Apex Park, Daventry, Northamptonshire

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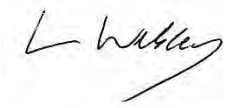
Signature:	

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Apex Park, Daventry, Northamptonshire

Archaeological Excavation Report

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Summary

Oxford Archaeology carried out an archaeological excavation in 2019 within the Phase 4 area of Apex Park, Daventry, Northamptonshire, centred on NGR SP 55630 64480. A geophysical survey of the *c* 14.9ha Phase 4 development site and two phases of trial-trench evaluation in 2018 and 2019 had established the presence of prehistoric remains, notably an earlier prehistoric ring ditch. The excavation area, totalling *c* 0.53ha, was subsequently targeted upon these remains in the south of the site.

The excavation exposed the *c* 16m diameter ring ditch, the construction of which is dated to the late Neolithic/early Bronze Age, by late Neolithic flint, and charcoal radiocarbon dated to 1873–1663 cal BC recovered from its lower fills. The recovery of abraded late Neolithic/early Bronze Age (Beaker), Bronze Age and Iron Age pottery from its upper fills suggest that the ring ditch continued to form a focus for activity into the Iron Age. It is likely that the ring ditch surrounded a barrow, though no primary burial was encountered. A cremation burial recorded during the 2019 evaluation to the east of the ring ditch has been radiocarbon dated to the middle Bronze Age (1406–1262 cal BC) and the ring ditch lies a short distance to the south-east of a larger segmented enclosure ditch of early Bronze Age date, previously excavated in the Phase 3 Apex Park development area. A large quantity of worked flint recovered from the ring ditch and neighbouring Iron Age features suggests that the monument was a focal point of later prehistoric activity.

Together with Iron Age pottery recovered from the ring ditch, a small number of Iron Age pits and postholes (including a rectangular four-post structure) were scattered across the excavation area, providing evidence of outlying activity associated with a settlement previously excavated to the south-west. A NW–SE aligned ditch also crossed the site to the south of the ring ditch and has been tentatively dated to the Iron Age. It is possible that the ditch formed a boundary between the earlier prehistoric monument to its north and the middle Iron Age settlement site previously excavated to the south-west. A later date for the ditch, however, cannot be entirely ruled out, and it may have constituted the remains of a medieval or post-medieval field boundary.

Remains definitely post-dating the Iron Age were limited to plough furrows and land drains indicative of medieval/post-medieval and modern agricultural activities.

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The fieldwork was managed for Oxford Archaeology by Steve Lawrence and the post-excavation work was managed by Daniel Stansbie. The fieldwork was directed by Mark Dodd, who was supported by Robert Backhouse, Charlotte Cox, George Gurney, Christof Heistermann, Tom Lawrence, Sarah Peacop, Adam Rapiejko, Ben Slader, Jana Smirinova, Elanor Stanley and Edward Tolley. Digitising was carried out by Matt Bradley and Charles Rousseaux. Thanks are also extended to the teams of OA staff that cleaned and packaged the finds under the supervision of Leigh Allen, processed the environmental remains under the supervision of Rebecca Nicholson and prepared the archive under the supervision of Nicola Scott.

1 INTRODUCTION

1.1 Background

1.1.1 Oxford Archaeology (OA) was commissioned by RPS Heritage, on behalf of their client Prologis UK, to undertake an archaeological excavation within the Phase 4 area of Apex Park, a commercial and industrial development located on the north-west side of Daventry, Northamptonshire and centred on NGR SP 55630 64480. RPS Heritage was the archaeological advisor and provided overall project management on behalf of Prologis.

1.1.2 The targeted excavation of the proposed Phase 4 development area (totalling *c* 14.9ha) was undertaken as a mitigation measure in advance of the submission of a hybrid planning application, which was granted with conditions (planning reference: DA/2019/0366). Condition 7 of the permission states:

"Prior to the commencement of the development the applicant, or their agents or successors in title, shall secure the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority."

1.1.3 This followed an earlier desk-based assessment (DBA) completed in 2018 (CgMs part of RPS 2018), a geophysical survey in 2018 (Sumo 2018) and two phases of trial-trench evaluation in 2018 and 2019 (CA 2018; OA 2020a). At all stages, pre-application consultation took place between RPS Heritage and Northamptonshire County Council (NCC) Planning Services in their capacity as Archaeological Advisors to the local planning authority (LPA). All archaeological works were carried out in accordance with Condition 7 of the planning permission, as stated above.

1.1.4 Based on the results of the geophysical survey and evaluation, it was recommended that an open area mitigation excavation be undertaken in the south of the site. The *c* 0.53ha excavation area targeted the results of the preceding evaluations, notably the prehistoric ring ditch. This work was carried out by OA in July–August 2019 and in accordance with a written scheme of investigation (WSI) produced by OA (2019) and approved by NCC Planning Services prior to the commencement of fieldwork.

1.1.5 The results of the fieldwork were summarised in a post-excavation assessment (PXA) statement, which included provisional interpretation and an initial assessment of the potential and significance of the site data (OA 2020b). The PXA statement concluded that the results of the fieldwork were of local to regional significance and had potential for further analysis.

1.2 Location, geology and topography

1.2.1 The site lies *c* 2.4km to the north-west of the historic town centre of Daventry in western Northamptonshire (NGR SP 55630 64480; Fig. 1). The north-east and north-west sides of the site are bordered by arable farmland, while the south-east and south-west sides are bounded by industrial buildings.

1.2.2 The underlying bedrock geology of the excavation area is mapped by the British Geological Survey (BGS) as Dyrham Formation Siltstone and Mudstone of the Jurassic Period (BGS 2020). There are no superficial deposits recorded.

1.2.3 The site is situated within the south of the Phase 4 development site, which at the time of the fieldwork comprised grass pasture with hedgerow boundaries. The land gently slopes from *c* 162m above Ordnance Datum (aOD) in the south-west of the excavation area to 160m aOD in the north-east.

1.3 Archaeological and historical background

1.3.1 The archaeological and historical background of the site has been described in detail in the DBA (CgMs part of RPS 2018), which comprises a review of recorded archaeological remains in the Northampton Historic Environment Record (HER) within a 1km radius of the development area, as well as other readily available sources. The following is a summary of the contents of the DBA and the results of the previous geophysical survey (Sumo 2018) and evaluations (CA 2018; OA 2020a).

1.3.2 Archaeological investigations have been carried out ahead of the preceding development of Apex Park Phase 3, immediately to the west of the site (MOLA 2016; Markus and Morris 2019), and at Middlemore Farm, *c* 750m north-east of the site (NA 2003; ASC 2004; OA 2020c). Other observations consisted of aerial photography surveys, artefacts recovered through field walking and metal detecting, and fieldwork conducted by the Midland Open Field project.

1.3.3 The first clear evidence for human activity in the general area surrounding the site has been dated to the Bronze Age. An early Bronze Age segmented enclosure and settlement remains from the late Bronze Age were uncovered at the Apex Park Phase 3 site (Markus and Morris 2019). Two Bronze Age barrows are preserved at Borough Hill, *c* 4km south-east of the site, and unstratified and undiagnostic flintwork may indicate human presence in the area during earlier periods.

1.3.4 During the Iron Age, settlements were established at Apex Park Phase 3 (Markus and Morris 2019) and Middlemore Farm (ASC 2004; OA 2020c), and at Monksmoor Park further to the east (Preece 2019). Although settlement size, structure and land use changed over time, there is clear evidence for continuing settlement in these areas up to and during the Roman period. The Iron Age remains uncovered at Apex Park Phase 3 comprised enclosures (ditches), roundhouses (gullies), storage pits and a pit alignment recorded for at least 115m along the western outskirts of the enclosures. After a modest start during the late Iron Age, the Middlemore Farm settlement site expanded during the Roman period. Whereas there is scarce evidence for Roman occupation at Apex Park Phase 3 south of Parsons Road, the remains at Middlemore Farm comprised rectangular houses (gullies), enclosures (ditches) and pits, from which assemblages of pottery, tile and metalwork including coins were recovered (NA 2003). Excavations at Monksmoor Park, *c* 2.2km to the east of the site, revealed several areas of late Iron Age/early Roman occupation and a more extensive early Roman settlement site (Preece 2019).

1.3.5 Other Iron Age and/or Roman settlements in the vicinity of the site are indicated by cropmarks and have been identified at three locations between 400m and 900m

south-west, north and north-east of the site. Two hillforts and a subsequent high-status villa together with 18 Roman barrows suggest that Borough Hill served as a political centre during the Iron Age and Roman periods. Remains of the major Roman road of Watling Street and the small town of *Bannaventa* are situated *c* 5.6km east of the site.

1.3.6 There are limited recorded remains dating to the Anglo-Saxon and medieval periods within the immediate area of the site. A possible Saxon sunken-floored building was uncovered to the west but could not be further substantiated with dated artefacts or adjoining features (Markus and Morris 2019). Isolated find spots of medieval and post-medieval metalwork, together with unstratified pottery, jewellery and coins at Middlemore Farm, suggest occupation in the same areas as the Roman farmstead. Within these areas, however, archaeological features indicative of medieval activity are limited to those relating to ridge-and-furrow cultivation (ASC 2004; OA 2020c). This type of land use has not only been revealed at Middlemore Farm but also in two areas *c* 600m and 750m north of the site. Anglo-Saxon burials and Viking weapons have also been found at Borough Hill indicating the continued importance of this site into the medieval period.

1.3.7 Daventry (Dafa's tree), Braunston (Brante's farmstead or enclosure) and Braunstonbury (-bury meaning fortified place) are Anglo-Saxon place names indicating the existence of settlements at these locations during this period. The Domesday Book of 1086 records that Daventry consisted of 34 households (Open Domesday). A Cluniac priory was moved there in 1107–8 from Preston Capes, and Daventry was granted a charter to become a market town in 1255. Braunston appears in two entries in the Domesday Book. The 22 households were living in separate villages, with Braunstonbury likely to have been the smaller of the two dispersed settlements. This was deserted by the 14th or 15th century.

1.3.8 The post-medieval period saw an intensification in agriculture and establishment of new infrastructure. Farmsteads were established during the 18th and early 19th centuries at Drayton (south-west of the site in the Apex Park area), at Braunston Fields (to the north of the site) and at the still preserved Middlemore Farmhouse. A 19th-century L-shaped farm building was built to the north of Drayton. Remains of fences, a well and stray finds relating to this farm were documented during the earlier phases of excavation at Apex Park Phase 3 (Markus and Morris 2019). Ordnance Survey mapping (OS 1884) shows the site set within enclosed fields largely corresponding with the current layout. Nearby, the Old Stratford to Dunchurch Turnpike road to the west was constructed in 1706, the Grand Union Canal was finalised when the tunnel opened in 1796 and the railway was established towards the end of the 19th century.

Previous investigations

1.3.9 A geophysical survey undertaken in 2018 (Sumo 2018) identified anomalies of possible/probable archaeological origin, including a circular anomaly suggestive of a prehistoric barrow ring ditch, as well as anomalies indicative of post-medieval/modern agricultural activities and modern disturbance.

1.3.10 Following the geophysical survey, a sample trial-trench evaluation of the circular geophysical anomaly yielded a small assemblage of struck flint and prehistoric pottery (CA 2018).

1.3.11 A second phase of evaluation in 2019 confirmed the presence and form of the ring ditch revealing a broad, flat-based ditch (OA 2020a). The fills of this ring ditch yielded small, abraded sherds of possible early Bronze Age pottery and flint artefacts recovered from the upper part of the sequence. An undated cremation burial was also recorded to the east of the ring ditch in Trench 26.

1.3.12 A single ditch aligned NW–SE, located 35m to the south of the ring ditch, was also identified by the geophysical survey data and the 2019 evaluation (Sumo 2018; OA 2020a). This also produced a very small amount of prehistoric pottery.

1.4 Aims and objectives

1.4.1 The primary aim of the investigation, as stated in the WSI (OA 2019), was to identify and record the archaeological deposits within the excavation area. To achieve this aim, the excavation sought to achieve the following objectives:

i. Confirm the character of any remains present;
ii. determine the date range of any remains from artefacts or otherwise;
iii. define the archaeological remains to their full stratigraphic depth down to undisturbed geology;
iv. recover geoarchaeological and palaeoenvironmental remains where present and where these have the potential to address specific research aims;
v. recover suitable materials for scientific dating where appropriate;
vi. produce a factual report, full archive, and HER data submission; and
vii. publish the results of the investigation at a level appropriate to their importance.

1.4.2 Based on the results of the previous geophysical survey and archaeological evaluations of the site (CA 2018; Sumo 2018; OA 2020a), and with reference to *East Midlands Heritage: an Updated Research Agenda and Strategy for the Historic Environment of the East Midlands* (Knight *et al*. 2012), the following site-specific aims and objectives were identified:

viii. To determine the presence/absence and significance of any further prehistoric archaeological remains that may be associated with or have been focused around the ring ditch;
ix. to fully investigate the interior of the ring ditch and establish the presence/absence and form of any primary features;
x. to establish the construction method and form of the ring ditch and monument from the fill sequence of the ditch, where possible;
xi. to establish the extent, form and date of a possible cremation cemetery to the east of the ring ditch; and
xii. To establish the contemporaneity or otherwise of the linear ditch to the south of the ring ditch.

