figure 8.4: body part representation (using %MAU) for cattle (top) and sheep (bottom) from Period 4.

in Appendix L. Only cattle and sheep from Period 4 had large enough samples to present in Figure 8.4.

In Period 4, all parts of the body are represented for cattle, but teeth, particularly mandibular molars, are the best represented elements. Forelimb elements, particularly the humerus and radius, are also well represented. In the case of pigs, there is also representation across most body parts, but again mandibular teeth and forelimb elements are better represented than maxillary teeth and the hindlimb. Sheep remains show a slightly different pattern, with mandibular teeth still well represented, but fore and hindlimb elements (metacarpal, tibia and metatarsal) are represented similarly well according to MAU. The smaller sample size for equids has resulted in a number of missing elements, but maxillary teeth and forelimb elements are the best represented.

A high proportion of the humeri, radii and tibiae in the assemblage from Period 4 were recovered from group **29959** (Table 8.11; Fig. 8.5), and these are also the most common elements displaying evidence for butchery in that group (see below). This pattern could relate to deliberate selection for their meat yield. A high proportion of the sheep remains from Period 4 were recovered from group **28131** (Table 8.12; Fig. 8.5). Therefore, the overall pattern is very similar to that for cattle; however, the explanation for the pattern is less clear, and it may be related to taphonomy.

Period 5 produced smaller sample sizes than Period 4, and there were fewer discernible patterns in terms of element representation. For cattle and sheep, most body parts are represented but there is no clear dominance of any particular element. For pig and equids, both teeth and postcranial remains were recovered, but in small numbers.

Ageing

It was possible to analyse age at death using both epiphyseal fusion (after Silver 1969; Table 8.13 and Fig. 8.6) and tooth eruption and wear (Grant 1982; Payne 1973; Tables 8.14 and 8.15). Samples were small; however, the fusion and mandibular results for each species do broadly agree with each other.

The majority of cattle postcranial remains were from fully mature animals, and the results from mandibular eruption and wear confirm this, with most being from adult or elderly animals (*sensu* O'Connor 1988). This pattern is in keeping with the pattern seen across the whole of Roman Britain; cattle were kept to an old age and used predominantly for their labour (for intensified agriculture).

Sheep fusion results indicate that they were being killed at a slightly younger age than cattle, although the majority were still mature. This is supported by the mandibular results, which indicate a peak in slaughter at mandibular wear stages D and E (1–3 years; *sensu* Payne 1973; 1987). This indicates more of a focus on meat compared to cattle, as this would be the prime meat age, but also suggests that some animals may have been kept to an older age in order to exploit wool.

Table 8.11: skeletal element distribution for the four main domesticates in group ***29959*** *(Period 4). NB: highlighted cells indicate highest MAU values, which double as MNI.*

Element	Bos		Sus		Ovis		Equid	
	MNE	MAU	MNE	MAU	MNE	MAU	MNE	MAU
Mandibular								
Incisors	3	0.38	1	0.17	–	–	–	–
Canines	–	–	–	–	–	–	–	–
Premolars	6	1.00	–	–	3	0.50	–	–
M1+M2	9	2.25	1	0.25	6	1.50	–	–
M3	5	2.50	1	0.50	3	1.50	–	–
Maxillary								
Incisors	–	–	1	0.17	–	–	–	–
Canines	–	–	–	–	–	–	–	–
Premolars	4	0.67	–	–	–	–	–	–
Premolar/molar	–	–	–	–	–	–	–	–
M1+M2	5	1.25	–	–	1	0.25	–	–
M3	5	2.50	–	–	–	–	–	–
Molar	–	–	–	–	–	–	–	–
Unknown								
Incisors	–	–	–	–	–	–	–	–
Postcrania								
Cranium	–	0.00	–	0.00	–	0.00	–	–
Atlas	–	0.00	–	0.00	–	0.00	–	–
Axis	–	0.00	–	0.00	–	0.00	–	–
Scapula	5	2.50	2	1.00	–	0.00	–	–
Humerus	23	11.50	2	1.00	1	0.50	–	–
Radius	18	9.00	–	0.00	–	0.00	–	–
Ulna	8	4.00	–	0.00	–	0.00	–	–
Metacarpal	–	0.00	0.75	0.38	4	2.00	–	–
Pelvis	4	2.00	–	0.00	1	0.50	–	–
Femur	11	5.50	–	0.00	–	0.00	–	–
Tibia	5	2.50	1	0.50	4	2.00	–	–
Astragalus	6	3.00	–	0.00	1	0.50	–	–
Calcaneum	5	2.50	–	0.00	–	0.00	–	–
Scaphocuboide	–	0.00	–	0.00	–	0.00	–	–
Metatarsal	1	0.50	1.25	0.63	–	0.00	–	–
Phalanx 1	4	0.50	–	0.00	–	0.00	1	0.25
Phalanx 2	1	0.13	–	0.00	–	0.00	–	–
Phalanx 3	1	0.13	–	0.00	–	0.00	–	–

Pig fusion indicates slaughter at a younger age than both cattle and sheep, which is entirely in keeping with common patterns, as pigs are exploited only for their meat and not any other products.

Of the equid remains recovered with fusion information, all bar one were fully fused, and the other was fusing. This indicates that most equids were fully mature. All recovered chicken remains were from fully mature animals.

The complete absence of neonatal and very young individuals from all species indicates that none of these animals were being bred on site. The sample is fairly small, however, and focused in two specific areas. Therefore, the possibility that younger animals were being deposited in unexcavated areas of the settlement cannot be excluded.

Due to the small sample sizes, it was not possible to compare patterns between different context groups, although the highest number of cattle jaws do come from group **29959** and the highest number of sheep jaws are from group **28131**.

Sexing

Sex information was obtained for pig canines and for chicken by recording the presence of the spur and noting if medullary bone was present in hindlimb elements. In Period 4, roughly equal numbers of male and female pig canines were recorded (female=7, male=9). Two chicken tarsometatarsi had a spur, and none of the hindlimb remains showed any signs of medullary bone. This suggests that males were present and that hens were not used for their eggs, or at least were not killed when in lay, although the sample is small. The majority of chicken remains were recovered from group **28131**.

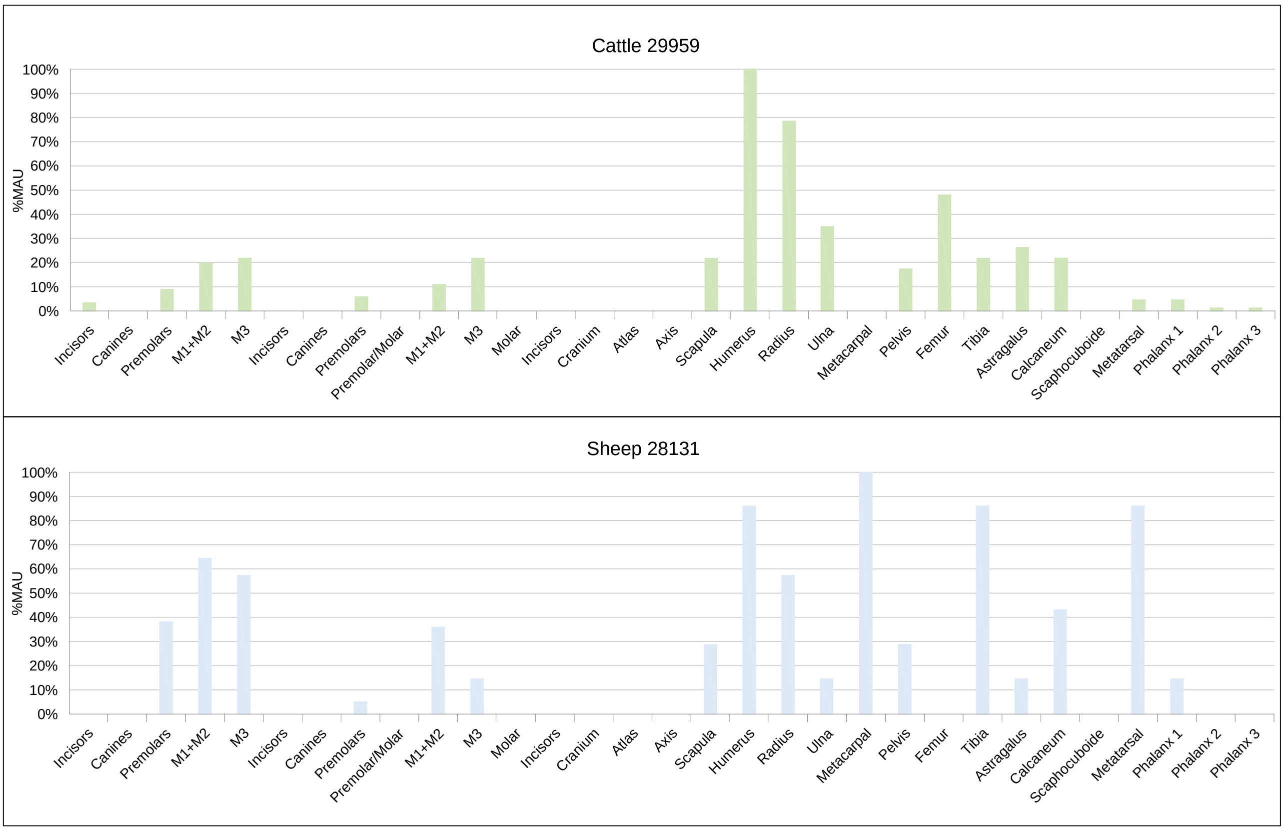

Figure 8.5: body part representation (using %MAUfor cattle from group ***29959*** *(top) and sheep from group* ***28131*** *(bottom) from Period 4.*

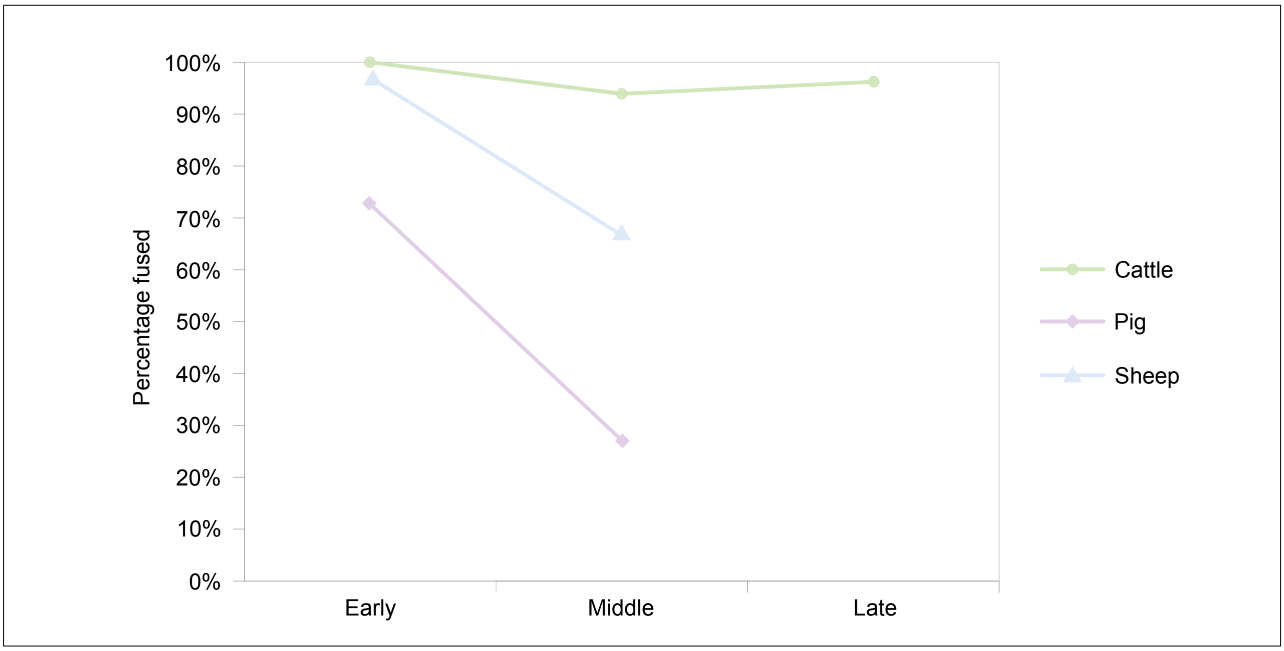

Figure 8.6: bone fusion for cattle, pig and sheep from Period 4. There were not enough equid remains to calculate percentages, but all equid bones were fused or fusing.

*Table 8.12: skeletal element distribution for the four main domesticates in group **28131** (Period 4). NB: highlighted cells indicate highest MAU values, which double as MNI.*

Element	Bos		Sus		Ovis		Equid	
	MNE	MAU	MNE	MAU	MNE	MAU	MNE	MAU
Mandibular								
Incisors	1	0.13	6	1.00	–	–	–	–
Canines	–	–	1	0.50	–	–	–	–
Premolars	7	1.16	3	0.50	8	1.33	–	–
M1+M2	6	1.50	6	1.50	9	2.25	–	–
M3	4	2.00	4	2.00	4	2.00	–	–
Maxillary								
Incisors	–	–	–	–	–	–	–	–
Canines	–	–	4	2.00	–	–	–	–
Premolars	–	–	11	1.83	1	0.17	–	–
Premolar/molar	–	–	–	–	–	–	–	–
M1+M2	3	0.75	1	0.25	5	1.25	–	–
M3	4	2.00	1	0.50	1	0.50	–	–
Molar	1	0.17	–	–	–	–	–	–
Unknown								
Incisors	–	–	–	–	–	–	–	–
Postcrania								
Cranium	–	–	–	0.00	–	0.00	–	–
Atlas	2	2.00	1	1.00	–	0.00	–	–
Axis	–	0.00	–	0.00	–	0.00	–	–
Scapula	1	0.50	1	0.50	2	1.00	–	–
Humerus	–	0.00	1	0.50	6	3.00	–	–
Radius	1	0.50	2	1.00	4	2.00	–	–
Ulna	–	0.00	2	1.00	1	0.50	–	–
Metacarpal	4	2.00	1.75	0.88	7	3.50	1	0.50
Pelvis	1	0.50	1	0.50	2	1.00	–	–
Femur	–	0.00	2	1.00	–	0.00	–	–
Tibia	2	1.00	2	1.00	6	3.00	–	–
Astragalus	1	0.50	–	0.00	1	0.50	–	–
Calcaneum	1	0.50	1	0.50	3	1.50	–	–
Scaphocuboide	1	0.50	–	0.00	–	0.00	–	–
Metatarsal	2	1.00	0.75	0.38	6	3.00	–	–
Phalanx 1	3	0.38	–	0.00	4	0.50	–	–
Phalanx 2	1	0.13	1	0.13	–	0.00	–	–
Phalanx 3	3	0.38	–	0.00	–	0.00	–	–

Table 8.13: bone fusion for cattle, pig, sheep and equids from Periods 4 and 5. Percentages have only been calculated with a sample size of more than 10 in one category.

Taxon	Timing	Fused	Fusing	Unfused	Total	Total F+G	% Fused
Periods 1–3							
Cattle	Early	2	0	0	2	2	–
	Middle	1	0	0	1	1	–
	Late	2	0	0	2	2	–
Pig	Early	2	0	0	2	2	–
	Middle	0	0	0	0	0	–
	Late	0	0	1	1	0	–
Sheep	Early	2	0	0	2	2	–
	Middle	3	0	0	3	3	–
	Late	0	0	1	1	0	–
Equid	Early	0	0	0	0	0	–
	Middle	0	0	0	0	0	–
	Late	0	0	0	0	0	–
Period 4							
Cattle	Early	72	0	0	72	72	100.00
	Middle	31	0	2	33	31	93.94
	Late	45	5	2	52	50	96.15
Pig	Early	8	0	3	11	8	72.73
	Middle	3	0	8	11	3	27.27
	Late	0	0	5	5	0	–
Sheep	Early	35	0	1	36	35	97.22
	Middle	16	2	9	27	18	66.67
	Late	3	0	4	7	3	–
Equid	Early	8	0	0	8	8	–
	Middle	5	0	0	5	5	–
	Late	7	1	0	8	8	–
Period 5							
Cattle	Early	8	0	0	8	8	–
	Middle	3	0	0	3	3	–
	Late	7	0	0	7	7	–
Pig	Early	0	0	0	0	0	–
	Middle	0	0	0	0	0	–
	Late	0	0	1	1	0	–
Sheep	Early	3	0	2	5	3	–
	Middle	0	0	1	1	0	–
	Late	2	0	0	2	2	–
Equid	Early	0	0	0	0	0	–
	Middle	0	0	0	0	0	–
	Late	0	0	0	0	0	–

Table 8.14: cattle and pig jaws assigned to the age categories described by O'Connor (1988). Where a jaw was assigned to more than one category, it has been split accordingly.

Period	Immature	Subadult	Adult	Elderly	Total
Cattle					
2–3	–	–	–	1	1
2–4	–	–	–	1	1
3	–	–	–	–	–
4	–	–	13.5	7.5	21
4–5	–	–	1	–	1
5	–	–	1.5	0.5	2
5+	–	–	2	–	2
Medieval–post-medieval	–	–	1	–	1
Total	**–**	**–**	**18**	**10**	**29**
Pigs – mandibles					
4	1	2.5	4.5	–	8
4–5	–	1	–	–	1
Total	**1**	**3.5**	**4.5**	**–**	**9**
Pigs – maxillae					
4	–	–	1	–	1
Total	**–**	**–**	**1**	**–**	**1**

Table 8.15: sheep mandibles assigned to the age categories described by Payne (1973). Where a jaw was assigned to more than one category, it has been split accordingly.

Period	6–12 mths	1–2 yrs	2–3 yrs	3–4 yrs	4–6 yrs	6–8 yrs	8–10 yrs	Total
	C	D	E	F	G	H	I	
4	3.5	2.5	5.5	2.5	–	–	1	15
4–5	–	–	–	–	–	1	–	1
5	–	1	1	–	1	–	–	3
5+	–	1	–	–	1	–	–	2
Mid–Late Roman	–	1	–	–	–	–	–	1
Total	**3.5**	**5.5**	**6.5**	**2.5**	**2**	**1**	**1**	**22**

Butchery

Cattle was the most commonly butchered species (Table 8.16) and the majority of evidence for butchery was found in Period 4 contexts. Most butchery marks were found on the femur, humerus and scapula, and generally consist of chopping around the neck of the scapula and 'scooping' down the length of long bones. This regular pattern of butchery is very common across Roman sites, particularly in urban contexts.

The majority of the evidence for butchery was found in group **29959** (midden layers in Field 265; Table 8.17), with 56 of 170 (33%) cattle bones displaying some form of butchery. There was also a small number of butchered bones (8 of 36; 22%) recovered from **29955** (Structure 39). These are both high proportions of butchery and, along with the regular pattern described above, indicate that specialist butchery activity was taking place in these areas.

Burning

Evidence of burning was found throughout the assemblage and across most Periods but is present in the highest frequencies in Period 4 (Table 8.18). The most commonly burnt species was sheep (Table 8.19). There was no particular feature group that displayed a higher degree of burning than any other.

Pathology

Only three specimens in the assemblage from Scotch Corner displayed any evidence of pathology (Table 8.20). Two of these, a sheep metacarpal and equid pelvis, both from Period 4, showed signs of exostosis. The third specimen, a cattle metacarpal, showed possible signs of splaying and was dated to the post-medieval period. Exostosis and splaying are both common in animals that have been intensively used for their labour, particularly cattle, although it can also be caused by other forms of stress.

Table 8.16: overview of butchery in Period 4 and Period 5. All butchery evidence is from hand-collected material.

Taxa	Cut	Chop	Chop+cut	Total butchery	Total bone NISP	% Butchery
Period 4						
Cattle	1	68	3	72	292	24.66
Deer/cattle	–	4	–	4	20	20.00
Sheep	1	3	–	4	181	2.21
Pig	1	2	–	3	62	4.84
Total	3	77	3	83	555	14.95
Period 5						
Cattle	–	10	–	10	36	27.78
Deer/cattle	–	1	–	1	3	–
Total	**–**	**8**	**–**	**11**	**39**	**28.21**

*Table 8.17: cattle butchery in groups **29959** and **29955** (Period 4). All butchery evidence is from hand-collected material.*

Element	Group 29959			Group 29955	Total
	Chop	Cut	Chop+cut	Chop	
Scapula	1	–	1	3	5
Humerus	18	1	–	3	22
Radius	5	–	–	–	5
Ulna	5	–	–	1	6
Pelvis	2	–	–	–	2
Femur	11	–	–	–	11
Tibia	3	–	–	1	4
Astragalus	5	–	–	–	5
Calcaneum	2	–	2	–	4
Total	**52**	**1**	**3**	**5**	**61**

Table 8.18: overview of frequency of burning in each Period across both the hand-collected and sampled assemblages.

Period	Hand-collected					Samples		
	Burnt	Calcined	Burnt and calcined	Singed	Total	Burnt	Calcined	Total
1–2	1	1	–	2	4	1	–	1
2	–	4	3	–	7	5	–	5
2–3	1	3	1	–	5	1	1	2
3	–	1	–	–	1	–	–	–
4	6	14	–	–	20	7	5	12
4–5	–	–	–	–	–	1	–	1
5	–	–	–	–	–	–	1	1
5+	–	1	–	–	1	–	–	–
Total	**8**	**24**	**4**	**2**	**38**	**15**	**7**	**22**

Table 8.19: frequency of burning for different species in Period 4.

Taxa	Hand-collected			Samples		
	Burnt	Calcined	Total	Burnt	Calcined	Total
Cattle	1	1	2	–	–	–
Sheep/goat	4	9	13	5	1	6
?Sheep/goat	–	–	–	–	1	1
Sheep/goat/roe	–	–	–	1	2	3
Pig	1	4	5	1	1	2
Total	**6**	**14**	**20**	**7**	**5**	**12**

Table 8.20: pathological specimens in the Scotch Corner assemblage.

Context	Context group	Period	Taxa	Element	Description
27044	–	4	Sheep	Metacarpal	Exostosis on proximal articulation
31589	29958	4	Equid	Pelvis	Exostosis around acetabulum
31778	31779	Post-medieval	Cattle	Metacarpal	Looks probably splayed, but broken

Biometry

Cattle from Periods 4 and 5 provided enough data for a small biometrical study. Postcranial width measurements and width measurements from the third molar were compared with those from Early Roman deposits from the settlement at Bainesse Farm, c.8km south of Scotch Corner, which also lies on Dere Street. The data were taken from Meddens (1990). The much larger sample from Heybridge, Essex, was also used for comparison (Johnstone and Albarella 2015). The biometrical data from Heybridge are an important baseline for observing livestock improvement in Roman Britain, as a clear shift in size can be seen in cattle between Iron Age and Early Roman layers (Albarella *et al*. 2008). For this study, data from all Periods at Scotch Corner were combined in order to align with contemporary 'Early Roman' phases from the comparative sites, although in reality data were only available from Periods 4 and 5. 'Early Roman' in this case includes material from the mid-1st century AD to the mid-2nd century AD. Period II at Heybridge is considered to be the Late Iron Age and covers the period from the mid-1st century BC to the mid-1st century AD.

Cattle postcranial widths from different bones were combined on to the same scale using an index scaling method (e.g. Meadow 1999) in order to increase sample size. Results show that the cattle at Scotch Corner were relatively small and plot in a very similar area to those from nearby Bainesse (Fig. 8.7). Neither of these two northern settlements show indications of larger cattle in their populations, as can be seen at Period III at Heybridge. Instead, they plot in line with the smaller Iron Age population from Period II. Third-molar width measurements are presented using a basic histogram (Fig. 8.8), although comparable data from Bainesse were not available. Nevertheless, a similar, if less exaggerated, pattern can be seen, with the cattle from Scotch Corner plotting in a similar area to Iron Age Heybridge. However, no specimens of a slightly larger size were observed at Scotch Corner, compared with what is seen for Early Roman Heybridge.

DISCUSSION

The very small assemblages from Gatherley Villa and Selgarth Farm do not allow for much interpretation. Most of the material is either post-medieval, or not assigned to a Period. At Scotch Corner, very few remains were recovered from contexts attributed to the Pre-Roman Iron Age, but the larger Early Roman assemblage provides an interesting picture of activity at this time. Most of the Roman faunal material comes from two context groups attributed to Period 4, which display quite different patterns. The first of these is group **28131** (Field 258; Chapter 4, Figs 4.25, 4.33, 4.34), which consists of a number of pit contexts in the north-west of the excavated areas; the second is group **29959** (Field 265; Chapter 4, Fig. 4.39), which consists of a number of midden contexts related to various structures in the west of the excavations (see Chapter 4).

Cattle dominate the faunal assemblage, but MNI results indicate that sheep were likely to be of more importance than indicated by basic NISPs. Equids were also relatively common. There are clear differences in species representation between the two main context groups, with the pits in group **28131** being dominated by sheep remains and containing a more diverse selection of species, while the midden contexts in group **29959** were dominated by cattle remains. Skeletal element distribution and butchery evidence at Scotch Corner is also very much linked to deposition area. In particular, group **29959** (and nearby **29955**) is likely to consist of a large proportion of specialised butchery waste. This means that the patterns seen for cattle and sheep across the assemblage are very much reflective of the activities taking place in these two areas.

Although cattle dominate many Roman assemblages in Britain, this pattern tends to be strongest at urban sites, with rural locations tending to yield similar or even higher proportions of sheep (King 1978; 1984; 1999). Roadside settlements have high proportions of sheep compared

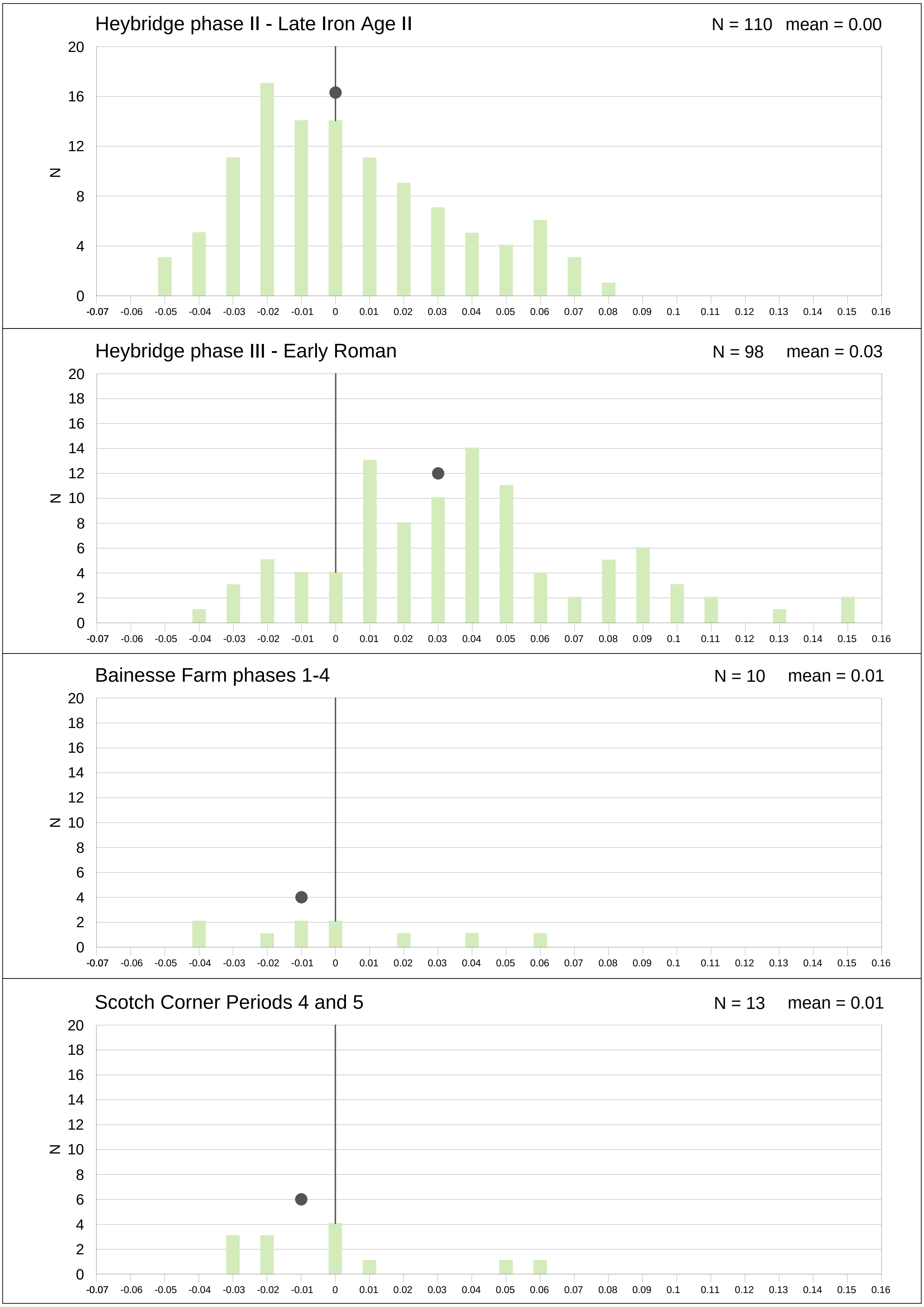

Figure 8.7: log ratio plots showing cattle postcranial width measurements from Scotch Corner (bottom) compared to Late Iron Age Heybridge, and Early Roman Heybridge and Bainesse Farm. Scotch Corner values comprise Periods 4 and 5 data only.

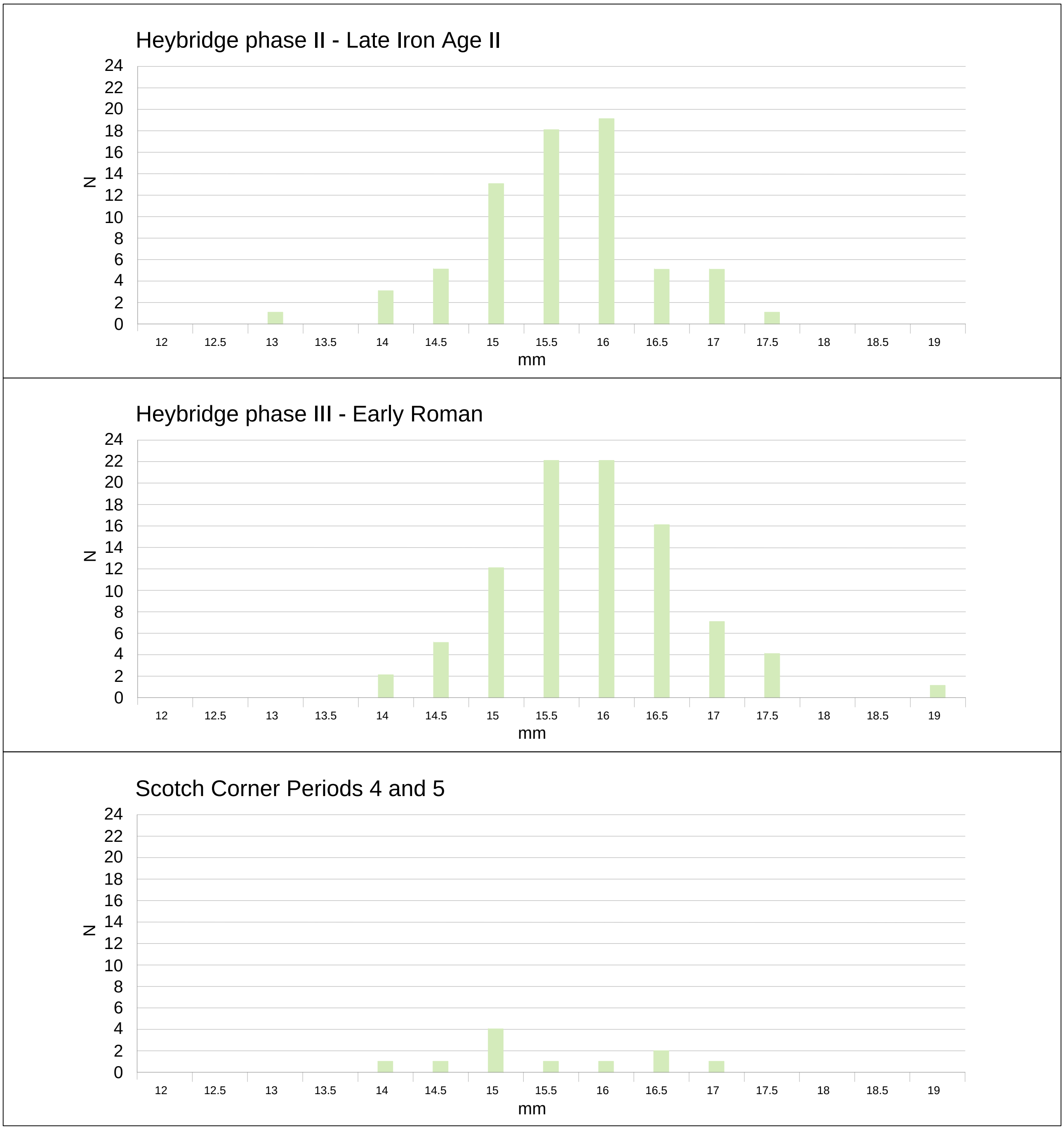

Figure 8.8: histograms showing cattle third molar width measurements from Scotch Corner (bottom) compared to Late Iron Age and Early Roman Heybridge. Scotch Corner values comprise Periods 4 and 5 data only.

to urban sites (Wright *et al*. 2019), and the results from Scotch Corner fit well with this narrative. However, the contexts from which most of the sheep remains were recovered are thought to contain redeposited material (see Chapter 4). As a result, the pattern could possibly be reflective of an earlier Period.

Horse remains also seem to be relatively prevalent at roadside settlements, compared to other site types (Wright *et al*. 2019). A regional review of sites in central England (an equivalent for northern England is not currently available) showed that, on average, equids made up 2.5% of assemblages from the Early Roman period (Albarella *et al*. in prep.). However, horses comprise 5% of the Period 4 assemblage from Scotch Corner. Other roadside locations, such as Ware (Hertfordshire), Sidbury (Devon) and Springhead (Kent), also display higher proportions of equid remains in their Early Roman layers, and this pattern is seen increasingly at roadside sites in the middle and later Roman periods (Wright *et al*. 2019). In some cases, it also seems that equids were being bred at or near roadside settlements, but this is not apparent at Scotch Corner. The prevalence of horses by roadsides is unsurprising, and the use of horses on Dere Street could explain the relatively high proportion of equid remains here.

In terms of age at death, the pattern follows that seen across much of Roman Britain. Cattle (mostly from group **29959**) tended to be fully mature, while sheep (mostly from group **28131**) were killed at a slightly younger age. These differences reflect the use of cattle mainly for labour within an economy that relied increasingly on intensive agriculture, while sheep were exploited for both their meat and milk. There is no evidence at Scotch Corner of the presence of larger cattle, as seen at some southern sites during the Early Roman period. The pattern here is very much in keeping with Bainesse, a few kilometres to the south. Although the datasets are small, the evidence from both Bainesse and Scotch Corner supports the hypothesis that larger cattle breeds introduced during the Roman occupation took longer to reach northern England than the south (Wright *et al*. 2019).

The differences between the two main context groups are interesting and are likely to be related to the different depositional histories of these two areas. The pits forming group **28131** are thought to be earlier storage pits, backfilled with material from an earlier midden, perhaps by military activity (see Chapter 4). These pits contain a higher number of sheep remains and a more diverse group of species than the other main context group, including chicken and fish (described below). In addition to bone, this redeposited material also includes ceramic and glass fragments, some from potentially valuable objects. It is difficult to determine how much earlier in date this material is or whether it is in fact from a mixture of time periods, although Flavian pottery and coins were found, including at the bottom at one of the pits. At least some of the bone could be redeposited material that was originally related to Iron Age activity, as noted above. If so, this may be one possible explanation for the dominance of sheep in these deposits.

The very different material in group **29959** is likely to be at its original point of deposition, rather than being redeposited. It is therefore fairly certain that this material is related to Roman occupation. Indeed, the butchery evidence is very 'Roman' in nature and is likely to reflect a highly specific activity taking place in this location, perhaps in Structure 38, although very little of this structure remained and it was difficult to accurately determine its function. Here the faunal assemblage is of utmost importance, as it suggests specialised carcass processing. The presence of specialised butchery is of note, as this is normally linked to urban sites and most common in major towns (e.g. Maltby 1989). It is not completely absent from rural settlements, however, and there are some examples of this kind of butchery at such locations, with notable examples being Wantage, Oxfordshire (Maltby 1996a; 2001) and Kempston, Bedfordshire (Maltby 2016). Perhaps the key in this case is the presence of the military, as there is general agreement that this kind of specialised butchery was derived from military practices (Grant 1989; Maltby 1989; Stallibrass 1999; Berg 1999; Dobney 2001; Seetah 2006). Therefore, this provides a potential explanation for the presence of this activity at Scotch Corner.

Although Roman rural locations are generally thought to be producer sites, while urban settlements are consumer sites (Groot 2016), roadside settlements cannot necessarily be considered in this way (Wright *et al*. 2019). At Scotch Corner, some pieces of evidence point towards it being more consumption than production focused. The kind of specialised butchery waste found here is normally taken as an indication of behaviour related to consumption, and the lack of remains from very young animals is often taken to indicate that breeding, an important aspect of production, was not taking place nearby. However, the assemblage is relatively small and focuses on two defined areas, so the possibility that it does not reflect the broad range of activities taking place here cannot be excluded. Military influence may go some way towards explaining why consumption is more evident here, as the military were big consumers. However, the local people at a location such as this might be expected to have some involvement in production (although see, for example, Thomas and Stallibrass 2008 and other papers in the same volume for a more detailed discussion on production and supply to the Roman army). This kind of situation encapsulates well the complexities of the economy at roadside sites, where local activity is entwined with that of the people passing through.

Early Roman sites in the north of England with robust faunal assemblages are relatively few, especially those that do not have an entirely military focus. It is therefore difficult to find good comparisons for the assemblage from Scotch Corner. Nearby sites with contemporary layers include Late Iron Age Stanwick, c.7.5km to the north-west, and the roadside settlement at Bainesse, a similar distance to the south, also on Dere Street. Most of the activity that produced animal remains at other local Roman sites, such as nearby Piercebridge, as well as at the fort and town of *Cataractonium*, did not start until the 2nd century AD, although the 2013–17 excavations at *Cataractonium* have produced a very large animal bone assemblage, some of which was early Flavian in date. The third volume of the series discussing the results of the A1 scheme excavations (Ross and Ross in prep.) will present these assemblages.

Stanwick was a very different settlement to Scotch Corner, as it was occupied predominantly in the Iron Age by the Brigantes. By AD70, it was starting to decline in its importance, and the contemporary period for the Scotch Corner assemblage at Stanwick (period 5) seems to be one of transition, and this is reflected in the faunal remains (Rackham 2016). Cattle dominate and were increasing in their importance, while sheep were decreasing in importance compared to earlier periods. There was also an increase in the proportion of adult cattle (for intensive agriculture) and adult sheep (for wool) during this period, indicating a more structured and specialised economy compared to earlier periods. This is entirely in keeping with the changes seen across Britain at the time, and fits with the pattern at Scotch Corner, although the transition at Scotch Corner cannot be seen because the earlier material is not available. Although the assemblage from Stanwick was comparatively large for an Iron Age site, there are a number of taphonomic issues, which mean that the assemblage has experienced considerable degradation, and it must be treated with some caution when used for comparison with other contemporary excavations (see Rackham 2016 for more information).

Bainesse, mentioned above, yielded a relatively large assemblage for a roadside settlement (Meddens 1990). However, only the biometrical data had assigned phases, so it is uncertain how much of the assemblage is directly contemporary with Scotch Corner. There is certainly a temporal overlap between the two settlements, as the earliest activity at Bainesse is thought to be around AD80, which falls within Period 4 at Scotch Corner. Most contexts, however, apparently date to AD150–300.

The picture at Bainesse is broadly similar to that at Scotch Corner. Cattle dominate the assemblage, although sheep are present in relatively high numbers. Horses are also well-represented, as seems to be the case at many roadside locations. However, the similarities in the size of cattle at Bainesse and Scotch Corner during the earliest Roman periods are noteworthy. Both have cattle of a similar size, with no evidence of improvement during the Early Roman period, and it is not until the later Roman period that larger individuals appear at Bainesse (Wright *et al*. 2019).

Other northern roadside sites include Nettleton and Rothwell in Lincolnshire (Rackham 2013) and Shiptonthorpe in East Yorkshire (Mainland 2006); both have bone assemblages that appear more focused on sheep than the assemblages from either Bainesse or Scotch Corner. Nettleton and Rothwell has contexts that are directly contemporary with Scotch Corner, but activity at Shiptonthorpe is not thought to have begun until around AD100. Neither is on a road as busy as Dere Street, which may go some way towards explaining the increased importance of sheep. Equally, they were situated in landscapes better placed for sheep husbandry, as suggested for Nettleton and Rothwell (Rackham 2013). The influence of the military at Scotch Corner compared to these other roadside locations may also be a factor, particularly if the deposit of specialised butchered cattle remains is related to presence of the military. Overall, it is difficult to find a good comparator for Scotch Corner in terms of animal husbandry, since most faunal remains were recovered from two distinct areas and are potentially reflective of very specific activities.

MAMMAL AND BIRD REMAINS CONCLUSION

Scotch Corner has provided an important Early Roman rural faunal assemblage, the likes of which are rare in the north of England. In general, the evidence reflects the pattern at other roadside settlements, with sheep and horses of greater importance than normally found in assemblages from other site types. The most interesting features of the assemblage are the two distinct areas reflecting different activities. Context group **29959** seems to be dominated by the kind of specialist butchery waste which is normally a feature of urban sites and is likely to be related to military activity.

As with other roadside settlements, Scotch Corner cannot easily be considered as either a consumer or producer site. Both must have taken place here, as it represents a place where the lives of local people and those passing through on the road (perhaps mostly the military) would have come together.

FISH AND MARINE MOLLUSCS

Hannah Russ

Aquatic animals were represented at Scotch Corner by the remains of migratory fish and marine molluscs. Fish remains were exclusively collected from environmental sample residues, whereas marine mollusc shell was both collected by hand and recovered from samples. No fish remains were recovered from Gatherley Villa or Selgarth Farm.

FISH

The fish remains from Scotch Corner were recovered from bulk environmental samples taken from nine contexts, all from features located in the northern part of Field 258 (group **28131**). In total, 175 fish bones and scales were recorded (Tables 8.21 and 8.22). The assemblage contained two identifiable fish taxa: the European eel (*Anguilla anguilla*) and salmonid(s) of the genus *Salmo*. Many fish scales and a small number of ribs and vertebrae could not be identified at any lower taxonomic level than their class group (Table 8.22).

Eel

European eels are a catadromous species (i.e. one that migrates to the sea to spawn) that live in freshwater environments for most of their lives. As they require access to the sea for spawning, these eels would only occur naturally in bodies of water connected to the sea (Kottelat and Freyhof 2007). The European eel is considered good eating, evidence for which dates back to at least the Mesolithic period (e.g. Leary 2015, 31). However, freshwater eels were not appreciated by the Roman population. Juvenal, a Roman poet of the late 1st to early 2nd century AD, wrote regarding the consumption of eels:

> *Now comes the dish for thy repast decreed*
> *A snake-like eel! Or of that speckled breed*
> *Which fattens where Cloaca's torrents pour,*
> *And sports in Tiber's flood, its native shore;*
> *Or where the drains through mid Suburra flow,*
> *Swims the foul streams which fill the crypt below!*
> Juvenal (*Satires* 5.149–54; Badham 1831)

It is not understood why the freshwater eel was not popular in Roman culture, especially as the conger eel (*Conger conger*), its marine counterpart, was much enjoyed (Schweid 2002, 68). Radcliffe (1921) suggests that the Romans' dislike for freshwater eels was linked to their use of dried eel skin in belts that were also used in schools to punish misbehaving children.

Eleven eel bones were recovered from two features: pits **15437** (n=5) and **26201** (n=6). Both features also contained the remains of salmonid(s) (see below). Vertebrae were the most frequently occurring element, with the only other element present being the cleithrum (Table 8.22). While the bone count for these features was low, each pit contained the remains of at least two eels.

Seven vertebrae allowed for a reconstruction of total length using regression equations published by Thieren *et al*. (2012). Estimates suggested lengths of between 23 and 33cm for all specimens, with the exception of a single vertebrae from pit **26201** (fill **26204**), which represented an eel measuring 57.8cm long (Table 8.23). These lengths can be used to estimate age (Simon 2006), with the majority falling into the 3–8 years age group, and the longer individual being at least 10 years old at death. With the exception of the single vertebra from pit **26201**, the eels present are all small (in eel terms), and certainly smaller than what would be considered to make a viable dietary resource in commercial fisheries today.

Salmonid(s)

In this context, salmonid remains could represent Atlantic salmon (*Salmo salar*) or the brown or sea trout (*Salmo trutta*). Only vertebrae were present, which do not allow reliable differentiation between the two species. Although length estimation via linear regression is not possible, the recovered remains represent small specimens, with the largest vertebrae measuring only 3.2mm in height. Both salmon and trout are considered very good eating, and still form major part of commercial and sports fisheries today (FAO 2018). However, these fisheries focus on adult populations. These are not represented in the Scotch Corner assemblage, which contains only the remains of fry and/or parr (juveniles).

The remains of salmonids were recovered from four pits and a gully. Pits **15439** and **15437** each contained four salmonid vertebrae, providing a minimum number of individuals (MNI) of one for these features. Pit **26201** contained the largest assemblage of fish remains, including 11 salmonid vertebrae. While strictly an MNI of one, the variation in size tentatively suggests that at least two specimens were present. Pit **26282** and gully **26145** each contained a single salmonid vertebra.

Discussion

Both eels and salmonids would likely have been available locally, perhaps in the becks around Gilling West to the south-west, or in bodies of freshwater that are no longer extant.

In many circumstances, 34 identifiable fish bones would perhaps not merit such detailed coverage. Indeed, if these remains had been dispersed across the entire Scotch Corner excavations, it would be easy to interpret them as naturally occurring having been dropped by piscivorous birds or mammals. However, of 1567 samples taken at Scotch Corner, only nine contained fish remains. Furthermore, the fish remains derive from only five features, all of which appear to be contemporary (Period 3–4) and are located in the same area (the northern area of Field 258). If the fish remains had been naturally deposited, a greater representation through space and time would be expected.

Evidence for consumption of fish in Iron Age Britain is rare, to the extent that some have proposed that the consumption of fish was considered taboo at this time (Dobney and Ervynck 2007; Roberts and Rainsford 2013), and that an increase and presence of either freshwater or marine fish remains in Late Iron Age and Early Roman contexts represents 'Romanised' populations. No comparable assemblage could be found in the literature for sites of this period with evidence for the consumption or utilisation of small salmonid fishes in Britain. It is of note that the remains of small fishes, including European eel were recovered from well deposits at Skeleton Green, Puckeridge–Braughing, where coin pellet mould has been recovered (Wheeler 1981), as it has been at Scotch Corner. The data available at the time of writing does not allow for any further comment on this similarity between the two locations, but given the paucity of sites of this date yielding fish remains and the fairly rare occurrence of coin pellet mould, it may be an area worthy of future investigation.

In Belgium, two inland locations have fish remains that compare well with those from Scotch Corner: Veemarkt in Tongeren, and Place Marché aux Légumes, Namur, where large numbers of very small freshwater fish were found (Vanderhoeven *et al*. 1993; Van Neer and

Table 8.21: summary of fish remains from Scotch Corner by context and feature (count).

Context	Feature	Anguilla anguilla	Salmo sp.	Unidentified fish	Total
		European eel	Salmon/trout		
15418	Pit 15349	–	6	64	70
15436	Pit 15437	5	3	2	10
15472		–	1	–	1
26200	Pit 26201	–	1	1	2
26202		–	1	–	1
26204		6	6	65	77
26205		–	3	9	12
26660	Pit 26582	–	1	–	1
27084	Gully 26145	–	1	–	1
Total		**11**	**23**	**141**	**175**

Table 8.22: summary of fish remains from Scotch Corner by species and element (count).

Element	Anguilla anguilla	Salmo sp.	Unidentified fish	Total
	European eel	Salmon/trout		
Cleithrum	2	–	–	2
Precaudal vertebra	5	12	–	17
Caudal vertebra	3	7	–	10
Vertebra	1	4	6	11
Rib/spine	–	–	3	3
Cycloid scale	–	–	132	132
Total	**11**	**23**	**141**	**175**

Table 8.23: vertebrae measurements (in mm) and estimated total length (in cm) for European eels (Anguilla anguilla) at Scotch Corner. Measurements taken as described in Morales and Rosenlund (1979). Total length estimated using equations presented by Thieren et al. (2012).

Context	Element	Vertebra height (mm)	Vertebra width (mm)	Vertebra length (mm)	Total length (mm)
26204	Precaudal vertebra	1.8	1.7	3.0	327
	Precaudal vertebra (Type 5)	–	–	5.0	578
	Caudal vertebra	1.3	1.2	2.0	235
	Caudal vertebra	1.4	1.5	2.2	257
15436	Precaudal vertebra	1.8	1.7	2.6	302
	Precaudal vertebra	1.8	1.7	2.6	302
	Caudal vertebra	1.6	1.5	2.5	292

Ervynck 1994; 2004). The 47 identifiable fish bones from Veemarkt, in the former Roman civitas capital of Tongeren, dated to the 2nd century AD and were recovered from a cesspit. Taxa included both trout (*Salmo trutta fario*) and eel, as at Scotch Corner, but also other freshwater taxa (Van Neer and Ervynck 1994, 218), all of which represented small individuals. Similarly, at Place Marché aux Légumes, Namur, the remains of small fish were recovered from late-2nd to 3rd century AD deposits from a well associated with *vicus* activity. No quantification is available for the material from Namur, but the remains included eel and other freshwater taxa (*ibid*.). These remains have proven difficult to interpret; as at Scotch Corner, natural modes of deposition for the fish remains have been ruled out. The authors considering the Belgian remains very tentatively suggest that the small fishes could represent some form of soup (Van Neer and Ervynck 1994, 223).

But why go to the effort of catching these small fishes? Larger specimens would almost certainly have been available fairly locally and would have provided a much greater calorific return. As discussed in the preceding chapters, Scotch Corner had native origins, but was dramatically influenced by Romans, at least in its material culture, very soon after the conquest in AD43, and seemingly before the arrival of the military forces proper in the north. A small number of amphorae sherds, for instance, suggest that fish sauces were transported to Scotch Corner from the continent. Fish sauces were extremely popular and formed a definitive part of Roman cooking and dining (Cool 2006). It is tempting to suggest that the small fish remains represent evidence for what was once termed 'Romanisation'. Did Roman diplomats arrive at Scotch Corner intent on conversion and selling the ways of the Roman Empire ahead of the military push into the north? Could the remains represent evidence for training or demonstrations in how to prepare fish sauce, using the only fish resources available locally? Could they represent an attempt by the native population to recreate fish sauces they had tasted but could not acquire in any quantity?

Alternatively, perhaps the eel remains represent non-dietary activities; historic sources attest to the use of dried eel skin to make belts (see Schweid 2002, 68). As such, the skins may represent the required resources in eel exploitation, rather than the flesh.

The fish remains from Scotch Corner raise some interesting hypotheses. It is to be hoped that future research will allow these to be tested, so that the fish remains from Scotch Corner, and the other excavations discussed here, can be reliably interpreted and add to the understanding of the role of freshwater fish during the Late Iron Age and Early Roman periods in Britain and beyond.

MARINE MOLLUSCS

Remains of marine mollusc shells were only recovered from Gatherley Villa (Field 202), and Scotch Corner (Fields 220, 228, 246, 258 and 265). A total of 165 marine shell and marine shell fragments were collected by hand during excavations, and from bulk environmental samples (Table 8.24).

Gatherley Villa

A single valve from a very small specimen of edible cockle (*Cerastoderma edule*) was recovered from a sample of the fill of penannular gully **6084** of Structure 6 at Gatherley Villa, which is assigned to Period 1 (Field 202; Table 8.24). The valve was complete but measured only 5mm high and wide; the specimen was not fossilised, so had not derived from local geology. The edible cockle lives only in marine environments, so the shell had been transported at least 50km from the closest shoreline before being deposited in the gully fill. It is difficult to ascertain the mode by which this small cockle shell arrived inland; its small size rules out transportation as a dietary resource for human consumption. If brought by people, it could represent a trinket from the coast, or perhaps part of the stomach contents of a more rewarding dietary marine resource. While perhaps more unlikely, it is also possible that the shell was brought and deposited by animals through regurgitated pellets or faecal matter, and therefore may not provide any evidence related to human relationships with the coast or the people living there.

Scotch Corner

Two marine taxa were represented at Scotch Corner, mussel (*Mytilus* sp.) and the edible oyster (*Ostrea edulis*). In total, 164 marine shell and marine shell fragments were recovered, the majority of which were (very small) fragments of mussel shell (81%; Table 8.25). The marine mollusc remains were recovered from pits, midden deposits, ditches or in association with Structures 38 and 39.

Mussel

Mussel remains were recovered from 16 contexts at Scotch Corner, but only four of these contained remains that would be deemed 'countable', providing a site-wide minimum number of individuals (MNI) of five based on umbo count. Fragmentation and poor surface preservation prevented a distinction being made between two possible mussel species: *Mytilus edulis* (blue/edible mussel) and *Mytilus galloprovincialis* (Mediterranean mussel). Most of the mussel remains were found in Fields 258 and 265, and in contexts attributed to Periods 3–4 or 4.

Oyster

The 22 oyster remains were recovered from eight contexts at Scotch Corner and demonstrate a low but consistent presence between Periods 2 and 5+. Unlike the mussels, the remains of which were recovered from across the excavations, oyster remains were recovered from only two areas, Fields 228 and 265. Site-wide, the oyster remains represent a minimum of only five specimens based on umbo count.

Discussion

Oysters are a very common find on Roman sites in Britain and were a popular food choice of the time (Cool 2006). While less frequently recovered, the remains of

Table 8.24: marine mollusc shell remains from Gatherley Villa and Scotch Corner (fragment count).

Field	Context	Period	Mytilus sp.	cf. Mytilus sp.	Ostrea edulis	Cerastoderma edule	Marine shell	Total
			Mussel	Possible mussel	Edible oyster	Common cockle		
202	6083	1	–	–	–	1	–	1
220	10959	1	4	–	–	–	–	4
	11053	5	1	–	–	–	–	1
228	28227	2–4	–	–	7	–	–	7
	28352	Medieval–post-medieval	1	–	–	–	–	1
246	15759	1	–	–	–	–	1	1
	16355	2	–	–	–	–	1	1
258	15113	3–4	40	–	–	–	–	40
	15242	3–4	5	–	–	–	–	5
	15360	3–4	8	–	–	–	–	8
	26235	3–4	2	–	–	–	–	2
265	31676	3–4	–	3	–	–	–	3
	31790	3–4	–	–	2	–	–	2
	31589	4	8	–	–	–	–	8
	31652	4	3	–	–	–	–	3
	31707	4	29	–	–	–	–	29
	31730	4	–	–	2	–	–	2
	31742	4	8	–	–	–	–	8
	31743	4	11	–	–	–	4	15
	31747	4	–	–	1	–	–	1
	31733	4–5	–	–	2	–	–	2
	31660	5	1	–	–	–	–	1
	31663	5	6	–	–	–	–	6
	31682	5	–	–	1	–	–	1
	31704	5	–	–	1	–	–	1
	31518	5+	2	–	–	–	–	2
	31702	5+	4	–	6	–	–	10
Total			**133**	**3**	**22**	**1**	**6**	**165**

mussels on Roman sites are still common, though they are rarer at locations some distance inland (e.g. *ibid*.), as is the case for Scotch Corner. The paucity of evidence for mussel consumption during the Roman period may be a result of taphonomic and recovery biases, as the shells are less robust, with a tendency to break into many small fragments and degrade to unrecoverable/unrecognisable powder and fibres. Oysters, on the other hand, have large and robust shells that are very recognisable and more likely to survive in the archaeological record.

The quantities recovered suggest that these resources played a very minor role in the overall diet of the population at Scotch Corner. The remains are too few to provide functional interpretation of different areas of the settlement, but it is possible that, when combined with the remains of other dietary resources, patterns may be observed. Even so, the presence of these two time- and temperature-sensitive marine resources attests to the existence of established trade mechanisms between Scotch Corner and the coast for the duration of its occupation.

TERRESTRIAL MOLLUSCS

Hannah Russ

Terrestrial molluscs were recovered, mostly in small numbers, through bulk environmental sampling. Pit **15660** at Scotch Corner yielded enough remains of terrestrial molluscs to provide data suitable for the reconstruction of localised conditions for the period of infilling of this feature. Snail shells were recovered from the primary (**15668**) and secondary (**15661**) fill of the pit, which were both attributed to Period 3. The mollusc shells were identified using the author's reference collection and published identification guides (Wardhaugh 1989; Pfleger 2000; Cameron 2003; AnimalBase Project Group

Table 8.25: marine mollusc shell remains from Scotch Corner by Period (fragment count).

Period	Mytilus sp.	cf. Mytilus sp.	Ostera edulis	Marine shell	Total
	Mussel	Possible mussel	Edible oyster		
1	4	–	–	1	5
2	–	–	–	1	1
2–4	–	–	7	–	7
3–4	55	3	2	–	60
4	59	–	3	4	66
4–5	–	–	2	–	2
5	8	–	2	–	10
5+	6	–	6	–	12
Medieval–post-medieval	1	–	–	–	1
Total	**133**	**3**	**22**	**6**	**164**

2005–18). In total, 891 individual snails were identified, with the majority (99%) coming from the secondary fill (**15661**; see Table 8.26). Nine taxa were present, of which three occurred in both contexts: the waxy glass snail (*Aegopinella nitidula*), the pillar snail (*Cochlicopa* sp.) and the strawberry snail (*Trochulus* cf. *striolatus*). In addition to these taxa, the secondary fill also contained the long-toothed herald snail (*Carychium tridentatum*), the toothless column snail (*Columella edentula*), the rotund disc snail (*Discus rotundatus*), a type of grass snail (*Vallonia* sp.), the crystal snail (*Vitrea* cf. *contracta*) and the pellucid glass snail (*Vitrina pellucida*).

In order to understand the meaning of the presence of these taxa and to use them as a proxy for environmental conditions at this location at the time of accumulation, the nature of their habitat requirements in recent times must be considered (Table 8.27). All taxa recorded attest to wet and/or humid conditions in close vicinity of/in the pit.

The taxa recovered suggest a range of environmental conditions in the locality. The primary fill contains species that are found in a range of different habitats, but those identified at species level are usually found in humid environments. In the secondary fill, a much more diverse array of species is present. The combination of taxa recovered from the secondary fill suggest grassland and wooded areas were close by at this time. Snails with both dry and humid moisture preferences are present, suggesting that there were several micro-environments in the locality. Species that prefer calcareous environments are to be expected based on the solid limestone geology of the Scotch Corner area (BGS 2018).

The identification of *C.* cf. *lubricella* requires some discussion. This species of pillar snail is generally found in dry environments. It is extremely similar in shell morphology to another pillar snail, *C. lubrica*. Here the specimens are suggested to represent *C. lubricella* due to shell size and morphology; the shells recovered from the pit at Scotch Corner are smaller and slenderer than would be expected for *C. lubrica* (see Armbruster 1995). However, some authors suggest that, even in live specimens, distinction between the two taxa can be made only based on the habitat from which they were recovered: drier environments indicate *C. lubricella,* while *C. lubrica* is to be found in wetter environments. To complicate things further, it is suggested that both taxa have also been found living concurrently (De Oliveira 2009, 55). Given the difficulty in identification due to disagreement in the literature regarding species diagnostic features, all *Cochlicopa* specimens should be considered *Cochlicopa* sp. until a more reliable method for distinguishing the two taxa (if indeed they continue to be recognised as such) can be established. The genus *Vallonia* presents a similar situation, where *V. excentrica* and *V. pulchella* are distinguished by the habitat from which they were recovered, with *V. excentrica* found in dry grasslands, and *V. pulchella* in wet grasslands. The shell morphology was not consistent with a third *Vallonia* taxa found in Britain (*V. costata*).

The preservation of terrestrial snail shell in pit **15660** demonstrates the potential for environmental reconstruction at Scotch Corner using these as a proxy. It is to be hoped that future research in the Scotch Corner area, and a development of more reliable methods of species identification for some British terrestrial snail taxa, will increase understanding of past environments and how these were impacted by human activity over time.

CHARCOAL

Jonathan Baines

Of the 1567 features that were sampled, 982 samples contained charcoal fragments that amount to 31,460g of charcoal. Apart from 5g of silver fir (*Abies alba*) that was identified from two ovens, all the identified charcoal was from species that were native to Pre-Roman Iron Age Britain. Oak was the most frequently occurring taxa (*Quercus* sp.), followed by pomaceous wood (Maloideae), alder or hazel (*Alnus glutinosa* or *Corylus avellana*), birch (*Betula* sp.) and ash (*Fraxinus excelsior*). The high proportion of ash, particularly in Period 2, compared to other Late Iron Age and Early Roman civilian sites in the region (cf. Huntley 2010), suggests this tree was abundant

*Table 8.26: Minimum Number of Individuals (MNI) for terrestrial snails recovered from pit **15660** at Scotch Corner (Field 246).*

Species	Common name	Context		Total
		15661	15668	
Aegopinella nitidula	Waxy glass snail	87	2	89
Carychium tridentatum	Long-toothed herald snail	17	–	17
Cochlicopa cf. lubricella*	Pillar snail	73	–	73
Cochlicopa sp.	Pillar snail	38	3	41
Columella edentula	Toothless column snail	393	–	393
Discus rotundatus	Rotund disc snail	1	–	1
Trochulus cf. striolatus	Strawberry snail	97	4	101
Vallonia sp.	Grass snail	135	–	135
Vitrea cf. contracta	Chrystal snail	17	–	17
Vitrina pellucida	Pellucid glass snail	24	–	24
Total		**882**	**9**	**891**

*Table 8.27: preferred habitat conditions for terrestrial mollusc taxa recovered from pit **15660** at Scotch Corner (Field 246). Habitat descriptions after AnimalBase Project Group (2005–18).*

Species	Habitat	Moisture
Aegopinella nitidula	Ubiquitous	Humid
Carychium tridentatum	Forests and marshes	Humid
Cochlicopa cf. lubricella	Prefers meadows on south exposed dry slopes. More confined to limestone substrate	Dry
Cochlicopa sp.	Ubiquitous	N/A
Columella edentula	Very moist to wet habitats on calcareous substrate. Forests, alder swamps and open habitats	Humid
Discus rotundatus	Ubiquitous	Humid
Trochulus cf. striolatus	Naturally shady habitats in forests, shrubs and badlands, road margins	Humid
Vallonia sp.	Grasslands	Species dependant
Vitrea cf. contracta	Warm and dry habitats on calcareous substrate, dry rocky meadows, rock rubble, open forests with rocks	Dry
Vitrina pellucida	Ubiquitous	Any

or was preferentially sourced for timber in addition to oak, and as firewood. Considering the ubiquity of ash, alder—where it was positively distinguishable from hazel—and poplar or willow (*Populus* sp. or *Salix* sp.) both from the A1 scheme excavations and at site 9 at nearby Stanwick (cf. Huntley's contribution in van der Veen 2016), riparian woodlands were probably common in the wider settled landscape. It is tentatively proposed that the climate of the late 1st century BC, and 1st and 2nd centuries AD was warmer and moister relative to the preceding and succeeding centuries (McCormick *et al.* 2012).

