



Book Reviews

THE HORSE BUTCHERY SITE: A HIGH-RESOLUTION RECORD OF LOWER PALAEOLITHIC HOMININ BEHAVIOUR AT BOXGROVE, UK BY (EDS) M I POPE, S A PARFITT AND M B ROBERTS

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The Boxgrove project burst into vibrant life in the early 1980s, challenging and antagonising the academic archaeological establishment in equal measure, its student leader inspired by, and part of, the contemporary punk milieu and its assault on the wider establishment. I don't recall corduroys, but there were definitely bover boots and braces as the shaven-headed Mark Roberts held forth in packed lecture halls, providing overwhelming proof that the history of Britain's earliest human occupation needed substantial revision, and revealing the remarkable details of the substantial landscape of early Palaeolithic occupation preserved at the Boxgrove quarry complex; it was London (Institute of Archaeology) calling. However it wasn't just the style, it was also the substance. Boxgrove overturned everything. Here was irrefutable evidence of human presence in Britain before the Anglian glaciation, 500,000 years ago in the interglacial period MIS 13; and not just a few suitably-crude lithic implements, but a prolific industry of large, symmetric and aesthetic ovate handaxes with sophisticated features such as tranchet sharpening. And, beyond the technical details of dating and typology, the behavioural evidence from the Boxgrove landscape challenged widely-held views that these early hominins were simpletons living in a mental world with a 15-minute time-depth, responding expediently to the appearance of a carcass or an injured animal, desperately casting around for a rock to chip, or hurl. Rather, the accumulating evidence from Boxgrove was showing all the signs of behaviour similar to much-later hominins, with, for instance, evidence of organised hunting, prior protected access to large herbivore carcasses, hide skinning and preparation, and the planned and organised use of the diverse resources afforded by the varying local landscape.

In some ways, however, the Boxgrove project has been the victim of its own success. Although one early paper was produced (Roberts *et al.* 1986), academic publication did not keep pace with the rate of excavation and discovery, or with the dissemination of key results

through popular vehicles such as the BBC's (1996) Horizon documentary *The Butchers of Boxgrove*, or the book *Fairweather Eden* (Pitts & Roberts 1997). The primary causes for this must be the extraordinary nature of the site itself, and the threat posed by it being located in an active aggregate quarry with permission for extraction. There was the consequent need to prioritise rescue and recovery of evidence that would otherwise be lost, over detailed analysis and reporting of material already found. Projects 'A' through to 'C' were carried out between 1984 and 1992, And then of course there was the well-documented discovery of a hominin tibia in late 1993 (Roberts *et al.* 1994), leading to the substantial and popularly-documented 'Project D' field seasons in 1995 and 1996 (BBC 1996; Pitts & Roberts 1997). Concurrently with this tightly-targeted pre-quarrying rescue work, less-constrained research was taking place across the quarry complex. Amongst this latter work, were four seasons of excavation between 1986 and 1991 at a locale that was rapidly branded as 'the horse butchery site', and which forms the main subject of the volume here under review.