1.4.3 Following the completion of the PXA statement (OA 2020a), which assessed the stratigraphic, finds and environmental datasets from the evaluation and excavation

phases of the investigation, it was concluded that the excavation results had the potential to contribute to identified areas of local and regional research. Combining the original research aims and objectives, with reference to the regional research framework (Knight *et al*. 2012), the following revised research aims were identified:

The ring ditch and burial

- Can the date of the construction and initial use of the ring ditch be refined? Was it contemporary with the early Bronze Age segmented ring ditch previously excavated just to the west?
- Can further analysis of the ring ditch fills elucidate the sequence of infilling of the ditch? Were there any deliberate backfilling events? Is there any evidence for the existence of a central barrow mound?
- What does the flint assemblage from the ring ditch and from neighbouring features imply about the nature of the prehistoric activity associated with the monument?
- How does the form, size and landscape setting of the ring ditch compare with other contemporary monuments in the wider region?
- Was the cremation burial contemporary with the initial use of the ring ditch, or was it a later interment?
- What wood species was used as fuel for the cremation? Did the selection of a particular wood type have any ritual connotations?

Iron Age activity

- Were the Iron Age features and finds associated with the middle Iron Age settlement previously excavated just to the south-west?
- Is there any significance to the presence of Iron Age material in and around the ring ditch? Were there any differences in the nature of the activities carried out around the ring ditch compared to those in the settlement core?

1.5 Fieldwork methodology

1.5.1 As specified in the WSI (OA 2019), an excavation area measuring *c* 0.53ha was investigated, targeted upon the results of the preceding geophysical survey and archaeological trial-trench evaluations (CA 2018; Sumo 2018; OA 2020a).

1.5.2 Removal of the overburden deposits, comprising topsoil and subsoil, was undertaken by a mechanical excavator fitted with a toothless ditching bucket under constant archaeological supervision. Removal of the overburden was undertaken in level spits of approximately 100–200mm down to the first archaeological horizon or the surface of the natural geology, whichever was uppermost.

1.5.3 Once removal of the overburden deposits was completed, the resultant surfaces were then hand cleaned, as necessary, and a digital pre-excavation plan showing the revealed features was produced using GPS.

1.5.4 A sufficient sample of the revealed features was investigated by hand to establish their character and date, where possible. Interventions measuring 1m in length were excavated through the linear ditch, while *c* 2m-long interventions were excavated through the ring ditch forming a 50% sample of the feature; following hand excavation and recording, the remainder of the ring ditch was machine excavated under archaeological supervision for artefact recovery. Where required, a 50% sample of all discrete features was excavated.

1.5.5 All archaeological deposits and features were hand excavated and recorded on *pro forma* sheets in accordance with OA's recording system. All excavated features were planned by GPS, with all sections being hand drawn at a scale of 1:20.

1.5.6 A full photographic record, comprising digital images illustrating both the archaeological features and the works in general was produced.

1.5.7 All artefacts from all excavated contexts were collected and retained for specialist identification and study, in line with the OA artefact collection policy.

1.5.8 Environmental bulk soil samples were collected from a range of features that exhibited the potential to contain ecofacts. Rebecca Nicholson, head of OA's Environmental Archaeology Department, was consulted throughout the fieldwork to ensure an appropriate sampling strategy was implemented.

1.5.9 All work was carried out in accordance with the WSI (OA 2019) and in compliance with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for Archaeological Excavation* (CIfA 2014a) and local and national planning policies, notably the *West Northamptonshire Joint Core Strategy Local Plan* (West Northamptonshire Joint Planning Unit 2014) and the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government 2019).

2 STRATIGRAPHY

2.1 Introduction

2.1.1 Archaeological remains were largely concentrated in the centre and south-west of the excavation area (Fig. 3). Four broad periods of activity have been identified based on the assessment of dateable artefacts (predominately the pottery), radiocarbon dating and stratigraphic relationships, or where similarities in orientation and/or morphology suggest a relationship (Fig. 4).

2.1.2 The majority of remains encountered on site have been dated to the prehistoric period. While a small number of archaeological features are undated, some of these are likely to have been associated with prehistoric activity. The phases identified are as follows:

- Phase 1: Late Neolithic/early Bronze Age
- Phase 2: Middle Bronze Age
- Phase 3: Iron Age
- Phase 4: Medieval/post-medieval–modern

2.1.3 A low density and range of archaeological remains were uncovered across the excavation area. These comprised a ring ditch and NW–SE aligned ditch, both of which were identified as anomalies by the preceding geophysical survey (Sumo 2018), as well as a small number of pits, postholes and natural features. A cremation burial radiocarbon dated to the middle Bronze Age was recorded to the east of the ring ditch during the preceding 2019 evaluation (OA 2020a). Feature legibility was generally good, and a low level of inter-cut stratigraphic complexity was observed.

2.1.4 The majority of the archaeological features were found underlying topsoil and subsoil deposits, cutting into the natural geology, which comprised firm, mid reddish brown clay with chalk-like pieces of limestone and occasional flint nodules. The overlying topsoil and subsoil consisted of dark brown silty clay and yellowish brown silty clay, respectively.

2.1.5 Most features contained single fills of mid to dark greyish brown sandy/silty clay, though hues of yellowish/orangey brown were also recorded. In contrast, the excavated ring ditch interventions contained sequences of 7–15 fills. Notable deposits are described in more detailed below, particularly where pertinent to the understanding of the nature/function of a deposit or feature.

2.2 Phase 1: Late Neolithic/early Bronze Age (Fig. 4)

2.2.1 The first tangible phase of activity evidenced within the site occurred during the late Neolithic/early Bronze Age; no archaeological features or deposits of demonstrably earlier date were identified within the excavation area. Activity during Phase 1 appears to have comprised the construction of a large ring ditch that defined a possible round barrow, suggestive of funerary activity. A small quantity of Beaker pottery and possible early Bronze Age pottery, although considered residual in nature having been found in later features and the upper fills of the ring ditch, attests to activity at this time. No

other archaeological features dating to this phase were encountered on site during the excavation.

Ring ditch

2.2.2 Ring ditch 10226 was located in the centre of the excavation area and had an internal diameter of *c* 16m. A total of 14 *c* 2m-long interventions were excavated across the ring ditch revealing slightly varied profiles, but most exhibited steep sloping sides and flat to slightly concave bases (Fig. 5, sections 10018 and 10028; Plates 1–3). The ring ditch measured 1.65–2.26m in width and 1.09–1.40m in depth and contained a sequence of 7–15 fills suggestive of natural infilling over a long period, with no obvious recuts identified. Primary fills in the base of the ring ditch typically comprised deposits of light to mid grey-brown, mottled yellow and yellowish brown clay silt with inclusions of weathered bedrock clasts, many of which may represent accumulations of eroded material that originated from the upper inner edges of the feature. Inclusions of soil micro-clasts within these deposits may have derived from a contemporary surface or barrow mound material. Lower secondary fills generally consisted of mixed deposits of brown to orangish/reddish brown silty clay and yellowish/greyish brown clay silt, with flint and stone inclusions, suggestive of the gradual erosion and natural infilling of the ring ditch. Upper secondary and tertiary fills were largely deposits of mid to dark brown to greyish brown sandy/clay silt with frequent stone inclusions indicative of natural infilling. Those of a darker brown colour may have included sediment from an eroded soil, perhaps from a mound.

2.2.3 Within a small number of excavated ring ditch interventions, a few fills with noticeable charcoal inclusions were identified which may be indicative of the deliberate deposition of burnt material into the partially silted ditch. In particular, a 0.06m-thick deposit of mid to dark greyish brown sandy silt (10052) was recorded in the upper portion of intervention 10050 (Plate 4), and in intervention 10068 a 0.05m-thick deposit of mottled dark grey clay silt with frequent charcoal inclusions and containing 25 pieces of burnt unworked stone (10058) was found underlying the uppermost fill.

2.2.4 Artefacts from the ring ditch fills were scarce. No diagnostic pottery was recovered from its lower fills; only four very abraded sherds (weighing less than 1g in total) of unknown date were retrieved from a primary fill of intervention 10167. A small assemblage of pottery of mixed date was recovered from the secondary upper fills, comprising sherds of late Neolithic/early Bronze Age (Beaker), possible early Bronze Age, possible late Bronze Age and Iron Age date. A few sherds of possible early Bronze Age or Iron Age pottery and a single, heavily abraded sherd of possibly late Iron Age pottery were also recovered during the preceding evaluations (CA 2018; OA 2020a). The abraded condition of much of the pottery suggests that it was residual. A radiocarbon date of 1873–1663 cal BC (SUERC-93471, 95.4% confidence) was obtained from *Corylus* charcoal recovered from sample 19 (lower secondary fill 10195 of ditch intervention 10186; Table 1). Given the sequence of the ditch fills and the nature of the pottery assemblage, it is probable that the ring ditch was constructed in the late Neolithic/early Bronze Age and continued to form part of the landscape into the Iron Age, when it became completely infilled.

Lab. code	Material	Context/ sample no.	δ 13C relative to VPDB	Radiocarbon Age BP	Calibrated Age 95% probability	Calibrated Age 68% probability
SUERC-93471	Charcoal: *Corylus*	10195/19	-25.5 ‰	3432 ± 24	1873-1843 cal BC (8.4% confidence) 1814-1801 cal BC (2.1% confidence) 1778-1663 cal BC (84.8% confidence)	1756-1690 cal BC (68.2% confidence)
SUERC-93472	Charcoal: Maloideae	10020/10	-27.4 ‰	2452 ± 22	752-682 cal BC (31.4% confidence) 669-636 cal BC (12.1% confidence) 626-614 cal BC (1.8% confidence) 593-414 cal BC (50.1% confidence)	746-686 cal BC (29.8% confidence) 666-643 cal BC (10.2% confidence) 553-484 cal BC (28.2% confidence)
SUERC-93473	Cremated bone: human	2603/ n/a	-21.4 ‰	3062 ± 22	1406-1262 cal BC (95.4% confidence)	1386-1340 cal BC (39.9% confidence) 1318-1284 cal BC (28.3% confidence)

Table 1: Summary of radiocarbon dating results. The calibrated age ranges were determined in OxCal v.4.3 using the IntCal13 curve

2.2.5 In addition to the small pottery assemblage, a relatively large quantity of worked flint was recovered from the ring ditch, including flakes, blades, bladelets, cores and scrapers from primary and lower secondary fills, some of which are typical of a late Neolithic/early Bronze Age date. The flint collected from the upper secondary and tertiary fills is characteristic of a later prehistoric, perhaps Iron Age, date and is suggestive of the monument's reuse (see below). A single piece of worked stone, interpreted as a probable grain rubber, was also recovered from the uppermost fill of ring ditch intervention 10067, suggestive of later use. Similar finds were retrieved from the ring ditch during the preceding evaluations (CA 2018; OA 2020a).

2.2.6 Eleven bulk soil samples were collected from a range of fills within the ring ditch, notably those containing greater quantities of charcoal inclusions. These samples generally yielded small to moderate amounts of charcoal and few charred plant remains, although a greater quantity was recovered from soil sample 24, collected from upper secondary fill 10055 of ring ditch intervention 10067. Where identified, the charcoal is of mixed taxa, including oak and ash, and the charred plant remains comprise wheat and barley grains, as well as indeterminate cereal grains, hazelnut shell fragments and wild weed/grass seeds.

2.2.7 The 2018 geophysical survey of the wider Phase 4 site identified a discrete pit-like anomaly of possible archaeological or natural origin within the centre of the ring ditch (Sumo 2018, 3), though no corresponding below ground feature was revealed during the excavation, or the 2018 evaluation (CA 2018). No primary burial or in fact any other features were encountered within the area defined by the ring ditch; however, it is likely that the ring ditch represented the remains of a round barrow.

2.3 Phase 2: Middle Bronze Age (Fig. 4)

2.3.1 Evidence demonstrating the continued significance of the Phase 1 ring ditch into the middle Bronze Age comprises the remains of a cremation burial excavated during the 2019 evaluation of the site (OA 2020a).

2.3.2 Unurned cremation burial 2604 was recorded *c* 13.5m to the east of the ring ditch. The burial pit measured 0.47m in diameter and 0.21m deep (Plate 5). It contained a single deposit of dark blackish grey clay silt, with charcoal inclusions and a relatively large quantity of cremated human bone that probably represents the majority of the original deposit. A sample of cremated bone produced a radiocarbon date of 1406–1262 cal BC (SUERC-93473, 95.4% confidence; Table 1). Soil samples 1 and 6, collected from the burial pit, produced large quantities of charcoal, the majority identified as ash. No further human remains were encountered during the excavation, nor any additional evidence of middle Bronze Age activity. A small quantity of pottery recovered from the upper fills of ring ditch 10026 and Iron Age pit 10201 may date to the early and the late Bronze Age and although considered residual suggests that the ring ditch may have continued to act as a focal point for depositional activity during these periods, though early Neolithic and Iron Age dates for the material cannot be ruled out.

2.4 Phase 3: Iron Age (Fig. 4)

2.4.1 The next substantive activity occurred during the Iron Age, when a small number of pits and postholes, some of which formed at least one structure, were excavated in the area around the ring ditch. The majority of Iron Age pottery recovered from these features could not be closely dated, though three more diagnostic sherds may date to the middle Iron Age.