Because both the Scotch Corner and Stanwick environs and the sites along the modern A66 (cf. Challinor and Druce 2013) preserved a similar diversity in taxa, the same variety in tree cover across this region might be presumed. The ubiquity of blackthorn (*Prunus spinosa*), dogwood (*Cornus sanguinea*) and charcoal from various pomaceous and stonefruit (*Prunus* sp.) taxa evince the enclosure of pastoral and arable land by hedges. Small amounts of field maple (*Acer campestre*), wych elm (*Ulmus glabra*), guelder-rose (*Viburnum lantana*) and European spindle (*Euonymus europaeus*) indicate the diversity in the exploited tree cover. A few fragments of alder buckthorn (*Frangula alnus*), hornbeam (*Carpinus betulus*), lime (*Tilia* sp.), rose (*Rosa* sp.) and yew (*Taxus baccata*) were also identified. The abundance of heather stems (*Calluna vulgaris*) suggests that nearby heath and moorland were also exploited.

METHODOLOGY

All bulk environmental samples were processed using the Siraf method of flotation (Williams 1973) with 0.5mm mesh in conformance with Historic England guidance (Campbell *et al.* 2011) and the A1 scheme's stated sampling strategy (AECOM 2013c). The recovered charcoal fragments were identified using Schweingruber (1990), Hather (2000) and the NAA reference collection.

Half of the identified taxa could have been worked, rather than gathered as firewood. Woodworkers (cf. Huntley 1992) collected willow and hazel for wattle craftwork and artisans may have adorned furniture or shaped tools from rose, wych elm, field maple, yew and spindle. Although the dominant taxa—oak and ash—made excellent firewood, they were also the principal timber for construction. The main obstruction to differentiation between worked wood or debris from construction timber and firewood is the diameter of the recovered charcoal fragments. Although most of the oak and ash fragments with a diameter larger than 30mm were chips—i.e. not roundwood fragments—the nature of their grain means they easily split into slivers, and therefore are as likely to be remnants of mature logs as they are charred debris from construction timber or objects. Due to this tendency to fragment—note that half the occurrences of charcoal were either oak or ash—the relative abundance in each sample is discussed, rather than the number of identified fragments. Table 8.28 presents the occurrence of each taxa by Period according to the number of features containing preserved charcoal.

Due to the fragmentation of the charcoal assemblage and the large number of samples, a subsample of arbitrary weight and number of fragments was taken from each sample for analysis (cf. Hazel 2017). Where possible, each identified charcoal fragment was categorised as either a chip (a piece of a mature part of a tree), roundwood (if the entire radius was visible and it was thereby distinguishable from a mature bough or trunkwood), or twigwood (cf. Deforce and Haneca 2015). Pit **32590** (Field 267a; Chapter 3, Fig. 3.46), for example, preserved charcoal in each category, although this was certainly an exception rather than the rule. Although 728g of charcoal was retrieved from pit **32590**, only a handful of fragments were identified to allow for an efficient investigation of the rest of the assemblage. All the heather fragments (~35% of the sample) were recorded as twigwood, while the hazel (~15%) was roundwood. The remaining charcoal pieces, comprising birch, rose, lime and oak charcoal, were chips.

VEGETATION BACKGROUND

In the entire assemblage, no signs of coppicing or woodland management were observed in the ash, birch, hazel and willow fragments that had a completely visible diameter. As with the large oak and ash charcoal fragments in the assemblage, microscopic analysis did not reveal any clear indication of the wood's original purpose, nor were traces of shaping or carving identified. Most of the charcoal component found in the fills of the excavated features therefore represents residual debris blown in or discarded from on-site fires. Although a portion of the assemblage found in Field 246 may be the remains of manufacturing rather than household cooking and warming, it was not possible to distinguish between either type of activity. Five or six different taxa could therefore accumulate over time in pits, gullies or ditches from various different fires and deposition events. While single taxa fills—mainly consisting of oak, though occasionally ash—could indicate the discard of debris from a single burning event, the fragility of this heavily fragmented assemblage implies that considerable redeposition of fragments has occurred. As a piece of charcoal will shatter into many fragments, the number of splinters from one taxon will not, in this large assemblage, translate to a few branches from a tree. For instance, pomaceous wood was the fourth most ubiquitous taxon (Fig. 8.9), but how much was found in proportion to the overall recovered weight of charcoal is not certain. For this reason, it remains hypothetical to interpret this large portion of pomaceous charcoal as reflective of the presence of a nearby apple or pear orchard. The rowan component of this subfamily (*Sorbus*), as a member of the hedge local communities, may have provided easy tinder and Vitamin C. The minor increase of Maloideae in Periods 2 and 3 (see Figs 8.9 and 8.10) could indicate stress on the regular fuel supply, resulting in burning of whatever was available, particularly brushwood collected from hawthorn (*Crategus*) and blackthorn (*Prunus spinosa*) hedges nearby. The heather may represent kindling waste but could equally be remnants of thatch or bedding.

AREA OVERVIEW

Woodside (Fields 197 and 199)

The Middle to Late Iron Age part of the assemblage at Woodside was dominated by oak. Ash, dogwood, hazel or alder and pomaceous wood were also present.

Gatherley Villa (Fields 200, 201 and 202)

The large proportion of poplar/willow (*Populus/Salix*) and ash (*Fraxinus*) at Gatherley Villa were potentially debris from demolition or evidence for the exploitation of copses. Gully **6429** preserved the only fragment of yew (*Taxus baccata*) in the assemblage. Gully **6499** revealed a dozen heather perianths that either represent remnants of thatch, wall cladding or kindling.

Moulton Hall (Fields 207 and 208)

One sample in ditch **11786**, Field 207 preserved oak charcoal, while another sample in pit **11793**, Field 208 preserved pomaceous wood.

Scurragh House (Fields 209, 210 and 211)

Only a few fragments of alder or hazel charcoal were recovered from Field 211.

Selgarth Farm (Field 214)

The diverse charcoal record from Selgarth Farm suggests that people exploited the surrounding tree cover opportunistically: the recovered taxa would have been readily collected in the locality from scrub, hedges, copses, oak stands and damp woodlands. Oak was probably used in the construction of Structure 67.

Bertram House (Fields 217, 218 and 219)

Fields 217, 218 and 219, of prehistoric date, preserved just a few charcoal fragments of oak and pomaceous wood.

Table 8.28: amalgamated charcoal occurrences in all Fields by Period.

	Period													
Taxa	Iron Age	1	1–2	1–3	2	2–3	2–4	3	4	4–5	5	5+	Late Roman	Total
Abies alba	–	–	–	–	–	–	–	–	2	–	–	–	–	2
Acer campestre	–	3	3	–	1	2	–	–	5	–	–	–	–	14
Alnus	–	7	3	–	4	4	–	2	6	–	–	–	1	27
Alnus/Corylus	4	19	15	2	9	5	2	4	28	–	–	1	–	89
Betula	–	11	8	–	20	7	1	3	28	1	1	1	1	82
Calluna vulgaris	–	12	8	–	16	11	–	4	6	1	–	–	2	60
Carpinus betulus	–	1	1	–	–	–	–	–	–	–	–	–	–	2
Cornus	1	–	2	–	3	1	–	–	1	–	–	–	–	8
Cornus/ Viburnum	1	1	5	–	3	1	1	–	5	1	1	–	–	19
Corylus	–	20	11	–	13	12	2	11	47	–	–	–	3	119
Euonymus europaeus	–	1	–	–	4	–	–	1	1	–	–	–	–	7
Frangula alnus	–	–	1	–	–	–	–	–	–	–	–	–	1	2
Fraxinus	1	34	20	1	35	18	13	11	170	3	1	3	3	313
Maloideae	2	23	14	1	35	11	4	12	85	1	–	1	–	189
Populus/Salix	–	18	5	1	15	7	2	5	10	–	1	–	1	65
Prunus	1	6	2	–	7	1	–	3	17	–	–	–	1	38
Quercus	11	95	36	3	66	22	9	24	179	3	8	3	11	470
Rosa	–	1	–	–	1	–	–	–	3	–	–	–	–	5
Taxus baccata	–	1	–	–	–	–	–	–	–	–	–	–	–	1
Tilia	–	–	–	–	1	–	–	–	–	–	–	–	–	1
Ulmus	–	1	–	–	–	2	1	1	13	–	–	1	–	19
Viburnum	–	4	1	–	1	1	1	–	4	–	–	–	–	12
No. of features	14	160	78	6	138	57	29	44	390	9	10	9	16	

Scotch Corner

No charcoal was retrieved from Fields 247 and 269 at Scotch Corner. The following remarks summarise the evidence found for each of the remaining Fields associated with the Scotch Corner settlement.

Field 220

Although a small amount of alder or hazel, birch, ash, stonefruit, dogwood and poplar or willow was identified, the samples mainly contained oak and pomaceous wood. This encourages the view that oak and medium-sized trees or shrubs were both common in the surrounding landscape and preferred as sources of firewood.

Field 223

The very broad charcoal record suggests people collected firewood from the wider area, including mature forests. Although no morphological signs of coppicing were observed, they may have managed copses nearby to obtain a regular supply of ash, birch and hazel (cf. Challinor and Druce 2013). Two fragments of hornbeam were found in pit **30406** (Period 1) and gully **30489** (Period 1–2). Separated by about 150m in the southern strip field system, they represent debris from two unrelated activities. Although native to the British Isles, hornbeam was probably non-native this far north. The fragments, chips rather than roundwood, could therefore be the remains of wood-working waste, or of an object (Huntley 1992).

Field 228

Although ash, oak and pomaceous wood were the main taxa identified in Field 228, a few fragments of alder or hazel, heather, dogwood and birch or poplar were also retrieved.

Field 229

While a small amount of the other principal taxa was identified, including wych elm and heather, the sample mainly contained ash and oak charcoal.

Field 246

The very diverse charcoal record included guelder-rose, field maple, rose and spindle. Numerous fragments were positively identifiable to black alder and hazel. Fire pit **16370** (Period 1–2) stands out as containing a large (562g) collection of predominantly riparian wood relative to the average volume retrieved in this assemblage. The deposit from the fire pit included alder buckthorn, poplar or willow, alder or hazel, and birch. Considering unburnt pit **16373** nearby (see Chapter 3) contained only 5g of oak, rather than discarded spent domestic fuel, the distinct deposit in **16370** potentially derived from a specific activity such as the disposal of hot embers from

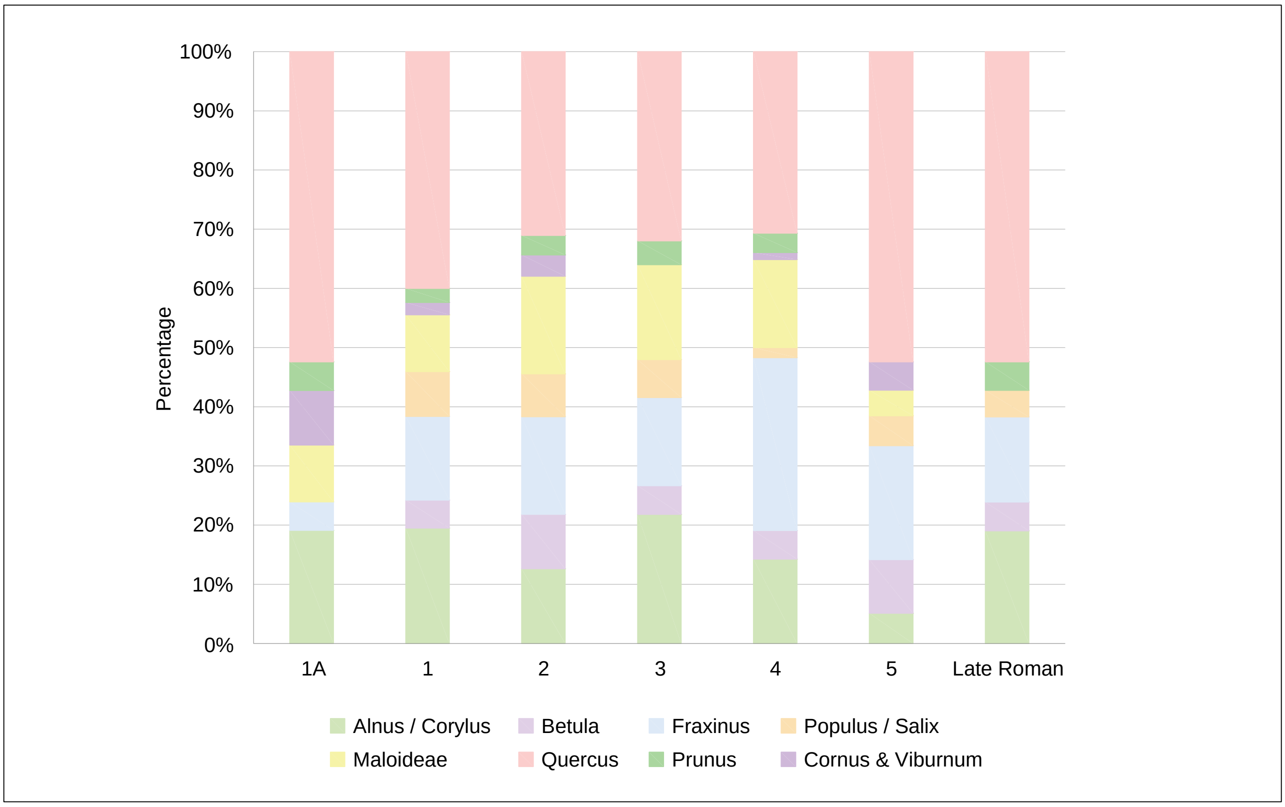

Figure 8.9: proportional occurrence of the principal taxa to the number of features that preserved charcoal by Period (p-c = pre-contact: Periods 1, 1–2 and 2; con = concord: Periods 1–3, 2–3 and 3; and occ = occupation: Periods 2–4, 4 and 5). The workshop enclosure is represented by Field 246, the periphery by Fields 197–223, and the core by Fields 228–67.

a hearth or metalworking activity, however, it is not possible to confirm with certainty. Although the pellet mould fragment retrieved from pit **16370** was most likely redeposited, unlike the fragments found in pit **24014**, which preserved a similar charcoal record (424g of alder, birch, hazel and poplar or willow), an uncertain association with regards to pellet moulds and riparian charcoal may be noted. As straight boughs of these species (especially alder buckthorn) suited the production of charcoal, it is possible—despite the caveat that the recovered charcoal was in fact unrelated/redeposited—that riparian charcoal was used as fuel in Field 246.

Field 258

The broad charcoal record included silver fir fragments in oven **26307**. Silver fir was not native to Britain in the Pre-Roman Iron Age; therefore, this was likely to have arrived as part of one or more finished objects. Whether these were part of a broken barrel or bucket staves consigned to the firewood pile, part of the oven's timber structure, or scraps from re-carving/reworking an object or construction is impossible to discern based on the few available fragments. An ambiguous deposit of wych elm was also identified.

Field 265

Ash and oak are the main components of the diverse assemblage from Field 265. The small proportion of alder or hazel, stonefruit, poplar or willow and pomaceous wood—relative to ash and, significantly in this Field, heather—could suggest more wood from construction was burnt, or a more targeted firewood collection was employed.

Field 267a

Numerous features in Field 267a contained charred heather stems and the charcoal record was very broad. It included a substantial proportion of deadwood collected from shrubs and small trees that surround the settlement and used as tinder for hearths and other household fires. The only occurrence of lime in the assemblage was also found in this Field, in pit **32590** (Period 2). Relative to the proportion of ash and pomaceous wood, a significant amount of birch and poplar or willow was also recovered.

PERIOD OVERVIEW

The Period overview presents a summary of which species were recovered and how this changed over time.

Late Iron Age (Woodside)

Mostly oak and alder or hazel were retrieved.

Period 1

A proportionately high recovery of oak and poplar or willow, compared to the amount of ash, birch and pomaceous wood, was preserved.

Period 1–2 and Period 2

While the recovery of oak and poplar or willow drops compared to earlier, more ash, birch and pomaceous wood was retrieved in this Period.

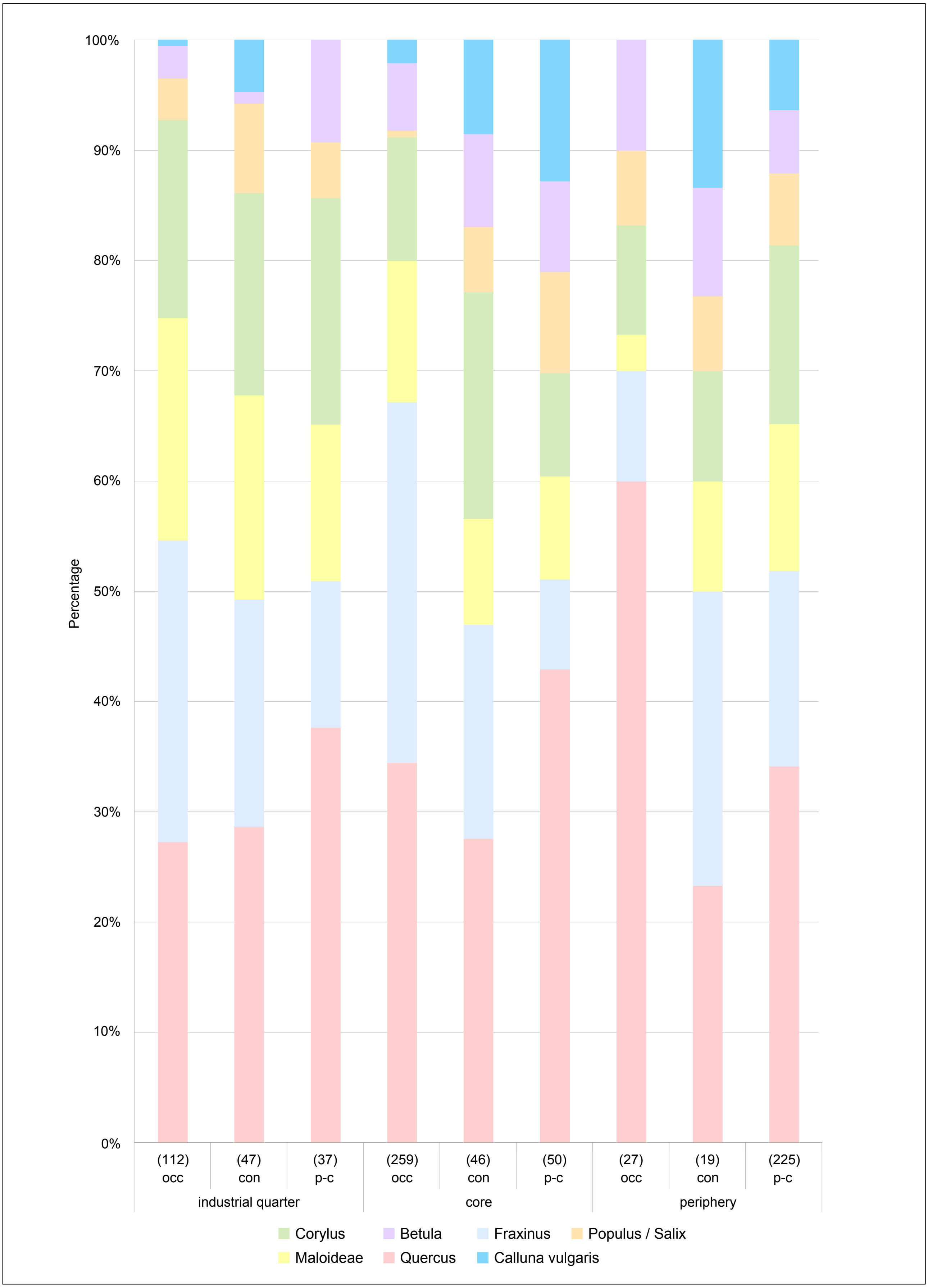

Figure 8.10: charcoal taxa proportions—the number of occurrences by the number of examined features (in brackets)—contrasted by area and Period.

Period 2–3 and Period 3

Although the proportion of ash increased in Period 2–3 (presumably residual deposits from Period 2) relative to oak, this trend reversed in Period 3.

Period 4

The earlier trend of less oak and more ash reasserts itself in Period 4. The amount of alder or hazel, poplar or willow and pomaceous wood dropped significantly when compared to Period 3.

Period 4–5 and Period 5

A proportionately high recovery of oak and alder or hazel, compared to the amount of ash, birch and pomaceous wood, was preserved.

DISCUSSION

Land clearance and brushwood collection

Barnett (2014, 288) suggests that hedge taxa may reflect exploitation of deadwood from 'open scrub on previously cleared land'. Therefore, the high proportion of pomaceous wood might not only indicate cleaning hedges of brushwood, or a prevalence of hedges nearby, but may instead reflect the preparation of new fields.

Because ditches, gullies and pits lie open for longer than features such as ovens or postholes, they better reflect the diversity of charcoal taxa that litters the environment. The large number of ditches, gullies and pits allowed for cross-examination between different areas of the excavations and their proposed chronology. These features were concentrated in the northern margin of the settlement and in the southern strip field system. Although they suggest a strengthening wetland component until Period 5, the increased presence of these taxa earlier on in the northern periphery suggests either a greater need for fuel that was met by collecting poorer quality firewood or that a portion of the alder, hazel and willow charcoal derived from coppicing. A further contrast is the relative increase of ash charcoal littering the environment while the Roman army were quartered nearby, at the expense of poplar/willow and heather. Although speculative, the relative abundance of heather charcoal in the earlier Periods could reflect a growing pressure on available grazing land (Grant 2017). As cultivation of the better soils nearby presumably increased in response to the settlement's growth and development, particularly in Period 2, nearby heathland would have been cleared, resulting in more birch and heather charcoal deposition on the site (Lagerås and Bartholin 2003). The proportionately high recovery of ash, birch and scrub taxa in those samples with correspondingly reduced oak ratios could therefore reflect the abundance of wood collected from clearance activities and exploitation of the naturally returning tree cover on the fringes of farmed land. The distinct presence of field maple in the earlier and middle Periods of the Scotch Corner environs, although perhaps related to woodcraft, might also reflect the availability of young pioneer tree cover before oak dominated the secondary woodland growth in the latest Period of the settlement. It is tentatively suggested that the recovery of more heather in the earlier Periods of the settlement, followed later by more ash charcoal, reflects the postulated impact of changing vegetation around the site (i.e. land clearance) and an altered exploitation for firewood (heathland and primary regrowth) in the middle and later occupation Periods respectively.

Hypothetically, the charcoal assemblage thus represents four habitats within reach of wood collection activities: a mature deciduous forest bordering the settlement, a damper woodland component within the catchment area of Gilling Beck nearby, heathland and the primary regrowth of cleared and open pasture. While alder, hazel and willow may have been pruned to obtain straight rods, or thin tree cover to encourage game, fowl or boar visits, ash will also regrow from stools and provide straight construction wood. Although the substantial amount of ash charcoal was principally sourced in the first two habitats, some may have come from managed growth in the latter.

It should be noted that it is impossible to distinguish between both native birch species: silver (*B. pendula*) and downy birch (*B. pubescens*). Birch was probably collected on dry heaths and craggy terrain (silver birch), as well as from moist woodlands (downy birch). Moreover, as birch was a less prevalent component of the contemporary A66 excavation record, its relatively high proportion throughout this assemblage could imply greater exploitation of damper woodland environments or the pruning of pioneer vegetation growing on recently cleared land (Challinor and Druce 2013).

Fluctuating oak proportions

Figure 8.10 shows that the ratio between ash and oak changed conspicuously, both temporally and spatially, in the charcoal assemblage. Because such wood was used for both construction and fuel, these fluctuations are presumably the result of intentional choice. For example, the occurrence of oak halved in the roadside periphery (Fields 197–223) after the arrival of Roman influence and its dominance was supplanted by ash and hazel. This suggests pressure on the availability of oak was relieved by greater exploitation of other common trees. Perhaps the military or the core settlement may have disrupted the supply of oak. As a result, other wood had to provide a substitute so as not to deplete stocks further afield and diminish local regrowth. For instance, while the proportion of oak and birch stayed relatively stable throughout the settlement of the road junction (Fields 228, 229, 258, 265 and 267a), the deposition of ash and pomaceous wood increased in Period 4. Plausibly the major changes at these locations absorbed all the available hardwoods in the area and supply was further supplemented with wood from copses and hedges.

The workshop enclosure (Field 246) presents its own shifts, and because these occur in tandem with the changing fortune of craftwork there (see Chapters 2, 3 and 4), these are presumably more related to such activities than developments in the adjoining settlement. Although Challinor and Druce (2013, 157) remark that oak 'was the preferred fuel for metalworking' at Carlisle Roman fort, a high proportion of birch was identified in the workshop enclosure in Period 1 and 2 deposits in contrast to Period 3 and its near absence in Period 4, although it stayed stable everywhere else. Perhaps birch was used as a high-calorific additive to maintain a required temperature in non-ferrous metalworking (see Mackenzie, Chapter 7). Moreover, oak follows a corresponding drop—again largely subsumed by ash and pomaceous wood. However, other craftwork activities involving birch cannot be ruled out: the bark could have been used for tanning and dying or the resin for the manufacture of glue.

Wych elm charcoal

The wych elm (*Ulmus glabra*) fragments were mostly recovered from Period 4 contexts in the Field 258. Although this concentration is not an indication per se for use of the wood, such as in utensils, wheels, furniture or tool handles, or as a minor component of shaded or riparian mature woodlands, its habitat preferences (see Law 2017) are not clearly matched in the immediate vicinity of the settlement. Focusing on the nine concurrences by the road junction, there is no clear pattern with regards to the other recovered charcoal fragments and material culture to distinguish whether wych elm charcoal represents craftwork waste or spent fuel. Pit **27482** revealed no other charcoal or objects. Rock-cut pit **26201**, charcoal-rich deposit **32476**, pit **15215** and ditches **31787** and **15027** preserved a diverse charcoal record and a very rich assemblage of nails, bone, glass, fine pottery, copper-alloy accessories and a coin that indicate a purposeful deposit of precious and household objects, as well as general domestic waste. Ditch **26155**, fire pit **33736** and gully **15190** revealed a few bones, pottery and burnt clay, as well as birch, hazel and oak charcoal, which together suggest the remains of discarded household refuse. Had the wych elm charcoal been scraps from woodworking, then one might expect to find more concentrations, as in pit **27482**. Possibly the wych elm fragments found in those contexts that were rich in material remains (**15027**, **15215**, **26201**, **31787**, **32476**) derived from the burning of tool handles, furniture or other wooden objects, if not traces of less common firewood.

CHARCOAL CONCLUSION

The diverse charcoal assemblage recovered from the Scotch Corner excavations suggests that the inhabitants exploited a variety of habitats to meet their timber and firewood needs. For instance, genera indicative of open stands, mature denser forests, scrub or hedges and riparian woodlands were ubiquitous across all Periods and Fields. Although the proportion of oak shifts relative to the other identified taxa, and more ash was retrieved in Period 2, oak was predominant amongst the recovered charcoal. Despite the great volume of wood in an oak, its abundance in the assemblage and this tree's dual function in construction and as fuel probably indicates more was consumed than could be carried from stands in the immediate vicinity. Therefore, although the abundance of charcoal derived from shrubs and medium-sized trees implies some opportunistic collection of deadwood and pruning of hedges, some oak was brought from further afield to Scotch Corner. Although some additional ash may have also been sourced further away, it is not inconceivable that copses were maintained nearby. Heather is presumed to have been collected as litter or used as wall cladding and roofing. In sum, the homogeneity of the assemblage throughout the examined Periods implies that the Roman presence had little traceable impact on the deposition of charcoal at Scotch Corner.

COAL

Jonathan Baines

Bituminous or anthracite coal occurs naturally in the soil of the region, therefore coal flecks were regularly observed in the fine flot (the smaller sieving fraction) of many of the samples. To economise the time for analysis, only those pieces caught on the 4mm mesh were recorded. This amounted to approximately 1879g of coal. Twenty-six of the 40 features that contained coal fragments in the larger sample fraction had a measurable weight of coal from Period 4 and later contexts, although there was no particular geographical distribution. Recovery of coal from two ovens, a house floor and a few purposeful dumps of household refuse may suggest coal was burned (cf. Travis 2008) in the Scotch Corner environs; however, there is a lack of conclusive evidence to demonstrate exploitation of coal as fuel.

CHARRED SEEDS, SHELLS AND FRUIT

Jonathan Baines

A total of 527 samples from the 1567 examined features revealed charred seeds, shells or fruit, henceforth referred to as the assemblage. The single grape pip (*Vitis vinifera*) in ditch **28244** Period 2–4 is most ambiguous. Although it may have grown locally, it is more likely to have been imported from the continent. However, species such as black henbane (*Hyoscyamus niger*) had naturalised by the time the Romans reached the River Swale. Hulled barley (*Hordeum vulgare*), spelt wheat (*Triticum spelta*), peas (*Pisum*) and horse beans (*Vicia faba*) were also successfully cultivated before contact with the Roman Empire (Huntley 2010). Despite the likely militarisation of the area, the community was principally civil in nature, as at contemporary Stanwick (van der Veen 2016). The archaeobotanical assemblage appears to be devoid of traces that might indicate the presence of a foreign military or their administrators. Indeed, although a large volume of deposits was investigated, no seeds, stones or pips were identified that relate to the recovered vessels used for transporting imported foodstuffs. Potentially, the poor conditions for bone preservation and the presence of calcareous soils negatively impacted archaeobotanic preservation as well. Nonetheless 15,755 charred seed and fruit specimens were identified to taxon.

The A1 scheme excavations bisected the residences and workplaces of native trades- and crafts-people that were preoccupied with their specialised non-agricultural occupations. Presumably they prepared semi-cleaned cereals, provided by others *off site* yet *within* the wider community, and little exotic food. The relative homogeneity (sometimes paucity) of the assemblage therefore implies widespread disturbance in areas of occupation and craft, whereas the more heterogeneous deposits (agricultural, productive or relating to the surrounding wild vegetation) were further away from the routeways and roads. As a result, the assemblage is best characterised as a zone of native consumption (cf. van der Veen and Jones 2006) that straddled the north–south route (Dere Street) and westwards branch across the Pennines, and ostensibly relates to the surrounding agriculturally rich region (van der Veen 2016).

Although this transect through the 1st centuries BC and AD has brought to light distinct cultural material associated with the continent (such as the ceramic vessels), few organic indicators for that contact were recovered. Therefore, the archaeobotanical record for the Scotch Corner environs more closely resembles Late Iron Age and Early Roman rural sites of north-east England than the villa or urban sites in Roman Britain. While the nearby civil sites along the A66 (Druce and Bonsall 2013), at Rock Castle (Fitts *et al*. 1994), Stanwick and Melsonby (van der Veen 1992; 1999; 2016), Faverdale (Akeret *et al*. 2007) and at Scotch Corner Hotel (Huntley 1995), as well as the more distant military granary at South Shields (van der Veen 1992), present a similar record, Silchester in Hampshire preserved a greater wealth of exotic plant remains in the same pre- and Early Roman period (Lodwick 2017). The presumed discrepancy in the archaeobotanical assemblage is therefore not clearly due to the degree of urbanity or likely military presence in the Scotch Corner environs. It is more probably due to the actual breadth of economic activity and residence bisected by the excavations. Moreover, the relatively homogeneous (in the sense of taxa diversity) and numerically poor record of arable weeds, ruderals and chaff remains does not clearly reveal the extent of agrarian activities, in the same way as pots physically embody trade with Romans. In this light, the quantity of residual cereal kernels and other plant remains recovered across the excavated fields distinguishes this part of the settlement as a zone of consumption (cf. Stevens 2015). The busier a location, the greater the likelihood of redeposition and specimen loss, thus only the most abundant taxa—those with the highest circulation—preserve, while the background noise fades away. Calculation of specimen density can thus home in on particular deposits that relate more closely to a domestic or economic activity *on site* yet leaves the vast record from other samples as an illustrative background derived from the discard and mixing of household refuse.

Despite the relative paucity in identifiable chaff—compared to kernels—and in arable weeds and ruderals recovered from both the semi-urban contexts of the road junction and the strip fields further south, it is possible to elucidate in part the economy of the settlement. The proportionately higher occurrence of autumn-germinating weeds (Secalietea), for instance, suggests barley was cultivated in the winter but does not indicate whether this was also the case for wheat. However, calculation of specimen densities for all the samples retrieved in the assemblage (the number of specimens per sampled litre) implies it is primarily made up of residual plant remains (cf. van der Veen and Jones 2006; Akeret 2012). Insights into the extant agricultural regimes, fuel use and construction are therefore based on the spatial-temporal evidence presented in Chapters 2–4 and those samples with a high specimen density.

METHODOLOGY

All bulk environmental samples were processed in accordance with Historic England standards and guidelines (Campbell *et al*. 2011) and followed at a minimum the A1 scheme's sampling strategy (AECOM 2013c). The recovered plant remains were identified to species as far as possible using Cappers *et al*. (2006), Jacomet (2006) and the NAA reference collection. Note that the word 'assemblage' is a shorthand for the complete dataset recovered from all the Fields and Periods discussed in this Monograph.

The records of 17 features are presented in Table 8.29 to introduce the various analytical elements through which differences between taxa occurrence, specimen density by volume of investigated flot in litres, relative Period, and location are discussed. Because they were selected with this cross-examination in mind, some feature types were not investigated. As a result, Table 8.29 does not illustrate specific highlights or provide an overall synopsis of the assemblage metadata presented in Table 8.29. It instead reduces the 527 features to 17 samples that are not related in terms of recovered plant community or material record, but rather exemplify the relationship between the potential retrieval of remains from one event, or an amalgamation of background noise, and the density of finds. Another five feature types are then investigated to contrast the plant record across the wider variety of archaeological contexts. The remaining plant assemblage does not develop the representation of either past vegetation or farming activities but relates a vaguely nuanced repetition of the discussed depositional scenarios. Further tables, graphs and the raw data are accessible in Appendix O.

VEGETATION BACKGROUND

In ordering Table 8.30 by the number of identified taxa, it is apparent that a larger volume of analysed flot does not imply an increase in recovered diversity. Moreover, it illustrates the dissonance between the plant and the material culture record. Features with spectacular finds or definite narratives do not necessarily contain a noteworthy archaeobotanical assemblage. For instance, almost no objects were recovered from pit **32532**; however, this pit revealed a large diversity in plant taxa. Although the proximity to fire, or heat, and fuel near an oven raises the likelihood that discarded weeds and ruffage or spilt grain will become charred, the busy character of such a location decreases their survival rate. The hypothetical breadth in anthropogenic and wild flora is therefore truncated by time and post-depositional activities, leaving behind either the most numerous taxa, or those plants that were last to be deposited. Indeed, a rich assemblage of artefacts was unearthed from oven **31616**, but its plant record was narrow: mostly kernels, with little chaff, arable weeds or larger specimens from the outlying ruderal vegetation. The other features identified as ovens, kilns or corn driers conserved fewer taxa and smaller overall find densities.

Absences also require further investigation, not just anomalies in find density, diversity or distinct floral communities. Some staples of the Roman army for instance were not found. Gold of pleasure (*Camelina sativa*) for example was identified at Stagsden in Bedfordshire (Scaife 2000) and millet (*Panicum*) all across the continent but not here (cf. Huntley 1992). Was the army's presence and their requirements too fleeting to affect Scotch Corner's agricultural regime? Or was there no coercion of the locals to cultivate familiar food under the subsequent occupation? The absence in bread wheat glume bases (*Triticum aestivum*) and paucity in rye (*Secale cereale*) here, as in *Cataractonium* (see Ross and Ross in prep.) demonstrate little effort was made during the following three centuries to grow these common crops. Either the narrow Roman agrarian assemblage retrieved from the entire A1 scheme implies that preservation conditions curtailed the available record (scarce pulses, no oily plants or cooking herbs), or the Roman authorities managed the logistics and processing of native agriculture in key areas to supply themselves first. Exploiting the local crop preferences, and under their administration, the army could source most of its supplies from the indigenous population in this fertile part of Britain (cf. Reynolds 1988). Although taxes and minerals would be profitable during a period of first contact, perhaps a further boon of conquering Britain was the logistical help to the Empire in the provision of an efficient grain store close to the important Rhine garrisons. However, this leaves aside the possibility that the remains of pulses, oily plants and cooking herbs are contained outside of the excavated area and are further from the roadside settlement's core.

AREA OVERVIEW

Woodside (Fields 197 and 199)

Results from Woodside revealed a distinct arable weed community, but no cereal kernels or chaff remains were found. Ditch **25525**, for example, preserved orache (*Atriplex* sp.) and knotgrass (*Polygonum aviculare*). While the charcoal record was dominated by oak, there were traces of kindling collected from small trees, copses or hedges in the surrounding landscape.

Gatherley Villa (Fields 200, 201 and 202)

Fields 200, 201 and 202 preserved eight cereal grains, six of which resembled spelt wheat (*Triticum spelta*) morphologically, and a few hazelnut shell (*Corylus avellana*) fragments. The absence of any other charred plant remains suggests these are stray finds of cooking and storage accidents, not evidence for local cereal processing.

Moulton Hall (Fields 207 and 208)

No charred plant remains were recovered from Fields 207 and 208.

Scurragh House (Fields 209, 210 and 211)

No charred plant remains were recovered from Fields 209, 210 and 211.

Selgarth Farm (Fields 213, 214 and 215)

A few spelt wheat and hulled barley (*Hordeum vulgare*) kernels were recovered from posthole **7409** and ring gully terminal **7422** (in Structure 67, Field 214). Black bindweed (*Fallopia convolvulus*), large seeded undetermined grasses, chickweed (*Stellaria* sp.) and daisy achenes (Asteraceae) were also identified in those features.

Bertram House (Fields 217, 218 and 219)

Just four hulled barley kernels were recovered from Fields 217, 218 and 219, which came from ditch **12171**.

Scotch Corner

Field 220

Recovery of yellow bugle (*Ajuga chamaepitys)* from gully **10933** (Period 1)—a ruderal from fields and routeways—evinces the localised flora that grew on the outcrops of calcareous soils in the area. As well as hulled barley and spelt, people in the Late Iron Age in this area also consumed emmer wheat (*Triticum dicoccum*). Six wild radish pods (*Raphanus raphanistrum*) suggest some later-stage cereal cleaning occurred nearby.

Field 223

A bristly oxtongue (*Picris echioides*) achene was found in pit **30481** (Period 2–3) on the edge of a strip field. As an old-fashioned composite, its fragile seeds are attached to hairs for propagation by wind and will not have survived for long. It was probably therefore deposited sometime between late July and September. As such, it could have drifted from 1–2km away to char accidentally in a fire beside a routeway or entered the record by becoming attached to clothing. An archaeophyte in British flora, bristly oxtongue only reached this part of England through contact with Romanised Europe. Recovery of bristly oxtongue from a context dated as early as the Neronian period suggests that this part of the assemblage derived from interaction with people newly arrived and bearing either hay for livestock or seed stock from the Continent. It is unsurprising that the development of an important artery northwards would involve enough contact with immigrants for bristly oxtongue to inadvertently take root.

The productive character of Field 223, compared to those fields characterised by consumption around the road junction further north, is evinced by the recovery of emmer, spelt and barley chaff remains. Moreover, the location of the plots in Field 223 by a routeway

Table 8.29: an overview of the data of 17 selected features.

Context	Feature type	Area	Period	Volume (l)	No. of specimens	Density of specimens	Taxa occurrence
26201	Pit	258	4	3.7	451	121.89	30
32532	Pit	267	2	4.3	348	80.93	29
15386	Pit	258	4	12	445	37.08	29
29958	Floor	265	4	11.5	816	70.96	28
24147	Dump	246	4	5.2	279	53.65	19
30434	Ditch	223	1	1.8	434	241.11	19
31791	Midden	265	4	1.4	46	32.86	18
30481	Pit	223	2–3	1.8	434	241.11	18
31017	Ditch	246	2–3	23.5	1111	47.28	18
15077	Pit	258	4	6.8	107	15.74	16
31616	Oven	265	4	1.55	221	142.58	13
32274	Ditch	267	2–3	1.9	51	26.84	13
30471	Pit	223	1–2	0.8	12	15	13
30342	Gully	223	1–2	2.5	292	116.8	12
26403	Pit	258	4	1.7	145	85.29	10
32611	Dump	267	2	2.6	34	13.08	9
30322	Pit	223	1–2	16.2	9	0.56	7

Table 8.30: charred seeds, shells and fruit metadata synopsis.

Period	Volume (l)	Features	Specimens	Taxa	Density (l)
Late Iron Age	5.5	3	13	8	2.3
1	171.492	50	611	33	3.5
1–2	148.714	45	1505	30	10
1–3	8.1	4	8	5	1
2	261.056	97	2058	45	7.8
2–3	129.813	38	4338	39	33.6
2–4	41.89	17	125	22	2.2
3	83.85	28	406	23	4.8
4	758.245	216	5885	64	7.7
4–5	32.45	7	38	13	1.1
5	32.8	8	481	15	15
Late Roman	29.9	11	114	7	3.8
None	4.08	2	480	12	120

presupposes that some production waste preserved there from adjacent farm activities. Seven rachides of lax-eared barley were for instance identified in pit **30481** (Period 2–3). One garden pea (*Pisum sativum*) was recovered from gully **30690** (Period 2). Field 223 also revealed a broad diversity in arable weeds, meadow flora, woodland edge or hedgerow plants, such as wood sage (*Teucrium scorodonia*) and common agrimony (*Agrimonia eupatoria*), and wetland plants like bulrushes (*Schoenoplectus* sp.) in palisade trench **30833** (Period 1–2).

Field 228
Field 228 produced a small collection of hulled barley and spelt wheat, meadow flora, wetland plants, including water blinks (*Montia fontana*) and spikerushes (*Eleocharis* sp.). It also contained one desiccated grape pip (*Vitis vinifera*) that might be intrusive in ditch **28244** (Period 2–4). No chaff remains were found.

Field 229
Due to the absence of arable weeds or chaff remains, the few hulled barley and spelt wheat kernels from features in Field 229 are probably residual household rubbish.

Field 246
A distinct arable weed community was identified that included pale persicaria (*Persicaria lapathifolia*), bedstraw (*Galium aparine/odoratum*), rye or soft brome (*Bromus hordaceus/secalinus*) and three wild oats from three different features (*Avena fatua*). Besides emmer, barley and spelt, the chaff remains of both barley and spelt were also found. The proximity of a wetland flora, either in ditches or in water management features nearby, is evinced by the identification of bog beans (*Menyathes trifoliata*), bulrushes and various morphologically distinct sedges (*Carex* sp.). The only rye kernel identified in the assemblage came from fire pit **16370**, Period 1–2. Rye chaff fragments, moreover, were identified at the Scotch Corner Hotel excavations (Huntley 1995).

Field 258
One corncockle seed was recovered from rock-cut pit **26002** and suggests that the household refuse that was deposited in this pit contained cereal cleaning waste. Ten other features included undetermined large-seeded grasses and numerous chaff remains of emmer, spelt and one floret base of wild oat. Therefore, it is likely that people prepared food (barley, emmer and spelt kernels were retrieved from across the area) here and some of the waste was caught/deposited in the surrounding open features. The only lentil (*Lens culinaris*) identified in the assemblage came from rock-cut pit **15386** (Period 4). However, the near absence of lentils at Scotch Corner, as at Stanwick (van der Veen 2016) and along the modern A66 (Druce and Bonsall 2013), illustrates a difference between these 'civil' and 'quasi-rural' sites from military ones, such as *Luguvalium* (Huntley 1992) and *Isca* fortresses (Helbaek 1964), 'urban' sites, like London (Boyd n.d.) and *Cataractonium* (Baines, in prep.), or 'elite' sites, such as North Leigh villa (Morrison 1959). Due to the peculiarity of the fills and contents of the rock-cut pits compared to the other features in Field 258, they are covered in greater depth in the discussion below.

Field 265
Three edible pulses were retrieved from Field 265: horse bean (*Vicia faba*), common vetch (*Vicia sativa*) and garden pea. There was also a distinct arable weed community that included ivy-leaved speedwell (*Veronica hederifolia*), black henbane (*Hyoscyamus niger*) and goosefoot (*Chenopodium album*). Although the ivy-leaved speedwell can indicate that cereals were sown in the autumn, it also successfully colonises garden plots. Despite the low number of chaff remains in this field, numerous emmer, barley and spelt kernels were identified.

Field 267a
There were two further examples of bristly oxtongue in Field 267a, as well as a distinct meadow flora and a broad mixture of arable weeds. One seed of bittersweet (*Solanum dulcamara*) was retrieved from gully **32247** (Period 2). Various woodland edge or hedge taxa were also found, including deadnettles (*Galeopsis* sp.). Numerous barley and spelt rachides were retrieved from Periods 2, 3 and 4. This profusion here and in the adjoining Fields (223 and 258) throughout the settlement's history relative to the scarcity in the other Fields encourages comparison with the abundance of chaff remains retrieved from the other Scotch Corner excavations (Huntley 1995; Druce and Bonsall 2013). Moreover, a broader community of arable weeds was preserved in Field 267a. Presumably this area in the settlement saw greater interaction with or deposition from cereal storages and processing activities than in the other Fields. Plausibly, there was an overlap here of a consumer and producer population, that is tentatively similar to the circumstance at Stanwick (van der Veen 2016).

PERIOD OVERVIEW
Late Iron Age (Woodside)
Although no kernels were recovered from Woodside, the identification of ruderals and arable weeds fat hen (*Chenopodium album*), speedwell, orache and knotweed suggests cereals were processed nearby.

Period 1
Despite the below-average specimen density (9.49 specimens/litre) compared to other Periods in the assemblage, which suggests the majority of samples preserved residual plant remains, a distinctive breadth in arable flora was identified. The ratio of kernels to chaff (barley, emmer and spelt were identified) and arable weeds preserved in some samples stands out compared to other periods. This indicates deposition of an arable flora from household activities occurred. Conspicuously, the proportion of arable flora found in the industrial area (Field 246) is like the record recovered from the plots in Fields 220 and 223. This tentatively implies that the industrial area adjoined a residential area and that household waste was discarded in the

artisans' fires or used as kindling. The common Bronze and Iron Age land use/division, described by Wieringa (1958), of delimited enclosures of arable and pastoral landscape surrounding settlement foci, presumably encircled the workshop, as well as the southern field system in Fields 220 and 223.

Period 1–2 and Period 2

The average specimen densities (26.92 in Period 1–2 and 14.29 in Period 2) indicate that some samples relate to distinct deposits of household refuse. For instance, gully **30798** around Structure 22ii in Field 223 preserved a small but distinct deposit of spelt and emmer cleaning waste. However, the identification of conspicuous taxa in this assemblage, for example the retrieval of henbane in pits **32532** and **32511** in Field 267a, may also imply a sample derived from a specific domestic activity. In this case, the late maturation of henbane seeds (from August through to October) implies they were not discarded arable weeds from sifting cereals. Although they might be remnants of ruderals in a residential area or from the verges of cultivated ground (cf. the local calcareous soils), they could also represent traces of medicinal usage, as at Stanwick (Haselgrove 2016). Sifting partly threshed spelt is evinced in the vicinity of the well in Field 267a (group **33102**, cf. deposits **32611** and **32574**). The high occurrence of cereal chaff remains and kernels, yet low proportion of arable weeds, suggests the record in this Period derived from household food preparation and refuse rather than large-scale processing or production. Significantly, this one-sided consumer character mirrors the record from Stanwick (van der Veen 2016). It evinces the potential of the wider region surrounding Stanwick and Scotch Corner to support members of a local elite and a non-food-producing population of metalworkers and craftspeople in the pre-Roman Periods. It is not inconceivable—though zooarchaeologically and botanically 'invisible' at Scotch Corner—that this region could therefore supply a likely temporary presence of the Roman military in Periods 3 and 4 (cf. Thomas and Stallibrass 2008).

Period 2–3 and Period 3

The ratio of kernels to chaff remains and arable weeds also indicates that food preparation was common during Periods 2–3 and 3 but suggests that it was not processed in the vicinity. Archaeobotanically, there is a distinct continuity in the flora recovered in Periods 1, 2 and 3 that implies maintenance of the same agrarian regime and diet. Plausibly, the higher proportion of grassland flora—including unpalatable wetland taxa such as sedges and bulrushes—suggests a larger input of debris from discarded bedding and fodder in the settled environment. The discrepancy in find density between Period 2–3 (30.02 specimens/litre) and Period 3 (5.4) reflects an increase in disruption due to the greater intensity of settlement activity. However, the overall sample compositions do not alter, and clear botanic signs for economic or social change and trade are lacking.

Period 4

The archaeobotanic content of the 12 rock-cut pits in Field 258 that preserved charred plant remains (CPR) mostly represents waste deposited from household activities, therefore their record is separable from the other samples. However, this is based on the presumption that the large proportion of material included in the fill precludes the use of nearby sediment alone. While some residual material will have certainly mixed in, the record principally consists of refuse from homestead cleaning and food preparation. The absence of a cache of chaff and fine sieving waste precludes the interpretation of cereal processing debris. Nevertheless, although averaging at 15.48 specimens/litre, compared to 6.26 for Period 4, minus the 12 rock-cut pits, the find density does not suggest deliberate infilling of the features with loads of accumulated refuse, but rather a heterogeneous mixture of what was domestically available. For instance, the oat floret base found in pit **15386** confirms that wild oats (*A. sativa*) contaminated cereal crops. Exploitation of meadows for cutting animal fodder or as pasture is further indicated by the identification of a diverse damp, disturbed and heath grassland flora. In contrast, while a distinct collection of cereal kernels and arable weeds were recovered from the two ditch sections in the same field (groups **28156** and **28158**), it is intriguing that no meadow taxa at all were recovered. This absence could imply that the recovered flora did not derive from household cleaning. The presence of grassland flora, however, need not be a determining criterion of household refuse, as shown by the samples from the urine pit inside Structure 39 in Field 265 Period 5, which revealed just barley, brome and persicaria. Where the weeds and kernels in the ditch sections derived from is uncertain, as ditches accumulate specimens from various sources and deposition events, yet the absence of chaff remains indicates they probably originated from a store of threshed and partially sieved grain nearby.

The archaeobotanical record does not change after the Romans took control of Scotch Corner. The same proportion of kernels to chaff and arable weeds were deposited, and a narrow spectrum of the wider vegetation was preserved. The main character of the record signals debris from food preparation and household maintenance, rather than distinct accumulations from arable or pastoral activities, cereal storage, import or processing.

Period 4–5 and Period 5

Because the ubiquity of charred heathgrass, sedges, water blinks, onion couch tubers/rhizomes and sorrel across the assemblage does not lessen closer to the time when Scotch Corner was abandoned, land divisions (*sensu* recutting the turf of enclosure ditches and gullies) were probably still maintained well into Period 5. Of course, a portion of these taxa may have derived from the discard of old bedding or possibly the use of peat as fuel. Thus, in the absence of clear signs for the import or the processing/storing of food in bulk, the system of subsistence agriculture in delimited enclosed plots in the wider area around Scotch Corner presumably persisted. As evidence to the contrary is also lacking at Stanwick, this system was sufficiently robust to support non-food producing residents (Haselgrove 2016). The agrarian economy and the surrounding vegetation of the Scotch Corner environs can thus be characterised throughout its Late Iron Age and Early Roman settlement as unchanged.

DISCUSSION OF SELECTED FEATURES AND SPECIES

Rock-cut pits (Field 258)

Pits usually accumulate a heterogeneous sample that consists of residual specimens from the surrounding environment and anthropogenic circumstantial deposits. For example, pit **30322** (Period 4) presents the norm in this assemblage: a few cereals, sedges (*Carex*) and the conspicuous ruderal bedstraw (*Galium aparine* or *odoratum*). Due to their different context of infilling—and possibly their use (see Chapter 4)—the rock-cut pits deserve a separate discussion.

Twelve of the rock-cut pits identified at Scotch Corner preserved plant remains and account for approximately half the volume of pit flot from Period 4 activity. Around 74% of all specimens found in pits in Period 4, and 32% of all specimens identified in Period 4, were recovered from these rock-cut pits. They cannot be considered to represent ordinary accumulations from the surrounding environment or a few deposition events, like most other pits. Rather, they are reflective of numerous episodes of reworking, changing use and curious deposition activities in these features.

Rock-cut pit **26201** (Period 4) was sampled in layers. Unsurprisingly, the lower, more secure fill, appears less disturbed than its higher counterparts. A portion of the assemblage expected at an oven or hearth was found and indicates that this pit was open near an active household but was not a focus of food production or processing. Although absent in the upper layers, a distinct arable weed community was identified in the lowest fill that includes black nightshade (*Solanum nigrum*), knotgrass (*Polygonum aviculare*), pale persicaria (*Persicaria lapathifolia*), oat (*Avena*) and wild radish (*Raphanus raphanistrum*). This rock-cut pit preserved a broader spectrum of plants that accumulated from various sources compared to most pits. For example, members of the Lolio-Potentillion community, a tread-resistant vegetation type found on riversides, humid grasslands and stream beds, were also identified. Two further contemporary neighbouring pits were sampled in layers—**15077** with three fills, and **15386** with four—but these served to demonstrate that investigating an increased volume does not necessarily result in wider diversity.

The find densities (number of plant specimens per litre of examined flot) highlight their uniqueness in this assemblage compared to contemporary 'ordinary' pits at Silchester (Lodwick 2018), Iron Age enclosure assemblages in Leicestershire (Jarvis and Monckton 2004) or the Early Roman roadside settlement at Nettleton and Rothwell, Lincolnshire (Smith and Giorgi 2013). In contrast to deposits with a distinct 'exceptional' purpose, for example the burial fills of the contemporaneous cemetery at Vindonissa, Switzerland (Akeret 2012), the find density is lower but still remarkable—7.7 specimens per litre of flot compared to 27 specimens per litre. The absence of a clear lining in the rock-cut pits distinguishes them from the lined storage pits for loose grain or spikelets identified in the Iron Age and Roman period in southern Britain. Such storage pits revealed densities of 200 or more specimens per litre (cf. Severn Valley; Pearson 2008). It would be hard to argue that some of the rock-cut pits were originally like those storage bins based on the recovery of just one corncockle redeposited in Period 4 in pit **26002**. Mostly these rock-cut pits preserved residual fodder or bedding waste blown in from the surrounding settlement of Scotch Corner.

Discarded household refuse

A distinct deposit (**32476**; Period 4) in Field 267a was identified near the eastern edge of enclosure ditch **32468**. Presuming that it was quickly buried in order to survive undisturbed in this busy settlement environment, it probably represents a single deposition event. Because it revealed an assortment of plants that are usually outside of a hearth's reach, one could hypothesise that they were deliberately incinerated during household cleaning. Although this sediment sample provided only a small flot of half a litre, it was remarkably rich in grasses longer than 5mm. Taken together with the pure record of spelt—the one barley kernel contradicts the rule, but it probably is part of the residual component from the wider homestead environment—deposit **32476** could be a handful of spilt semi-cleaned grains. The other taxa included in this residual component (sedges, legumes, rushes, dock and bristly oxtongue) represent the remains of green fodder or bedding resulting from feeding or stalling an animal nearby. Although fragile and prone to disappear from the archaeobotanic record, the absence of chaff remains in this deposit suggests that these cereals were winnowed and fine sieved elsewhere (Stevens 2015).

In the same field, deposit **32401**, which could not be ascribed to a Period, revealed various sherds of hand-built and samian pottery and a handful of spelt kernels with large grasses. The lack of a clear arable weed community or ruderals in this sample suggests the spelt had accidentally charred during parching and was separated, with some unshakable large grasses, prior to being ground. Included in the discard were remnants of other house-tidying activities, consisting of a dozen residual barley and emmer kernels, which had perhaps accumulated over time in the same waste basket. The abundance of heather perianths, legumes, undetermined smaller grasses, hemp-nettle (*Galeopsis* sp.), fescue, brome and small bedstraw embody bits of thatch, flooring or fodder that would easily char in places heated by open hearths and be swept up with the other domestic refuse.

Structure 38 (Period 4, Field 265)

The 195 litres of sediment samples rescued from the floor (group **29958**) of Structure 38 produced a large flot of 15.3 litres, from which 819 specimens in 22 different taxa were retrieved. It included three taxa that are uncommon in the assemblage: yellow rattle (*Rhinanthus minor*), broad bean and garden pea. Pulses are rare, as they do not require parching in ovens nor elaborate processing activities. Pods are cracked and disposed of as green manure. A house floor would seem an excellent place for pulses to accidentally char and roll into a forgotten nook. There they preserved with 500 cereal kernels and their weedy companions from the field wild radish, bedstraw, oat, buttercup (*Ranunculus* sp.), knotweed, pale persicaria and goosefoot. The yellow rattle followed a different route from the meadow together with the various undetermined small grasses, legumes, cinquefoils (*Potentilla* sp.), mint (Lamiaceae), fescue and rye grass (*Festuca/Lolium*). It is part of a larger, and in this assemblage poorly represented, community of grassland and sward flora. They are most likely remnants of bedding or fodder.

The remains of a contemporaneous midden (group **29959**) were unearthed on the other side of a beam slot to the east of Structure 38 that preserved no plant remains. This absence suggests the cavity that formed after the beam had rotted or was removed was filled with anthropogenically sterile soil—i.e. soil that did not contain residual charred plant remains, and which was specifically sourced in an episode of levelling. It is therefore noteworthy that many posthole features at Scotch Corner bore botanically empty samples in this assemblage and were presumably purposely filled in rather than left to accumulate soil from the surrounding area that would have contained residual charred plant remains. The concurrence of garden peas in the midden outside and the floor inside Structure 38 was fortuitous because of its location and relation to activities that led to the deposition of food remains. The sloe stone, hazelnut shells and elderberry pip found in the midden suggest fruit and nuts were consumed in Structure 38. The black bindweed also found in this midden usually weeds in winter cereals, particularly emmer, and is presumably a remnant of discarded domestic cereal-sifting activities. This single indicator, however, is not sufficient to argue with certainty that the cereals prepared in Structure 38 were sown in the autumn. Seen as a unit, this floor and midden record a robust arable weed community but are probably not the product of a single cooking, cleaning and rubbish-burning event.

However, the preservation of relatively large weeds, to the exclusion of any smaller than 5mm long, indicates these fruit and seeds are the remains of sorting already sieved grain. The absence of remains indicative of cereal-processing activities may be a distinction of status. Other structures nearby could hypothetically have preserved no larger weeds at all, with the inhabitants being content to eat and not spend their time in removing edible impurities. Conjecturally, finer weeds and glumes that attest to threshing and sieving your own meal would be deposited there. It is likely that the excavations bisected where the well-to-do lived in comfort by the road during Period 4, yet missed the dwellings of working folk in the damper enclosures beyond, where plants such as spike rushes (*Eleocharis palustris*), bulrushes and daisies were preserved in oven **28126** in Field 258.

Routeways

The routeway category combines wheel ruts, hollow-ways and road bedding into one type. By the nature of their usage, the fills of these features get heavily eroded and present a homogeneous plant record. Despite the settled location of the seven features in this category, the flots (which in total produced 3.7 specimens/litre) did provide evidence for the wild vegetation on the settlement's fringe: mint, heathgrass, wood sage, hempnettle, black bindweed and ribwort plantain (*Danthonia decumbens*, *Teucrium scorodonia*, *Galeopsis* or *Stachys*, and *Plantago lanceolata*). Alternatively, some of these plant remains originated in material brought in to construct the routeway. If this were the case, they become distinct due to their inclusion in an architectural deposit, rather than representing waste from household activities. The first two plants represent the damper terrain of tussocks, streambeds and pioneer woodland that was in abundance within 2km of the settlement. The following two species are more restricted to hedgerows and forest margins. Black bindweed, an archaeophyte in Britain since the Neolithic migrations, is a climbing weed and ruderal that is hard to control. It would have suited the path along the strip field where it was found. Ribwort plantain, however, is more complicated. It occurs 18 times in the assemblage and is, like pale persicaria, mostly restricted to Period 4. Only two samples are from less-urban locations, or more distant from the road junction, and are suggestive of ribwort plantain in its natural habitat. In the other samples, it likely represents the anthropogenic vegetation of kerbs, rubble heaps, yards or garden borders. Without a clear signal for hay or green fodder to attribute ribwort plantain to, this species is more likely to be an indicator of a ruderal environment, than of meadows and pastures. Docks (*Rumex*) and black nightshades may also be added to this group.

Hedges or shrub boundaries

Although gullies and ditches are an archaeologically visible form of enclosure system, hedgerows are not as traceable in the soil. Moreover, few species are conclusively members of this type of vegetation. The charcoal record alludes to the exploitation of scrub, but those fragments may represent collection from land clearance or forest margins. Similarly, the wood sage and bittersweet identified in these enclosure features are likely to be inadvertent products of travel to and from the surrounding woodlands (Huntley 1992). The occurrence of wood sage, mostly in Periods 1 and 2 and scarcer in later phases, may reflect the effect that urban development had on preservation of the remains of woodland vegetation. The barbs on agrimony seeds (*Agrimonia eupatoria*) would have facilitated transport on clothes or fur back to the settlement. If not considered to be a relic of hedgerows, this plant group nevertheless suggests a distinct deposition of woodland flora within a predominantly agrarian assemblage. Recognisable in Period 1 and 2 in the southern strip fields and then later in Period 4 in the north of the settlement core, it mirrors proximity to the off-site vegetation.

Ditches, gullies and pits

Pits, gullies and ditches are the main feature types that preserved CPR (110 pit features with 6778 specimens identified to 65 taxa and 206 gully/ditch features with 5593 specimens identified to 67 taxa). They were centrally located, allowing for the accumulation of charred plant remains from a variety of activities on site; however, due to their open character, their fills would have been easily disturbed. Three variations in sample composition—location, Period and density of specimens—were investigated to describe the identified taxa (see Appendix O). Despite such a

Table 8.31: the percentage occurrence of the principal taxa recovered from a selection of pits and gullies/ditches by Period.