It is thus perhaps unsurprising that full analysis and academic publication of various important results from the extensive and complex Boxgrove site have lagged behind. A paper covering the Project B work was produced in 1997 (Roberts *et al.*), and a substantial (1.8kg – a useful grading approach in the REF era) volume covering work up to 1989 came out in late 1999 (Roberts & Parfitt, eds). Nonetheless, the last major funded programme of fieldwork, Project D, was completed in 1996, so it is timely that some of the key results previously trailed have now been fully published. As explained in the introductory chapter (1), this volume on the horse butchery site is the first of the planned programme of outstanding publication, other volumes being in preparation on the lithic and faunal remains from the 1995–1996 Project D hominin tibia dig. The horse butchery site has already been substantially discussed in Pitts & Roberts (1997, chapters 37 and 49) and in Roberts & Parfitt (1999, 118–155, 226–229, 372–378 and 395–426). In the former (albeit unashamedly populist) account, it is spelt out how bones from a single horse, many with butchery marks, were recovered in close association with 6–7 discrete clusters of flint debitage. The site was thus presented as the undisturbed evidence from manufacture of handaxes by a group of hominins for the butchery of a horse carcass. Great play is also made of how the Home Office pathologist Bernard Knight confirmed a circular area of damage on the horse's scapula as very likely representing high velocity impact of a projectile such as a wooden spear. And thus (as presented in the widely-viewed 1996 '*Butchers of Boxgrove*' Horizon documentary) the narrative of the hunting/spearing of the horse on a tidal mud-flat, the dash by a group of 6–7 individuals to collect flint from the foot of the nearby chalk cliff, and then the rapid manufacture of handaxes beside the horse and its systematic butchery, have become firmly established in the psyche of all with an academic (or indeed general) interest

in the Palaeolithic. And there was nothing to challenge this in the extensive more-academic reporting on the site in the 1999 volume. This provided full detail on nearly 150 identifiable horse bones (or rather, fragmentary remains of same), and various cut-mark evidence of their butchery, and of damage from their breakage for marrow and other nutrition. The lithic evidence was not covered in as much detail and little new substantive information was provided. Importantly, it was emphasised that the site was regarded as incompletely excavated, and that additional knapping scatters would likely be present in the surrounding unexcavated ground to the northeast, north and northwest. The sedimentological context and burial process of the horse remains (and its accompanying lithic scatters) were thoroughly analysed. They were presented as having been initially deposited on a firm short-lived landsurface on intertidal mud-flats, and then having become rapidly buried by gentle diurnal tidal action. Thus the site was presented as representing perhaps a few hours of activity, on temporarily exposed level ground at the edge of the Boxgrove lagoon, in between high tides, and c. 50 m to the south of the major east-west Chalk cliff-line that would have been the dominant landscape feature at the time.

I was therefore very curious to see, after the passage of more than 20 years, what additional information and interpretations would be provided in this definitive (but slim – 0.66kg) publication, by the long-promised full analysis of all the lithic and faunal material. The background contextualisation of the site is rather hard to follow, and one can easily get lost in the wealth of its detail. This is mostly a problem of insufficiently-explained nomenclature, and the repeated use of in-project terminology that is clearly familiar to those long-involved in the project, but which may be unfamiliar to fresh readers. Some of this key background is, however, usefully covered in the ‘Glossary and Abbreviations’ section at the start of the book, which should be essential reading before embarking on the main text. The horse butchery site was first identified in 1986 through a small test pit – the original GTP17 – which was then enlarged and intensively excavated in the summers of 1989–1991. Thus ‘GTP17’, aka the horse butchery site – henceforth, ‘the Site’ – was ultimately a rectangular excavation area c. 13 m x 6 m in size (‘main trench’) towards the eastern end of Q2. It was supplemented by a second area c. 4 m x 3 m in size a short distance to the west (‘western trench’), the latter being divided from the former by c. 3 m of unexcavated ground (Figure 1).

The Site’s landscape context and stratigraphy are covered in the volume’s earlier scene-setting chapters (1–3). These, after an overall Introduction (Chapter 1), review the Geology, Sedimentology and Landscape (Chapter 2) and then provide a Palaeoenvironmental Reconstruction (Chapter 3) based on a variety of micro-palaeontological remains recovered from the Site, at other locales in the Boxgrove quarry complex, and at other sites in the wider

