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A Romano-British enclosure near Rossington, South Yorkshire

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ABSTRACT
Excavations in 2012 and 2014 examined a small sub-square enclosure, associated field system and four adjacent waterholes. A patch of cremated human bone radiocarbon dated to the early–mid-Romano-British period was revealed in the partially silted enclosure ditch; the small quantity of bone recovered may suggest that it was a secondary deposit. A small assemblage of finds including Romano-British pottery was collected. The wider landscape setting of the site is examined.

KEYWORDS
Enclosure; field system; waterhole; cremation; environmental remains

Introduction

Excavations near Rossington, south of Doncaster, South Yorkshire, in 2012 and 2014 examined a small sub-square enclosure connected to field system ditches, and four adjacent waterholes, the site producing a small assemblage of finds including Romano-British pottery. The presence of the enclosure had been revealed by a geophysical (detailed gradiometer) survey on the site of the proposed Rossington Inland Port (Wessex Archaeology 2012a). The survey, conducted in five adjacent fields (Fields A–E) totalling approximately 40 ha, had also revealed elements of an ancient field system known from aerial photographs to be far more extensive and to incorporate within it a number of other enclosures (Figure 1).

Many of the geophysical anomalies in Fields B–E (some of which related to field boundaries known from maps to be of post-medieval and modern date) were investigated by phases of trench evaluation (Wessex Archaeology 2012b; 2014a); Field A was initially not accessible for evaluation. Evaluation also targeted some of the cropmarks recorded in fields to the north (Field F and Borrow Pit 2) (Wessex Archaeology 2012c; 2015). In 2012, on the basis of the initial evaluation results, an area of 1.1 ha in Field B (Trench B), immediately surrounding the sub-square enclosure and an adjacent waterhole, as well as a ditch running north from the enclosure, was subject to excavation (centred on NGR 458800 398740) (Figure 2). Subsequently, in 2014, some of the field boundaries to the south, in Field A, were also subject to targeted excavation in five Trenches (A1–A5), totalling 0.5 ha (centred on NGR 458900 398550) (Figures 2 and 5).

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With contributions from Dana Challinor, Michael J. Grant, Lorrain Higbee, Jacqueline I. McKinley, Rachael Seager Smith and Chris J. Stevens, and illustrations by S.E. James and Alix Sperr.

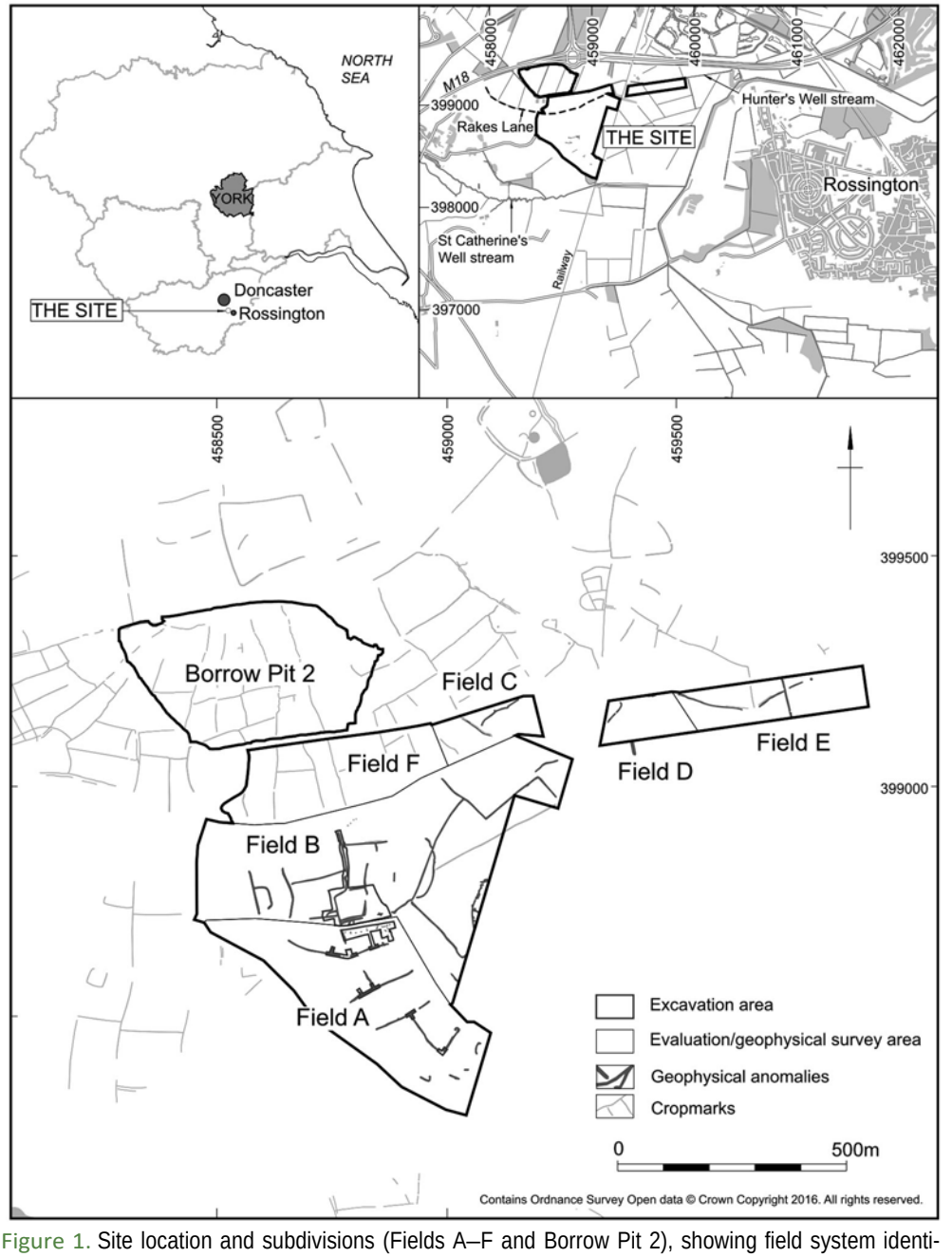

Figure 1. Site location and subdivisions (Fields A–F and Borrow Pit 2), showing field system identified from cropmarks and geophysical survey.

Location, topography and geology

The site, which lies approximately 2 km north-west of Rossington, on the edge of the Humberhead Levels, occupies a very slight rise (at around 8 m above Ordnance Datum) in an otherwise low-lying landscape cut by numerous drainage ditches. It lies

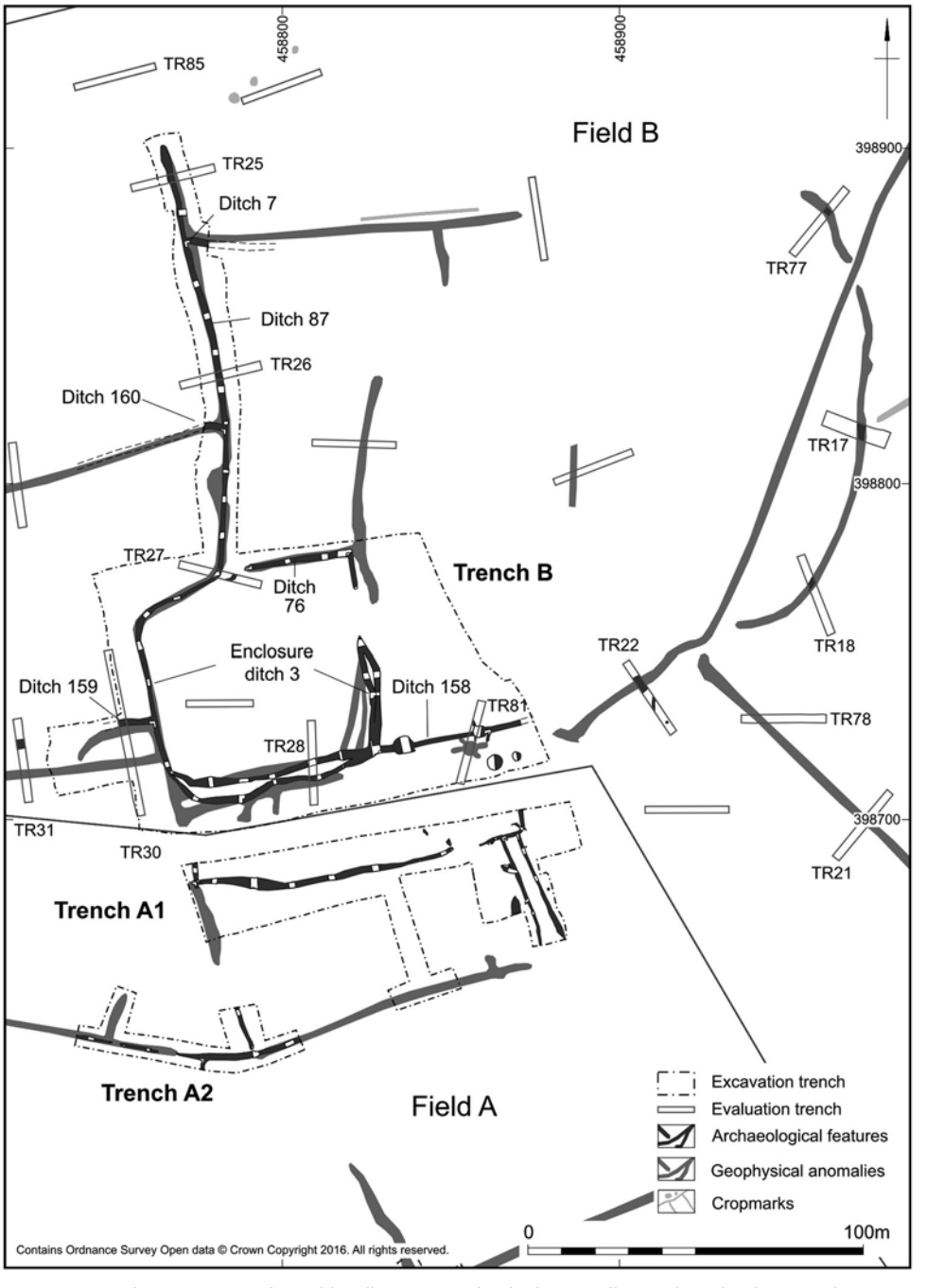

Figure 2. Trenches A1, A2 and B, with adjacent geophysical anomalies and evaluation trenches.

between St. Catherine"s Well Stream to the south and Hunter Well Drain to the north, both draining east into the River Torne. The underlying geology varies across the site: the enclosure occupies a band of Roxby Formation Calcareous Mudstone, with Brotherton Formation Dolomitic Limestone to the west and Nottingham Castle

Sandstone Formation to the east, all overlain by river terrace deposits (sands and gravels), and with alluvium in the river valley (British Geological Survey). The abrupt southern boundary of the cropmarks may reflect differences in landuse on either side of Rakes Lane (between Fields B and F), or possibly the localised masking of features by alluvium.