Period	**1**		**1–2**		**2–3**		**2**		**3**		**4**		**Late Roman**	
Type of feature	Pit	Gully/ ditch	Pit	Gully/ ditch	Pit	Gully/ ditch	Pit	Gully/ ditch	Pit	Gully/ ditch	Pit	Gully/ ditch	Pit	Gully/ ditch
No. of features	9	4	10	7	6	7	8	28	10	8	59	34	10	4
Flot volume (ml)	36300	86732	48200	48088	33100	69380	37000	130596	18700	40650	207600	221155	26100	46650
No. of specimens	114	475	346	537	2514	1342	645	1090	46	78	2525	464	67	502
Density of specimens (l)	3.14	5.48	7.18	11.17	75.95	19.34	17.43	8.35	2.46	1.92	12.16	2.10	2.57	10.76
Avena	11.1	–	–	–	16.7	14.3	–	–	–	–	1.7	2.9	–	–
Bromus hordeaceus/ secalinus	11.1	25.0	40.0	–	5.0	28.6	25.0	14.3	–	25.0	10.2	2.9	10.0	–
Chenopodiaceae	–	25.0	–	–	33.3	–	12.5	3.6	–	–	5.1	11.8	–	25.0
Chenopodium album	–	–	–	–	–	14.3	12.5	7.1	40.0	12.5	3.4	17.6	–	–
Corylus avellana	44.4	25.0	10.0	–	16.7	28.6	–	14.3	–	12.5	20.3	11.8	–	25.0
Danthonia decumbens	–	–	10.0	–	33.3	14.3	25.0	–	–	12.5	0.0	–	10.0	–
Fabaceae < 2 mm	–	–	10.0	–	33.3	14.3	42.0	6.0	10.0	12.5	15.0	6.0	10.0	–
Fallopia convolvulus	11.1	–	10.0	–	16.7	–	12.5	3.6	–	12.5	1.7	5.9	–	–
Festuca/Lolium	22.2	–	30.0	28.6	33.3	14.3	–	14.3	–	25.0	11.9	8.8	–	25.0
Galium aparine/ odoratum	–	–	40.0	–	–	14.0	20.0	1.7	–	–	15.0	–	–	–
Hordeum	33.3	75.0	70.0	57.1	83.3	42.9	5.0	46.4	40.0	75.0	54.2	38.2	70.0	25.0
Lathyrus / Vicia sp.	–	25.0	10.0	–	16.7	–	12.5	3.6	–	–	10.2	–	–	–
Persicaria lapathifolia	–	–	–	–	16.7	–	12.5	–	–	–	5.1	2.9	10.0	–
Plantago lanceolata	–	–	–	–	16.7	–	12.5	–	10.0	–	8.5	–	–	–
Poaceae indet. < 5 mm	26.0	26.0	10.0	71.0	16.7	57.0	65.0	64.0	–	–	45.0	36.0	–	–
Poaceae indet. > 5 mm	11.1	25.0	20.0	14.3	66.7	14.3	5.0	1.7	–	25.0	13.6	8.8	–	–
Polygonum aviculare	–	–	–	–	–	–	12.5	–	10.0	–	6.8	8.8	–	25.0
Potentilla sp.	–	–	–	–	–	14.3	25.0	3.6	–	–	1.7	–	–	–
Ranunculus repens	–	–	–	–	–	–	12.5	7.1	20.0	–	1.7	5.9	–	–
Raphanus raphanistrum	11.1	–	–	–	16.7	–	12.5	3.6	–	–	1.7	5.9	–	–
Rumex sp.	–	–	–	–	–	–	–	–	–	–	8.5	5.9	20.0	–
Teucrium scorodonia	–	25.0	30.0	–	–	28.6	25.0	1.7	–	–	0.0	–	–	–
Triticum sp.	11.1	5.0	40.0	42.9	5.0	28.6	37.5	35.7	10.0	25.0	40.7	23.5	30.0	25.0
Triticum dicoccum	11.1	–	10.0	–	–	14.3	–	7.1	–	–	8.5	2.9	–	–
Triticum spelta	33.3	5.0	90.0	57.1	83.3	71.4	62.5	64.3	10.0	37.5	50.8	44.1	–	25.0
Undet. cerealia	11.1	5.0	50.0	57.1	1.0	57.1	37.5	57.1	10.0	37.5	45.8	38.2	40.0	–

windfall of data, contrasts between ditches, gullies and pits merely inform that the road junction was a busy environment and those taxa that prevailed in the anthropogenic environment were also those taxa principally recovered from bulk samples. Therefore, this argues for the maxim that the investigation of an increased number of samples does not bring about a wider diversity per se.

The disproportionate number of specimens in the group of pits from Period 2–3 is due to the rich record recovered from pit **32450** in Field 267a. It is a reminder that the remains of a distinct deposition event will occasionally stand out and skew a dataset that has been carefully organised according to the percentage of occurrences of particular taxa in a Period based on gullies/ditches or pits (see Table 8.31). A thousand uniformly preserved spelt kernels were recovered with an assortment of the larger arable weeds (fragments longer than 5mm). The residual component, either swept up with the discard of accidentally charred spelt grains, or separately accumulated in the pit, included legumes, sedges and grasses that are representative of fodder or bedding remains. However, the 40 charred heather perianths identified in this pit are not related to fodder. They either indicate a thatch component or that mature heather, which flowers in late summer, was spread with the other bedding foliage.

The botanic record from ditch **24422** and pit **24296** in Field 246 (Periods 1–2 and 2) suggests the pellet mould debris found in these contexts was discarded together with bedding or fodder waste. The few fragments of hazelnut shell are a common feature in this assemblage and thus not necessarily related to the material culture found in this ditch. The absence of a distinct arable weed community, and food and chaff remains, suggests they did not contain cereal processing or cooking waste. The meadow taxa probably originated therefore from household cleaning or a non-residential space.

Cereal chaff

Although distinguishing between spelt and emmer (*Triticum dicoccum*) kernels is tricky in the absence of chaff remains, pit **30481** (Period 2–3) in Field 223 overcomes this challenge with five rare emmer spikelet forks. There are three earlier specimens in the same field in ditch **30434** (Period 1) and a later one in pit **26403** (Period 4) in Field 258. Ditch **30434** possessed the broadest collection of barley, spelt and emmer spikelet forks in this assemblage and one of the rare wild strawberry achenes (*Fragaria vesca*). Though preservation of the chaff and the kernels of all three main cereals is an indication that this sample contains cereal processing remains, credibility is increased by the strong relationship with chaff and grasses compared to the number of kernels (cf. Monckton 2011). Although Figure 8.11 shows more clearly the proportions that were sampled in the earliest phase of contact, some are biased by their low overall number of specimens. However, three features stand out and present other credible cases for the disposal of domestic cereal processing waste.

Deposit **32611** (Period 2) in Field 267a preserved the larger arable weeds that are picked out during the last stage of cereal cleaning prior to milling. Note that the Roman military were mostly given kernels for their rations and had to grind their share. Therefore, such small deposits in Periods 3 and 4 are not to be confused with either their presence or residues from communal (i.e. large-scale) milling.

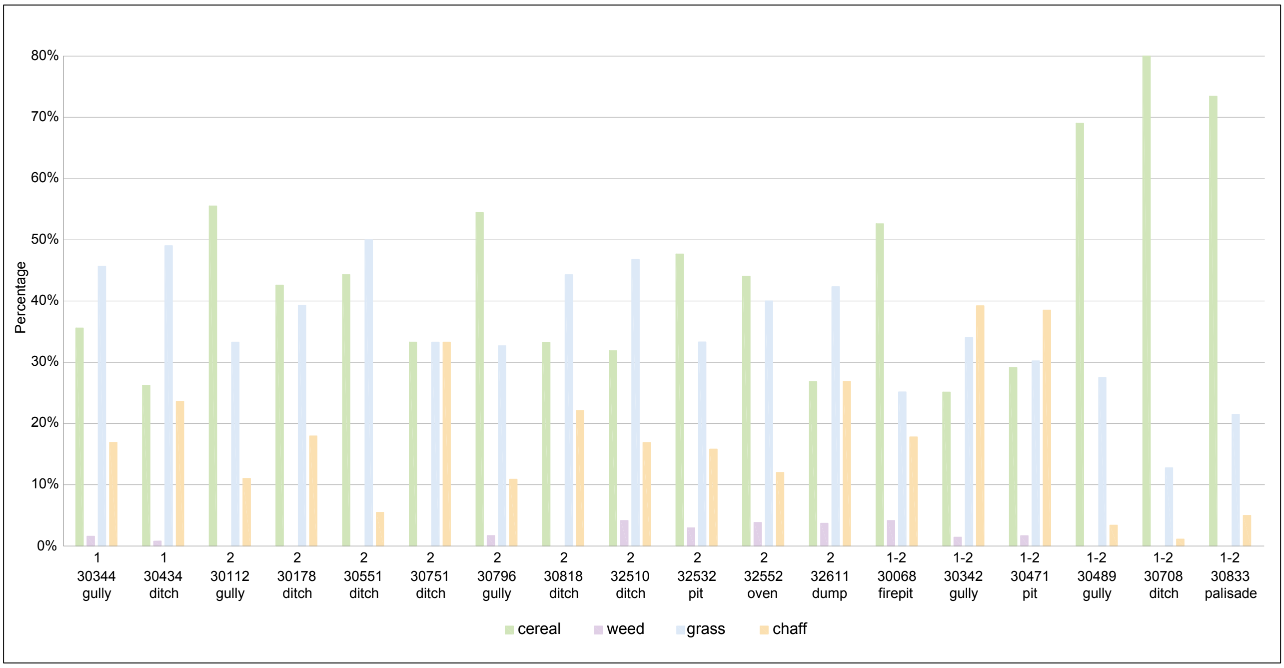

Figure 8.11: the proportion of cereals, arable weeds, grasses and chaff remains in those samples that contained chaff remains for Periods 1, 1–2 and 2. Other Periods did not provide statistically viable samples for examination.

Table 8.32: quantification of chaff remains identified by Period.

Period	1	1–2	2	2–3	4
No. of features	2	7	9	7	11
Barley	5 (1)	–	3 (2)	8 (2)	–
Emmer	3 (1)	–	–	5 (1)	1 (1)
Oat	–	–	–	–	1 (1)
Spelt	55 (2)	226 (6)	78 (9)	183 (7)	41 (7)
Wheat	–	17 (1)	–	–	5 (5)

Gully **30342** (Period 1–2) in Field 223 arguably preserved the clearest indication of cereal processing: an above-average number of specimens and density, a diverse range of arable weeds, but restricted variety in taxa and proportionately more spikelet forks than either grasses or grain.

Pit **30471** (Period 1–2) in Field 223 sums up this analysis with the same observations made for gully **30342** but displays a weaker weed component. However, traces of a distinct weed community are conspicuously rare throughout the assemblage—except for Field 223—and suggests that the main agricultural activities of these settlements by routeways happened *off site*. Moreover, as 13 of the 18 features containing spikelet forks in Periods 1 and 2 were ditches and gullies, rather than structures central to domestic activities, high chaff proportions appear to be a fringe residue in the environment.

Cereal kernels

Despite the absence of a cereal-storage or oven-clearing spill, the assemblage contained 4.8 cereal fragments per litre of flot, compared with 4.7 remains from other plant species. Although barley and spelt kernels are similar in size, weight and resistance to crushing, twice as many spelt kernels were found than barley. However, spelt was not in effect more prevalent in the assemblage by occurrence, either in a particular Period or location. This is significant as spelt would be expected to be proportionately more present in samples than barley for three main reasons. First, spelt spikelet forks are far more robust. Second, because the parching process necessary for dehusking spelt is not required for barley, it has a higher potential chance of being preserved in the archaeological record. Third, if people did not consume much barley and the crop was mainly cultivated or transported to site as animal fodder, which does not require cooking, then its distribution is solely dependent on the burning of spills or left-overs, rather than during one of the many preparatory steps. The occurrence of their chaff, however, cannot be similarly compared (see Table 8.32).

Spelt was usually stored not fully threshed, but with the kernels still attached to the glumes as an added protection against fungi and damp. When needed, ears of spelt were collected and given a last beating, which increased the likelihood of its chaff remains preserving on site. Hulled barley, on the other hand, was usually fully processed prior to storage.

For instance, Field 246 in Period 4 stands out with a comparable, or higher, occurrence of barley kernels compared to spelt. Probably the contrasting record for this area is the result of changing land-use, either towards raising livestock or gardening (Fig. 8.12). One notable character of this area in Period 4 and the Roman period is the disappearance of oat. Earlier, however, when the area formed part of a workshop, it produced three of eight occurrences across the whole assemblage. These oats were longer than 5mm and so belong with the unshakeable weeds that were extracted late in the cleaning process, rather than the smaller contaminants left behind off site. However, very few weeds in the latter group were found overall; a sign that grain was not grown or processed within the immediate vicinity. The occurrence of oats with residual matter from house cleaning that was thrown out with the pellet moulds in gully **24663** (Period 1–2) and pit **24014** (Period 1) in Field 246 confirms that oats were related to primary depositions from households, rather than wider background noise.

There may have been a small site-wide increase of barley during Period 3 and 4 to the north of the road junction (in Fields 246, 258 and 265) or a corresponding drop in the proportionate occurrence of spelt site-wide in Period 4 and the late Roman period compared to Periods 1 and 2 (see Table 8.33). The low recovery of sprouted grains (1.5% of the cereal remains) forfeits judgement on the ratio between barley and spelt and the possibility of brewing remains. Perhaps barley was consumed by humans and animals, and the Mediterranean culture of eating bread wheat and spelt only found adherence with spelt which was already consumed (Knörzer 1970). Thus, in parallel with the assemblage from the military occupation of Batavia (like Scotch Corner also near the empire's frontier), where more emmer was found than bread wheat—in the case of Scotch Corner no bread wheat at all—native culinary customs

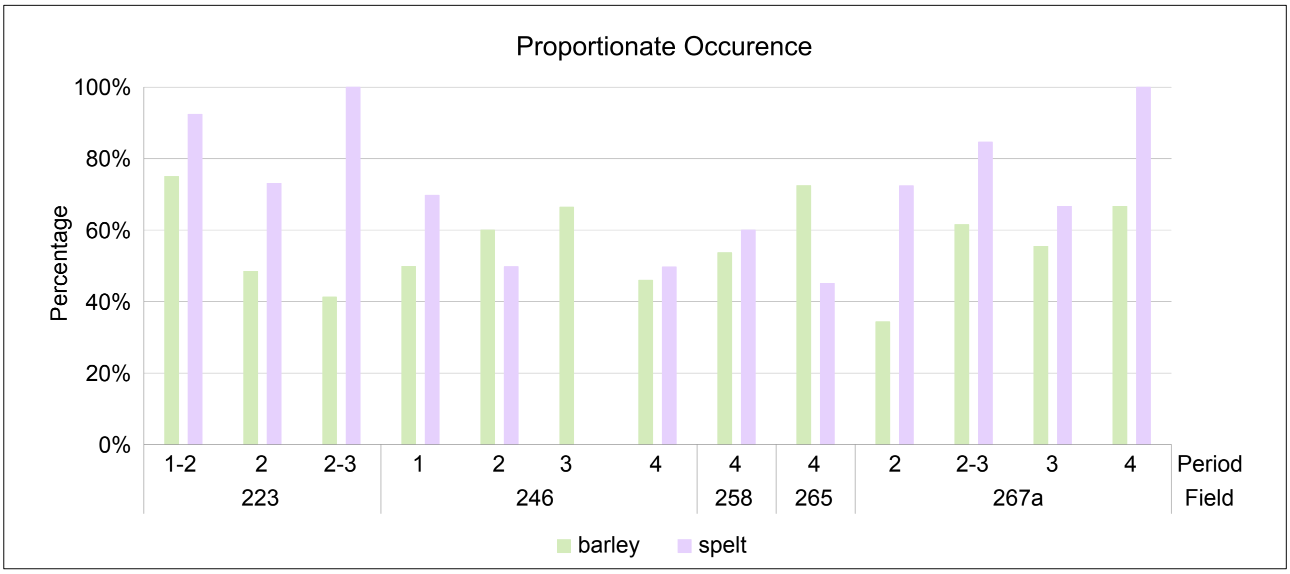

Figure 8.12: the proportional occurrence of barley and spelt kernels by Period in Fields 223, 246, 258, 265 and 267a.

were allowed to persist (Vossen and Groot 2009). The distinct occurrence of barley, in proportion to the number of features per Period or location in the Scotch Corner environs, corroborates the notion suggested by Britton and Huntley (2011) from their analysis of faecal remains that it was consumed by humans during the Roman occupation in northern England. Emmer chaff was no less prevalent than barley, so the local population probably continued to consume emmer in small proportions as before as well.

Sprouted brome

Two sprouted bromes were amongst a dump of stones to shore up the ditch terminal **24147** (Period 4) in the industrial quarter (Field 246) after the craftwork there had stopped. Had these brome kernels sprouted in the ear naturally, which could perhaps suggest a moist summer, the husks would not have spread apart, and the kernels rattle in the field as usual. As a result, they must have sprouted after being either intentionally brought in, for instance as bedding and fodder, or inadvertently entered the area as an unwanted species that was sifted from collected cereals and discarded.

Eating common vetch

Midden **31791** (Period 4) in Field 265 preserved a dozen common vetch seeds (*Vicia sativa*). Due to the morphological similarity with other large legumes (for example some *Lathyrus/Vicia* sp. about 3mm in diameter), this pulse was presumably more widespread in the assemblage, but not easily discerned with certainty. Because the midden also contained charred sloe stones (*Prunus spinosa*), elder pips (*Sambucus nigra*) and cereals, this deposit presumably embodies food preparation residues. While the growth of common vetch was encouraged in pastures and hay crops, it was also considered a nutritious pulse for human consumption and may have been part of the Scotch Corner diet (Erskine 1994).

Table 8.33: the number of specimens (left) and the proportionate occurrence (right) in percentage in those features with cereal remains across all Fields at Scotch Corner by Period.

Period (number of features)	Barley		Wheat		Emmer		Spelt		Undet. cereal	
	No.	%	No.	%	No.	%	No.	%	No.	%
1 (37)	38	54.05	46	24.32	2	5.41	134	78.38	21	27.03
1–2 (39)	106	66.67	72	30.77	6	5.13	386	89.74	192	58.97
1–3 (2)	1	50.00	–	–	–	–	1	50.00	–	–
2 (78)	113	43.59	53	28.21	6	5.13	466	67.95	242	55.13
2–3 (34)	222	55.88	101	26.47	20	5.88	1739	82.35	339	47.06
2–4 (13)	9	53.85	3	15.38	–	–	44	61.54	7	30.77
3 (18)	34	61.11	3	16.67	–	–	49	33.33	27	33.33
4 (173)	702	54.34	293	36.99	48	6.94	984	57.80	1120	52.02
Late Roman (16)	71	81.00	24	38.00	–	–	14	31.00	35	43.00

Horticulture

Despite the lack of remnants of herbs or spices, a few tentative signals for horticulture were found. A number of buttercup seeds, for instance, are securely identified as the creeping species (*Ranunculus repens*) that colonise verges of garden plots (cf. van der Veen 1992). Water miner's lettuce (*Montia fontana*) was also common in the assemblage and does not have an easily interpretable deposition route in a settled environment other than as an intentionally removed and incinerated weed from damp borders. Though black mustard (*Brassica nigra*) is a ruderal in various ecological conditions, the presence of charred seeds—which implies human interaction—suggests it was either also a discarded weed or consumed. Signs for cultural control of plants, in this case weeding, not cultivation, associated with horticulture are also tentatively recognisable in the remains of goosefoot, ivy-leaved speedwell and earth smoke (*Fumaria officinalis*). They represent a weed community that emerges due to intensive soil interventions such as hoeing, keeping plots fallow or fertilisation (cf. Reynolds 1988; Akeret *et al.* 2007; Rackham 2013).

CHARRED SEEDS, SHELLS AND FRUIT CONCLUSION

Besides the few plant species that directly relate to diet, a relatively broad spectrum of other taxa was identified. For instance, the assemblage included traces of the wild flora that surrounded the roadside settlement and its peripheral system of enclosures. Wood sage and common agrimony indicate the presence of hedges or nearby woodland margins. A narrow but distinct collection of daisy family members and a wider mix of small legumes, buttercups and grasses attest to the verdancy of the swards through which the network of Iron Age routeways, and, later, Dere Street stretched.

Bordering outcrops of calcareous soils, heathland, moors and meadows, it is no surprise that yellow bugle, a plethora of sedges, rushes, grasses and cleavers were identified. That they were proportionately over-represented compared to arable weeds and traces of food processing is neither a sign that people did not cook, nor that food was solely brought in from further afield, but a testimony that socio-economic circumstance dictates what is best preserved in a busy roadside settlement environment. Indeed, the few traces of food preparation indicate that various cereals were cultivated nearby, that pulses and fruit were eaten, and that domestic refuse was routinely tidied up.

Though Period 3 preserved the same spectrum of cereals, meadow taxa and ruderals as earlier, Period 4 revealed a slightly broader record of edible taxa, including pulses, such as horse bean and garden pea. This, however, is the result of sampling local temporary circumstances: a house floor, midden and deposits of intentionally discarded household refuse not encountered before. Moreover, identification of an Iron Age rye kernel suggests this food was being transported through the area prior to contact with the Roman military or its officials. The widespread bulk sampling strategy employed here made a broad dataset available of the arable and wild vegetation for comparison with other Roman-period sites.

CHAPTER SUMMARY

Jonathan Baines and Julie Shoemark

A site-wide overview of the zooarchaeological remains by Period highlights the comparatively large assemblage of animal bones dating from Period 4. This contrasts markedly with the paucity of animal bones from earlier Periods. Wright states that animal bone assemblages from rural sites of Late Iron Age to Early Roman date are rare in northern England. The sudden upswing in the number of animal remains, particularly the number of sheep and horses and the large deposit of butchery waste from group **29959**, indicates that Roman influence was experienced mainly during Period 4 and was most likely due to the presence of the military. Other discrepancies in the zooarchaeological record were ostensibly due to the impact of the roadside setting on an otherwise rural community.

Small assemblages of fish bones, marine mollusc shells and terrestrial mollusc shells were recovered through environmental sampling and, in the case of the shells, hand collection. Fish remains from Late Iron Age and Early Roman sites are rare, making the assemblage from Scotch Corner both notable and difficult to interpret. Russ suggests that the small size of the fish may indicate they were collected as ingredients to prepare a Roman-style fish sauce. In the case of the eels, these may have been collected for their skins rather than considered as an edible resource because European eels seem to have been avoided by both the native population and by the Romans.

The evidence from the terrestrial molluscs indicates that the area around Scotch Corner encompassed a variety of environmental conditions; however, the assemblage was small and the majority was recovered from a single pit. Furthermore, it was not possible to accurately determine which members of the *Cochlicopa* sp. and *Vallonia* sp. were present. This would have potentially enabled a more nuanced picture of environmental conditions during the Late Iron Age and Early Roman periods. The assemblage demonstrates both the limitations and potential of mollusc assemblages to assist in reconstructing past environments.

The clearest archaeobotanical indication of contact bewteen the region and the continent is the bristly oxtongue retrieved from Periods 3 and 4 but not before. The relative proportional change in the recovery of oak during Period 3, compared to the preceding and later Periods, is presumably also related to the arrival of Romanised influence in the area.

Regarding the plant macrofossils, the stronger signal of cereal preparation, with a proportionately higher recovery of arable weeds and chaff remains in the settlement periphery compared to the centre (Fields 258, 265, 267a) in all Periods, suggests that two groups of people cohabited in the Scotch Corner environs. While some people were occupied in farming, others had a different livelihood and were dependent on food provisioning by the former. Though few clear signals of import were observed, transport of additional food from beyond the near neighbourhood cannot be ruled out.

In summary, the environmental record from this group of roadside settlements suggests that the delimited enclosure subsistence economy—regardless of Roman reorganisation—persisted throughout first contact with Romanised influence and maintained a non-food-producing segment of society.

CHAPTER 9
SCIENTIFIC DATING AND MATERIALS ANALYSES

Derek Hamilton, Kamal Badreshany and Andrew Beeby
with contributions from Julie Shoemark and David W. Fell

INTRODUCTION

Julie Shoemark

This chapter, concerning the laboratory-based studies performed on materials found in the excavations, is divided into two sections. The first describes the strategy employed for scientific dating of environmental remains. Fifty-five samples of charred grain and charcoal from features associated with Late Iron Age and Roman activity from the Scotch Corner settlement were processed by the Scottish Universities Environmental Research Centre (SUERC) Radiocarbon Laboratory, which returned 50 radiocarbon dates. The radiocarbon ages were used to construct a Bayesian model of the site chronology. The strategy employed in developing the model is discussed by Fell and the methodology and results by Hamilton. The model was used to inform and support the distinction of chronological Periods for the excavations, the development of which is detailed in Chapter 1.

The subsequent section discusses the analyses of three samples of pigment, and a sample of organic residue from the interior of a Roman seal box (Cat. no. 784; see Croom, Chapter 6). The residue, which was determined to be beeswax, is of significance and represents only the second example of a seal box that contains beeswax residue in situ.

The results of the scientific and materials analyses should be read in conjunction with discussions of the stratigraphic and artefactual evidence presented in preceding chapters to build a nuanced understanding of the chronology and nature of occupation at Scotch Corner. An overall synthesis of the artefactual and scientific dating is presented in Chapter 10.

SCIENTIFIC DATING

David W. Fell

The radiocarbon dating strategy and concomitant Bayesian modelling employed for Scotch Corner and the other areas presented in this volume was carried out in accordance with objectives and conditions established in the A1 scheme post-excavation strategy (Russ *et al*. 2017). The strategy document proposed that a specified number of radiocarbon determinations should be allocated to each field ahead of detailed post-excavation analysis. The number of determinations reflected the perceived significance of the remains and their apparent potential to address the project and site-specific research questions (see Chapter 1). It also stated that sample selection by the principal archaeologist and dating coordinator should ensure that the most appropriate samples were submitted, based on their contextual origins and any typologically dateable material from that context and/or feature. In addition, it stipulated that all samples should derive from secure archaeological contexts and, where possible, be a result of a single activity (i.e. not redeposited or disturbed).

The approach in selecting appropriate samples from the 5.2ha excavated area of the settlement at Scotch Corner fulfilled all the requirements outlined by the post-excavation strategy. It focused on structural remains and primary deposits of materials associated with the beginning and end of critical activities, such as pellet production, and on where there was potential to investigate transitions between different types of activities, including the transition from a primarily native settlement to one with a planned layout of Roman origin. To achieve this, many of the samples were selected specifically for Bayesian modelling, particularly where charred remains survived in the undisturbed fills of sequential features or palimpsests of features and deposits, such as remodelled structures and associated features in the workshop enclosure, enclosure ditches, and roads, structures and middens around the junction. Further from the core of the settlement, single or paired samples were selected to date the infilling of features that were associated with occupation or economic activity that represented particular zones and/or Periods, such as occupation of the coaxial and nucleated enclosures.

The overall chronology of the settlement and the duration of specific activities were based primarily on chronologically diagnostic ceramics and artefacts. The achievement of the radiocarbon dating strategy and Bayesian modelling programme lay in successful refinement of the chronology and Period transitions, culminating in the five-Period chronological model presented in Chapter 1 (Table 1.3) that is referred to throughout the volume and archive.

Bayesian analysis

Derek Hamilton

A total of 50 radiocarbon dates are available from features associated with the Late Iron Age and Early Roman settlement at Scotch Corner and other areas of occupation to its south at Gatherley Villa, Moulton Hall and Selgarth Farm (Table 9.1; Fig. 1.2 for site locations). All the samples were single entities (Ashmore 1999), consisting of either single fragments of charcoal or charred cereal grains. The samples were processed following the methods outlined in Dunbar *et al*. (2016) and were graphitised and measured following Naysmith *et al*. (2010). SUERC maintains rigorous internal quality

Table 9.1: table of radiocarbon dates from the Late Iron Age and Roman settlement at Scotch Corner and other sites.

Lab ID	Context	Period	Context description	Material	13C (‰)	Radiocarbon age (BP)	Calibrated date (95% confidence)
Field 202 Gatherley Villa							
SUERC-83946	6079	1	fill of penannular gully 6080 in Structure 65	Carbonised barley grain	−23.5	1787 ±31	cal AD130–340
Field 207 Moulton Hall							
SUERC-84008	11787	1	fill of ditch 11786	Charcoal: Fraxinus sp.	−26.3	3861 ±31	2470–2200 cal BC
Field 214 Selgarth Farm							
SUERC-83947	7407	1	fill of penannular gully 7421 terminal in Structure 67	Carbonised spelt wheat	−23.5	2260 ±31	400–200 cal BC
Field 220 Scotch Corner							
SUERC-83948	10977	1	primary fill of posthole 10976 in Structure 1	Charcoal: Rosaceae	−26.4	2272 ±31	400–210 cal BC
Field 223 Scotch Corner							
SUERC-83953	30071	1–2	primary fill of fire pit 30068	Charcoal: Calluna vulgaris	−26.7	2007 ±31	90 cal BC–cal AD70
SUERC-83952	30069	1–2	secondary fill of fire pit 30068	Charcoal: Fraxinus sp.	−26.0	2058 ±31	180 cal BC–cal AD20
SUERC-83955	30176	1–2	primary fill of fire pit 30164	Carbonised barley grain	−25.0	1929 ±31	cal AD1–130
SUERC-83954	30175	1–2	secondary fill of fire pit 30164	Carbonised barley grain	−22.5	1998 ±31	60 cal BC–cal AD70
SUERC-83956	30407	1	secondary fill of pit 30406	Charcoal: Fraxinus sp.	−25.5	2034 ±31	160 cal BC–cal AD50
SUERC-83957	30485	2–3	primary fill of pit 30481	Carbonised barley grain	−24.5	1978 ±31	50 cal BC–cal AD80
SUERC-83958	30857	1–2	secondary fill of palisade trench 30806	Carbonised barley grain	−24.8	2023 ±31	110 cal BC–cal AD60
Field 228 Scotch Corner							
SUERC-83962	27633	2–4	secondary fill of ditch 27631	Charcoal: Rosaceae	−23.9	2001 +31	90 cal BC–cal AD70
SUERC-83963	28259	2–4	primary fill of gully 28258	Charcoal: Rosaceae	−26.3	1933 ±31	cal AD1–130
SUERC-83964	28262	4	primary fill of oven/ kiln/corn drier 28256	Charcoal: Prunus sp.	−26.1	1996 ±31	60 cal BC–cal AD80
SUERC-83966	28378	2–4	secondary fill of penannular gully 28377 in Structure 30	Charcoal: Populus/ Salix sp.	−25.2	1890 ±31	cal AD50–220
Field 246 Scotch Corner							
SUERC-83967	16396	2–3	secondary fill of penannular gully 16395 in Structure 44	Carbonised barley grain	−25.2	2056 ±31	170 cal BC–cal AD20
SUERC-83972	16412	2	primary fill of trench 16410	Carbonised spelt grain	−22.1	2004 ±31	90 cal BC–cal AD70
SUERC-83973	16416	2	primary fill of trench 16410	Charcoal: Corylus avellana	−28.8	2022 ±31	110 cal BC–cal AD60

Table 9.1: table of radiocarbon dates from the Late Iron Age and Roman settlement at Scotch Corner and other sites (continued).

Lab ID	Context	Period	Context description	Material	13C (‰)	Radiocarbon age (BP)	Calibrated date (95% confidence)
SUERC-83968	16411	2	secondary fill of trench 16410	Charcoal: Corylus avellana	−25.0	2045 ±31	170 cal BC–cal AD30
SUERC-83974	16494	4	secondary fill of pit 16493	Charcoal: Fraxinus sp.	−24.2	2051 ±31	170 cal BC–cal AD30
SUERC-84044	16441	1–2	fill of penannular ditch 16392 in Structure 47i	Charcoal: Corylus avellana	−27.9	2072 ±24	180–1 cal BC
SUERC-83975	24015	1	fill of pit 24014 in Structure 51i, primary pellet mould dump?	Charcoal: Corylus avellana	−26.5	1976 ±31	50 cal BC–cal AD90
SUERC-84045	24108	1–2	fill of penannular gully 16049 in Structure 51ii	Charcoal: Corylus avellana	−26.8	2156 ±24	360–110 cal BC
SUERC-83976	24238	1–2	secondary fill of pit 24296, primary pellet mould dump?	Carbonised spelt grain	−21.6	1973 ±31	50 cal BC–cal AD90
SUERC-83978	24640	2	primary fill of penannular ditch 24982 in Structure 47iv	Carbonised barley grain	−25.0	2266 ±31	400–210 cal BC
SUERC-83982	24646	1–2	fill of penannular gully 24622	Carbonised spelt grain	−25.0	1967 ±31	50 cal BC–cal AD120
SUERC-83983	24921	1–2	primary fill of penannular ditch 16452 in Structure 47ii	Charcoal: Corylus avellana	−26.6	1995 ±31	60 cal BC–cal AD80
SUERC-83984	31000	2–3	octonary fill of ditch 31017, primary pellet mould dump?	Charcoal: Corylus avellana	−26.9	1981 ±31	50 cal BC–cal AD80
SUERC-83985	31082	4	fill of penannular gully 24772 in Structure 49	Carbonised barley grain	−24.8	1878 ±31	cal AD60–230
SUERC-84012	15657	3	fill of pit 15656	Charcoal: Prunus sp.	−25.8	1956 ±31	40 cal BC–cal AD 130
SUERC-84013	15763	3	primary fill of pit 15762	Carbonised barley grain	−23.4	1933 ±31	cal AD1–130
SUERC-84014	24254	3	fill of ditch terminal 24253	Charcoal: Fraxinus sp.	−25.7	1970 ±31	50 cal BC–cal AD90
Field 258 Scotch Corner							
SUERC-83986	15028	4	primary fill of ditch 15027	Charcoal: Ulmus sp.	−27.1	1893 ±31	cal AD50–220
SUERC-84046	15392	4	fill of ditch 15393	Carbonised spelt grain	−23.7	1935 ±31	cal AD20–130
SUERC-83987	15418	4	primary fill of pit 15349	Carbonised spelt grain	−21.9	1874 ±31	cal AD60–240
SUERC-83988	26162	4	secondary fill of well 26153	Charcoal: Calluna vulgaris	−25.1	1860 ±31	cal AD70-240
SUERC-83992	26204	4	tertiary fill of pit 26201	Carbonised spelt/barley grain	−23.6	1888 ±31	cal AD50–230

Table 9.1: table of radiocarbon dates from the Late Iron Age and Roman settlement at Scotch Corner and other sites (continued).

Lab ID	Context	Period	Context description	Material	13C (‰)	Radiocarbon age (BP)	Calibrated date (95% confidence)
SUERC-83993	26617	4	primary fill of ditch 15173, 15229, 15279, 15329 and 26886 between slots with section numbers 3291 and 4611	Charcoal: Fraxinus sp.	−25.8	1961 ±31	50 cal BC–cal AD130
Field 265 Scotch Corner							
SUERC-83997	31716	4	foundation layer of road RR3	Charcoal: Fraxinus sp.	−26.0	1956 ±31	40 cal BC–cal AD130
SUERC-83994	31665	4	primary fill of possible oven/kiln/corn drier 31616 in Structure 37	Charcoal: Fraxinus sp.	−25.4	1949 ±31	40 cal BC–cal AD130
SUERC-83995	31695	4	foundation layer of road RR5	Carbonised barley grain	−24.0	1889 ±31	cal AD50–220
SUERC-84003	31791	4	patchy midden material	Charcoal: Corylus avellana	−25.8	1927 ±31	cal AD1–140
SUERC-83998	31742	4	midden deposit below Structure 5	Carbonised barley grain	−22.9	1907 ±31	cal AD20–140
SUERC-83996	31704	5	secondary fill of urine pit 31717 in Structure 39	Carbonised barley grain	−24.5	1856 ±31	cal AD70–240
SUERC-84004	31796	1	buried soil layer	Carbonised barley grain	−22.4	1885 ±31	cal AD50–230
SUERC-84002	31770	1–3	fill of ditch 31771	Charcoal: Fraxinus sp.	−25.3	1911 ±31	cal AD20–140
Field 267a Scotch Corner							
SUERC-84005	31857	2	primary fill of ditch 31855	Carbonised barley grain	−22.0	2002 ±31	90 cal BC–cal AD70
SUERC-84015	32543	2	11th fill of pit 32532	Charcoal: Prunus sp.	−25.3	2051 ±31	170 cal BC–cal AD30
SUERC-84006	32256	3	primary fill of curving feature 32229	Charcoal: Calluna vulgaris	−25.4	1995 ±31	60 cal BC–cal AD80
SUERC-84007	32553	2	primary charcoal-rich fill of oven/kiln/corn drier 32552 in Structure 26	Charcoal: Calluna vulgaris	−24.5	2018 ±31	100 cal BC–cal AD60

assurance procedures, and participation in international inter-comparisons (Scott 2003) indicates no laboratory offsets; this validates the measurement precision quoted for the radiocarbon ages.

Conventional radiocarbon ages (Stuiver and Polach 1977) are presented in Table 9.1, where they are quoted in accordance with the Trondheim convention (Stuiver and Kra 1986). Calibrated date ranges were calculated using the calibration curves of Reimer *et al*. (2013) and OxCal v4.3 (Bronk Ramsey 1995; 1998; 2001; 2009a). The italicised dates presented in the text below are posterior density estimates derived from mathematical modelling of archaeological problems and have been rounded outward to five years.

Methodological approach

A Bayesian approach has been applied to the interpretation of the Scotch Corner settlement chronology (Buck *et al*. 1996). Although simple calibrated dates are accurate estimates of the radiocarbon age of samples, this is usually not what archaeologists really wish to know. It is the dates of the archaeological events represented by those samples that are of interest. At Scotch Corner, for example, the start and end of the settlement activity is generally of interest, as well as an understanding of any internal chronological transitions associated with specific types of material culture. The chronology of this activity can be estimated not only using the absolute dating derived from the radiocarbon measurements, but also by using the stratigraphic relationships between

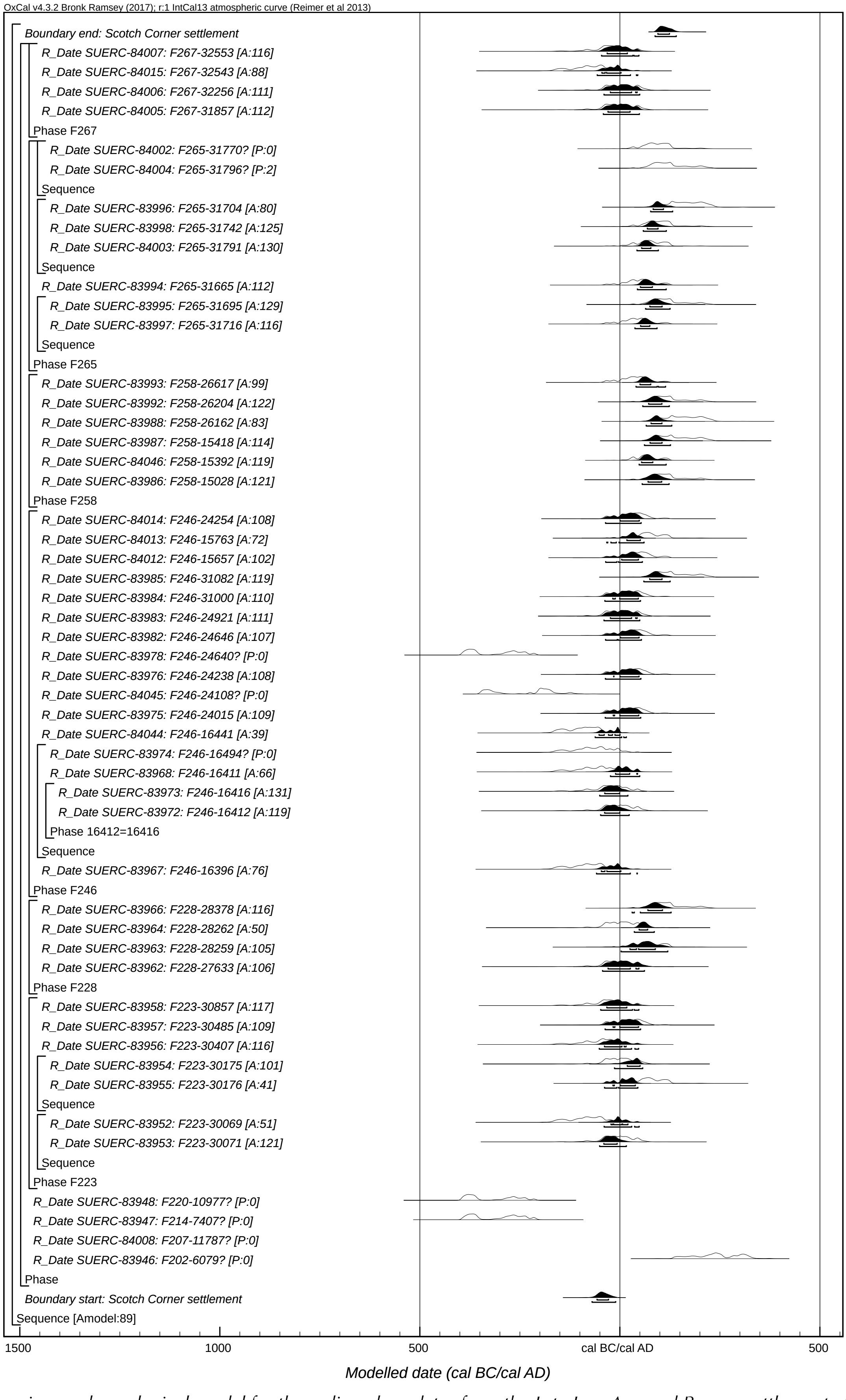

Figure 9.1: primary chronological model for the radiocarbon dates from the Late Iron Age and Roman settlement at Scotch Corner. Each distribution represents the relative probability that an event occurred at some particular time. For each of the radiocarbon measurements two distributions have been plotted: one in outline, which is the result of simple radiocarbon calibration, and a solid one, which is based on the chronological model use. The other distributions correspond to aspects of the model. For example, 'start: Scotch Corner settlement' is the estimated date that activity began, based on the radiocarbon dating results. The large square 'brackets', along with the OxCal keywords, define the overall model exactly.

samples and the relative dating information provided by the archaeological phasing.

Methodology is now available that allows the combination of these different types of information explicitly, in order to produce realistic estimates of the dates of archaeological interest. It should be emphasised that the posterior density estimates produced by this modelling are not absolute. They are interpretative estimates, which can and will change as further data become available and as other researchers choose to model the existing data from different perspectives. The technique used is a form of Markov Chain Monte Carlo sampling and has been applied using the program OxCal v4.3 (Bronk Ramsey 2019). Details of the algorithms employed by this program are available from Bronk Ramsey (1995; 1998; 2001; 2009a) or the online manual. The algorithm used in the models can be derived from the OxCal keywords and bracket structure shown in Figures 9.1 and 9.4.

Samples and the model

While many of the dated features did not have any discernible stratigraphic relationship with other features from the settlement, the following relationships did exist and were included in the chronological model.

Field 223: The result (SUERC-83953) on a fragment of heather charcoal from the primary fill of fire pit **30068** (Chapter 2, Fig. 2.30) was placed earlier than the result (SUERC-83952) on a fragment of ash charcoal from the secondary fill of the same feature. Similarly, carbonised grain results SUERC-83955 and SUERC-83954 respectively came from primary and secondary fills of fire pit **30164**.

Field 246: There are two results (SUERC-83972 and SUERC-83973) on a charred cereal grain and fragment of hazel charcoal from the primary fill (**16412**=**16416**) of trench **16410** (Chapter 3, Fig. 3.25). These are followed by a result (SUERC-83968) on a fragment of hazel charcoal from the secondary fill (**16411**) of the same feature. Finally, a fragment of ash charcoal was dated (SUERC-83974) from the secondary fill (**16494**) of pit **16493**, which cut trench **16410** (Chapter 3, Fig. 3.19).

Field 265: A sequence exists between dates associated with the road. A fragment of ash charcoal was dated (SUERC-83997) from the foundation layer of Dere Street west (RR3; context **31716**, group **29964**; Chapter 4, Fig. 4.16), while a charred cereal grain was dated (SUERC-83995) from the foundation layer of the refurbishment of Dere Street west (RR5; context **31659**, group **29957**), constructed directly over the original, but on a new alignment (Chapter 4, Fig. 4.35). A second sequence of dates begins with a result (SUERC-84003) on a fragment of hazel charcoal from midden material (**31791**). The material is overlain by a further midden deposit (**31742**), from which a charred cereal grain was dated (SUERC-83998). Finally, from a context stratigraphically above the midden deposits, there is a result (SUERC-83996) on a charred cereal grain in the secondary fill (**31704**) of a pit (**31717**) in Structure 39 (Chapter 4, Fig. 4.77).

A further sequence exists between a result (SUERC-84004) on a charred barley grain in buried soil **31796** and the result (SUERC-84002) on a fragment of ash charcoal from the fill (**31770**) of ditch **31771**, which cuts the buried soil. The two features are placed in Period 1 and 1–3, respectively, yet the radiocarbon dates are considerably later. SUERC-84002 returned a date of cal AD20–140 and SUERC-84004 cal AD50–230, which are well into the Roman period. The agreement and late date of these features calls into question the period attribution of the features which was based on its place in the stratigraphic sequence, and they have been excluded from the modelling.

Four dates were removed from the modelling because they represent either residual or potentially intrusive material in features. In Field 202, there is a later Roman result (SUERC-83946) on a charred cereal grain in Period 1 penannular gully **6080**. In Field 207, there is a Bronze Age result (SUERC-84008) on a fragment of ash charcoal in Period 1 ditch **11786**. A charred cereal was dated (SUERC-83947) to the Middle Iron Age from a Period 1 penannular gully **7421**. Period 1 posthole **10976** also had a Middle Iron Age date (SUERC-83948) on a fragment of charcoal.

The overall model structure for the settlement activity follows a simple bounded phase (Hamilton and Kenney 2015), with the addition of the strands of internal stratigraphy described above. External to this model, radiocarbon dates were grouped by Period (1–3 and 4–5) and placed into a sequence that stipulated the Period 1–3 dates were all earlier than the Period 4–5 dates. No boundary was used around the cross-reference dates, as these were already included in the main model. Furthermore, any dates that appeared to cross the Period 3–4 transition were excluded from the second model element. In between Periods 3 and 4, the 'Date' parameter was used to estimate the date for this transition. It was hoped that more transitions could be estimated, but the low number of dates from Periods 3 and 5 made this too difficult to justify mathematically.

Results

The primary model is based on the stratigraphic information and the Period attribution described in Chapter 1. This model had poor agreement between the radiocarbon dates and the archaeological information (Amodel=46). SUERC-83974 (Field 246, secondary fill **16494** of pit **16493**, Period 4) had very low agreement (A=7). The material appeared to be too early given the position of the feature in the stratigraphic sequence; on account of its evident residuality, it was excluded from further modelling as a date on residual material. A further date from Field 246, from primary fill **24640** of ditch **24982** (SUERC-83978,) also had a low agreement (A=25), dating from the Middle Iron Age. As a result, this date was also removed from further modelling. Another date (SUERC-84045; context **24108**) was slightly later but also from the Middle Iron Age. After removing SUERC-83974 and SUERC-83978, the model continued to have low agreement; as SUERC-84045 had a very low individual agreement (A=2), it was also excluded from further modelling.

After excluding the three results with very low agreement, the model had good agreement between the remaining 43 radiocarbon dates and the archaeological information (Amodel=89). The model estimates that activity at the settlement began in 70–10 cal BC (95% probability; Fig. 9.1, start: Scotch Corner settlement), and probably in 60–25 cal BC (68% probability). The overall span of activity was 105–205 years (95% probability; Fig. 9.2), and probably 130–80 years (68% probability). The settlement activity ended in cal AD85–145 (95% probability; Fig. 9.1, end: Scotch Corner settlement), and probably in cal AD95–125 (68% probability). The model also estimated that the transition from Period 3 to 4 took place in cal AD30–70 (95% probability; Fig. 9.3), and probably in cal AD40–60 (68% probability).

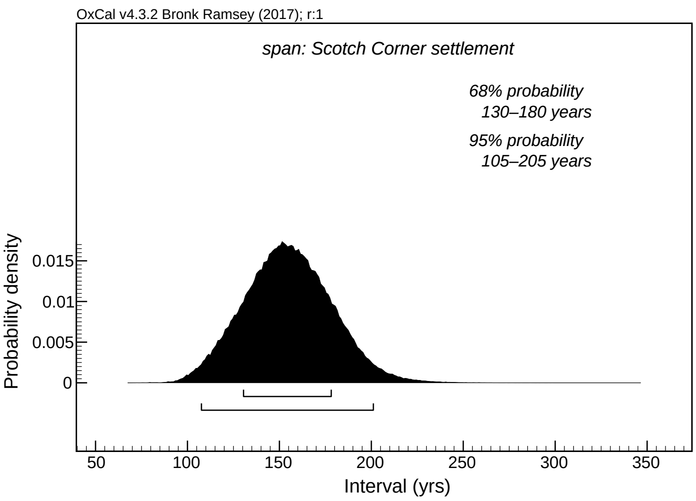

Figure 9.2: span of activity at the Scotch Corner settlement as derived from the model in Figure 9.1.

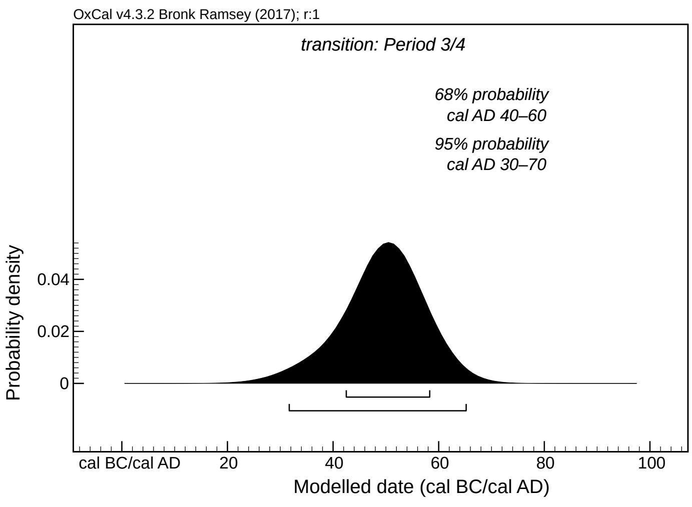

Figure 9.3: estimated date for the transition between Period 3 and Period 4 at the Scotch Corner settlement, as derived from the model in Figure 9.1.

Period 4 is defined by early Flavian coarseware and samian forms, making it unlikely that deposits assigned to this period are earlier than AD70. This date is just captured in the 95% probability for the Period 3–4 transition. Given the clear cases of residuality in the archaeology noted above, it is fair to assume that there will be some level of reworked material that is close in age to the formation of the dated context, yet still earlier than that formation. This can be difficult to detect without considerable replication of radiocarbon dating at the context level or constraining stratigraphy. It should be noted that there is a considerable amount of charcoal in the dated assemblage, which has the potential to contain a small but possibly appreciable and important age offset toward older-than-expected ages (the 'old' wood effect; see Bronk Ramsey 2009b). This was examined using a sensitivity analysis.

Sensitivity analysis

A sensitivity analysis was created to investigate how the chronology changed when applying a charcoal outlier model to the charcoal dates (Bronk Ramsey 2009a), which accounts for offsets to the radiocarbon ages that occur from samples with in-built age offsets from multiple rings. As the material is predominately from short-lived species and roundwood (i.e. twiggy) samples, there was little reason to expect significant alteration of the results, but this analysis helps to determine how sensitive the model might be to the potential of old-wood offsets in the dataset. The overall structure of the primary model was not changed. The date (SUERC-83974) on ash charcoal in a secondary pit fill (**16494**) that was previously excluded, was included in the sensitivity analysis and treated as a charcoal outlier. Otherwise, the model remains unchanged from the previous version.

The sensitivity analysis, hereafter the 'Charcoal outlier model', estimates that settlement activity started in 55 cal BC–cal AD15 (95% probability; Fig. 9.4), and probably in 40–1 cal BC (68% probability). The activity ceased in cal AD90–150 (95% probability; Fig. 9.4), and probably in cal AD100–35 (68% probability). The settlement was used for 85–190 years (95% probability; Fig. 9.5) and probably for 110–65 years (68% probability). According to this model, the transition from Period 3 to 4 occurred in cal AD40–80 (95% probability; Fig. 9.6), and probably in cal AD50–70 (68% probability).

A comparison of the start, end, and Period 3–4 transition dates from the two chronological models (Fig. 9.7) demonstrates that the start of activity is the parameter most sensitive to the inclusion of the Charcoal outlier model. The two estimated start dates differ by ~25–70 years (95% probability). However, the other parameters are affected as well. The end dates for the two models differ by ~35–50 years (95% probability), while the Period 3 to 4 transition shifts ~15–35 years (95% probability). Furthermore, the model incorporates AD70 in both the 95% and 68% probability and suggests that the early Flavian material arrived at the settlement very rapidly,

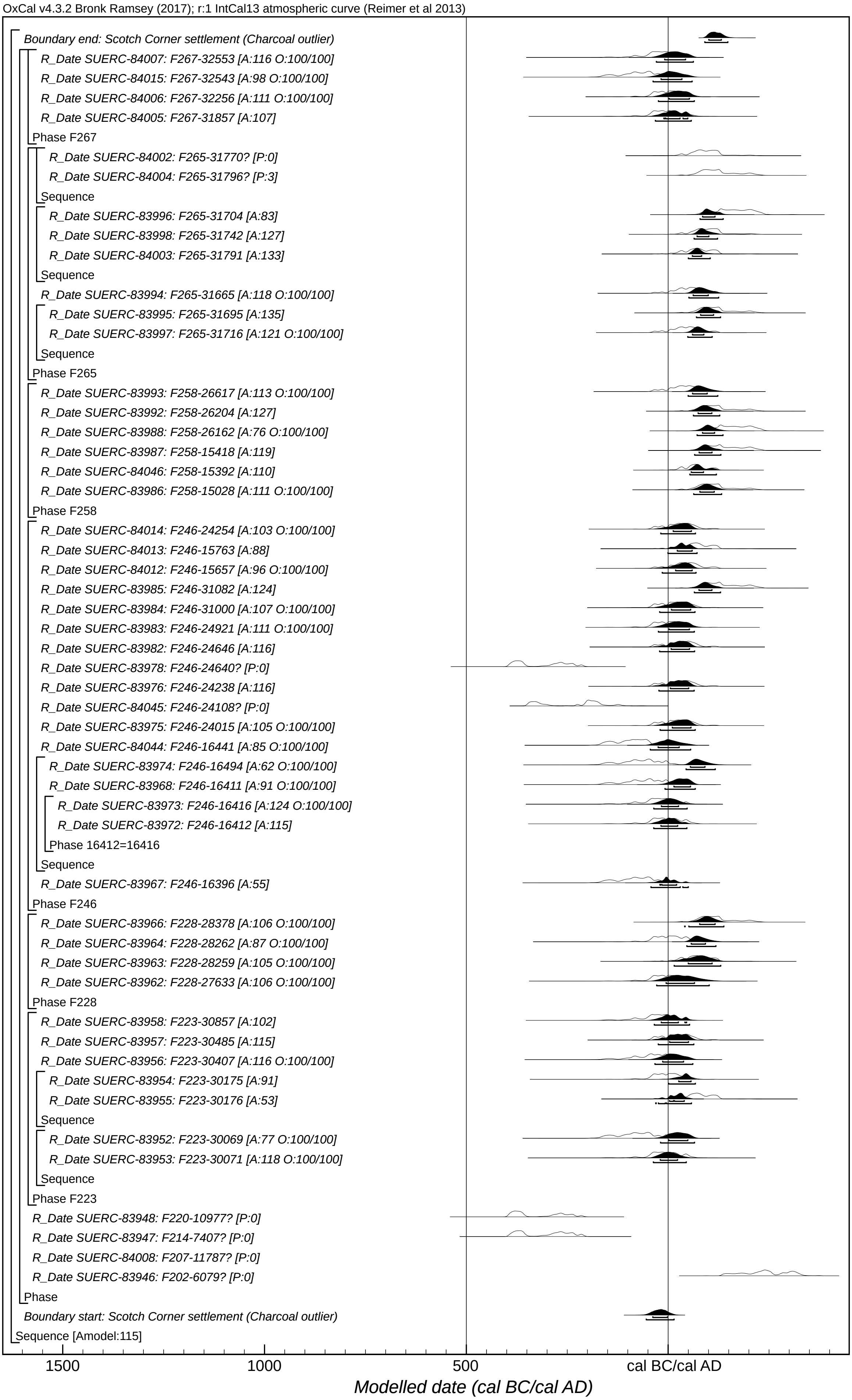

Figure 9.4: sensitivity analysis using the Charcoal outlier model for the activity at the Scotch Corner settlement.

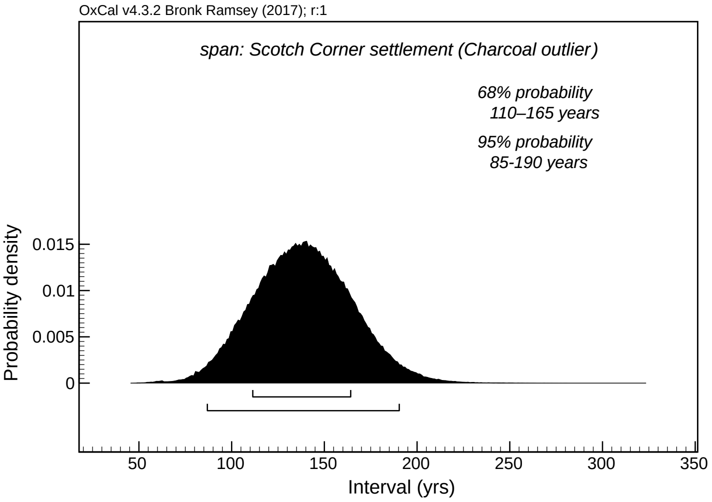

Figure 9.5: span of activity at the Scotch Corner settlement as derived from the Charcoal outlier model in Figure 9.4.

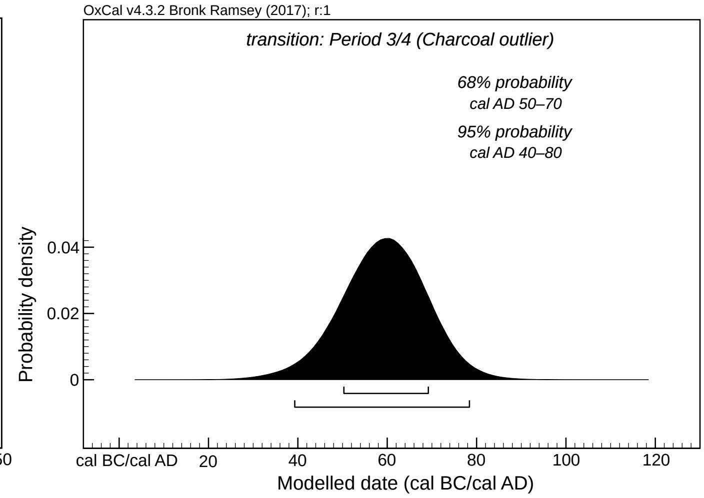

Figure 9.6: estimated date for the transition between Period 3 and Period 4 at the Scotch Corner settlement, as derived from the Charcoal outlier model in Figure 9.4.

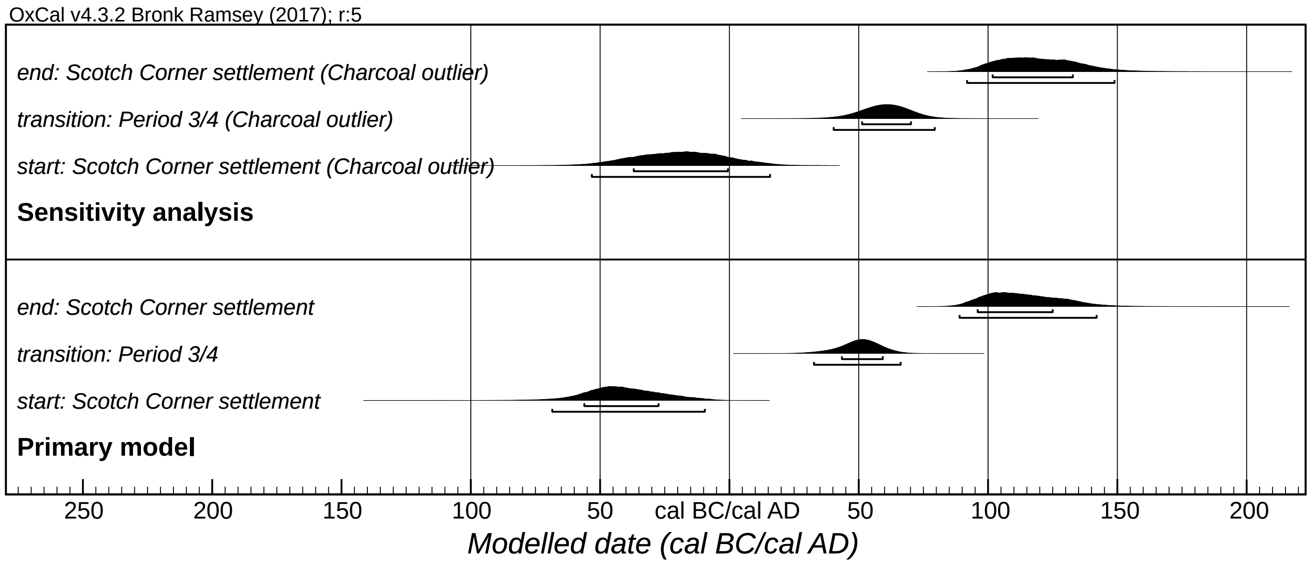

Figure 9.7: comparison of the start, end, and Period 3–4 transition dates from the two chronological models.

concurrent with its appearance in the archaeological record in southern Britain.

While the Charcoal outlier model still provides a slightly earlier-than-expected estimated range for the transition between Periods 3 and 4, it gives a more accurate reflection of the carbon reservoirs within the dated samples and, as such, presents a more accurate and robust chronological framework for the interpretation of the settlement activity. Therefore, the Charcoal outlier model is the preferred chronological model for the Late Iron Age and Early Roman settlement at Scotch Corner.

MATERIALS ANALYSES

Julie Shoemark

Laboratory analyses were carried out on an organic residue recovered from the interior of a Roman seal box (Cat. no. 784) and samples of three different materials considered to be pigments.

Although seal boxes are relatively common finds, both in Roman Britain and other parts of the Empire, at the time of writing only one other seal box retaining traces of beeswax residue (from Wroxeter (Bushe-Fox 1916)) is known in Britain. Analysis of samples from seal boxes found at *Augusta Raurica*, Switzerland, where 138 such objects were recovered, has also yielded traces of beeswax (Furger *et al*. 2009; Molivanovič and Raičović Savić 2013, 221).

The recovery of raw pigments from Iron Age and Roman sites both in Britain and elsewhere is rare, although their use is well-testified in wall paintings and other media. As a result, the recovery from Scotch Corner of three different samples that are suspected to be pigments is undoubtedly significant. The analyses of these minerals are presented here, while the significance of their spatial distribution and potential use is discussed in full in Chapter 6. Suggestions for further work are also outlined below.

Beeswax

Kamal Badreshany

Visible organic residue found within a Roman copper-alloy seal box (Cat. no. 784) was analysed at the Durham

Archaeomaterials Research Centre (DARC) using pyrolysis gas chromatography-mass spectrometry (Py-GC-MS) and solid-state nuclear magnetic resonance (NMR), as outlined below, to determine its nature. At the same time, a standard of pure beeswax was analysed as a comparison. The goal of analysing the residues was twofold: first, to determine whether or not the content of the seal box was a wax; and second, to determine the type of wax used. Both techniques used are non- or minimally destructive, requiring very little sample, and were chosen to minimise impact of sampling and pre-treatment steps. The results of the analyses show that the content of the seal box was a type of beeswax, which supports the interpretation of the function of these objects.

Py-GC-MS

The samples were analysed using Py–GC-MS without the addition of tetramethylammonium hydroxide (TMAH). Small portions of the samples were loaded in a quartz tube positioned with two small pieces of quartz wool. After the pyrolysis chamber was purged with helium for about 20 minutes, pyrolysis was performed with the CDS Pyroprobe 5000 (Analytical Inc., USA) filament pyrolyzer directly connected to the GC/MS system. The probe was heated from 30°C to 600°C at 50°C/s and held for two minutes. The gas chromatography (GC) was a 7820A GC System (Agilent Technologies, USA), installed with a methyl-phenyl-polysiloxane cross-linked (5%-phenyl)-methylpolysiloxane (30m, 0.25mm i.d., 0.25μm film thickness) capillary column. The temperature program was: 40°C for two minutes, followed by a temperature ramp to 300°C (heating rate 10°C/min to 130°C, 5°C/min to 180°C/min, then 15°C/min to 300°C, held for five minutes). The temperature of the injector and the Py–GC interface was kept at 300°C. The carrier gas was helium (1.5ml/min), and the split ratio was 1/20 of the total flow. The mass spectrometer coupled to the GC apparatus was a 5977E MASS Selective Detector (Agilent Technologies, USA). Mass spectra were recorded under electron impact at 70eV, scan range 40–600m/z. The interface was kept at 280°C, ion source at 230°C, and quadrupole mass analyser at 150°C.