surrounding landscape. The details aren't always easy to follow, so here is a short primer. The main archaeological horizon in the Boxgrove quarry complex is the Slindon Silt, attributed within the site nomenclature as 'Unit 4'. This deposit formed in a quiet saltwater tidal lagoon, open through a narrow southern gap to the open sea, and bounded to the north by a substantial east-west trending chalk cliff, with flint-rich chalk-collapse deposits, and intermittent freshwater seeps and springs, at its base. Unit 4 is sub-divided into 3 main subdivisions, working up through the sequence: 4a, 4b and 4c. The main, and most-extensive, archaeological horizon across the wider Boxgrove site is Unit 4c, which represents a stable palaeo-landsurface with soil development which formed in the upper part of Unit 4 after marine regression and the cessation of tidal activity. Unit 4b is a bed of laminated intertidal silts/sands c. 0.5 m thick immediately below 4c. Unit 4b contains intermittent archaeological remains across the Boxgrove site area, with richer concentrations of material found at a few locations, one of them being the present Site.

It would have been helpful to have provided a stratigraphic diagram that shows the sequence at the Site, identifying the key horse butchery horizon, and providing a nomenclatural label for it that is then followed through the volume. I was initially flummoxed by the sudden appearance in Chapter 4 of 'Unit 4b, second level', aka within the volume as 'U.4b (2L)' (and not-to-be-confused with '4b, surface', or just '4b'). It is only in the (very useful) Appendix 1 (*Sediment Micromorphology*, by Richard Macphail) that this specific nomenclature is explained as representing the horse butchery horizon, and contextualised within the Site sequence. This horizon is flagged in the text as being 40–70 mm thick, c. 0.4 m below the top of Unit 4b, and resting on one specific clay-silt lamination that undulates across the Site area, and is held to recreate the palaeo-topography. This is vital for understanding site formation and the subsequent hominin activity. The ground was lower and wetter in the southeast part of the excavated area, and higher and drier to the northwest (see contours in Figure 1), with the archaeological evidence coinciding with the higher/drier areas. There is some evidence of soil ripening and rootlet development, which indicates a longer-than-half-daily exposure of the ground, so perhaps between monthly or equinoctial tides, rather than diurnal.

The meat of the volume, and the main new material, is contained in Chapters 4–5 concerning (primarily) the lithic remains from the Site, and Chapters 6–8 concerning the horse remains. These chapters are followed by a behavioural synthesis of tool-using and butchery behaviour at the Site (Chapter 9), and then by another synthetic chapter (10) on behavioural and social implications of the butchery episode. Curiously, this last chapter is anonymous; one would think that these similar synthetic discussions should have been

integrated into a single concluding chapter. Chapter 4 addresses the key issue of site formation process, as the essential prelude to reconstructing behaviour. Here, there is a certain amount of smoke and mirrors as the raw point distributional data of the lithic finds (Figure 1) is transmogrified first into density data, and then a 'trend surface'. The underlying rationale for this investigation is sound, namely that for undisturbed knapping scatters there is a strong spatial correlation between debitage of all sizes, from tiny spalls up to substantial waste flakes. However, the chosen size-grades for this investigation were curiously uneven – 1–19 mm, 20–22.9 mm, and 23–210 mm – and no quantitative information is given for the numbers of artefacts in each of these bins, nor methodological information about how density was initially derived, variously described as either 'per 0.5 m²' (p.42) or 'per metre square' (p.43). Nonetheless, and notwithstanding a lack of necessary discussion about the recovery methods of tiny spalls and whether these were consistent across the Site, it does seem that there are dense concentrations of larger lithics coinciding with scatters of smaller chips/spalls, and that these are (at least mostly) little-disturbed knapping waste. This investigation is complemented by analysis of lithic and faunal refits, and also of the long axis orientation of individual lithic and faunal finds. Here, authorial ownership has trumped thematic coherence across the volume, since the same topic is also separately covered for faunal remains by the same methods in Chapter 7 (pp.96–98), with almost the same conclusions. Despite the relatively-dispersed and fragmentary nature of the faunal remains, the overall conclusions are (a) that the faunal and lithic remains are the directly-associated remnants of the same single event, (b) that the site was gently buried by a low-energy fluvial process over the course of a few weeks, (c) that the lithic remains are the entirely-undisturbed result of hominin activity over less than a day, but (d) that the faunal remains from this event have also been re-arranged by carnivore activity and low-energy hydraulic processes during burial.