Ring ditch

2.4.2 A small quantity of Iron Age pottery was recovered from several of the upper secondary and tertiary fills during the excavation and preceding evaluations (CA 2018; OA 2020a). A relatively large quantity of worked flint characteristic of a later prehistoric date, and which conceivably belongs to the early Iron Age, was also collected from these fills, as well as a probable grain rubber. The material suggests that the monument was a relict feature in the landscape, perhaps acting as a focal point of Iron Age activity and became completely infilled during this period.

Postholes

2.4.3 Adjacent to the west side of the ring ditch was a rectangular setting of four postholes (10227; Plate 6). Although slightly different to typical Iron Age four-post structures, the postholes formed a rectangular structure measuring *c* 0.80m by 2.20m. The primary function of this structure is not known, though its elongated form and location close to the ring ditch may have had some significance, perhaps indicating a specialised function in relation to the earlier barrow. The oval to sub-circular postholes measured 0.36–0.42m long by 0.30–0.36m wide and 0.20–0.37m deep, and generally had steep sides and slightly concave bases. Two of the postholes contained two fills, indicative of

post-pipes and packing (Fig. 5, section 10007). Posthole 10019 contained 23 Iron Age pottery sherds, one of which may date to the middle Iron Age, together with a small quantity of burnt unworked stone, a fragment of burnt animal bone and a piece of worked flint, while posthole 10017 contained a single piece of amorphous fired clay and a piece of worked flint waste. Soil sample 10, collected from post-pipe 10020 of posthole 10019, yielded further pieces of worked flint, a moderate quantity of charcoal and a few poorly preserved indeterminate charred cereal grains. In addition, Maloideae charcoal recovered from the sample produced a radiocarbon date of 752–414 cal BC (SUERC-93472, 95.4% confidence, Table 1).

2.4.4 Two similar, but slightly smaller, Iron Age postholes (10228) were recorded in the south-west of the site. Spaced *c* 0.70m apart, they perhaps formed part of a second structure; truncation from recent agricultural activities may have removed other related postholes. Alternatively, they may have been associated with undated postholes to their south-east, though there was no distinct spatial patterning (Plate 10). The postholes were 0.14–0.16m long by 0.19m wide and up to 0.25m deep, with steep sides and concave bases. Both contained similar single fills with occasional charcoal inclusions, one of which contained two sherds of Iron Age pottery.

Pits

2.4.5 Five pits containing small quantities of Iron Age pottery were scattered across the excavation area. While there was no indication of the primary function of the pits, they were associated with some form of low-level depositional activity during the Iron Age. The majority of these pits contained only small numbers of moderately to highly abraded pottery sherds, though a larger number of sherds recovered from the fills of a single pit (10013) may be suggestive of more deliberate deposition of waste material perhaps from a midden or for ritual purposes.

2.4.6 In the south-west corner of the excavation area, on the southern side of ditch 10230 was a shallow pit (10013; Plate 7), which cut undated pit 10015 to its north-east. Measuring 1.09m by 0.93 it had moderately sloping sides with a slightly uneven concave base and was no more than 0.15m deep. In contrast to the majority of features excavated on site, pit 10013 contained a larger quantity of pottery comprising 32 sherds of Iron Age pottery, some of which may be of middle Iron Age date.

2.4.7 Located in the south-west of the excavated area was possible pit 10044. Irregular in plan and measuring 1.08m by 0.74m, it had shallow sides and an uneven base no more than 0.04m deep. It contained a fill of light greyish brown silty clay with charcoal inclusions and a relatively large quantity of stones, some of which appeared to have been burnt, though no evidence of deliberate placement or *in situ* burning was identified. Two sherds of Iron Age pottery and a flint flake were retrieved from the pit.

2.4.8 Two further possibly Iron Age pits were recorded in proximity to the ring ditch. While no clear primary function was apparent, it is possible that the positioning of these two pits may have had some significance. Approximately 3m to the south of the monument was oval pit 10130, while sub-circular pit 10133 was located *c* 9.30m to the north-east. Measuring 0.60 wide by 0.14 deep and 0.78m wide by 0.22m deep, they both had moderately steep sides and flat to slightly concave bases (Fig. 5, section 10026). A

single sherd of possible Iron Age pottery and two pieces of worked flint were recovered from the upper fill of pit 10130. Pit 10133 contained a single sherd of Iron Age pottery, and single fragments of worked flint and burnt stone within its charcoal-rich fill. Soil sample 14, collected from the fill of pit 10133, yielded a large quantity of charcoal, including hazel and holly, but no charred plant remains.

2.4.9 Approximately 20m north-east of the ring ditch was sub-circular pit 10201 (Plate 9). Measuring 0.60m wide and 0.47m deep, it had near vertical sides, being slightly convex on its south side, and a flat base. It contained a lower fill of mid orangish brown silty clay with charcoal inclusions, overlain by a capping layer of large stones. Overlying this was an upper fill of mottled greyish brown silty clay with moderate charcoal inclusions, suggestive of a deliberate backfill. Recovered from the lower fill were four pieces of worked flint and two pottery sherds, one of which was of possible late Neolithic/early Bronze Age (Beaker) date and the other of possible late Bronze Age date. Soil sample 18, collected from the lower fill, produced a moderate quantity of charcoal of mixed taxa and a few charred cereal grain fragments, one of which may be barley. Two sherds of possible Iron Age pottery and 12 pieces of worked flint were recovered from the upper fill.

Linear ditch

2.4.10 A NW–SE aligned ditch (10230) was exposed for a distance of *c* 42m across the south-west of the excavation area. It corresponded with an anomaly identified by the geophysical survey (Sumo 2018) and was also investigated during the 2018 and 2019 evaluations (CA 2018; OA 2020a). The ditch was 0.84–1.03m wide and up to 0.50m deep, with moderately steep sides and a concave to slightly flat base (Fig. 5, section 10001; Plate 9). The excavated ditch interventions typically contained a single fill, though three fills suggestive of natural slumping and deliberate backfilling were recorded in intervention 10021.

2.4.11 A small quantity of possible Iron Age pottery was retrieved from the ditch and is highly abraded with a low average sherd weight of 2.95g. Fourteen pieces of worked flint, some of which are characteristic of a later prehistoric date, were also recovered. During the 2019 evaluation, seven sherds of possible early Bronze Age or Iron Age date and a piece of broadly prehistoric worked flint were recovered from this ditch (OA 2020a). No later finds were present within the excavated ditch interventions.

2.4.12 The ditch continued further to the north-west beyond the limit of excavation and aligned with an undated ditch recorded in the Phase 3 excavation site to the west (Fig. 9) interpreted as either having been related to prehistoric activity seen elsewhere on the Phase 3 excavation site or associated with medieval or post-medieval agricultural activity (MOLA 2016, 43).

2.4.13 Ditch 10230 is tentatively phased to the Iron Age based on the pottery and flint evidence. A small number of Iron Age and undated features seemingly clustered around the ditch in the south-west corner of the excavation area may be suggestive of their contemporaneity. It is possible that the ditch formed a boundary between the late Bronze Age/early Iron Age and middle Iron Age settlement areas to the south-west and the two earlier prehistoric monuments to the north, both of which contained Iron

Age pottery in their uppermost fills. Alternatively, the ditch, which was notably straight across the Phase 4 site and slightly curved in the Phase 3 area, may have been medieval /post-medieval in date (see below). The ditch does not correspond with any field boundaries depicted on late 19th-century 1st edition OS maps; however, it may have broadly, though not directly, correlated with a field boundary depicted on the 1813 OS map (CA 2018, 14; Fig. 10).

2.5 Phase 4: Medieval/post-medieval–modern (Fig. 4)

2.5.1 No evidence of activity between the Iron Age and medieval/post-medieval periods were revealed within the excavation area. The preceding geophysical survey (Sumo 2018) and trial-trench evaluations (CA 2018; OA 2020a) of the wider Phase 4 development identified the remains of medieval/post-medieval ridge-and-furrow cultivation, field boundary ditches and modern land drains, demonstrating the agricultural nature of land use during these periods.

2.5.2 A medieval/post-medieval date for possible Iron Age ditch 10230 cannot be completely ruled out (see above) and may provide further evidence of agricultural land division in the late post-medieval period.

2.6 Undated/unphased

2.6.1 A small number of undated archaeological features were recorded across the excavation area. They contained no diagnostic artefacts and shared no significant stratigraphic or spatial relationships with other dated features. Nevertheless, some may have been related to Bronze Age or Iron Age activity, while others may have been natural in origin. These features included pits 10015, 10040, 10204 and 10209, postholes 10038, 10042 and 10206, tree-throw hole 10208 and natural features 10027 and 10031 (Plates 10 and 11). A small number of other undated pits were excavated in proximity to ring ditch 10226 during the preceding phases of evaluation (CA 2018; OA 2020a).

3 ARTEFACTS

3.1 Pottery *by Alex Davies*

3.1.1 Some 153 sherds of prehistoric pottery weighing 706g was recovered. This includes 14 sherds weighing 16g from the 2019 evaluation. A single sherd of grog-tempered Iron Age pottery was recovered during the 2018 evaluation and was not included as part of the analysis discussed below.

3.1.2 Individual vessels from each context were separated out and recorded following the guidelines of the Prehistoric Ceramics Research Group (PCRG 2010). The levels of abrasion were noted in a three-tiered scoring system: 1 – fresh or slight wear, 2 – moderate abrasion with the surface somewhat reserved, 3 – high abrasion with minimal surface survival, breaks and erosion. None of the material was freshly broken. Half of the vessels are moderately abraded, and half highly abraded. The maximum number of vessels recorded is 48, from 29 contexts. The assemblage is summarised in Table 2.

3.1.3 The assemblage has a very low average sherd weight of 4.6g, and there are few feature sherds. The assemblage includes just one decorated sherd, six rims, and five vessels where anything of the form can be approximated. The fabric range is diverse, with grog, quartz sand and leached inclusions (probably from shell and/or limestone) being the most common and found in varying combinations. Multiple periods are clearly represented. These factors, compounded with the fact that very similar fabrics were used in multiple periods in the region, led to difficulties in accurately providing dates for the sherds. The following report justifies the dates given, although these should be considered alongside the above difficulties.

Date	GrQs	Gr	GrVo	Qs	QsGr	Vo	VoLi	None
Late Neolithic/ early Bronze Age (Beaker)	3 *100%* 23g *100%*							
Early Bronze Age or Iron Age?					3 *100%* 16g *100%*			
Late Bronze Age?						15 *100%* 100g *100%*		
Iron Age		17 *13%* 40g *7%*	61 *45%* 178g *31%*	42 *33%* 229g *40%*			8 *6%* 119g *21%*	
Unknown								4 *100%* 1g *100%*

Table 2: Prehistoric pottery assemblage by fabric and period. Showing sherd count and weight, and percentage of sherd count and weight

Fabrics

3.1.4 Thirteen fabrics were originally defined, and this was later consolidated to seven. Additionally, sherds from a single undatable vessel have no inclusions; further identification of the fabric of these sherds is not possible due to their small size (weighing 1g in total) and heavily abraded nature. Many of the seven fabrics are reasonably diverse.

Grog-dominated

GrQs. Grog and quartz-sand. Fine-grade, sparse, well-sorted. Late Neolithic/early Bronze Age (Beaker).

Gr: Grog. Medium-grade, moderately frequent, well-sorted. (Middle?) Iron Age.

GrVo: Grog and voids, mainly irregular lumps but also plate-like (probably leached limestone and shell). Medium-grade, moderately frequent, moderately well-sorted. Iron Age?

Quartz sand-dominated

Qs: Quartz sand. Usually medium-grade, moderately frequent, well-sorted, but can be either finer or coarser. Occasional pieces of ironstone and/or leached shell/limestone. Can be micaceous. Iron Age.

QsGr: Quartz sand and grog. Medium-grade, moderately frequent, well-sorted. Early Bronze Age or Iron Age?

Void-dominated

Vo: Voids, mainly irregular lumps, but also plate-like (probably leached limestone and shell). Corky and light. Usually medium-grade, moderately frequent, well-sorted. Late Bronze Age or possibly early Neolithic?

VoLi: Voids, mainly irregular lumps of probably leached limestone, with pieces of limestone surviving. Coarse, sparse, well-sorted. Iron Age.

Late Neolithic/early Bronze Age (Beaker)

3.1.5 The earliest confirmed material is a single Beaker sherd weighing 8g in fabric GrQs. The sherd is from the bottom of the wall of the vessel where it meets the pinched base (Fig. 6.1). It is decorated with vertical parallel lines of twisted cord *c* 7mm apart, with a line of twisted cord also running horizontally just above the pinched-out base. The sherd was from upper fill 10069 ring ditch 10226 (intervention 10068).

3.1.6 Sherds from two other vessels in the same fabric were recovered, one from middle fill 10070 of the ring ditch and another from pit 10201. It is thought that these also belong to Beakers, although neither are diagnostic.

Early Bronze Age

3.1.7 No pottery of certain early Bronze Age date was discovered. The three vessels in fabric QsGr were phased to either the early Bronze Age or Iron Age as they are all undiagnostic, and these were all from upper fills of the ring ditch. Similar fabrics are known in both periods in the region. It is thought that some of the grog-tempered pottery assigned to the Iron Age could belong to the early Bronze Age.

Late Bronze Age?