All instruments were controlled by Enhanced MassHunter software (Agilent Technologies, USA). The mass spectra

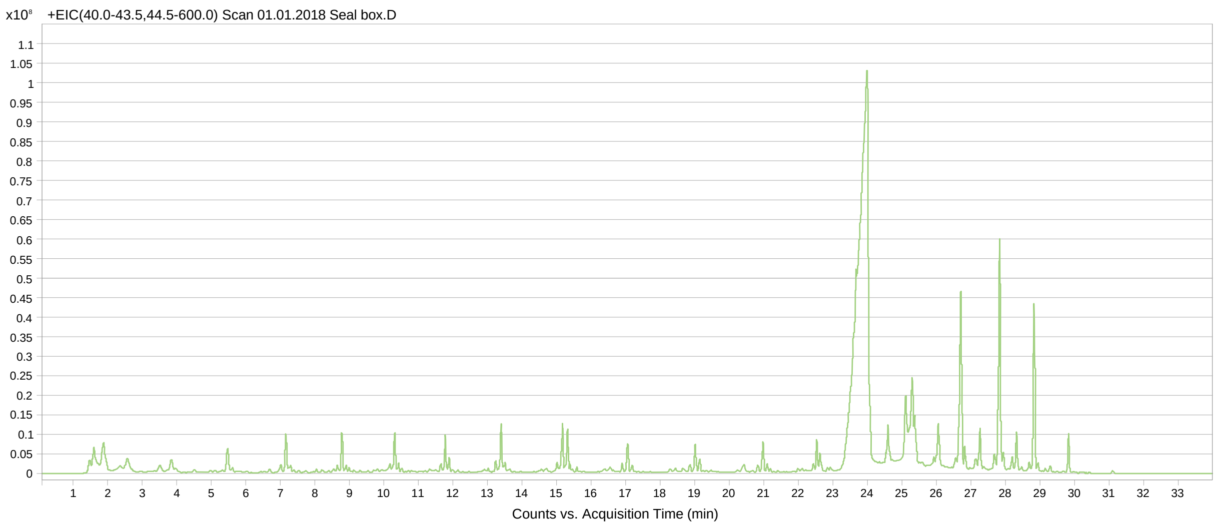

Figure 9.8: Py-GC-MS spectrum for the seal-box sample. A list of possible compounds is provided in Table 9.2.

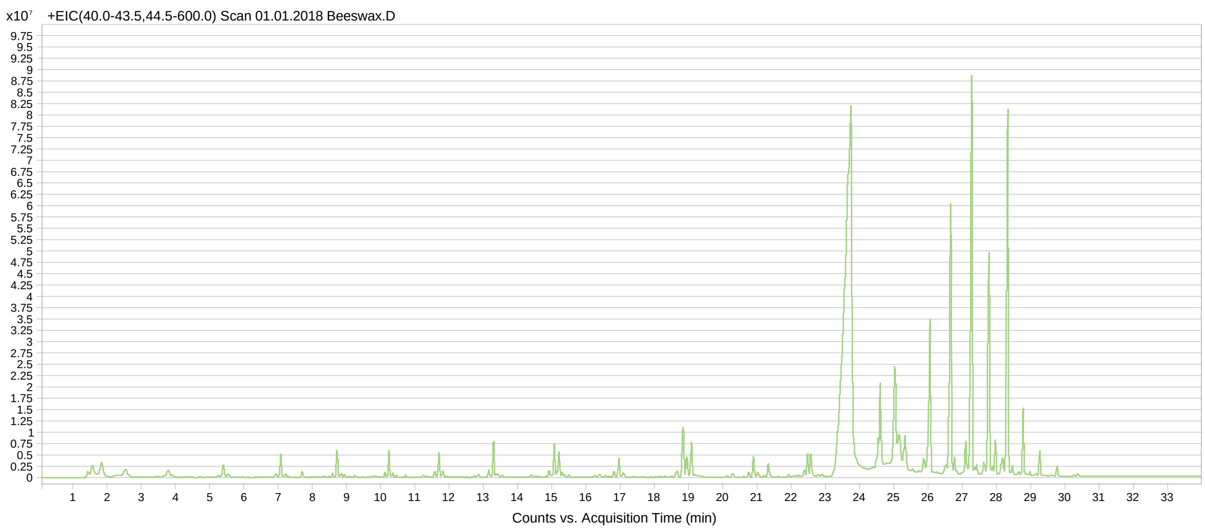

Figure 9.9: Py-GC-MS spectrum for the beeswax standard. A list of possible compounds is provided in Table 9.3.

Table 9.2: compounds identified in the Py-GC-MS analysis of the seal-box sample.

RT	Name	m/z	Score (Lib)	Ions	Height
1.453	2-Butene	41.1	73.79	13	715481
1.57	Cyclobutanone, 2,2,3-trimethyl-	42.1	88.26	8	1173445
1.576	Butane	43.1	71	8	1266124
1.65	Cyclobutaneacetonitrile, 1-methyl-2-(1-methylethenyl)-	67.1	69.64	4	501845
1.853	1-Pentene, 2-methyl-	41.1	84.62	15	1325430
2.553	Cyclohexanone	41.1	81.76	10	669176
3.821	Cyclopropane, pentyl-	55.1	94.83	24	463613
5.45	1-Nonene	41.1	84.66	40	693306
7.142	1-Decene	41.1	95.83	34	1252775
8.766	1-Undecene	41.1	95.96	39	1192217
10.292	1-Dodecene	41.1	96.27	40	1099922
11.759	1-Tridecene	41.1	96.56	43	997906
13.377	Cyclotetradecane	41.1	97.08	46	1209220
14.997	1,13-Tetradecadiene	55.1	91.58	37	338734
15.154	1-Pentadecene	41.1	97.1	51	1209577
15.301	Pentadecane	57.1	95.77	35	2135876
17.044	Hexadecen-1-ol, trans-9-	55.1	97.62	52	679012
19.002	n-Heptadecanol-1	55.1	95.76	53	646946
20.418	Tetradecanoic acid	73.1	92.99	65	184199
20.968	3-Octadecene, (E)-	55.1	96.8	55	722528
22.526	1-Nonadecene	55.1	96.44	58	722438
22.613	1-Decanol, 2-hexyl-	57.1	84.76	57	511019
23.98	Palmitic anhydride	55.1	65.88	62	6241014
24.584	Cyclotetradecane	55.1	85.91	53	964859
25.098	cis-Vaccenic acid	55.1	91.5	114	1574024
25.289	Pentadecanoic acid	55.1	71.41	86	1705590
26.04	Cyclopentane, hexyl-	55.1	80.84	44	951595
26.549	Dodecane, 2-cyclohexyl-	55.1	69.92	62	305785
26.693	1-Nonadecene	97.1	89.78	56	3699784
26.809	Cyclododecanemethanol	55.1	75.45	47	685409
27.245	Cyclopentane, 1-pentyl-2-propyl-	57.1	80.65	42	1005007
27.256	Sulfurous acid, 2-ethylhexyl hexyl ester	57.1	67.34	18	1005007
27.667	cis-5-Decen-1-yl acetate	55.1	72.06	71	327819
27.82	1-Nonadecene	97.1	95.33	62	4893727
27.934	1,13-Tetradecadiene	55.1	79.66	38	478641
28.177	E-7-Tetradecenol	55.1	79.34	81	286553
28.306	1-Hexadecanol	43.1	77.51	40	880204
28.819	1-Nonadecene	57.1	95.38	70	3583685
29.813	1-Nonadecene	57.1	95.31	67	890966

Table 9.3: compounds identified in the Py-GC-MS analysis of the beeswax standard.

RT	Name	m/z	Score (Lib)	Ions	Height
1.566	Cyclobutanone, 2,2,3-trimethyl-	42	84.67	10	473690
1.85	1-Hexene	41	88.96	15	639152
2.549	1-Heptene	41	87.34	13	329907
3.806	Cyclopropane, pentyl-	41	93.72	25	234758
5.426	1-Nonene	41	92.05	35	368634
7.107	1-Decene	41	95.68	34	714472
8.726	1-Undecene	41	95.56	36	773916
10.25	1-Dodecene	41	96.19	38	729944
11.71	1-Tridecene	41	96.4	41	635034
13.32	Cyclotetradecane	41	96.88	44	846990
15.09	1-Pentadecene	41	97.19	47	752565
15.23	Pentadecane	57	93.93	31	1061201
16.97	Hexadecen-1-ol, trans-9-	41	97.55	49	402386
18.82	Cyclopentadecanone	43	89.32	69	1468001
18.93	1-Docosene	55	95.2	50	412854
19.07	2-Pentadecanone	43	90.79	53	1307725
20.89	3-Octadecene, (E)-	55	96.56	52	429547
22.47	1-Nonadecene	55	96.38	55	474247
22.56	1-Decanol, 2-hexyl-	43	84.33	58	595903
23.72	n-Hexadecanoic acid	73	89.08	78	5854925
24.53	Hexadecanedinitrile	97	61.36	35	545256
24.59	Heneicosane	57	93.3	47	3177369
25.02	Oleic Acid	55	92.14	119	1932800
25.14	cis-11-Hexadecenal	55	74.77	76	784051
25.31	Cyclotetradecane	55	85.68	42	740898
25.86	9-Tricosene, (Z)-	55	90.43	57	285352
26.04	Tricosane	57	89.48	47	5348693
26.65	1-Nonadecene	97	94.02	59	4742221
26.76	1,15-Hexadecadiene	55	80.42	43	483595
27.1	1-Nonadecene	55	80.47	67	612008
27.27	Pentacosane	85	69.78	70	8387645
27.63	Z-12-Tetradecen-1-ol	55	72.98	56	220081
27.77	1-Octadecanol	57	87.1	51	4330755
27.97	Oxirane, hexadecyl-	57	89.73	81	615610
28.17	Cyclopentane, 1-pentyl-2-propyl-	55	79.05	45	303160
28.33	Octacosane	43	73.21	72	8111488
28.77	1-Decanol, 2-hexyl-	57	93.89	68	1380053
29.26	Octacosane	57	92.31	59	892542

assignment was done with the NIST2011 library and by comparison with the date from the literature.

The pyrograms for the analysis are shown in Figures 9.8 and 9.9 and the raw data for the analysis of the archaeological and standard samples are provided in Tables 9.2 and 9.3. The pyrograms and raw data are provided in an accompanying Microsoft Excel file (see Appendix H). Both the Py-GC-MS and solid-state NMR analyses indicated a large heterogeneous organic component.

Comparison of the sample from the seal box with the beeswax standard showed good agreement. Generally, the seal box sample showed good preservation of markers that were strongly indicative of beeswax, including esters of higher alcohols, fatty acids, and long-chain hydrocarbons (Bonaduce and Anderotti 2009, 16). These were also produced by the beeswax standard. The important compounds at retention times between 5 and 25 minutes are odd number n-1 alkenes (e.g. 1-pentadecene), which are normally obtained in pyrograms of beeswax (Chiavari

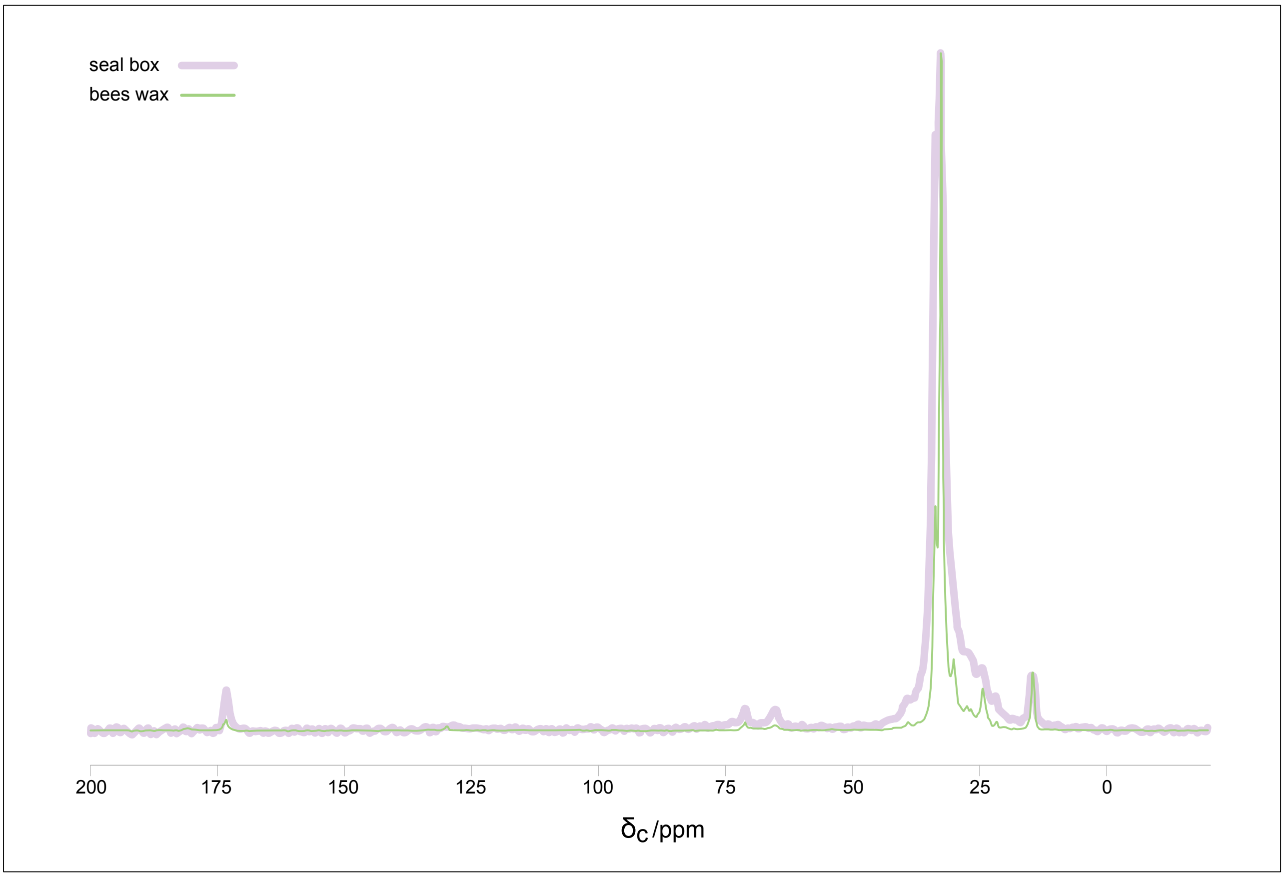

Figure 9.10: solid-state NMR spectrum overlay of seal-box (purple) and beeswax standard (green) samples.

and Prati 2003, 547). Near each peak corresponding to the alkenes are small peaks representing smaller quantities of the homologous alkanes and dienes. The group of peaks between 23 minutes and 30 are dominated by palmitic acid and palmitic acid ester alcohols, which are also typical of beeswax.

Comparison of the pyrograms in Figs 9.8 and 9.9 (beeswax standard) shows that they are nearly identical. Some differences, e.g. in peak heights, occur, which are most likely due to degradation or alteration of the archaeological sample with time, along with some qualitative differences between the ancient and modern beeswax sample. Still, despite these minor differences, the key compounds that positively identify the seal box sample as beeswax are present.

Solid-state NMR

The samples were placed directly into a rotor and analysed on a Bruker Avance II HD solid-state NMR. The chemical shift reference was Carbon, neat tetramethylsilane.

The results of the solid-state NMR analysis (Fig. 9.10) also showed good agreement between the archaeological sample and the beeswax standard. Although the peak positions are mostly the same, indicating similar types of materials, there are some differences in peak width, which suggests differences in the physical condition of the material. The wider peaks of the archaeological sample reflect that it is harder relative to the softer beeswax standard. Beeswaxes are generally soft, so the cause of the relative hardness of the seal box sample is unclear. It may be due to some post-depositional process or the result of an additive. The Py-GC-MS analysis produced no evidence for the latter, as no significant differences the two samples were apparent.

Summary

The organic residue found within the seal box was shown to be consistent with a standard of beeswax. The characteristic markers in the seal box residue also support the identification of the substance as beeswax. Some minor differences in peak heights and positions, as well as consistency, were noted and differences in the peak widths of the NMR spectrum were ascribed to the archaeological sample being harder than the beeswax standard. No indication of an intentional additive to the seal box sample that acted as a hardener could be determined. More likely, post-depositional processes affecting the seal box sample contributed to the differences in hardness between it and the beeswax standard.

PIGMENT ANALYSES

Kamal Badreshany and Andrew Beeby

Three pigments were recovered from the A1 scheme excavations at Scotch Corner. These consisted of: a pink-coloured sediment (Cat. no. 882) from fill **24140** of ditch **15884** in Field 246, which was suspected to be rose madder; a blue material embedded in a grey matrix from the tertiary fill (**24641**) of penannular gully **24982** in Field 246, which was suggested to be Egyptian blue (Cat.

Figure 9.11: archaeological sample of rose madder with modern rose madder standard provided by Winsor & Newton to the left.

no. 883); and a further piece of blue mineral from the fill (**24298**) of ditch **15859** in Field 258, which was believed to possibly be azurite (Cat. no. 884). The minerals were analysed to test their identification as pigments.

The mineral samples were assessed using a variety of techniques, including Fourier-transform infrared spectroscopy (FTIR), inductively coupled plasma mass spectrometry (ICP-MS), solid-state nuclear magnetic resonance (NMR), near infrared NIR luminescence and fibre-optic reflectance spectroscopy (FORS). Discussion of the sample preparation and standards for these techniques are provided in the following discussions of the individual analyses.

Rose madder

Kamal Badreshany

The suspected rose madder, consisting of a pink-coloured sediment, was analysed by DARC using a combination of FTIR, ICP-MS, and solid-state NMR in order to determine its nature. All analytical techniques used were non- or minimally destructive, requiring very little sample, and were chosen to minimise impact of sampling and pre-treatment steps. A standard of rose madder was procured from Winsor & Newton and provided as a comparison to the archaeological sample (Fig. 9.11).

FTIR

A 20mg sample of both the archaeological material and the rose madder standard were examined using a Perkin Elemer Two Infrared spectrometer fitted with a Universal ATR (attenuated total reflectance) sampler with a single reflection diamond. The sample was placed directly on the diamond and contact maintained using the pressure arm. The infrared spectrum was recorded from 3500–400cm-1.

The infrared spectrum (Fig. 9.12) shows a number of inorganic compounds and water, more likely representing the mordant rather than the dyeing agent. The spectra of the two samples exhibit a number of similarities, for example in the region of 2000–2300cm-1. However, there are also a number of differences discernible in the two samples, especially in the 1100–1700cm-1 range (fingerprint zone). These reflect variations in the bulk of the sample mass, represented by the mordants used. In the case of the Winsor & Newton standard, the mordant is aluminium hydroxide. The inorganic component of the archaeological sample is likely to be a mixture of mordant and soil derived from depositional processes. In this case, the mordant might be alum, but the soil contamination makes it difficult to determine with any certainty.

ICP-MS

A 100mg sample of both the archaeological material and standard were acid digested using hydrofluoric acid and injected into an ICP-MS to compare the major and trace element composition. The samples were broadly similar in trace element composition (Table 9.4), although differences could be identified, probably due to differences in the mordant used, as well as the soil and other inorganic contamination of the archaeological sample. Still, broad similarities could be detected between the two compounds, suggesting that the archaeological material is possibly a dye or pigment.

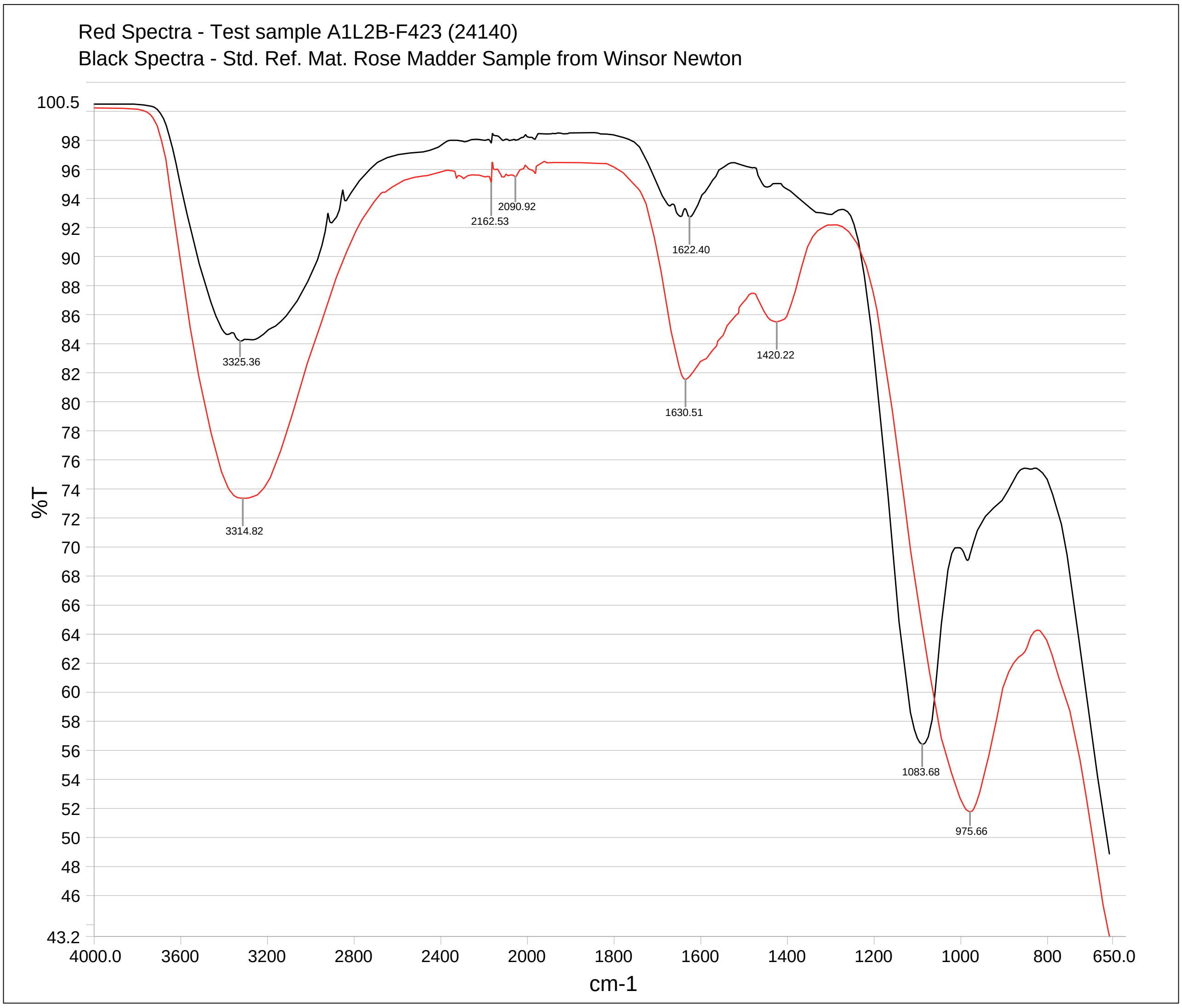

Figure 9.12: FTIR spectra of the archaeological sample (red) and the rose madder standard (black).

Solid-state NMR

Solid-state NMR analysis was applied because it analyses carbon directly and can help characterise carbon compounds. The methodology for analysis using this technique was the same as outlined for the beeswax analysis above.

The results of the solid-state NMR analysis (Fig. 9.13) lend some support to the identification of the dyeing agent in the sample as rose madder, although the low concentration of the substance means that the data is inconclusive. The peak positions are in some cases the same as the active ingredients of rose madder indicating the sample is a similar type of material, but there are some differences in peak width, which indicates differences in the physical condition of the material.

Natural rose madder pigment is a mixture of two molecules: alizarin and purpurin. In an NMR spectrum, the first of these, which is the more dominant in the compound, would give signals in the range 115–35ppm (10/14), 150–5ppm (2/14) and 180–90ppm (2/14). The first of these peaks is present, but the other two are difficult to detect. However, it is possible that they are in the spectrum but, due to their expected low intensity, cannot be detected with certainty. There are greater concentrations of other carbon compounds, likely derived in part from the depositional context (such as carbonates) and in part from decayed plant matter; these are dominant in the spectrum and potentially obscure the trace compounds. Dyes do not need much of the active ingredient to produce colour and, given the much larger amount of other inorganic and organic material present, it is not possible to prove conclusively the presence of either active ingredient in rose madder. Still, given the peak at 115–35ppm, it is suggested that the archaeological sample is likely to be a dye and possibly composed in part of alizarin, one of the main components of rose madder.

Summary

Comparison of the results from the FTIR, ICP-MS, and solid-state NMR analyses of the archaeological and rose madder standard samples indicated some consistencies between the two, lending support to the identification of the material recovered archaeologically being a dye, and potentially composed of rose madder. However, the large amount

Table 9.4: ICP-MS results for Sample A (archaeological sample) and Sample B and B2 (rose madder standard).

Analyte	Sample A (ppm)	Sample B (ppm)	Sample B2 (ppm)	Analyte	Sample A (ppm)	Sample B (ppm)	Sample B2 (ppm)
Li	3.0	0.2	0.1	Cd	1	< 0.08	< 0.08
Be	10	< 0.08	< 0.08	In	< 0.12	< 0.08	< 0.08
B	81	9775	10102	Sn	11	3	3
Na	264	1000	840	Sb	0.5	7	7
Mg	9995	15	13	Te	< 0.12	< 0.08	< 0.08
Al	237712	180121	188728	Cs	0.25	< 0.08	< 0.08
Si	25507	945	1110	Ba	743	8	1
P	26017	51	22	La	17	< 0.08	< 0.08
Si	4666	90624	94946	Ce	24	< 0.08	< 0.08
K	135	130	80	Pr	5	< 0.08	< 0.08
Ca	17661	165	182	Nd	22	< 0.08	< 0.08
Sc	13	< 0.08	< 0.08	Sm	6	< 0.08	< 0.08
Ti	38	0.7	0.6	Eu	2	< 0.08	< 0.08
V	9	0.8	0.8	Gd	8	< 0.08	< 0.08
Cr	174	2	2	Tb	1	< 0.08	< 0.08
Mn	46	0.2	0.2	Dy	8	< 0.08	< 0.08
Fe	5732	22	17	Ho	1	< 0.08	< 0.08
Co	10	< 0.08	< 0.08	Er	4	< 0.08	< 0.08
Ni	143	0.2	0.2	Tm	0.5	< 0.08	< 0.08
Cu	49	11	10	Yb	3	< 0.08	< 0.08
Zn	171	5	2	Lu	0.38	< 0.08	< 0.08
Ga	3	4	4	Hf	0.42	0.15	< 0.08
Ge	0.6	< 0.08	< 0.08	Ta	< 0.12	< 0.08	< 0.08
As	18	17	17	W	< 0.12	< 0.08	< 0.08
Se	24	< 1	< 1	Re	< 0.12	< 0.08	< 0.08
Rb	1	< 0.08	< 0.08	Os	< 0.12	< 0.08	< 0.08
Sr	131	1	1	Ir	< 0.12	< 0.08	< 0.08
Y	42	0.12	< 0.08	Pt	< 0.12	< 0.08	< 0.08
Zr	24	4	< 0.08	Hg	0.2	< 0.08	< 0.08
Nb	0.24	< 0.08	< 0.08	Tl	< 0.12	< 0.08	< 0.08
Mo	0.9	0.5	0.3	Pb	93	6	4
Ru	< 0.12	< 0.08	< 0.08	Bi	< 0.12	< 0.08	< 0.08
Pd	< 0.12	< 0.08	< 0.08	Th	0.6	< 0.08	< 0.08
Ag	0.35	0.11	< 0.08	U	22	< 0.08	< 0.08

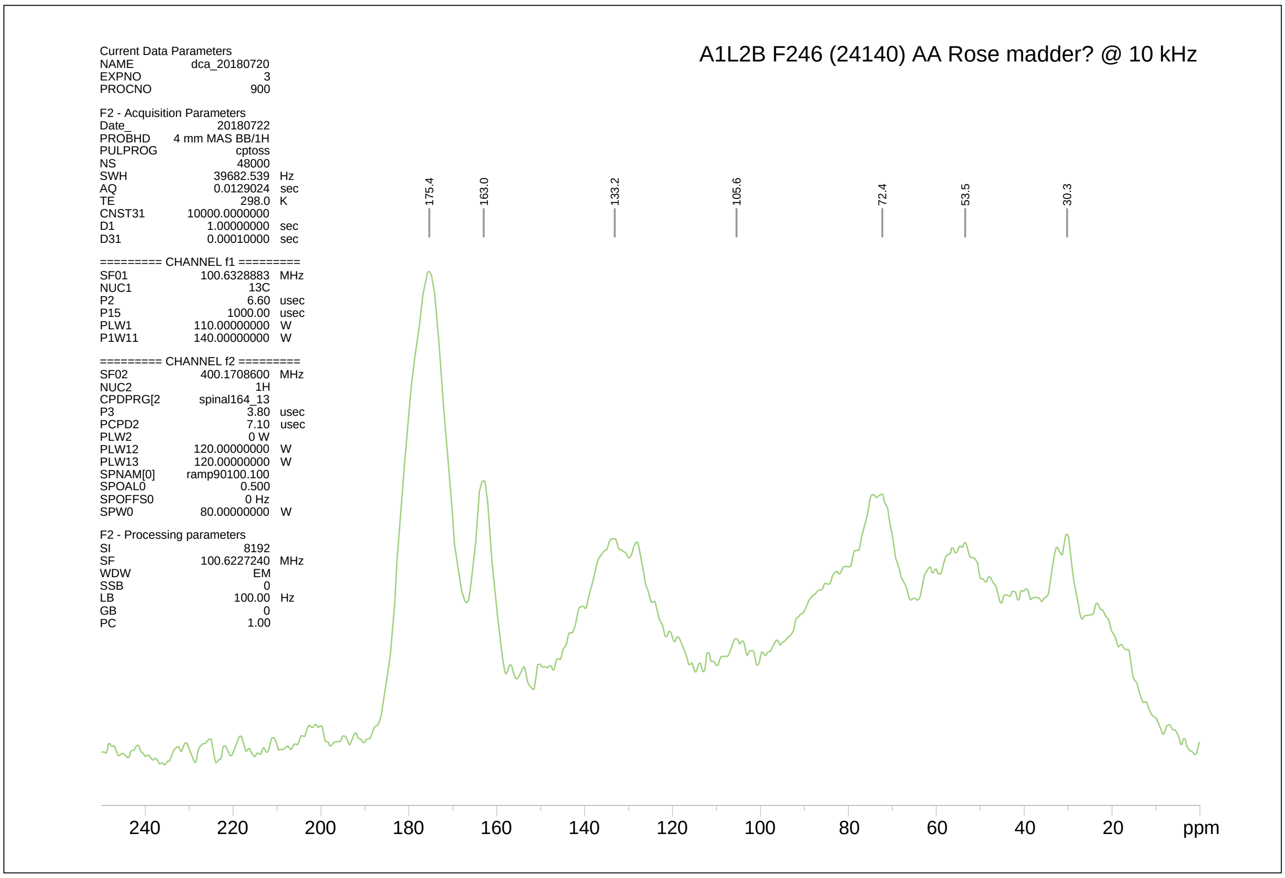

Figure 9.13: solid-state NMR spectrum of the archaeological sample of rose madder.

of inorganic and organic material derived from its depositional context of make it difficult to conclusively identify the active dyeing agent. In addition, it should be noted that the production techniques used by Winsor & Newton to produce the standard are mostly likely different to those used in the production of the archaeological sample; this may account for some of the slight variance observed between the two samples. Further analyses may help to resolve this question. For example, GC-MS may isolate and conclusively identify the active dyeing agent, which will provide clarity on the nature of this important material.

Egyptian blue and azurite

Andrew Beeby

Two samples of blue material were analysed using a combination of FTIR, ICP-MS and solid-state NMR in order to determine their nature.

Near infrared (NIR) luminescence

The instrumentation used to identify the pigments was a bespoke, time-resolved fluorescence lifetime instrument, which excites the sample via the output of a pulsed red diode laser and records the time-resolved emission using a photodiode and data-acquisition system. Fluorescence images of the sample were obtained by illuminating the sample area with a red LED (600–50nm) and imaging the object using a NIR-enabled CCD camera via a long-pass (>850nm) optical filter.

Figure 9.14: archaeological sample of blue material submitted for NIR luminescence and FORS analysis.

Fibre-optic reflectance spectroscopy (FORS)

Samples were analysed by FORS, operating in the range 400–2500nm using a bespoke reflectance spectrometer. Briefly this system illuminates the sample with light from a tungsten lamp via two fibre optics that are held approximately ±45° to the normal of the surface. Diffusely scattered light is collected perpendicular to the surface and the spectral profile analysed by a spectrograph-CCD (Ocean Optics Maya)

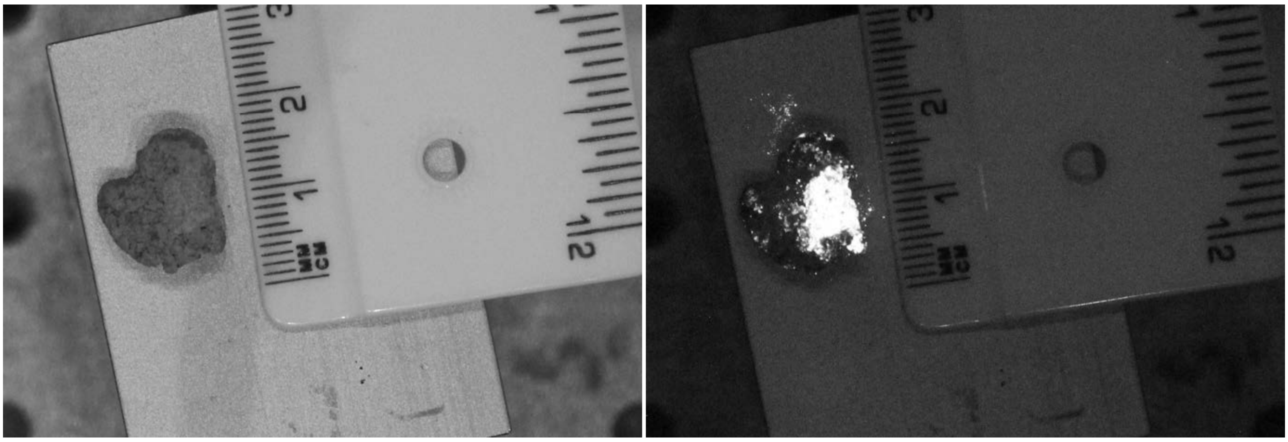

Figure 9.15: images of archaeological sample of blue material recorded at 850–1050nm, under 850–950nm illumination (left) and <700nm illumination (right) showing strong NIR luminescence.

in the range 400–1050nm, and an Arcoptix FT-IR spectrometer (1050–2500nm). The optics are arranged such that the overlap of the incident and collected light beams coincide at the point of optimum focus. A white light spectrum was recorded with reference to a Spectralon® tile. A micrograph of the sample area is recorded simultaneously allowing precise location of the sampled area.

Egyptian blue

The blue material recovered from context **24641** (Fig. 9.14), was subjected to analysis using NIR luminescence and FORS. The context comprises the fill of a penannular gully in Structure 47iv, Field 246. The resultant measurements reveal this blue material to be Egyptian blue (Fig. 9.15). Imaging of the sample at 850–1050nm, showed that the blue frit emitted strongly in this region, a characteristic of Egyptian blue, and time-resolved fluorescence measurements recorded a lifetime of c.100μs. The latter is an exceptionally unusual phenomenon, restricted to Egyptian blue and related Han pigments. This was also confirmed by reflectance spectroscopy (FORS).

Figure 9.16: archaeological sample of blue material submitted for FORS analysis.

This compound was first made by the ancient Egyptians (c.2500BC) and was also known to have been produced in southern Italy around the 1st century AD (see Theophrastus (*De lapidibus* 8.8.55; Eichholz 1965); Davy 1815). Similar samples to this are reported to have been discovered at 1st-century AD Roman sites in the UK (Clegg 2014). Other known finds and uses of the pigment in the Roman period are discussed below and by Foulds in Chapter 6.

Azurite

A sample of blue stone (Fig. 9.16) from fill **24298** (of ditch **15859**) in Field 246 displayed areas of light blue material embedded within a dense matrix of rock.

Analysis using NIR luminescence indicated that this was non-luminescent, indicating that it was not an additional deposit of Egyptian blue. FORS reveal the characteristic bands of azurite, a hydroxy copper carbonate ($(Cu_3(CO_3)_2(OH)_2$ at 2281nm and 2354nm; Fig. 9.17). Some additional bands from the azurite areas are also seen in spectra of the stone matrix, e.g. 1412nm and 2208nm, and are likely to be hydroxyl bands associated with the mineral making up the remaining portion of the sample.

The data presented in Figure 9.17 have been edited so as to remove any overlapping data in the range 800–1050nm and are plotted as either %reflectance vs wavelength, or log(1/R) vs wavelength. Spectra show a discontinuity at c.1050nm due to a slight mismatch in the spectrometers. Two spectra from the sample are presented: one is from the blue material clearly present in the matrix, whiles the latter is from the grey stone matrix itself. The third spectrum is that of a reference sample of azurite, prepared as a finely ground solid and suspended in gum Arabic and painted on a paper substrate.

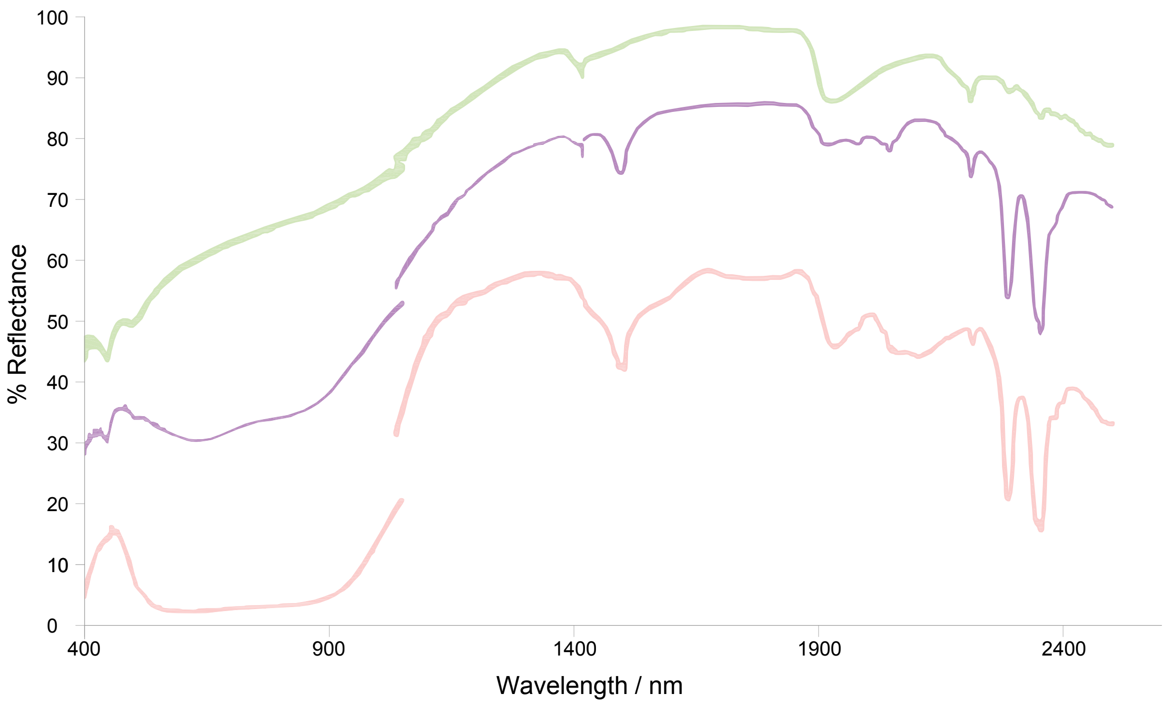

Figure 9.17: FORS spectra of archaeological sample taken from blue area (purple), residual stone matrix (green) and reference sample of azurite on paper (pink).

CHAPTER SUMMARY

Julie Shoemark

The results of laboratory-based scientific dating and materials analyses elucidate several important aspects of Late Iron Age and Early Roman activity at Scotch Corner and in other occupied areas on the A1 scheme. While the disparate subjects of the analyses do not necessarily lend themselves to combined conclusions, each component serves to enhance the picture of an area and population experiencing dramatic changes and subject to powerful influences, which are discussed further in Chapters 2–4 and Chapter 10.

The radiocarbon dating and Bayesian modelling programme is of singular importance to understanding the chronology of occupation and specific activities, particularly at Scotch Corner. The Charcoal outlier model proposed by Hamilton refines the beginning and end date ranges for continuous occupation and supports the artefactual and stratigraphic distinctions used to define the five chronological Periods (see Chapter 1). In particular, the Bayesian model provides a date range for the transition from a native settlement to one formally organised by Romans and occupied by a mixed population who adopted predominantly Roman practices. The archaeological, historical and cultural significance of this transition cannot be overstated, as it represents the best evidence currently available in the region for the arrival of the Roman army at the time of conquest. A full synthesis of the evidence is presented in Chapter 10.

The beeswax from the seal box (Cat. no. 784) provides only the second example of its kind from Britain and is, therefore, a rare and important find. Despite the large corpus of examples, there is debate over the precise function of seal boxes, the manner of their use and the identity of the users (Derks 2010; Andrews 2012; Molivanovič and Raičović Savić 2013). They are generally interpreted to have been used as cases for wax seals attached to documents or valuables in transit in a similar manner to how cloth and bale seals were attached to goods during the 16th to early 20th centuries. The beeswax from the Wroxeter example retained the impression of a length of thread (Bushe-Fox 1916), reinforcing the suggestion that it had been attached to an object by twine. The Scotch Corner example lends this interpretation further credibility.

Given the number of seal boxes known from excavation and metal detecting in Britain and elsewhere in the Empire, it is likely that there may be more examples that retained traces of residue at the time of discovery. These will, for various reasons, not have been subjected to the same scientific analyses presented here. It is intended that this publication contributes to future work on Roman seal boxes and their function and may open discussion of the methodology for recovery and analysis of such objects. This may, in turn, improve the rate of recovery for intact samples and expand the body of evidence for further study of this class of artefact.

Analyses of the three pigment samples confirms one of the blue specimens (Cat. no. 883) as Egyptian blue and the other as azurite (Cat. no. 884). The former is one of the most important ancient pigments, widely attested in both literary and archaeological contexts (Siddall 2018).

It has been recovered in pellet form from several locations in Britain, including Fishbourne Roman Palace, near Chichester; Piddington Roman Villa, near Northampton; Turners Hall Farm, near St. Albans; and from excavations at *Verulamium* (Clegg 2014). There is ongoing deliberation over the extent to which production of this pigment was regulated, given its widespread distribution across the Empire. Tite and Hatton (2007) suggest at least four production centres, whereas Clegg (2014) suggests that of the 12 samples analysed from Fishbourne, two are likely to have been imported (probably accompanying the artists who worked on the palace), while the rest were made locally. Certainly, knowledge of the technique, if not the pigment itself, would have been imported to Scotch Corner.

Azurite is described by Pliny (*Natural History* 35.12; Rackham 1952) as one of the 'florid' (i.e. expensive) pigments. Its use is commensurately less commonly attested when compared to the cheaper and more easily obtained Egyptian blue. Clegg (2014) suggests that, as a pigment for wall paintings, it would have been restricted to the production of a vignette due to its expense. Siddall (2018) notes that, when ground, azurite can lose its colour and suggests that this may also contribute to its relatively rare appearance in archaeological contexts. There is evidence for Roman azurite mining in Wallerfengen, Germany (Körlin 2010), and Newman (2016) has suggested that azurite extraction is likely to have occurred at Alderley Edge, Cheshire, during the Roman period, although dating is problematic. Foulds (see Chapter 6) notes that a source of azurite has been identified at Middleton Tyas and Gardiner (see Chapter 7) discusses the possibility of a source of azurite at Scotch Corner. This specimen may, therefore, be an indicator of local exploitation of this resource during the Roman period, rather than an expensive import.

Analysis of the pink material (Cat. no. 882) was hampered by the presence of organic contaminants in the sample. However, the results strongly support its identification as a dye or pigment material, with the most likely candidate being rose madder. It is possible that further study would enable its exact identification to be confirmed. Analysis of pink painted wall plaster from Pompeii (Siddall 2006) and from Roman sites in Britain (Morgan 1992) has confirmed the use of madder in paint. It is commonly attested to as a dye for textiles and leather. Chenciner (2000) notes eight samples of wool from Flavian-period deposits at Vindolanda, which were found to have been dyed with madder or a close relative. Chenciner (*ibid.*) also notes its use as a medicinal herb is discussed by Hippocrates, Dioscorides, Pliny and Theophrastus, and more recent references to its use as a food colourant and as a cosmetic.

There was insufficient evidence to conclusively state that the location from which the pigments were recovered was a place for manufacture of dye or paint. However, their presence in conjunction with cobble tools that may have been used in pigment preparation strongly suggests this interpretation (see discussion in Chapter 6). Of the three, only rose madder is attested as having been used for reasons other than for its colour. Samples of raw pigment from Late Iron Age and Roman sites in Britain are exceedingly rare. It is not possible to do more than speculate as to why they have been preserved at Scotch Corner, or indeed, whether they were all used in the same manufacturing process. Considered as a group, they demonstrate the diverse range of pigments (synthetic, mineral and plant-based) that was available to the inhabitants of Scotch Corner and there are few comparable assemblages, especially in terms of the variety of pigments found. The discovery and scientific identification of the pigments will stimulate further study into the production, resourcing and use of dye pigments in the Late Iron Age and Roman periods in Britain.

CHAPTER 10
SYNTHESIS AND DISCUSSION

David W. Fell

INTRODUCTION

At Scotch Corner, remains belonging to an extensive Late and Pre-Roman Iron Age Brigantian oppidum were revealed in continuous transects of land developed for the A1 scheme. Archaeological investigations by NAA demonstrated that during the first half of the 1st century AD, and perhaps for a short period beforehand, metalworkers in part of the settlement specialised in the production of coin blank pellets from alloys of gold, silver and copper. This venture overlapped with inundations of exotic goods, imported to Scotch Corner from across the western Roman Empire. Similar consignments transported to the nearby elite metalworking community at Melsonby and adjacent royal seat of Stanwick suggest that these sites probably operated in tandem within a vast poly-focal complex, which represented a sprawling centre of native power, production and economic prosperity that was perhaps unique in the north at the time (Fig. 10.1). The volume and quality of imported goods appear to signify lavish Roman diplomatic campaigns and mercantile activity that enamoured native tribal leaders and the general population alike to the benefits of entering a client arrangement. Proxy systems of Roman control such as client kingdoms or polities were already operational in parts of southern England, having been employed successfully on the Continent, where they typically preceded complete incorporation into the empire and the subsequent extraction of tax and controlled exploitation of resources.

While the Brigantian client arrangement initially brought wealth and protection to the native inhabitants and elite of the Stanwick-Scotch Corner oppidum, by AD70, changing imperial policy and a successful civil rebellion against Brigantian Queen Cartimandua caused a power vacuum that triggered Roman military intervention and precipitated outright conquest of the volatile north. Roman forces consolidated strategic positions and rapidly began to construct a road network that was frequently adapted to changing local objectives, while also supporting the northward advancing frontier (Figs 10.1 and 10.2). Previously uninhabited areas around the junction at Scotch Corner were developed in the configuration of a proto-small town or as a *vicus*, which was seemingly occupied by a mixed contingent of Romans, native Britons relocating from existing

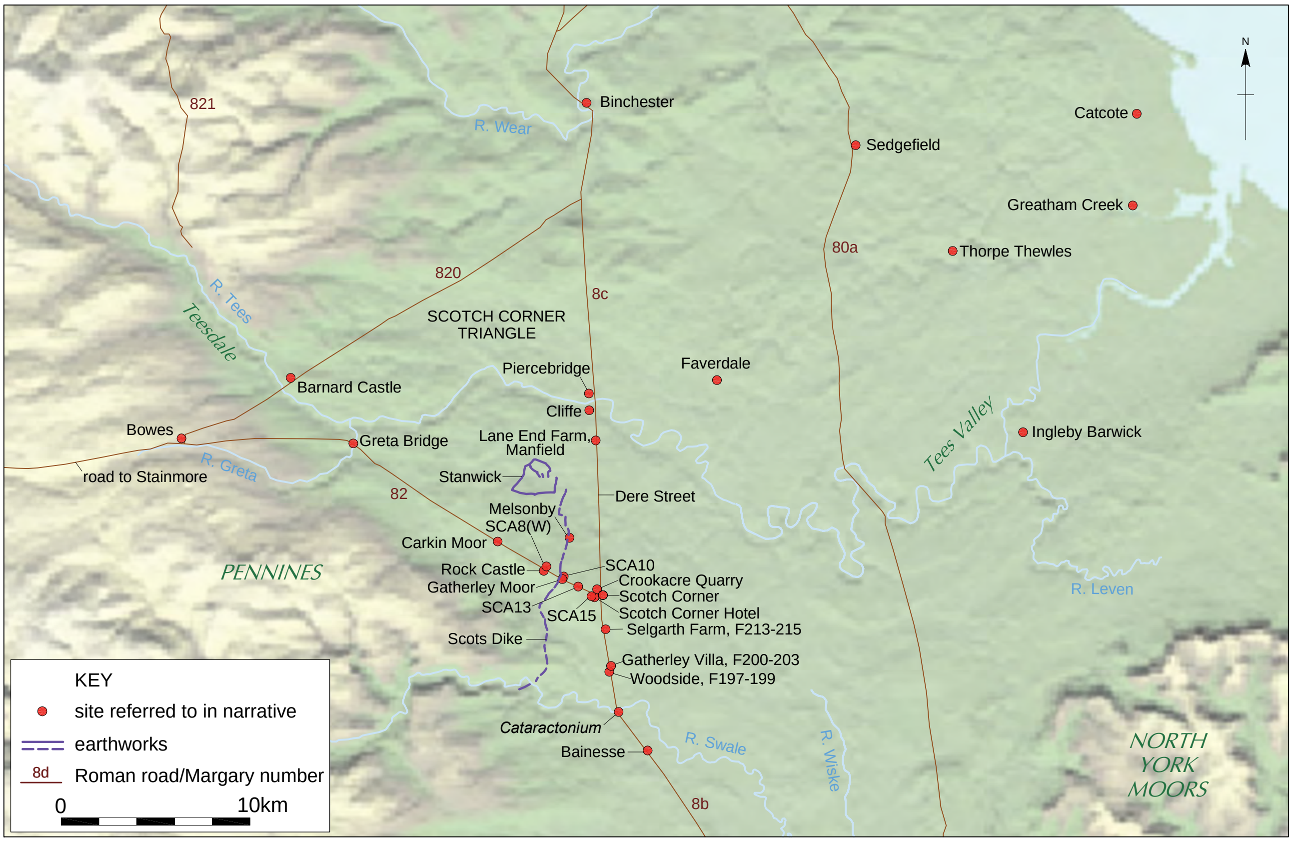

Figure 10.1: map of selected sites near Scotch Corner referred to in Chapter 10.

enclosures, and privileged individuals perhaps displaced from Stanwick and Melsonby. Yet, once the northern frontier became consolidated along the Solway–Tyne isthmus and roadside forts with *vici* were established around Scotch Corner, the site's strategic role diminished and the settlement was abandoned in stages: its inhabitants perhaps accompanying redeployed troops to the new installations or further afield, or dispersing to civilian settlements. Scotch Corner's lifespan may have been brief, but it occupied a pivotal location during this tumultuous era of first Roman contact, concord and conquest in the north.

The research themes of 'first contact' and 'Dere Street' and the supporting research questions outlined in Chapter 1 ensured a focused response to archaeological discoveries of such unforeseen extent and significance. The themes guided the work for Chapters 1–9, which provide detailed accounts of the compelling remains and present a foundation for additional synthesis and discussion. It is anticipated that the combined results will prompt substantial re-examination of the dynamic relationship between native northern Britons and Romans, particularly when they are considered alongside the comprehensive research project focusing on Stanwick and its environs (Haselgrove 2016), as well as the results arising from widening of the A66 (Zant and Howard-Davis 2013), and other studies examining Britain, Rome and the Continent in the 1st centuries BC and AD (see Chapter 1). This chapter therefore endeavours to address the research themes and questions directly, while highlighting how the evidence from the A1 scheme builds on conclusions reached previously. Principally, its aim is to explore in chronological sequence what actually happened around Scotch Corner, and where possible consider

Figure 10.2: locations of selected sites in northern England mentioned in Chapter 10.

the groups and personalities responsible for events and processes. Furthermore, it is important to record here that the substantial legacy of archaeological material and records that the A1 scheme provides for future research is matched by its promotion of public engagement with this significant juncture in the nation's past.

NATIVE SCOTCH CORNER: PERIOD 1 (c.55BC–c.AD15) AND PERIOD 2 (c.AD15–c.AD55)

THE ORIGINS OF SETTLEMENT AT SCOTCH CORNER

The vantage point that Scotch Corner occupies was certainly attractive to stone-tool makers and hunters of the Neolithic period who left behind a gabbro axe, along with flint debitage, scrapers and arrowheads in A1 scheme Fields 258 and 265 (Chapter 1, Fig. 1.2; Fig. 10.1; Foulds 2017; 2018; Speed in prep.; Fell and Johnson in prep.). A short distance along the limestone ridge occupied by Gatherley Moor at A66 sites SCA10 and SCA13, there was further evidence for sporadic exploitation from the Late Mesolithic period (Zant *et al*. 2013a, 25–31; 2013c, 116–18), while a large number of surface finds were testament to widespread human presence from the Mesolithic period to the Bronze Age in the environs of Stanwick (Haselgrove and Lowther 2016, 351–4). Moving beyond the nebulous earlier prehistoric activity into a time of land management and organised food production, charred cereal grains from a field boundary ditch at site SCA13 directly west of Scotch Corner returned an Early Iron Age radiocarbon date range of 730–390 cal BC (Zant *et al*. 2013a, 42–7; 2013c 114–5, table 15), representing the first evidence for later prehistoric alteration of the landscape and development of arable agriculture at Scotch Corner, while charcoal from a nearby pit signifies that activity at the same location continued into the Middle Iron Age (*ibid*.).

From the A1 scheme, residual charred barley grains in Field 246 also produced Middle Iron Age unmodelled radiocarbon date ranges (see Chapter 3; Hamilton, Chapter 9), and posthole **10976** in Structure 1 (Field 220) included residual charcoal from wood that was cut between 401 and 209 cal BC (Chapter 2, Fig. 2.25; Hamilton, Chapter 9). Middle Iron Age occupation and agriculture were also represented on the A1 scheme to the south of Scotch Corner in the rectilinear enclosure and roundhouse at Selgarth Farm and at a long-lived roundhouse and field system at Woodside (Fig. 10.1; Chapter 2; Hamilton, Chapter 9). Along the prehistoric routeway to the north-west of Scotch Corner, Bayesian modelling of radiocarbon dates at Rock Castle and adjacent A66 site SCA8W led Haselgrove to conclude that occupation began there in the 6th or 5th century cal BC and continued approximately to the time of Roman conquest (Haselgrove 2016, 335). Open habitation probably commenced between 315 and 115 cal BC (67% probability) at Melsonby (*ibid*., 343), which was apparently occupied into the AD70s, having been subsumed into enclosures of varying forms from c.AD55 at the latest (see below; Haselgrove 2016, 339).

Scotch Corner and its hinterland evidently supported arable production from the Middle Iron Age, but beyond the partial removal of trees and other plants to permit both this venture and the development and possible improvement of pasture, land on the low ridge was not yet substantially altered with agricultural and tenurial earthwork boundaries; it appears that subdivision and demarcation began in earnest only after Scots Dyke started to infill prior to c.100BC (Zant *et al*. 2013c, 115, 119; Bailiff and Grainger 2013, 201–7). Later Middle and Late Iron Age radiocarbon dates from charred plants and cereal chaff in lower ditch fills at A66 site SCA15 (Fig. 10.1; Zant *et al*. 2013a, 42–7; 2013c, 114, table 15) demonstrate that, while arable production and local processing continued to develop and expand in conjunction with small-scale dispersed habitation (Zant *et al*. 2013c, 131), Scotch Corner appears not to have been settled with any sense of permanence or density until the Late Iron Age (Period 1), when structures began to proliferate and routeways were increasingly formalised (Chapters 1 and 2). The complex of sites including Stanwick and Scotch Corner therefore evolved in a landscape with little evidence for abundant previous settlement. In this respect, the area followed a pattern recognised at numerous oppida where occupation during the Middle Iron Age was often minimal (e.g. Hill 2007; Sharples 2010: 163; Moore forthcoming). Yet, despite the apparent absence of populous settlements, the picture of increasing agricultural exploitation in Scotch Corner's environs is consistent with newly acquired evidence from the Chichester oppidum and its south-coast hinterland, where widespread mixed farming continued from earlier prehistory, but with little evidence for collective occupation (Fig. 10.3; Garland 2018).

The evidence for exponential development in the 1st centuries BC and AD is shared amongst the sites that were integral to an increasingly settled landscape around Scotch Corner and Stanwick, which seemingly emerged as a hub for communities occupying the Tees Valley, taking advantage of access to diverse inland and coastal environments and transportation routes (e.g. Sherlock 2012, 120–3). Although the features at site SCA15 correspond mostly with A1 Scotch Corner Period 2 activity (c.AD15–c.AD55; see Chapter 3), the majority of radiocarbon dates indicate occupation from c.60/50 cal BC (Haselgrove 2016, 343; Zant *et al*. 2013a, 42–7; 2013c 114, table 15), which concurs with the A1 scheme Bayesian model in proposing that large-scale collective habitation at Scotch Corner originated between 55 cal BC and cal AD15 (95% probability; Hamilton, Chapter 9), shortly after recorded occupation began in the Tofts part of Stanwick c.80/70BC (Haselgrove 2016, xxv). The characterisation arrived at from the available data suggests that Middle to Late Iron Age mixed agriculture was managed from small-scale dispersed farmsteads that became outmoded by the complex and large settlements that evolved rapidly at Stanwick, then Scotch Corner, from the 1st century BC, but so far seem to be absent at the River Swale crossing later occupied by *Cataractonium* (Fig. 10.1; Wilson 2002b, 46, 119). Such

Figure 10.3: locations of selected sites in Scotland and in southern and central England mentioned in Chapter 10.

developments arguably relate to the congregation of smaller tribal polities to form confederacies such as the 'Brigantes' in response to the increasing Roman presence on the horizon (e.g. Richmond 1954b). Catalysts such as these seem to have promoted interdependence of the economies and social structures (see Chapter 1; Haselgrove and Moore 2016), although the concept of a unified people occupying northern England at that time as inferred from Ptolemy and Roman historical sources is highly questionable (e.g. Haselgrove 2016, 472–6).

Despite considerable ambiguity concerning the nature and scope of power structures amongst native society, it can be demonstrated that models proposed for lowlands around Scotch Corner are also recognised on the A1 scheme. It therefore becomes necessary to further examine how and why the population, economy and status of Scotch Corner grew so dramatically in the Late and Pre-Roman Iron Age.

NATIVE HABITATION

Before the arrival of exotic imported goods and the proliferation of enclosures that characterised Period 2, the form of the Period 1 settlement at Scotch Corner between c.55BC and c.AD15 was primarily open and unplanned (Chapter 2, Figs 2.23, 2.29 and 2.44). Occupation was concentrated in a zone on the shallow south-facing slope exposed in Field 220 and Field 223, where the land and aspect were particularly amenable to arable cultivation. The few Period 1 boundaries that delimited spaces around dwellings appear to have respected the course of prehistoric routeways (particularly RW1; Chapter 2, Fig. 2.2), which belonged to the increasingly complex transport infrastructure both inside the settlement and connecting it with the agricultural hinterland and regional exchange networks.

Buildings were constructed predominantly in the native roundhouse tradition with evidence for the use of post-pads and postholes. Interior platforms of roundhouses were typically c.9m in diameter, indicating that buildings measured c.7–9m across, which conforms to the standard Pre-Roman Iron Age and Early Roman size range for the Tees Valley and beyond (see above; Proctor 2012, 165; Sherlock 2012, 53). Presumed ancillary buildings were often slightly smaller with drip gullies of c.7m diameter, although both building types usually incorporated south-east-facing entrances (e.g. Oswald 1991; Parker-Pearson 1996; 1997; Pope 2003, 212; 2007). Charcoal indicated the frequent use of oak and ash, willow and hazel amongst other species (see Baines, Chapter 8). Only a small amount of daub survived, although it was presumably used in wattle hurdles to form the walls, which surviving trenches suggest were c.0.10–0.15m thick and set into the ground for stability and weatherproofing. Frequent occurrences of heather charcoal may be symptomatic of kindling for domestic fires but might derive from burnt roofing. There was little convincing evidence for alternative materials in the palaeoenvironmental record, although this may reflect a taphonomic bias (Baines, Chapter 8).

The main deviations from these common forms included Structure 46, which was survived by a small elliptical drip gully (Chapter 2, Figs 2.47 and 2.55c). Conventional understanding suggests that small structures such as this are best explained as stores, but this example was unlikely to have been for grain if absence from the samples is indicative. The apparently continuous circuit of the surrounding gully was similar in form and size to examples of burial 'barrowlets' recognised at Heslerton in the Vale of Pickering (Powlesland and May 2009, section 4.3.2.1) and at Greatham near the Tees estuary (Fell and Robinson 2018). The closest known potential example of such a feature was structure CS5 at Stanwick (Haselgrove 2016, 512), although the author merely cites this as a possibility rather than a preferred interpretation. Were Structure 46 a 'barrowlet', then the lack of an interior burial at Scotch Corner might be explained by extensive truncation, although this was rendered less likely by the survival of other small, cut features nearby. It was also clear that burials in such a context at that time would be out of character. Consequently, Structure 46 is considered most likely to have acted as an ancillary structure for the earliest iterations of Structure 48, given their respectful proximity and apparent contemporaneity.

Another amendment to the roundhouse tradition was represented by a pair of inward-curving gullies forming an enclosed annexe aside the entrance of presumed roundhouse Structure 6 in Field 223 (Chapter 2, Fig. 2.30). This addition was unique at Scotch Corner, although the nearest comparison could be outward-curving gullies appended to Structure 2 or Structure 3 in Field 220 (Chapter 2, Fig. 2.25). While the Structure 6 arrangement would create an enclosed space, the Structure 2/3 example potentially presented a widening forecourt defining the approach to the building, much like the arrangement at structures 5–7 at Moss Carr, Methley, West Yorkshire, where gullies projected eastwards from the structural ring gully terminals (Fig. 10.2; Roberts 2001). Artefactual and environmental remains from the structures and protruding features all relate to domestic occupation and food production, rather than any specialised activities, which indicates that annexes or forecourts were added occasionally according to the requirements and tastes of inhabitants, perhaps even indicating some level of architectural pretension.