Chapter 5 is by far the most substantial chapter. It mostly covers technological analysis of the c. 1800 lithic remains >20 mm, complemented by description of the technical *chaîne opératoire* represented in a few longer refitting groups. It also includes a small section on microwear analysis of a selection of debitage, which concluded that some debitage showed signs of use-wear and probably played a role in any butchery carried out at the Site. The most-notable aspect of the assemblage is the predominance of debitage from handaxe manufacture, but the dearth of actual handaxes. There was just one broken, end-shocked piece of a handaxe, and three secondarily-worked flake-tools. More than 99% of the assemblage is attributed as debitage, and three further pieces categorised as 'quartered nodule fragments' seem essentially to have been very large and chunky flakes removed at an early stage in handaxe production. All of the knapping activity represents handaxe

production, or attempts at handaxe production that were abandoned at an early stage. Another significant element of the assemblage was the presence of several hard-hammer flint percussors, including both well-rounded flint pebbles from the nearby raised beach and also pieces of fresh nodular flint. Their presence, alongside the scatters of debitage from handaxe manufacture, reinforces the significance of the absence of finished handaxes as reflecting the organisational structure of hominin behaviour.

The greatest addition to previous work was the greater reporting of refitting results. There were 122 refitting groups, most of them comprising short sequences of two flakes or the joining of broken flakes. However, a few longer sequences were found, and detailed reporting is given on the seven largest refitting groups, ranging in size from 14 to 72 pieces. This is marvellous material and important stuff, but to some extent undermined by various imprecisions in the reporting of the data and their illustration. Table 5.3 (p.60) spells out the numbers of refitting pieces in these longest refitting groups, but these aren't cross-referenced, and don't quite tally, with either the verbal descriptions of these 'magnificent seven', or with their illustrated distribution plots. An overview diagram is provided later in the volume (Fig. 9.3, p.129) and this shows the general area covered by each of these selected groups, although some outliers are omitted, and conversely the distribution of group RG 50 is enlarged to include two flints that aren't part of that group. There is fascinating structure lurking here, which could have been analysed and discussed further. Three groups for instance – RGs 1, 9 and 19 – have a similar structure, with a tightly-clustered core area of debitage within a circle of c. 1 m diameter, and then several more-dispersed outliers up to 3 m away; and for RG9 there is also one distant outlier 11 m away; it isn't discussed how (or if) this patterning relates to the sequence of reduction. Despite what might initially seem like quite a high degree of refitting and clustering, the greater surprise is that – for a site that is presented as the rapidly-buried and undisturbed remains of less than a day's activity – there isn't a much greater degree of refitting, with more-clearly-defined and tightly-clustered debitage scatters. The general picture that emerges is curiously varied, and suggests a more complex use-history and time-depth to the Site than presented here. All of the refitting sequences had at least some preliminary flaking undertaken outside the excavated area, ranging from a few early flakes to substantial roughing-out and thinning/shaping of one or both faces. The end-points of the sequences range from a coarsely roughed-out handaxe pre-form (RG1) through to final finishing/shaping of one side of a handaxe (RGs 4 and 50).