The natural deposits encountered during the excavation comprised red/brown sand and gravel, from which the fills of the ditches were almost indistinguishable, making many of the ditches barely discernible. The sandy/acidic nature of these soils may have contributed to the poor preservation of finds. (Contexts numbers for the excavation started at "100001." but for the sake of simplicity they are presented below as starting a "1").

Archaeological background

The South Yorkshire Sites and Monuments Record lists Mesolithic and Neolithic lithics (SYAS 04926; SYAS 03768/01), and Bronze Age metalwork (SYAS 0107/01), in the area. Two Early Bronze Age barrows have recently been excavated approximately 2 km south-east of the current site, at Rossington Grange Farm (Roberts and Weston 2016). Despite evidence that some field systems locally are pre-Roman in date—east and south of Rossington some are cut across by the Roman road between Lincoln and Doncaster (Riley 1980, 25)—most investigations have yielded only Romano-British artefacts. However, evidence for Late Iron Age settlement associated with the field systems has been found at Catesby Business Park, Balby Carr, 1.5 km north of the site (Jones 2007; Roberts 2008, 193, fig. 8; Daniel 2016), and a double ditched enclosure visible as a cropmark 1 km to the north-east of the site (Riley 1980, map 6; Roberts et al. 2010, fig. 59) may also be of Iron Age date.

The site lies 4 km west of the Roman vexillation fortress at Rossington, built in the mid-first century AD, and the nearby Romano-British pottery production site at Rossington Bridge (Buckland et al. 2001); there were other potteries at Cantley and Blaxton (Annable 1954; Buckland and Dolby 1980). The site at Rossington Grange Farm also contained evidence of Romano-British pottery production, which occurred within an enclosure set within a field system. A Roman villa has been recorded at Stancil 3.5 km to the south-east (Whiting 1943).

During the medieval period the site was largely wetland common, with much of the present field pattern probably resulting from a programme of drainage and land improvement by the Dutch engineer Cornelius Vermuyden in the early seventeenth century (Lines et al. 2008).

The enclosure

The enclosure was approximately square, measuring internally 63 m by 60 m, its longer west–east axis shifted slightly northwards on the eastern side (Figure 3). It was defined largely by a continuous ditch (3) running from a terminal near the middle of its eastern side, around the southern and western sides, and then running north, away from the enclosure, from the middle of its northern side. The three corners of

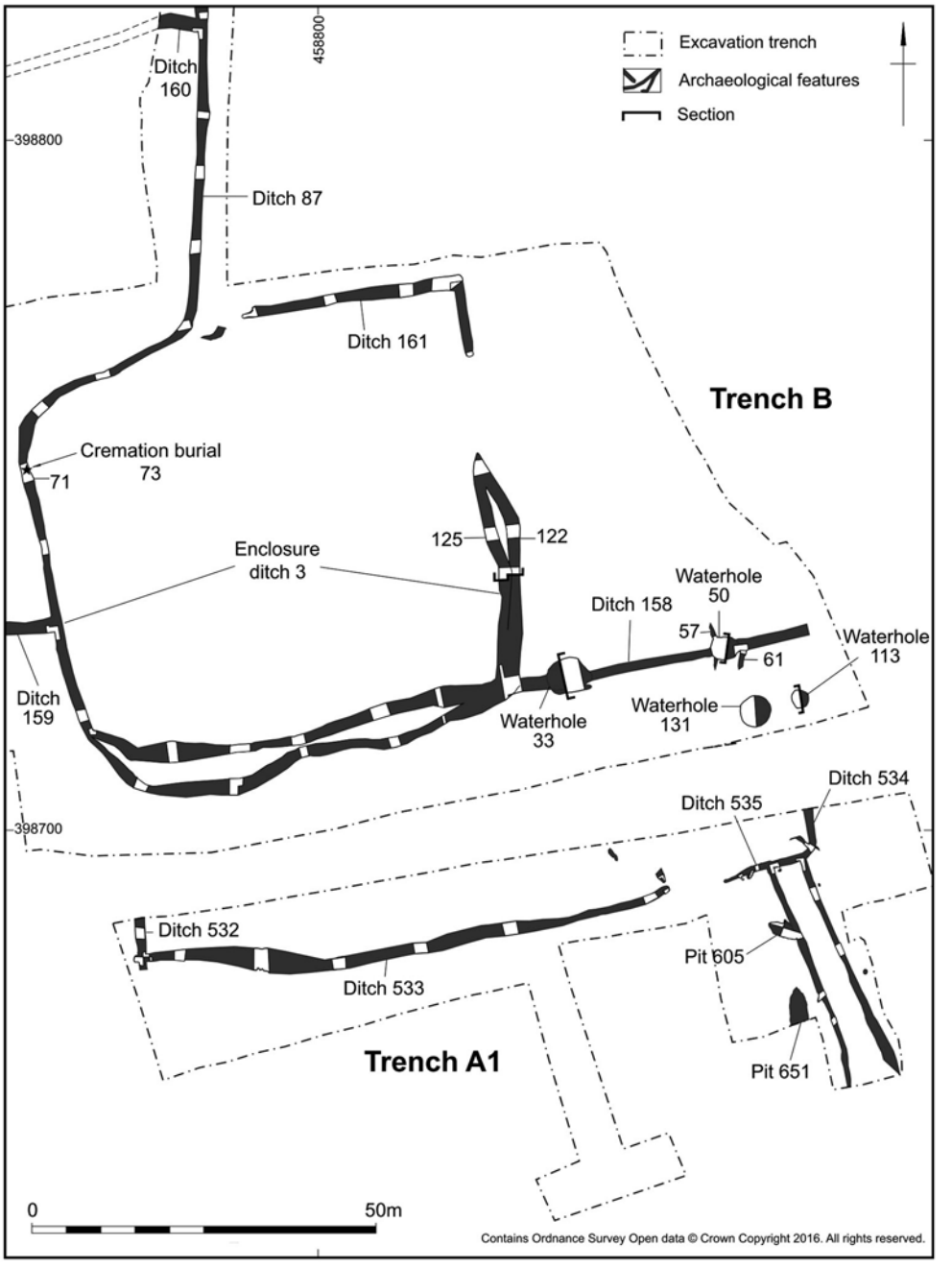

Figure 3. The enclosure and waterholes.

the enclosure defined by ditch 3 were all rounded. The gap at the north-east was partly closed, in contrast, by a distinctly angular, L-shaped length of ditch (161). This left two possible entrances, one 6.7 m wide in the middle of the enclosure"s north side, the other 13.8 m wide in the northern part of its eastern side.

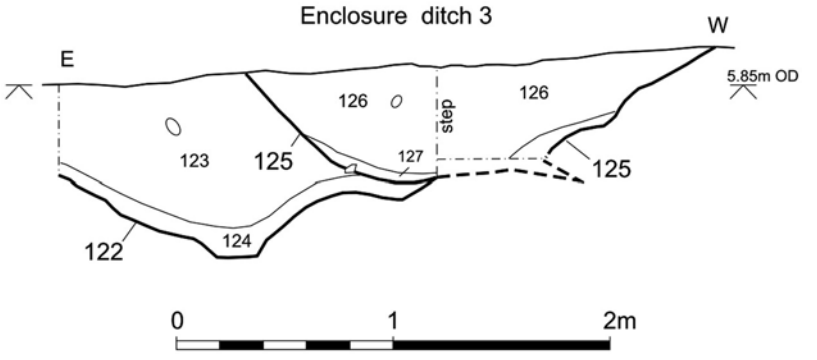

Figure 4. Section of ditch 3.

Ditch 3 was 0.9–1.2 m wide and up to 0.6 m deep with a U-shaped profile and up to two naturally accumulated fills. The presence of two near-parallel ditches cut along the enclosure"s southern and south-eastern sides, as suggested by the geophysical survey, was confirmed by the excavation. Along the southern side, the line of the outer ditch appeared to be less regular than that of the inner (although this was not observed in all the excavated slots). However, this doubling appears to have been the result of the recutting of the ditch on a slightly different line, rather than it being deliberately double-ditched; to the north of the enclosure"s south-eastern corner, the two cuts overlapped, the inner ditch (125) being later, and cutting the fully silted outer ditch (122) (Figure 4).

No internal features were recorded within the enclosure, and few Romano-British finds were recovered from its ditches: 47 sherds (745 g) of pottery, the diagnostic sherds being mostly of AD third-century date, five pieces of ceramic building material (CBM) and one piece of window glass, all of which came from the southern side of the enclosure (from both ditch cuts). The small quantity of animal bone may be also of Romano-British date, but the few pieces of struck flint recovered are likely to be residual; there was also a small quantity of intrusive material (medieval pottery and CBM).

The southern limits of a 97-m wide possible extension to the enclosure were later recorded in Trench A1. This was defined primarily by west–east ditch 533, some 30 m to the south of ditch 3, which was continued after an 8-m wide break by ditch 535 (which cut through a pair of postholes). A pair of ditches (532 at the west and 534 at the east) ran north from the ends of these ditches, but their extents were obscured by a modern field boundary and they had not been observed in Trench B. Eighteen sherds (498 g) of Romano-British pottery were recovered from the fills of these ditches.

Cremation-related deposit

A cremation-related deposit had been placed in ditch 3 when it was partly silted, as represented by a small deposit (73) of cremated human bone (51.7 g) and charcoal, just south of the enclosure"s north-west corner (cut 71). No grave cut was visible in the ditch"s single fill (72), but the bone and charcoal were recorded as being

distributed over an area measuring 0.4 m by 0.5 m and to a depth of 0.1 m, with most of the bone apparently within a 0.1 m wide concentration. In the absence of any clear dating evidence, a sample of the bone, of an adult of indeterminate sex, was submitted for radiocarbon dating and provided a date of cal AD 50–220 (SUERC-43614, 1893 ± 29 BP), i.e. of early–mid-Romano-British date. An iron nail, recorded within the ditch fill less than 0.3 m to the north of the deposit, may be associated with it. The charcoal comprised fragments of ring-porous charcoal, probably oak, as well as a few charred plant stems and a single seed of woodrush (*Luzula* sp.).

Cremated bone (Jacqueline I. McKinley)

The 51.7 g of bone recovered represent the remains of an adult of indeterminate sex. A small quantity (1.3 g) of cremated animal bone was also identified within the assemblage (species identification inconclusive but probably includes sheep/goat; Lorrain Higbee pers. comm.). Although the bone appears in good condition, most of the assemblage comprises compact bone with relatively little trabecular bone (generally the first to be lost in an adverse burial environment, such as the acidic sandy soil matrix at this site; McKinley 1997, 245; Nielsen-Marsh et al. 2000) suggesting some of the latter is likely to have been lost due to poor preservation. The deposit was incorporated within a layer of silting in the ditch and disturbance/removal of bone once deposited seems unlikely. Consequently, the very small quantity of bone recovered, representing no more than 3% by weight of the average expected from an adult cremation (McKinley 1993), is likely to be fairly close to all that was deposited.