Approximately square drip gullies surrounding Period 1, Structure 4 (Chapter 2, Fig. 2.25) and Period 2, Structure 25 (Chapter 3, Fig. 3.49) represented an additional building form with no known parallels in the Vales of Mowbray and York or the Tees Valley. The configuration was presumably indicative of approximately square roofs, yet the post settings of neither structure demonstrated unequivocally that the floorplans were similarly shaped and may have conformed to the traditional sub-circular form. An insubstantial Period 1 rectangular structure (Structure 15; Chapter 2, Fig. 2.33a) in Field 223 was very similar in form to Period 2 parallel fence or palisade trenches, **32220** and **32236**/**32238** in Field 267a (Chapter 3, Fig. 3.53), both adjacent to dwellings. Rectangular buildings have long been accepted in Late Iron Age settings and there is enduring discussion concerning the extent to which they represent Romanising influences (e.g. Powlesland *et al.* 1986; Moore 2003, 47; Harding 2004, 166); whether informed by Continental styles or of purely native British conception, their limited presence at Scotch Corner should not be surprising when considered with the two possible Late Iron Age sub-rectangular buildings (structures 2 and 6; NAA 2019) found at Pig Hill, South Hetton in County Durham (Fig. 10.2). Further afield, two rectangular buildings with similar proportions to Structure 15 and palisade trenches, **32220** and **32236/32238** were discovered at *Calleva* (Silchester) beneath the *forum basilica*, although there was little specific evidence for their functions (Fig. 10.3; Fulford and Timby 2000, 23–4, figs 14–16; Fulford 2018, 377). While this often seems to be the case, the artefactual and environmental materials suggest that the square-roofed structures at Scotch Corner were probably domestic, whereas the narrow rectangular structures were interpreted as ancillary stores or small byres that were perhaps appended to dwellings.

Larger Late Iron Age rectangular structures are also known at *Calleva* (Silchester; Fulford *et al*. 2018, 13–20; Fulford 2018, 377–8), and other major centres across north-west Europe, where a wide range of sizes have been recorded (Bradley *et al*. 2016, 264–85). The floor plan of Period 2 Structure 59 in Field 246 perhaps stretches this possibility to the limit (Chapter 3, Fig. 3.27), although the existence of comparable buildings in native contexts may support the possibility that it was of native origin. Increasing recognition of rectangular buildings in native Late Iron Age contexts might even inspire commentators to challenge the interpretation of the Period 4 rectangular structures at Scotch Corner as 'Roman', based solely on the floor plans (Chapter 4, Fig. 4.26). Yet, it is the standard building dimensions, planned enclosures, thoroughfares and engineered roads that imply the building tradition, if not the ethnicity of the construction teams and inhabitants (see Chapter 4 and below). Rectilinear structures at Scotch Corner, therefore, did not apparently follow a continuous and developing tradition, instead they belonged to distinct periods of activity and cultural contexts.

Variants of the roundhouse tradition were also found on the crest of the limestone ridge immediately north of the workshop enclave and enclosure in Field 246 where there was little evidence for food production and virtually none for crop processing. Structures 55 and 56 were unique at Scotch Corner, both employing internal radial divisions, which presumably spanned structural timbers to form bays (Chapter 2, Figs 2.45 and 2.46), although there was insufficient surviving artefactual and palaeoenvironmental material to determine whether they defined specific activity zones. Survival of this adaptation is unusual in the Tees Valley and Vales of Mowbray and York where truncation and degradation of organic archaeological remains may often be responsible for complete removal of partitions built of timber or hurdles. This being the case, Structures 55 and 56 could be rare instances where such features have partially survived; however, the extensive degree of general truncation indicates that this was unlikely, and the buildings genuinely deviated from common vernacular designs. It may be significant that the nearest known comparable arrangement was recognised at Circular Structure (CS) 8 in the Tofts at Stanwick site 9 where metallurgy was also a major activity (Haselgrove 2016, fig 4.42; 96). This co-occurrence perhaps supports the notion that the bays in Structures 55 and 56 were representative of building traditions associated with specialist metalworking artisans and craftspeople.

Alternatively, the tradition of bays may derive from more prominent architectural features commonly used in Iron Age Atlantic wheelhouses, which were often stone built (e.g. Armit 1990; 2003; 2006; Crawford 2002). While these structures may be distant from Scotch Corner, they also provide a comparison for the structural use of stone, which was evident in a small number of non-domestic buildings at Scotch Corner; namely Structure 48ii in the workshop enclave (Chapter 2, Figs 2.47 and 2.55f) and possibly in the perimeter trench of Structure 47iv (Chapter 3, Figs 3.19 and 3.22). Stone was also used in Structure 57 to its north (Chapter 3, Figs 3.84 and 3.88) and in Structure 64 at Gatherley Villa (Chapter 2, Figs 2.7 and 2.8d). Near Scotch Corner, examples of stone construction are known in the Tofts enclosure at Stanwick (e.g. SS1; Haselgrove 2016, 97–8, 107, and 112–15), and at the substantial roundhouse at Holme House (Harding 2008, 132–7). In these instances, the use of structural stone appears to be associated with buildings that were not typical dwellings, but more readily categorised as being of higher status or hosting ceremonial events.

Amongst the domestic roundhouses in Field 223 was a series of windbreaks, located near dwellings and designed to protect outside ovens/hearths from westerlies blowing across adjacent agricultural fields (Field 223, Structure 8 and group **30893**, Chapter 2, Fig. 2.30; Structure 17, Chapter 3, Fig. 3.75). In the same zone of habitation, an area dedicated to food production was used over a prolonged period and displayed some evidence for a narrow-fenced corridor and adjacent designated-activity zones, although these were poorly defined and greatly truncated, allowing only for an imprecise understanding of the structural layout. Nevertheless, it may be significant that collective food preparation was recognisable amongst the native population, and may relate to the pooling of resources; it could also signify that certain groups were responsible for feeding agricultural workers and perhaps the metalworkers in addition to their families (Baines, Chapter 8).

NATIVE EXPLOITATION AND MANAGEMENT OF NATURAL RESOURCES

Situated at an elevated position on the ridge of Gatherley Moor, one of the primary catalysts for the intensification of habitation and other activities at Scotch Corner from the 1st century BC was undoubtedly the important junction connecting the settlement with Stanwick, the radiating routeways and Rivers Tees and Swale (Chapter 1, Fig. 1.8). The terrestrial and riverine network would have eased access to natural resources, the agricultural hinterland and the regional network of settlements and markets (Fig. 10.1; Chapter 2, Fig. 2.2; Haselgrove 2016, 459–60, fig. 26.6). The location, therefore, made it possible for the inhabitants to produce staple crops and livestock, and even to generate and manage surplus. Pollen recovered from the fills of Scots Dyke and a ditch at site SCA15 indicate that the landscape was dominated by open grassland/pasture and that tree cover was minimal (Fig. 10.1; Zant *et al*. 2013c, 143). This recent characterisation of relatively advanced landscape clearance contrasts somewhat with the scenario indicated by older pollen analysis, which appears to have under-represented the scale of tree removal on the better-drained clay (Bridgland *et al*. 2011, 266; Haselgrove 2016, 421). Yet, it was evident in the charcoal assemblages from A1 Scotch Corner that there was a plentiful supply of wood to the settlement. Accepting minor fluctuations in their relative proportions, it is clear that the dominant species employed throughout Periods 1–5 were oak and ash, which were the principal timbers used in structures (Baines, Chapter 8, Fig. 8.9). Willow and hazel were collected for making wattle hurdles, and furniture and tools could be fashioned from rose, wych elm, field maple, yew and spindle (Baines, Chapter 8). Fuel was also crucial for metalworking and associated crafts at the workshops in Field 246, although pellet manufacturing may have relied on particular species (see below; Chapters 2 and 3; Landon, Morley-Stone and Ponting, and Mackenzie, Chapter 7; Baines, Chapter 8).

Given the contiguity of A1 Scotch Corner and site SCA15, it is unsurprising to find in the charcoal assemblage from the latter that in the Late and Pre-Roman Iron Age the same open environment is described, with pockets of large timber trees such as oak and a wide range of other tree species available for fuel and construction (Zant *et al*. 2013b, 89; Challinor and Druce, 2013, 157). Newly available charcoal data from Melsonby and Rock Castle demonstrate the same reliance on oak, ash, alder, hazel and pomaceous varieties whereas more exotic imported taxa were absent (C. Haselgrove pers. comm.). Huntley (2016, 302–3) describes the use of hazel, alder, willow and birch at Stanwick site 9, and highlights how oak was the primary wood for structural timbers and for burning, whereas there was no evidence that ash was used. Accepting this minor disparity, it seems that the native population in the environs of Stanwick-Scotch Corner maintained enough woodlands to provide for their needs despite the changes that arable production and animal husbandry wrought on the landscape. In this respect, the important aspects of habitation and the economic activity that required fuel and timber could apparently rely on a fairly abundant and consistent supply, which was also a notable attribute of the landscapes in which Bagendon and *Calleva* (Silchester) developed from the 1st century BC (Fig. 10.3; O'Brien and Elliot in Moore forthcoming; Barnett 2018).

Activities associated with copper prospection and mining at Scotch Corner during Period 1 are strongly suspected but currently unproven by dateable materials (see above; Chapters 2 and 3). The potential evidence surrounds the enclave of workshops clustered on the immediate north-west side of a geological fault crossing Field 246 (Chapter 2, Fig. 2.47; Chapter 3, Figs 3.3, 3.18 and 3.59). As may also be the case with the later enclosed settlement at Melsonby, the site of metalworking appears to represent a nucleus from which occupation and livestock husbandry radiated. In this respect, exploitation of the copper source and the nexus of routeways/droveways were primary factors in the developing settlement. Although there was very little evidence for structure or hierarchy in the farming population during Period 1, the paucity of remains pertaining to food production at the workshop enclave might indicate that the structures were uniquely places of craftwork, although evidence for lavish feasting in Period 2 (Leary, Chapter 5, Figs 5.44 and 5.45) potentially follows a tradition which in Period 1 had fewer surviving ceramics. It is possible that craftspeople either ate meals elsewhere, brought prepared meals, or had meals prepared by others in a manner that might denote respect and provision for the metalworking team. Equally, it may have been recognised that food production was incompatible with toxic and noxious processes that presumably dominated the workshop environment, leading the artisans to eat elsewhere, but perhaps indulge in drinking while working, hence the vessel assemblages (see Chapter 5).

THE NATIVE ARABLE ECONOMY

In the immediate environs of Scotch Corner, as for much of lowland Britain, amenable soils supported spelt and barley production from the Late Bronze Age (Van der Veen 1992; Haselgrove 2016, 421). By this time, emmer had been largely superseded by spelt as the staple crop (Hall and Huntley 2007; Jones 1981; Van der Veen 2016, 29; Haselgrove 2016, 421), although small volumes of emmer were consumed at Scotch Corner for the duration of the settlement (Baines, Chapter 8), or perhaps entered the assemblage as an arable weed. Small-scale pollen studies in the Tees Valley lowlands and on Gatherley Moor suggest that crops may have been rotated, or that cultivation areas might have been alternated to compensate for diminishing soil fertility and yields (Huntley 2007, 140; Haselgrove 2016, 420–1). The evidence for food production, in the form of charred cereal grains and querns from Periods 1–3 at Scotch Corner, far outweighs the identified remains of chaff from cereal processing (Cruse, Chapter 6; Baines, Chapter 8, Fig. 8.11), although it was evident that the majority of the modest assemblages resulted from native habitation in Fields 223 and 267a and b (Chapters 2 and 3; Baines, Chapter 8). The rareness of recovered chaff might lead to the conclusion that native Scotch Corner was primarily a settlement of consumers who imported cereals, rather than being inhabited by farmers and metalworking artisans (see below). Aside from the later presence of Violet Grange and its implications for the land's arable potential, there are sound archaeological reasons to challenge the above reasoning, using evidence from material assemblages recovered nearby: firstly, Croom and Cubitt observed that the Iron Age finds from Scotch Corner are typical of farmsteads in northern England (see Chapter 6); secondly, adjacent and contemporary site SCA15 provided a relatively rich assemblage of charred plant remains, demonstrating that the arable regime was dominated by the production of spelt, and included bread/club wheat, barley and oats and, crucially, there was also plentiful cereal chaff (Druce and Bonsall 2013, 170–1). Huntley recognised similar occurrences in the Scotch Corner Hotel assemblage, where chaff was much more common than cereal grains, but their co-occurrence was interpreted as local crop growing and processing (Fig. 10.1; Huntley 1995, 17–18; Abramson 1995, 12). Between Scotch Corner and Stanwick, Melsonby also produced an assemblage of charred spelt and barley grains as well as a preponderance of spelt chaff; the whole being described as evidence for cultivation, processing and consumption at the site (Van der Veen 1999, 28–33), which complemented the scenario presented at Rock Castle (Van der Veen 1994, 32–3, 38).

A further reason to regard Scotch Corner as a centre both of arable production and consumption is that, despite the small volumes of cereal chaff, it has been argued by Van der Veen that similarly modest early-stage processing assemblages at Scotch Corner Hotel, Stanwick, Rock Castle, and Thorpe Thewles do not preclude arable production because those stages are often undertaken outside the settlement (Fig. 10.1; Van der Veen 2016, 300–3). Furthermore, the remains of later-stage processing such as fine sieving are not always preserved by charring, nor recognised or sampled and analysed; consequently, producer sites are probably under-represented in the archaeobotanical record (Van der Veen 1992; 2001; Van der Veen and Jones 2007, 424; Huntley 1995, 16–17). The discovery of only one presumed elevated(?) grain store (Structure 36; see Chapter 2, Fig. 2.40) at the periphery of native inhabited areas during Periods 1–3 perhaps lends some credence to the proposal that many of the tasks that preceded food production were undertaken outside habitation zones, which may correspond with the contemporary pattern at Stanwick where four-post structures analogous to Structure 36 were situated inside the later perimeter earthwork but perhaps away from dwelling areas (Haselgrove 2016, 68–9).

It is proposed that pits belonging to group **28131** (Chapter 3, Fig. 3.28) near the workshop enclosure originated during episodes of copper prospection. A secondary use is inferred from the occasional survival of clay-, and possible wattle-lining in large pits, which was strongly suggestive of a storage function. While there was no direct evidence for storage of any loose, unprocessed comestibles, it is possible that pits were kept clean and vessels may have been used. Examples of Iron Age storage pits are rarer in northern Britain than in the south, but two examples are known at Catcote (Fig. 10.1; Long 1988). The small enclosed site of Staple Howe on the chalk of the Yorkshire Wolds included a granary with possible storage pits (Fig. 10.2; Brewster 1963, 55–6), and there are numerous instances on the Magnesian Limestone of West Yorkshire at places such as Ledston (Fig. 10.2; Roberts 2005b; Chadwick 2009), with potential for others at lowland sites found through aerial survey. Storage pits are a well-known phenomenon at both open and enclosed settlements on the chalklands of southern Britain, and at hillforts where they can number in the hundreds (Cunliffe 2005, 43, 247 and 257). In these environments, they are considered, along with the appearance of four-post granaries such as nearby Structure 36 (Chapter 2, Fig. 2.40), as evidence for a conspicuous increase in arable production from the Middle Iron Age (*ibid.*, 426–7). Such features were cut in various forms to contain both loose produce and vessels; they were often wattle- or stone-lined and were shaped to the required capacity, while also considering ground stability and the water table (*ibid.*, 411–12). It is not simply their forms, however, that draw parallels between group **28131** at Scotch Corner and Iron Age storage pits in the south. In common with numerous sites in southern Britain, those at Danebury occupied a specifically designated area (Fig. 10.3; *ibid.*, 412; 1986, 70–1, 80), as did the many examples at Maiden Castle (Fig. 10.3; Sharples 1991, 87–99, 102), which were also located near four-post granaries like Structure 36. The same pattern was also apparent at Scotch Corner, where the zone with pits was unoccupied before the time of Roman conquest (see Chapter 3); this aspect of storage pits was presumably associated with protecting collective assets from casual damage or plunder, and perhaps also with reinforcing the importance of their contents to the community.

When summarising the arable Late Iron Age economy from local assemblages, Van der Veen proposed that Stanwick was not only involved in arable production, but that cereal growing intensified in its environs throughout the settlement's lifespan and was arguably an increasingly important part of the regional economy (Van der Veen 2016, 300–3). The area exploited by Stanwick, Melsonby and Rock Castle was contiguous with the land that supported Scotch Corner's population, making Van der Veen's proposal highly relevant for understanding the role of arable production in and around Scotch Corner. The irresistible conclusion is that Scotch Corner occupied an area of arable production from the Middle Iron Age, which continued once habitation intensified from the Late Iron Age. The recently acquired data therefore contradict Van der Veen's earlier proposal that grain discovered locally may have been imported from the south to supply Roman garrisons (Van der Veen 1992, 1). Conversely, it now seems more appropriate to consider whether native arable produce was amongst the reasons for Roman interest in the north (e.g. Simon 2015; Kolbeck 2018), and its potential could feasibly have been fostered by Roman investment and yields maximised in response to the new market. Such a system would be entirely consistent with the model of a client kingdom, which Creighton (2006, 27) suggests were supposed to provide stability at the edges of the Roman Empire, while also encouraging trade and exchange, and gaining political dominance without engaging in significant military activity (*ibid.*, 14).

THE NATIVE PASTORAL ECONOMY

In addition to the favourable arable conditions, the valleys and low ridges surrounding Scotch Corner were ideal for pastoral regimes and animal husbandry. While arable surpluses and gathered plants provide supplementary fodder, particularly in winter, what livestock require above all else are reliable sources of pasture and water throughout the changing seasons; such environments are well-represented in the canon of British and Continental oppida (Haselgrove 2016, 453–7, 462–3). Walling describes how dairying counties with the best pasture in England occupy the band of Jurassic limestone that stretches from Devon in the south-west to North Yorkshire in the north-east (Walling 2018, 37–8). This geological swathe lay outside the southern and eastern Late Iron Age kingdoms (Creighton 2000), and was occupied in the Late and Pre-Roman Iron Age by a series of oppida and native centres such as Bagendon (Moore 2006a; 2006b; 2012; 2017a; 2017b; forthcoming), Salmonsbury in the Cotswolds (Fig. 10.3; Haselgrove 1997, 61; Lambrick and Robinson 2009), and Old Sleaford in Lincolnshire (Fig. 10.3), where Elsdon (1997, 5) wonders whether pasture and cattle production was the major source of wealth and trigger for large-scale occupation and importation. Stanwick-Scotch Corner lay at the north end of the limestone range and may perhaps be usefully compared with other Late Iron Age centres that occupied it. In suggesting that pastoralism may have been the economic mainstay in the region containing Stanwick, Hayes (1981) acknowledged that cattle and sheep were one of the most valuable, tradable and transportable of native assets in the north at the time. When discussing the prehistory and history of cattle farming, Walling states:

> As the British climate and terrain is more suited to growing grass than almost any other plant, it was livestock farming, particularly with cattle, that turned that grass into the energy and productivity needed.
>
> Walling (2018, 11)

While environmental factors doubtless encouraged pastoral farming, the extensive network of routeways around Scotch Corner would have enabled livestock droving between seasonal grounds, also connecting with local, regional and potentially even overseas markets. It is likely that this was an important consideration for communities that relied on mixed farming, especially where animal husbandry and effective management of herds and flocks was sufficiently important to warrant the construction or adaptation of large earthwork boundaries such as Scots Dyke which, amongst its other putative functions (see Chapter 1), potentially helped regulate the movement of livestock along the north-west routeway between seasonal pastures and breeding grounds to the west and east. The boundary was feasibly also used to direct drovers towards Stanwick for taxation, husbandry and trade (Zant *et al*. 2013c, 122) in a system that resonates with Over Rig in Dumfriesshire (Fig. 10.3; Halliday 2002; Mercer 2018) and major Iron Age settlements such as Bagendon where the increasing prevalence of cattle in the later period of activity (Allen *et al*. 2017: 92) was concurrent with rapid developments in the morphology of the settlement (see Moore forthcoming). Similarly, at Chichester, the entrenchment system perhaps represents a collective system for large-scale management of livestock amongst numerous social groups (Garland 2017; 2018), and the complex of dykes and enclosures at *Camulodunum* (Colchester; Fig. 10.3) appears to have been designed for the same purpose (Hawkes and Crummy 1995, 104–5, 116). It would not, therefore, be surprising to find that the management of livestock and arable produce evolved in response to the increasingly dense aggregation of people (e.g. Lodwick 2017), becoming fundamental to Scotch Corner and Stanwick's integrated infrastructure, economy and society (e.g. Haselgrove 2016, 486–8).

The poorly preserved animal remains from the A1 scheme provided few details about Scotch Corner's native pastoral regime or the exploitation of wild faunal resources before the Romans took control of Scotch Corner militarily in Period 4 (see Chapter 4 and below). Horse remains were found only rarely in areas of purely native occupation at Scotch Corner, although there were artefacts associated with Iron Age horse-gear and decoration that are believed to transmit the high esteem associated with horse ownership in Iron Age society (Croom, Chapter 6; Creighton 2000, 22–4). Extending the point, Richmond (1954b, 43) concluded that the name 'Cartimandua' related to a sleek, strong or well-groomed pony or horse that would be suitable for use with a chariot, thus reflecting the aristocratic preoccupation with equines and conflict so clearly expressed in the contents of the 1843 'Stanwick hoard' (Chapter 1; Macgregor 1962). Pertinently, the concentration of horse-gear in Period 4 and 5 features at the Roman road junction in Field 265 and the planned settlement in Field 258 was the result of use and deposition during a time of greatest interaction between natives and Romans in those zones, which reveals more about the political and social role of horses and priorities of the individuals than it does about the animals or their husbandry (see below).

There was no evidence for consumption of fish or eels either from freshwater or marine sources (Russ, Chapter 8), although the former would have been available locally, and the latter could easily have been transported from the nearby coast, as was the briquetage and presumably other commodities. Poor preservation of fish bone in the acidic soils of Scotch Corner may be partly to blame for the absence, particularly when it is recognised that the majority of the small fish-bone assemblage from Period 4 probably survived because of their discard in anthropogenic deposits, which were rare in Periods 1–3 (see Chapter 4; Russ, Chapter 8). However, it may also be the case that bones were absent because fish were not consumed by the native population. There is a school of thought proposing that fish were perceived as taboo, leading to a preference for terrestrial protein sources (e.g. Dobney and Ervynck 2007; Roberts and Rainsford 2013; Maltby 1981; 1996;

Hambleton 1999). The corollary of this proposal is that fish only became incorporated into the diet with the Romanised population (Russ, Chapter 8). In support of this interpretation, no fish remains were identified at Rock Castle and Melsonby (Fitts *et al*. 1994; Fitts *et al*. 1999), Scotch Corner Hotel (Abramson 1995), or A66 site SCA15, where the acidic conditions were held responsible for the absence of small bones (Zant *et al*. 2013b, 87). Nor were any fish remains discovered at Thorpe Thewles in either the pre-Roman or early Roman occupation deposits (Rackham 1987). There was only one instance of fish from the period 4 anthropogenic soils of Stanwick site 9 (Rackham 2016, 305, table 17.1), which was taken as evidence that they were an insignificant component in the pre-Roman food economy (*ibid*. 319), and perhaps even avoided despite being available in the adjacent becks (Haselgrove 2016, 417). Consequently, it seems that the native inhabitants of Scotch Corner observed the same prejudices towards fish as other communities in the Tees Valley and further afield.

Conversely, it was possible to determine that cattle farming dominated across the span of occupation at Scotch Corner, and that sheep, pigs and horses were also present at the settlement (Wright, Chapter 8), where the need to secure and overwinter livestock may account partly for the proliferation of enclosures in Period 2 (c.AD15–c.AD55; Chapter 3). The same requirement may also explain the many instances of fodder brought into the settlement and (?)accidentally charred before dispersal (Baines, Chapter 8; Druce and Bonsall 2013, 169). Baines also recognises that barley intended for fodder would be unlikely to survive because it would never be purposefully roasted before animal consumption and must therefore remain an unknown quantity. Nevertheless, if livestock were routinely accommodated in the settlement, provision must have been made to sustain them, perhaps as the evidence suggests, in the same manner as that identified in waterlogged wells at Late Iron Age *Calleva*, where Lodwick isolated evidence for grassland management and the production of fodder specifically for animals stabled within the settlement, as it became increasingly nucleated from c.20BC (Lodwick 2017, 216; 2018, 284–314).

Animal husbandry and consumption were also represented in the nucleated enclosures of site SCA15 in Fields 267a and b where modest and denuded pre-Flavian animal-bone assemblages suggested a probable prevalence of cattle and sheep or goat, with fewer horse and pig, much of it burnt (Zant *et al*. 2013b, 87). The same acidic soil conditions that affected archaeological material at Scotch Corner were evident at Melsonby, where animal bones barely survived, or were never present in meaningful quantities, but certainly included sheep and probably cattle (Fitts *et al*. 1999, 33), which were also the only species identified at the equally modest assemblage at Rock Castle (Gidney 1994, 31). Rackham deduced from the larger assemblage at Thorpe Thewles, that the Late and Pre-Roman Iron Age population depended upon domestic stock (particularly cattle) as their source of meat, hides, wool for textiles, sheep skins, milk, cheeses, lard and transport, but that livestock may also have been produced for a market, with most of the prime stock driven from the settlement on the hoof, leaving the older cattle (Rackham 1987, 109). In the immediate pre-Flavian period, however, stock management changed to a pattern that indicates importation of prime stock for beef and hide production, from an unknown and presumably local source (*ibid*.). The even larger animal-bone assemblage from Stanwick site 9 had suffered greatly from taphonomic processes (Rackham 2016, 304; 320). In spite of this, it was deduced that approximately equal numbers of cattle and sheep were slaughtered, with a possible increase in cattle from site 9 period 4 (c.30/20BC–AD30/40), although calving took place at the settlement for its duration and the demography appears to demonstrate a mixed pastoral regime with provision for traction, dairy and meat consumption. There was also evidence to suggest increasing organisation up to the time of abandonment c.AD70 (*ibid*.; Haselgrove 2016, 417–20; 483), which might support the notion that Stanwick supplied lowland settlements such as Thorpe Thewles. Moreover, Haselgrove considers that it would be unsurprising to discover that a site such as Stanwick was a node within an inter-regional market, perhaps dedicated partly to the long-distance exchange or trade of cattle and hides; they were a tradable commodity, referred to specifically in Strabo's list of British exports (*Geography* 4.5.2; Haselgrove 2016, 418) as early as the reign of Augustus (Chapter 1, Table 1.2). In addition to the animal products and raw materials such as skins for leather and other goods, it is also conceivable that Stanwick was actively involved in the gathering and trading of British slaves, who potentially represented another major commodity for the Brigantian elite to exploit in their dealings with Rome and the Continent (Haselgrove 2016, 436; 466).

It seems reasonable to expect that the Stanwick elite wished to conspicuously define and defend the putative royal and economic centre of the large area and loose confederacy of tribes and peoples who presumably comprised the Brigantes (Chapter 1). Major earthwork construction took place at Stanwick in the decades spanning Scotch Corner Periods 2, 3 and 4 (Fig. 10.1; Stanwick site 9, period 5, c.AD30/40–65/75; Haselgrove 2016, xxv; 486). The feat of engineering, massive investment of resources and organisation of labour required to achieve this probably involved contributions from numerous communities in the environs of Stanwick, and from further afield, and was perhaps even dependent upon slave labour (*ibid*., 457–9; Chapter 1). Wheeler's hypothesis that the stronghold was built by Cartimandua's (former?) consort, Venutius, to defend against Roman invaders (Wheeler 1952, 1; 1954, 1) has been superseded by subsequent research (e.g. Hanson and Campbell 1986; Haselgrove 2016, 8–9). On this basis, it seems logical to propose that if Stanwick remained Cartimandua's proxy capital up to the time of Roman conquest, the resources that made it ideal for livestock management and husbandry (Haselgrove 2016, 418) also made it the natural place to corral and defend the collective herds and flocks against raiding. This would also deter attacks on the human population and express the significance and status of the site, the authority of its elite, and perhaps the social and ceremonial/ritual power concentrated there (Haselgrove 2016, 166; 482; 488).

Where large numbers of animals (or indeed slaves) were brought together in one place, the dual requirements of containment and defence could be achieved with a very large perimeter providing visibility across the interior and reliable sources of water and pasture which, at 6.8km long and enclosing a section of the Mary Wild Beck, is precisely what Stanwick represents. The steep bank and sometimes vertical-sided and rock-cut ditch would have made it impossible for livestock to escape, or for anybody to forcibly remove them from the interior, except through the designated entrances. In Dumfriesshire, the triple-ditched site of Over Rig shared several important morphological attributes with the Tofts at Stanwick, particularly its position in a natural amphitheatre (Halliday 2002, 101–3), which Mercer plausibly interpreted as forming an arena for staging ceremonies or rituals visible to an audience on the slope (Mercer 2018). Although other commentators subscribe to the same opinion (e.g. Hingley 1992, 38; Halliday 2002, 103; Harding 2012, 129; Haselgrove 2016, 449), the earthwork arrangement and rarity of domestic remains and buildings may also pertain to activity associated with livestock husbandry and management, perhaps in a ritualised setting, implying that the site may consequently have more in common with Stanwick than has been recognised previously.

Another aspect of Stanwick that potentially attests to large-scale pastoralism at the heart of the local and regional economy is the alleged initial exclusion of Henah Hill, which overlooks the interior and the Tofts from the east. This layout has been interpreted as evidence that the initial perimeter earthwork was not militarily defensive because the hill represents an obvious position from which to plan and organise an attack (Haselgrove 2016, 380; 449–50; 463–5). More recently, however, cropmarks reveal that it was apparently enclosed by earthworks appended to the main perimeter, but with access between the areas controllable (Haselgrove 2016, 13–21, 140–3). In the scenario where Stanwick contained livestock from across the region for taxation, management, breeding, or safe haven in times of threat, the separation of Henah Hill would allow for it to be used for observation of the wider landscape, and of the interior, while also ensuring that no animals could stray out of sight on its south- and east-facing slopes. It therefore seems from the nature, position and date of the earthworks at Stanwick that, amongst other potential functions, the vast enclosure provided a self-sufficient refuge for livestock, and possibly also people, brought together around the ruling elite. This facility was operational at a time when Scotch Corner's native population peaked in Period 2, after which construction of roundhouses and maintenance of boundaries waned, perhaps because after c.AD55 the population who remained loyal to Cartimandua sought refuge from Venutius (Tacitus *Annals* xii, 40; Braund 1996; Chapter 1). Further investigation remains a tantalising area for the future, given that the character and intensity of activity inside Stanwick, not to mention its immediate surroundings, remain largely unknown (Haselgrove 2016, 495). Despite the clear focus on cattle, however, the above argument does not propose a return to the exclusively pastoral economy proposed by Wheeler (1954, 28–9), nor the so-called 'Stanwick Type' northern economy espoused by Piggott (1958, 14–15), both of whom envisaged basic subsistence-level economies. Rather, it is primarily an attempt to demonstrate the apparent significance of livestock and its role in the economy and society, and to place Stanwick-Scotch Corner at the centre of an integrated regime that developed across the wider region and proved attractive to native groups and to Rome.

PROCUREMENT, EXCHANGE AND TRADE AT NATIVE SCOTCH CORNER

During the Late and Pre-Roman Iron Age, complex systems of production, procurement, exchange and possibly even trade, extended from Stanwick-Scotch Corner across central and southern Britain and the Continent to the Mediterranean, signifying considerable levels of mobility amongst communities (e.g. Haselgrove 1976; 1982). The economy and exchange mechanisms resembled and interacted with systems operating in southern Britain (e.g. Cunliffe 2004), but early arrival of some materials potentially indicate that terrestrial transportation routes between southern and northern Britain might have been bypassed through the use of seaways and rivers that provided energy-efficient passage to Stanwick-Scotch Corner's territory. Resilient remains from some imported commodities survive in the archaeological record but others, including many comestibles and organic materials, are lost forever to the soil. Despite this, it is clear that by Period 2, the imports arriving at Scotch Corner reflected a burgeoning and vibrant long-range exchange economy that was far removed from the characteristically modest lifestyles of Period 1, elevating the prosperity of Scotch Corner's inhabitants nearer their counterparts at Stanwick (see below). In the 15 years or so represented by Period 3, notable changes in the types of imports arriving at Scotch Corner relate to a time of transition, and possibly also instability, during the lead up to Roman conquest. While it will never be possible to identify all of the commodities and mechanisms that influenced the transaction of resources at Scotch Corner, those that were evident provide important new insights into how the local population interacted with other communities, societies and the future occupier, and help to characterise the pre-conquest settlement.

Domestic resources

Geological resources that were available in the locality and wider region are likely to have exerted some influence over the location of settlements and to have contributed subsequently to their economies and trading relationships. Scotch Corner lies only a short distance from millstone grit outcrops in the Yorkshire Dales and, once quarried, the material proved ideal for being fashioned into the beehive querns that characterised de-husking, flour production and other processes associated with converting cereals into food during the Late Iron Age (Cruse, Chapter 6; Heslop 2008). Saddle querns continued to be made in the prehistoric tradition from local sandstone, and the same material was used later to replicate disc-quern forms that were widely favoured on the Continent and by the Roman military and its suppliers (Cruse, Chapter 6). Similarly, iron, lead and silver were available at numerous locations in the nearby Pennines (Haselgrove 2016, 2; Ferraby and Millett 2020, 99), but high-grade epigenetic copper deposits in the near-surface limestone are likely to have exerted considerable influence upon the location of collective occupation, and subsequently been of primary importance to the flourishing economy at Scotch Corner and connected settlements. While this resource may not have been unique to the low ridge occupied by Scotch Corner and the routeway junction, the disposition of the geological faults and focus of later mining at Middleton Tyas surely indicate that the most easily accessible deposits were concentrated there and may have been exploited in the Late and Pre-Roman Iron Age by the native population of Scotch Corner, as well as Melsonby and Stanwick (Haselgrove 2016, 206, 487). It was the effective extraction and manipulation of this resource that made possible the manufacturing of metal-alloy pellets with a copper component, and potentially other metal products, at the workshop enclave and enclosure (see below and Chapters 1 and 2; Landon, Morley-Stone and Ponting, Chapter 7). The same resource also arguably influenced the form and character of the native settlement from Period 1, and the later Roman establishment in Period 4 (see below; Chapter 4). Procurement of copper is therefore considered to be a major factor in the location of the large native settlement and, as with other local products, the network of routeways would have facilitated any exchange and trade associated with raw/refined materials and crafted objects.

At a regional scale, preservation and flavouring of meat, dairy and plant-based produce was made possible with salt that was transported in crude briquetage containers some 40km from production sites such as Street House on the north-east coast (Fig. 10.2; Sherlock 2007; 2008; 2010; 2012; 2019; Sherlock and Vyner 2013) to Scotch Corner, Rock Castle, Melsonby and Stanwick (see Chapters 1, 2; Britton, Chapter 5; Willis 2016a, 256–9). Like the traditional native saddle and beehive querns, and the cereal chaff and food-production remains, briquetage was concentrated at the south-facing part of the settlement in the relatively open land divided by coaxial enclosures in Period 2 (Field 223), and in the contemporary and contiguous nucleated enclosures of Fields 267a and b (see Chapters 2 and 3; Britton, Chapter 5). Briquetage fragments were also found at the Scotch Corner Hotel (Huntley 1995, 16–18; Willis 1995) and site SCA15 (Zant *et al*. 2013b, 82–3), which reinforces the evident and logical association between salt containers and areas of native habitation and food production (Chapters 1–3; Haselgrove 2016, 486). Occurrence of briquetage at the palisaded compound or stockade in Field 223 (Chapter 2, Fig. 2.33b) could feasibly relate to the practice of supplementing the low-sodium diet of domestic livestock with salt, although it more likely relates to human consumption and discard.

Although modest by the standards of contemporary Late Iron Age and Early Roman salt manufacturing sites along the east and south coasts of Britain (e.g. Lane and Morris 2001; Biddulph *et al*. 2012; Morris 2007; Lane 2018), the combined briquetage assemblages from A1 Scotch Corner, site SCA15 and Scotch Corner Hotel potentially represent the largest collection of the material at any inland site in northern England. This pattern complements the apparently central position of the settlement amongst a notable concentration of sites with briquetage between the Rivers Swale and Tees, with others dispersed across the Tees Valley lowlands (Willis 2016a, 258, fig. 12.3; Haselgrove 2016, 429). It has been postulated that all these lowland sites may have been involved in the exchange or trade of salt, which feasibly operated under the auspices of the power centre at Stanwick (Willis 1995; 2016a). It is notable, however, that evidence of salt in briquetage containers reduced dramatically after Period 2 at Scotch Corner, although not apparently at Melsonby, where a substantial proportion came from period 2 enclosure ditches dated c.AD55–70/75 from associated samian ware (Haselgrove 2016, 340) or in the Tofts at Stanwick, where the bulk of the briquetage is from period 5 deposits (Willis 2016a, table 12.2). At Scotch Corner, diminishing quantities of briquetage coincided with at least two connected processes at the settlement; the first was the absolute reduction in habitation and native roundhouses during Period 3, which could reflect disruption to the trading network. The second process comprised a change to Roman drinking and dining traditions enjoyed primarily in Fields 246 and 258 on the south-east side of Dere Street during Period 4. We may assume that once the Romans took control of Scotch Corner, the supply of salt to the settlement continued, under their auspices. The less-protracted process of annexation in southern Britain evidently caused little disruption to the supply of salt to *Calleva* (Silchester; Fig. 10.3) in the immediate post-conquest period (Timby 2018). Unlike at *Calleva*, where briquetage continued in use, salt may also have been transported to Scotch Corner in organic containers that did not survive long enough for discovery on the A1 scheme (e.g. Willis 2016a, 261).

While hand-built briquetage vessels were used to transport salt to Scotch Corner prior to Roman annexation, other pottery vessels made in traditional Iron Age fabrics and forms were used throughout the time that Scotch Corner was occupied, increasing in Period 4 (Cumberpatch, Chapter 5). The low relative proportion of 'hand-built wares to imports' during Period 2 at Scotch Corner (and at contemporary Melsonby; Fitts *et al*. 1999) suggests to Cumberpatch that uptake of the latter was rapid, although continuing modest-scale use of traditional forms potentially represented tangible continuity with native domestic practices (Cumberpatch and Leary, Chapter 5). Cumberpatch is, however, keen to move away from the interpretation of hand-built vessels as being exclusively indicative of subsistence-level household fabrication; instead he proposes that the variety of clays used in the vessels indicates more complex production, distribution and exchange than has been widely recognised (see Chapter 5). While petrographic study of vessels from sites SCA8 and SCA15 suggests that the quartz-rich pottery seen to dominate the hand-built assemblage was probably produced locally, it was not certain whether tempers used in the firing were available nearby (Quinn 2013, 214–15). Without firm resolution on these points and further petrographic studies, it is not yet possible to determine the geographical extent of local or regional exchange in hand-built wares used at Scotch Corner, although certain trends have been noted. One such observation was that many forms and fabrics were first used in the region during the Middle Iron Age and remained in constant use during the span of occupation at Scotch Corner and Stanwick (*ibid*.; Cumberpatch, Chapter 5). The same duration was identified through a programme of absolute dating of Iron Age pottery at Thorpe Thewles, where similar fabrics were in use from the Middle Iron Age to the early 2nd century AD (Bailiff 1987, 71–2; Heslop 1987a; Swain 1987b; Hamilton 2010), which implies that continuity of form and fabric was evident across the region, making provenance and chronologies difficult to determine. Although the precise origins of vessels remain elusive, the co-occurrence of similar forms and fabrics across sites in north-east England supports the notion that, like briquetage, some hand-built wares and their contents represented tradable commodities, some of which were transported to Scotch Corner from at least as far away as East Yorkshire (Zant *et al*. 2013c, 145).

Importation of exotic materials

In contrast with the hand-built wares, the wheel-thrown vessels that began to arrive at Scotch Corner from the Continent and southern Britain perhaps as early as the beginning of Period 2 (c.AD15) were highly visible and culturally diagnostic indicators of population mobility, connectivity, and of major changes in exchange/trading relationships, economic and political circumstances. The materials prompt detailed comparison with imports discovered at Stanwick and Melsonby as well as other sites in the surrounding lowlands and further afield (e.g. Haselgrove 2016, 432; Chapter 5). The samian ware, amphorae, mortaria and coarsewares from the A1 scheme excavations at Scotch Corner are discussed in Chapter 5 and do not lend themselves to repetition and generalisation here. However, some of the interpretations made by contributors are pertinent to a discussion of the economy, procurement and exchange/trade at Scotch Corner, particularly with reference to the immigration of people and concentration of resources apparently associated with a Brigantian tribal confederacy, and putative client polity centred at Stanwick.

One of the most insightful declarations made about the imported ceramic vessels (and presumed comestible produce) was by Dore in respect of the Roman period assemblage from the Scotch Corner Hotel; he remarked on the stark disparity between high-quality pottery and the modest vernacular structures and ditches where it was discovered (Dore 1995, 15). Dore was describing native features that were contiguous and contemporary with others recorded in the A1 scheme in the Period 2 and 3 coaxial and contiguous nucleated enclosures in Fields 223 and 267a respectively, where the same co-occurrence was evident. Bagendon demonstrated a similar juxtaposition (Moore 2012), and Niblett (1985, 25) noted the same phenomenon at Sheepen, *Camulodunum* (Colchester; Fig. 10.3), stating that the finds argue for a fairly high standard of living, certainly much higher than that apparent from the 'small huts' found along the course of the Sheepen Dyke, although they were also abundant in the more concentrated and elaborate remains near the centre of the *Camulodunum* settlement complex at Gosbecks (e.g. Hawkes and Crummy 1995; Fig. 10.3). Partridge (1981, 351) proposed further pre-conquest integration at Skeleton Green (within Braughing-Puckeridge) from the late 1st century BC, describing how well-established trade connections with Italy and Gaul were represented not only in the supply of exotic materials, but also apparently by the presence of people with distinctly Romanised tastes and habits, and also possibly literate and numerate Romans or Romanised Gauls. While the exotic and high-status objects at *Camulodunum* and Skeleton Green might be expected at major centres in the heart of Early Roman Britain following Claudian conquest, their voluminous occurrence so far from Roman-controlled territory at Scotch Corner was unexpected. Leary proposes in Chapter 5 that the presence of the specific imported wares at only certain sites within the region is suggestive of a highly stratified society, in which only the upper echelons had access to wine. Based on this artefactual indicator alone, Stanwick, Melsonby and Scotch Corner can be confidently placed at the apex of native society in the Tees Valley and Vales of Mowbray and York, despite the prevalence of seemingly humble dwellings. This disparity certainly hints at the rapidity with which Scotch Corner appropriated wealth during Period 2, whereas other 'civilised' Roman traditions such as dining and bathing were yet to be acquired and embraced.

At Stanwick, Haselgrove surmised that the most remarkable characteristic of the site was the array of Roman imports that began to arrive by the end of the 1st century BC, c.20–30 years before imported items or goods appeared at Scotch Corner and well in advance of any formalised arrangement between Rome and Cartimandua (Haselgrove 2016, 391–2, 482–3). The subsequent consignments of highly selective pottery and glass vessels included forms hardly known in Britain and did not seem to have arrived through ordinary military supply networks. Nor did they apparently derive from civilian centres in the newly conquered south, but probably came by sea (*ibid.*, 482), either via the Tees or Humber estuaries and thence up-river and/or overland (e.g. Millett 1987a); such exotica appear to represent diplomatic gifts and exchange rather than the rewards of trading and market forces (Haselgrove 2016, 434–7, 482). It appears that Roman traders infiltrated existing native networks, exchanging materials directly between northern Gaul and the eastern waterways of Britain (C. Haselgrove pers. comm.). By such means, the Stanwick assemblage incorporated early pottery types such as Central Gaulish flagons (Willis 2016a, 248) that were absent from Scotch Corner, which suggests some differences in the chronology and supply mechanisms operating at the sites (Leary, Chapter 5). Griffiths (Chapter 5) compares the predominantly wine-amphora assemblage from Period 2 Scotch Corner with Late Iron Age oppida in southern England that had links with the Continent before AD43, inferring from the similarities between the amphora assemblages that Scotch Corner potentially enjoyed similar access. However, this must be viewed with caution: Stanwick and Scotch Corner are unique locally in having very early samian imports, and while the Arretine (Italian-style sigillata) ware platter could have arrived at Scotch Corner as early as c.AD15 (Monteil, Chapter 5), it might also have been imported with later materials around the time of Claudian conquest, as seems to be the case for Arretine vessels found over 100km to the south at Old Sleaford in Lincolnshire (Dickinson 1997). In combination with a diverse range of Claudian period vessels at Scotch Corner, the deposition of Arretine wares suggests that most consignments of exotic ceramics here were imported after c.AD43. This corresponds more closely with the peak of importation to Stanwick shortly after c.AD50 (Haselgrove 2016, 434–7), and also with the coastal site at Redcliff-North Ferriby on the north bank of the River Humber (Fig. 10.2; Creighton and Willis 1989; Crowther *et al*. 1989; Willis *et al*. 1990; Haselgrove 2016, 433; Creighton *et al*. forthcoming).

It is proposed in Chapter 5 that, in common with the material at Stanwick, the imported Italian wine amphorae, Spanish oil amphorae, Italian-style sigillata, Claudian period samian ware, Gallo-Belgic platters, cups, beakers and flagons, and Italian platters arriving at Scotch Corner in Period 2 from a diverse range of sources perhaps resulted from gift exchange with Romans or with Gaul. Such a proposal potentially explains the inclusion of Gallo-Belgic wares that were probably not used by Romans at the time (Leary, Chapter 5). Yet, while emphasising the Continental origins for material that did not necessarily arrive through Roman supply and trading routes, it is also worth highlighting the presence at Scotch Corner of ceramic vessels produced in southern and south-eastern England during the same period (Leary, Chapter 5). Such items might have arrived through trading, although a proportion could also have been personal possessions conveyed with their owners from southern England, which is how Croom believes the iron brooch (Cat. no. 687; Croom, Chapter 6) and the miniature sword (Cat. no. 830; Croom, Chapter 6; Chapter 4, Fig. 4.61) made their way to Scotch Corner.

Such materials demonstrate that connections with southern Britain continued at the same time as imports from abroad proliferated, suggesting that both terrestrial and marine transportation were adopted in the pursuit of exchange or employed by traders visiting Scotch Corner, and that those mechanisms represented interaction with a diverse range of communities across a wide geographical area. When the A1 scheme is considered with the material from site SCA15 and Scotch Corner Hotel, the combined assemblages demonstrate an explosion in the known volume of material arriving in Period 2. The recent discoveries at Scotch Corner therefore potentially introduce some considerable doubt to the notion that the imports arriving in the vicinity from the early 1st century AD uniquely represent Roman diplomatic forays or derived wholly from trade across the North Sea with Roman Gallia Belgica. Nor should those imports arriving in the mid-1st century AD necessarily be regarded solely as the 'wealth and extravagance' endowed upon Cartimandua by Rome as a reward for handing over the fugitive and rebellious native leader Caratacus (Tacitus *Historiae* III, 45; Braund 1996) and for her loyalty during the subsequent Boudican revolt. Instead, there may have been a multitude of exchange and trade mechanisms operating simultaneously or sequentially in response to changing political circumstances and trading opportunities in Stanwick, Scotch Corner, and other connected foci such as Melsonby—such narrow distinctions may explain differences in the dates and composition of consignments discovered at adjacent centres.

In reassessing the Stanwick pottery in relation to Scotch Corner Period 2, Leary (Chapter 5) found that the Stanwick assemblage was at once less Roman in character (by vessel proportion) and more Roman (by vessel form) than Scotch Corner. In particular, the prevalence of fine samian bowls for mixing wine the Roman way and fine decorated flagons at Stanwick contrasts with the large capacity Gallo-Belgic drinking vessels at Scotch Corner. The Stanwick and Scotch Corner assemblages were united, however, in the scarcity of dining vessels when compared with Late Iron Age centres in southern Britain, leading Leary to suggest that the material arriving at Scotch Corner in Period 2 may not have resulted from the organised 'centralized trade in complete eating and drinking services' described at southern oppida by Pitts (2010, 44), and was more akin to 'the random accumulation of vessel types that might be expected through less organized and more socially embedded exchange' (*ibid*.); i.e. it was not the result of exchange or trade controlled by Romans in southern Britain. In turn, this provides an important insight into the nature and chronology of Roman activity at Scotch Corner during Period 2. Crucially, it seems from the settlement morphology and the range of exotic imports that Rome was yet to exercise a significant measure of control over the lifestyles of the native inhabitants, suggesting that they retained the freedom to negotiate the mechanisms of exchange and influence the selection of goods.

After Period 2, however, apparently self-governing exchange and trade with a diverse range of partnering economies waned at the same time as Scotch Corner's native population seemingly diminished the rate of dwelling construction and boundary maintenance. These developments may have been influenced by the alleged and increasingly serious civil threat posed by Venutius (Tacitus *Annals* XII, 40; *Historiae* III, 45; Braund 1996), and by its commensurate impact on relations between Cartimandua and Rome (see Chapter 1). In addition to the malaise in construction paired with ill-defined signs of Roman presence, one tangible effect of this may have been a reduction in the range of markets that were accessed by the occupants of Scotch Corner during Periods 1 and 2, including potentially the exchange of coin pellets produced at the settlement before the enterprise ended abruptly by or in Period 3 (see below; Chapter 3). The distinct shift that occurred in Period 3 was represented in the ceramic assemblages partly by the replacement of Period 2 Italian and Gallo-Belgic drinking-related vessels with a range of Roman wheel-thrown vessels including mortaria, with Gallic wine amphorae rather than Italian, but lacking some fine-wares that might be expected at an urban settlement with Roman occupants (Griffiths, Hartley, Monteil, Leary and Williams, Chapter 5). Rather ambiguously, the preference for dishes was considered reminiscent of rural native sites in the region, whereas the decorated samian bowl assemblage was more like military or military-related sites (Monteil, Chapter 5). Considered with exotic items such as the Egyptian blue pigment (Foulds, Chapter 6), the amalgamation of influences and preferences seems related to fundamental changes in the trading and political dynamics operating at Scotch Corner, and potentially even a change in the composition of the population.

Pitts (2008, 504) concludes that, in the final third of the 1st century AD, consumption of imported pottery in the province was determined by state-driven supply networks rather than market forces, although settlements of pre-Roman origin probably had access to these imports, which were more common at nuclei close to the road network. Although Scotch Corner lies far outside the zone he was discussing, much of his assessment seems pertinent to the material consumed from Period 3. While the absolute volumes of ceramic imports in Period 3 were relatively low and the duration c.15 years at most, the composition of consignments indicate transportation by Roman troops at a time of preliminary contact with native people, who arguably remained dominant amongst the population at Scotch Corner. Such interaction during Period 3 is further suggested by the inclusion of Roman pottery types that were probably made locally and also by several ware groups not identified elsewhere in the region and possibly brought by the military at a time when the area around Scotch Corner was insufficiently hospitable or pacified for local pottery production and ordinary exchange and trade networks (Leary, Chapter 5). Similarly, consignments of predominantly Neronian and very early Flavian glass vessels arriving at Scotch Corner in Periods 3 (and often deposited in Period 4; Chapter 5, Table 5.89) prompts further questions about the changing character of the population and the prevailing authority or influence. Cool (Chapter 5) equates the large collection of pillar moulded bowls, Hofheim cups and ribbed mould-blown cups with Roman activity, whereas the unguent bottles that might have been expected were comparatively rare. Furthermore, vessels, such as the purple and white pillar-moulded bowl and the large deep-blue tubular-rimmed bowl, appear to have been selected because they appealed to native tastes, as they did on the Continent. Even the rare high-relief glass bowl (Cat. no. 636) deposited in Period 4 probably did not arrive with an early mission and was more likely transported through Roman supply mechanisms in the later Neronian period (Period 3). Being comparable to vessels associated with the very highest echelons of native society in southern Britain, the bowl potentially shared its origin with material supplied to the client kingdom of the Atrebates (Cool, Chapter 5), and may have consequently articulated Roman intentions shortly before annexation.

Although the imported consignments and local pottery production therefore potentially indicate increasing Roman influence at Scotch Corner from as early as c.AD55 (see Chapter 3; Hamilton, Chapter 9), it is important to restate that while these wares may have arrived through Roman mechanisms, they do not necessarily imply a military presence at Scotch Corner itself (e.g. Cool, Chapter 5). Indeed, Leary considers it more likely that the military were quartered nearby, acting as a source of pottery (and glass), which was presumably traded with the native occupants. To borrow again from Haselgrove, it is apparent that by Period 3, the array of Roman exotica arriving at Scotch Corner and Stanwick was reminiscent of sites like Colchester, Chichester-Fishbourne and Silchester in southern Britain, which all had important roles in the political geography of Early Roman Britain (Haselgrove 2016, 437). In this context, and despite ambiguities about the precise dates of arrival and deposition, the Neronian period pottery and possibly also glass transported through military supply mechanisms before Flavian material appeared at Scotch Corner, seems to suggest that Roman feet were treading the ground at Scotch Corner before AD70 (Cool and Leary, Chapter 5; below). While there is no proven connection between the imports and military-supply mechanisms, such discoveries corroborate the numismatic evidence derived from Claudian copies at Scotch Corner (Brickstock, Chapter 6) in representing potential military presence from the late AD60s at Roecliffe and possibly at Piercebridge (Fig. 10.1; Brickstock 2005; Wilson 2009b, 10; Eckardt and Walton forthcoming). This can be placed amongst other and increasing evidence for (late) Neronian military activity in the region (see Chapter 1 and below), to which might be added the putative early conquest period military post adjacent to RR2 if inferences are ever confirmed by dateable material (Chapter 4, Fig. 4.2).

With the benefit of hindsight, much of the activity associated with Roman importation of goods at Scotch Corner during Period 3 might be understood in terms of Romanisation by initial enculturation of the native elite and subsequent cascading of the benefits (e.g. Haselgrove 1984; Millett 1990; Woolf 1998; 2001), although this approach has fallen out of vogue in recent years (e.g. Hingley 2000; 2005). Nevertheless, it may be appropriate to interpret the changes at Scotch Corner as Roman preparation for reorganising Scotch Corner and its economy in readiness for the military supply chain and arrival of troops. After all, this operating procedure may also be recognisable in the development of formalised routeways, roadside enclosures and rectangular structures that characterised the settlement in Period 3 (see Chapter 3 and below). It was at the same time (c.AD60+) that Thorpe Thewles in the Tees Valley received its first imported wares, including mortaria (Hartley 1987, 75–6). These may pertain to the same period of increasing Roman activity in the region, although the small assemblage of ceramic vessels and apparent absence of glass in the mid-1st century AD (Price 1982) potentially betray differences in the supply mechanisms between the Tees Valley and Stanwick-Scotch Corner, with exotic materials perhaps imported directly to rural settlements rather than being redistributed from the native power-centre at Stanwick-Scotch Corner. Such a system suggests a transfer of initiative from native to Roman, which was also evident in changes observed in the pastoral regime.

Haselgrove (2016, 495) and Pitts (2010, 32–3) reflect on the theoretical shift away from ‘core-periphery’ models of native Late Iron Age society with their focus on commercial trade and the role of the expanding Roman Empire as the key driver of social and political change in Late Iron Age Britain, where the province was part of an ‘outer supply zone’ (e.g. Haselgrove 1982; 1987; Cunliffe 1988; 2005). However, without wishing to revive purely processual constructs, it has been argued above, in light of the A1 scheme findings and other regional studies, that the value and esteem of the arable and pastoral economy was of paramount importance to the native population at least by the early 1st century AD and grew considerably to the time of conquest. Consequently, it is pertinent to consider whether this process was stimulated, or merely taken advantage of, by Rome, or was it more likely that both were achieved? The proposition of unhindered access to these resources might have been sufficiently attractive for Rome to infiltrate and adapt existing domestic and Continental trading mechanisms and to develop a new system with terms that were initially mutually beneficial. That scenario presumes the kind of centralisation of native resources that the earthwork boundaries and integrated economies of Scotch Corner and Stanwick apparently represent, and it also accommodates more than one possible explanation for exponential development around Stanwick-Scotch Corner.

Development of a direct and robust trading agreement with the Brigantian elite may have represented the fulfilment of a short- to medium-term goal following diplomacy and gift exchange, and perhaps accelerated the development of a client relationship (e.g. Creighton 2001, 4–5; 2006, 27). Under such a system, Rome exploited native resources which, while still being managed by elite Britons, were increasingly organised and centralised specifically for trade/exchange with the future occupier. It appears that in ignorance of the consequences for their self-governance, the natives of Stanwick-Scotch Corner embraced trading opportunities and assimilated many of the civilising aspects of Roman society before civil unrest in the AD60s degenerated sufficiently to provide a pretext for military intervention, perhaps with assent or encouragement from the native ruling elite.

COIN BLANK PELLETS AND PELLET MOULD TRAYS AT SCOTCH CORNER

A key discovery that prompted consideration of Scotch Corner as a component within the wider Stanwick oppidum was a precious metal coin blank pellet and the large assemblage of bespoke ceramic mould trays used for manufacturing pellets. Production of both components apparently took place during Periods 1, 2 and possibly into Period 3, in a dedicated enclave and subsequent enclosure defined by earthwork ditches and banks in Field 246 (Chapters 2 and 3). There was evidence for significant disturbance and redeposition of mould fragments, and potentially also for systematic retrieval of prills and residues embedded in the moulds during production and after it had ceased. Materials thought to be associated with pellet and coin production at Scotch Corner have undergone extensive assessment and rigorous analysis. What follows is an attempt to integrate the archaeological and chronological context with the scientific results and comparative studies presented in Chapter 7 (Landon, Morley-Stone and Ponting; Cubitt and Antink, Chapter 7). While the deposits of discarded pellet mould fragments do not themselves represent conclusive proof of pellet production at Scotch Corner, the compelling case for manufacturing at the settlement draws together numerous strands of evidence; in combination, the contextual, structural, artefactual and environmental remains comprise a suite of evidence equal to or exceeding many accepted pellet manufacturing sites, not to mention many purported coin-minting centres and oppida.

Examination of the pellet moulds indicates that the processes applied at Scotch Corner replicated Gallo-Belgic coin mould and pellet blank technologies introduced to south-east Britain in the period spanning the Middle and Late Iron Age, prompting the era of gold and silver native coinage during the 1st centuries BC and AD (e.g. Creighton 2000, 19–21, 27–35; van Arsdell 1989; Haselgrove 1993). Before the discoveries at Scotch Corner, the most substantial deposits of pellet moulds in Britain have all been discovered at wealthy cultural centres in coin-using regions. The nearest and most substantial deposits come from well over 100km south of Scotch Corner at Old Sleaford in south Lincolnshire, which produced a large assemblage of moulds and coin blanks or pellets (Elsdon 1997, 51–67), although Leins (2012, fig. 5.18) demonstrates that the site was atypical in south Lincolnshire, Humberside and Leicestershire, where coin blanks, pellets and moulds are rare. Imports of Continental pottery, and other types from southern British Iron Age centres from the early 1st century AD (Elsdon 1997, 75), prompt further comparison with Scotch Corner and other Late Iron Age centres in the south and east, such as the Braughing-Puckeridge complex (Hunn 2007; Thompson 2009, 2014; Landon 2016). After these, the Scotch Corner assemblage (retrieved from approximately half of the workshop enclosure in Field 246) is possibly the fourth largest recovered to date, exceeding those from *Camulodunum*, *Calleva*, Bagendon, and *Ratae* (Leicester; Fig. 10.3; Landon 2016).

Returning to the theme of how geology influences activity, May (1996, 640) describes how the nearest coin-producing sites to Scotch Corner lie in Lincolnshire, either on or adjacent to areas of chalk and limestone upland, the Lincolnshire Wolds and the Lincolnshire Edge. He concludes that it 'is tempting to speculate further that stock-raising on these uplands provided a primary source of wealth and power for a local elite' (*ibid*.). The advantage of good pasture on the limestone was presumably a major incentive, but the possible presence of copper deposits in limestone may also have been a factor. Using a much larger dataset than May, Leins confirms the concentration of sites yielding coin blanks and pellets along a west–east band crossing central Lincolnshire (2012, 234; fig. 5.18). Sharing similar geology and soils, Scotch Corner is now the furthest north known site of pellet production and would be the northernmost mint of the period should any dies or directly attributable coins be recovered. Even if Scotch Corner proved to be a mint, dies should not necessarily be expected because they are extremely rare even in coin-using areas; fewer than 10 are known from the whole of Iron Age Britain at the time of writing (Gruel *et al*. 2017; Haselgrove 2018).

Native metalworking evidence from Field 246 at Scotch Corner mostly comprised small undiagnostic fragments of copper alloy and bronze that might be offcuts or scraps of metal from manufacturing stages (Mackenzie, Chapter 7). Crucible fragments from pit **16499** in Structure 47i (Chapter 3, Fig. 3.9; Mackenzie, Chapter 7) contained insufficient residue for comparison with the pellet or prills in the pellet moulds, which was also the case for possible crucible fragments from upper fill **24984** of the drip gully of Structure 48iv (group **31271**; Chapter 3, Fig. 3.9; Mackenzie, Chapter 7). Crucible fragments (Cat. no. 889) from primary fill **24640** of the drip gully defining Structure 47iv displayed no distinct morphology or certain evidence of metal production but must have been used accordingly (group **31276**; Chapter 3, Fig. 3.19). Disturbed fill **24886** of the north-east workshop enclosure boundary included ceramic crucible or cupel (Cat. no. 892) with residues of copper alloy (Chapter 3, Fig. 3.59), while a cone-shaped bronze object (Cat. no. 903) from fill **15513** of overlying plough furrow **16042** matched its interior shape (Mackenzie, Chapter 7). The modest nature of the crucible assemblage should come as no surprise in light of the prevailing view of pellet moulds as fundamentally being crucibles, which certainly seems to have been the technique employed at Scotch Corner (Landon, Morley-Stone and Ponting, Chapter 7). Following this argument, it is proposed that the non-pellet mould Scotch Corner crucibles were associated with other metalworking processes, and that any residue would be unrelated to pellet manufacturing. However, the co-occurrence of crucibles and pellet mould fragments has been noted at other sites such as Bagendon (Moore forthcoming), Old Sleaford (Elsdon 1997, 55–6) and *Verulamium* (St. Albans; Fig. 10.3) where an association was implied but not explicitly stated (Frere 1983, 30). Moreover, while it is widely accepted that the pellet mould crucible technique is far more effective for measuring equal components and precise volumes, it is yet to be proven that the pouring technique from crucibles was never employed. Perhaps the expectation for standardised practices is founded on an assumption that optimal techniques were adopted universally without delay. There must, however, surely have been both trial and error, and a range of craft traditions developed during the c.150-year span of native coin minting in Britain.

The heavily abraded and excoriated assemblage of pellet mould trays at Scotch Corner fell into two hole-size groups (smaller holes of 3–7mm, and larger holes of 9–14mm) and belonged to three categories: pentagonal *Verulamium* moulds with 50 larger holes; pentagonal *Verulamium* moulds with 50 smaller holes, and the newly classified Scotch Corner form with a rectangular shape and 100 smaller holes, which bears affinities to the Puckeridge form (Landon, Morley-Stone and Ponting, Chapter 7, Fig. 7.1; Landon 2016, 37). An anomalous and possibly unique example included holes of both size ranges, although anecdotal evidence suggests another example from Leicester may have been found recently. Examination of the Scotch Corner assemblage suggests that the *Verulamium* forms recovered in Field 246 were fabricated by experienced artisans, while the Scotch Corner forms were often less expertly made, although all were subjected to temperatures from c.1000–1200°C within a reducing atmosphere (see Chapter 7). Such conditions are achievable only during a smelting process that involves bellows and encasement of the moulds in charcoal, rather than the pouring of molten metal from a crucible (Landon 2016; Morley-Stone, Chapter 7). Unfortunately, it fell beyond the scope of the A1 scheme to undertake petrographic analysis of the Scotch Corner pellet moulds, the clay sample recovered from ditch **31017** by the workshops (see Chapter 3, Fig. 3.59), or pellet moulds from other sites in Britain and on the Continent. This remains a future endeavour that is important for broadening an understanding of Scotch Corner, the process of mould (and local pottery) production, the origins and spread of the technology and perhaps the cultural associations of those practising it.