A curiosity of the results is the preponderance of scatters that seem to relate to one side or other of a handaxe, or a specific stage of handaxe reduction. Either there was surprising mobility around the Site in course of the reduction process, or, more likely, some important

connections remain to be found, and some currently-distinct refitting groups in fact relate to the same reduction sequence. This makes it hard to unpick the key point of exactly how many different handaxe reduction sequences are present. Based on the (excellent) photographs of the refitting groups, there are: one sequence for which both sides of the handaxe are present (RG49), six sequences with one outer mostly-cortical face (RGs 1, 9, 19, 50, 51 and 53), and four sequences with one inner non-cortical face (RGs 1 and '126' – this latter being a bipartite scatter that was originally treated as a single reduction sequence, but which was then revised to three sequences after partial refitting and closer consideration of raw material). These could thus represent as few as four final handaxes, or as many as eleven, in addition to four unfinished/abandoned pieces. Nonetheless, the key structural point of the assemblage remains that, however many handaxes there once were, no complete tools were left at the Site, and this must reflect a strong behavioural pattern, within the wider context of the Boxgrove landscape in which handaxes are generally ubiquitous, and sometimes locally extremely abundant, such as in the Q1B excavation area.

The horse is represented by *c.* 150 identifiable (but fragmentary) remains, scattered across the excavated areas, but with a slight concentration at the western end of the main area (Figures 1, 2). All elements of the horse's skeleton are represented, other than its feet. Despite their fragmentary nature, the bone pieces are well-preserved, with no sign of weathering or hydraulic abrasion, and they show abundant cut-marks and damage from hominin butchery and breakage, as well as some marks from carnivore gnawing. Where they co-occur, these latter always (although with a statistically low population of four instances) overlie hominin butchery marks. It is thus concluded that the horse must have died at this spot and then its carcass fully butchered, including being skinned, its main meaty elements filleted, and other nutritious elements such as its marrow and spinal cord targeted for removal. Its bones were mechanically broken-up and dispersed first by this hominin butchery/breakage, and then further broken and dispersed by carnivore activity, and then rapidly buried. The large amount of nutrition recovered leads here to the conclusion of a larger than expected band-size of up to 50 individuals, rather than the 10–20 that is typically regarded as normal for this era. However, crucially, this interpretation depends on the presumption that this is a short-lived one-off event, rather than more-sustained exploitation during several visits over a period of weeks or months.

This is without doubt unprecedented and important new information about how these early UK colonisers exploited animals, and their skilled, targeted and systematic approach to the butchery of this particular one. There was, however, some interpretively-significant information omitted on the faunal assemblage; in particular, it is unclear whether (or to what

extent) the horse butchery horizon includes faunal remains other than the horse. We are told that the overall assemblage from the Site comprises 727 pieces, of which 151 could be identified to 'taxon and/or body part' (p.79). Then, 'the majority of' the attributable bones were identifiable as horse, and 'most of the associated unidentifiable large mammal bones are consistent with horse' (*ibid.*). This provides substantial, and un-discussed, room for there to be a non-horse element of the faunal assemblage from the horse butchery horizon. More information on this needs to be provided in future discussions, to address whether the Site represents one single event, or conversely is perhaps a small window into a wider palimpsest of intermittent hominin activity in front of the cliff and raised beach.

There were some minor changes from the previously-published data, such as a slight increase in identifiable horse remains. However, there were also two major revisions. Firstly, one horse bone (F.196) was previously identified (Parfitt 1999, 227) as a left acetabulum from the main butchered horse. This identification is repeated in Chapter 6 of this new volume (p.80), but then the same bone is re-identified as a right acetabulum in Chapter 8 (p.106), making it, crucially, from a different horse. It is also one of several bones (one from the butchered horse, one unidentified but 'probably red deer', and the others from 'unidentifiable large mammal') that show signs of having been used as flint-knapping percussors. The bone F.196 is thus interpreted as having been brought to the Site and used in handaxe production for the horse's butchery, as evidenced in the lithic remains. The second glaring revision was a re-think about the spear impact damage to the horse's scapula. The basis for this revision isn't discussed at all, it is merely stated (p.83) that 'there are no obvious signs of pathology on any of the bones'. And the only brief reference to a 'possible spear wound' is in the final anonymous chapter (p.133), as part of the Site's historic literature that is now superseded by this new volume. It is OK to change one's mind, but it would have been nice to have had some discussion on why such an iconic aspect of the Site has now been so completely abandoned.