The bone is universally white in colour indicating full oxidation (Holden et al. 1995a, 1995b). The majority was recovered from the 10 mm sieve fraction (49%), with a maximum fragment size of 42 mm. Although the figures are relatively low, given the form of the deposit and nature of the burial environment, there is no evidence to suggest any deliberate fragmentation of the bone prior to deposition (McKinley 1994b; 2004). Fragments from all four skeletal areas (skull, axial skeleton, upper and lower limb) were amongst the 63% (by weight) of bone identified to skeletal element, with the commonly observed bias in favour of skull elements at the expense of the axial skeleton (predominantly trabecular bone; McKinley 1994a, 6; 2004, 298–9). Only one hand bone and three tooth roots (minus supportive structure) were identified. Although this may suggest hand-collection of individual bone fragments from the pyre site rather than *en masse* recovery and winnowing (which would favour recovery of these small bones; McKinley 2004, 300–1), the small size and uncertain nature of the deposit renders the tentative interpretation inconclusive.

The inclusion of animals, part or whole, on the pyre was a common facet of the Romano-British rite, though the frequency of occurrence varied widely ranging from 3.5% of burials from Westhampnett, West Sussex (McKinley and Smith 1997) to 80% of urned burials from Wall, Staffordshire (McKinley 2008, 126–7). As here, the quantities found are generally very small. Pig and domestic fowl are the most commonly occurring species, with sheep/goat also appearing regularly (Worley 2008, 173).

The type of deposit represented by 73 is unclear. The localised concentration of bone suggests it was contained in a bag, with the sparse fuel ash (probably

redeposited pyre debris) deposited over it. This implies that the deposit was made as a deliberate act rather than simply the redeposition of disturbed material. The quantity of bone recovered is, however, very small for a burial (even allowing for the possible loss of some trabecular bone); it may be that this represents some other form of secondary deposit, perhaps with similarities to the cenotaph deposits found elsewhere (e.g. McKinley 2004).

Field system ditches

A number of ditches were connected to the enclosure, apparently representing part of a roughly rectilinear field system (Figures 2 and 5). Ditch 87, at the north, was a continuation of the enclosure ditch (3), but further ditches ran perpendicular both from ditch 87 and the enclosure ditch, although in no cases were the stratigraphic relationships discernible.

Ditch (87) ran due north from the enclosure for 45 m, to a point where another ditch (160) ran west from it; it then angled slightly westward, and after a further 55 m, another ditch (7) ran to the east. Neither side ditch was traced more than 7 m, but both were detected by the geophysical survey, extending 120 m to the west and 100 m to the east, respectively. The construction of all three ditches are considered to be broadly contemporary; the fact that neither side ditch crossed ditch 87 matches the arrangement of ditches, visible as crop marks, in the field system to the immediate north.

Ditch 87 extended almost 130 m north from the enclosure, at which point its orientation closely matches that of two field boundaries visible as crop marks in Field F, one of which may represent a continuation of its line. However, the ditch was not recorded by the geophysical survey or in the intervening evaluation trench 85. Ditch 87 was slightly more substantial than the enclosure ditches, averaging 1.6 m wide and 0.35 m deep, but it contained comparable finds – five sherds (110 g) of Romano-British pottery, a small quantity of animal bone and residual struck flint.

Two further east–west aligned ditches were recorded during the excavation of Trench B, one running west from near the middle of the enclosure"s western side, the other running east from its south-east corner. The ditch at the west (159) was traced only for 10 m, being recorded in, but not beyond, evaluation trench 30. Here it corresponds closely to a geophysical anomaly; however, while the anomaly curves to the south-west, the ditch may actually have continued westwards, as a ditch was recorded on that line in evaluation trench 31, 30 m to the west. The geophysical survey also indicated another, parallel ditch 8 m to the south, running west from the enclosure for over 60 m; this was also recorded in evaluation trench 30, but not during the excavation and not in evaluation trench 31.

The ditch (158) which ran east from the enclosure"s south-east corner was traced for 45 m to near the limit of excavation. When fully silted it appears to have been recut to less than its full width and depth. Unfortunately, its stratigraphic relationship with the enclosure ditch cannot be ascertained, and it is not possible to say whether the two phases of ditch 158 correspond in any way to the two cuts of the enclosure

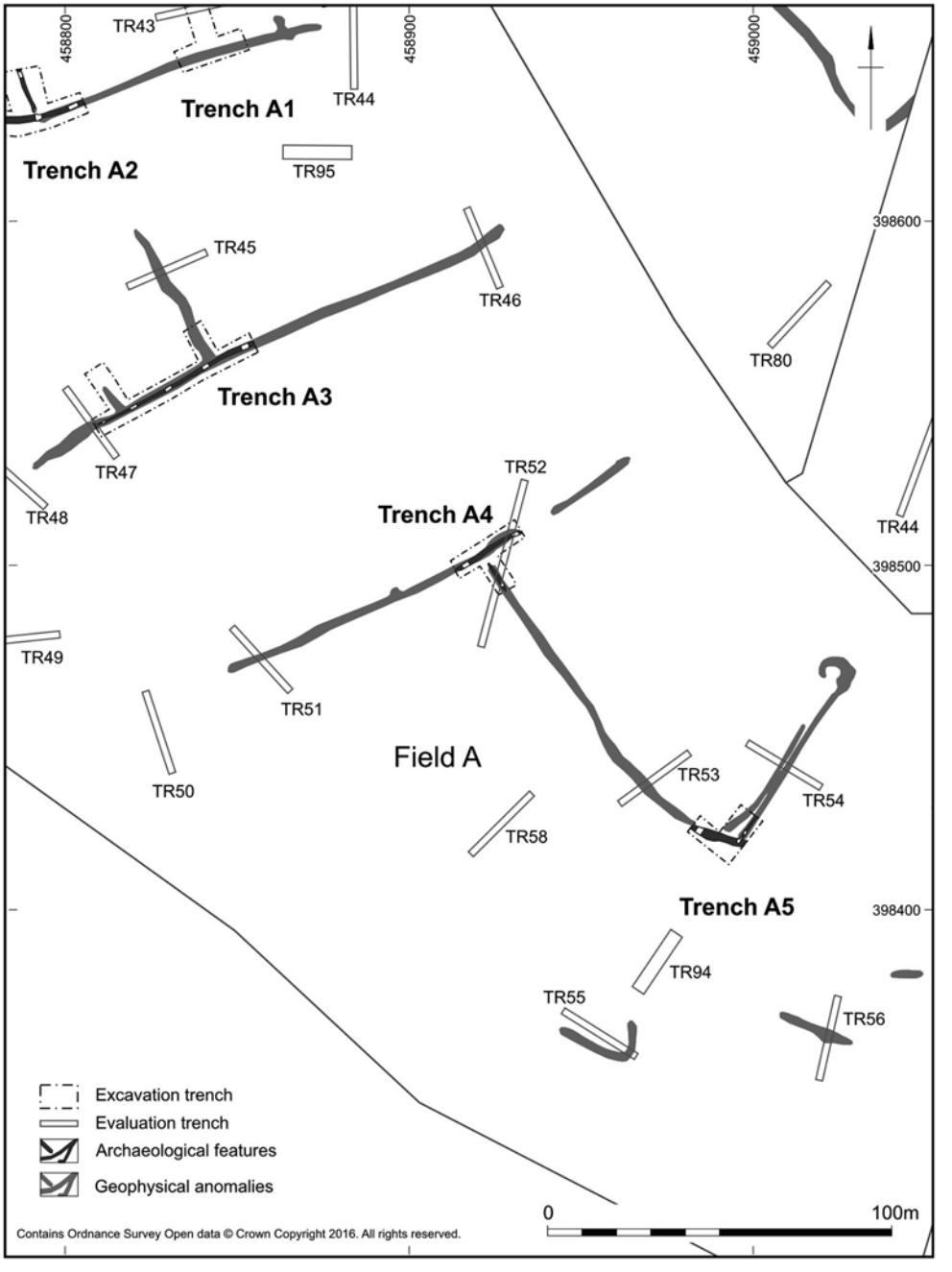

Figure 5. Trenches A3–A5, with adjacent geophysical anomalies and evaluation trenches.

ditch, although in plan there are suggestions that the inner ditch of the enclosure along the its south side was a continuation of at least one of the cuts of ditch 158.

Ditch 158 intersected two waterholes (below). No relationship was recorded with waterhole 33, which probably acted as a sump for the ditches to its west. Its neighbour, waterhole 50, targeted the same drainage line and probably served the same

function, although it was recorded as cutting ditch 158. A small gully (61) joined ditch 158 to the immediate east of waterhole 50, while a similar gully (57) ran into the same waterhole from the north.

In Trench A1 a pair of approximately parallel north–south ditches, 4–5 m apart, ran south from ditch 535, being traced for over 33 m and continuing beyond the excavation trench. Further to the south, three fields, averaging 100 m in length, were defined by ditches in Trenches A2–A5, although their full extents could not be determined. The ditches were approximately 1 m wide and 0.2–0.6 m deep, and survived to 100 m in length as indicated by the geophysical survey. No finds were recovered from any of the ditch fills and charred plant material was poorly preserved.

Approximately 10 ha of relict field system were also examined in the Borrow Pit 2 area. Most, if not all, of the ditches appeared to have been established at the same time. No datable artefacts were retrieved, but a piece of waterlogged roundwood recovered from the base of one ditch returned a radiocarbon date of 60 cal BC to cal AD 70 (UBA-31831, 2006 ± 28 BP) (Wessex Archaeology 2016a).

Curvilinear ditch

In contrast to the rectilinear arrangement of the ditches connected to the enclosure (and those geophysical anomalies which correspond to known post-medieval features, e.g. those recorded in evaluation trenches 21, 22 and 78), a curvilinear geophysical anomaly, subsequently shown during the evaluation (in evaluation trenches 17, 18 and 77) to be a ditch, lay to the east of the enclosure (Figure 2). It was 2 m wide and 0.4 m deep with a variable profile, with a lower fill of laminated silty grey clay overlain by a dark humic silt. The only finds from it consisted of small, poorly-preserved fragments of a cattle horn core from evaluation trench 18, and the feature remains undated, although its line is cut by one of the post-medieval ditches. It is possible that the post-medieval ditch was a replacement of it; alternatively, the curving ditch could be significantly earlier, although it does not appear to have formed an enclosure. Another curving anomaly, 100 m further to the south-east, appears from aerial photographs to be a natural water channel.

Waterholes and other discrete features

The only features recorded in Trench B, other than the ditches (and cremation burial 73 in the ditch), were four substantial hollows/pits, albeit of varying size, possibly forms of well or waterhole (and here referred to as waterholes) (Figure 3). Two of them (33 and 50) lay on the line of ditch 158 which ran east from the enclosure, while the other two (113 and 131) lay 7 m south of the ditch.