3.1.8 Two sherd groups with identifiable vessel forms are thought to be late Bronze Age in date. They are in fabric Vo and correspond well with the description of the late Bronze Age fabric at Harlestone Quarry (Chapman 2017, 55). They are both incurving bowls or jars (Figs 6.2 and 6.4), sharing similarities with pottery from Harlestone Quarry (Chapman 2017, fig. 18.4, 18.6) and Thrapston (Jackson 2001, fig. 5.9, 5.14, 5.27). Further afield, similar ovoid vessels are common to late Bronze Age assemblages (eg Barclay 2001, fig. 14. 8–14.9, 14.19–14.26; Morris 1994, fig. 11.7–11.14; 2006, 386). These are often phased to the earlier part of the late Bronze Age (*c* 1150–900 cal BC; Davies 2018, 279), although the associations in Northamptonshire at Thrapston (Hull 2001) and Harlestone Quarry (Chapman *et al*. 2017) suggest that the form continued later in this region.

3.1.9 One of the vessels (Fig. 6.2) was found in middle fill (10056) of the ring ditch and the other (Fig. 6.4) in pit 10201. Three other vessels were found in a similar fabric, two from middle fills and one from upper fills of the ring ditch. It is thought that they are all of the similar date.

3.1.10 Although late Bronze Age vessels comparable in form and fabric have been identified from the region, some uncertainty remains as to their date. Shelly and/or limestone fabrics (often leached) are common in the early Neolithic in the region (Briar Hill: Bamford 1985, 105; Raunds: Harding and Healy 2011, 583–8; A45 Link Road evaluation: Gibson 2014, 54). The vessel forms are simple, and while no very clear comparisons were found at nearby early Neolithic sites, similar ovoid bowls are known in the Plain Bowl group (eg Barclay 2013, figs 5.27.36, 5.30.96, 5.31.116, 5.31.122, 5.34.182). Similar Iron Age fabrics are also known in the region, and while ovoid bowls are a middle Iron Age form, it is not thought likely that the vessels are of this date given their similarities to late Bronze Age vessels recorded elsewhere within the region.

Iron Age

3.1.11 Most of the pottery has been phased to the Iron Age with varying degrees of certainty. Two of the sherds with identifiable vessel forms are Iron Age in date, and they probably are middle Iron Age slack-sided or slightly globular bowls (Figs 6.3 and 6.5). Both are in fabric Gr. One of the vessels was found in posthole (10019), the other in natural feature 10027. Grog is the dominant Iron Age fabric at some nearby sites (Crick Covert Farm: Hancocks and Woodward 2015, table CER3; Grange Park: Woodward and Hancocks 2006, table 8; Silverstone Fields Farm: Timby 2007, 95), apparently more common in the early Iron Age than the middle Iron Age. At numerous other Iron Age sites in the region grog is not recorded or found only in minor quantities.

3.1.12 Other sherds in fabric Gr have been tentatively phased to the Iron Age, as well as those in fabric GrVo, although no diagnostic sherds were found in this fabric. Grog with the addition of shell was found in some quantities in the Iron Age at Crick Covert Farm (Hancocks and Woodward 2015, table CER3) and Silverstone 3 (Timby 2007, 95), more common in the middle Iron Age than early Iron Age. At Apex Park, some of this material might date to the early Bronze Age on the basis of fabric, but as no diagnostic material was recovered of this date, a tentative Iron Age phase has been assigned.

3.1.13 Sherds made from fabric GrVo were found the upper fills of the ring ditch (10226), three pits (10013, 10044, 10130), one posthole (10019 of structure 10227) and ditch 10230.

3.1.14 Sherds in fabric Qs have also been dated to the Iron Age. Quartz sand is found in Iron Age fabrics in the region (e.g. Grange Park: Woodward and Hancocks 2006, table 8; Crick Covert Farm: Hancocks and Woodward 2015, table CER3). This is apparently more common to the middle Iron Age than early Iron Age. This fabric is much less often used prior to the Iron Age. Sherds in fabric Qs were found in upper fills and one middle fill of the ring ditch (10226), two pits (10013, 10133), a posthole (10019 of structure 10227) and a natural feature (10027).

3.1.15 Sherds in fabric VoLi were also phased to the Iron Age. Limestone, often with shell, is commonly found in Iron Age fabrics in the region (eg Nortofts Lane: McSloy 2015, 201). Similar fabrics are also known in earlier periods (see above).

Key features

Ring ditch 10226

3.1.16 Some 48 sherds weighing 182g were recovered from ring ditch 10226, although unfortunately the ceramic material helps little in dating its construction. Only one lower fill produced pottery, and this comprised four very abraded tiny sherds together weighing less than 1g in total. No temper was visible, and the sherds cannot be dated. Five middle fills produced pottery including an undiagnostic sherd in the possible Beaker fabric (GrQs), one of the late Bronze Age ovoid bowls (Fig. 6.2), two other sherds in the possible late Bronze Age fabric (Vo) and an Iron Age sherd in fabric Qs. Almost all of the material was from upper fills. This included the diagnostic Beaker sherd, a vessel in the probable late Bronze Age fabric, three vessels in the early Bronze Age or Iron Age fabric QsGr, and Iron Age sherds in fabrics Gr, GrVo and Qs.

Ditch 10230

3.1.17 Ditch 10230 only produced Iron Age material, comprising 20 sherds weighing 59g. None of these were diagnostic and fabrics Gr, GrVo, and VoLi were represented. Some 80% of the vessels were recorded as highly abraded and the very low average sherd weight of 2.95g suggests that phasing on the basis of the ceramics should be taken with caution.

Pits

3.1.18 Five of the pits produced pottery. Iron Age pottery was only found in pits 10013, 10044, 10130 and 10133. Pit 10201 produced a small amount of probable Beaker and late Bronze Age pottery, although probable Iron Age sherds were also found. The Iron Age material has a much higher average sherd weight than the Beaker/Bronze Age material, suggesting that the earlier material is residual.

Posthole

3.1.19 Iron Age pottery was found in posthole 10019 of structure 10227, including one of the two diagnostic possibly middle Iron Age sherds (Fig. 6.5).

Illustration catalogue (Fig. 6)

1. Beaker. Fill 10069, cut 10068. Upper fill of ring ditch. Fabric GrQs. Beaker with pinched base.
2. Late Bronze Age? Fill 10056, cut 10067. Middle fill of ring ditch. Fabric Vo. Bowl with incurving rim.
3. Iron Age (middle?). Fill 10028, natural feature 10027. Fabric Gr. Possible globular bowl with short neck.
4. Late Bronze Age? Fill 10203, pit 10201. Fabric Vo. Possible open or ovoid bowl.
5. Iron Age (middle?). Fill 10020, posthole 10019. Fabric Gr. Possible barrel-shaped bowl.

3.2 Worked flint *by Michael Donnelly*

3.2.1 The excavation recovered a large assemblage of 419 struck flints and just five fragments of burnt unworked material weighing 34g (Table 3). The flints were restricted to a small number of features, some with multiple interventions. These spanned a range of periods, with the majority of the material (85.2%) coming from ring ditch 10226 of probable late Neolithic/early Bronze Age date. Flints were recovered from all 14 excavated interventions of the ring ditch, with the material coming from primary, secondary and tertiary fills. Assemblages varied between two and 60 flints. The second and third largest groups of flints were all far smaller than that from ring ditch 10226, with 35 flints coming from four Iron Age pits, though 31 of these came from pit 10201 while just four flints were found across the remaining three pits. Tentative Iron Age or possibly post-medieval ditch 10230 also contained several flints (14) found across six excavated interventions. Beyond this, there were flints from five other features, including eight flints from Iron Age postholes that formed structure 10227. Many of these flints appeared to be in very good condition, suggesting that they could be contemporary with the features they were recovered in, and while this may be unsurprising for the late Neolithic/early Bronze Age ring ditch, it is perhaps more so for the Iron Age pits. In addition, it appears as if much of the flint recovered from the upper fills of ring ditch 10226 is later prehistoric in character and represents the reuse of the monument, possibly with discarded or redeposited flint from the barrow mound having been reused.

Methodology

3.2.2 The artefacts were catalogued according to OA's standard system of broad artefact/debitage type (Bradley 1999; Anderson-Whymark 2013), general condition noted, and dating was attempted where possible. The assemblage was catalogued directly onto an Open Office spreadsheet. Additional information on condition (rolled, abraded, fresh and degree of cortication) and state of the artefact (burnt, broken or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (eg Bamford 1985, 72–7; Healy 1988, 48–9; Bradley 1999). Technological attribute analysis was initially undertaken and included the recording of butt and termination type (Inizan *et al*. 1999), flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982) and the presence of platform edge abrasion.

3.2.3

Category type	Number
Flake	247
Blade	7
Bladelet	12
Blade index	7.14% (19/266)
Irregular waste	43
Levallois flake	1
Adze/axe working flake	1
Ground implement flake	2
Sieved chip	37
Crested piece	1
Core rejuvenation flake	5
Core single platform flakes	9
Core multi-platform flakes	17
Core levallois non-discoidal	2
Core keeled flakes	1
Core on a flake	3
Core tested nodule	2
Core fragment	8
Scraper end	2
Scraper side	2
Scraper side + end	1
Scraper disc	1
Scraper other	3
Awl	3
Piercer	2
Spurred piece	1
Heavy borer	1
Denticulate	2
Notch	1
Knife	1
Retouched flake	1
Total	*419*

Burnt unworked (representative total)	5/34g
No. burnt (%)	9/419 (2.15%)
No. broken (%)	110/382 (28.80%)
No cores and core dressing (%)	48/382 (12.57%)
No. retouched (%)	21/382 (2.61%)

Table 3: Flint assemblage by category

The assemblage

3.2.4 The assemblage was clearly flake based with a low blade index of just 7.14%, a figure associated with late Neolithic activity (Ford 1987), but in any multi-phase assemblage, the actual figure must be viewed with caution. The cores recovered also highlighted the importance of flake production with all 42 examples being geared towards flake production. Tools were also largely dominated by flake forms, but one blade tool was

present in the form of a notched piece, and this alongside some of the core dressing flakes and blade debitage suggest a very limited early presence (Upper Palaeolithic, Mesolithic or Early Neolithic).

3.2.5 The flake debitage included quite fine regular examples, as well as several fine flake tools representing a probably contemporary late Neolithic/early Bronze Age component. There were also less well-fashioned flakes and cores that indicate a later prehistoric element, but the exact contribution of each to the overall assemblage cannot be ascertained, as it is quite possible to have crude Neolithic flakes alongside well-made later prehistoric examples.

3.2.6 Of note is the relatively low figure for tools from the assemblage, comprising just 2.61% compared to the very remarkable figure of 12.57% for cores and related debitage. Figures of around 4% and 2–3%, respectively would be more typical of balanced assemblages where all aspects of prehistoric flint knapping had been undertaken. Generally, if an assemblage suffers from recovery bias, it usually results in an overabundance of tools. Therefore, in this case, the very high occurrence of cores would appear to be genuine. The number of flakes/blades per core in an assemblage can be seen as a guide to its age, with high numbers of flakes/blades being common for earlier prehistoric material and lower values for later prehistory. Here, there is a clear indication from the frequency of cores and of their types that the bulk of the assemblage is late Neolithic to later Bronze Age/Iron Age in date.

Raw material and condition

3.2.7 The assemblage comprises flint from several sources, most of which were available locally or perhaps regionally in some instances. Flint displayed cortex on 321 of 382 significant pieces (84.03%), a very high figure. This could be seen as evidence for the use of smaller nodules that have less inner material, but here it is most probably a feature of primary core reduction being very important on particularly in relation to ring ditch 10226.

3.2.8 The cortex displayed various different types but was dominated by thin abraded cortex typical of some North Downs flint (172/321, 53.58%), followed by thermal surfaces (66, 0.56%), rolled/gravel surfaces (40, 12.46%) and chalk (38, 11.84%), most of which was heavily weathered (33, 10.28%) with just five pieces possibly displaying fresh chalk cortex (1.56%). There were also very small amounts with indeterminate, other weathered and ground/polished surfaces (5, 1.56%). This suggests a wide range of sources, but much of it may have been recovered from on or near to chalk outcrops some distance away, while river gravel and river terrace exposures would also have featured as could a small clay-with-flints element. This wide variety of sources is entirely common away from heavily industrial early prehistoric knapping sites where sometimes just one or two sources would be exploited.

3.2.9 The flint was dominated by fresh material (Table 4) with some lightly edge damaged pieces and small amounts of moderate and negligible heavily damaged flints. This very strongly indicates *in situ* or near *in situ* material with only a limited residual element. Flints with light cortication dominate the assemblage, with small numbers of flints exhibiting moderate to heavy levels of cortication and a small quantity of flints

showing no cortication. This is indicative of an assemblage largely belonging to one phase of prehistory or to temporally closely related phases. Material from widely separated periods of prehistory can often show very different types of cortication.

Condition	Total	%	Cortication	Total	%
Fresh	246	67.40%	None	8	2.19%
Light	109	29.86%	Light	333	90.98%
Moderate	7	1.92%	Moderate	22	6.01%
Heavy	1	0.27%	Heavy	3	0.82%
Plough damaged	2	0.55%			
Total	*365*			*366*	

Table 4: Flint condition and cortication levels

Distribution

3.2.10 The flints came from several discrete foci with 414 of 419 (98.81%) flints coming from four separate feature groups and limited to just eight features (Table 5). The most dominant of these was ring ditch 10226, from which 85.20% of the total assemblage was recovered. Flint collected from the ring ditch alongside material from pit 10201, posthole 10019 and ditch 10230 accounted for practically all the flint recovered from this site (97.85%).