Evidence of the manufacture and use of bone tools was given a separate chapter (8). Here, eight separate finds from the Site have been identified as knapping percussors for thinning/shaping handaxes, and one as a broken hide-working tool (*lisoir*). Importantly, two of the percussors show signs of deliberate modification to facilitate handling. One of these comes from part of the butchered horse, and, as mentioned above, another is re-assessed as from a different horse. The former (F.278) is part of a wider group of fragmented refitting pieces of the pelvis. Several of these pieces were recovered from the smaller western trench, which inevitably causes one to wonder what treasures remain in the unexcavated ground between the main and western trenches (Figures 1, 2), and whether these might

have affected the Site's interpretation. The other six pieces are relatively fragmentary and unidentifiable to taxon. It remains uncertain therefore how many percussors are represented, and by how many beasts.

This volume is an important addition to anyone's Palaeolithic library, but there remains an unresolved contradiction at the heart of this exposition. On the one hand, it is repeatedly emphasised throughout the volume that we have a special site representing a 'few short hours' (p.123) of Palaeolithic activity, comprising butchery of a complete and newly-deceased horse carcass with handaxes freshly-made on the spot for that purpose. On the other hand, evidence of a greater time-depth of site exposure and hominin activity is presented throughout the volume, but underplayed. The sedimentary evidence (Appendix 1) of root development and soil ripening isn't considered. It seems surprisingly quick work to progress from a fresh horse carcass, to skinning it, and using its own bones on the same spot to (a) knap the handaxes with which it was butchered, and (b) work its own hide, all within a few hours. The lithic knapping scatters are clearly little-disturbed, but they are more-dispersed and less-complete than would be expected if they were genuinely the rapidly-buried result of a few hours of activity. Furthermore, although there is a concentration of lithic remains associated with the densest concentration of horse remains at the western end of the main excavation area, there is an equally dense concentration of lithic remains at the eastern end where there are hardly any horse bones. This latter lithic concentration clearly extends northward beyond the excavated area, and may well have had nothing to do with the horse carcass at all.

Overall the Site clearly provides a rare and valuable window into hominin behaviour of this early era at one point within a diverse and well-understood wider local landscape of occupation. The most important results relate to the clear evidence of systematic and organised butchery of the horse carcass, its skinning, and also the evidence of hide-working. These transform our understanding of the capabilities of these early hominins; in fact, surprisingly little is made of the *lissoir* as proof of hide-working at this point in time, and the implications this may have had for use of, for instance, clothing and rugs to facilitate hominin occupation of more-northerly latitudes. However, bearing in mind the uncertainties over the time-depth of activity represented and the extent to which the entirety of recovered evidence is causally associated, the more-detailed interpretations of behaviour, and the 'direct study of social interactions' that is claimed on the back cover, are over-ambitious. There was some reverse-ferreting from previous work on whether the horse was hunted and speared, and on the stages of handaxe production represented. The greatest interpretive revision may, however, still be to come. Greater scrutiny of the evidence may necessitate some rethinking

of the extent to which the lithic evidence relates to the horse butchery, and may recast the horse butchery site as part of a foreshore zone of diverse hominin activity, only a small part of which has yet been uncovered. In fact, if there is a causal relationship, it may be the other way round. Perhaps the horse skeleton provided an obvious supply of bone percussors near to the cliff-base flint raw material source, so that it naturally became a focus of handaxe manufacturing, with lithic scatters continuing to accumulate in its vicinity long after its initial butchery?