Based on single usage, the recovered assemblage of Scotch Corner pellet mould trays had capacity for almost 3000 pellets, whereas the estimate for Old Sleaford suggests production of around 2500 pellets, although this is expanded to a number between 5000 and 18,000 from the putative complete assemblage (Elsdon 1997, 54–5). Single use may have occurred at Old Sleaford to produce so many pellets, but examination by scanning electron microscopy (SEM-EDS) of the Scotch Corner moulds demonstrates that the clay boasted high refractory qualities that might have allowed for multiple uses before fragmentation occurred (see Morley-Stone, Chapter 7). It seems probable that this attribute of the clay mixture was either previously known or quickly recognised by the craftspeople making and using them. It was also apparent that fluxing agents were absent (such as was found at *Verulamium* and Braughing; see Landon Chapter 7; 2016) and that pellets smelted in the holes were easily extracted by virtue of high-alumina content in the ceramic matrix, an unusual property of the potentially local clay used for the moulds. Of the 18 mould fragments sampled, all contained trapped alloy residues, or 'prills', with two distinct alloy groups represented: a silver- and copper-alloy binary alloy with a ratio of c.52:48 found in the smaller holes; and a ternary gold-, silver- and copper-alloy with an approximate ratio of 83:9:8 found exclusively in the larger holes. A single globular gold, silver and copper pellet (Cat. no. 686) from subsoil **24134** (Chapter 2, Figs 2.47 and 2.55b) in the workshop enclosure was considered to be a coin blank that was probably manufactured on the site (see below; Landon, Morley-Stone and Ponting, Chapter 7). By contrast, the only pellet discovered at Old Sleaford was of silver (64% silver, 34% copper), as were the five coins, although the moulds have yet to be tested (Robbins and Bayley 1997, 59–64). Its weight (1.18 gm) corresponds to local silver units (Elsdon 1997, 55). The only known artefact discovered locally to Scotch Corner of comparable shape was a circular copper-alloy pellet (weight 11.6g) from context 41 at Rock Castle (Allason-Jones 1994, 25), although there was no accompanying evidence for non-ferrous metalworking or manufacturing, such as mould trays (Fitts *et al*. 1994, 27), leaving open the possibility that it came from Scotch Corner, or perhaps even Melsonby. While it is unsurprising that such valuable objects were apparently lost or deposited so infrequently, it remains possible that they are overlooked during fieldwork, particularly if their lustre has diminished.

While it is feasible that copper used in pellets at Scotch Corner derived from recycled objects, it seems more likely to have been sourced locally as a raw material. The network of geological faults and focus of copper mining at Middleton Tyas has been described elsewhere in this volume and needs no introduction here, except to restate that high-grade, near-surface copper is a defining feature of the limestone ridge occupied by Scotch Corner (Chapter 1; Raistrick 1936; Wells 1955; Hornshaw 1975; British Geological Survey 1998; Wadge *et al*. 1992). The south-east side of the pellet manufacturing enclave and subsequent enclosure in Field 246 lay along the approximate course of a geological fault that possibly yielded high-grade epigenetic copper, which was also embedded in the limestone bedrock beneath the shallow boulder clay and sands (Chapter 1, Fig. 1.3). There was no direct evidence to support the proposal that the 'primary' south-east ditch was associated with copper prospection, nor indeed was there any proof for copper extraction from pit group **28131** in Field 258 (Chapter 3, Fig. 3.28), possible bell-pit **15758** (Chapter 3, Fig. 3.27) and Crookacre quarry. However, the corroded copper-alloy prills and scraps (Cat. no. 898) and possible fragments of roasted limestone from surface **27026** in nearby Field 258 form convincing evidence for the processing of ore-bearing bedrock (Chapter 3, Fig. 3.28; Mackenzie, Chapter 7), particularly given that additional fragments were also discovered in other nearby features. Consequently, it appears that the position of the workshop enclosure is unlikely to have been fortuitous, and that the combined evidence for local copper mining is relatively compelling without the need to cite the obvious benefits to the inhabitants of minimal extraction and transportation costs, while divesting them of the need to commit other resources in order to acquire the raw material.

Such a fallback position is required, however, when proposing the nearby Yorkshire Dales as the source of lead used in pellets. Similarly, silver could have come from nearby Nidderdale (Fig.10.2; Ferraby and Millett 2020, 99–100) but might equally have been recycled, while there are several strands of information pertaining to the elusive and unconfirmed origins of gold. Aside from the alloys incorporated into the ceramic matrix of the moulds, and the single pellet, evidence for the use of gold at the site came from an offcut (Cat. no. 696) found in Period 4 mixed deposit group **31208**, east of 'well' feature **24297** (Chapter 3, Fig. 3.59), and another minute fragment of gold sheet (Cat. no. 697) from upper fill **26771** of Period 4 pit **15406** in group **28131** at the north end of Field 258 (Chapter 4, Figs 4.25 and 4.33; Croom Chapter 6). While these discoveries are suggestive of gold recycling at the workshops, they are by no means conclusive evidence for a direct association with pellet manufacturing. The fragments are, however, amongst the very scant evidence for contemporary gold working in the local area, which includes pieces of decorated gold sheet in the Melsonby hoard (Croom, Chapter 6). In the absence of evidence for metalworking at the site, objects of gold, silver and bronze at Thorpe Thewles incorporate native stylistic elements and indicate the value of personal adornment (Allason-Jones 1987). Perhaps surprisingly then, gold is currently unknown at the presumed royal Tofts enclosure despite evidence for working of other metals including copper-alloy (Haselgrove 2016, 432). For an area that has no natural sources and little evidence for use, the high proportion of gold in larger pellet alloys must therefore represent a major investment, even with some level of debasement, and its presence raises the possibility that the pellets derived partially from fragmented and melted-down prestige artefacts such as torcs or other coins (Chapter 7, Fig. 7.24), rather than being composed of separate raw materials. The general correlation between the composition of the ternary alloys at Scotch Corner and Iron Age adornments (Landon, Ponting and Morley-Stone, Chapter 7) certainly reinforces this possibility, as does the general acceptance of widespread metal recycling in the period (e.g. Haselgrove 2016, 430), perhaps following initial supply of bullion from native controlled Welsh sources or the Continent.

The setting of pellet production: enclave, enclosure, structures and features

Examination of Late and Pre-Roman Iron Age settlements with pellet moulds in Britain reveals that despite the growing corpus of proposed production sites, remarkably few details are known about the setting of pellet (and coin) production. Creighton (2000, 40–3) draws attention to the probability that coin manufacturing was imbued with specific ritual considerations. These have also been alluded to when discussing the circumstances of pellet mould discard (e.g. Landon 2016, 149; see below). This may be particularly pertinent for the Scotch Corner workshop enclosure, where precious Late Iron Age metalworking occurred in amongst myriad features associated with water management, combining elements long-recognised for their association with traditions espousing symbolic offerings (e.g. Hingley 2018, 16–21; Farley 2011; Bradley 1990; Fitzpatrick 1984). Indeed, behaviours of an apparently ritualised character may arise naturally in contexts such as the Scotch Corner workshops, where artisans employed their closely guarded expertise in the production of high-value and prestigious metal objects, perhaps giving the impression of alchemic capabilities. Such a scenario calls to mind the concept of medieval guilds, which resonates with the introduction of substantial earthwork boundaries to separate and protect those within the group, while excluding those outside it. However, it is possible that ritualised behaviours in this context feasibly developed in response to practical considerations and, to paraphrase Hargrave (2018, 25), represent deliberate and accurate repetitive actions, rather than being the guiding principles governing activity in the enclosure.

The few examples of useful contextual information concerning pellet manufacturing include the large assemblage of ‘coin-flan moulds’ from at least two centres c.200m apart at Kiln Road, *Camulodunum* (Colchester; Fig. 10.3; Hawkes and Crummy 1995, 134–5), where they were taken as *prima facie* evidence for coin minting at the site. Fenced ‘compounds’ at nearby Sheepen were evidently used for copper-alloy and other metalworking between c.AD43 and c.AD61, although there was no proof of coin minting inside (Niblett 1985, 12, 24) and similar minting compounds are also known at Continental centres such as Manching (e.g. Kellner 1990, 9–12). Small-scale excavations inside Bagendon indicated that procedures associated with coin minting were dispersed. There was evidence of non-ferrous metalworking at an industrial zone in the densely occupied valley enclosures, whereas disposal of pellet mould fragments also occurred at The Ditches complex (Fig. 10.3; Clifford 1961; Moore 2006b, 76; Trow 1982; 1988; Trow *et al*. 2009). While future investigation may further define the metalworking and minting zone, details of structures and spatial organisation are currently uncertain.

In addition to the many pellet mould fragments found in pits, redeposited in occupation layers, and beneath a Roman rampart at *Verulamium*, approximately eight pieces were discovered within the floor deposits of a Pre-Roman Iron Age ‘Belgic’ rectangular building in ‘the Belgic Mint’, in Insula XVII (Frere 1983, 30–2; Landon 2016, 149), although it is unclear whether an association between manufacturing and the structure is proposed. Similarly, discoveries at Ford Bridge, Braughing, Puckeridge (Fig. 10.3; Hunn 2007; Thompson 2009, 2014; Landon 2016), and Skeleton Green (Partridge 1981)—belonging to the same complex in Hertfordshire—and Old Sleaford (Elsdon 1997) yielded large pellet mould assemblages, but have seen only small-scale and disparate archaeological investigation of the heavily truncated remains. Like Scotch Corner, Old Sleaford seems almost to demonstrate near-mutual exclusivity between coin deposition and large-scale pellet manufacturing (Elsdon 1997). Concentrated deposits of spent pellet moulds were deposited predominantly in the Late Iron Age ‘defensive’ enclosure ditch at Old Sleaford (*ibid*., 31–4), which represented another similarity between the two manufacturing sites, which were also both flanked by routeways. Adjacent to Trench H, which contained the largest deposit of pellet moulds at Old Sleaford, Trench 1 exposed the wall trenches of a 12m by 7m rectangular structure (building 2) and a possible circular structure (building 3; Elsdon 1997, 32–3). While there was no proven association, these features may belong to some of the only excavated pellet manufacturing structures outside Scotch Corner. Elsewhere, the combined evidence appears to suggest distinct spatial separation of the processes required to make mould trays, manufacture pellets and mint coins (e.g. Landon 2016, 149; Leins 2012), providing little opportunity to investigate the relationships of discarded mould fragments and manufacturing structures or designated spaces without large open-area excavations.

It was fortuitous, therefore, that the A1 scheme transect at Scotch Corner exposed both the pellet manufacturing site and the features in which spent pellet moulds were discarded. In apparently finding evidence for both processes in a single delimited area, there was sufficient evidence to suggest that Scotch Corner represents a northern variant of the manufacturing tradition, although the setting may not be without parallel in the locality and may represent a regional tradition; the irregular shape of the ditched workshop enclosure at Scotch Corner compared favourably with the sub-divided enclosure with interior sub-circular and pit-shaped anomalies known from geophysical survey at Melsonby (Haselgrove 2016, fig. 19.8, 336; T. Moore pers. comm.). With an area of between c.0.5 and c.0.65ha, the Melsonby enclosure was approximately three times larger than Scotch Corner’s 0.19ha manufacturing zone (see Chapter 3), consistent with the discovery of the large 'Stanwick hoard' of decorative copper-alloy and bronze metalwork somewhere in the vicinity (J. Farley and C. Haselgrove pers. comms.; Haselgrove 2016, 343–7), not to mention the better-provenanced recent finds of similar materials from the same location (McIntosh 2016, 347–8). In the event that archaeological investigation were able to demonstrate that the Melsonby enclosure was the hoard's origin, it could well represent a metalworking focus of equal or greater importance than Scotch Corner's workshop enclosure, which did not produce the same diversity of materials as Melsonby, where mail fittings and fragments were discovered with remnants of an iron-bound wooden vessel (e.g. Haselgrove 2016, 343–6). Useful comparison can also be drawn with the Tofts at Stanwick, where copper-alloy metalworking from c.30/20BC (e.g. Haselgrove 2016, 205–6, 482) was presumably indicative of the same native high-status metalworking tradition recognised at Scotch Corner and Melsonby, and possibly even the primary site of artisan manufacturing, from which other ventures were directed.

Inside the workshop enclave and subsequent enclosure at Scotch Corner, the cluster of enigmatic structures and partially enclosed spaces are presented as settings for pellet manufacturing and pellet mould tray fabrication, in addition to other manufacturing ventures and crafts. Considering the relatively large and important focus implied by Structure 47i–iv (Chapters 2 and 3), the associated evidence for conspicuous consumption, the position on the crest of the ridge, and preoccupation with enclosure, the so-called workshops enclosure might be categorised more readily as an elite centre of wealth and power for the native settlement (such as is argued for the Tofts at Stanwick; Haselgrove 2016). But at Scotch Corner, the pellet manufacturing venture seems to define this designated area of intense activity. Due to the degree of truncation, any furnaces or hearths raised significantly above the ground are likely to have been removed, although the concentrations of fired clay and charcoal across the area certainly suggest that hot works were more commonly and/intensively undertaken there than the extant remains imply, and certainly more than anywhere else at Scotch Corner (Britton and Mackenzie, Chapter 7). The surviving features potentially associated with firing mould trays and manufacturing pellets included: a heat-cracked hearth stone and/or anvil (**31161**) in Structure 42i (Chapter 2, Figs 2.47 and 2.55e); the remnant of hearth base **24927** that was approximately central to a dense area of small post- and stakeholes inside Structure 47i or 47ii (Chapter 3, Fig. 3.9); hearth **16487**, which was central to Structure 44 (Chapter 3, Fig. 3.69); and a slightly raised hearth (**24748**) of uncertain association (Chapter 4, Fig. 4.44). Fragments of pellet moulds were distributed liberally in deposits and fills around all the hearths and the structures associated with them, although none contained distinct assemblages that might demonstrate a provable connection.

The structural adaptations observed in the workshops represented compelling evidence for pellet manufacturing and other metalworking in the enclosure. The paucity of postholes that might house roof-bearing timbers and substantial structures was a notable aspect of the workshop enclosure and can only indicate that structures were insubstantial, or that much of the work took place in designated spaces with surrounding sump gullies, rather than roofed structures built in the vernacular tradition. This aspect of the workshops may conversely represent reliance on structural post-pads (since lost), as have been discovered along the A1 scheme at Gatherley Villa (Fig. 10.1; Chapter 2, Fig. 2.8a–f) and Structure 28, Scotch Corner (Chapter 3, Fig. 3.50a), and also locally at structures LS2 and CS1 at Stanwick site 9 (Haselgrove 2016, 86, 111–13; 294–5) and possibly at Melsonby (Fitts *et al*. 1999, 13). The use of post-pads and post settings appears to be a response to ground conditions and available materials, and there was even evidence for hybridisation of the methods, whereby postholes were infilled with layered stones to support posts, as was recognised outside Structure 28 (Chapter 3, Fig. 3.50a) and some sub-circular structures (CS) in the Tofts at Stanwick, (Haselgrove 2016, 51–120). Amongst the structural features at Scotch Corner that suggested non-domestic functions, the disproportionately wide entrances or open sides at Structures 42, 47, 50, 51, and 52 are interpreted as corresponding to wide doorways or open structures designed to promote ventilation and temperature regulation while performing metalworking or other crafts; potentially designed according to the same principles as the 'open air' or timber-built metallurgy workshops proposed for Sheepen (Niblett 1985, 12). Perhaps for the same reason, Structures 51 and 52 (Chapter 2, Fig. 2.47), and also possibly at Structure 44 (Chapter 3, Fig. 3.69) had entrances on the western arc, thus exposing the interior to south-westerly and westerly winds; a feature that was unknown at any other native structure on the A1 scheme, presumably because it would be extremely undesirable in a dwelling.

The evolving form of Structure 47 (Chapter 3, Figs 3.9 and 3.19) suggested an enigmatic floor plan and undefined activities involving water cisterns, stone-lined tank **24667** and trench **16410** (Chapter 3, Fig. 3.19). At various junctures in its four-stage development, the absence of complete penannular drip gullies suggests that any structures neither filled the interior space, nor had complete roof coverage, reflecting the apparent trend inside the enclosure where the wall foundation and hurdle circuits and drip gullies of Structure 48 proved exceptional (see Chapter 2, Figs 2.47 and 2.55f; Chapter 3, Fig. 3.9). The fills of features associated with Structure 47 proved exceptionally rich in imported material relating to extravagant and conspicuous drinking and feasting in Period 2, whereas there was little sign of food production or domestic environments (Leary and Monteil, Chapter 5). While Structure 47 was evidently a focus of conspicuous consumption, and possibly structured deposition (see Chapter 3; Monteil, Chapter 5), the absence of discarded pellet mould fragments cannot be taken to preclude manufacturing inside; indeed, the charcoal- and organic-rich deposits and discarded vessels may reflect the same dual preoccupations of metalworking and feasting/drinking represented in the Melsonby assemblage (Haselgrove 2016, 432). It is not difficult to imagine a connection between the revered artisans, their enclosed and secretive work environments, the high-status valuable crafts undertaken therein, and the occasional excessive party. Indeed, elite activities in the workshops may be regarded in the Iron Age tradition of demonstrating power through a range of behaviours (e.g. Creighton 2000: 53; Hingley 1997; Moore forthcoming).

In addition to its inextricable association with water storage and management, Structure 47 was the epicentre of discarded stone tools, as well as all three stone balls (Cat. no. 715; Cat. no. 716; and Cat. no. 717; Croom, Chapter 6). In the absence of Roman iron tools, the stone objects have such a range of putative usages that craft functions are surely amongst them (e.g. *ibid*.; Lowther 2016, 284). Indeed, there is little certainty about how the stone tools from Scotch Corner were used generally, although flattened sides and edges on stones of varying size, shape and geology strongly indicate that metal polishing and burnishing took place in the workshops (Croom, Chapter 6). In addition to their probable use in metalworking, there remains the possibility that stone tools were employed in processes involving grinding the pigments discovered at the workshop enclosure. The probable rose madder was discovered in Period 2–3 ditch **15884** adjacent to 'well' **24297** (Chapter 3, Fig. 3.59; Foulds, Chapter 6; Bradreshany, Chapter 9), azurite came from Period 3 ditch **15859**, which was also adjacent to 'well' **24297**, while the Egyptian blue came from penannular gully **24982** of Structure 47iv, which was probably associated with trench **16140** and tank **24667** (Chapter 3, Fig. 3.19; Foulds, Chapter 6; Beeby, Chapter 9).

The spatial association between water management features, the pigments and stone tools certainly suggest a connection, and investigation of the potential uses of the individual pigments convenes on the opinion that they were most likely applied as paints or dyes for textiles, objects, body decoration or structural features (Foulds, Chapter 6; Shoemark, Chapter 9). In addition to these options, it may also be pertinent to consider whether either Egyptian blue or azurite may have properties that allowed it to colour enamels or other decorative elements associated with metal products in the manner of coral, particularly considering the Late Iron Age and Early Roman taste for personal adornments with blue decoration (McIntosh 2009, 2; Bateson 1981, 68; Butcher 1976, 43). Without any definite products, it is possible only to say that the occurrence of such rarely discovered materials further demonstrates the ambition and range of cultural links between Stanwick-Scotch Corner, southern Britain, and the Roman world. It also represents compelling evidence that both the craftspeople and the evolving complex of remains in the workshop enclosure were employed in a range of processes, which perhaps included retrieval of precious metals embedded in spent pellet moulds (Chapter 3, Fig. 3.18).

Pellet mould tray discard: patterns and significance

After their single or multiple use, spent pellet moulds at Scotch Corner were discarded primarily in the boundary ditches of the workshop enclosure, and in pits and other features that coincided with it. As remarked on above, deposition in ditches adjacent to pellet manufacturing zones was a notable aspect of the evidence from Old Sleaford (Elsdon 1997, 29–34; fig. 3.31; 51–6). Of the 70 depositional contexts identified at Scotch Corner, the vast majority apparently represent secondary or tertiary redeposition, including the largest single assemblage in a Period 2–3 ditch (**31017**; Chapter 3, Fig. 3.59). Based on Landon's assessment of the composition of pellet mould assemblages, the fill of Period 1 pit **24014** inside Structure 51 was the only deposit of pellet manufacturing waste considered to have been discarded directly after production (Chapter 2, Figs 2.47 and 2.55a). Consequently, other components of the fill were of relevance for developing an understanding of pellet production. Baines (Chapter 8) tentatively notes a possible association between pellet moulds and charcoal from wetland riparian taxa such as alder, birch, hazel and poplar or willow, which were present in pit fill **24105**. Based purely on the density of pellet mould fragments and co-occurrence with charcoal, three other possible primary deposits of pellet moulds were identified: outside the circuit of Structure 51, Period 1–2 pit **24296** included pellet moulds with elm hazel, and alder charcoal in fill **24238**=**24127** (Chapter 3, Fig. 3.16); a structural component (**24663**) of contemporary Structure 43 included pellet moulds and poplar/willow with oak charcoal in fill **24664** (Chapter 3, Fig. 3.6); and upper fill **16281**=**31000** in Period 2–3 enclosure ditch **31017** (Chapter 3, Fig. 3.59) contained elm, alder, hazel, ash, oak and heather charcoal along with the largest pellet mould assemblage from the excavations (see Chapter 3; Landon, Morley-Stone and Ponting, Chapter 7). While the use of certain wood taxa in pellet manufacturing is certainly an avenue for future research, the possible primary deposits, or at least those with least disturbance or sign of redeposition at Scotch Corner, suggest that fuels were carefully selected, and were discarded with spent mould fragments either at the workshop or in the nearby enclosure ditch.

Scarcity of primary depositional contexts is a commonly recognised phenomenon at pellet mould producing sites, where broken fragments are frequently redeposited and/or finally interred in pits and ditches long after their use; the Scotch Corner assemblage essentially conforms to this depositional model (Landon, Chapter 7; 2016, 149), excepting the rare co-occurrence of pellet mould deposition at the manufacturing site (see above). Consequently, it was unsurprising to discover that all three mould forms appear to have been deposited together with no significant spatial patterning and without discernible signs of symbolism or ceremony, although friable edge fragments from all forms may have been singled out for special unspecified treatment, being substantially under-represented in the Scotch Corner assemblage and at other sites (Landon, Chapter 7). There were, however, notable concentrations at the south-west and north-east corners of the enclosure, particularly around 'well' feature **24297**, which potentially was a tank for collecting water containing metalworking residues and waste from the surrounding ditches before retrieval (Chapter 3, Fig. 3.18).

A Brigantian mint at Scotch Corner?

It is generally acknowledged that pellet mould trays are most associated with the production of indigenous precious metal coinage, found typically in Late Iron Age and Early Roman contexts in the monetised parts of southern and central Britain (Haselgrove 2016, 200). Even when discovered in such contexts, a number of inherent problems require consideration; for example, when assessing coin distributions and denominations in conjunction with coin minting and pellet manufacturing there is always potential displacement between each process and transaction leading from the acquisition of metal to the loss or purposeful deposition of a coin, not to mention uncertainty about the tribal affiliations of some denominations (e.g. Leins 2012). However, the usual practice of directly attributing pellet manufacturing, coin minting and usage to a named tribe was not obviously an option at Scotch Corner due to the apparent absence of any locally minted indigenous coins and the prevailing and perhaps mistaken view of the Brigantes as a unitary and non-monetised people (see Chapter 1). Despite the growing number of commentators questioning an absolute association between pellet moulds and coin minting (e.g. Gruel *et al*. 2017, 506–7; Haselgrove 2018), the evidence from Scotch Corner is more likely to reinforce the common understanding of pellet moulds than to challenge it.

It is argued from the metallic composition of alloys in the moulds, and from the single pellet, that pellets were manufactured at Scotch Corner exclusively as coin blanks (Landon, Morley-Stone and Ponting, Chapter 7; Brickstock, Chapter 6). If it is accepted that pellets were not destined for amalgamation into a prestige object such as torcs, then once released from the moulds, they required only two further processes to become coins; namely, to be hammered into a flan before being struck with a die in the desired denomination (Cubitt, Chapter 7). In light of the Scotch Corner discoveries, three broad explanations for the combination of remains present themselves: the first is that the pellets were manufactured as a form of slightly debased micro-bullion that was used as currency for gift exchange and/or trading with imports, or could be traded onwards, or melted down from a known mass to form other metal objects; the second is that skilled native metalworkers who inhabited the area, and perhaps learnt the necessary skills and techniques on the Continent or in southern Britain (or included workers from either, perhaps explaining bay Structures 55 and 56; Chapter 2, Fig. 2.45), were commissioned to form coin blank pellets from recycled materials for a coin-using group living elsewhere; and the third is that coins of an elusive nature were minted at Scotch Corner and have been erroneously attributed to other groups, or remain to be discovered.

In respect of the first option, it may be possible to regard Scotch Corner pellets as micro-bullion, functioning like 'petit lingots', which were manufactured on the Continent in the same type of mould trays as those discovered at Scotch Corner (e.g. Cauuet 2005). The sole pellet recovered from Scotch Corner was of gold alloy, but its weight of 0.84g is well-below the standard weight of most British quarter-stater coinages struck in Britain (see Haselgrove 1987, appendix 5). Except for a few South coast types, gold quarter-staters minted after 50 BC generally weigh around 1.2–1.4g; moreover, quarter-staters do not seem to have been struck or much used north of the Wash. It is conceivable that standardised weights of alloyed metals may have been exchanged as currency for a range of commodities, perhaps even for some of the exotic imports brought to Scotch Corner during Periods 2 and 3. In this scenario, their destinations were probably diverse and ultimately unknowable since they would have been melted down for reuse. Such ambiguity also lingers around the hoard of Gaulish gold globules-à-la-croix (plain Iron Age coins with a cross on one side) at Netherurd in the Scottish Borders (Tylecote 1986, 114; Haselgrove 2009), cited by Cubitt and Antink as a potential example of traded bullion, or coin blanks purposefully deposited before final striking (see Chapter 7). Although there is no provable causal relationship between metalworking products and the arrival of imports at Scotch Corner, the same co-occurrence observed there was also evident at *Calleva* (Silchester), where the 'coin moulds' and silver-, bronze-, copper-, and tin-working waste were deposited c.AD25–50 (Fulford and Timby 2000, 414; 553), when imports were arriving in volume and the settlement developed substantially (*ibid*. 546). Similarly, the importing of Gallo-Belgic and samian pottery to Old Sleaford (Elsdon *et al*. 1997, 103–74), Braughing-Puckeridge (Partridge 1981) and Bagendon coincided with high-status occupation, coin minting and large-scale development of the settlement (Clifford 1961; Moore 2006b, 76; Trow 1982; 1988; Trow *et al*. 2009), all of which are widely accepted as viable criteria for Late Iron Age centres and oppida.

Scotch Corner, however, represents the first such instance whereby it seemed appropriate to connect pellet manufacturing alone with the exchange or trade in exotic imported commodities. This is presumably because, before Scotch Corner, pellet manufacturing has always been identified in coin-using locations, and because Late Iron Age coinage was not allegedly used in 'ordinary' transactions (e.g. Brindle 2017, 239–40; Haselgrove 1993, 50). As at Bagendon and Sheepen, the evidence from Scotch Corner may pertain to separation between stages of production, supporting the notion of striking elsewhere, if that was their destiny (Leins 2012, 243). However, there seems to be no sound reason for dismissing the possibility that unstruck pellets manufactured at Scotch Corner were a valuable and important commodity in their own right. Furthermore, it may be the case that pellets followed coinage in potentially expressing various social obligations and that their distribution does not necessarily reflect tribal affiliations and transactional circulation, but a range of social ties and ritual relationships (e.g. Creighton 2000; Moore 2006b, 78–9). Leins (2012, 236) describes how centralised and controlled production in the 'Eastern kingdoms', appears to have been focused at the most important 'royal complexes' in the region (*Camulodunum* and Braughing-Puckeridge), and that the names of minting sites were often included on the coins (Creighton 2006, 70). Yet in the north-east, where such settlement seems absent, the evidence for coin production perhaps represents diffusion of production processes, and perhaps even contests the idea that all coinage represents 'royal' or tribal identity. It may, in fact, support non-tribal models of a regionally diverse and dynamic Late Iron Age in Britain (Leins 2012, ii; 246), where society was not necessarily subject to centralised controlling dynasties (e.g. Hill 2007). In this light, it remains possible that the pellets from Scotch Corner were not inextricably linked with elite individuals, and that lack of rigid association means that they could have travelled almost anywhere and been transformed into any alloyed metal object, given the scale and extent of interaction between its people and other groups. Proving that pellets acted as currency would be impossible unless they were found intact outside Scotch Corner—the composition of the single possible example at Rock Castle has yet to be determined so it may be excluded from detailed consideration here.

Turning to the second option, it may be possible to identify a commissioning group as well as native coins potentially struck from pellets manufactured at Scotch Corner. In order to investigate this effectively, it is necessary to first discuss some aspects of native coinage in northern England. South of the Humber estuary lay the tribal lands of the coin-minting and -using Corieltavi, a region now often referred to as 'North-Eastern' to avoid the implication that it was a stable unified tribal polity (Haselgrove 1987; Hobbs 1996; Leins 2011). Within this loosely defined territory, discoveries of coin hoards, coins from excavations and chance finds, brought to light coins first classified in detail by Allen (1963), whose typology was later refined by May (1996, 220–1) in response to discoveries at Dragonby and elsewhere in the region (Fig. 10.2). Using Allen's types, May devised a four-phase chronology (I–IV) for North-Eastern coinage, lasting from the mid-1st century BC to c.AD45 (May 1996, 220–1 and 635–9), with the earliest coins being uninscribed Gallo-Belgic derivatives (Phase I; Allen's gold Types A–D, and silver Types F and J), followed by later uninscribed 'South-Ferriby' types (Phase II; Allen's gold stater Types L–T, large silver Types G–H, U–Y and small silver Types ZA and ZB). Following this, Phase III includes earlier inscribed gold types, together with large and small silver coins and minims, which might have been minted between c.AD16/25 and c.AD45. Lastly, Phase IV coins comprised later inscribed gold, and large and small silver coins, some referencing individuals of obscure identity and tribal affiliations, but dominated by the name '*VOLISIOS*', which was usually paired with others and potentially carries great significance for interpreting activity at Scotch Corner (see below).

In his seminal study of Late Iron Age British coins, Leins describes two consecutive chronological models for North-Eastern coinage; Haselgrove (1987, 266; 2016, 182–3) dated uninscribed production between c.60BC and AD10, followed by inscribed coins between c.AD10 and AD50/60, whereas Van Arsdell (1989, 247–65) proposed 60 years of uninscribed production (from 70–10BC), then inscribed coinage spanning 65 years (10BC–AD55). With the benefit of a significantly larger dataset, Leins (2012) was able to interrogate and refine aspects of the typologies and chronologies, leading him to conclude that amongst the North-Eastern phase 4 (NE4) coins (*ibid.*, 318–20) those inscribed *VOLISIOS DVMNOCOVEROS*, *VOLISIOS DVMNOVELLAVNOS* and *VOLISIOS CARTIVELLAVNOS* were produced and circulated between c.AD20/30 and AD50 (*ibid*. 214). Furthermore, in plotting the distribution of coinage, Leins confirmed May's observation that many *VOLISIOS* coins are found north of the Humber in presumed Parisi and Brigantian territories across modern East and North Yorkshire (May 1992; 1994; 1996, 221), where gold coins are four times more common than silver (Leins 2012, 193), although only three are known in the environs of Stanwick-Scotch Corner (Haselgrove 2016, 182–4, figs 8.2 and 8.3; May 1992; Hunter 1997). Leins followed previous opinions that minting technologies spread from the south and east, concluding that *VOLISIOS* staters demonstrate a clear focus in North Lincolnshire and East Riding of Yorkshire (Leins 2012, 199–200, figs 4.104 and 4.109), and that this most likely relates to an associated territory north of the Humber (*ibid*. 232, fig. 5.16), outside Corieltavian land as it has been described.

With appropriate uncertainty, May (1992; 1996, 221) implied that the late inscribed coins relate to Corieltavian rulers and could therefore represent late offshoots of the North-Eastern series, struck after the Roman conquest of the East Midlands. The general distribution north of the Humber is notably at odds with their proposed core area of minting in the southern part of Corieltavian territory (Brickstock, Chapter 6). As Brickstock proposes, it is possible that pellets were being traded, via the Tees and Humber estuaries, with the furthest north settlements of the Corieltavi to produce their own coinage, which is eminently feasible given the absence of mints in north Lincolnshire. Yet, if it transpires that the inscribed coins found north of the Humber were referencing North-Eastern tribal rulers and that their distribution broadly reflects areas of production, why, if minting was apparently commonly carried out inside North-Eastern territory before annexation, might it have been considered desirable or necessary to commission pellet production and minting in neighbouring tribal territory further north? It is possible that the availability of resources and concentration of expertise at places such as Stanwick, Melsonby and Scotch Corner might have been sufficiently renowned to draw such commissions, although an equally plausible explanation may be that coin production was transferred into neighbouring native territories in order to protect minting from the threat of invading Romans after Caesar's initial attempt. Equally, one might argue that the distribution pattern represents transactions, rather than production. Therefore, in the scenario whereby inscribed coins were exchanged with eastern peoples controlling access to the Humber and North Sea, it becomes necessary to examine where the coins originated, and to whom they refer, which leads us to the third possible explanation for pellet manufacturing at Scotch Corner; namely, that pellet manufacturing at Scotch Corner immediately preceded coin minting for the Brigantian ruler(s).

Having established that the distribution of coins was potentially indicative of exchange and/or production, it becomes necessary to investigate the identity and significance of *VOLISIOS* and other individuals sometimes featuring on the same coins. Considering the *prima facie* evidence, N. Cooke (pers. comm.) proposes a direct association between these unattributed coins and the Brigantian elite. In this, he echoes Richmond's (1954b, 46–7) case that *VOLISIOS* was in fact a Brigantian ruler whose name occurs together with *DUMNOVELLAUNOS* and *DUMNOCOVEROS* purportedly representing an unknown regnal sequence or power-sharing arrangement. The latter inference was also considered by Leins in respect of the dual denominations (2012, 224). Following Hill (1897, 293), Mack (1953), and Allen's initial interpretation, Richmond (1954b) believed that *VOLISIOS* also appeared on coins with Cartimandua, who was named in conjunction with her consort, Venutius, as represented by the letters *CARTI-VE* on a small silver coin in the Honley Hoard. Furthermore, Richmond concluded that in the paired names and in aspects of these names, the Brigantian royal line was deliberately copying *Iceni* coin issues, which may indicate a wish to demonstrate the great achievement of drawing together numerous neighbouring tribes into one Brigantian group in the early 1st century AD.

Recalling the silver and copper binary alloy found in the smaller pellet mould holes at Scotch Corner (see Chapter 7), and the ternary gold, silver and copper alloy found exclusively in the larger holes, it is tempting to consider the large gold stater and smaller silver coins that Richmond attributed to the Brigantian royal dynasty as the coins minted at Scotch Corner. Indeed, in taking this position his chronology anticipates subsequent studies, and corresponds with the timescale for pellet production at Scotch Corner in Period 1, with a peak in Period 2, the process perhaps lasting into early Period 3. With certain amendments, such a proposal would resonate with recent thinking amongst some metal-detectorists, collectors and coin enthusiasts. For example, Rudd (2015, 38–40) reported that examination of the relevant coins and the circumstances of their deposition led Celtic numismatist John Sills to conclude that *VOLISIOS* was probably a Brigantian ruler, and possibly even Cartimandua's father.

This tantalising possibility does not, however, reflect prevailing beliefs amongst commentators (e.g. Frere 1978, 85), who generally acknowledge Allen's (1963) assessment, in which he reversed previous support for Brigantian coinage, reassigning all types to the Coritani (Corieltavi), stating additionally that the *CARTI* silver coin from the Honley hoard probably referred to Cartivellaunos. This latter suspicion has since been confirmed by discoveries of more gold staters bearing the name. Even so, there is no certainty that Cartivellaunos was associated with 'North-Eastern' people, nor is there currently any evidence for a mint in Parisi territory, which might be a presumed source for the concentrations of coins north of the River Humber. Furthermore, a plausible family connection between Cartivellaunos and Cartimandua has been postulated on account of the corresponding first component of the name, '*carti*'; as Rudd concludes, it seems increasingly likely that both individuals heralded from the Brigantian royal house (Rudd 2017). It might also be relevant to note that the '*Vel*' component of Volisios is also shared with Cartivellaunos, whose name perhaps bridges the two alleged rulers. Building upon the observations of Richmond and Allen in respect of Carti-vel inscriptions on coins in the Honley hoard (see above), Haselgrove (pers. comm.) ponders whether the names Venutius and Cartimandua might be renderings of Volisios and Cartivellaunos respectively. While this debate is far from resolved, what is clear is that the numismatic evidence was as far as any case for Brigantian minting could be taken before the discovery of large-scale pellet manufacturing at Scotch Corner during the A1 scheme, which breathes new life into the argument and reinforces the possibility that coins were minted at Stanwick-Scotch Corner for Cartimandua and her forebears. An obvious way to advance the investigation is to compare the metallurgical composition of select North-Eastern coins with the prills contained in the Scotch Corner pellet moulds, and also the pellet. As noted above, no known North-Eastern gold coinages included quarter-staters, so if this pellet was destined for minting, it would have to have been combined with others, as the standard weight of a North-Eastern stater was around 5.4g. This type of practice was demonstrated convincingly in the hoard of copper-alloy pellets, coin blanks and a pair of possible iron coin dies buried together in three coarseware vessels at the small Roman town of *Magiovinium* near Fenny Stratford, Milton Keynes (Fig. 10.3; Zeepvat *et al*. 1994). In the absence of any stamped coins or associated diagnostic material, the assemblage was dated to the mid-Roman period by the pottery vessels alone, although the composition of this collection and a few other hoards containing pellets and coin blanks certainly imply that pellets were sometimes amalgamated to achieve desired weights for specific denominations, perhaps following native traditional practices (e.g. Ponting 1992). Moreover, deposition of such items together suggests that different stages of unofficial (Roman) coin production probably occurred concurrently at the same location, just as they apparently did in earlier contexts.

The end of pellet (and coin?) production

As noted above, May (1996, 221) proposed that in Lincolnshire, Roman plundering activities, taxation and deliberate suppression of local gold coinages from the earliest years of imperial rule quickly ended Corieltavian minting shortly after the Claudian conquest, as it had elsewhere in Britain (Creighton 2000, fig. 2.3, 32). Despite this, native coin usage evidently continued for at least a generation (e.g. Northover 1992; Haselgrove 1993, 54, 62; Moore 2006a, 199–204), including the elusive inscribed North-Eastern types (e.g. Allen 1963; Haselgrove 2016, 183). While acknowledging that the use of pellets produced at Scotch Corner remains mysterious, it is more certain that manufacturing at the site ended either by the start of Period 3 (c.AD55), or shortly thereafter. While there was no evidence for conflict at the workshop enclosure, it was abundantly clear that manufacturing ended when ladder type enclosures were introduced on land flanking the south–north routeway (RW3; Chapter 4, Fig. 4.1; RR10; Chapter 4, Fig. 4.2). When considered alongside the historical sources, principally Tacitus, the cessation of pellet (and coin) manufacturing apparently coincided with a time when Roman troops and possible auxiliaries were allegedly sent (more than once?) to support Cartimandua, while their frontier advanced northwards (see Chapter 1 and below). Instead of being plundered by invading Romans, as May suggests for the Corieltavi minting centres, the operation may have been closed down as a prerequisite for securing military support from Rome, having been vetoed under the terms of a client relationship. Furthermore, it seems highly likely that a resource of such purity and availability as the copper at Scotch Corner would have been appropriated by Rome, particularly in light of their evident appetite for extracting metal ores elsewhere in the north and west (e.g. Davies 1979, 140–64; Jones and Mattingly 1990, 179–96). There was, however, no evidence proving that copper extraction continued into the Roman period within the excavation area at Scotch Corner.

STANWICK-SCOTCH CORNER: A POLY-FOCAL AND PROTO-URBAN 'OPPIDUM'?

To reiterate the beginning of this chapter, many aspects of activity in the Scotch Corner and Stanwick environs are presented by Haselgrove (2016) and need not be restated here. Instead, it is appropriate to focus on the areas investigated by the A1 scheme and, in doing so, describe key features of the evolving form and character of the native settlement that pertain to its elevated status and consideration as parts of a poly-focal oppidum, as well as assessing the tangible archaeological indicators of a complex society (Fig. 10.4). For Scotch Corner, this process begins with a discussion of the settlement layout, focusing first on tenurial units and associated buildings. Period 2 enclosure forms at Scotch Corner fell into three broad categories: coaxial enclosures with dwellings on the southern and eastern slopes (Fields 223 and 228); a contiguous nucleated system of irregular tessellated enclosures on the ridge plateau (Fields 267a and b, and Field 265); and the irregular workshop enclosure in Field 246 (Chapter 3, Fig. 3.2), which was evidently associated with manufacturing, craft and possible displays of conspicuous consumption and has already been discussed in relation to related activity at Melsonby and Stanwick (see above). As was the case for the workshop enclave and subsequent enclosure, the contiguous coaxial and nucleated enclosure systems included morphological attributes that, together with buildings, artefactual and environmental remains, indicate that there was a degree of organisation and deliberate zonation in the native settlement at Scotch Corner from the beginning of Period 2.

For the most part, structural and material remains associated with Periods 2 and 3 were readily explained in terms of native domestic settings displaying increasing levels of wealth, as was demonstrated by the imported materials and a commensurate shift towards enclosure (see below). Timber construction predominated, with the exception of the single building resting on stone foundations (Structure 48ii; Chapter 2, Figs 2.47 and 2.55f) in the workshop enclosure, which may be viewed as a modest parallel for broadly contemporary stone-built structures (SS1, SS2 and an accompanying stone gully) in the Tofts enclosure at Stanwick (Haselgrove 2016, 107–20). While there was nothing of comparable solidity and investment at Scotch Corner, there was some evidence that a small number of structures other than those in the workshop enclosures (see Chapter 4 and above), displayed morphological traits and generated artefactual and environmental assemblages that deviated from the remit of a farming community. Specifically, at the south end of the settlement in Field 223, Structure 7 (Chapter 3, Fig. 3.38) was interpreted as a possible ambulatory shrine or temple set within a ditched enclosure. It would have been situated at the south side of the settlement, adjacent to a thoroughfare, and potentially at a junction of routeways (also see Structure 57 in the following section). Regardless of its parlous state of preservation, the remaining portion obviously represented a unique structure at Scotch Corner; the disposition of 'walls', hurdles or fences has strong resonance with enclosed ambulatory corridors that are sometimes interpreted as characteristic of Iron Age and Early Roman ('Romano-British') shrines or temples.

Possible comparanda for Structure 7 include a structure found at Woodeaton in Oxfordshire, also in an area of extensive 'pre-Roman' occupation (Fig. 10.3; Kirk and Goodchild 1954). Here, the outer curtain of the square enclosure had c.10m-long sides, which might be directly comparable with the Scotch Corner example. Refurbishment and development of the temple at Hayling Island, near Chichester, resulted in the discovery of paired right-angled corners, which represented two phases that spanned the 1st centuries BC and AD (Fig. 10.3; King and Soffe 1998). The possible shrine at Caesar's Camp, Heathrow, had a similar footprint (Grimes 1948; Grimes *et al*. 1993), as did the Harford Farm shrine in Norfolk (Ashwin 2000). A post-built example (structure 24) of similar size to Scotch Corner Structure 7 was set within a large enclosure amongst the network of 'planned' native enclosures at *Calleva* (Silchester) originated in period 0 (c.10BC–c.AD45/50) and continuing in use afterwards (Fulford *et al*. 2018, 37–8; Fulford 2018, 377–8). Evidently, were Structure 7 to have performed as a shrine or temple, it belonged with an illustrious tradition embraced in native British and Early Roman elite centres, amongst which Scotch Corner perhaps counted itself.

Figure 10.4: proposed model of the poly-focal oppidum including Scotch Corner, Melsonby, Scots Dyke and Stanwick.

Describing the increasing practice of marking boundaries in Late Iron Age Belgic northern Gaul, Haselgrove coined the term 'the age of enclosure' (Haselgrove 2007), which seems appropriate for Scotch Corner in Period 2, and when discussing other simple and complex Late and Pre-Roman Iron Age settlement in the region (e.g. Haselgrove and Moore 2016). To borrow Haselgrove's description:

> 'it is clear that this process of enclosure was heavily influenced by agricultural concerns: to separate arable from pasture, and for stock management; to drain land that was otherwise too wet for permanent settlement, and probably to mark property boundaries in a landscape that was fast filling up'
>
> (Haselgrove 2007, 503)

And they continued to do so across the region into the Roman period (see, for example, Allen 2016, 272–3). While geophysical surveys and aerial photography certainly suggest that the landscape around Scotch Corner was becoming more densely exploited and occupied (see Chapter 1), it is now possible to be certain that during Period 2 (c.AD15–c.AD55), native inhabitants rapidly and comprehensively partitioned the settlement interior.

Coaxial enclosures were common in southern Britain by the later Bronze Age (Stevenson 2013) and were developed on the fringes of northern upland areas into the Iron Age and Roman periods (Jones and Mattingly 1990, 255–63; Historic England 2011). Fleming (1998, 133–53) proposes that many of the coaxial field systems in Swaledale and other Pennine dales were established in the later Iron Age. The coaxial enclosure boundaries at Scotch Corner were typically insubstantial ditches (<0.5m deep) with some evidence for corresponding banks, together defining irregularly spaced enclosures with a range of dimensions from as narrow as c.5m to up to tens of metres wide, with pairs often being difficult to determine amongst the evolving system. Activity inside the A1 scheme excavation area was dominated by habitation and food production using arable produce, except for a palisaded compound or stockade at the north end of Field 223 (Chapter 2, Fig. 2.33b) that lay close to a hybrid enclosure area in the Scotch Corner Hotel excavation (Abramson 1995), and which lay between, and probably conjoined, the coaxial and nucleated enclosure systems. To the west of the A1 scheme excavations, geophysical survey (ASDU 2014b; 2014c), evaluation trenching (ASDU 2015) and excavation (Headland Archaeology forthcoming) indicate that the habitation zone was delimited by sub-enclosure ditched boundaries, but that the west–east coaxial enclosures continued westwards and, it is presumed, defined fields that were used for varying agricultural purposes. As McOrmish emphasises (Historic England 2018), prehistoric fields were generally used both for arable production and for containing livestock, and even those that were ploughed may have lain fallow or been returned to pasture for periods of time. One should, therefore, be cautious in determining the full range of endeavours taking place in the fields from the comparatively narrow strip examined by the A1 scheme excavations.

It is possible that, in combination with the proposed south-east to north-west routeway axis, the coaxial enclosures at Scotch Corner correspond with boundaries or alignments found in the surrounding contemporary landscape (e.g. Haselgrove and Moore 2016, 370) at nearby sites such as Melsonby (Fitts *et al*. 1999; Haselgrove 2016, 343). At Lane End Farm, Manfield, the south-east to north-west coaxial boundary system potentially belonged to the same large-scale system of landscape organisation as the Scotch Corner examples and was similarly interrupted by Dere Street (Fig. 10.1; Haselgrove 1982, 100). Outside the Stanwick-Scotch Corner environs, there are numerous examples of extensive late prehistoric coaxial field systems in Britain, including systems respecting axes over large distances in the East Midlands (Taylor 1997). Although dating can often be imprecise, Late Iron Age usage can be proposed in circumstances where stratigraphic relationships survive; one such system was bisected obliquely by the Roman road (Margary road 28a; 1973, 410) between Lincoln and Doncaster (Fig. 10.3; Historic England 2018), demonstrating another situation where the native land organisation was supplanted by Roman infrastructure. It is noteworthy that by Period 4 at the latest, some of the nucleated enclosures at Scotch Corner also appear to have been bisected by a Roman road, the road to Stainmore (RR1; Margary road 82) in this instance (Fig. 10.1; see below). Despite this, there is emerging evidence that low levels of occupation continued in nucleated enclosures along the road's southern approach to the junction (see Chapter 4), and also along its corridor in the west side of Field 267a on its north-west trajectory (NAA 2020).

The ditches delimiting the nucleated enclosures at Scotch Corner were generally quite substantial (>0.5m deep), before infilling with refuse and colluvium prompted sporadic episodes of cleaning. The agglomerated pattern of the enclosures gives the impression of organic development, which can be difficult to sequence when boundaries are frequently redefined (see, for example, Giles 2007), yet it was evident that the earliest enclosures in Field 267a flanked the routeway corridor to their east (RW7; Chapter 3, Figs 3.1 and 3.43) and additional enclosures were appended to the west as the system evolved (see Chapter 3). The tessellated irregular enclosure sizes were generally c.50m west to east and c.35m south to north, with interior areas of no more than 0.18ha. While it may be too simplistic to propose specific zones of economic activity inside the native settlement, the nucleated enclosures certainly give the impression of being more suitable for containing livestock, which could be borne out by the absence of querns during the A1 or A66 schemes. Evidence for food production from arable crops was common, as was chaff from processing at site SCA15 and the Scotch Corner Hotel (see above), but its scarcity in the A1 scheme excavations prompted Baines to interpret the Period 2 nucleated enclosures as units within a semi-urban 'consuming' rather than producing settlement (see Chapter 8), although some of the difficulties with this proposal are discussed above.

While the enclosure forms differ in detail, and occupation lasted much longer, similar patterns of nucleated ditched enclosures of comparable scale to those at Scotch Corner first appeared alongside routeways on the Magnesian Limestone at Wattle Syke in the Late Iron Age (Fig. 10.2). At that settlement, human and animal burials and ritual activities took place amongst areas of habitation, which lasted into the post-Roman period, and it was consequently more diverse than the very short-lived examples at Scotch Corner (Richardson 2013, 15–68; Roberts 2013, 282–90). Other examples of the form can be found across the region and beyond, yet the circumstances of their development at Scotch Corner are more appropriately considered with reference to other major Late Iron Age centres. The reason for this comparison is the observation that proliferations of enclosures often occurred simultaneously with the arrival of exotic imports, implying a causal relationship, or requiring explanation at the very least (see above; Chapter 5). Giles (2007, 247–8) suggests that the rush to mark boundaries of all types across East Yorkshire in the 1st century AD may reflect a reluctance by the entrenched inhabitants to engage with pre-conquest exchange and political alliances with the Roman Empire. However, this explanation seems unsuited to Scotch Corner and other major native centres, where the population apparently embraced both while also congregating in increasing numbers for habitation, demonstrations of social obligation and collective economic activities. Moreover, if access to imports resulting from Roman diplomacy and rapidly developing exchange and trade networks is taken as evidence for growing transferable personal wealth and pastoral husbandry, then it may be seen as natural for the native beneficiaries to delimit and 'defend' their plots.

The same processes seem to have been underway contemporaneously (between c.AD10/20 and c.AD40) in the oppidum of *Calleva* (Silchester), where compounds and enclosures dedicated to human habitation, livestock, metalworking, and small-scale arable production were clustered inside the area that was to become Insula IX (Fulford *et al*. 2018, 20–39), including a larger central enclosure occupied by temple structure 14. Beyond the excavated areas of *Calleva*, geophysical survey suggests that much of the area inside the earthwork perimeter was occupied by planned enclosures with a larger example as a focus (Creighton and Fry 2016, 303, 437; fig. 17.1). The planned layout and perimeter earthwork connected with a contemporary linear corridor of outworks to the south-west, which presumably directed human traffic and transported goods, and guided livestock leading to/from the south-facing entrance. Moore considers such developments as being equivalent to the proliferation of enclosures along an arterial trackway in the valley at Bagendon, culminating in occupation of an area in excess of 15ha with large encompassing earthworks (Moore forthcoming). Perimeter earthworks should not, however, be regarded as necessary components of Late Iron Age centres or oppida, despite the numerous and conspicuous examples where they were present. Their absence at Scotch Corner draws comparison with other British native centres such as Old Sleaford, which correspondingly demonstrated a central role in native economy and society, incorporating pellet (and coin) production, mercantile trading, diplomatic interaction and habitation over a large area estimated to be c.32ha (Elsdon 1997, 75). At Braughing-Puckeridge, Partridge (1981, 28) recognised from aerial photographs a focus of large ditches and enclosures reminiscent of the satellite enclosure and boundary ditches at Prae Wood, St. Albans—part of the Late Iron Age 'Belgic' precursor to Roman *Verulamium* (St. Albans; Fig. 10.3; Wheeler and Wheeler 1936). Conversely, the absence of perimeter earthworks at the adjacent Skeleton Green site in the same complex puzzled Partridge, who referred to *Camulodunum* (Colchester), Bagendon and Chichester as examples of native centres with typical encompassing 'defences'. Considering the shared attributes of these locations, it appears they belong to a category of poly-focal complexes with disparate but connected components that seemingly pertain to specialist activities commensurate with Late Iron Age centres or oppida.

Categorising British and Continental oppida has always been contingent upon theoretical and geographical perspectives; the term apparently attracts as many definitions as there are people who use it. The brief introduction to major trends in oppida studies presented in Chapter 1 of this monograph is not sufficient in depth to capture fluctuating and nuanced trends, which are the subject of several publications and ongoing discussion (e.g. Bryant 2007; Garland 2016; 2017; 2018; Moore 2012; 2014; 2017a; 2017b; Pitts 2010; Rogers 2008; Woolf 1993). However, in addition to the difficulties in defining native Scotch Corner and testing its credentials as part of an oppidum, the complexity, density, and range of activities and connections prompt the consideration whether it is legitimate or helpful to describe it as 'proto-urban'. In doing so, it is important to avoid defaulting to the concept of the oppida as a 'town' (e.g. Fichtl 2005), which has been used to describe primarily native settlements during the Claudio-Neronian period in the wake of Claudian conquest in southern Britain (Jones and Mattingly 1990, 153–5). Furthermore, to label Scotch Corner 'urban' prior to conquest would introduce concepts more typically associated with Roman criteria, in much the same way as the term 'oppidum' derives from classical sources (e.g. Moore 2017a, 288–9). Consequently, urbanism is an equally ancient, ill-defined and shifting term, particularly in respect of Late Iron Age centres where its intended meanings apparently reflect some of the concerns, aspirations and theoretical perspectives of the commentators (e.g. Burnham *et al*. 2001). To address some of these challenges, new inclusive criteria for the shifting and interconnected concepts of oppida and urbanism are being embraced so that Late Iron Age centres may now be described in terms of low-density urbanism represented at poly-focal activity centres across integrated landscapes in which movement was controlled (e.g. Chapter 1; Jones and Mattingly 1990, 47; Moore 2012; 2017a; Fletcher 2009; 2010). Embracing this new flexibility, Moore considers Bagendon's archaeology sufficiently demonstrative to rebadge the site and its setting a 'powerscape' (Moore forthcoming), thus moving beyond the debate about whether Bagendon was itself either oppidum or urban. In the same vein, Haselgrove refers to Stanwick as a 'central place' and royal site (Haselgrove 2016, 494), thus avoiding both terms when defining the site, but acknowledging the criteria used commonly for defining oppida.

It is beyond the scope of this publication and expertise of this author to introduce new terminology to the oppida debate. Therefore, with reference to the traditional criteria for defining a Late Iron Age settlement as an oppidum, Stanwick's independent claim to the title is reasonably robust (e.g. Haselgrove 2016, 453–7), particularly when its putative royal connection and apparent link with Melsonby are accepted. It is also apparent that neither dense seasonal or permanent occupation, nor coin production have yet been identified at either site; however, evidence of the former and a crucial part of the latter have now been found in conjunction with the strategic position, extensive trading networks and high-value and exotic imports at Scotch Corner. The combination of activities that demonstrably, and probably, took place at Stanwick-Scotch Corner mean that Stanwick can no longer be viewed as an eccentric northern outlier in the corpus of British oppida (see Haselgrove 2016, 494). As one of the few examples pertaining to coherently stratified society in native Late Iron Age northern Britain (e.g. Millett 1990), an updated model for the integrated environs of Scotch Corner might reasonably present Stanwick as an economic hub specialising in livestock management, while also being the seat of the ruling elite and presumably the ritual/ceremonial centre and marketplace (e.g. Haselgrove 1976; 1987; 2016). Scotch Corner/Melsonby were seemingly the manufacturing precincts with large-scale copper-alloy working and concentrations of human habitation and enclosures that were apparently dedicated to livestock management operating under the auspices of Stanwick (*ibid*., 335–7; fig. 19.8; 374–5; 495).

Scale is usually considered a relevant criterion in the attempt to identify oppida, although accurately establishing their size is fraught with difficulty when complexes incorporate numerous foci, interior earthworks and outworks, unknown extents and contested boundaries (Garland 2016). At 270ha, the perimeter earthworks of Stanwick enclose one of the largest prehistoric strongholds in Europe (Haselgrove 2016, xxv), while during Period 2, the enclosures within Scotch Corner covered at least c.30ha, which alone positions it amongst the smaller oppida of Europe, should such a metric be considered indicative (Fichtl 2005; Moore 2017b, fig. 1). Excluding Scots Dyke, a c.8km-long ellipse encompassing Stanwick, Melsonby and Scotch Corner provides a conservatively estimated area of c.3000ha. On the face of it, proposing contemporary integrated activity on this scale may seem bold, but it is not without parallel. Comparison between Stanwick-Scotch Corner and other oppida indicates that it was potentially more extensive (and possibly more dispersed) than Bagendon and *Verulamium* (St. Albans) yet could be comparable with Old Sleaford and *Calleva* (Silchester). Stanwick-Scotch Corner was, however, apparently dwarfed by *Camulodunum* and Chichester (see Garland 2016) as well as the extensive poly-focal complexes on the near Continent such as Bibracte-Sources de l'Yonne in Burgundy (Moore *et al*. 2013; Moore 2017a, 293–4) and in the Corent area in the Auvergne. Consequently, it seems appropriate to consider Stanwick with the outwork of Scots Dyke, Melsonby and Scotch Corner, as distinct but connected components in a small- to medium-sized poly-focal oppidum, potentially representing one of the most coherent examples of low-density urbanism in Late and Pre-Roman Iron Age northern Britain (Fig. 10.4).

PRE-CONQUEST 'ROMANISATION' OF THE POPULATION AND SETTLEMENT AT SCOTCH CORNER: PERIOD 3 (c.AD55–c.AD70)

It has been established in this volume, and by Haselgrove and others, that Roman diplomats, emissaries and merchants were probably active in the region around Stanwick-Scotch Corner before the period of the Claudian conquest in southern Britain, although they were probably not the only speculators seeking and operating exchange and trade agreements. Consignments of exotic imports from the Roman western provinces arriving at an apparently isolated location indicate that Brigantian territory and resources drew the attention of Roman strategists from early in the sporadic imperial campaigns to annexe northern Britain, perhaps arriving via maritime, riverine and south–north terrestrial transport routes. The surge of imports to Scotch Corner from the time of Claudius (later Period 2, see above) suggests that a strategy of contact underpinned a policy of active enculturation in conjunction with reward and trading arrangements associated with the putative client arrangement between the Brigantian elite and Rome, which enabled rapid growth of Stanwick-Scotch Corner's economy and population (see above; Creighton 2006, 14–45).

Yet, while Stanwick experienced an episode of intense development in the mid-1st century, Period 3 at Scotch Corner saw a general relocation away from the Period 2 coaxial and nucleated enclosures to other areas within the complex, and/or movement to other settlements. Although occupation in the aforementioned enclosures continued in reduced form throughout Period 3 and even into early Period 4, it was contemporary with increasing formalisation of routeways and introduction of roadside ladder enclosures, which plausibly represent the first tangible signs that Rome began to exert direct influence upon settlement morphology and modes of occupation. This should not come as a surprise, because, as Cool suggests, any Roman presence from the Claudian conquest onwards at Scotch Corner was likely to have been military, even if acting in an administrative or diplomatic capacity. In occupying the important gateway location and redistribution centre, any Roman contingent must have been capable of responding to the dynamic political environment that prevailed so close to Stanwick: perhaps Scotch Corner even hosted critical meetings and negotiations held between the native elite and Roman representatives.

The transition from Period 2 to Period 3 at Scotch Corner was represented in the A1 scheme excavations primarily by an apparent reduction in occupation of the native enclosures, significantly less maintenance of associated boundaries and a partial shift to materials imported through Roman military-based supply networks. Habitation and roundhouse construction continued in commuted form both in the coaxial and contiguous nucleated enclosures (including at site SCA15 and the Scotch Corner Hotel), but there was also evidence for development of a proto-ladder enclosure system alongside the increasingly formalised and consolidated south–north routeway represented by RW3 (Chapter 3, Fig. 3.58). Two possible rectilinear enclosures embodying the earliest roadside ladder barely survived in Field 246: the south-western example being apparently occupied centrally by a possible sub-circular building (Structure 41), with little surviving evidence for definable activity. On their north-west side, the earthworks of the workshop enclosure were maintained, but precious and other non-ferrous metalworking appears to have ceased and the area became subsumed by the developing enclosure system, which was realigned and markedly extended in Period 4 (see Chapters 3 and 4). North of the workshop enclosure, roundhouse Structures 53 and 54 (Chapter 3, Fig. 3.87) were also possibly situated in rectilinear roadside enclosures that were potentially part of the ladder system, demonstrating continuity in the construction and habitation of vernacular buildings, but within a new type of enclosure (Chapter 4, Figs 4.52 and 4.53). The nascent ladder enclosures and areas to their immediate north-west received a high proportion of the imported pottery, which was characterised by increasing numbers of wine and oil amphorae and the arrival of mortaria from northern Gaul. The nature of imported goods, therefore, represented a tangible change from Period 2. Previously unrecognised mortaria types may indicate local production, which with the other wheel-thrown Roman wares, are considered indicative of a shift to Roman military supply mechanisms (and Roman presence), although the limited suite of material suggests only short-lived or partial deployment, starting earlier than at other forts and settlements along the corridor of Dere Street, (Griffiths, Leary, Monteil and Williams, Chapter 5). The vessel glass assemblage could also reflect Roman military presence but included styles that might have appealed to native tastes and should be interpreted with care (Cool, Chapter 5).

Locally, ladder enclosures are generally associated with later Iron Age to 2nd-century AD 'Romano-British' enclosed occupation with occasional high-status Roman buildings and have been recognised nearby at Faverdale (Fig. 10.1; Proctor 2012, 38–72), Ingleby Barwick (Willis and Carne 2013), Sedgefield (Petts and Gerrard 2006), and to a lesser extent in West Yorkshire (Chadwick 2009, 45–6). Reviews of the phenomenon in the Yorkshire Wolds have led Giles (2007, 237–9) and Ferraby *et al*. (2017) to conclude that ladder settlements represented generations of occupation, which began to develop enclosure complexes along routeways and droveways from the Late Iron Age and were often related primarily to animal husbandry (Bevan 1997, 189; Fenton-Thomas 2003; 2005; 60–1; Giles 2000; 2007, 240–1). Their continued use in the Roman period masked and removed much of the earliest evidence, which was also the case at the extensive ladder complex that developed along an Iron Age routeway in the Vale of Pickering (Powlesland 2003; 2014). In the Stanwick-Scotch Corner complex, the ladder system identified with period 2 at Melsonby was tentatively associated with Roman landscape reorganisation and incorporated Roman imports comparable with the period 5 Stanwick site 9 assemblage, including South Gaulish samian ware that suggested infilling of the short-lived features between c.AD55 and AD70/75 (e.g. Haselgrove 2016, 335–50). This date range and the form of the enclosures suggest that they might belong to the same pre-conquest period of enclosure recognised in Field 246 at Scotch Corner during Period 3 and may in fact have coexisted with irregular native enclosures. The same survey records a subtle deviation of the south-east to north-west routeway ditch around the irregular metalworking/hoard enclosure, which if contemporary with the workshop enclosure at Scotch Corner was unlikely to be extant much later (Haselgrove 2016, 336, fig. 19.8). It seems possible, therefore, that Stanwick-Scotch Corner might follow the same trend as the Yorkshire Wolds in demonstrating adoption of ladder enclosures along routeways or droveways prior to the Roman conquest, rather than seeing them solely as an outcome of large-scale division afterwards.