3.2.11 The fact that the assemblage was dominated by material from one feature suggests that most of the flintwork from the ring ditch is related to the ongoing reuse of the monument. If material was eroding into it from subsoil layers or from surface middens, then it should be more prevalent across the excavation area rather than being so strongly focused in one area. It also suggests that the richer flintwork found in a very limited number of Iron Age features was also contemporary with these features. Linear ditch 10230 is more problematic given its tentative date, but it may have cut through an area rich in flintwork, as it is quite far removed from the activity defined by ring ditch 10226 and pit 10201.

Category type	Total	%
Ring ditch	357	85.20
Pits	35	8.35
Ditch	14	3.34
Postholes	10	2.39
Natural features	2	0.48
Subsoil	1	0.24
Total	*419*	*100*

Table 5: Flint assemblage by feature type

Major context groups

3.2.12 Several feature groups contained significant quantities of flint, although in some instances most of the flintwork came from single features. The main elements were

the late Neolithic/early Bronze Age ring ditch 10226, several Iron Age pits, Iron Age posthole structure 10227 and tentative Iron Age or possibly post-medieval ditch 10230 (Table 6).

CATEGORY TYPE	Ring ditch 10226	Pits	Ditch 10230	Remainder
Flake	213	18	11	5
Blade	6	1		
Bladelet	11			1
Blade index	7.39% (17/230)	5.26% (1/19)	0% (0/11)	16.67% (1/6)
Irregular waste	36	2	2	3
Levallois flake	1			
Adze/axe working flake	1			
Ground implement flake	2			
Sieved chip	26	8		3
Crested piece	1			
Core rejuvenation flake	5			
Core single platform flakes	8	1		
Core multi-platform flakes	16		1	
Core levallois non-discoidal	2			
Core keeled flakes	1			
Core on a flake	3			
Core tested nodule	2			
Core fragment	7	1		
Scraper end	1	1		
Scraper side	1	1		
Scraper side + end	1			
Scraper disc	1			
Scraper other	3			
Awl	2	1		
Piercer	2			
Spurred piece	1			
Heavy borer	1			
Denticulate	2			
Notch	1			
Knife		1		
Retouched flake				1
Total	*357*	*35*	*14*	*13*
Average condition (1=fresh, 4=heavy damage)	1.31	1.33	2.33	1.89
No. burnt (%)	8/357 (2.24%)	0	1/14 (7.14%)	0
No. broken (%)	89/331 (26.89%)	9/27 (33.33%)	5/14 (35.71%)	7/10 70%)

No cores and core dressing (%)	45/331 (13.60%)	2/27 (7.41%)	1/14 (7.14%)	0
No. retouched (%)	16/331 (4.83%)	4/27 (14.81%)	0	1/10 (10%)

Table 6: Flint assemblage by major context groups

Ring ditch 10226 (Figs 7 and 8)

3.2.13 This feature contained flints in all its 14 excavated interventions, with numbers per intervention varying between 60 flints and two. Flint was recovered from various fills within the ditch sequence (Tables 7 and 8), with secondary and tertiary fills containing the most flint at 186 and 95 pieces respectively, but there was also material from primary fills amounting to 34 flints in four of the interventions, including 29 from fill 10124. The remaining flints were recovered from those fills which were neither primary, secondary, tertiary, nor deliberate categorised as "other" (30) The largest assemblage of 60 flints from intervention 10059 was spread across three fills, with 50 from tertiary fill 10066 and nine and one from secondary fills 10065 and 10222, respectively. Ring ditch intervention 10068 contained 55 flints, including 12 from two deliberate backfills (seven in fill 10071 and five in fill 10058), 42 from tertiary fills, 10069 (30) and 10070 (12), and just one flint from secondary fill 10223.

3.2.14 Such a feature presents problems for interpretation of the flintwork, as much of the material could be residual and also could potentially be reused in later periods. Whether from a barrow or associated bank, such ring ditches often accumulate worked flint as the ditch silts up with eroded bank or mound material, and if natural flint nodules or old cores made up any part of the mound, they can become a ready source of knapping material. Therefore, it can be difficult to identify the contemporary and residual elements in any given fill; however, there are several factors here that suggest much of the flint may have been *in situ*.

3.2.15 Blade numbers increased with depth suggesting much of the flintwork from tertiary and secondary fills represents post-Neolithic knapping rather than residual material. This is despite the fact that many of the pieces recovered from the other fills category, which were relatively high up the sequence, were suggestive of earlier prehistoric flintwork, because of factors such as the high blade incidence (Ford 1987) and presence of several core rejuvenation flakes.

3.2.16 The lithics were very fresh in the primary fills (with an average damage of 1.18 on a scale of 1–6) and became slightly more damaged higher up the fill sequence with secondary fills averaging 1.3 and tertiary fills averaging 1.38. The other fills category had an average of 1.41, while material from deliberate backfills was the most damaged with an average of 1.5, but this was from a very limited number (4) of recorded flints. This gentle increase in damage in the upper fills of the sequence suggests a limited residual element alongside predominantly contemporary flintwork that was presumably quite rapidly buried by material eroding into the feature.

CATEGORY TYPE	Primary	Secondary	Tertiary	Other	Backfill
Flake	22	112	60	15	4
Blade	1	2	1	2	

Bladelet	1	7	2	1	
Blade index	8.33%	7.44%	4.76%	16.67%	0
Irregular waste	6	19	9	2	
Levallois flake		1			
Adze/axe working flake		1			
Ground implement flake				2	
Sieved chip		13		5	8
Crested piece		1			
Core rejuvenation flake	1	2		2	
Core single platform flakes		6	2		
Core multi-platform flakes	1	8	7		
Core levallois non-discoidal		2			
Core keeled flakes		1			
Core on a flake		3			
Core tested nodule			2		
Core fragment	1	1	5		
Scraper end			1		
Scraper side		1			
Scraper side + end		1			
Scraper disc			1		
Scraper other		1	2		
Awl		2			
Piercer		1	1		
Spurred piece			1		
Heavy borer			1		
Denticulate	1	1			
Notch				1	
Knife					
Retouched flake					
Total	*34*	*186*	*95*	*30*	*12*

Average condition	1.18	1.33	1.38	1.41	1.50
No. burnt (%)	0	1.61%	7.14%	2/30	0
No. broken (%)	52.94%	23.70%	23.16%	20%	75%
No cores and core dressing (%)	8.82%	13.87%	16.84%	8%	0
No. retouched (%)	2.94%	4.05%	7.37%	4%	0

Table 7: Flint assemblage by sequence within ring ditch 10226

3.2.17 The material from the primary fills shows the most balance in the ring ditch assemblage, with typical quantities of tools but high quantities of cores and related debitage. However, it also had very high breakage levels, and it is possible that much of the material may in fact relate to a surface scatter predating the construction of monument. Such activity could also lead to the slightly odd combination of fresh edges on broken pieces. The date of such material is open to debate, but the characteristics of the assemblage as a whole do suggest material potentially contemporary with the feature, with a late Neolithic date being highly likely.

3.2.18 The secondary and tertiary fills both contained very high percentages of cores and related debitage. This could simply be a factor of recovery bias, but if this were the case then it would be expected of all of the fills and this is clearly not the case. A Later prehistoric industry with very low numbers of flakes per core is suggested by the high incidence of primary core preparation flakes in most of the fill sequences; however, these were also very high in the primary fills suggesting that activity predating the ring ditch may have also focused on primary knapping; this is followed by very high figures for the secondary and tertiary fills. It is worth mentioning that figures of around 5–10% would be normal for a balanced assemblage where primary and secondary knapping had occurred. The cores themselves are all flake-producing cores, including three specialised flake cores all found in secondary fills, and typically dated to the late Neolithic period. The tertiary fills contained simpler flake cores, and these figures are also supported by the platform type, with faceted platforms being most common in the secondary fills, while cortical and thermal platforms often associated with post-Neolithic knapping feature strongly in the material from tertiary fills.

Fill sequence/ blank sub-type	No.	Preparation %	Side trimming %	Distal trimming %	Misc trimming %	Inner %	Thermal %
Primary	26	30.77	23.08	11.54	26.92	7.69	0
Secondary	131	21.37	34.35	14.50	16.03	13.74	0
Tertiary	69	24.64	24.64	11.59	10.14	12.21	0.76
Other	23	30.43	39.13	0	8.70	21.74	0
Deliberate	4	0	0	25	50	25	0
Total	*253*	*60*	*77*	*31*	*42*	*42*	*1*
%		*23.72%*	*30.43%*	*12.25%*	*16.60%*	*16.60%*	*0.39%*

Table 8: Flint blank type frequency within fill sequence of ring ditch 10226

3.2.19 The tools recovered were a relative disparate group with a great deal of variation in commonness and type between fill groups (Tables 7 and 8). The sole tool from the primary fills was an undiagnostic denticulate on a miscellaneous trimming flake, while the sole example from the fills belonging to the other category was a notch on a blade and is early in character like many of the flints from these fills, which include two flakes from a ground or polished implement – themselves not retouched into tools. The secondary and tertiary fill groups yielded seven tools, with the secondary fills also containing some specialist debitage such as an axe working flake and a levallois flake to accompany the levallois cores recovered there. The tools from the secondary fills comprised three scrapers, two awls, a denticulate and a piercer, but most were undiagnostic although two were quite typical of later prehistoric material. The material from tertiary fills includes one fine disc scraper that was very probably late Neolithic in date, but it also comprised some clear later prehistoric forms such as a very simple piercer, spurred piece, heavy borer and a scraper on a thermal chunk, something very rarely seen during the Neolithic or early Bronze Age.

Iron Age pits (Fig. 7)

3.2.20 This group contained 35 flints, but 31 came from two fills of pit 10201 with the remaining four flints being spread over three pits: 10130, 10044 and 10133. Pit 10201 had 12 flints in fill 10202 with 19 flints in 10203; however, 14 of these were recovered from soil sample 18 and the hand-recovered assemblage was far smaller at just five pieces.

3.2.21 The assemblage from these features was typically later prehistoric in date with just one blade form: a crude preparation blade that could easily be an accidental example, as blades make up a very small component in later prehistoric assemblages. All the cores and tools recovered were related to flake production or were fashioned on flakes, or on a thermal fragment for a particularly heavy knife. The flake debitage recovered from the Iron Age pits tended to have hard-hammer bulbs with no soft-hammer examples and was struck from a mix of plain, cortical and some dihedral platforms, with only single examples of thermal and cortical platforms identified, which is surprising for later prehistoric assemblages. The flints were in good condition overall, suggesting quite strongly that they were contemporary with the features. Given the scarcity of residual flint on this site in general, it does appear as if these are genuine Iron Age flints and this is of note.

Iron Age posthole structure 10227

3.2.22 This group yielded eight flints, seven of which came from posthole 10019, and one from posthole 10017 comprising an undiagnostic piece of irregular waste. The flints from posthole 10019 included six from soil sample 10, and it is possible that other flintwork was missed from these features given the number coming from this sample. Posthole 10019 contained three flakes, a bladelet, two sieved chips and a piece of irregular waste. The only remotely diagnostic piece was the bladelet, which was clearly early in date but was in a noticeably poorer condition than the remaining flints and was almost certainly residual.

Iron Age/post-medieval ditch 10230

3.2.23 This feature has been tentatively dated to the Iron Age, but there is some uncertainty about this with a post-medieval date also being suggested. It contained 14 flints from six interventions, with five flints recovered from ditch intervention 10005, fill 10006 while intervention 10025, fill 10026 had four, with the remaining four flint-yielding interventions containing just five flints between them. The assemblage comprised 11 flakes, a crude multi-platform flake core and two pieces of irregular waste, and it was clearly late prehistoric in character and is similar to the material from the Iron Age groups discussed above.

Discussion

3.2.24 The flintwork was recovered across a limited number of features, with concentrations in the central and northern part of the excavation area and an another along its southern limits. The vast majority, however, was found in and around ring ditch 10226. The large assemblage recovered from the ring ditch appears to represent material

dated to several periods, with material recovered from the primary and secondary fills likely to have been related to contemporary activity and that from the tertiary fills suggestive of later activity as shown by changes in the technology utilised over time. The anomalous early-looking flints from other fills may simply be a reflection of the small assemblage size or they could represent the erosion of a spatially distinct earlier prehistoric surface scatter into the feature.

3.2.25 The continued use of this monument as a location for knapping, possibly reusing material from the monument is something that is frequently seen with barrows on the chalk and other types of flint-rich areas of southern Britain. This reuse of the monument to knap flint for quotidian purposes rather than any type of ritualistic reuse could be suggested by the very mundane primary knapping assemblages recovered; however, it is still feasible that such everyday activity tied the local, later prehistoric flint knappers to their ancestral past, and perhaps related to activities such as food preparation, which could have had a ritual/religious context in this setting.