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Francis Wenban-Smith
University of Southampton

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Editor*

GTP 17 - horse butchery site

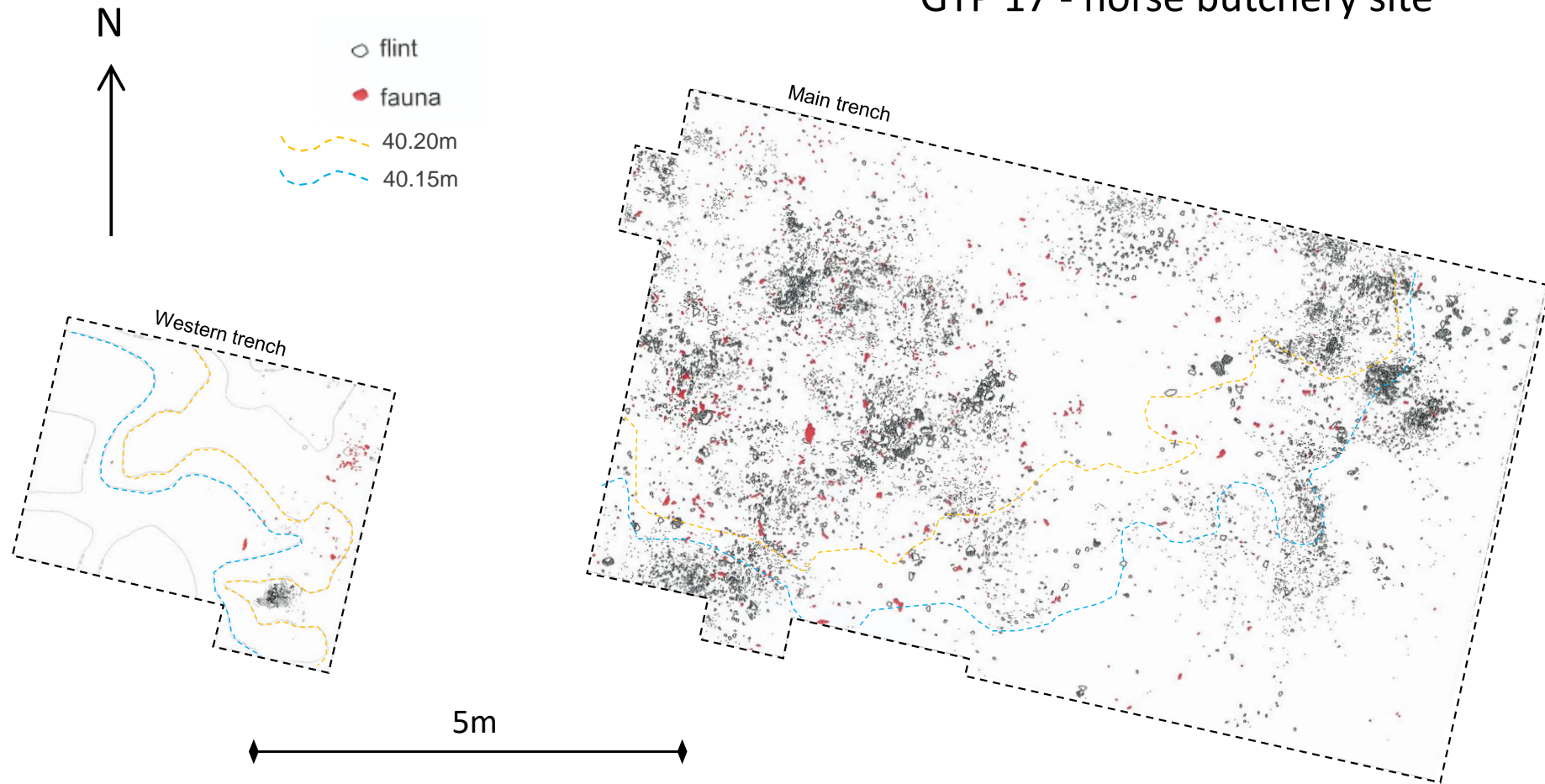


Figure 1. Main and western trenches of GTP 17 horse butchery site, with lithic and faunal distribution, and palaeo-landsurface contours