At the north end of the developing ladder-enclosure system, Structure 57 was a building that clearly departed from vernacular traditions and represented the hybrid cultural associations of the period (Chapter 3, Fig. 3.88). The multi-phased non-domestic structure was difficult to categorise and appeared to differ from any native post-built structures identified in the region (e.g. Vyner and Daniels 1989; Moore 2003, fig. 1). Although the artefactual assemblage was dated to Period 3 (Leary, Chapter 5), there was a possibility that some of the dateable material conformed to early Period 4 collection, while the form of Structure 57 was most like a Period 4 feature **15215** in Field 258, which appears to have been created in reference to a Roman enclosure system and contained secure Period 4 ceramics (Chapter 4, Figs 4.15 and 4.21; Leary, Chapter 5). In the absence of contemporary local and regional parallels, a wider search revealed the existence of subterranean Late Iron Age rectangular cellars with dimensions similar to those of Structure 57 at Bibracte, Mont Beuvray in Burgundy (Vitali and Zwald 1999, 35–43), although there is no evidence for comparable functions. Roman-period Britain provides us with more promising morphological parallels, such as the 15 'sunken-floored buildings' dated to the 4th century AD at Wattle Syke, West Yorkshire (Martin 2013, 69–99). The functions of the buildings at Wattle Syke were elusive; structural remains were often absent and interior features diverse. It was postulated by Roberts (2013, 291–5) that eight of the features may have been used as wet-weather threshing floors and crop-processing areas, while other functions included a smithy and possible dwellings with ovens. Several of the 23 'sunken-floored structures' found in rectangular enclosures on the Isle of Thanet were also comparable with Structure 57, but these were also later, dating from the 2nd and 3rd centuries AD (Fig. 10.3; Hicks *et al*. 2008, 107–50 and 273–7). Most included sporadic postholes, and there were examples of steps, beam-slots and hearths; one small sunken-floored structure with little structural evidence was even thought to be a privy.

None of these functions obviously resonated with the sunken trench of Structure 57, nor the subsequent stone structure, which, like Structure 64 at Gatherley Villa (Chapter 2, Fig. 2.8d), was clearly too small for a dwelling. The location of Structure 57 by a major routeway (RW3b; Chapter 3, Fig. 3.1) and three-sided stone construction suggest that the initial sunken feature was intended to be, or repurposed specifically as, a foundation for a certain kind of edifice, such as a shrine. A similar late Roman feature adjacent to a Roman road at Springhead in Kent was interpreted as a shrine (Fig. 10.3; Andrews *et al*. 2011, 89), while a slightly larger mid-Roman shrine (structure 20) of comparable form was discovered adjacent to Fosse Way in the Roman town of *Margidunum* in Nottinghamshire (Fig. 10.3; Cooke 2014, 120–1; Cooke and Mudd 2014, 438, 440). Close associations between shrines and important routeways or roads are recognised commonly in both Late Iron Age and Roman centres with roads at their peripheries and at junctions, some with dominant positions like those at *Camulodunum* and *Verulamium*, and others with less prominence (e.g. Lewis 1966). Amongst the many examples of shrines and temples by major routes was an example by the road to Braughing at Harlow (Fig. 10.3; Burnham and Wacher 1990, fig. 56), a possible 'Romano-Celtic' temple at Alchester located close to a major west-east road (*ibid*., fig. 24). A similar scenario was evident at near Scotch Corner at *Cataractonium*, where a temple and enclosure (?*temenos*) south of the River Swale probably adjoined Dere Street (Wilson 2002b, fig. 48; 74, 76, 80), while another north of the river occupied a prime roadside position (*ibid*. fig. 67, 135–6). In this context, therefore, it seems reasonable to propose that Structure 57 may have been a very early example of the same tradition, leading to the conclusion that it was constructed and used at a time of increasing Romanisation of the settlement layout, and possibly in association with the late Period 3 or Period 4 ladder enclosures that developed around and with respect to it. Its presence at that time also highlights the potential significance of the south–north routeway (RW3b; Chapter 3, Fig. 3.1) and the association with religious edifices.

Little of substance can be deduced about the people of Scotch Corner from the single semi-flexed inhumation (SK**27666**, Grave **27673**, Chapter 3, Figs 3.92 and 3.94; Fell and Speed 2019, 365–71), although it is proposed from the complementary alignments of the grave and flanking boundaries in Field 228 that the interred individual was perhaps a former occupant of the coaxial enclosure containing roundhouse Structure 30. The poor state of the skeleton precluded radiocarbon dating, and the pathology was not particularly enlightening. The inhumation was, effectively, an exception to the apparent rule that neither burial, nor the deposition of disarticulated human remains, was practised at Scotch Corner in areas inhabited by people and animals, whether of native or Roman background. In these respects, Scotch Corner was comparable with pre-conquest *Calleva* (Silchester; Fulford *et al*. 2018), and also potentially corresponds with models by Stead and Rigby (1989) and Whimster (1981) who propose the use of dedicated cemeteries outside large Late Iron Age settlements in 1st-century AD southern Britain, with specific reference to burials at King Harry Lane, outside *Verulamium* (St. Albans; Fig. 10.3). Likewise, from the late 1st century BC, inhumation burial at *Calleva* was concentrated in dedicated enclosures outside the perimeter earthwork before cremation gained in popularity around the time of conquest (Creighton and Fry 2016, 437). Observance of burial outside the settlement core was potentially adopted at Scotch Corner from the earliest period of collective occupation, and might indicate that the inhabitants recognised the value of a common approach to burial, which potentially contrasts markedly with the evidence for varied burial rites practised at many Late Iron Age sites such as Bagendon (Moore forthcoming). In particular, excavation of comparatively small areas at Stanwick yielded human bones from 26 individuals, mostly buried between c.30/20BC and AD30/40, some represented by disarticulated bones, others crouched in grave pits that were aligned with boundaries, and some with reference to structures (Marlow *et al*. 2016, 322–6; Haselgrove 2016, 439–42). The possibility that such practices seem to have been considered inappropriate by the population of Scotch Corner, taken in conjunction with the single inhumation lying next to the primary road, may signify very early adoption of the Roman tradition of roadside burial directly outside settlements (e.g. Toynbee 1971, 73), although this is highly speculative.

Period 3 Scotch Corner was evidently an amalgamation of native and Roman influences, which could reflect the early deployment of auxiliary troops, although several key aspects that might be expected at an Early Roman-controlled settlement were absent. Firstly, accepting the proto-ladder system developing in Field 246, the layout was yet to be coherently reorganised with the planned rectilinear enclosure systems (ES1–3; Chapter 4, Figs 4.3, 4.15, 4.28 and 4.34) that characterised Period 4 (see below). Aside from the Period 3 shrine represented by Structure 57 and a scattering of Roman building materials that were plausibly used in vernacular settings, there were no obvious Roman-type buildings, nor any rectangular structures with standardised dimensions of the kind introduced with the Period 4 enclosure systems. While the suites of Roman exotica arriving in Period 3 suggested that military networks were increasingly responsible for supplying the population at Scotch Corner, assemblages lacked the comprehensive collections of early Flavian ceramics associated with the Roman military in northern Britain (Leary, Chapter 5) and the specifically military objects such as spearheads that typically signify occupation by troops. While it might be argued that any Roman military presence or installation in the AD60s would be separate from the native settlement, the absence of military paraphernalia at the strategically crucial junction occupied by Scotch Corner implies that the Roman army was not present inside the excavation area. Instead, the evidence suggests that the native settlement probably continued to host Roman diplomats, merchants and possibly even officials.

The lack of evidence for Roman military presence at Scotch Corner during Period 3 might seem slightly at odds with aspects of the historical accounts but should not be considered surprising in light of more recent commentary on them (see Chapter 1). After handing over the fugitive Catuvellaunian leader Caratacus in c.AD51, Cartimandua allegedly broke from Venutius, whose attack was repelled by Roman forces (Tacitus *Annales* 12.40). This intervention perhaps occurred between AD51 and AD57 when A. Didius Gallus was legate, unless Tacitus has conflated the incident with the events of AD69 (Braund 1984, 1). Subsequently, Tacitus (*Agricola* 16; Birley 1999) is said by Birley (1952a) to refer directly to an active policy of Romanisation in the province, which was reignited towards the end of Nero's reign by governor Trebellius Maximus (AD63–9), perhaps chiefly as an upshot of the Boudican revolt (AD60/61; Tacitus *Annales* 14.29–39; *Agricola* 5; 15–16; Jones and Mattingly 1990, 69–71). The revolt fully exposed Rome to the fragility of its client arrangements and triggered swift retribution under Suetonius Paulinus in central and eastern England, although the governor saw fit to leave part of the *legio VIIII Hispana* in strategic positions in the north Midlands and Lincolnshire, perhaps to deter the Brigantes from taking advantage of the rebellion (*ibid*., 69). While Nero's alleged policy could be interpreted as a military initiative, in Brigantian territory it might simply have comprised a continuation or reaffirmation of the existing client relationship in the hope that it remained steadfast while Roman efforts were concentrated on consolidating the south-east of the province (*ibid*., 71). A more pronounced Roman presence might be expected around Scotch Corner and Stanwick in the event that troops were garrisoned locally to protect Cartimandua from Venutius, which was perhaps not considered necessary until after Nero's suicide in AD68 and the final rebellion in AD69 (Hanson and Campbell 1986; Wilson 2009b), despite the claims of rescue missions in earlier decades (Chapter 1; Ottaway 2003, 125).

In the turbulent Year of the Four Emperors (AD69), Venutius was said by Tacitus to have collected auxiliaries and, aided by a revolt amongst the Brigantes, brought Cartimandua into utmost peril (Tacitus *Historiae* 3.45). In the same passage, Tacitus downplays any response made by governor Bolanus (AD69–71), implying that he did little to help Cartimandua (Chapter 1; Braund 1996), which provided the necessary opportunity for Venutius to invade her kingdom with a powerful force of chosen warriors (Tacitus *Annales* 12.32; Braund 1996). Birley (1952a, 88–92) considered that Bolanus might have been reasonably active in northern Britain, while Ottaway (2004, 33) and Jones and Mattingly (1990, 71) associate him directly with the rescue of Cartimandua in AD69, first attempted by Roman auxiliary troops, then legionaries under Caesius Nasica (Tacitus *Annales* 12.40; *Historiae* 3.45; Braund 1996; Creighton 2006, 34). Furthermore, there is a suggestion from the late 1st century AD poet Statius (*Silvae* 5.2, 142–9) that Bolanus sought to establish military installations to secure a frontier, presumably referring to the southern border of Brigantian territory between the Rivers Don and Humber (e.g. Ogilvie and Richmond 1967, 191; Wilson 2009b, 12; Chapter 1), but Entwistle (2019, 82–3) considers whether the poet was actually referring to the route over Stainmore. Moreover, it is proposed that Bolanus' northward ambitions were perhaps evident from the naval circumnavigation of Caledonia (Moorhead and Stuttard 2012, 93–4). Wilson (2002c, 446–8) did not discount the possibility that temporary camps around *Cataractonium* and Bainesse (Fig. 10.1) might relate to Bolanus' activities in support of Cartimandua, although he reasons that they more probably originated during the subsequent Cerialian campaign. The evidence for military activity under Bolanus is therefore circumstantial, and it is not currently possible to resolve the details of Roman military activity around Scotch Corner during his governorship, although Millett (pers. comm.) voices the case for possible Neronian military intervention via the same marine and river routes used previously for exchange and trade, suggesting that troops bypassed southern Yorkshire during their advance into Stanwick-Scotch Corner territory. The problem with proposing exclusive use of incursion via the Rivers Tees and Humber is that much of the material arriving with the Roman military seems to have been acquired in southern Britain (see Chapter 5), suggesting that overland transportation up the east side of the country was used simultaneously.

Ultimately, any ambitions that Bolanus might have fostered were thwarted by his recall to Rome in AD71, which allegedly reflected the fact that Vespasian did not think him to be the most appropriate person to challenge the north despite his evident ambitions in the region (Moorhead and Stuttard 2012, 93–4). This, however, does not preclude an active role in the suppression of Venutius' rebellion at the end of Period 3 (AD69) and even some influence behind the changes made to the settlement morphology, infrastructure and imports at Scotch Corner during Period 3. It should also be borne in mind that Roman road construction from the outset of Period 4 probably occurred during a period of consolidation following initial conquest (e.g. Bishop 2014), when existing routeways were made use of. Consequently, the transition from client relationship to military control and early stages of annexation may have left little physical trace.

ROMAN CONQUEST AND ANNEXATION AT SCOTCH CORNER: PERIOD 4 (c.AD70–c.AD85/90) AND PERIOD 5 (c.AD85/90–c.AD135/150)

DATING AND CHARACTERISING ROMAN CONQUEST AT SCOTCH CORNER

The first challenge to overcome when attempting to date Roman conquest at Scotch Corner lies in identifying and demonstrating archaeologically the establishment of Roman military control, as opposed to limited Roman presence and influence upon the settlement, routeways, buildings and imports that are recognisable in Period 3. A suite of more fundamental changes introduced in Period 4 were interpreted as being indicative of Roman conquest, providing a new opportunity to determine its date and impact through archaeological remains, principally without recourse to historical sources. The diagnostic changes include a sudden large influx of materials denoting the arrival of Roman troops, diplomats, merchants and suppliers, and a commensurate shift in the supply mechanism of imported goods. The increased Romanising influence of exotic materials supplied through military networks brought greater material prosperity to the native occupants than they had known during the unstable later stages of the client arrangement

(Period 3). Supply of such materials may have therefore reminded them of the benefits associated with greater compliance, which some might have remembered from the prosperous days of Period 2.

Construction of the engineered Roman road network was presumably carried out by Roman troops in conjunction with development of a new planned enclosure layout and introduction of rectangular buildings with common dimensions (see below). There was also evidence to suggest widespread adoption of Roman dining and drinking traditions (or use of the paraphernalia), grain-processing technology and organised butchery. In direct contrast, imports ceased to arrive at Stanwick between c.AD65 and AD75 at the latest, when the Tofts appear to have been largely abandoned. It seems probable that Stanwick's demise related to expanded occupation at Scotch Corner and may in part reflect relocation of native elites and people of lower status to the new Roman-influenced settlement. Such developments may also signify the end of a client relationship and a move towards supervision and tighter control of the native elite, paired with an attempt to establish an official/administrative settlement at the important road junction.

Despite the abundance of materials indicating local, regional and longer-range military-type supply networks and a huge increase in consumption from Period 4, there was no artefactual evidence to suggest that a Roman army was garrisoned inside the A1 scheme excavation area, as testified by the rarity of weaponry and prevalence of objects relating to Roman civilian life. While the demographic composition of the settlement cannot be certain during Periods 4 and 5, the combined remains demonstrate that the native population was not supplanted entirely by the Roman contingent; instead, the community at Scotch Corner apparently incorporated natives who assimilated Roman traditions and presumably lived alongside Roman diplomats, administrators, traders, metalworkers and people managing livestock, all presumably subject to the protection or threat of a military contingent that built the roads, reorganised the settlement and managed the supply chain. The material remains therefore render definition of the settlement problematic, which is consistent with difficulties others have met when labelling settlements spanning the contact period. Such attempts have been cautioned against by Creighton (2006, 69) in his discussion of Fishbourne, Gosbecks (*Camulodunum*) and *Calleva* (Silchester; Fig. 10.3) where he warns that 'we classify and compartmentalise the past in order to make it intelligible. In doing so we use and apply labels too easily to people and things, classifying individuals as "Roman" or "British", even "military" or "civilian". Identity is far more complex than that.' This concern is important to consider when ascribing agency and identity to the cultural amalgamation evident in the remains at Scotch Corner, although it does not diminish the possibility that Period 4 signifies Roman conquest by a combination of auxiliary and regular troops, nor the likelihood that a military post existed outside excavated area.

KEY ARTEFACTUAL INDICATORS OF ROMAN CONQUEST

Objects and ceramics provide much of the evidence supporting a case for Roman control of Scotch Corner from the beginning of Period 4. The range of items suggests an abrupt influx of exotic imports supplied via military transport networks, bringing greater material prosperity to the settlement than previously. Firstly, the modest but coherent coin assemblage provides robust evidence for Roman occupation of the settlement, perhaps from the late Neronian period, but certainly by the early AD70s when the coins most likely arrived with soldiers accompanying the Cerialian advance (Brickstock, Chapter 6). While the military association seems certain, the small number of coins suggest that soldiers were not the dominant component of the community at the planned settlement, which was supported by the paucity of military-related small finds (Croom, Chapter 6). Leary states that the combination of ceramic wares in Period 4 might usually be expected to come from a fort or military-related/official extra-mural settlement, exceeding the range and volume of materials arriving in Period 3 (see Chapter 5). Of particular significance were the Central Gaulish and Lyon fine wares, Braives mica-dusted ware, Pompeian red ware PRW6, Terra Nigra Eggshell ware and copies that arrived with other fine-ware beakers, bowls, lids and typically Roman specialist vessels such as colanders and cheese presses, tazzes, tripod vessels and miniatures (Griffiths and Leary, Chapter 5). Monteil (Chapter 5) cites the commensurate vast increase in samian ware use and changing ratios between Dr.29 and Dr.37 as being demonstrative of military supply and notes the shifting centres of activity between Fields 246, 258 and 265. A huge relative increase in olive oil amphorae, both absolutely and relative to wine, signalled military presence as it has done at military sites of the period where carrot amphorae of the same types found at Scotch Corner are particularly indicative (Griffiths and Williams, Chapter 5). A large proportion of the imported wares are believed to have arrived along established supply routes, perhaps bringing Italian wine, olive oil from Spain, fish sauce, dates and dried fruit (see Chapter 5 and above). The mortaria finds were also critical for demonstrating Roman military supply and production; North Gaulish mortaria began to arrive with consignments during Period 2, although the Gillam 238 type, dating from AD65 at the earliest, is a key chronological indicator of changing supply networks in later Period 3 (Hartley, Chapter 5). The first examples arriving from *Verulamium* (St. Albans) displaced the North Gaulish types in Period 4, while another form was potentially manufactured locally, whether by commissioned native producers or by potters accompanying the military (Griffiths and Hartley, Chapter 5). Although the Scotch Corner mortaria assemblage was marginally earlier than nearby military sites such as Binchester, Piercebridge and *Cataractonium* (Fig. 10.1), it was recognised that Flavian-period mortaria from the earliest occupation of those forts presented the only parallels for Scotch Corner and consequently imply shared origins and transportation networks.

Changes in the hand-built pottery assemblage at Scotch Corner also apparently pertain to Roman presence, although they are less obviously associated with military activity (Cumberpatch, Chapter 5). Firstly, there was a marked increase in hand-built vessels during Period 4, which was commensurate with a higher rate of consumption and/or larger mixed population. At the same time, while the numbers of vessel types were limited, there is some suggestion that the smaller, finer vessels became more common later, and that some of the forms and styles of decoration (e.g. rustication) seen on wheel-thrown wares were copied on vessels that were produced locally (Cumberpatch, Chapter 5). Cumberpatch notes that copying was, though, sporadic, and was not indicative of wholesale adoption of Roman models for either utilitarian wares or the finer wares. However, the increase in vessel numbers and occasional instances of copying potentially reflect the possibility that local production and possibly procurement from across the region was adapted to supply the increasingly Romanised population of Scotch Corner in Period 4.

Setting aside the pieces of special interest and significance, the otherwise remarkable Scotch Corner vessel glass assemblage is regarded by Cool as being symptomatic of two distinct groups: the first comprising Claudio-Neronian vessels with an emphasis on the later types, and the second much larger group including later Neronian and early Flavian types. The distinction between the groups is not simply chronological, since the earlier materials included vessel types that are believed to have been chosen for importing because they appealed particularly to native tastes along with types associated with a military entourage. While this is not clearly represented in the deposition of glass fragments, it accords with the proposal that materials arriving in Period 2, and possibly Period 3, may have accompanied Roman diplomatic missions, whereas during later Period 3 there was a possible Roman military presence in advance of conquest. Some of the same glass vessel forms continued to arrive after conquest in Period 4, when distinctive forms imported for the first time represent further testimony to the prevailing military character of the supply network although, as Cool cautions, the nature and intention of this presence is not discernible through the glass alone (Cool, Chapter 5).

In researching the food-supply mechanisms of the Roman army in north-west provinces, Thomas and Stallibrass (2008, 4) record that the primary staple crops were glume wheats (emmer and spelt) a free-threshing bread wheat, barley, oats and rye (e.g. Cool 2006, 69–71; Dark 1999). There is keen debate about the degree to which Roman military units appropriated and changed regimes to ensure consistent food provision, but Mattingly (2006) proposes that some client or friendly kingdoms were already producing a surplus that was supplied prior to Roman conquest. At Scotch Corner, Baines reports little change in the proportions of cereal kernels to chaff and arable weeds between Periods 1 and 5, suggesting that arable regimes and patterns of land use remained constant around Scotch Corner in the post-conquest period (Baines, Chapter 8, Figs 8.11 and 8.12). He describes an assemblage characterised by debris from food preparation and household maintenance, rather than accumulations from arable or pastoral activities, cereal storage, introduction or processing, suggesting that production happened elsewhere. However, he simultaneously envisages subsistence-level agriculture in enclosures around Scotch Corner producing enough surplus to support non-food producing residents in the settlement, where food preparation took place at individual households with little discernible zonation or patterning. However, one fundamental difference between the Period 1–3 and the Period 4–5 charred plant assemblages at Scotch Corner was the location of the material, which followed the shifting focus from the native enclosures to ground on the east side of the road junction, which was where the majority of imported and locally made replica querns were deposited. While the cereal crops may have remained fundamentally consistent, examination of the quern assemblage sheds further light on the arable economy before and during Roman conquest.

The technological shift from native saddle and rotary beehive querns to imported, flat hand querns of lava is usually associated with Roman military contact, and their arrival shortly after c.AD43 in southern Britain is traditionally considered a corollary of Claudian conquest (Cruse, Chapter 6). Once the advantages of the lava quern were recognised, natives in southern and central Britain commonly replicated the technology using locally available stone, but continued use of earlier forms is frequently evident, as at nearby Faverdale (Wright 2012, 133). However, as Cruse relates in Chapter 6, no flat rotary querns have been discovered at Iron Age settlements on the Northumberland coastal plain or along the A1/M1 corridor in Yorkshire (Heslop 2016, 282), except perhaps for the single fragment of lava hand quern recovered from an undated feature at Wattle Syke (Cruse and Heslop 2013, 172). Expanding this search to the north-west of Scotch Corner reveals a similar scenario; site SCA15 did not contain any querns of native or Roman manufacture (Zant *et al*. 2013b, c), as neither did the Scotch Corner Hotel (Abramson 1995), whereas locally produced beehive and saddle querns came respectively from Melsonby (Heslop 1999, 27) and Rock Castle (Heslop 1994, 25–7), but there were no imported rotary querns or locally made replicas. Only Carkin Moor has produced lava quern fragments, although these were found with amphora sherds dated to c.AD160 or later when the region was securely within the province (Fig. 10.1; Zant *et al*. 2013b, 96). In the Tees Valley lowlands, Thorpe Thewles yielded both beehive and saddle querns, but despite occupation lasting into the mid-Roman period, no flat rotary querns were found (Heslop 1987b, 84–9); the technology seems to have been unavailable or rejected. Most notably, Stanwick site 9 produced one of the largest quern assemblages in the region, but imported rotary examples were absent (Heslop 2016, 278–84).

During the 1st century AD, Scotch Corner appears to be the only known settlement in the Tees Valley with imported lava rotary querns and locally manufactured replicas; their arrival during the time of annexation represents further evidence for the presence of a Roman contingent at the settlement and their use is perhaps related specifically to Roman occupation, rather than transit (Cruse, Chapter 6). The absence of imported rotary querns or local replicas in Period 1–3 contexts at Scotch Corner prompted Cruse to conclude that before conquest, either native inhabitants made no attempt to embrace and replicate Roman quern technology despite diplomatic exchange and trading amongst the elite, or that perhaps cereal processing was carried out by an underclass with no access to contemporary Roman technology (see Chapter 6). It may be that such technology was actively rejected by those living humble lives who may have been keen to preserve native traditions, while the ruling classes drew increasingly close to Rome at the expense of local identity. With reference to the degree of wear apparent on each stone, Cruse acknowledged that the three average-to-extremely worn Scotch Corner upper lava disc querns could have been introduced as part of an earlier consignment, or brought already used, then deposited in Period 4–5 contexts once worn out (see Chapter 6). However, their spatial distribution renders this option unlikely, as one might expect some fragments to have been deposited in Period 1–3 contexts, yet none were present in the native enclosures inhabited then. Grinding surface and wear patterns on the four locally manufactured copies show less extensive use, although it is possible that they were used predominantly for crushing malted barley or de-husking grain, rather than grinding. Nevertheless, replication of the technology clearly demonstrates that by Period 4, querns used at Scotch Corner were supplied by individuals who either assimilated Roman military traditions or accompanied a resident Roman contingent.

The modest collection of lava querns and replicas may therefore be commensurate with a new Roman population at Scotch Corner during annexation but, like the charred plant remains, they do not constitute evidence for production of surplus under Roman governance. Instead, the concentrations in ditches and pits/latrines around Structure 31 in Field 258 and examples reused as aggregate for road construction in adjacent Field 265 potentially imply that their use, and therefore food production, was probably concentrated in areas adjacent to the road junction, which doubtless reflected the requirements of inhabitants and itinerants at the areas of densest activity. However, the discovery of one definite and one probable millstone in ditch group **28156** around Structure 31 introduces a new perspective (Chapter 4, Figs 4.21 and 4.22). Cruse considers that these powered millstones may, potentially with the example from Stanwick (Heslop 2016, 278–84), be amongst the earliest yet recognised in Britain.

Moreover, while the Scotch Corner millstones were manufactured from locally sourced sandstone, they each bore attributes more commonly associated with Roman military contexts on the Continent. Like the smaller disc quern replicas, which were also made locally, the millstones demonstrate that producers around Scotch Corner responded very quickly to the opportunities that Roman occupation presented and technologies they imported. More sobering, perhaps, was the recognition that in the absence of a running water source, the millstones must have been powered either by tethered animals or potentially even by humans (Cruse, Chapter 6), although there was no material evidence to suggest slavery at the settlement. Cruse also provides us with a summary that encapsulates aspects of the Roman impact on the arable economy through interpretation of the millstones suggesting that, based on their ability to grind large quantities of grain, their presence implies that somewhere nearby Scotch Corner there had been an episode of large-scale cereal processing using 'cutting-edge' Roman technology. After the military takeover of the area, he suggests that the Roman military is likely to be the only plausible organisation with the need for such processing capacity, and which also had the resources to install it. The presence of the millstones therefore suggests to Cruse that a unit of the military food-supply system was operating in this strategic location in Period 4, although the conspicuous absence of grinding wear perhaps indicates that the stones were abandoned before their use began. Despite this, their presence suggests that it was within Roman capabilities to truly exploit the resources that sustained the native population for many generations beforehand.

In Chapter 4 it is proposed that the planned enclosure systems and integrated water supply introduced during Period 4, primarily in Fields 258 and 229 on the south-east side of Dere Street, were designed to incorporate areas of human habitation and livestock accommodation once the site was under Roman authority. Coaxial enclosures in Field 228 at the Period 4 settlement's southern periphery seem to have continued to be used for the same functions, but were perhaps of lower status, the roundhouses presumably being occupied by native Britons rather than any Roman contingent. The ladder enclosures in Field 246 on the north-west side of Dere Street may have been occupied by a combination of natives and Romans, whereas the rear enclosure appears to have remained dedicated to metalworking, which now included some ferrous working. To their north and west, a network of small fields was probably developed for mixed agriculture, although pastoral activities seem more likely so close to the settlement. As described above, little could be discerned from the poorly preserved Periods 1–3 animal bone assemblage, but from the larger and better-preserved assemblages from Periods 4 and 5, Wright was able to demonstrate significant trends concerning the role of animals at Scotch Corner, and discusses them in their regional, chronological and cultural context (see Chapter 8).

Highlights from Wright's analysis of animal bone assemblages include recognition of a complete absence of neonatal and very young individuals of any species, which if representative of the settlement as a whole, indicates that animals were not bred at Scotch Corner, despite being accommodated and butchered there (see Chapter 8). Furthermore, there was clear selectivity amongst the largest bone assemblages; the remains recovered from pit group **28131** at the north end of Field 258 included pig bones showing slaughter for meat at a young age, but the small number of chickens seem to have been eaten when mature and presumably no longer in lay (Chapter 4, Figs 4.25 and 4.33; Wright, Chapter 8). The bone assemblage from the pit group was, however, dominated by young sheep, which is typical of rural settlement in the Late Iron Age with its focus on dairy and meat (*ibid*.). While this interpretation accords with the notion that the sheep remains derive from native activity marginally before Period 4 and were redeposited into the pit fills during an episode of site clearance and closure, it remains possible that sheep maintained an important role in the pastoral economy once Rome assumed control of Scotch Corner; indeed, it would have made little sense to upset native pastoral regimes that are believed to have been highly sophisticated (see above). The modest fish bone assemblage from the same pit group represents a change in attitude towards the exploitation of locally available resources early in Period 4 and is interpreted as a shift towards Roman initiatives (Russ, Chapter 8). Fish consumption at that time was potentially regarded as taboo (e.g. Dobney and Ervynck 2007; Roberts and Rainsford 2013; Maltby 1981; 1996; Hambleton 1999) and its occurrence in Period 4 might equally signify the presence of Romanised native occupants, who diverged from the traditional view, or Roman occupants. The latter option seems more credible considering the range of prestige materials found in the pits, and the notion that deposition was imbued with meaning and represented symbolic closure of the settlement (see Chapter 4 and below).

In contrast with the diverse faunal range from pit group **28131**, the animal bone assemblage from midden **29959** was predominantly cattle with evidence for specialist butchery that was potentially associated with food production in Structure 38 at the road junction in Field 265; a co-occurrence that presumably demonstrates the desire to make access easy for animals on the hoof before slaughter, and for distribution of the resulting consumable produce (Chapter 4, Fig. 4.39; Wright, Chapter 8), which was a known feature of early post-conquest settlement in Britain (Thomas and Stallibrass 2008, 9). Evidence for increases in cattle and sheep production and slaughter are commonly associated with the arrival of the Roman military across the western Empire, where relative proportions of cattle, sheep and pig (King 2001, 220) conform broadly to those recognised during Period 4 at Scotch Corner and with contemporary sites in equivalent frontier zones such as the Rhine delta (e.g. Cavallo *et al*. 2008, 78). Wright describes the cattle butchery at Scotch Corner as being typical of urban Roman settlements and emphasises the possibility that the assemblage represented organised meat consumption associated with the Roman military, although animals appear to have been slaughtered only when they were fully mature, suggesting that much of their lives were dedicated to agricultural labour and traction, as might be attested by the possible ox-goads (Croom, Chapter 6; Chapter 4). Additionally, it seems from the biometric attributes of the cattle that they derived from native stock, with no evidence that Romanised selective breeding for larger cattle had yet taken place (*ibid*.), which is unsurprising when the short period of direct Roman influence is considered and perhaps further demonstrates a pragmatic approach to the appropriation of resources (e.g. Thomas and Stallibrass 2008, 4). Dominance of cattle and sheep remains in assemblages from the contemporary native settlement at nearby Faverdale (Proctor 2012, 165) demonstrate how the pattern of exploitation at Scotch Corner was commensurate with resources available locally.

As with cattle, the relatively high proportion of horse remains came from fully mature animals, which was interpreted by Wright as being typical of a roadside settlement in the Early Roman period, accepting the caveat that while breeding is often also represented in such environments, it was unproven at Scotch Corner (see Chapter 8). While the horse remains achieve little more than demonstrating equine presence inside the settlement, their depositional contexts do provide some insights into possible zones of activity associated with the pastoral economy of Roman-controlled Scotch Corner, particularly when considered in conjunction with specific artefact distributions. Metallic finds associated with horses and vehicles conformed both to native and Roman traditions and represent a range of associations. No horse-related materials were found either in the nucleated enclosures of Field 267a, or the coaxial enclosures of Field 223, but horse-related activities that were associated with both traditions were focused in Fields 228, 258 and 265 around the road junction and the planned enclosures and Roman-style buildings and pit groups (see Chapter 4). Being one of the main components of social display in Iron Age society, Croom (see Chapter 6) emphasises that native horse-gear, which was mostly fabricated from copper-alloy, represented part of a suite of elite activities associated with feasting and conspicuous display of wealth and weaponry. Creighton (2000, 22) takes this concept further, proposing that in such contexts, horses represented a symbolic basis for authority, which makes their prevalence in Period 4 wholly appropriate considering the cohabitation and interaction between native and Roman elites that purportedly took place there.

Concentrated in the same area, a collection of Roman-style horse accoutrements included a mixture of Roman military equipment such as fragments of horse harnesses and strap fasteners, while most of the melon beads from Scotch Corner were recovered from enclosure ditches and pits inside the planned settlement. The putative association between melon beads and horses in the Early Roman period is presented tentatively by Foulds (Chapter 6), but in light of their discovery in paddocks at Scotch Corner, and in proximity to the modest assemblage of horse gear, there is collective evidence to be marginally more assertive about the proposal that they were used to adorn horse harnesses and potentially demonstrate the esteem of equine pursuits in the Roman world. Yet, if horses were maintained as a resource for travelling military officials at the road junction, they were presumably regarded with less reverence (see below). Remnants from two hipposandals from Fields 265 and 258 perhaps articulate the more prosaic employment of horses for traction in and around the settlement (Croom, Chapter 6). Their occurrence could signify use in the service of agriculture, perhaps for transport associated with cavalry manoeuvres, when moving goods around for trading, or accommodating them as part of the Roman supply mechanism.

ESTABLISHING AN ABSOLUTE DATE RANGE FOR THE BEGINNING OF ROMAN CONQUEST

Having used settlement and building morphology and artefactual materials to present the case for Roman military control of Scotch Corner from the beginning of Period 4, the next challenge lies in combining artefact typologies with radiocarbon determinations for compilation of a robust Bayesian chronological model to refine the transition date from Period 3 to Period 4. Much of the evidence to support limited Neronian period (Period 3) military activity in the Vales of Mowbray and York is presented in Chapter 1 and it is only necessary here to refer to the growing corpus of supporting evidence. At Scotch Corner, the presence of closely dated samian ware and Roman coarseware types in primary Period 4 fills typologically fixed the transition after c.AD70 and provided a key date in the chronological framework (Monteil and Leary, Chapter 5). Yet, the primary Bayesian chronological model estimated that the transition took place in cal AD30–70 (95% probability), and probably in cal AD40–60 (68% probability; Hamilton, Chapter 9, Fig. 9.3). This may appear to correspond with Roman presence during Period 3, but is strongly influenced by the diagnostic pottery forms attributed to the early Flavian period and therefore conflicts with those typological chronologies. A primary response to this problem was to adjust for the possibility that residual charcoal had altered date ranges by undertaking sensitivity analysis to counteract the potential effect. The resulting 'charcoal outlier model' repositioned the transition to cal AD40–80 (95% probability), but probably within cal AD50–70 (68% probability; *ibid*. Fig. 9.6), maintaining an early emphasis on the arrival of established 'Flavian' ceramic forms at Scotch Corner, and presumably also at other contemporary northern sites by implication.

While the adjusted Bayesian model leaves open the possibility for Period 4 at Scotch Corner beginning prior to AD70, the established pottery typologies still effectively assign a post-AD70 date. In the event that the earliest dates for diagnostic pottery forms derive from historical references for early Flavian (Cerialian) campaigning in northern Britain, the Scotch Corner pottery assemblage might be in danger of contributing to a circular argument in support of the accepted typological-based chronology (R. Leary, pers. comm.). It is not the intention of this author to challenge Roman pottery chronologies, but neither is it necessarily appropriate to dismiss the possibilities suggested by both Bayesian models. Were the two strands of evidence fully reconciled by future research, it may become appropriate to propose a Neronian Roman-controlled outpost at Scotch Corner receiving pottery traditionally assigned Flavian dates (Chapter 1, Table 1.2). Uncertainty in determining this transition during a period of continued Roman presence and influence will probably persist unless a closely dateable military installation, battleground or cemetery is discovered at the site, although the development of the road network may be crucial in identifying and characterising the first Roman military presence associated with conquest. Millett (1990, 42–57) proposed that Roman military strategy in the south and east of Britain focused on the control of social groups rather than territory; it seems that both objectives were achieved at Scotch Corner, and perhaps across the northern frontier, by the early stages of Period 4.

A POSSIBLE MODEL OF ROMAN CONQUEST AND ANNEXATION AT SCOTCH CORNER

The large body of new archaeological data and its modelled chronology presented in Chapter 4 provides a unique opportunity to consider the process of northern expansion of Roman Britain's boundary and absorption of the Brigantes into the zone of direct control. The material will also contribute to discussions about the role of the Roman military in the changing civilian society and economy (e.g. Haynes 1997, 8). While the Scotch Corner chronology and narrative are creditably precise, further finesse can be postulated after careful comparison of the archaeological remains and the historical sources. However, an exercise such as this must be undertaken with full recognition of the pitfalls awaiting any attempt to coalesce archaeology and history, particularly with reference to Tacitus and Roman conquest (e.g. Hoffmann 2001; 2013), and also with acknowledgement that interpreting scant archaeological remains in light of the few surviving Roman textual resources is largely considered a bygone method (Creighton 2006, 72). Nevertheless, in this case, an attempt is considered appropriate; the following three-stage model (Stages A–C) presents a speculative but testable sequence informed by extensive and dated archaeological remains that were compared with historically attested events and processes. The primary outcome of this exercise is that the material remains of Period 4 at Scotch Corner largely corroborate historical accounts of conquest and consolidation of Brigantian territory during the governorships of Cerialis, Frontinus and Agricola (Chapter 1, Table 1.2). The remains from the A1 scheme therefore support Bidwell and Hodgson's timeline for military advance through the north (Bidwell and Hodgson 2009, 8–15) and potentially help to elucidate and challenge alleged biases introduced by Tacitus in his account of Agricola's achievements (e.g. Hanson and Campbell (1986, 89).

Stage A: the initial stage of Roman conquest (early Period 4; c.AD70–c.AD74)

Native Scotch Corner flourished partly because its situation on Gatherley Moor was a natural nexus for converging routeways, providing native communities with access to a wide range of environments and resources (Fig. 10.4). Its accessibility, aspect and amenability made it ideally suited to supporting an increasingly complex and large population who were closely connected with other communities in the environs of the principal elite centre at Stanwick; this concentration of attributes made Stanwick-Scotch Corner an obvious strategic objective during Roman annexation of the north and indicate that the position required close military supervision (P. Bidwell, pers. comm.). Before Roman road construction began, individuals apparently followed terrestrial routeways and the Rivers Tees and Swale, which may have been useful conveyors of supplies and people in the Tees Valley and Vales of York and Mowbray (e.g. Allen 2016, 271–2). Although there is little surviving evidence to suggest extensive use of riverine routes for transport of military supplies during Roman conquest in the north (e.g. Cleere 1978), wharves and harbours possibly existed at York (Ottaway 2004, 69, 85; Jones and Mattingly 1990, 198–200), and have also been suggested at Aldborough (Ferraby and Millett 2020, 115) and tentatively for the River Swale at Bainesse, a short distance downstream of *Cataractonium* (Wilson 2002c, 454), where a small settlement might have been developing in the late 1st century AD (Ross and Ross in prep.). It also seems likely that there was an enduring landing arrangement on the River Tees at Piercebridge and a tradition of riverine transport using shallow-draught river barges of a type favoured by the Romans (e.g. Anderson 1992). Millett (pers. comm.) has proposed the case for early (?Neronian) military intervention via coastal and riverine routes, a compelling argument for Roman arrival in the Tees Valley and Vales of Mowbray and York '*terra marique*' (by land and sea). Yet, it is argued elsewhere that overland transport using existing prehistoric routes and the subsequent Roman road network was the primary method by which the Roman military gained, maintained and expressed control (e.g. Orengo and Livarda 2016; Fell and Johnson in prep.). As Black states, the roads were a military system (1995, 1), which was central to the process of Roman conquest and annexation at Scotch Corner. In contrast with many instances of erroneous Roman road dating (e.g. Davies 2002, 27–32), diagnostic materials recovered from the Scotch Corner examples were crucially important in determining the site chronology, although it must be emphasised that the roads are unlikely to represent the first stages of conquest (e.g. Bishop 2014, 16–18), and have often been ascribed to periods of consolidation up to a decade and more after conquest.

Comparison of the prehistoric routeways and Roman road network at Scotch Corner readily demonstrates the extent to which the Roman roads conjoined at a palimpsest of junctions arranged over pre-existing native routeways, perhaps causing minor deviations from long-distance survey alignments previously planned for the road network (Chapter 4, Figs 4.1 and 4.2; see Poulter 2009; 2010; 2014; Poulter and Entwistle 2016; Entwistle 2019, 86–98). Roman respect for, and utilisation of, existing routes seems to have been more easily achieved, and/or rigorously pursued at Scotch Corner than at most other Late Iron Age centres, unless identification of this trend is simply a result of the large A1 scheme excavation area and geophysical survey. Nevertheless, in addition to being expedient, road building within the existing settlement may sometimes have been used as a display of power that represented psychological victory over native communities, particularly when earlier established routes were supplanted. Moore (forthcoming) notes that the junction of major Roman roads and the Roman town lie a short distance to the south of Bagendon at Cirencester, which perhaps represented a more typical situation whereby Roman infrastructure was proximate to native settlements and routes without overlying them, although Moore also acknowledges that this may sometimes be a result of diverging purposes rather than being primarily political. Correspondence of prehistoric routeways and Roman roads is not without parallel, however (e.g. Bradley *et al*. 2016; Moore 2012, 403); Haselgrove (2016, 459) and Moore (forthcoming) cite the example of Sharpstone Hill in Shropshire as being a rare case where Roman roads appear to have perpetuated engineered Iron Age routeways (Fig. 10.3; Malim and Hayes 2010), and in the same vein, Haselgrove records the tendency of Roman roads to make use of existing routeways around Stanwick (2016, 459–60, fig. 26.6), which was also demonstrably the case at Scotch Corner. Comparison between Haselgrove's plan of the routeways at Stanwick and the modern road network indicates that several of the radiating routeways survive to the present day, having presumably remained in use through the Roman period (e.g. Bradley *et al*. 2016). Perhaps it is also significant that any former routes directly connecting Stanwick with Scotch Corner appear to have been rendered obsolete in the post-Roman network, which reinforces the model of roads migrating east towards the final course of Dere Street (RR10, Chapter 4, Fig. 4.2), bypassing Stanwick in the process.

Despite not having a proven construction date, RR1 was believed to be amongst the earliest Roman roads identified at Scotch Corner, principally because its course apparently formed a reference for all subsequent Roman roads and the developing junction (Fig. 10.5). The only excavated evidence from the A1 scheme confirming the form of RR1 came from a narrow trench in Field 267a where a robust *agger* was accompanied by side ditches following a north-westerly course revealed by geophysical survey in Fields 267a and 265 (Chapter 4, Fig. 4.2; NAA 2015) and aerial photographs (Google Earth 2009). The road seemingly cut across the mostly (?)abandoned agglomeration of native-occupied nucleated enclosures in Field 267a, deviating from the course of preceding routeway RW7 (Chapter 4, Fig. 4.1). MacLauchlan recorded a segment of earthwork with a corresponding course to RR1 (Chapter 1, Fig. 1.10; Chapter 4, Fig. 4.2), which survives above ground as a short section of cambered *agger* in the field boundary now fossilised by a hedge-line flanking the former Great North Road. The character and form of road RR1 suggested construction by the Roman military, or people under their guidance, and therefore signifies military presence in some capacity. It is difficult to imagine that such a construction would be possible in an openly hostile environment; neither the earliest Roman road described here, nor any of the subsequent Roman roads, appear to have been built rapidly in an expedient manner that might suggest initial 'penetration' into new territory (e.g. Davies 2002, 115). Indeed, the feat of engineering and labour that RR1 represents can only plausibly have been undertaken once military control was established, or with cooperation between Roman troops and the native population (e.g. Bishop 2014, 16–18). This proposed chronology for invading Roman troops arriving at Scotch Corner at the beginning of the AD70s accords with emerging evidence for an early Flavian-dated fort 6km to the south at *Cataractonium*, where the first permanent military installation north of York (Fig. 10.2; Wilson 2009b, 9; Chapter 1) appears to have been located close to Scotch Corner (Ross and Ross in prep.).

Early road RR1 represented a combination of Margary road 8b 'Dere Street' and road 82, (Figs 10.1, 10.2, 10.3 and 10.5) and was arguably critical to the process of conquest, being the main transport link between the Roman south and the north-west, via *Cataractonium*, Scotch Corner and Stanwick and the natural line of march to the north-west (Hanson 1987, 61). The principal purpose was presumably to expedite troop and supply movements between east and west in support of the objective to control the Solway–Tyne isthmus during the Vespasianic push northward (see Chapter 1; Bishop 1999; Bidwell and Hodgson 2009; 10–13, fig. 3), but also to act as a 'territory-holding' road associated with the advancing frontier (e.g. Davies 2002, 115–17). The southern approach of RR1 made Scotch Corner accessible both from York (*Eboracum*) and Castleford (*Lagentium*) (Fig. 10.2; Chapter 1), and was believed by Poulter (2009, 3–31; 2010, 33–7; 2014) to have been the first section of 'Dere Street', which followed a long-distance planning alignment originating at Tadcaster (later to become *Calcaria*) and extended to Scotch Corner, possibly via an early installation around Aldborough (Fig. 10.2; Ferraby and Millett 2020, 94). The course of RR1 therefore appears to support some of the proposals made for larger scale long-distance survey alignments purportedly used for setting out 'Dere Street' (Poulter 2009; 2010; 2014; Entwistle 2019, map 12), and more widely for Roman Britain (Jones and Mattingly 1990, 94–5, map 4:27).

There has long been ambivalence amongst commentators about the date of RR1, and the issue remains unresolved because of the paucity of dating evidence from the road and military installations along it (e.g. Chapter 1; Vyner 2001; Bidwell and Hodgson 2009, 10). Despite Tacitus having clearly attributed a major part of conquest in Brigantia to Cerialis (Tacitus *Agricola* 17), a heightened interpretation of Agricola's possible role in the conquest

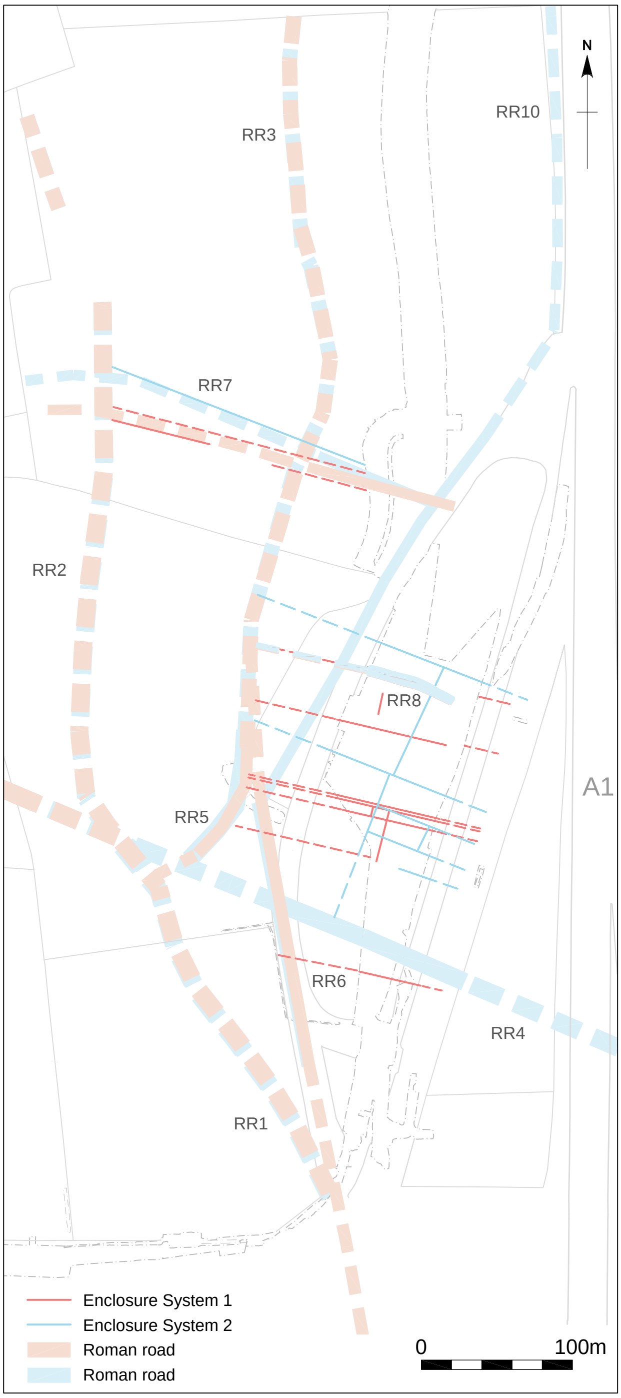

Figure 10.5: Scotch Corner: Stage A of Roman conquest, simplified plan.

of the north has been based on other passages in the same eponymous account, which have attracted a great deal of scholarly investigation (e.g. Richmond 1963; Frere 1978; Salway 1981) and some challenges (e.g. Todd 1981; Hanson and Campbell 1986; Woolliscroft and Hoffmann 2006; Hoffmann 2013; Wilson 2002b). Hanson and Campbell (1986, 85), and latterly Bidwell and Hodgson (2009, 11), are amongst those who have pointed out that the capitulation of Venutius, and therefore also of the anti-Roman faction of the Brigantes, must have occurred before Agricola's arrival in AD77–8, since Tacitus would have given him credit if the circumstances allowed. This deduction is amongst the founding principles that underpin Bidwell and Hodgson's (2009, 10–11) model of conquest, which uses the establishment dates of military installations to attribute completion of RR1 to the Cerialian campaign (c.AD71–4; Chapter 1, Table 1.2), and/or subsequent governorship of Frontinus (AD74–8), both made possible once Vespasian had reasserted stability and control following Nero's death and the Year of the Four Emperors, of which Vespasian was the last (Jones and Mattingly 1990, 72).

Having moved *legio VIIII Hispana* to York (*Eboracum*) from Lincoln (*Lindum*) in AD71 (Birley 2005, 67), Cerialis allegedly struck with terror the *civitas* of the Brigantes, which was reputedly the most populous in the province. Following many battles, some with bloodshed, Cerialis was said to have embraced a great part of the Brigantes (Tacitus *Agricola* 17; Birley 1999) in a campaign described by Hanson and Campbell (1986) as being dispersed across the landscape rather than focused at a single site. Cerialis' successes may have been fuelled by a desire to avenge catastrophic leadership failures that contributed to initial defeat during the Boudican revolt of AD60/61 (Birley 2005, 65; Tacitus *Annales* 14.32.3; Braund 1996). Whether or not this was a factor, he evidently embarked upon the northern campaign with a strong will to prevail; forging road RR1 between York and Carlisle appears to have been the opening tactical gambit, perhaps in order to first overpower the putative Venutian stronghold at Clifton Dykes near Brougham in the Vale of Eden, Rome having allegedly ceded territorial control during the rescue of Cartimandua in AD69 (Figs 10.2 and 10.5; Birley 1952b, 46–65). From there, as Birley and others state, it would seem logical for Cerialis to first secure Carlisle, and then to mop up all the centres of Venutian resistance to its south. This chronology accords with the proposed construction date of the first fort at Carlisle (*Luguvalium*) c.AD72/3 (Caruana *et al*. 1992; Groves 1990; Zant 2009, 29–30), which is assumed to have been achieved following establishment of the trans-Pennine route over Stainmore (Figs 10.1, 10.2 and 10.3; e.g. Hanson and Campbell 1986, 88). However, it should be acknowledged that despite the paucity of evidence from specific samian pottery forms (Bidwell and Hodgson 2009, 13), the distribution of coinage (Shotter 2004, fig. 2.1) suggests that Roman access to the Solway may already have been possible along the west side of the Pennines and the first installation at Carlisle may not have depended upon troops arriving from the south-east either along RR1, the preceding 'penetration' route, or its prehistoric antecedent (see Chapter 1).

A connected and possibly contemporary route (RR2; Fig. 10.5) branched away from the north-west curve of RR1, heading in the direction of Melsonby and Stanwick (Chapter 4, Fig. 4.2). Its relationship with the putative Roman military post is unclear, although the complementary alignments suggest that they co-existed, and perhaps belonged to the same early episode in the process of conquest, when it would have been important to ensure that the population at Stanwick did not pose any threat or act as a rallying point for native resistance. As was proposed for the earliest iteration of RR1, the initial and explicit function of RR2 may have been to enhance communication and the transportation of goods between Stanwick, Melsonby, Scotch Corner and Roman supply networks to the south, and feasibly northwards to the River Tees, perhaps late in Period 3. This may have been seen as a crucial communication link in the scenario where natives seeking refuge from Venutius inside Stanwick looked to Roman forces for defence and perhaps to supplement food resources, but the same route would undoubtedly provide military access through the heart of the Brigantian oppidum once annexation was underway. Although the recent work by Haselgrove (2016) has done much to challenge the view, Bidwell and Hodgson (2009, 11) follow Wheeler's proposal that Stanwick was used as a stronghold by Venutius in the face of Roman opposition during his most concerted attack on Cartimandua in AD69. Seen in this context, RR2 may initially have been a supply and relief route that was subsequently adopted for military purposes during the earliest stage of the Roman advance (Fig. 10.5).

While there was no sign of conflict at Scotch Corner, the fates of a few male individuals buried at Stanwick were certainly decided by violence, although cultural affinities of the victims or perpetrators are not known, despite Wheeler's best efforts to blame the invading Roman force (Wheeler 1954, 54). Investigations at site 9 and analysis of remains found previously have determined that all the Stanwick burials occurred before AD70, leading Haselgrove to infer from the small-scale excavations that, after Cartimandua was overthrown, Stanwick did not play any demonstrable part in the conquest (Marlow 2016; Haselgrove 2016, 440, 289–490). Haselgrove (pers. comm.) does speculate, however, that the undated rectilinear earthwork astride the east side of the Stanwick perimeter and its more ephemeral counterpart on the south side (Haselgrove 2016; figs 2.8 and 2.9) might be reconsidered as Roman additions that could have functioned as encampments for troops sent to protect the major entrances and safeguard Cartimandua, her subjects and the resources that might have been corralled inside the perimeter. Amongst the many examples of forts being inserted into native settlements, the undated Roman fort abutting one of the dykes at Gosbecks (Creighton 2006, fig. 3.3) might provide an appropriate comparison for the situation at Stanwick. However, the external Stanwick enclosures (Figs 10.1 and 10.4) might equally represent temporary camps or even siegeworks thrown up by the invading army like those proposed at Burnswark in Dumfriesshire (Fig. 10.3; Reid 2016; ScARF 2019).

It is feasible that, having reached the southern or eastern entrance at Stanwick's perimeter earthwork, RR2 or the adjacent route bypassing the putative Roman military post, crossed the interior and exited on the north-east side, thus representing a pre-Dere Street road to the north (Fig. 10.4; Chapter 4, Fig. 4.2). From the perimeter of Stanwick, the route perhaps traced a north-easterly course that now survives partially in built-up field boundaries leading towards an amenable crossing point of the River Tees between Cliffe and Piercebridge

(Haselgrove 2016, 459–60, fig. 26.6). Accepting that fords were probably already in use previously, at this point of the River Tees there is evidence for a possible early bridge with a southern approach oriented towards Stanwick. One of several timber piles discovered at this location provided a radiocarbon date range between 40 cal BC and cal AD110 (Wessex Archaeology 2010, 15, 35–7), although Haselgrove (2016, 459 footnote 20) cites Hamilton proposing an 88% probability that it pre-dated AD70. Another series of oak piles near the early bridging point of Dere Street also potentially relate to a bridge on the same alignment, suggesting a well-established route before construction of the northward Roman road (RR10; Chapter 4, Fig. 4.2; Hutchinson 1794; Richardson and Keeney 1936; Scott 1982; English Heritage 2015; Eckardt and Walton forthcoming). Around this natural ford and bridging point, Early Roman artefacts collected from the riverbed included Claudian copies and Vespasianic coins. The Claudian copies could conceivably relate to Roman military activity from c.AD50 onwards (e.g. Walton 2008; 2016; Eckardt and Walton forthcoming) and possibly support the notion of a pre-conquest Roman route, although they more probably represent Roman use of an existing native route and/or deposition from the time of Flavian advance.

The trajectory of RR3 suggests that it was heading towards the same river crossing at Piercebridge, and in doing so traced the east side of Scots Dyke, thus bypassing the putative Roman military post at Scotch Corner, and also Stanwick, which may have been abandoned by c.AD70 (Figs 10.1 and 10.5; Haselgrove 2016, 417–20, 483). As discussed in Chapter 4 (Fig. 4.2), Roman road RR3 conceivably represents the first serious northward Roman foray, which arguably included the introduction of Enclosure System 1 (ES1; Chapter 4, Figs 4.3 and 4.15) and implies that a suite of construction took place once Roman control and occupation of Scotch Corner was properly established. The Scotch Corner Bayesian modelling was guided by the typological pottery dating, which dated the beginning of this process shortly after c.AD70 (Hamilton, Chapter 9; Leary, Chapter 5). It is possible that the first iteration of RR6 was also introduced at this time in order to smooth transition between RR1 to the south and RR3 to the north and, in so doing, created the first triangular road junction at Scotch Corner (Chapter 4, Fig. 4.2; Fig. 10.5). Outside the A1 excavation area, it seems likely that the courses of early RR6 and RR3 conjoined; this potentially early Flavian period road perhaps indicates that the northward route (RR10) along the east side of the country towards Corbridge (*Coria*; Fig. 10.2) and beyond was already considered an important military objective before its final construction. It is probably also appropriate to discuss RR7 in the same context on account of its initial alignment with ES1 and the fact that it perpetuated an existing routeway that joined the south–north routeway (RW5; Chapter 4, Fig. 4.1) with RR2 and others to Melsonby and Stanwick. The reason for maintenance and upgrade of RR7 may be that its purpose was to connect the putative Roman military post with the north end of the planned settlement and the aggregate south–north routeway (RW3; Chapter 4, Fig. 4.1) that existed at least from Period 3 and was adopted by RR10. The effect of this was to create a network of roads that provided access across the settlement and to destinations in its hinterland.

Increasing Roman organisation of the settlement and infrastructure was evident in the brief second stage of development in the planned settlement (ES2; Chapter 4, Figs 4.3 and 4.28), which was arguably introduced with reference to RR4, a new road that extended the Stainmore road (RR1) through the planned settlement and to the south-east on the same alignment (Chapter 4, Fig. 4.2; Fig. 10.5). Discovery of RR4 inside the A1 scheme excavation area provided an opportunity to recover dateable materials from the side ditches, which suggested infilling shortly after c.AD70 (see Chapters 4 and 5) and currently represents the best evidence that the road was constructed during the Cerialian campaign, or shortly thereafter by Frontinus (AD74–8). The trajectory of RR4 indicates that it was designed to cross the Vale of Mowbray in the direction of Stamford Bridge (*Derventio*; Fig. 10.2) and/or Malton (*Delgovicia*?), although it may also have connected with an early version of Margary road 80a from Brough-on-Humber (*Petuaria*), representing the most direct link via Scotch Corner between the Humber, modern-day East Yorkshire, and Carlisle (Figs 10.2 and 10.3). Once an engineered road was formalised along this route, it was possible for people or goods located between Lincoln (*Lindum Colonia*) and the Humber to reach Carlisle without resorting to the circuitous cross-country route along Margary roads 28/72 to Ribchester, and Margary road 7 to the north, assuming that they were already an option (Fig. 10.2). During the short period that ES2 provided the settlement axis, RR7 was realigned accordingly, although its purpose of providing access to the putative Roman military post probably remained unaltered.

Stage B: intensification of the northwards campaign, development of the Roman road network and proto-small town (Period 4; c.AD74–c.AD85/90)

The third incarnation of the planned enclosure system (ES3; Chapter 4, Figs 4.3 and 4.34) was introduced with reference to adjustments made in the courses of the Roman roads, and coincided with a suite of developments that represented Roman organisation on a scale previously unknown at Scotch Corner (Chapter 4, Fig. 4.34; Fig. 10.6). Based on the chronological model that dates the end of Period 4 to c.AD85/90, it seems likely that most of these developments occurred during the governorship of Frontinus (AD74–8) and continued under Agricola (AD77/78–83), once Venutius was neutralised, northern England brought under the Roman yoke, and following the abandonment of Stanwick by c.AD70 (Haselgrove 2016, 417–20, 483) and Melsonby around AD75 (Hamilton 2016, 343). In terms of the road network, this was the time in which the final route of Dere Street north (RR10; Chapter 4, Fig. 4.2; Margary road 8c) was established over the existing prehistoric routeway (RW3b; Chapter 4,

Fig. 4.1; Fig. 10.5) and probably superseded the initial northwards Roman roads represented by RR2 and RR3, which by then were of diminished significance following the demise of Stanwick and probable death of Cartimandua. In line with the development of RR10, the southern end of RR3 was overlain by RR5 to form the west side of the formalised triangular junction, with further development of RR6 on the east side, which directly joined RR1 from the south with RR10 to the north, creating the mature sinuous course of Dere Street through Scotch Corner (Chapter 4, Fig. 4.2). The southern approach of this road (RR1) seems to have survived until the Great North Road diverged slightly to its east to bypass Crookacre Plantation quarry, leaving a short section of Dere Street's cambered *agger* as an earthwork with a hedge-line along its crest, and a substantial earth-covered section enlarged as a headland by ridge-and-furrow cultivation. North of Crookacre Plantation, the course of RR10 was essentially perpetuated by the Great North Road, which cut along the south-east side between Fields 258 and 246.

Bidwell and Hodgson (2009, 11; fig. 4) proposed that the stretch of RR10 passing through Scotch Corner was probably established during the governorship of Frontinus (AD74–8), and the chronology of developments at Scotch Corner arguably fit well with this assessment. Given the degree of Roman activity associated with the beginning of conquest at Scotch Corner, it seems reasonable to infer that Cerialis did not manage to complete all of the changes witnessed at Period 4 Scotch Corner in the short time he campaigned (AD71–4), even if he was building on foundations begun by his governing predecessors such as Bolanus. In support of the case for Frontinus' successes in northern England, his military and leadership capabilities were amply demonstrated during suppression of the Rhineland revolt in AD70 (*Strategemata* 4.3.14.; Bennet *et al*. 1925) and his subjugation of the Silures of south Wales, before turning northwards (Tacitus *Agricola* 17; Braund 1996; Birley 1952a, 6). In the absence of any specific victories in Brigantian territory, Tacitus credits him with taking up and sustaining the burden of suppressing northern England (Tacitus *Agricola* 17.2; Braund 1996; Birley 2005, 69–71). Consequently, it may be reasonable to infer that a proportion of developments in the planned settlement and road system at Scotch Corner occurred during his tenure.