3.2.26 While Iron Age flintworking is still a controversial subject (Saville 1981; Humphrey and Young 1999), there are some who strongly believe that it occurred (McLaren 2008), and there is good evidence for this in nearby regions such as Oxfordshire (OA 2018). The flint from pit 10201 appears to be a good example of a potentially Iron Age assemblage given the near total lack of residual flint elsewhere. The characteristics of the assemblage share much in common with middle–late Bronze Age knapping; however, flint industries can span periods divides, such as the late Upper Palaeolithic and early Mesolithic or the late Mesolithic and early Neolithic, and there is no reason to doubt that this could also have been the case with the trends of the later Bronze Age continuing into the Iron Age. In addition, specialist flint knapping as part of the shale working industry continued in southern Britain into the Iron Age and Roman periods (Woodward and Cox 1987; Sunter and Woodward 1987; Smith 2017).

3.2.27 The date of the flintwork from the tertiary fills in ring ditch 10226 and from linear ditch 10230 is also open to debate. It is possible that much of it belongs in the middle–late Bronze Age, substantiated by a small quantity of possible late Bronze Age pottery and middle Bronze Age cremation burial 2604 found on site. Equally, the presence of a relatively large assemblage of probable Iron Age date from pit 10201 could mean that much of this flintwork was of that date.

Worked flint Illustration catalogue (Figs 7 and 8)

7.1 Broken disc scraper on core preparation flake, Neolithic-early Bronze Age, ditch fill 10066, cut 10059 (c122).

7.2 Concave end scraper on core preparation flake, later prehistoric? ditch fill 10070, cut 10068 (c174).

7.3 Heavy borer on thermal chunk, later prehistoric? ditch fill 10066, cut 10059 (c93).

7.4 Side denticulate on miscellaneous trimming flake, undiagnostic, ditch fill 10218, cut 10167 (c442).

7.5 Awl on side trimming flake, undiagnostic, ditch fill 10213, cut 10123 (c434).

7.6 End scraper on inner flake, undiagnostic, pit fill 10134, cut 10133 (c312).

7.7 Knife on thermal chunk, late Neolithic-Bronze Age, ditch fill 10202, cut 10201 (c387).

8.8 Single platform flake with pronounced platform spurs, later prehistoric, ditch fill 10069, cut 10068 (c138).

8.9 Crested bladelet, partial single crest, early prehistoric, ditch fill 10155, cut 10152 (c344).

8.10 Cubic multi-platform flake core, Neolithic-early Bronze Age, ditch fill 10055, cut 10067 (c54).

8.11 Core rejuvenation flake struck from core base, Neolithic-early Bronze Age, ditch fill 10054, cut 10067 (c49).

8.12 Single platform flake core, on tabular fragment, later prehistoric, ditch fill 10198, cut 10186 (c378).

8.13 Single platform flake core, on tabular fragment, later prehistoric, ditch fill 10154, cut 10152 (c334).

8.14 Single platform flake core, later prehistoric, ditch fill 10092, cut 10078 (c229).

3.3 Fired clay *by Cynthia Poole*

3.3.1 A single fragment of fired clay weighing 4g was recovered from the fill (10036) of posthole 10017 of a four-post structure (10227) phased to the Iron Age. The fragment is of indeterminate form, amorphous and abraded, measuring 18mm. It is made in a red fired sandy clay containing quartz, sparse mica and small red ferruginous clay pellets. Its function cannot be determined, but it is most likely to derive from a domestic oven or hearth.

3.4 Stone *by Ruth Shaffrey*

3.4.1 A total of 29 pieces of stone were retained and submitted for analysis. These were examined for signs of burning or use. Burnt stone was weighed and counted by context and the type of burning recorded. Worked stone was fully recorded.

3.4.2 Most of the stone (28 fragments) is burnt but unworked quartzite. These stones are reddened and heat cracked through rapid heating and cooling.

3.4.3 A single object, recovered from the uppermost fill (10054) of ring ditch intervention 10067, is an approximately rectangular stone that is gently convex on one face and heavily smoothed. It is unlikely that it was used as a *polissoir* or finisher for stone axeheads or other polished stone implements because such manufacturing tools

demonstrate burnishing and polish after only two hours of use (Drisse 2017, 279). It is, therefore, more likely that it was used as a rubber for the grinding of grain with a larger saddle quern, although it bears no striations or use-wear that is visible to the naked eye or with a x10 magnification hand lens.

Catalogue of worked stone

3.4.4 **Rubber**. Approximately rectangular block, probably broken naturally into this shape. One surface is very slightly convex and worn completely smooth. No striations are visible and it is worn right to the edges. Measures 152 x 56–62 x 47mm thick. Weighs 830g. Quartzite. Ctx 10054. Secondary fill of ring ditch intervention 10067. Group 10226.

4 ENVIRONMENTAL EVIDENCE

4.1 Animal bone *by Lee Broderick*

4.1.1 A single small fragment of burnt bone was recovered from fill 10020 of Iron Age posthole 10019 of four-post structure 10227. This a fragment of maxilla, possibly from a pig.

4.2 Charred plant remains and charcoal *by Julia Meen*

4.2.1 A total of 22 bulk samples were collected for the recovery of charred plant remains and charcoal: eight samples from the evaluation undertaken in the summer of 2019 and a further 14 samples from the main phase of excavation.

4.2.2 Eleven bulk samples were collected from the fills of ring ditch 10226. Charcoal from secondary fill 10195 produced a radiocarbon date of 1873–1663 cal BC (SUERC-93471, 95.4% confidence; Table 1). While no human remains were recovered from this barrow, unurned cremation burial 2604 was discovered to its east. A radiocarbon date obtained from burnt human bone dated the cremation burial to the middle Bronze Age (1406–1262 cal BC, SUERC-93473, 95.4% confidence; Table 1). The cremation fill (2603) was sampled in two vertical spits (see below). Four samples were recovered from a further two potential cremations (2606 and 2608), but subsequent analysis has proven these not to contain human bone (OA 2020a).

4.2.3 The remaining samples are from the remains of limited Iron Age (Phase 3) activity: from a scattering of pits and from a posthole that forms part of a four-post structure (10227) located to the west of the ring ditch. Charcoal from the posthole was dated to the middle Iron Age 752–414 cal BC (SUERC-93472, 95.4% confidence). Two samples are from discrete features that produced no dating evidence.

Charred plant remains

4.2.4 Initial assessment of each of the flots showed that non-charcoal charred plant remains were almost entirely absent from the sampled features. From ring ditch 10226, individual wheat grains (*Triticum* sp.) were recovered from fills 10055 and 10071, although the grain from the latter is suspiciously well preserved given the poor state of the other material and may be intrusive. Rare grains of probable barley (*Hordeum vulgare*) were found in the base of Iron Age pit 10201 and undated posthole 10040. A very small number of cereal grains from one of the postholes that make up four-post structure 10227 may plausibly derive from its use as a granary, but all are poorly preserved and none could be identified to genus. No charred remains were present in cremation burial 2604.

4.2.5 Given the paucity of the charred plant remains, excluding charcoal, no further work was justified. Full details of the assessed samples, including processed volumes, can be found in the evaluation (OA 2020a) and PXA statement (2020b) reports.

Charcoal

4.2.6 Small fragments of charcoal were present in most of the sampled fills from ring ditch 10226; however, only two samples, from fills 10055 and 10195, contain charcoal of

sufficient size and quantity for further analysis. Frequent charcoal was recovered from Iron Age pits 10201 and, especially, 10133 and also from Iron Age posthole 10019. The two spits of cremation burial 2604 were charcoal rich, and further analysis was undertaken to identify the wood taxa selected for the cremation ritual. Charcoal was also preserved in posthole 10040 and in the two pits from evaluation Trench 26, but as these are undated features, identification was not considered worthwhile.

4.2.7 Charcoal from the seven selected samples was identified to wood taxon based on diagnostic anatomical characteristics. Up to 100 items of charcoal were selected from each sample in order to reliably characterise the range and relative proportions of wood taxa present. A smaller number of identifications was made for samples 18, 19 and 24, for which fewer than 100 suitable fragments were available. Each piece of charcoal was examined on the transverse, radial and tangential sections, as required, at up to x400 magnification using a Brunel Metallurgical SP-400BD microscope. Identifications follow criteria described in Schweingruber (1990) and Hather (2016) and nomenclature for wood taxa follows Stace (2010).

4.2.8 Wood identifications are shown in Table 9. The results show patterns that may relate to deliberate selection practices. First is the overwhelming dominance of ash (*Fraxinus excelsior*) charcoal in both spits of cremation burial 2604. While ash is also present in the ring ditch, it is just one component of a more mixed assemblage that also includes elm (*Ulmus* sp.), oak (*Quercus* sp.), hazel (*Corylus avellana*) and blackthorn/cherry (*Prunus* sp.). Ash is an excellent firewood that burns at a high temperature and so would have been a good choice for cremation pyres (Campbell 2007, 30; O'Donnell 2016, 165, 168). The presence of ash in the ring ditch residues, as well as in the cremation residues, suggests it was readily available in local woodlands during the Bronze Age, perhaps more so than oak, which is relatively sparse in the assemblages. Selection of a particular taxon for a pyre, however, does not necessarily reflect availability. It is common to find pyres made from a single species, and Thompson (1999, 247–9) has suggested that individual trees may have been felled for the purpose. O'Donnell (2016, 168, 170) observes that it is unlikely that the act of felling itself formed part of the funeral ritual, as fresh wood would probably not burn sufficiently well, and so stores of seasoned wood of different types may have been kept for future pyres.

4.2.9 Ash also forms part of the more diverse assemblage in Iron Age pit 10201, alongside hazel, oak, alder (*Alnus glutinosa*), elm and hawthorn type charcoal (the Maloideae, a group of closely related trees that also includes apple, pear and whitebeam). The second Iron Age pit shows a clear split between charcoal of hazel and of holly (*Ilex aquifolium*), with other taxa rare. Holly is not rare in archaeological assemblages; it is after all a common component of many types of British woodlands (Proctor 2013). Godwin (1984, 173) argues that the high frequency of holly in pollen records from the Iron Age onwards can be attributed to woodland clearances, as holly spreads readily where competition is reduced. Despite this, in charcoal assemblages holly tends to be limited to odd fragments, perhaps gathered up incidentally alongside other fuelwoods. It is certainly unusual to find it making up over half of a charcoal assemblage, as it does in pit 10133. Although it does tend to split during seasoning (Gale and Cutler 2000, 139), seasoned holly is not a bad fuel (Warren 2006), and if it was in good supply it

may well have been a useful source of fuelwood. Furthermore, holly, as an evergreen, has long-held symbolic associations with immortality and has been used in ritual ceremonies in many cultures (Gale and Cutler 2000, 139); it is collected for winter decoration to this day. Therefore, less pragmatic factors may lie behind its apparently deliberate selection in the pit sample.

4.2.10 The final sample is from the postpipe of posthole 10019, part of four post-structure 10227, dated to the later part of the early Iron Age. As a postpipe, it might be expected that any charcoal recovered from it would derive from the charred remains of a post burnt *in situ*, yet the assemblage is quite diverse, with a mix of larger trees—oak, elm, ash—and smaller scrubby trees including blackthorn (*Prunus spinosa*), hawthorn type, hazel and spindle (*Euonymus europaeus*). As almost half of the identified charcoal is oak, it is possible that this fraction represents the remains of a post, while the remainder may have been dumped into the hole after the structure had gone out of use. If mature oak was being reserved for structural timbers it would, perhaps, resolve why oak is scarce in the other samples.

	Sample No	19	24	1	6	14	18	10
	Context No	10195	10055	2603		10134	10203	10020
	Cut No	10186	10067	2604		10133	10201	10019
	Feature Type	Secondary fills of ring ditch 10226		Cremation		Pit	Pit	Posthole
	Phase	1		1		2	2	2
	Radiocarbon Date	1873–1663 cal BC (SUERC-93471, 95.4% confidence)		1406–1262 cal BC (SUERC-93473, 95.4% confidence)				752–414 cal BC (SUERC-93472, 95.4% confidence)
	Date	Early Bronze Age		Middle Bronze Age		Iron Age	Iron Age	Iron Age
	Charcoal >4mm	10	70	20		100	30	39
	Charcoal 4-2mm	50	100	100	>100	1000	50	
Prunus spinosa L.	blackthorn							1
Prunus sp.	blackthorn/cherry		2			4 (r)		15 (r)
cf *Prunus* sp.	cf blackthorn/cherry		1					
Maloideae	hawthorn/whitebeam/apple		3	3	1		3	16
cf Maloideae	cf hawthorn/whitebeam/apple			1			2	
Prunus/Maloideae	blackthorn/cherry/hawthorn type		3		1 r	8 (r)		4
Quercus sp.	oak	1	12	4		4 (r)	6	49 (h)
cf *Quercus* sp.	cf oak							1
Ulmus sp.	elm		3				1	3
cf Ulmus sp.	cf elm		4					
Alnus glutinosa (L.) Gaertn.	alder						1	
Corylus avellana L.	hazel	8	5			30	9	3
cf *Corylus avellana* L.	cf hazel						1	
Corylus/Alnus	hazel/alder	2	2				4	
cf Corylus/Alnus	cf hazel/alder	1						
Euonymus europaeus L.	spindle							1
Salix/Populus	willow/poplar							1
Fraxinus excelsior L.	ash	4	17 (r)	89	98		11	5
cf *Fraxinus excelsior* L.	cf ash		1	1			1	

Ilex aquifolium L.	holly					52		
ring porous			2	1				
diffuse porous		2	2	1		1	2	1
indet		2	3			1	9	
TOTAL		***20***	***60***	***100***	***100***	***100***	***50***	***100***

r = roundwood, h = heartwood

Table 9: Wood charcoal identifications

4.3 Micromorphological analysis *by Christof Heistermann and Elisabeth Stafford*

4.3.1 Three monolith samples, collected from section 10028 of ring ditch 10226, were submitted for analysis of soils and sediments. The three overlapping monoliths (samples 15, 16 and 17) represent a continuous sample sequence through the fills of the ring ditch. Section 10028 (Fig. 5) was recorded in the field with standard context sheets, a section drawing and digital photographs. The monoliths were recorded in the field on an additional section drawing (section 10038), photographed, but not surveyed *in situ*. All elevations for the monoliths are based on the elevations calculated from sections 10028 and 10038.