The largest waterhole (33), 4 m east of the enclosure, was subrectangular in shape, measuring 6.6 m long (east–west), 4.7 m wide and 1.7 m deep, with moderate sloping sides and a flat base (Figure 6). It was excavated in a stepped north–south slot, which revealed a series of 14 fills, many laid down in water, and with wood and other organic remains preserved in the basal fill (47). Together the fills yielded 56 sherds (1196 g) of Romano-British pottery, and small quantities of CBM, stone, animal bone

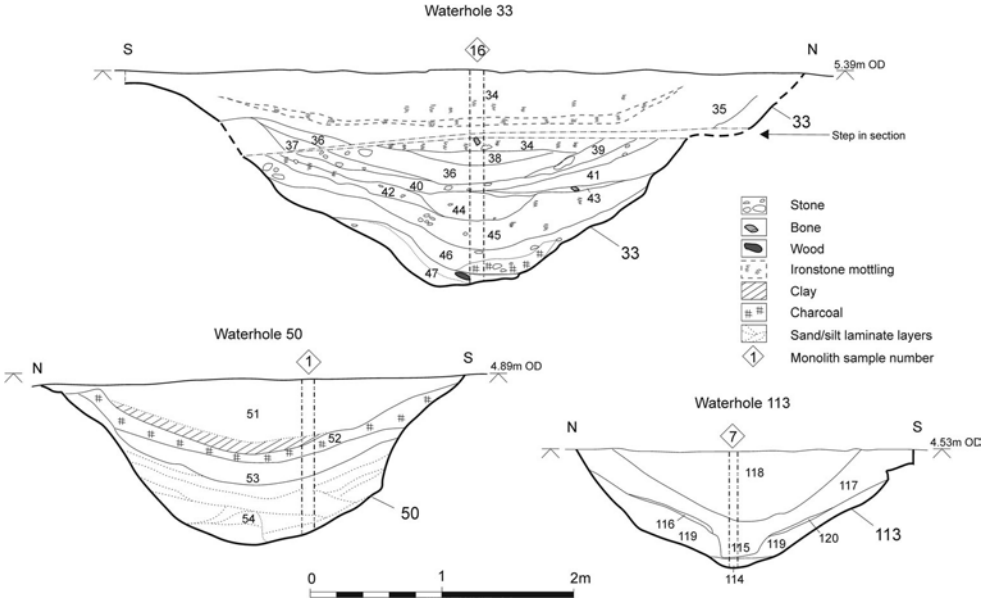

Figure 6. Sections of waterholes 33, 50 and 113.

and struck flint, all (apart from two pieces of animal bone in the basal fill) recovered from the upper half of the waterhole (fills 34–36 and 40–41). The pottery assemblage indicates a third-century AD date for the feature overall.

Waterhole 50, 20 m to the east, was also subrectangular, measuring 4.2 m long (east–west), 3.2 m wide and 1.3 m deep, with steep sides and a concave base (Figure 6). It had a sequence of four fills, the only find being one sherd of late-Romano-British pottery (262 g) from the thick basal fill (54).

Subcircular waterhole 131 was 4.5 m in diameter and 1.3 m deep with a steep U-shaped profile. A sketched column through the feature shows 12 fills, from which were recovered 32 sherds (716 g) of Romano-British pottery of later second–fourth-century AD date, and one piece of CBM. Some of the sherds were very abraded, raising the possibility that this was a later (i.e. post-Romano-British) feature, although its proximity to three other waterholes probably suggests otherwise.

The smallest feature (113), was subcircular, measuring 2.7 m by 2.4 m, and 0.8 m deep with moderately steep sides sloping down to a point (Figure 6). A series of six fills were recorded, the lower fills being noticeably darker and more laminated than the light and more homogeneous uppermost fill (118), from which two undiagnostic Romano-British sherds were the only finds recovered.

A large limestone block, with a cup-shaped depression worn or drilled into one surface (possibly representing a pivot-hole in a door jamb) was found in waterhole 33 (fill 41); another, plain block was found near the base of waterhole 113 (fill 115). They suggest the presence of a building somewhere in the vicinity, but why and how they came to be deposited in these features are unclear.

Waterholes are commonly encountered on lowland sites from the Bronze Age onwards (Yates 2007, 16), where they are often associated with stock-handling (ibid.). The majority of these features are found in southern and eastern England, and local

comparators are so-far rare, but include features excavated on the "Great Yorkshire Way." road scheme (Daniel 2019) and Finningley quarry (MAP 2006), 700 m to the north-east and 10 km to the east of the current site respectively. There is little doubt that the features on the current site appear to have been involved in water collection and storage: waterlogging is evident within their fills, and located downslope of the lowest point of the enclosure, at least one and probably two of them (33 and 50) would have acted as sumps for the enclosure ditch, to which they were connected by ditch 158. Seemingly fairly novel features in the local landscape, these waterholes may have marked an improvement in the efficiency of the farming enterprise, allowing animals to be confined at some distance from natural water sources. The excavation of waterholes marks some investment in place at this location, as well as indicating a degree of duration of use: it is unlikely that all were contemporary, but rather fresh pits were dug as the earlier became overgrown and stagnant. The clustering of the features at this location relates to it marking the site's topographic low point.

At least six discrete features were also recorded in the eastern part of Trench A1. These included two pits on unknown function. Pit 605 was subrectangular in shape, measuring 3.7 m by 2.2 m, and 0.35 m deep. It had a mainly flat base, which was covered by a light bluish-grey clay primary fill, indicative of the former presence of water. The only finds were a single flint flake from the uppermost fill and fragments of alder charcoal. Some 8 m north to the north, pit 651 was at least 4 m long by 2 m wide and 0.3 m deep. It contained a single fill of grey silty sand from which a single sherd (3 g) of Romano-British pottery and two undiagnostic and heavily abraded fragments of CBM were recovered. There was also a small number of isolated postholes of uncertain date towards the eastern ends of Trench A1, but they formed no clear pattern.

Environmental evidence from the waterholes (Chris J. Stevens and Michael J. Grant)

The sediments in the waterholes, as revealed by the examination of monolith samples taken through their fills, are what one would expect from such large features cut into relatively mobile, easily eroded geology. They were characterised by dumps of material collapsed from the sides, a process that would have been accelerated by the presence of standing water, as indicated by the presence of horizontally laminated fine sediments. Because of their likely rapid infilling there is little or no time-depth to the sediments, and it is possible that these features were regularly cleaned out; such recutting may be indicated by the fill profiles in waterhole 113 (Figure 6). Selected deposits within waterholes 33, 50 and 113 were bulk sampled for charred and waterlogged remains (Tables 1 and 2). In addition, pollen samples were taken from the base of waterhole 33. The plant nomenclature follows Stace (1997) for wild plants, and Zohary and Hopf (2000) for cereals.

Charred cereal remains were found in two of the waterholes, waterhole 33 containing a cereal grain, a glume base of hulled wheat, and a rachis fragment from six-row barley (*Hordeum vulgare*), and waterhole 113 containing glume bases of hulled wheat, emmer or spelt (*Triticum dicoccum/spelta*) and a rachis fragment of barley (Table 1).

Table 1. Charred plant remains from waterholes 33, 50 and 113.

Feature		33		50			113			
Context		36	45	47	51	54	118	117	119	114
Sample		12	13	14	3	5	11	10	9	8
Volume (litres)		10	10	8	5	8	10	8	7	10
Species										
Hordeum vulgare sl.	barley (6-row) (rachis frags)		1					1		
Triticum dicoccum/spelta	emmer/spelt wheat (glumes)	1						1		
Triticum spelta	spelt wheat (glume bases)								2	
Cereal indet. (grain)	cereal grain indet.		1							
Ranunculus acris/repens)	meadow/creeping buttercup						þ			
Corylus avellana	hazelnut	þ								
Chenopodium album	fat-hen								þ	
Atriplex sp.	orache	þ								
Stellaria media	chickweed							1	þ	
Moehringia trinervia	three-nerved sandwort							þ		
Polygonum aviculare	knotgrass		þ							
Fallopia convolvulus	black bindweed							1		
Rumex acetosella group	sheep"s sorrel			þ			þ		þ	
Ericaceae	Heather (stems)	þ	þ		þ	þ		þ		
Rubus sp.	bramble								þ	þ
Prunus spinosa/ Crataegus monogyna	Sloe/hawthorn (thorns)		1							
Vicia/Lathyrus sp.	vetch/pea			þ			x2-3		þ	
Trifolium sp.	clover	1	þþþ				þ		3	
Geranium sp.	crane's bill		cf.1							
Conopodium majus	pignut (tuber)		1							
Solanum sp.	nightshade		þ					1		
Galeopsis cf. *tetrahit*	common hemp-nettle		1							
Plantago lanceolata	ribwort plantain		10þ						þ	
Monocot stem/rootlet	grasses/rushes/sedges stems			þ		þ	þ	þ	þ	þ
Luzula sp.	wood rush									þ
Cyperaceae indet.	sedges								þ	
Eleocharis palustris	common spike-rush								þ	
Isolepis setacea	bristle club-rush								þ	
Carex sp.	sedge								þ	
Small grass seed	grasses									þ
Poa/Phleum sp.	meadow grass/cats'-tails									
Arrhenatherum elatius	false oat-grass seed		cf.1							
Avena sp. (grain)	oat grain								þ	

Key: þ 1–10, þþ 10–50, þþþ 50–100, þþþþ >100.

Spelt has been previously recorded from sites in Yorkshire, alongside emmer, during the Romano-British period, although previous excavations, as also seen here, have also produced often low densities of cereal remains (Alldritt 2016; Giorgi 2004; Hall and Huntley 2007; Wyles, 2019).

These two water holes also produced a range of charred seeds (Table 1), as well as fragment of hazel (*Corylus avellana*) nutshell from waterhole 33 and an almost complete tuber of pignut (*Conopodium majus*) from waterhole 113. Charred monocot stems, probably of grasses and sedges, and occasionally heather were present in all three sampled waterholes. These probably relate to the burning of turves (Hall and Huntley 2007; Hall 2003, 26–8), and it seems likely, especially given the low number of cereal remains, that the charred seeds came from the same process, particularly those of grasses and potential wetland heath species, such as sedge (*Carex* sp.), spikerush (*Eleocharis* sp.) and bristle club-rush (*Isolepis setacea*). Generally only small quantities of charcoal were noted in the samples, with the exception of that from the

Table 2. Waterlogged remains from waterholes 33, 50 and 113 (excluding samples with just elder seeds).