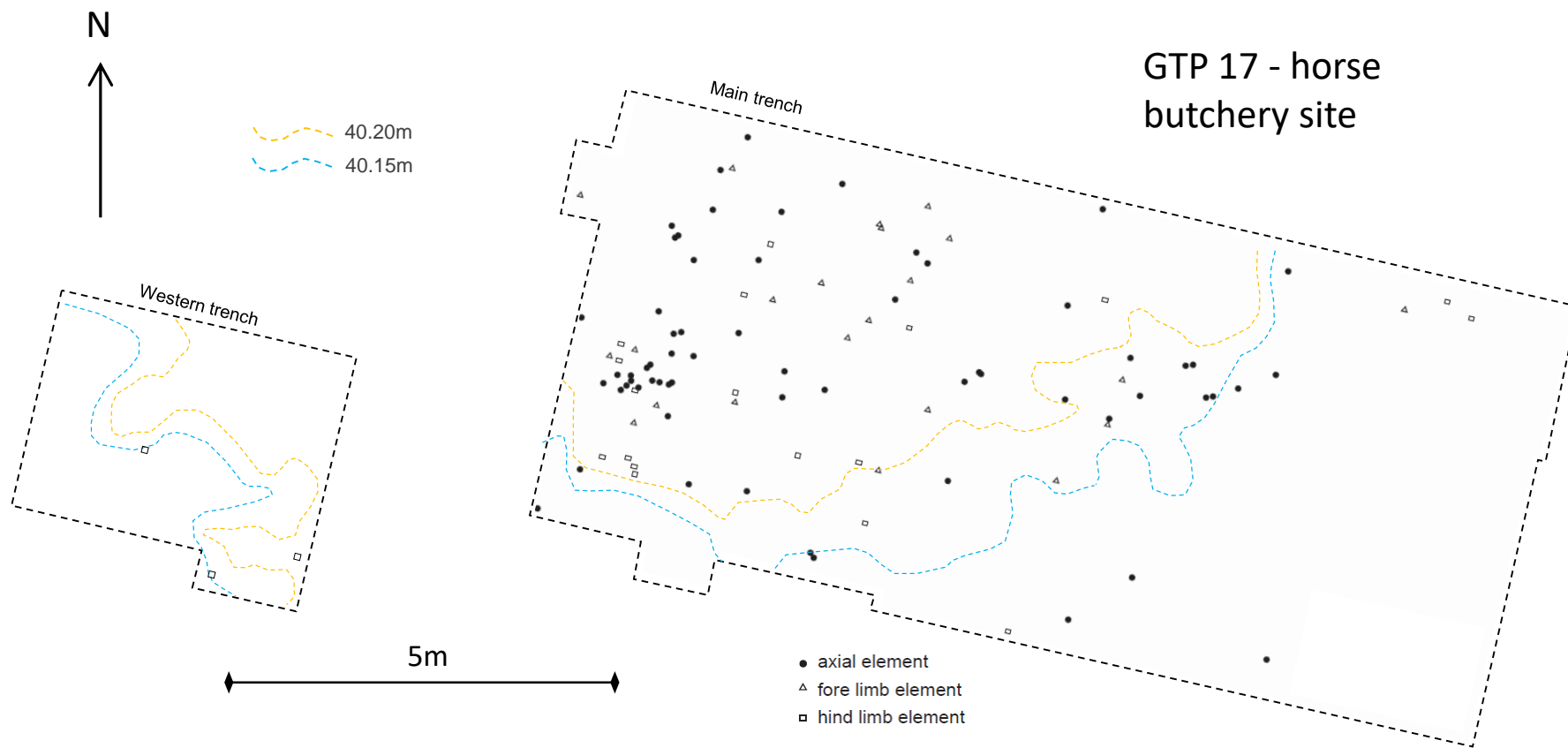


Figure 2. Main and western trenches of GTP 17 horse butchery site, with distribution of principal horse skeletal elements