4.3.2 The site is situated on siltstone and mudstone geology of the Jurassic Dyrham Formation. Mid-Pleistocene sand and gravel deposits are recorded immediately to the east of the site.

4.3.3 The three monolith samples from the ring ditch (Table 10) were cleaned and described in the laboratory using standard sedimentary criteria as outlined in Jones *et al*. (1999), characterising the visible properties of each deposit (eg colour, compaction, bedding, particle size and post-dispositional modifications such as rooting). Depth and nature of contacts between adjacent units were also noted. The monoliths were recorded on standardised *pro forma* recording sheets. A photographic record was taken of the monoliths. The primary purpose of this analysis was to characterise the sediments, provide a detailed description and a preliminary interpretation of likely formation processes.

Context numbers	Monolith sample no.
10153, 10154, 10155	15
10154, 10155, 10156, 10157	16
10156, 10157, 1158, 10159, 10160, 10161, 10162, 10163, 10164, 10165	17

Table 10: Summary of monolith samples

Results

4.3.4 The detailed sediment descriptions are presented in Table 11 along with the photographs at the end of this section. The monolith samples measure 0.06m wide and between 0.50m and 0.52m in length. The overlaps were not marked on the sample containers but were recorded as 0.13m and 0.15m on section 10038. The containers are well filled with sediment, although the sample volume of monolith 16 is somewhat reduced by voids from pried out stones and a tapering of the sample towards the base. The lithology observed in the monolith samples corresponds well with the stratigraphy recorded during the excavation.

4.3.5 The following discussion is based on the results of the analysis of the monoliths, as well as the section records (drawings and photographs) produced on site. The sampled deposits in section 10028 (Fig. 5) represent an upper tertiary fill, two groups of secondary and one group of primary fills that have filled the ring ditch over an extended period. Due to the oxidized nature of the fills, as indicated by the reddish

brown colours, the deposits are considered to have low potential for preservation of microfossils such as pollen. No mollusc shell was noted during the analysis.

Primary fills – sample 17

4.3.6 Contexts 10162, 10163, 10164 and 10165 are a group of bedded primary fills of brown mottled yellow and yellowish brown almost stone free clayey silt deposits. They form a sediment wedge in the eastern bottom segment of the cut and may have originated from material eroded incrementally from the upper inner edge of the ring ditch soon after it was cut when surfaces would have been bare of vegetation. The fills appear to include weathered bedrock clasts from side collapse but may also include soil micro-clasts from the contemporary surface or mound material. Context 10162 is a yellow slightly clayey silt originating from the weathered bedrock. The fine-grained stone-free nature of the matrix suggests deposition through surface run off, probably during wetter periods; however, apart from slight evidence in 10165, there were no obvious post-depositional features indicative of seasonal fluctuating or standing water in the base of the feature, eg iron concretions/mottling.

Lower secondary fills – samples 17 and 16

4.3.7 Contexts 10157, 10158, 10159, 10160 and 10161 are interpreted as a group of lower secondary fills of similar character to the primary fills, albeit with a higher clay content that may suggest that a slowdown in erosion occurred as the feature became vegetated alongside pedological weathering. The fills consisted of brown to reddish brown silty clay with interbedded yellowish brown clayey silt and a moderate amount of quartzite, flint and quartz cobbles and pebbles indicating concomitant erosional processes continuing. The quartzite, quartz and flint stones in the fills do not originate from the Jurassic bedrock. They may be attributed to a component of the local drift and/or imported material related to adjacent activity around the monument. Some of these fills contain small amounts of charcoal.

Upper secondary and tertiary fills – samples 16 and 15

4.3.8 Contexts 10154, 10155 and 10156 form a series of upper secondary fills of greyish brown sandy silt with common to frequent inclusions of sub-rounded quartzite pebbles and cobbles. Context 10155 has a darker brown colour, which may suggest the inclusion of sediment from an eroded soil. Uppermost context 10153 is a reddish brown silt with a trace of quartz sand and pea grit. It contains very little stone and is interpreted as a tertiary fill of ring ditch 10226.

Section 10028/10038

<15>

<16>

<17>

Monolith	Context	Top depth (m)	Basal depth (m)	Description
15	10153	0	0.21	Friable reddish brown [5YR4/4] silt, trace of poorly sorted quartz sand and pea grit, rare rounded quartzite pebbles <50mm, clear contact.
15	10154	0.21	0.41	Friable to firm brown 7.5YR4/3 slightly sandy silt with coarse sand, common (10–15%) pea-grit and S/L sub-rounded quartzite pebbles <50mm, (clear to) diffuse contact.
15	10155	0.41	0.5	Firm to friable brown 7.5YR4/4 sandy silt with common pea-grit, common subangular flint and mudstone pebbles <50mm.
16	10154	0	0.08	Friable to firm brown 7.5YR4/3 slightly sandy silt with small subangular pebbles (10%), few sub-rounded quartzite and flint pebbles (5–10%), clear to diffuse contact
16	10155	0.08	0.27	Firm to friable brown 7.5YR4/4 sandy silt, coarse sand grains and pea-grit common, few sub-rounded quartzite and flint pebbles (5–10%), small blackish Mg/Fe concretions present (10-15%), clear contact.
16	10156	0.27	0.42	Firm to friable yellowish brown 10YR5/4 slightly sandy silt, trace of clay, few sub-angular/sub-rounded peagrit (10%) and rare sub-rounded pebbles (5%), clear to diffuse contact
16	10157	0.42	0.505	Firm to friable dark yellowish brown 10YR4/4 slightly clayey, slightly sandy silt, common S/L sub-angular/sub-rounded pebbles.
17	10156	0	0.04	Firm to friable greyish brown 10YR4/2 mottled light brown (20%) slightly humous fine silty sand with trace of clay, few coarse sand grains and pea-grit (5%), common S/L sub-angular/sub-rounded pebbles.
17	10157	0.04	0.15	Firm brown 7.5YR4/3 with yellowish brown mottling, slightly clayey, slightly sandy silt, common sub-angular/sub-rounded pea-grit pebbles <10mm, common charcoal, clear contact.
17	10158	0.15	0.19	Firm reddish brown 5YR4/3 clayey silt, common rounded pebbles <25mm, clear contact.
17	10159	0.19	0.29	Firm reddish brown 5YR4/4 fine silty and clayey sand, common lenses (30mm) of olive yellow clayey silt, few sub-angular small pebbles and rare charcoal, clear contact.
17	10160	0.29	0.32	Firm brown 7.5YR4/3 sandy silt, slightly clayey, charcoal present (3%), clear contact.

Monolith	Context	Top depth (m)	Basal depth (m)	Description
17	10161	0.32	0.34	Firm to friable brown 7.5YR4/3 mottled olive yellow clayey silt, few Mg/Fe concretions (and possibly rare charcoal) rare pea-grit pebbles (5%), clear contact.
17	10162	0.34	0.4	Firm brown 7.5YR5/3 clayey silt, trace of sand, few Mg/Fe concretions, clear contact.
17	10163	0.4	0.435	Firm yellowish-brown mottled olive yellow (20%) clayey silt, rare lenses (20mm) of reddish-brown silty clay, rare charcoal, clear contact
17	10164	0.435	0.45	Moderately firm brown 7.5YR5/4 silty clay, abrupt contact.
17	10165	0.45	0.49	Firm brown 7.5YR5/4 mottled yellow 5Y7/6 (25%) slightly clayey silt, rare small pebbles, clear contact.
17	10002	0.49	0.52	Firm yellow 7.5YR5/4 slightly clayey silt with mica, fissured with blackish stains on internal surfaces. BEDROCK

Table 11: Lithological descriptions

4.4 Human remains *by Lauren McIntyre*

4.4.1 Burnt bone was recovered from bulk soil samples 1 and 6 collected from deposit 2603 (the fill of cremation burial pit 2604) recorded during the 2019 evaluation phase (OA 2020a).

4.4.2 Deposits containing cremated bone were subjected to whole earth recovery and processed by wet sieving to clean and sort the burnt bone into >10mm, 10–4mm and 4–2mm fractions. The 2–0.5mm residues were also retained from all deposits, where possible. All of the bone was examined in accordance with the recommendations set out by CIfA and BABAO (Brickley and McKinley 2004; Mitchell and Brickley 2017).

4.4.3 For the 4–2mm fractions, a 20g sample was sorted. An estimation of the total bone weight was calculated for the entire fraction, based on the proportion of cremated bone present in the 20g sample. The estimated weights are included in the total weights presented below.

4.4.4 The smallest fraction sizes (2–0.5mm) were not sorted but were rapidly scanned for identifiable skeletal remains and artefacts. Estimations of the proportions of bone present within the 2–0.5mm fractions were made and recorded in the archive. These are presented below but are not included in the total bone weights.

4.4.5 Analysis of the cremation deposit involved recording its colour, weight and maximum fragment size. This observation can provide information on factors such as the efficacy of cremation (effectiveness of cremation, ie how well burnt the body was), the relative quantity of fuel used, attained temperature within the pyre, the length of time over which the cremation took place, the degree of bone oxidation and how well collected the burnt remains were from the pyre site (McKinley 2004, 10–11).

4.4.6 The deposit was also examined for identifiable bone elements and the minimum number of individuals (MNI) was estimated. The MNI was determined based on the presence/absence of repeated skeletal elements and on the comparative size of bones (eg adult versus juvenile size: Buikstra and Ubelaker 1994). Where possible estimation of age and sex was attempted following published methods (Ferembach *et al*. 1980; Buikstra and Ubelaker 1994; Schwartz 1995; Scheuer and Black 2000), though it was not possible to assign an age at death other than 'adult' (>18 years) for any of the remains. Fragments were examined for evidence of normal morphological variation (non-metric traits, after Berry and Berry 1967; Finnegan 1978). Any lesions of pathology were recorded, and diagnoses were explored with reference to standard texts, using standard terminology (eg Aufderheide and Rodríguez-Martín 1998; Ortner 2003).

Results

Bone weight

4.4.7 An osteological summary for deposit 2603 is presented in Table 12, and a summary of bone weights is presented in Table 13. This deposit (total weight 979.6g) contained remains just above the weight range of archaeologically recovered cremations (600–900g; McKinley 2013) but just below the range for modern cremations (1000–2400g; McKinley 2000, 26). Slight horizontal truncation of burial pit 2604 may have resulted in a small quantity of bone being lost. Regardless, the recovered weight is relatively high, so it is likely to represent the majority of the original deposit.

Fragmentation

4.4.8 A summary of fragmentation is presented in Table 14. The largest fragment present is a piece of cranial vault recovered from the >10mm sieve fraction of sample 1.

4.4.9 The largest proportional bone weight came from the 10–4mm sieve fraction (404.9g, 41.33% of the total bone weight), although a substantial proportion also came from the >10mm sieve fraction (370.5g, 37.82%). A smaller proportion of bone was recovered from the 4–2mm fraction (Table 15).

4.4.10 Small proportions of cremated bone were also present in the 2–0.5mm residues from samples 1 and 6, although the total bone weights could not be estimated because these residues were not sorted. Visual assessment of the residue suggested that residue from sample 1 comprised approximately 15% cremated bone. Residue from sample 6 was only approximately 5% cremated bone.

Skeletal representation

4.4.11 A summary of skeletal representation is presented in Table 13. Of the identified fragments, bone from the skull was the most frequently observed (143.9g, 14.69% of the total bone weight). A high proportion of skull fragments is typically observed during the analysis of archaeological cremations, as the skull vault is more easily identified than other bones, even in the smaller sieve fractions. Bone fragments from the axial skeleton and upper and lower limbs were also identified in smaller proportions.

4.4.12 The majority of bone recovered from the deposit is unidentified (Table 13). Small proportions of unidentified bone pertain to the hands/feet and joint surfaces, but most of the unidentified bone is either from the upper/lower limbs or cannot be assigned to an anatomical region.

Efficiency of cremation

4.4.13 The vast majority of the cremated bone fragments (approximately 85%) are white in colour. This indicates a generally efficient cremation process, with the majority of bones having been burnt at a temperature in excess of 600°C, which is a common observation in archaeological cremation burials (McKinley 2006, 84). This may indicate that in the case presented here, the majority of the corpse was placed in a location on the pyre where maximum and consistent heat and oxygen supply were available (McKinley 2013, 158). As the total bone weight from deposit 2603 is large (and thus represents a high proportion of the cremated individual), the majority of the corpse appears to have been well burnt, and hence the cremation process appears to have been highly efficient.

4.4.14 The remainder of the bone is coloured grey/blue and black. Grey/blue and black coloration was often noted to be present on the interior surface of the bone fragments.