Feature		33	50			113	
Context		36	51	54	118	119	114
Sample		12	3	5	11	9	8
Volume (litres)		10	5	8	10	7	10
Species							
Ranunculus acris/repens	meadow/creeping buttercup	þþ					
Urtica dioica	common nettle	þþþþ					
Chenopodium album	fat-hen	þþ	þ				þþ
Atriplex sp.	orache	þþ			þ *		
Stellaria media	chickweed	þþ					
Persicaria hydropiper	water-pepper	þþþþ					
Polygonum aviculare	knotgrass	þþ	þ				
Rumex sp.	dock	þþ		þ			þþ
Rubus sp.	bramble	þþ		þ			
Prunus spinosa	sloe	þ					
P. spinosa/Crataegus monogyna	sloe/hawthorn (thorns)	þþ					
Hydrocotyle vulgaris	marsh pennywort	þþ					
Conium maculatum	hemlock					þ	
Lamium sp.	dead-nettle	þþ					
Glechoma hederacea	ground-ivy	þ					
Callitriche cf. *stagnalis*	common water-starwort	þþ					
Veronica hederifolia	ivy-leaved speedwell		þ				
Sambucus nigra	elder	þþþ		þþ	þ		þþ
Juncus sp.	rush			þ			þþ
Eleocharis palustris	common spike-rush	þþ					
Isolepis setacea	bristle club-rush					þ	
Carex sp.	sedge	þþþ				þ	
Glyceria sp.	sweet-grasses	þþ					
Daphnia sp.	water flea (Ephippium)	þ					

Key: þ 1–10, þþ 10–50, þþþ 50–100, þþþþ >100; * modern.

upper fill (52) of waterhole 50, where it consisted mostly of approximately 10 mm diameter round rods with some smaller twig material; this sample also contained a large quantity of coal.

Waterlogged material, mostly recovered from samples taken near the bases of the waterholes, give some indication of the character of the local environment; material from their upper fills is possibly intrusive and is therefore not considered here (Table 2). The best assemblage came from the basal fill (47) of waterhole 33, which was deeper (1.7 m) than the other waterholes. It included large numbers of water pepper (*Persicaria hydropiper*) seeds, along with other wetland species such as spikerush (*Eleocharis* sp.), marsh pennywort (*Hydrocotyle vulgaris*), probable common water-starwort (*Callitriche stagnalis*) and sedges (*Carex* sp.). Ephippium of the water-flea (*Daphnia* sp.) can also be associated with still, standing water within the feature. Along with sedge seeds, those of sweet-grass (*Glyceria* sp.), buttercup (*Ranunculus* sp.) and dock (*Rumex* sp.) can also be all associated with wet grassland. Seeds more commonly associated with nitrogen-rich, disturbed soils and characteristic of settlement included knotgrass (*Polygonum aviculare*), chickweed (*Stellaria* sp.), fat-hen (*Chenopodium album*), orache and dead-nettle (*Lamium* sp.), while nettle (*Urtica dioica*), present in large numbers, is characteristic of both settlement and poorly managed rough pastures. There were also several elements of scrub including thorns of sloe or hawthorn (*Prunus spinosa*/*Crataegus monogyna*), fruits of sloe (*Prunus*

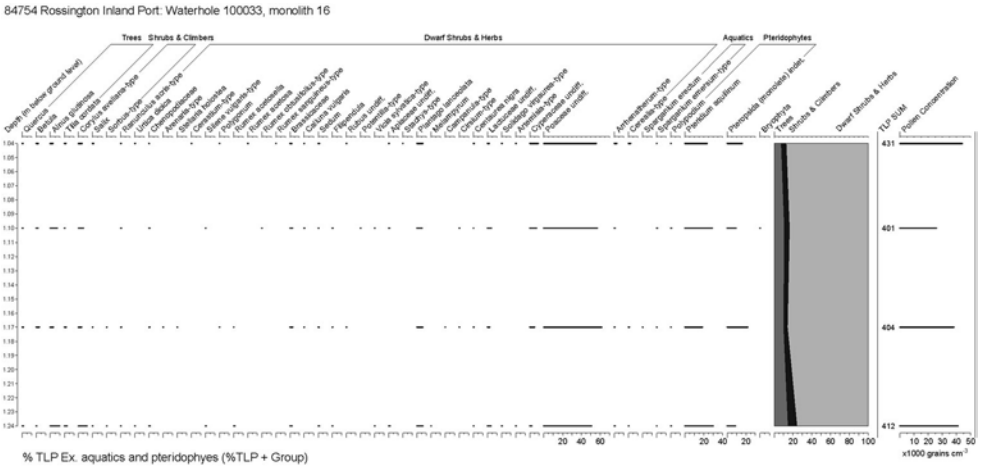

Figure 7. Pollen diagram from waterhole 33, monolith 16.

spinosa) and seeds of bramble (*Rubus* sp.), ground-ivy (*Glechoma hederacea*) and elder (*Sambucus nigra*).

The samples from waterholes 50 and 113 contained some of the same species as waterhole 33 but in lesser quantities; seeds of rush (*Juncus* sp.), hemlock (*Conium maculatum*) and bristle club-rush (*Isolepis setacea*) were also noted in waterhole 113. Together, these waterlogged assemblages indicate generally rough, wet, sedge- and rush-dominated grassland with some indication of disturbance possibly related to animal or human activity. The presence of elder seeds, stones of sloe and thorns of hawthorn or sloe imply, when taken together, either hedging perhaps related to the enclosure, or areas of scrub, in close proximity to the waterhole.

The presence of waterlogged material in the basal fill (47) of waterhole 33 suggested that this layer had not been subject to repeated wetting and drying and consequently might provide a good environment for pollen to be preserved. A series of four pollen samples was, therefore, taken from this layer; the results are shown in Figure 7. The pollen assemblage indicates generally rough, wet grassland with clear indications of grazing activity and the likely presence of some cereal cultivation in the area, indicating a mixed-farming economy. Woodland cover is low but may imply some localised scrub present.

The results of the pollen analysis are in general agreement with previous palynological investigations in the area. Mather (1991) recorded evidence of widespread forest clearance during the Romano-British period near Rossington Bridge, 2 km to the north-east. A subsequent expansion of Poaceae was accompanied by a tentatively identified presence of *Hordeum* (barley), *Avena-Triticum* (oats-wheat) and perhaps *Cannabis sativa* (hemp). The reduction in woodland was linked with the need to supply wood to Roman kiln sites 4 km north-east of the sample site at Rossington Bridge. A reduction in *Alnus glutinosa* and increase in Cyperaceae was suggested to imply increasingly waterlogged conditions on the floodplain locally during the Romano-British period.

Pollen sequences from other sites in the area, such as Balby Carr (Greig 2007), the "Great Yorkshire Way." road scheme (Langdon and Scaife, 2019) and Scaftworth

(Gilbertson and Blackham 1985) indicate that away from an *Alnus*-dominated carr woodland on the floodplains and some patches of drier woodland with oak, birch, lime, elm and hazel, the landscape was essentially open and farmed during the Romano-British period with cereal-type, *Plantago*, Lactuceae (dandelions), *Cirsium* and Malvaceae (mallows) pollen present indicating a mixed arable and pastoral regime. The mixed-farming economy indicated by these sequences is supported by the pollen sequences from Thorne Moors further to the east (Smith 2002).

Charcoal evidence from pit 605 (Dana Challinor)

Two samples from pit 605 produced identifiable charcoal. Both assemblages were abundant and with some large fragments (>15 mm). A random selection of up to 30 fragments from each sample were identified, using both low-powered (up to X45) and high-powered (up to X400) incident light microscopes and following standard procedures. Fragments were taken from a range of sizes (>8 mm, >4 mm and >2 mm). Only one taxon was identified: *Alnus glutinosa* (alder).

Despite the large fragment size, the condition of the charcoal was notably poor; with orange staining obscuring the cell structure. This is likely to be caused by calcite precipitates occurring with periodically high moisture content in the soils (Matthews 2010, 102). This is appropriate given that the pit was interpreted as having probably functioned as a waterhole, with stagnant water present in the primary fill.

There was no evidence for strong or moderate ring curvature in the examined fragments, indicating that the material derived from trunk or large branch wood. That both assemblages were dominated by alder suggests a common origin for the charcoal, but the absence of other finds in the pit inhibits speculation on the nature of the activities resulting in the deposition of the material. Alder is not traditionally considered to be a good fuelwood (Edlin 1949), but was commonly used in the absence of preferred wood and/or when well-seasoned. Although it had a minor role in Rossington Grange Farm (Alldritt 2016) it was the main exploited wood source in other sites in the region such as the "Great Yorkshire Way." road scheme (Challinor 2019; Pelling 2019) and Balby Carr (Challinor 2016; Gale 2007), perhaps due to its availability. Interestingly, some small insect tunnels were observed in some of the charcoal fragments and, since wood boring beetles tend to inhabit dead or dying trees, this suggests that the wood was not green when burned.

Finds (Rachael Seager Smith and Lorraine Mepham)

Prehistoric

Small quantities (19 pieces, 91 g) of struck flint were mostly residual finds in the fills of later features. These included two small cores (ditch 3 and unstratified), one core fragment (ditch 161) and eleven flakes, one (from the intersection of ditches 3 and 158) with retouch along both edges. Three scrapers, two of thumb-nail size (water-hole 33 and ditch 87) and one slightly larger (unstratified) were made on cortical flakes. All the pieces were very small, indicating maximal usage of this locally scarce material type. The scrapers can be dated to the Early Bronze Age but none of the

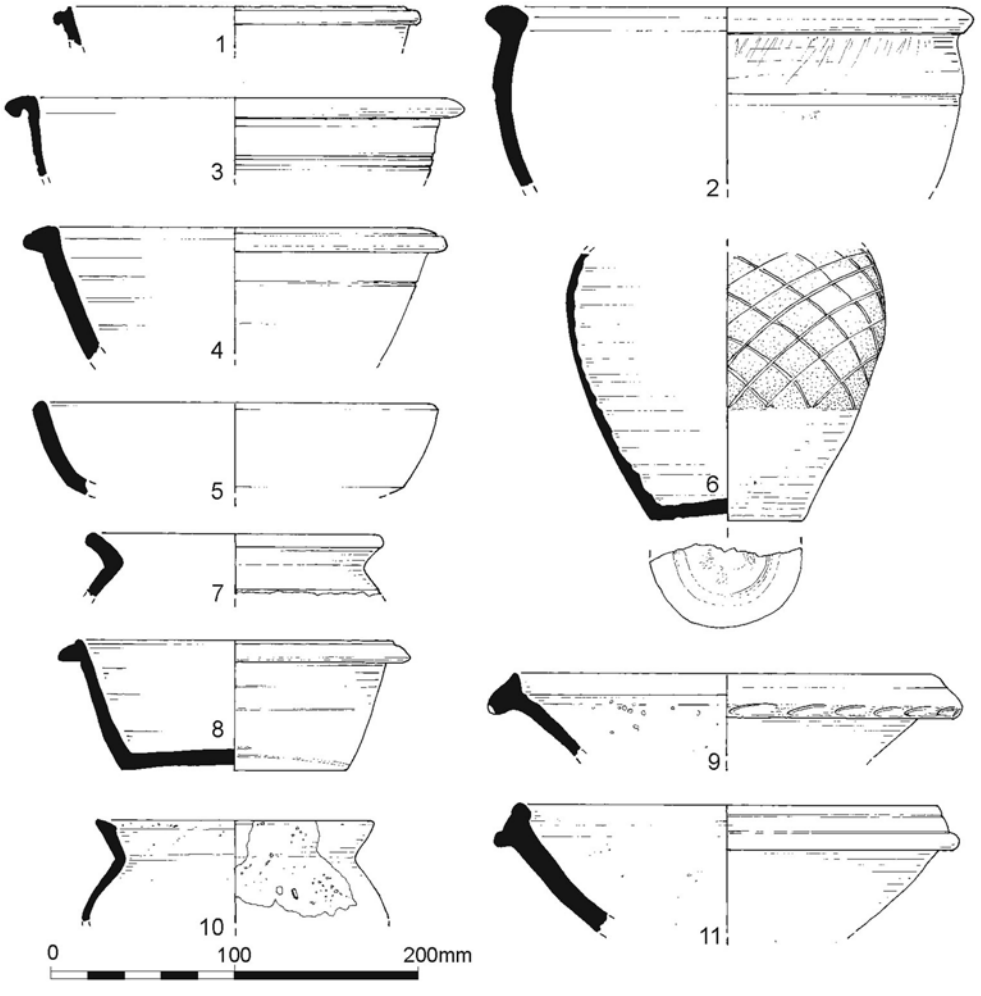

Figure 8. Romano-British pottery 1–11.

other pieces were closely datable. The flake from pit 605 was the only artefact and may therefore indicate a prehistoric date for this feature. The flints range from pale grey to dark grey/brown in colour; a few are patinated and one is clearly burnt. The assemblage probably derives from secondary sources such as alluvial gravels, potentially originating from the Yorkshire or Lincolnshire Wolds.