Having already commanded *legio XX* under Cerialis' governorship, Agricola was appointed to the position in AD77/78 and spent his inaugural campaign season suppressing uprisings in north Wales (e.g. Birley 1946). The decisiveness of victories won by Cerialis and Frontinus in former Brigantian territory is called into question by Tacitus who suggests that Agricola's second season was spent incorporating new areas into the province and surrounding them with forts (Agricola xx; Braund 1996); it is uncertain whether this included Brigantian lands and people, or was the beginning of

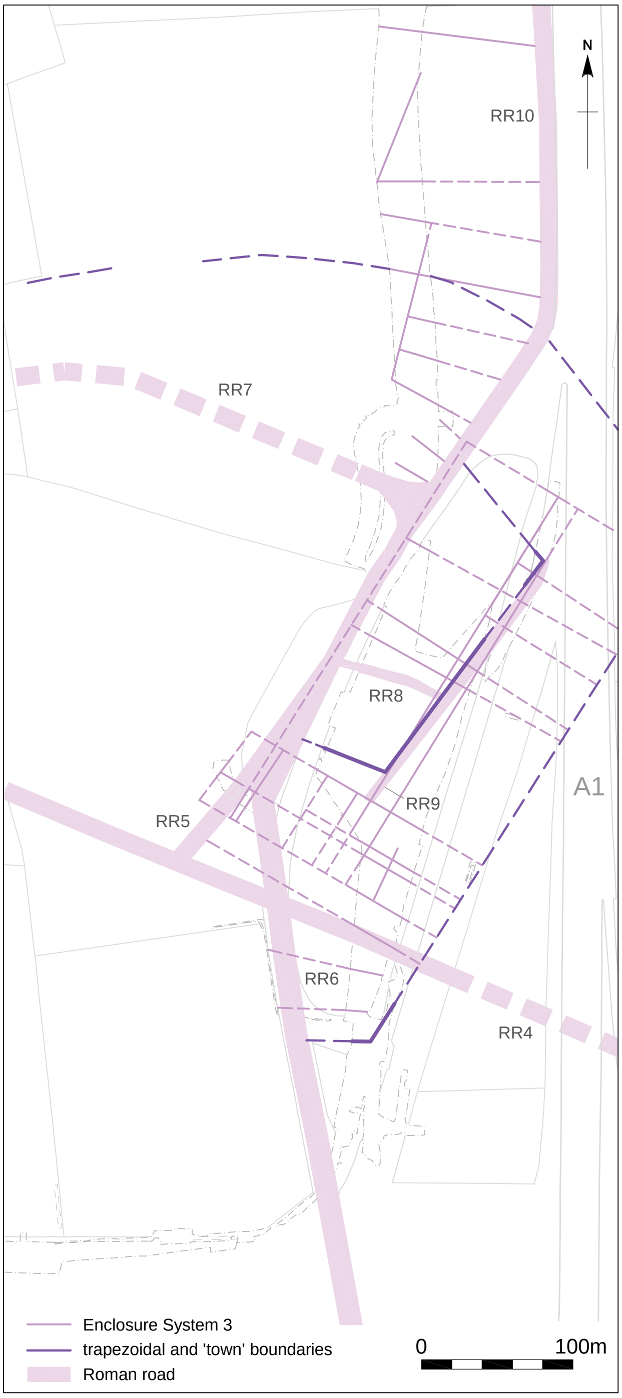

Figure 10.6: Scotch Corner: Stage B of Roman conquest, simplified plan.

the campaign into Caledonia (Birley 1946; Hanson 1987), although Jones and Mattingly suggest that both objectives were addressed (1990, table 4.2). In either case, the following year Agricola pressed northwards, having allegedly stamped out any remaining resistance (Tacitus *Agricola* 17; Braund 1996, 20; Mattingly 2006, 118), if indeed there was any. It is perhaps significant to note how Tacitus recorded that Agricola's force at the battle of Mons Graupius (c.AD84) included Britons of good fighting quality (*Agricola* 29; Braund 1996), men perhaps recruited for service in the ranks of existing auxiliaries, or feasibly even '*cohortes Brittonum*' (Birley 1948). If Tacitus' assertion has any basis in fact, it may be worthwhile considering whether establishments at crucial communication and transport junctions such as Scotch Corner at the south-east end of RR1 over Stainmore, and Brougham at its north-west end, provided ideal locations for gathering and preparing such forces.

In pursuing the northwards campaign strategy, Agricola was relying on the network of new roads and forts described by Bidwell and Hodgson (2009, 11) as a rearward consolidation and support (Fig. 10.1). The first fort and military *vicus* at *Cataractonium* was probably established at that time, as was a possible timber bridge over the River Swale (Ross and Ross in prep.), RR1 to Carlisle, and the southern stretches of RR10. While the latter was probably introduced by Frontinus, it seems that a large part of the Scottish stretch can probably be attributed to forces under Agricola and Lucullus from AD78–84 (Bidwell and Hodgson 2009, 11–13, fig.4). Extension of this route towards the Stanegate and beyond was an obvious strategic requirement facilitating troop movement and supply around the advancing northern frontier, particularly in support of Agricola's campaigns into Scotland. An attempt to quantify the importance of Dere Street using a network analysis-based approach led Orengo and Livarda (2016, 27) to conclude that, in the 1st to early 2nd centuries, the route seems to have been the most important for distribution of staple supplies and imported exotica to troops operating around the northern limit of the province. It seems likely that such heavy use exerted a significant toll on the road, which is described in Vindolanda tablet 343 (*Tab. Vindol*. 2.343) as being 'bad' at the time the tablet was written during the 1st or 2nd century AD.

The proto-small town: layout and status

Aside from the irregular enclosures, putative Roman military post and numerous radiating linear anomalies interpreted as routeways on the north-west side of Dere Street (RR10), it is difficult to characterise the majority of geophysical anomalies in that archaeologically busy area of extant ridge-and-furrow (Chapter 4, Figs 4.1, 4.2, 4.3 and 4.4). The stratified area of deposits surrounding Crookacre Plantation presumably represent varying native activity along the extended primary south-west to north-east enclosure ditch, as well as overlying Roman features (Ross and Ross in prep.), yet this was indiscernible amongst the magnetic geophysical noise. What is clear, however, is that none of the visible anomalies relate obviously to a well-defined fort or fortlet, however much one might be expected at this strategically important location (e.g. Symonds 2017, 90–2). While comprehension of this zone may only be achieved through additional research, the official and civilian zone revealed by the A1 scheme to the south-east of RR10 is more readily characterised morphologically. Unless a fort is discovered, those attributes that point to Period 4 Scotch Corner being a *vicus* in the manner of Roecliffe (Bishop 2005) may be usefully discussed in terms of a proto-small town. However, as Millet (2001, 65) cautions, attempting to categorise or classify Roman settlements in simple terms may be erroneous, and it may be more useful to first consider the evidence for what activities settlements hosted, and how they functioned within society.

Interrelationships between the developing Roman road network and enclosure systems (ES1–3; Chapter 4, Figs 4.3, 4.15, 4.28 and 4.34) have been discussed extensively in Chapter 4 and above in conjunction with the refined chronology and model of Roman conquest strategy. The planned layout of Period 4 Scotch Corner demonstrates rapid development of consecutive enclosure systems, with each new iteration adding to the former, resulting in adoption and use of palimpsest enclosures (Figs 10.5 and 10.6). There were instances at Scotch Corner where Period 4 enclosure dimensions incorporated derivatives of the Roman *actus*, the unit that was fundamental to Roman planning in military and civilian contexts across the Empire, although its application was sporadic and often subject to existing constraints leading to great variability (e.g. Walthew 1978; 1987). Axial and grid irregularities are endemic in most Roman town layouts where they reflect both small- and large-scale adjustments within individual tenurial units, and in more extensive cases of planned reconfiguration. While the application of regular units both for buildings and plots remains a much-debated topic, it is apparent from the layout and structures at Scotch Corner that the settlement presents an opportunity for detailed examination of the measurements used throughout. It may even be possible to contribute to discussion provoked by Walthew (*ibid*.) about whether such instances signify the work of military or ex-military surveyors, who might be amongst the military-associated personnel that feasibly occupied rural sites in the Early Roman period (e.g. Bishop 1991; Miles *et al*. 2007, 348).

The planned Scotch Corner layout was apparently perceived differently to gradually evolving roadside settlement such as Shiptonthorpe in East Yorkshire (Fig. 10.2; Millett 2006), where organised tenurial units originating in the 2nd century AD seem never to have been surveyed and delimited as a unitary action, but were set out individually. It is recognised widely that the axes of Roman town grids were determined officially with respect to sacred observances (Creighton 2000, 209–10). Yet, it has been argued that the alignments of ES1 and ES2 were associated primarily with roads connecting the south with Stanwick and the route over Stainmore to Carlisle during the governorships of Cerialis and Frontinus, during the period when conquest in Brigantian territory was greatly achieved. Once the area was securely annexed and Stanwick neutralised, the declining native settlement appears to have been reconfigured and perhaps even repurposed for Roman-controlled official and native co-occupation.

It is also worthwhile reiterating that the relationships of ES1 and ES2 to the native coaxial and nucleated enclosures, the first of which were adjoined by the ES1, while the second type were avoided entirely by Roman occupation, and only partially truncated by the corridor of RR1 (see Chapter 4 and above). Extensive evidence for the earliest stages of Roman presence and occupation rarely survives in locations where settlements developed successfully into the Roman period. But there are notable examples in central and southern England to compare Scotch Corner with, some of which have been mentioned above in respect of their native layouts and relationships with routeways, and show a tendency for Roman planners to demonstrate respect for the native layout, population and infrastructure. Specifically, the Roman layout at Old Sleaford indicates a high degree of continuity in the disposition and alignments of boundary features and habitation areas before and after conquest (Elsdon 1997, figs 31 and 32). Further south, the Roman town of *Verulamium* (St. Albans; Frere 1972; 1983) was introduced centrally to the native complex including Prae Wood (Wheeler and Wheeler 1936), Gorhambury (Fig. 10.3; Neal *et al*. 1990), and Folly Lane (Niblett 1999, 405–7). The position of the Roman town over the 'Belgic' core settlement demonstrates incorporation of existing infrastructure with little evidence of superimposition or stifling of activity (Frere 1983, 1–9; Haselgrove and Millett 1997; Niblett 1999; 2001); Cirencester (*Corinium*) was at the junction of Fosse Way, Akeman Street, and Ermine Street, which lay at a respectful c.4km distance south of the oppidum at Bagendon, which was easily monitored and accessed (Moore forthcoming); Hingley regards the positioning of the Roman fortress and colony inside the oppidum of *Camulodunum* as an act of suppression (Hingley 2018, 24), although its position in respect of the dyke systems, native centre at Gosbecks and metalworking centre at Sheepen, rivers, routeways and subsequent Roman roads seems superficially collaborative and respectful, rather than being overtly domineering (Gascoyne and Radford 2013).

Similarly, despite initial interpretations espousing the view that the Roman layout in *Calleva Atrebatum* (Roman Silchester) was a violent replacement of the native planned interior layout (e.g. Fulford and Clarke 2011, 18; Fulford and Timby 2000, 549), more recent dating has elucidated a protracted period of incremental adjustments made after conquest, effecting gradual realignment of the 'Iron Age lanes', compounds/enclosures and buildings with the new Roman grid (Creighton and Fry 2016, 437–8, fig. 17.1). Therefore, *Calleva Atrebatum* may represent an appropriate parallel for the successive enclosure systems of Scotch Corner, as well as the cardinal orientation grid and radiating routeways. Indeed, it was the eastern Roman road to *Londinium* that seems to have determined the forum's orientation (Fulford and Timby 2000, 572, fig. 241) and the eventual enclosure system axis; such regard for the primacy of infrastructure was similarly evident at Scotch Corner (see below). The palimpsest of enclosure systems at Scotch Corner, therefore, suggest that the application of the classic Roman method for determining alignments may not have been universal; initial stages of planned settlement seems to indicate that Roman planners responded pragmatically to changing circumstances. Foremost amongst these was the developing strategy of conquest and the infrastructure needed to achieve it, but it was also seemingly necessary to accommodate the relocated population of Scotch Corner and potentially displaced communities migrating from Melsonby and Stanwick. For individuals arriving from the earthwork fortress at the latter site, the conspicuously undefended Period 4 settlement at Scotch Corner would have represented a stark contrast, although access to the Roman markets and infrastructure was a significant counterpoint to such apparent vulnerability.

Enclosure System 3 developed over a longer period than preceding systems ES1 and ES2, during which time Frontinus apparently advanced the northward route of Dere Street and consolidated territory in Brigantia, and Agricola subsequently capitalised on previous gains by forging into Scotland (Fig. 10.6). Up to the time of abandonment shortly after c.AD85/90, ES3 apparently represented the realisation of a more ambitious establishment, presumably incorporating a greater number of services while still respecting and even expressing the significance of the road junction at its centre where the most regular enclosures were discovered. There are several strands of evidence and interpretation supporting the notion that by this time, Scotch Corner was envisaged as a small town. Central amongst these was construction of additional standardised Roman buildings in association with extension and further definition of the planned interior layout (see below). Equally important was the notion of a defined settlement, which was delimited by slight perimeter earthworks and corresponding interior boundaries demonstrating some adherence to a trapezoidal layout (Fig. 10.6; Chapter 4, Fig. 4.34), while the south-west sector of the boundary may have been formed by roads. The northern boundary on the west side of Dere Street described a multangular arc with an unknown western trajectory and limit. Accepting the impact of extensive plough truncation and multiple episodes of recutting, the dimensions of the ditch (c.2m wide by c.1m deep) corresponded with the southern outer trapezoidal boundary; both seemed insubstantial by comparison with Roman town boundaries recorded elsewhere (e.g. *Calleva Atrebatum* and *Verulamium*). It seems, therefore, that the ES3 boundaries can only be realistically regarded as tokenistic, even if accompanying banks are postulated. The inner trapezoidal boundary was less substantial still, although this facet need not detract from the interpretation of the features. Conversely, it may be the case that symbolic boundaries were deemed appropriate for a settlement occupied partly by conquered and pacified natives, whose intentions were surely uncertain; enabling them to create a defensive position at the important road junction would have been a tactical error.

If the trapezoidal boundaries functioned and were perceived as proposed above, the layout they describe is worthy of discussion. Cursory examination of Roman town/city plans demonstrates immediately that development was rarely, if ever, unhindered by existing human-made constraints, nor were towns situated in topographically neutral positions. Instead, they often grew amongst native establishments or as fort *vici*, and usually close to roads, rivers, or both. Consequently, there was usually a need to adapt planned, ideally regular, layouts to irregular existing infrastructure and obstacles, resulting in converging angles, multangular extensions and development along routeways. The instatement of earthworks may have carried connotations about settlement status, which has previously been inferred at other Roman establishments such as *Londinium* (London) and *Calleva Atrebatum* (Roman Silchester) from building programmes involving infrastructure, defences, streets and buildings (Fig. 10.3; Creighton and Fry 2016, 438; Hingley 2018). All these factors needed to be considered by Roman planners at Scotch Corner, but in laying out ES3, they either consciously or unwittingly seem to have replicated some of the characteristic components found at other Early Roman settlements. For example, examination of the 1st-century and early 2nd-century legionary fortress in the western frontier at Wroxeter (Fig. 10.3; White and Barker 1998, fig.4) shows a multangular outer boundary extending beyond the original rectangular fortress boundary towards the River Severn, following a remarkably similar course to the Scotch Corner northern boundary, both examples spanning a major road (Fig. 10.7).

Even more remarkable is how, at Scotch Corner, the trapezoidal boundaries on the south-east side of Dere Street, and rectilinear enclosures within, seem to replicate in microcosm the layout of *Verulamium* (St. Albans; Frere 1972, fig. 147). Frere conflated the first construction phase of the trapezoidal inner earthwork ('The 1955 ditch') and outer town wall and street grid along with formalisation of Watling Street over the 'Belgic' settlement during the Julio-Claudian period (Chapter 1, Table 1.2; Frere 1983, 1–9), dating construction of the inner boundary to the decade before the Boudican revolt of AD60/61, or shortly afterwards

Figure 10.7: simplified comparative plans of Period 4 Scotch Corner and contemporary Flavian-period settlement layouts at Wroxeter and Verulamium.

(*ibid*. 47). Reconsideration of the dating sequence led Niblett (1999) to bracket the outer trapezoidal earthwork boundary's construction and use between the Boudican revolt and c.AD100, the spreading town having rendered it obsolete by c.AD150 (also see Creighton 2006, fig.7.1, 126). The matter of dating *Verulamium's* boundaries has been pursued further by Wilson (2006, 7–17), who posits the case for Flavian-period earthwork construction as affirmation of the town's promotion to '*municipium*' status under Vespasian. While this debate cannot be resolved here, it seems appropriate to restate the strong exchange and trading connections between Scotch Corner and this high-status Roman establishment, as represented by the comparable artefactual assemblages and evidence for supply from *Verulamium* and shared technologies such as pellet manufacturing (see Chapters 5 and 7). Given the demonstrable degree of interaction, it may be appropriate to consider *Verulamium* as a large-scale model for the small town that Scotch Corner might have become. However, as Meyr and Flügel (2016, 178) point out, while military-built settlements often exhibit axial streets, delimited plots, organised water supplies, temples and sacred areas, they often lack crucial elements such as *fora*, which define *urbanitas*. We should therefore not necessarily expect to find such elements at Scotch Corner, where it remains difficult to characterise the official and administrative aspect of the settlement.

One possible function of the settlement is represented by the livestock paddocks/enclosures and accompanying Roman military horse accoutrements and melon beads found within the settlement. The role of horses in native and Roman society has already been discussed in terms of expressing status and military capabilities, although like mules, they might also have provided traction (e.g. hipposandals, Chapter 4 and Croom, Chapter 6). It is also feasible that horses exhausted by travel could be swapped by itinerants for fresh animals stabled at Scotch Corner. Hingley defined Roman *mansiones* as guest houses for official travellers (1989, 26), which Sommer (1984, 47) recognises were sometimes located within military *vici* and accompanied by enclosures. Black (1995, 17, 29–31) asserts the association between *mansiones* and major routes and forts, while asserting their role in the genesis of small towns, as well as describing how *mansiones* were sometimes grafted on to existing Late Iron Age centres for the convenience of official Roman travellers using the *cursus publicus* (also Hingley 1989, 90). Sharing many attributes with Scotch Corner, the major Corieltavian Iron Age centre at Old Sleaford, for example, was purportedly appropriated in the 1st century AD as a *mansio* (Elsdon 1997, 75–6). At Chelmsford, the ditched boundary delimiting the early *mansio* precinct adopted existing features and was appended to the London–Colchester Roman road, enclosing buildings and areas for stabling along with an intricate system of water cisterns and channels (Drury 1988, 134), inviting parallels with Scotch Corner.

While it may stretch the evidence to propose that Scotch Corner incorporated all of the amenities traditionally associated with *mansiones*, the location at the important road junction between new forts at Greta Bridge, Bowes, *Cataractonium*, (?)Piercebridge and Binchester, would be ideal for such a service (Fig. 10.1). In addition to the horse-related artefacts, the vessels associated with dining and drinking, the possible gaming/accountancy counters and objects pertaining to literacy and numeracy at Scotch Corner perhaps support the case, as might the shape of the outer settlement boundary, which conforms to the polygonal template that Black (1995, 31, 65) suggests could be indicative of annexes around 1st-century *mansiones*. Although official buildings such as the Flavian bath house (building III.5a) at *Cataractonium* functioned alongside the early fort (Wilson 2002b, 48–54; 2002c, 453), it is possible that the site did not perform as a *mansio* until construction of stone building III.4a after c.AD125 (*ibid*. 54–8, 119; 2002b, 453–4), by which time it is feasible that *Cataractonium* appropriated this function and further rendered Scotch Corner obsolete.

Roman-style buildings

Only certain small islands of the Period 4 settlement in Field 258 avoided plough truncation that was deep enough to remove most structural traces. Aside from a row of four postholes, the central enclosures preserved little to indicate that structures once stood within them, although artefactual assemblages in the ditches certainly indicate that habitation was significantly denser than the dispersed range of surviving structures imply (Chapter 4, Figs 4.4, 4.15, 4.28 and 4.34). It may never be possible to infer the full range of building forms that were once present at Scotch Corner, although some of the surviving structural remains include intriguing attributes pertaining to the settlement's function, demography and cultural associations, allowing us to compare them with others discovered in Late Iron Age centres that became significant towns, and also with Early Roman-period settlements.

Amongst the surviving structural features, three broad building classifications were recognised in the Period 4 settlement. The first type were primarily dwellings and included Structures 32, 34, 35, 37 and 40; the second type was associated with services such as butchery, and making and selling food (Structure 38); the third were important buildings (Structures 31 and 33), attributed higher status because of their forms, locations and associated artefactual assemblages (Chapter 4, Figs 4.4 and 4.26). The possible stable or slaughterhouse (Structure 39) was built at the road junction in Period 5 and is considered below. In general, construction at Scotch Corner in Periods 4 and 5 relied upon the use of Roman-type iron nails, iron staples, spiked loops, possible decorative door studs, and lead, all of which reflect considerable changes in architecture during the conquest period. It was also apparent that Roman-type chisels used for carpentry and metalworking arrived at the same time as Roman buildings were erected (Croom, Chapter 6). The very limited assemblages of ceramic building materials—Roman brick, *tegulae* and *imbrices*—demonstrate modest adoption of robust and sophisticated Roman construction materials (Antink, Chapter 7), implying that wattle and daub, and wooden shingles were mainstays of wall and roof construction.

The most notable common attribute of Period 4 and 5 buildings was the use of two dimensions (9.9m and 4.5m), employed both individually and together in rectangular structures of all three classifications at Scotch Corner, and also recognised in certain instances where the complete forms of buildings could not be confirmed (Chapter 4, Fig. 4.26). In construction, the application of standard measurements based on the '*pes Monetalis*' (Roman foot) of 296mm is a widely acknowledged phenomenon in Roman military and civilian contexts (e.g. Ling 1985). Using this formula, the short dimension at Scotch Corner equates to approximately 15.2 Roman *pedes*, a minor deviation that falls with the range of local variations recognised in Britain, Gaul and Germany (e.g. Dilke 1985, 9). When considered with the planned enclosure systems and short period of development, it seems clear that construction of buildings with common dimensions demonstrates planned, organised and rapidly executed schemes of building at Scotch Corner during Period 4.

Housing and services

Rectangular Roman buildings of similar scale and basic layout to Structures 32, 34, 35 and 40 are referred to by Hingley (1989, 35–7) as 'one to three-roomed rectangular houses' and are common in Roman-period rural and urban contexts. It should, therefore, come as little surprise to find them at Scotch Corner, although adoption of standard dimensions is sufficiently remarkable to warrant further investigation (Chapter 4, Figs 4.4 and 4.26). Details of Structure 32's form were somewhat elusive on account of plough truncation, although it was possible to discern the only instance of a crushed mortar foundation that probably housed a timber socketed-beam or masonry courses (Chapter 4, Fig. 4.21). An interior lateral division survived partially, and a possible veranda was suggested by external postholes, facing eastwards and away from an oven outside the western wall. An L-shaped gully to the north possibly represented an adjacent light structure, also built according to the standard Scotch Corner dimensions (see Chapter 4). In common with other rectangular houses at Scotch Corner, the artefactual assemblages deriving from occupation of Structure 32 amply demonstrate that its occupants dined in the Roman style, but there was no material evidence to suggest that they were associated directly with the military. Structure 32 was also located furthest from any known roads or thoroughfares, which could have been considered an inconvenience, or perhaps a blessing.

Adjacent to RR10 on the south-east side of its curve past the former workshop enclosure, the inhabitants of Structure 35 also preferred an outside oven and their refuse also reflected lifestyles influenced by Roman values and traditions (Chapter 4, Figs 4.26 and 4.33). What roles the occupants of these buildings played out at Scotch Corner is unknown, but the cultural affinities deduced from the building types and artefacts indicate strongly that they were either aspirational natives, Roman officials, or members of the Roman contingent. The location of Structure 34 at the junction of thoroughfares RR8 and RR9 meant that its occupants enjoyed good transport connections (Chapter 4, Figs 4.4, 4.25, 4.26 and 4.28), which was also the case for Structure 40, which occupied a well-defined rectilinear enclosure at the junction of RR10 and RR7 and was the closest Period 4 Roman structure to the location where pigments were discovered in the former workshop enclosure (Chapter 4, Figs 4.4, 4.26 and 4.45; Foulds, Chapter 6; Shoemark, Chapter 9). While it is tempting to imagine that natural pink and blue might have adorned the walls of Roman buildings in Period 4, it should be recalled that the pigments were discovered in Period 3 and earlier contexts, and were more likely to have been imported to the pre-conquest settlement.

The remains attributed to Structure 37 may represent more than one phase of house construction on the west side of Dere Street beside the triangular road junction, where access to transport and services could have been easily maintained, making this a prime location (Chapter 4, Figs 4.4, 4.26 and 4.35). Even more central to the settlement, Structure 38 was positioned inside the angle of the same junction. Its rectilinear form incorporated beam-slot foundations, which presumably supported timber and wattle walls (Chapter 4, Figs 4.4, and 4.39). It is possible that the c.5m-long presumed gable end was a minor variant of the short common dimension of c.4.5m, and also entirely possible that the building's long sides measured 9.9m, although this can only be confirmed through further investigation. However, successive floor surfaces incorporating dense waste from butchery and meat-based food preparation imply that Structure 38 was the setting for commercial food production, the produce perhaps being sold to inhabitants and travellers (see Baines, Chapter 8).

The Period 4 houses at Scotch Corner compare favourably with contemporary structures at nearby Bainesse, where a group of slightly smaller timber-built sub-rectangular buildings (2496(?), 3567, 3568 and 3750) with beam-slots and integral post settings occupied regular plots beside Dere Street (Wilson 2002b, 140–3, figs 72 and 73). Like their counterparts at Scotch Corner, it was postulated that the buildings at Bainesse were probably dwellings, although one may have had a commercial or craft function (*ibid*.). Construction and occupation from c.AD80–117 indicate that this form of roadside development at Bainesse overlapped with Period 4 at Scotch Corner and was contemporary with the new fort and *vicus* at *Cataractonium* (Wilson 2002c, 454). Seen in this context, the Bainesse buildings were probably occupied by native Britons as part of a possible 'civilian *vicus*' which maintained close links with the vibrant new military and economic focus at the River Swale crossing (*ibid*.). Artefactual assemblages from the Bainesse buildings indicate that the occupants do not seem to have enjoyed access to the kind of exotic imports evident at Scotch Corner, which perhaps reflects the status or wealth of the inhabitants. In the 1st century AD unenclosed settlement at Faverdale (Proctor 2012, 32, fig.19), sub-rectangular structure 9 measured c.5m by at least 7.5m and was constructed using beam-slots. Part of an Early Roman quern and a single sherd of samian ware dated c.AD40–90 indicate that the building was probably erected in that area of native habitation and vernacular buildings after AD70, making its appearance comparable with Scotch Corner, but the modest status of structure 9 and its context compare better with the examples at Bainesse in terms of wealth and status.

Important buildings

The apsidal building (Structure 33; Chapter 4, Figs 4.4, 4.15, 4.25, 4.26 and 4.28) was introduced with ES1, or possibly ES2, and probably remained standing in an open area near the heart of the settlement throughout Period 4. Despite extensive plough truncation of any internal structural features, the enigmatic footprint and artefactual remains indicate that it was probably the pre-eminent building so far discovered at Scotch Corner. It may have been unintentional or coincidental, but at 4.5m-wide, the north aisle/transept of Structure 33 either set the precedent for or was an early adoptee of a standard building measurement at Scotch Corner. Superficially, both the arresting form of Structure 33 and its unenclosed position suggest expression of elevated status and pretension, perhaps indicating that it functioned in the same manner as administrative buildings at the centre of *Calleva Atrebatum* (Roman Silchester), where the surrounding open areas are proposed as gathering places and/or the livestock market (Creighton and Fry 2016, 412). The artefactual materials recovered from around Structure 33 were diagnostic of Roman adornments, grooming, decoration, dining, games and accounting, indicating that the users subscribed to Roman traditions and behaviours, maintained close contact with the Roman military and had the necessary accoutrements such as styli, penknives and counters for undertaking administrative and official tasks.

Having established the esteem of Structure 33, it is reasonably straightforward to confirm the architectural tradition that exerted the strongest influence on its designer. The building is patently too early to be a Christian church in northern England, but resembled other apsidal buildings such as the small 2nd-century AD temple dedicated to local deity Antenociticus in the *vicus* at Benwell (*Condercum*; Fig. 10.2; Simpson and Richmond 1941, 37–9; Bidwell 2007, 95), and the possible *schola*, guild building or temple (site 40) at Corbridge (*Coria;* Fig. 10.2), which post-dated the early fort, but pre-dated the western compound (Forster and Knowles 1913, 243–6; Richmond and Birley 1940, 102–5; Hodgson 2008, 54). Wider investigation of Early Roman sites in Britain suggests that the closest comparison for Structure 33 in terms of date, form and scale may be found incorporated into the courtyard ranges of very high-status buildings such as Fishbourne palace (Cunliffe 1971a, fig. 42). The stone-built apsidal suite (of early 2nd-century construction) at the west side of nearby Holme House villa (Harding 2008, 135–40) was somewhat smaller than that of Structure 33, whereas the semi-rounded end to the villa at Northfleet was only marginally wider than that of Structure 33 (Fig. 10.3; Andrews *et al*. 2011, 138–41). Scrutiny of the settlement plans at *Verulamium* (Frere 1972, fig.147) and *Calleva Atrebatum* (Creighton and Fry 2016, 48–156) readily demonstrates the frequent appearance of apsidal elements at temples and complex structures often associated with civic and administrative functions. Remembering the exceptional quality of some of the imports discovered at Scotch Corner, such as the shallow handled colourless glass bowl with high relief decoration (Cat. no. 636; Cool, Chapter 5; Chapter 4, Fig. 4.42) and head of Bacchus (Cat. no. 631; Cool, Chapter 5; Chapter 4, Fig. 4.27), it may not be inappropriate to consider such edifices as direct inspiration for Structure 33, which perhaps represented an architectural symbol of Scotch Corner's potential.

Examples of the apsidal form were often incorporated within L-shaped and courtyard houses in the Roman nuclei of southern England (e.g. Hingley 1989, 51–4), whereas simpler structures with single apsidal ends and rectangular floor plans are also found in more humble circumstances. While the latter usually occupy smaller footprints than Structure 33, apsidal forms remain relatively rare in the contact period, a fact that no doubt contributes to them being considered symptomatic of consequential buildings. For example, in the Late Iron Age and Early Roman Essex heartlands around *Camulodunum* (Colchester), double-walled structure 7 at Mucking was constructed with a single apse adjoined to an otherwise rectangular building loosely dated to the 2nd century AD (Lucy and Evans 2016). Despite the absence of 'special' artefacts, its form and location near the main entrance to a primary enclosure was interpreted as evidence for administrative or social functions. This discovery draws comparison with a similarly shaped later Roman building at Sandford Quarry, Hatfield Peverel (Fig. 10.3; Ecclestone and Havis 1996, fig. 5.1), and a possible temple of similar form at Ivy Chimneys (Fig. 10.3; Turner 1999, fig. 5). Closer to Scotch Corner, near the Parisi-Brigantian border, a single apse-ended structure occupied a ditched roadside enclosure at the Roman settlement at Shiptonthorpe in East Yorkshire (Millett 2006, 48–53). It was interpreted from the artefactual material as a household (*ibid*. 310–11), which perhaps represented a hybridisation of native roundhouse form and Roman classical architecture during the mid- to late 2nd century (*ibid*., 53), a possibility supported by the discovery that its successor (structure 3.3) abandoned the apse in favour of a complete rectangular plan. Due to its proximity and same lack of masonry and monumental architectural remains, this example may seem to provide an appropriate parallel for Structure 33 at Scotch Corner, yet, the combined evidence suggests a far more ambitious role associated with establishment of a frontier settlement in the wake of Cerialis' and Frontinus' achievements. At the time of construction, there is little direct evidence that other Roman buildings occupied the gridded settlement, suggesting that Structure 33 perhaps represented a founding structure.

Adjacent to the road junction and inside a rectilinear ditched enclosure, the north-west component of Structure 31 conformed to the 9.9m x 4.5m standard Scotch Corner rectangular footprint, although an insubstantial extension was perhaps added to its gable end at some stage (Chapter 4, Figs 4.4, 4.21, 4.22 and 4.26). For the main part of the structure, timber posts extended below the wall construction trench, much as they had at Structure 40, while the few Roman iron nails, small quantities of ceramic building material and of Roman brick, *tegulae* and mortar in the ditches demonstrate employment of Roman construction techniques (Croom, Chapter 6; Antink, Chapter 7). The range of materials in the enclosure ditch surrounding Structure 31 was demonstrative of extensive contact with Roman supply and included a range of exotic materials. In particular, the ceramic tableware, dishes, beakers and flagons from the earlier phase of the enclosure ditch (group **28158**; Chapter 4, Fig. 4.22) indicate that dining and drinking were the principal activities, whereas replacement ditch group **28156** was dominated by vessels related to food preparation and cooking, including mortaria, lava querns and the millstones. Discovery of gaming or accountancy counters, iron styli and a penknife for sharpening quills demonstrate literacy and numeracy associated with administrative and/or leisure pursuits, while the copper-alloy mirror fragment indicates access to valuable objects associated with grooming. While all these activities may be explained in domestic settings at southern British and Continental Romanised settlements, their unique appearance at this northern outpost in the early Flavian period certainly marks out both Structure 31 and the settlement in terms of privilege and status.

Although the floor plan of Structure 31 was not revealed in its entirety, the surviving components suggest that its developed form may be categorised as an aisled building with a wing, and most probably wings. Hingley (1989, 39) follows Richmond (1969) in proposing that aisled buildings of the 1st and 2nd centuries AD are comparable with some Pre-Roman Iron Age constructions, although few native examples have been investigated. Limited studies demonstrate that early iterations of the buildings are sometimes timber, which may be replaced with a stone construction (Hingley 1989, 41; Richmond 1969). The form of such structures was sufficiently versatile to accommodate a wide range of functions including storage and industrial activities, but the majority were apparently dwellings (Hingley 1989, 39), although buildings with floor plans similar to Structure 31 have also been found in association with villas (e.g. Rivet 1969). Such establishments are not expected this far north in the early Flavian period, but neither was a late 1st-century example anticipated at 'Ditches', Bagendon (Fig. 10.3; Trow *et al*. 2009; Moore 2014, 29), where it was believed to signify the inhabitants' high status and rapid adoption of Romanised lifestyles (Moore 2006b, 76). It is not appropriate to propose that Structure 31 was perceived as a villa, but in light of the increasing evidence for Early Roman villas to the east of the Pennines (Harding 2004, 163–5), the nearby example at Holme House (Cool and Mason 2008) and the suggestive undated cropmarks immediately south-east of Middleton Tyas (N. Yorks. HER: MNY32350/1), it seems likely that they represented a building form that could feasibly have been aspired to by the architects and occupants of Scotch Corner.

It was notable that imported window glass was absent during all Periods at Scotch Corner, but a single piece came from the modest excavation area at Melsonby (Worrell 1999, 26). Along with the Roman tile and brick found at Melsonby, this might signify the adoption of Roman building materials and techniques in native structures shortly before c.AD70 (Fitts *et al*. 1999, 47–8)—a phenomenon also postulated for Period 3 in Field 246 at Scotch Corner (see Chapter 3). Haselgrove's assessment of the Melsonby finds in conjunction with the six pieces of window glass and assemblage of Roman tile from Stanwick site 9 similarly led him to conclude that the imported material was unlikely to derive from Roman-style buildings and was potentially incorporated into native structures (Haselgrove 2016, 276–7). When the Melsonby and Stanwick finds are considered in conjunction with the Roman tile around structures in the native workshop enclosure at Scotch Corner, it seems that their use in the Stanwick-Scotch Corner complex relates to the final pre-conquest years when native occupants were increasingly adopting Roman traditions. As Haselgrove implies (*ibid*.), the appearance of window glass and Roman building materials is primarily associated with local forts and *vici* of the Flavian period and beyond. The only fragments of architectural masonry at Scotch Corner bear comparison with pieces of a water fountain in the *mansio* courtyard at *Cataractonium* and might derive from a similar edifice located nearby (Cat. no. 913; Croom, Chapter 7). Little can be deduced from their presence as road material, except presumably loss or refurbishment of the associated structure by the time they were incorporated during Period 5.

The conquest-period population

The scarcity of identified burials at Scotch Corner means that there was little opportunity to employ any of the scientific techniques that might elucidate the origins and ethnicities, lifestyles and pathologies of the inhabitants through examination of human remains. A concomitant absence of grave goods similarly denies any chance to deduce individual and group identities or cultural sympathies in death. As noted above, the single inhumation burial of uncertain date was too poorly preserved and insufficiently representative to provide meaningful conclusions for the population (Periods 2–4; Grave **27673**, Field 228, Chapter 3, Figs 3.92 and 3.94; Fell and Speed 2019, 365–71). Despite this, the manner and context of burial was informative: the Roman-type roadside position was also central to a coaxial enclosure located within the Romanised settlement. Positioned a short distance from a roundhouse (Structure 30; Chapter 4, Figs 4.4 and 4.19), the individual may have been an occupant, or had close links with them. This combination of attributes implies that native inhabitants were known to adopt certain aspects of Roman burial tradition, or possibly that this individual, living inside the settlement, had attained Roman status. Equally, the overall absence of burials might be interpreted as wholesale alignment with the Roman tradition for burial outside the settlement (e.g. Toynbee 1971, 73; Stead and Rigby 1989; Whimster 1981), which itself signifies the power of Roman influence upon the population.

Difficulties in defining the demographic composition and character of the dynamic community at Scotch Corner evidently reflect the range of influences upon the inhabitants and itinerants and their variable responses to them. While the most compelling evidence for Roman control comes from the roads, planned settlement layout and rectangular buildings, the actual population is most clearly represented in the range of artefactual materials deposited at the settlement, and sometimes in the manner and context of their deposition. Discussions of artefacts in Chapters 5 and 6 make clear the cultural shift that occurred amongst Scotch Corner's population from the beginning of Period 4 when the supply of materials was carried out primarily by military networks and was associated with a resurgence in occupation. The settlement was inhabited and frequented by people who adopted and embraced tangible aspects of Roman life, but maintained close links with local producers making ceramic vessels, mortaria and querns that were influenced by newly imported technologies and styles (Cumberpatch, Griffiths and Williams, Chapter 5). Such indicators might suggest the presence of auxiliary troops and/or natives attached to the Roman contingent at Scotch Corner. This type of cultural amalgam was notably absent at the contemporary roadside settlement at Bainesse and the newly established fort and military *vicus* at *Cataractonium*, (Wilson 2002c, 456), which further demonstrates the distinction between the wealthy and privileged occupants of Scotch Corner and their less fortunate or favoured counterparts.

In addition to the evidence from imported exotic ceramic and locally produced vessels at Scotch Corner, the small finds are particularly instructive indicators of individual tastes and affinities, although they also presumably reflect the availability of goods and perceptions of those managing the supply networks, as was proposed for some of the vessel glass (Cool, Chapter 5). Frequent reference has been made to the arrival of copper-alloy ladles, drinking and dining vessels, which like much of the imported ceramic tablewares, were indicative of formal dining in the Roman tradition (Croom, Chapter 6). Their concentration in the planned enclosures and around the rectangular standardised buildings in Field 258 suggests occupation by Roman diplomats, officials and merchants, but also probably represents adoption of such practices by a cohabiting wealthy native contingent

The demographic composition implied by the collection of materials certainly suggests that distinctions between military and civilian life were neither rigid nor static (e.g. James 2001) and might lead to the interpretation that Scotch Corner perhaps resembled a military *vicus*. Like Roecliffe (Bishop 2005), it potentially represents occupation of military character near a fort or fortlet. The modest assemblage of militaria such as projectiles, Claudian-copy coinage and Vespasianic issues arguably contribute to the case for proximate military presence, but also imply that the exposed part of the settlement at Scotch Corner was almost certainly not occupied by an army despite the emphatically military signature of the supply network and resemblance of the Period 4 pottery assemblage to an extramural (*vicus*) or industrial settlement (see Leary, Chapter 5). Nor does the lack of direct evidence for a garrison rule out the possibility that the settlement was occupied by a contingent associated with military supply and veteran settlers from the earliest campaigns in the region. Items relating to security, literacy, numeracy and accounting found primarily around Structures 31 and 33, and in pit group **28131**, were compelling indicators that representatives of Roman officialdom were resident and/or active at Scotch Corner. Individuals of native descent seem likely to have been the recipients or conveyors of other prestigious objects such as the seal box (Cat. no. 784; Croom, Chapter 6; Chapter 4, Fig. 4.62) and miniature sword (Cat. no. 830; Croom, Chapter 6; Chapter 4, Fig. 4.61), which apparently exemplified the combination of native and Roman influences, incorporating elements of design recognised within the Romanised populations of southern England. The amber actor statuette (Cat. no. 774; Croom, Chapter 6; Chapter 3, Fig. 3.73) was undoubtedly a prized possession of ample quality and rarity to accompany any diplomatic gift packages alongside other special objects such as the colourless glass bowl (Cat. no. 636; Cool, Chapter 5; Chapter 4, Fig. 4.42) with its highest status or native royal connotations. Amongst the imported and British-made materials, numerous objects pertaining to female presence included beads, bangles, and types of brooches that signify early adoption of Roman styles (e.g. Cat. no. 687). At least one of the finger-rings (Cat. no. 730) was like another found at Castleford in a context dated c.AD85–100 (Croom and Foulds, Chapter 6). The toilet implement (Cat. no. 769), deriving possibly from a chatelaine set, could be amongst the objects denoting female grooming. There is also a suggestion that rose madder might have been used to dye textiles (Foulds, Chapter 6), although like the Egyptian blue pigment, it could have been used to adorn people's skin, perhaps having been prepared in palettes such as the sandstone example (Cat. no. 771). It cannot be assumed, however, that body paints or 'make-up' were used exclusively by women, which is also true for the mirrors (Cat. no. 767 and Cat. no. 768), although it is reasonable to number them amongst the items probably signifying female inhabitants of elevated status. Furthermore, it may be appropriate here to question whether women were amongst the Roman and/or auxiliary contingent, since the assumption that they were uniquely male has a profound influence upon how the composition and status of the settlement is perceived.

Considered in a 1st-century AD northern British context, the exceptional privilege experienced by the community at Scotch Corner certainly implies that the inhabitants were regarded with considerable esteem. There are few plausible explanations for their special treatment, but one bold theory was devised by Entwistle before the results of the A1 scheme fieldwork at Scotch Corner were known. With reference to the historical context of the conquest period, he proposes that the Scotch Corner Roman road triangle comprising Margary (1973) roads 8c, 82 and 820 (Fig. 10.1; Chapter 1) was designed to surround Stanwick in the manner of a traversable border (Entwistle 2019, 94–8; maps 12 and 13). After the threat of Venutius was eliminated by the Roman conquering force, Entwistle envisaged the return of Cartimandua to her ancestral heartlands as a loyal former client queen who presented the Romans with a problem of etiquette. They solved this by reinstating her in a protected pseudo-independent principality where she and an entourage could live out their days with the appearance of power in state-sponsored wealth and comfort. The validity of this theory does not seem to be challenged substantially by Bidwell and Hodgson's proposed construction date of c.AD87–122 for Margary road 820 (2009, fig. 14), which would have completed the encompassing road triangle, but only around the time that the planned enclosures at Scotch Corner were abandoned, which perhaps followed Cartimandua's death and departure of any Roman troops stationed nearby. Despite this uncertainty, the archaeological materials and chronology from Scotch Corner may never be able to prove Entwistle's theory, but they do support the argument that the settlement was home to displaced members of the native elite, and perhaps even the former Brigantian queen herself. It may be appropriate to view this form of co-occupation at Scotch Corner as an adapted version of the scenario witnessed further south, whereby oppida and Late Iron Age centres were appropriated during and after conquest as Roman administrative centres (e.g. Moore 2014, 26). Situated at the road junction, Scotch Corner may have been considered more suitable for this function than Stanwick.

Stage C: closure and abandonment of the planned settlement at Scotch Corner (late Period 4 c.AD85/90)

After 15–20 years of continuous occupation, development and reorganisation, the closely dated ceramic assemblage indicates that the planned settlement at Scotch Corner was largely abandoned c.AD85/90 (Leary, Chapter 5), at which time episodes of purposeful backfilling represented closure of enclosures, associated buildings, wells, and pits on the south-east side of Dere Street. Deposited materials included both imported and native pottery, vessel glass and domestic refuse as well as items of personal adornment, horse tack and prestigious objects. Amongst the assemblage of eight certain Flavian coins, four minted AD77–8 (Cat. no. 679; Cat. no. 678; Cat. no. 680; and Cat. no. 677) were the latest recovered from the planned enclosures, each purportedly exhibiting wear consistent with circulation for more than a decade prior to deposition (Brickstock, Chapter 6; Chapter 4). While the date of closure is therefore reasonably well-established, it is more difficult to be certain about which component of the community was responsible and what the process might signify. Closure events are known both at native Late Iron Age settlements and Roman military installations, although examples of the latter are comparatively rare. With reference to the possible demolition of Structure 31 at Scotch Corner, similar behaviour might be represented by the burning of buildings and burial of the vast collection of iron nails and other recyclable ironwork at Inchtuthil Roman fortress (c.AD86; Fig. 10.3), which denied any chance for native appropriation and reuse and amply demonstrates the tactical motivation behind instances of purposeful demolition and deposition in a Roman military context (e.g. Pitts and St. Joseph 1985).

If the Period 4 settlement at Scotch Corner were appended to a fort or fortlet, and functioned like a *vicus* that was dependent upon the Roman army, the departure of troops might provide a simple explanation for the dispersal of the population and lend further credence to the historical timescale for northward campaigning. This need not be ruled out by the observation that it is native British contexts that provide the best parallels for purposeful settlement closure. There was already precedent for this type of behaviour at Scotch Corner; during Period 2, at least one element of the population was involved in episodes of conspicuous drinking, feasting and deposition of the resultant materials in trench **16410** (Chapter 3, Fig. 3.19) and associated features at the workshop enclosure as part of the decommissioning process (see Chapter 3; Monteil, Chapter 5). Elsewhere, ritualised infilling of former storage pits is a well-known phenomenon in Late Iron Age southern Britain (e.g. Cunliffe 2005, 570–1) and was similarly evident at Scotch Corner in well **15077** (Chapter 4, Fig. 4.20) and pit group **28131** (Chapter 4, Figs 4.24 and 4.33). Deposition of the miniature sword (Cat. no. 830; Croom, Chapter 6; Chapter 4, Fig. 4.61) conformed to a distinct Late Iron Age tradition associated with the fabrication and burial of miniature weapons (e.g. Farley 2011). Farley emphasises the concentration of miniature weapon hoards on the chalk downlands of Wiltshire and Wolds landscapes in Lincolnshire, with reference to discoveries from South Ferriby, and the roadside Romano-British centre at Nettleton Top and Old Sleaford (Fig. 10.3), noting the co-occurrence of native pellet/coin minting and miniature weapon burial, which further confirms parallels between the latter site and Scotch Corner. Additional evidence for closure of native settlements is also available in the immediate environs of Scotch Corner; Haselgrove

(2016, 417–20, 483) did not recognise any compelling evidence for a violent end to occupation at the Tofts in Stanwick c.AD70, instead referring to a possible ritualised abandonment horizon containing smashed pots of local production and imported forms. According to the newly modelled chronology, abandonment of Melsonby may have taken place shortly after AD75 (Hamilton 2016, 343), at which time there also seems to have been deliberate destruction of many Roman imports that arrived during the period of the Brigantian client kingdom (c.AD43–69; Fitts *et al*. 1999, 47–8), and also perhaps burial of the extravagant 'Stanwick' 1843 metalwork hoard (see Chapter 1).

These closure events at foci amid the former oppidum of Stanwick-Scotch Corner were carried out at a time when surrounding Brigantian lands were securely incorporated into the Roman province, although the extending northern frontier was far from being stable. Agricola's recall from Scotland in the winter of AD84/85 released the *legio XX* for redeployment to suppress uprisings along the Danube (Birley 1948). This hiatus in the northward campaign facilitated a period of consolidation across the Solway-Tyne isthmus and within former Brigantian territory (Bidwell and Hodgson 2009, 13–15), which perhaps included completion of the Scotch Corner road triangle (Fig. 10.1) and might correspond with redeployment of troops from *Cataractonium* before resupply (Ross and Ross in prep.). As mentioned, construction of Margary road 820 connecting Bowes with Dere Street perhaps began in the mid- to late AD80s, presumably to expedite transit between military installations, which appear to have accommodated frequent troop movements (Bidwell and Hodgson, fig. 5; Chapter 1, Fig. 1.8). The road joined near Bishop Auckland, c.5km south of the fort at Binchester (*Vinovia*; Ferris 2010), while the corresponding fort at *Cataractonium* (Wilson 2002b; 2002c; Ross and Ross in prep.) was located 6km south of the junction at Scotch Corner, and the fort at Bowes (*Lavatris*; Frere and Fitts 2009) lay marginally beyond the western corner of the road triangle.

The resulting arrangement was a 25km-sided triangle of roads with Pythagorean angles (Entwistle 2019, map 13), each bisected by a waterway; the River Tees crossed both at Barnard Castle and Piercebridge, and the River Greta crossed by the fort at Greta Bridge (Fig. 10.1; Frere and Fitts 2009). This arrangement meant that forts could be approached from only two directions, whereas they would be accessible from three if located at the road junctions. The putative fort at Carkin Moor, between Scotch Corner and Greta Bridge on the Stainmore road, has seen minimal investigation (Hartley 1980, 4; Zant *et al*. 2013b, 93–6), but could feasibly have been established during the period of military consolidation after early campaigns. There is also speculation about a Flavian fort at Cliffe near Piercebridge (Fig. 10.1; see Chapter 1; Cool and Mason 2008, 298), while high ground to the north-east of the River Tees at Barnard Castle provides a logical topographic and strategic location for a fort or fortlet on Margary road 820 (e.g. Austin 2007). However, even without the speculative components, the arrangement evidently eased movement in all directions while enabling the Roman occupiers to monitor and regulate activities and to manage the local agricultural and mineral resources. Considering the archaeological evidence and historical context, therefore, it seems reasonable to infer that the acts of closure were perpetrated by the departing and displaced native populations following a staged relocation from Stanwick to Melsonby, then Scotch Corner. Amongst the push factors might have been the degree of oversight and exposure presented by the fort and road infrastructure; indeed, Jones and Mattingly (1990, map 4:29) go so far as to suggest that Stanwick might have been repurposed as a Roman military stronghold after conquest and the Roman fine wares can be interpreted in that way. Conversely, the former inhabitants of Scotch Corner perhaps also sought to align with Roman-controlled economic activity once wealth-generating capacity at the former native centre was lost.

THE IMPACT OF ANNEXATION: PERIOD 5 (c.AD85/90–c.AD135/150)

For those not involved in the closure events and exodus that characterised the end of Period 4, Bayesian modelling suggests gradual diminution of occupation at Scotch Corner between c.AD85/90 and AD135/50 (Hamilton, Chapter 9). This coincided with a time of near historical silence lasting from the end of Agricola's tenure until Hadrian's visit to Britain c.AD122 (Birley 1948, 78). During this episode, the process of Roman troop withdrawal that effectively ended campaigning in Scotland also left the frontiers increasingly exposed, prompting development of the supporting infrastructure across northern England (Jones and Mattingly 1990, 97; Bidwell and Hodgson 2009, 13–15). The actions and fate of *legio VIIII Hispana* based at York (*Eboracum*) seems to be central to events in the north at that time, although the means of their apparent disappearance continues to provoke much debate (e.g. Campbell 2018). Some commentators propose that intensive native uprisings led to its annihilation and replacement (e.g. Haverfield 1924, 119; Weber 1936, 313). More recently, Breeze (2003) also considered whether they were deployed as part of an *expedito Britannica*, which had the effect of pausing construction on Hadrian's Wall for two years. Alternatively, it has been suggested that elements of the force departed Britain in order to supplement the vexillation stationed at Nijmegen between AD104–20 (see, for example, Collingwood and Myers 1937, 128; Campbell 2018). Regardless of the reason, it seems that departure of *legio VIIII Hispana* and additional troop withdrawal during the reigns of Trajan and Hadrian emphasised the vulnerability of the northern frontier, leading to further consolidation at the Solway-Tyne frontier and through completion of Hadrian's Wall, and concentration of troops at garrisons along it (Jones and Mattingly 1990, 97).

There is some degree of uncertainty about troop deployment immediately around Scotch Corner, although the capacity of the Flavian fort at *Cataractonium* suggests garrisoning of auxiliary forces (*ibid*., 97–101; Wilson 2002c, 451; Ross and Ross in prep.) and possibly joint occupation by legionary and auxiliary troops (Bishop 1999), which was consistent with the strings of vexillation forts and camps positioned along major roads (e.g. Jones 2012, fig. 2). As discussed above, the dates of presumed marching camps around Bainesse and *Cataractonium* are uncertain but probably relate to conquest-period activity (Wilson 2002c, 446–8), as might a large camp at Rokeby Park (Chapter 1; Haken forthcoming). One or more of these examples could represent troop deployments around the time that a Hadrianic-period rectangular camp was constructed at Scurragh House between Scotch Corner and *Cataractonium* in Field 211 (Ross and Ross in prep.). Even if broadly contemporary, the concentration of roadside camps and forts around Scotch Corner certainly indicate its continued strategic importance at least to the time Hadrian's Wall was completed, accepting the problems inherent in dating Roman camps (Welfare and Swan 1995, 24–6; Jones 2012, 106–130).

After abandonment of the planned settlement on the south-east side of Dere Street at Scotch Corner, occupation seems essentially to have ceased, except for the development of a small compound and probable interior building constructed adjacent to the road junction on the former site of Structure 31 (Chapter 4, Figs 4.21 and 4.22). No coins minted after AD77–8 were deposited in that area, and the ceramic assemblages comprised a limited collection of heavily abraded Period 4 types, with little to signify occupation into the 2nd century AD (Leary, Chapter 5). Development at the diminished settlement was otherwise confined to maintenance and refurbishment of the roads and junction, where a possible Roman military stable or slaughterhouse was constructed around AD100 (Structure 39, Chapter 4, Fig. 4.77), but seems not to have continued in use for long. In addition to the Trajanic coin (AD98–117; Cat. no. 683) that supplied the *terminus post quem* for Structure 39, another of the same date (Cat. no. 682) was found close by in pit **31610** along with a coin of Nero (Cat. no. 669), a Roman silver finger-ring (Cat. no. 729) and an iron finger-ring with intaglio (Cat. no. 733), arguably representing the last identifiable act of deliberate deposition of valuable and personal possessions (Croom, Chapter 6). The few 2nd-century AD Roman vessels produced and imported after Hadrian's reign were found in upper fills of roadside ditches along Dere Street and probably represent discard or loss rather than occupation, although it should be appreciated that the palimpsest of remains indicated by geophysical anomalies to the west of Dere Street could derive from activity continuing into the Roman period. Aside from the presumed marching camp of Hadrianic date in Field 211, the only signs of contemporary activity near Scotch Corner were the realigned field systems that now respected the course of Dere Street (Chapter 4, Figs 4.84, 4.85, 4.86 and 4.87). It seems that most of the people sensibly relocated to nearby *vici*, while others moved to farms set back from the roads and growing settlements like Faverdale where Roman lifestyles continued to be embraced (e.g. Proctor 2012, 165; Chapters 1 and 4).

LEGACY AND FUTURE RESEARCH

Scotch Corner's meteoric ascent to join Stanwick at the pinnacle of Late Iron Age native society seems to have been equalled by the rapidity of its demise in the early 2nd century AD. The impact of Roman conquest upon the former Brigantian centre remains etched on the landscape in the form of major conjoining roads, whereas surrounding expanses of sparsely inhabited farmland contrast sharply with the briefly thriving centre and diverse communities that once inhabited it. Forgotten endeavours of the native population are now represented above ground by a disarticulated network of denuding earthworks, while beneath the blanket of fertile topsoil lies an archaeological resource of primary significance. Numerous recent studies articulate the resurgent appreciation for informative remains inside the Scotch Corner triangle, and building upon those and older works, this volume presents the timely publication of a collaborative response to the A1 scheme's research questions and discoveries arising from post-excavation analysis.

Working within research parameters made it possible to harness the vast body of information from the project and also helped to determine and consider the successive eras of contact, concord and conquest that characterised the changing impact of Roman policy at Scotch Corner and in its environs. Allied together, the prodigious array of closely dateable imported ceramic vessels and 50 radiocarbon dates informed a Bayesian model and resulting chronological framework of fundamental importance in determining Scotch Corner's role and relationship with Stanwick at the heart of Brigantian territory, economy and society. Elevated status and specialist artisan capabilities were demonstrated by the unexpected and extensive pellet mould assemblage, which should reinvigorate the study of native coin production and use in northern and central-eastern Britain and carries implications for the spread of skills and objects originating in Gaul. Arrival at the site of rare and unique exotic objects such as the amber statuette, miniature sword and pigments further demonstrate how the affluent community was well-connected with southern British and Continental exchange networks that were already operational at Stanwick. Equally valuable is the new evidence pertaining to the dynamic process of Roman conquest in northern Britain and its impact on buildings, settlements, populations, and on society itself. It was never predicted that remains might relate to a displaced contingent of Brigantian elites, and perhaps even to Queen Cartimandua herself, yet such revelations are always accompanied by a plethora of new and recast questions that extend beyond any project's scope, Scotch Corner being no exception.

Research avenues warranting further investigation have been proposed throughout the preceding chapters and the following selection promise particularly worthwhile outcomes. The list is not exhaustive, however, and it is anticipated that such a compelling site, rich archaeological landscape and extensive archive will prompt and inform a diverse range of studies, many more than can be anticipated here.

To determine the extent and character of surviving subterranean remains and reconstruct environmental conditions:

- carry out geophysical survey between Scotch Corner, Melsonby, Stanwick and Piercebridge, and inside Stanwick's perimeter earthworks;
- (re)transcribe cropmarks from aerial photographs inside the Scotch Corner triangle and along the adjoining road corridors;
- carry out topographic and analytical earthwork surveys to determine the extent and survival of extant remains beyond Stanwick's perimeter;
- further examine the form, extent, course and date range of Scots Dyke, and its relationship to connected sites;
- extend LiDAR coverage to encompass relevant areas beyond those already surveyed;
- carry out pollen analysis within suitable archaeological and natural features across Gatherley Moor;
- investigate the irregular 'metalworking' enclosure at Melsonby to determine the location of the 'Stanwick' hoard burial site, the nature of activity and relationships between boundary features and structures;
- develop a fuller understanding of the remains at Carkin Moor and in its environs;
- further investigate the routeways and roads connecting focal points of settlement and other activity as well as the Rivers Tees and Swale;
- obtain reliable dating evidence for the construction of Margary road 820 between Bowes and Bishop Auckland.

The material culture derived from this project is exceptional. Numerous items in the assemblage are rare or notable examples, which have abundant potential to contribute to broader artefact studies, and individual cases are noted through the preceding chapters. Specific areas providing a strong legacy for future research are:

- consideration of the small finds assemblage with particular reference to how items such as the miniature sword and personal adornments represent aspects of contact, trade and identity in the north-east in the years immediately prior to and following conquest;
- inclusion of the pigment remains in any future study considering the nature, source and use of such materials, and their survival in the archaeological record;
- detailed compositional comparison of the pellet and mould prills from Scotch Corner with metallic residues from other manufacturing sites, and with Iron Age coinage and other artefacts;
- further examine the possibility of primary pellet mould deposits and compare their composition in respect to distribution and chronology, mould type and origin, breakage and selection patterns, and accompanying charcoal and metallurgical waste to better understand the process and context of production, the termination of manufacturing, and the rationale behind discard;
- petrographic analysis of the silty wares and mortaria suggested to have been made at or close to Scotch Corner;
- reconsideration of other large ceramic assemblages from the wider region considering the large data set generated by the A1 scheme excavations;
- petrographic analysis of select pellet mould fragments, the sample of refined clay (**31007**; retained by NAA), select ceramic building materials, hand-built and coarseware vessels;
- consideration of contemporary faunal assemblages from Scotch Corner and the wider region in conjunction with programmes of isotopic analysis to examine livestock provenance and movement;
- consideration of the fish remains in any future study of fish bone with the aim of determining why these rare items are recovered from specific locations.

CONCLUDING COMMENT

This monograph and its sister volumes (Speed and Holst 2019; Ross and Ross in prep.) represent the primary archaeological publications arising from extensive archaeological work carried out by NAA for the A1 scheme between 2013 and 2017. The volumes illustrate appreciable advances in the understanding of life and death in the Vale of Mowbray, and the spectacular discoveries at Roman *Cataractonium* perhaps exemplify the archaeological success of the project. However, the unique story unearthed at Scotch Corner of a British community's first contact with Rome, followed by a prosperous period of concord, and subsequent Roman conquest of the north, seems to have captured an archaeological zeitgeist. Although previous studies including the A66 upgrade reported important findings, Scotch Corner's most remarkable elements were recognised during the large-scale programme of soil stripping, open area excavations and subsequent analysis that accompanied the A1 scheme.

Yet, despite the advances made here, it seems clear from geophysical survey results that successive infrastructure projects have only scratched the surface of the surviving archaeological resource at Scotch Corner. We may therefore anticipate further ground-breaking discoveries in the rich archaeological landscape surrounding this place of national significance.

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APPENDIX A
DATA RESOURCES

Data resources that accompany *Contact, Concord and Conquest: Britons and Romans at Scotch Corner* are available from the Archaeology Data Service via the digital object identifier:

https://doi.org/10.5284/1078330

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This volume is the second of three monographs presenting the results of archaeological excavations carried out by Northern Archaeological Associates in 2013–17 in association with Highways England upgrading 19km of the A1 trunk road to motorway status between Leeming and Barton in North Yorkshire. The investigations recorded an abundance of archaeological remains dated to the Early Mesolithic to medieval periods, with prolific evidence for life in the Iron Age and Roman period. The publication of these works significantly furthers the appreciation of the major north–south ancient routeway and the understanding of the people who travelled along it and settled the surrounding landscape.

The first monograph focuses on human burials and the third upon Roman Cataractonium, whereas this volume explores the research themes of 'first contact' and 'Dere Street', examining those remains relating specifically to the Late Iron Age and the period of Roman conquest in Britain. Evidence deriving from this eventful transitional era was concentrated around the enduring communication nexus at Scotch Corner, where the ever-changing nature of interactions between native Britons and Rome had a substantial and tangible impact upon the community, their economy and extensive poly-focal settlement.

In conjunction with an unparalleled array of exotic continental imports, a radiocarbon dating programme and Bayesian modelling made it possible to determine a precise chronology and therefore to set events at Scotch Corner within a wider geographical and political context, with particular reference to the nearby Brigantian centre at Stanwick and the developing Roman infrastructure network associated with annexation. While the introductory and results chapters, the material reports and concluding synthesis amply demonstrate how complex and intense activity was around Scotch Corner, the excavated remains represent a small fraction of the archaeological resource that survives in fields lying west and north of the roundabout.

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A1 Leeming to Barton Monographs
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Contact, Concord and Conquest. NAA Monograph Series Volume 5
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