List of illustrated sherds (Figure 8)

1. Small, flanged bowl/dish; greyware. Ditch 3, cut 2803, context 2804
2. Wide-mouthed bowl; grog-tempered ware. Ditch 158, cut 67, context 60
3. Wide-mouthed bowl; greyware. Ditch 3, cut 83, context 84
4. Flat-flanged bowl/dish; greyware. Waterhole 33, context 36
5. Shallow, straight-sided dish; greyware. Waterhole 33, context 41
6. Jar base; burnished-line, obtuse-angled lattice decoration; greyware. Waterhole 33, context 40
7. Everted rim jar; grog-tempered ware. Waterhole 33, context 36

Table 3. Trenches A1–A5 pottery ware types, quantified by the number/weight of sherds.

Ware	No.	Wt. (g)
Greywares	45	1700
Local colour-coated	5	155
?Calcareous sandy ware	5	25
Grog-tempered ware	1	57
Local black burnished ware	1	3
Total	57	1940

8. Flanged bowl; greyware. Waterhole 50, context 54
9. Mortaria rim; local oxidised ware with a cream slip. Waterhole 131, context 142
10. Jar with a moulded rim; Dales ware. Waterhole 131, context 132
11. Reeded hammerhead mortaria rim; local oxidised ware but burnt grey throughout. Ditch 161, cut 156, context 157

Romano-British

The small assemblage of pottery is predominantly of Romano-British date, and survives in moderately good condition. Pieces are generally large; the mean sherd weight is 34 g for Field A trenches (A1–A5), and 21 g for Trench B although some leaching, surface abrasion and edge damage are apparent. Only 40 rims (groups of joining sherds were counted as a single example) are present (one of medieval date, the others Romano-British, but nine of these were unstratified), and just three features (ditch 3 and waterholes 33 and 131) contained more than 30 sherds. The sherds from each context have been subdivided into broad ware groups (e.g. greywares) or known fabric types (e.g. Dales ware) and quantified by the number and weight of pieces present. A breakdown of the assemblage by ware type is shown in Tables 3 and 4. The number of rims and range of vessel forms were recorded, along with other salient features of the assemblages, using an Access database.

The samian survives in poor, abraded condition; two flakes join to form the rim of a bead rim bowl/dish, the other pieces being a form 31 bowl base and a plain body sherd. Amphorae are entirely absent, probably as a result of the small assemblage size, while mortaria are represented by rims from two locally-made vessels (Figures 8, 9 and 11; Buckland et al. 2001, 39, fabric 1), probably of third-century AD date, and a base sherd from a Nene Valley whiteware vessel.

The greywares predominantly occur in the hard, wheelmade, fine- to medium-grained sandy fabrics, often blue-grey in colour and sometimes with an almost metallic sheen, characteristic of the South Yorkshire industry, located south-east of Doncaster (Buckland et al. 1980, fig. 1) and including several kilns at Rossington Bridge (Buckland et al. 2001). Products of the individual kilns cannot be reliably distinguished (Buckland et al. 1980, 154) and although in full production by the second half of the second century and probably continuing into the later third or early fourth century AD, the exact chronology of this industry remains poorly understood. The most diagnostic products—mortaria, parisian finewares and black burnished wares—were made during the Antonine period but are rarely found on local consumption sites (Williams 1977, 194), being mainly intended for the military markets on the northern frontier. While it is possible that the absence of parisian wares and the extreme paucity of black burnished wares in this assemblage reflect this distribution

Table 4. Trench B pottery ware types, quantified by the number/weight of sherds.

Ware	No.	Wt. (g)
Central Gaulish samian	4	41
Dales ware	7	70
Greyware	205	4646
Grog-tempered ware	17	204
Local black burnished ware	2	3
Nene Valley whiteware mortaria	1	20
Oxidised ware	4	24
Rossington Bridge mortaria	2	209
Medieval coarsewares	7	67
Modern industrial ware	1	2
Total	250	5286

as well as factors of assemblage size, the greyware forms present (shallow dishes, undecorated "pie-dishes." flanged bowls, wide-mouthed bowls, Derbyshire ware-style jars and a rim potentially from a strainer bowl came from ditch 534; Buckland et al. 1980, figs 3, 5–12 and 4, 23, 29–31) suggested a strong third century AD bias to this assemblage. Small quantities of grog-tempered pottery, perhaps imitating Derbyshire ware, were also made in the Rossington kilns (ibid. 158); rims from an everted rim jar and a wide-mouthed bowl were included here.

At least some of the material, particularly that from ditch 533, is likely to be of late third- or fourth-century AD date, evidenced by sherds from a poorly finished red-slipped ware bowl imitating samian form 36 found in segment 536 of this feature. These wares were added to the range of vessels made in the Cantley kilns during the late third century AD (Buckland et al. 1980, 154) while small numbers also occur amongst the Rossington kiln material (Buckland et al. 2001, 76, fig. 51, 324–9, tables 3 and 4).

The Dales ware sherds, also of third- to early/mid-fourth century AD date (Loughlin 1977, 88–93), include two sharply-moulded "Gillam 157." jar rims (Gillam 1951) as well as three leached plain body sherds more tentatively assigned to this fabric group. The only diagnostic sherd amongst the oxidised wares derived from the shoulder of a necked jar/bowl (ditch 3); such fabrics generally provided a range of medium-quality vessels, predominantly flagons and bowls, used as tablewares and in food preparation and storage roles.

Overall, 39% of the Trench B assemblage by sherd count was recovered from the ditches (83 sherds, 1244 g; ditches 3, 87 and 158) but the majority of sherds survive in comparatively poor, abraded condition, reflected by a mean weight of 15 g, compared with 21 g for the assemblage as a whole. All but 3 g of the assemblage from Trenches A1–A5 derived from ditches. None of the groups are closely datable, and only ditch 3 (67 sherds, 965 g) contained more than ten sherds from its excavated slots. Overall, the ditch assemblages, dominated by the local greywares, span the period from the later second to fourth century AD, although later medieval coarseware sherds were also found in ditch 3 (five pieces, 45 g). Middle Roman (late second/third century AD) material includes the samian form 31 bowl base (ditch 3), scraps of local black burnished ware (ditch 87), rusticated greyware sherds and wide-mouthed, round-bodied bowls in grog-tempered (Figure 8, 2; ditch 158) and greyware (Figure 8, 3; ditch 3) fabrics, while Dales ware sherds (ditch 3) and a piece from a

small greyware flanged bowl/dish (Figure 8, 1; ditch 3) are more characteristic of the third to fourth century AD. The abraded and chronologically mixed nature of the ditch assemblages is fully compatible with the frequent and extensive reworking of such deposits, as the ditches were cleaned out and/or recut to facilitate drainage and to maintain the boundaries, perhaps over considerable periods of time.

The largest group of sherds from a single feature came from waterhole 33 (56 sherds, 1196 g). These mostly consisted of the local greyware fabrics (41 sherds, 1103 g), including rims from a flat-flanged bowl/dish (Figure 8, 4) and a shallow, straight-sided dish (Figure 8, 5) as well as 17 freshly broken sherds (284 g) from the base and lower walls of a wheelmade, very hard fired (almost metallic finish) jar with burnished-line, obtuse-angled lattice decoration (Figure 8, 6). The only other rim came from the grog-tempered everted rim jar (Figure 8, 7); abraded sherds of Central Gaulish samian, sandy oxidised ware and Dales ware were also present, so a third-century AD date therefore seems most likely for this feature.

A single sherd (262 g) representing the complete profile of a flanged bowl (Figure 8, 8) was found in the primary fill of waterhole 50, the only other pottery from this feature being two greyware jar base fragments recovered during the evaluation (contexts 8113 and 8115). The bowl belongs to a form only common after the mid-third century AD, and its recovery from the primary fill may therefore suggest a Late Roman date for this feature, although the possibility that this relatively heavy piece, could have sunk down through the potentially soft, waterlogged higher fills cannot be excluded. Waterhole 113 contained just two body sherds (258 g) from a thick-walled greyware jar. Chronologically diagnostic sherds from the relatively large assemblage (32 sherds, 716 g) from waterhole 131 were limited to the two abraded scraps of a samian bowl/dish rim (second–early third century AD), a local, oxidised flanged mortaria with a cream slip (Figure 8, 9; cf Buckland et al. 1980, fig. 3, 4) and a Dales ware jar rim (Figure 8, 10) of third–fourth-century AD date. The remaining sherds consist of plain bodies and base fragments from greyware jars.

The only other Romano-British finds consisted of eight pieces of ceramic building material (ditch 3 and waterholes 33 and 131), all from *tegula* and *imbrex* roof tiles, a scrap of pale blue/green, matt/glossy window glass, used up to *c*. 300 AD, also from ditch 3 and the iron nail with a flat, round-head and a square-sectioned, tapering shank, which was associated with the deposit of cremated human bone (73) in ditch 3.

Medieval and later

A jar rim in a coarse, "gritty." sandy fabric, probably of thirteenth/fourteenth-century AD date was found in ditch 161, while a plain body sherd occurred among the unstratified material. Both carried traces of glaze. Late medieval (*c*. fifteenth/sixteenth century AD), externally glazed sherds in medium/fine-grained, well-prepared sandy fabrics came from ditch 3. A small (28 g) piece from an overfired ridge tile probably of late medieval date was also found in ditch 3.

A probable post-medieval iron horseshoe was found in a modern ditch in Field G. Although corrosion products currently mask the detail, it appears to be a wide web, unfullered, hind shoe possibly with some clench heads surviving in situ. Lobate and

smooth-edged iron horseshoes were undoubtedly used in Roman Britain (Manning 1985, 53), but the size and weight of this example suggest that it is more likely to have belonged to a larger, heavier beast of more recent (post-medieval/modern) date, despite its association with three residual sherds (55 g) of Romano-British grey-ware pottery.

Animal bone (Lorrain Higbee)

A total of 111 fragments (1462 g) of animal bone was recovered, although 39 (560 g) of these belonged to the same individual (the rear half of a sheep, probably of relatively recent date, found during the evaluation). Other pieces were found in waterhole 33 (seven fragments) and in Iron Age/Romano-British ditches 3, 87 and 1005 (32, 20 and 7 pieces, respectively), as well as in post-medieval ditch 1803 (6 pieces). Bone preservation varies from fair to poor, which has inevitably reduced the number of identifiable fragments. Indeed, excluding the sheep and once conjoins are taken into account, the fragment count falls to just 34 fragments, only eight of which are identifiable to species and skeletal element.

All the identified fragments are from cattle; they include several teeth, a complete astragalus and metacarpal, and fragments of scapula, tibia and humerus while six heavily worn and rounded fragments from the same horn core were recovered from post-medieval ditch 1803. The metacarpal provided a withers height estimate of 1.30 m, which is towards the upper size range for the period. Large cattle have been reported from several sites in north-east England (e.g. Dobney 2001, 38–9), and are the product of the importation of improved livestock from the continent and the interbreeding of this stock with indigenous varieties. Improvements in animal husbandry are also thought to have played some part in the increase in the size of cattle.

Finds discussion

The Romano-British pottery from the site is broadly comparable to that recovered from West Moor (Hughes 2006, 44), Edenthorpe (Chadwick and Cumberpatch 1995, 45), Rossington Grange Farm (Roberts and Weston 2016, 21) and within Doncaster itself (Buckland and Magilton 1986). The relatively large (for the area) pottery assemblage and scatter of building materials may point to the existence of a substantial Romanised structure somewhere in the vicinity, although not in the immediate environs, of the site. Similar medieval sherds occurring in layers overlying earlier field boundary ditches are also known from other parts of Rossington, interpreted as deriving from the manuring of the fields with domestic refuse during the 13th and 14th centuries AD (Atkinson 1998, 19).

Discussion

It is clear that the enclosure and associated ditches were integral parts of an extensive field system visible as cropmarks in the surrounding landscape, and confirmed by the results of the geophysical survey undertaken within the development site and excavation in Field A. This area was covered by Derrick Riley"s survey of the cropmarks, which identified an extensive system of rectilinear field systems and associated

scattered enclosures dating to the Late Iron Age and the Romano-British period (Riley 1980). Further detail has been added by subsequent surveys under the aegis of the National Mapping Programme.

Many of the investigations of the field systems have produced no dating evidence, although a pre-Roman inception for the enclosure of the local landscape is demonstrated by the superimposition of Roman roads, such as that between Lincoln (*Lindum*) and Doncaster (*Danum*), over cropmark field boundaries (Roberts 2008, 187). Moreover, recent investigations in the vicinity of Rossington, including the current project, have recovered Late Iron Age radiocarbon dates (Daniel 2019) and pottery (Roberts and Weston 2016) from field system ditches. This chronology seems to accord with the regional picture, whereby many field systems originate in the Late Iron Age and continue into the Roman period (Allen 2016, 273).

Local field systems display a variety of forms. Rectilinear "brickwork." field system, characterised by long parallel ditches, 30–100 m apart, with shorter ditches running between them, which Riley suggested may represents the infilling of previously unenclosed land between existing field systems, are known in the Rossington area at Warren House, Austerfield (Riley 1980, 25; pl. 2), and Church Field, Stripe Road (Atkinson 1998).

Those fields around the enclosure reported here, however, are less regular in their layout than the "brickwork." field systems, conforming more to Riley"s "nuclear." arrangement, although with some elements arranged in a ladder plan (Head et al. 1997, 273). The fields, particularly in the Borrow Pit 2 area, have a visible cohesiveness probably reflecting a degree of large-scale landscape organisation, and appear to be arranged in blocks set radially, possibly around a large trapezoidal field or enclosure lying just to the north of the investigated area (see Figure 1). Within each block the fields have different arrangements. The distribution of the field ditches around the site largely reflects the areas of dry land, with the site lying close to the boundary of the alluvial levels flanking the River Torne to the east.

Closely associated with this system of land division, but not forming part of its regular pattern, is a double-ditched subrectangular enclosure of 1.7 ha (with a smaller sub-enclosure on its southern side) containing internal subdivisions and probable round-houses (Roberts et al. 2010, fig. 59). It is of unknown date, but could be Late Iron Age. Definite evidence of Late Iron Age settlement and an associated field system have been found at Catesby Business Park, Balby Carr, 1.5 km north of the site (Jones 2007; Roberts 2008, 193, fig. 8; Daniel 2016).

Despite the likely pre-Roman origins for the field systems, the recovery from them of almost exclusively (if rare) Romano-British pottery, suggests that the fields were maintained, and probably expanded on, into and through the Romano-British period. The square enclosure excavated on the site is of comparable size to many of the smaller fields, and appears to be closely integrated within the field system, which could indicate a pre-Roman date, although it could equally represent a later modification or addition. It is similar in size to a small sub-square enclosure, 50 m by 45 m, excavated at Hazel Lane Quarry, Hampole. Although the latter had two internal subdivisions, at opposing corners, one of which contained two pits, there was little to indicate that it was a settlement enclosure (Brown 1997). The enclosure, the main

entrance of which was (as at the current site) in the middle of its eastern side, was closely associated with a field system to the east, in which was a large pit. It produced few finds: sherds of early Romano-British pottery (first–second century), animal bone, most from juvenile cow, but also sheep/goat and pig.

Similar Romano-British enclosures have been found in the near vicinity including at Rossington Grange Farm (Roberts and Weston 2016), along the "Great Yorkshire Way." road scheme (Wessex Archaeology 2014b; Daniel 2019) and during the ongoing development of Rossington Inland Port (Weston pers. comm.). Such facilities are generally interpreted as having an agricultural role, and evidence of occupation tends to comprise finds concentrations rather than remnants of structures. The current enclosure shows no signs of any craft or industrial activities, such as the pot-making or crop-drying evidenced on the neighbouring sites.

The enclosure occupied a slight rise in an otherwise flat and low-lying landscape, a favourable location, given the evidence for wetland conditions in the past (see above). By the time of their use in the Romano-British period, the enclosures were probably components of a varied agricultural economy, the environmental analyses detailed above provide clear evidence of grazing on rough, wet, scubby grassland albeit with some cereal cultivation in the area, indicating mixed farming. This was possibly organised from higher-order farmsteads such as the villa to the south-east of the site at Stancil. Such farmsteads may have replaced earlier centres of settlement and landscape control, including perhaps the double-ditched enclosure.

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Note on dating

Radiocarbon dates have been calculated using the calibration curve of Reimer et al. (2013) and the computer program OxCal (v4.2.3) (Bronk Ramsey and Lee 2013) and cited at 95% confidence and quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

Alldritt, D., 2016. "Carbonised Plant Microfossils and Charcoal." In *Excavations at Rossington Grange Farm, South Yorkshire*," edited by I. Roberts, and P. Weston..

Allen, M. 2016. "The North-East." In *New Visions of the Countryside of Roman Britain, Volume 1: The Rural Settlement of Roman Britain*, Society for the Promotion of Roman Studies Britannia Monograph Series, 29 edited by A. Smith, M. Allen, T. Brindle, and M. Fulford, 242–281. London.

Annable, F. K. 1954. *The Roman Pottery Kilns at Cantley Housing Estate, Doncaster, Kilns 1–8*. Doncaster: Doncaster Museum Publications.

Atkinson, S. 1998. "Survey and Excavation at Church Field, Stripe Road, Rossington, Doncaster." In *Archaeology in South Yorkshire 1994–1995*, edited by C. Cumberpatch, J. McNeil and S.P. Whitely, 15–19. Sheffield: South Yorkshire Archaeology Service.

Breeze, D.J., ed. 2014. *The Impact of Rome on the British Countryside*. London: Royal Archaeological Institute.

Bronk Ramsey, C., and S. Lee. 2013. "Recent and Planned Developments of the Program OxCal." *Radiocarbon* 55 (2): 720–730.

Brown, K. 1997. *Hazel Lane Quarry, Hampole, South Yorkshire, Archaeological Excavation*. Wakefield: West Yorkshire Archaeology Service.

Buckland, P. C., and M. J. Dolby. 1980. *Roman Pottery Site at Blaxton Quarry near Doncaster*. Doncaster: Doncaster Museums and Arts Service.

Buckland, P. C., K. F. Hartley, and V. Rigby. 2001. "The Roman Pottery Kilns at Rossington Bridge: Excavations 1956–1961." *Journal of Roman Pottery Studies* 9.

Buckland, P. C., and J. R. Magilton. 1986. "The Archaeology of Doncaster: 1. The Roman Civil Settlement." *Oxford: British Archaeological Reports British Series* 148: 109–195.

Buckland, P. C., J. R. Magilton, and M. J. Dolby. 1980. "The Roman Pottery Industries of South Yorkshire: A Review." *Britannia* 11: 145–164. XI:

Chadwick, A. M., and C. Cumberpatch. 1995. "Further Work on the Iron Age and Romano-British Landscape at Edenthorpe." In *Archaeology in South Yorkshire 1994–1995*, edited by C. Cumberpatch, J. McNeil, and S.P. Whitely, 41–49. Sheffield: South Yorkshire Archaeology Service.

Challinor, D. 2016. "The Waterlogged Wood." In *Firstpoint, Balby Carr, Doncaster, South Yorkshire. Strip, Map and Sample Excavation: Final Report*. Wessex Archaeology unpublished report 105400.02. Sheffield, 15–17.

Challinor, D., 2019. "The Wood Charcoal in Beamslot 30403 and Posthole 30174." In *The Great Yorkshire Way': Iron Age and Romano-British Activity near Rossington, South Yorkshire*. edited by P. Daniel, 34–36..

Daniel, P. 2016. "An Iron Age Enclosure at Balby Carr, Doncaster, South Yorkshire." *Forum: The Journal of Council for British Archaeology Yorkshire* 5: 1–11.

Daniel, P. 2019. "The Great Yorkshire Way': Iron Age and Romano-British Activity near Rossington, South Yorkshire." *Yorkshire Archaeological Journal* 91 (1): 18–48.

Dobney, K. 2001. "A Place at the Table: The Role of Verte-brate Zooarchaeology within a Roman Research Agenda for Britain." In *Britons and Romans: advancing an Archaeological Agenda*, Council for British Archaeology Research Report 125, edited by S. James and M. Millett, 36–45, York.

Edlin, H. L. 1949. *Woodland Crafts in Britain: An account of the Traditional Uses of Trees and Timbers in the British Countryside*. London: Batsford.

Gale, R. 2007. "Waterlogged Wood." In *Archaeological Excavation of a Brickwork Plan Field System at Catesby Business Park, Balby Carr, Doncaster, South Yorkshire 2002*, edited by L. Jones, 29–32. Yorkshire Archaeological Journal 79: 17–53.

Gilbertson, D. D., and A. Blackham. 1985. "Scaftworth Roman 'Fortlet." In *Peak District and Northern Dukeries: field Guide*, edited by D.J. Briggs, D.D. Gilbertson and R.D.S. Jenkinson, 111–127. Sheffield: Quaternary Research Association.

Gillam, J. P. 1951. "Dales Ware: A Distinctive Romano-British Cooking Pot." *The Antiquaries Journal* 31 (3/4): 154–164.

Giorgi, J. 2004. "The Charred Plant Remains." In *A Romano-British Enclosed Farmstead at Billingley Drive, Thurnscoe, South Yorkshire*, edited by P.G.E. Neal and R. Fraser, 63–76..

Greig, J. 2007. "Pollen and Plant Macrofossils." In *Archaeological Excavation of a Brickwork Plan Field System at Catesby Business Park, Balby Carr, Doncaster, South Yorkshire 2002*, edited by L. Jones, 32–37.

Hall, A. R. 2003. Recognition and *characterisation of turves in archaeological occupation deposits by means of macrofossil plant remains*. English Heritage Centre for Archaeology Report 16/2003. Portsmouth.

Hall, A. R., and J. P. Huntley. 2007. "A Review of the Evidence for Macrofossil Plant Remains from Archaeological Deposits in Northern England."English Heritage Research Department Report Series 87/2007, Swindon.

Head, R., H. Fenwick, H. Chapman, R. Van de Noort, and M. Dinnin. 1997. "The Archaeological Survey of the Rivers Idle, Torne and Old River Don." In *Wetland Heritage of the Humberhead Levels, an Archaeological Survey*, edited by R. Van de Noort and S. Ellis, 267–367. Hull: University of Hull Press.

Holden, J. L., P. P. Phakey, and J. G. Clement. 1995a. "Scanning Electron Microscope Observations of Incinerated Human Femoral Bone: A Case Study." *Forensic Science International* 74 (1/2): 17–28.

Holden, J. L., P. P. Phakey, and J. G. Clement. 1995b. "Scanning Electron Microscope Observations of Heat-Treated Human Bone." *Forensic Science International* 74 (1-2): 29–45.

Hughes, V. 2006. "West Moor Park, Armthorpe, Doncaster." In *Archaeology in South Yorkshire No. 11: A Review of Archaeology in South Yorkshire 2001/2003* edited by D. Saich and L. Matthews, 45–47. Sheffield: South Yorkshire Archaeology Service.

Jones, L. 2007. "Archaeological Excavation of a Brickwork Plan Field System at Catesby Business Park, Balby Carr, Doncaster, South Yorkshire 2002." *Yorkshire Archaeological Journal* 79: 17–53.

Langdon, C., R. Scaife, 2019. "Pollen Evidence from Waterhole 30412." In *The Great Yorkshire Way': Iron Age and Romano-British Activity Near Rossington, South Yorkshire*, edited by P. Daniel, 26–27.

Lines, A., J. Marchant, and D. Ratcliffe. 2008. South Yorkshire Historic Environment Characterisation. Database version date 28/08/2012. http://www.sytimescapes.org.uk/

Loughlin, N., 1977. "Dales Ware: A Contribution to the Study of Roman Coarse Pottery." In *Pottery and Early Commerce: characterization and Trade in Roman and Later Ceramics*, edited by D. P. S. Peacock. 85–146. London: Academic Press.

Manning, W. H. 1985. *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum*. London: British Museum.

MAP Archaeological Consultancy Ltd. 2006. *Finningley Quarry, Finningley, South Yorkshire, SK 6870 9850. Northern Extension Phases 20 & 21*, unpublished.

Mather, D. 1991. "Prehistoric Clearance and Roman Industry: A Palynological Study of Fluvial Facies Within the River Torne Floodplain near Rossington Bridge." South Yorkshire. MSc thesis, University of Sheffield.

Matthews, W. 2010. "Geoarchaeology and Taphonomy of Plant Remains and Microarchaeological Residues in Early Urban Environments in the Ancient near East." *Quaternary International* 214 (1-2): 98–113.

McKinley, J. I. 1993. "Bone Fragment Size and Weights of Bone from Modern British Cremations and Its Implications for the Interpretation of Archaeological Cremations." *International Journal of Osteoarchaeology* 3 (4): 283–287.

McKinley, J. I. 1994a. "The Anglo-Saxon Cemetery at Spong Hill, North Elmham Part VIII: The Cremations." *Dereham: East Anglian Archaeology* 69

McKinley, J. I. 1994b. "Bone Fragment Size in British Cremation Burials and Its Implications for Pyre Technology and Ritual." *Journal of Archaeological Science* 21 (3): 339–342.

McKinley, J. I. 1997. "The Cremated Human Bone from Burial and Cremation-Related Contexts." In *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992 Volume 2*, Wessex Archaeology Report 12, edited by A.P. Fitzpatrick, 55–72. Salisbury.

McKinley, J. I. 2004. "The Human Remains and Aspects of Pyre Technology and Cremation Rituals." In *The Roman Cemetery at Brougham Cumbria: excavations 1966–67*, edited by H.E.M. Cool, 283–309. London: Society for the Promotion of Roman Studies Britannia Monograph 21.

McKinley, J. I. 2008. "Ryknield Street, Wall (Site 12)." In *The Archaeology of the M6 Toll 2000–2003*, Oxford Wessex Archaeology Monograph 2, edited by A.B. Powell, P. Booth, A.P. Fitzpatrick and A.D. Crockett, 87–190. Oxford.

McKinley, J. I., and P. Smith. 1997. "Cremated Animal Bone from Burials and Other Cremation-Related Contexts." In *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992 Volume 2*, Wessex Archaeology Report 12, edited by A.P. Fitzpatrick, 253. Salisbury.

Mook, W. G. 1986. "Business Meeting: recommendations/Resolutions Adopted by the Twelfth International Radiocarbon Conference." *Radiocarbon* 28 (2A): 799–799.

Nielsen-Marsh, C., A. Gernaey, G. Turner-Walker, R. Hedges, A. Pike, and M. Collins. 2000. "The Chemical Degradation of Bone." In *Human Osteology in Archaeology and Forensic Science*, edited by M. Cox, and S. Mays, 439–454. London: Greenwich Medical Media.

Pelling, R., 2019. "The Waterlogged Plant Remains." In *The Great Yorkshire Way': Iron Age and Romano-British Activity Near Rossington, South Yorkshire*, edited by, and P. Daniel. 2–28..

Reimer, Paula J., Edouard Bard, Alex Bayliss, J. Warren Beck, Paul G. Blackwell, Christopher Bronk Ramsey, Caitlin E. Buck, et al. 2013. "IntCal13 and Marine 13 Radiocarbon Calibration Curves, 0–50,000 Years BP." *Radiocarbon* 55 (4): 1869––1887.

Riley, D. N. 1980. *Early Landscape from the Air: studies of Crop Marks in South Yorkshire and North Nottinghamshire*. Sheffield: University of Sheffield Department of Archaeology and Prehistory.

Roberts, I. 2008. "Late Prehistoric and Romano-British Land Division in South and West Yorkshire: An Overview of the Evidence." In *Recent Approaches to the Archaeology of Land Allotment*, British Archaeological Reports International Series 1875, edited by A.M. Chadwick, 199–217. Oxford.

Roberts, I., A. Deegan, and D. Berg. 2010. *Understanding the Cropmark Landscapes of the Magnesian Limestone*. Leeds: West Yorkshire Archaeological Service.

Roberts, I., and P. Weston. 2016. "Excavations at Rossington Grange Farm, South Yorkshire." *Yorkshire Archaeological Journal* 88 (1): 1–37.

Smith, B. M. 2002. *A Palaeoecological Study of Raised Mires in the Humberhead Levels*. British Archaeological Reports British Series 336, Oxford.

Stace, C. 1997. *New Flora of the British Isles*. 2nd ed. Cambridge: Cambridge University Press.
Wessex Archaeology 2012a. *Rossington Inland Port, Doncaster, South Yorkshire, Detailed Gradiometer Survey Report*. Wessex Archaeology unpublished report 84750.01. Sheffield.
Wessex Archaeology 2012b. *Rossington Inland Port, Doncaster, South Yorkshire: Archaeological Evaluation Report*. Wessex Archaeology unpublished report 84751.03, Sheffield.
Wessex Archaeology 2012c. *Rossington Inland Port, Doncaster, South Yorkshire, Scrambler Track: Archaeological Evaluation Report*. Wessex Archaeology unpublished report 84753.03 Sheffield.
Wessex Archaeology 2014a. *Rossington Inland Port Evaluation 1b, Doncaster, South Yorkshire: Archaeological Evaluation Report*. Wessex Archaeology unpublished report 84755.03. Sheffield.
Wessex Archaeology 2014b. *Finningley and Rossington Regeneration Route Scheme (FARRRS), Doncaster, South Yorkshire: Archaeological Assessment and Publication Proposal*. Wessex Archaeology unpublished report 84452.01. Sheffield.
Wessex Archaeology 2015. *Rossington Inland Port Borrow Pit 2, South Yorkshire: Archaeological Evaluation*. Wessex Archaeology unpublished report 84758.01. Sheffield.
Wessex Archaeology 2016. *Rossington Inland Port Borrow Pit 2, South Yorkshire: Archaeological Watching Brief*. Wessex Archaeology unpublished report 84759.03. Sheffield.
Whiting, C. E. 1943. "Excavations at Stancil, 1938–1939." *YAJ* 35: 261–269.
Williams, D. F., 1977. "The Romano-British Black-Burnished Industry: An Essay on Characterization by Heavy-Mineral Analysis." In *Pottery and Early Commerce: Characterization and Trade in Roman and Later Ceramics*, edited by D. P. S. Peacock. 163–220. London: Academic Press.
Worley, F. 2008. "Cremated Animal Bone." In *The Archaeology of the M6 Toll 2000–2003*, Oxford Wessex Archaeology Monograph 2, edited by A.B. Powell, P. Booth, A.P. Fitzpatrick and A.D. Crockett, 169–173. Oxford.
Wyles, S., 2019. "The Charred Plant Remains." In *The Great Yorkshire Way': Iron Age and Romano-British Activity Near Rossington, South Yorkshire*, edited by P. Daniel. 32–34.
Yates, D. T. 2007. *Land, Power and Prestige: Bronze Age Field Systems in Southern England*. Oxford: Oxbow Books.
Zohary, D., and M. Hopf. 2000. *Domestication of Plants in the Old World: The Origin and Spread of Cultivated Plants in West Asia, Europe, and the Nile Valley*. 3rd ed. Oxford: Clarendon Press.