Demography

4.4.15 The cremated bone from deposit 2603 comprises a minimum number of one individual, based upon observable, identifiable skeletal elements and the fact that it derived from one discrete deposit.

4.4.16 Osteological indicators of age are very limited. The size and morphology of the identified bone fragments are in keeping with those of an adult aged over 18 years (Scheuer and Black 2000).

4.4.17 Sexing methods must be applied with caution to burnt human bone. In unburnt adult skeletons, typical accuracy for sex assessment from morphological traits is 90–5% when using the pelvis and 80% when using the skull (Krogman and Işcan 1986). Sexual dimorphism in the cranium is more variable than in the pelvis, and sex determination is more accurate when utilising multiple traits, preferably from the pelvic bones. When applying these observations to burnt material, there is the added complication of the potential for bone shrinkage and warping as a result of dehydration, which may influence the size and morphology of sexually dimorphic traits.

4.4.18 Observed cranial traits in deposit 2603 comprise one fragment of unsided orbital margin (recovered from the 10–4mm sieve fraction, sample 6). In addition, two sciatic notches are observable (both recovered from the >10mm sieve fraction, one from sample 1 and the other from sample 6). These cranial and pelvic traits are possibly female. As only a small number of traits were available, these estimations are tentative.

Non-metric traits

4.4.19 No evidence of non-metric traits was observed.

Pathology

4.4.20 Two fragments of vertebral body exhibit vertebral osteophytes (both recovered from the 10–4mm sieve fraction, one from sample 1 and the other from sample 6). Osteophytes are nodules of new bone that form around the margins of joints (Rogers and Waldron 1995, 20). They are extremely common in archaeological populations, and their frequency increases with age (ibid., 20-4).

4.4.21 One fragment of unidentified joint surface exhibits a small circular lesion that may be indicative of osteochondritis dissecans (OD). OD is a defect in subchondral bone that arises when bone tissue dies due to significant obliteration of the area's blood supply, usually because of sudden trauma or physical stress to the joint (Roberts and Manchester 2005, 121). It is a fairly common osteological disorder and often affects physically active young males in their first two decades of life (Rogers and Waldron 1995, 28; Aufderheide and Rodríguez-Martín 1998, 81).

Pyre goods and debris

4.4.22 No evidence of pyre goods was present.

4.4.23 A very small quantity of charcoal was observed in the 4–2mm sieve fractions from samples 1 and 6. A summary of these weights is presented in Table 15. Greater quantities of charcoal were recorded from the environmental bulk soil samples recovered from the cremation pit fill (see above).

Summary and discussion

4.4.24 The assemblage comprises a minimum of one possible female aged over 18 years. Pathological evidence suggested this individual had joint disease (in the form of osteophytosis) and circulatory disease (osteochondritis dissecans).

4.4.25 The high bone weight is just below the range of modern adult cremations (1000–2400g; McKinley 2000, 26). The high weight indicates that this burial is likely to have contained the majority of the cremated individual. Small proportions of bone may have been lost through post-depositional truncation. Lesser proportions of the smaller, unidentifiable bone fragments may also have been left at the pyre site. Evidence indicates that an attempt had been made to at least exclude larger fragments of pyre debris from the material selected for burial. Therefore, this and any remaining unidentifiable human bone may have been left *in situ* at the pyre site or redeposited elsewhere (McKinley 2013, 153–4).

4.4.26 The majority of bone fragments are white in colour, indicating a generally efficient cremation process where the burning temperature was in excess of 600℃ and the bone became fully oxidised (McKinley 2004, 11). The small proportion of grey/blue and black fragments may pertain to anatomical regions of the body that were placed in a more peripheral position on the cremation pyre, where temperature fluctuation is greatest and full oxidation of the bone not always possible (McKinley 2013, 158). It was noted that occasional fragments were white on the outside of the bone and grey on the inside. This may occur where anatomical regions have thicker layers of muscle and fat: the cremation process was sufficient to burn away the soft tissues and fully

oxidise the exterior surface of the bone, but the interior parts have not reached the required temperature for full oxidation (McKinley 1989, 65).

Context		Samples	Total weight (g)	Colour	Age	Sex	Non-metrics/ pathology/ burnt and unburnt animal bone
2603		1 6	979.6*	White 85%, grey 10%, blue <1%, black <5%	Adult >18 yrs	F?	VBOP, osteochondritis dissecans?

Key: F? = possible female; VBOP = vertebral osteophytes. Note: Where indicated with *, weights include estimated weights from the 4–2mm fractions

Table 12: Osteological summary of cremated bone

	Skeletal Element (g)								
Sample	Skull	Axial	Upper Limb	Lower Limb	Unid. Long Bone	Unid. Hand/ Foot	Unid. Joint Surface	Unid. Other	TOTAL
Surface finds (initial recovery)	6.4	0	10.7	28.0	29.2	0	0	0	74.3g* (7.58%)
1	100.7	8.1	29.3	85.0	114.8	1.3	43.3	297.8*	680.3g* (69.45%)
6	36.8	8.5	3.4	17.3	30.4	0.8	6.9	120.9*	225.0* (22.97%)
	143.9g (14.69%)	16.6g (1.69%)	43.4g (4.43%)	130.3g (13.30%)	174.4g (17.80%)	2.1g (0.21%)	50.2g (5.12%)	418.7g* (42.74%)	979.6g* (100%)

Where indicated with *, weights include estimated weights from the 4-2mm fractions

Table 13: Summary of skeletal representation and weights

Context	Total weight (g)	>10mm	10–4mm	4–2mm	Max. fragment size
2603	979.6g*	370.5g	404.9g	204.2g*	47.3mm, cranial vault fragment

Where indicated with *, weights include estimated weights from the 4-2mm fractions

Table 14: Summary of fragmentation

Context	Sample	Material	Total 4–2mm fraction weight (g)	Weight (g) from sorted 20g Sample	Proportional bone content of 20g Sample	Estimated bone weight (g) for total 4–2mm fraction
2603	1	Cremated bone	254.9	10.4	52%	132.5
		Charcoal		0.2	1%	2.6

	6	Cremated bone	231.4	6.4	31%	71.7
		Charcoal		0.1	0.5%	1.2

Table 15: Summary of 4–2mm fraction

5 DISCUSSION

5.1 Phase 1: Late Neolithic/early Bronze Age

5.1.1 The results of the excavation provide evidence of a prehistoric monument situated upon a ridge overlooking the River Leam to the west. The remains of the monument comprised a large ring ditch that is likely to have defined a round barrow, though no primary burial was revealed. Of late Neolithic/early Bronze Age construction, it remained a feature of the landscape throughout the Bronze Age and into the Iron Age.

5.1.2 No dated pottery was recovered from the primary and lower secondary fills of the ring ditch, though some pottery of late Neolithic/early Bronze Age (Beaker) date was recovered from its upper fills and surrounding features. In addition, a radiocarbon date of 1873–1663 cal BC (SUERC-93471, 95.4% confidence) obtained from charcoal collected from the lower fills, along with worked flint of late Neolithic date, suggests a late Neolithic/early Bronze Age date for the silting up of the ditch and probably for the construction of the monument.

5.1.3 The fill sequences revealed within the excavated ring ditch interventions are suggestive of natural infilling over a long period. No obvious recuts within the ring ditch indicating that the monument had been redefined during its lifetime were identified. Nevertheless, the assemblages of later Bronze Age and Iron Age pottery and worked flint recovered from its upper fills, together with the surrounding evidence of middle Bronze Age and Iron Age activity, demonstrate that the monument continued to be a place of importance during the later prehistoric period.

5.1.4 No clear evidence for an earthwork mound or bank was identified during excavation. Analysis of the tip lines of the ring ditch fills, particularly the primary and lower secondary fills, has identified no consistent patterning or any significant asymmetry resulting from erosion or deliberate levelling of an internal mound or an external bank. Nevertheless, the formation of the ring ditch fills is indicative of natural slumping and erosion, and natural infilling. Furthermore, micromorphological analysis of monolith samples collected from the fills has identified material that may have originated from the collapse/erosion of the sides of the ring ditch or a contemporary mound or surface. If a barrow mound existed, it would have probably been removed by erosion and post-medieval/modern agricultural activities, which are known to have occurred on site (see below).

5.1.5 A small number of secondary fills within the ring ditch may be indicative of deliberate backfilling events. Thin layers of deposits containing larger quantities of charcoal and burnt, unworked stone were recorded in a small number of the excavated ring ditch interventions, demonstrating the deliberate deposition of burnt material. Given the relatively high position of these deposits within the fill sequences, it is possible that these events were related to later prehistoric activity and the reuse of the round barrow perhaps during the middle Bronze Age or Iron Age.

5.1.6 No primary burial was revealed within the ring ditch monument and no other archaeological features of demonstrably late Neolithic/early Bronze Age date were identified during the excavation, though the middle Bronze Age cremation burial that was located to its east may indicate the funerary significance of the monument in later

periods. While burials, including crouched burials and cremations with and without grave goods, have often been located within round barrows, other examples where burials have not been found may have served different functions (Clay 2018). The large quantity of late Neolithic and later prehistoric worked flint recovered from the ring ditch suggests that the monument was also a focal point for other activity during the Bronze Age and Iron Age. In contrast to the excavation results of the present site, only a small assemblage of undiagnostic prehistoric worked flint was recovered as residual finds from later Bronze Age and Iron Age features excavated on the Phase 3 site (Wolframm-Murray 2019, 62). While no clear evidence for structured/deliberate depositions of worked flint within the ring ditch or neighbouring features was identified, the quantity and range of worked flint recovered suggests that the monument rather than the nearby settlement site was an important place for flint knapping and perhaps acted as a source of material.

5.1.7 Excavations of round barrows in Northamptonshire and the wider region have indicated a great variety of form, and the majority have shown evidence of multi-phase use (Clay 2018). Late Neolithic/early Bronze Age barrow sites in Northamptonshire demonstrate a wide range in ring ditch size, measuring generally between 9m and 50m in diameter (average 21–2m), though they could be as little as 3m and as large as 104m in diameter (Deegan 2007, 53). The ring ditch on the present site had an internal diameter of *c* 16m, which falls within the more typical size range of recorded late Neolithic/early Bronze Age monuments (see Deegan 2007). In contrast, one of the two Bronze Age barrows recorded in the vicinity of Borough Hill measured 10m in diameter, while barrow ring ditches of similar date within Northamptonshire were of smaller and greater size, such as those excavated at Grendon Quarry (Gibson and McCormick 1985), Tansor (Chapman 1997) and Raunds (Harding and Healy 2007).

5.1.8 An early Bronze Age segmented ditched enclosure was excavated at the Phase 3 Apex Park site immediately to the west (Markus and Morris 2019; Fig. 9). Located *c* 150m to the north-west of the ring ditch, the roughly circular monument was *c* 24–26m in diameter (internally) and comprised at least four lengths of curvilinear ditch, with causeways positioned roughly at the four cardinal points. The segmented enclosure had been recut to form an almost complete enclosure, with only a narrowed causewayed entrance on its eastern side retained. No finds were recovered from the excavated interventions of the monument, but radiocarbon dating of charcoal from a recut fill produced a date later in the early Bronze Age (1680–1520 cal BC, Beta-484958, 95.4% confidence) (Markus and Morris 2019, 49). While no large barrow cemeteries are known within Northamptonshire, several small clusters of barrows have been recorded, such as at Grendon (Gibson and McCormick 1985; Chapman 2004, 41). Given their relative proximity, it is possible that the ring ditch and segmented enclosure together formed a pair of monuments within the landscape or perhaps part of a more extensive/dispersed barrow cemetery positioned in a prominent position in the landscape on higher ground overlooking the River Leam to west. Similar monuments have been recorded on higher ground overlooking rivers or tributary streams at Tansor (Chapman 1997) and Grendon (Gibson and McCormick 1985). Located on the large eminence of Borough Hill *c* 4km to the south-east were two Bronze Age round barrows, while multiple ring ditches suggestive of potential

prehistoric barrows have been identified on aerial photographs and as cropmarks *c* 3.2km to the south-west near Staverton. It is possible that these features are of similar date and character. That this area of the landscape continued to be occupied into the later prehistoric and early Roman periods (Apex Park Phase 3: Markus and Morris 2019; Monksmoor Farm: Preece 2019; Middlemore Farm: OA 2020c) perhaps signifies the importance of the earlier monuments in their prominent positions.

5.2 Phase 2: Middle Bronze Age

5.2.1 By 1600 BC, cremation was the dominant funerary practice in Britain (Chapman 2004, 41–2; Appleby 2013, 83). The cremation burial excavated *c* 13.50m to the east of the ring ditch during the 2019 evaluation of the site (OA 2020a) was initially considered to have been a potentially contemporary satellite burial associated with the barrow (OA 2020b); however, radiocarbon dating of the cremated remains produced a middle Bronze Age date of 1406–1262 cal BC (SUERC-93473, 95.4% confidence). The proximity of the cremation burial to the ring ditch demonstrates the reuse of the monument's surrounding landscape and its significance as a place of burial during the prehistoric period. The possible later prehistoric flint assemblage, together with limited quantities of charred plant remains, and a possible stone cereal grinder recovered from the middle and upper fills of the ring ditch are perhaps suggestive of food preparation/consumption associated with continued activity at the monument, such as feasting or offerings, either in the later Bronze Age or the Iron Age (see below). The reuse of earlier prehistoric monument sites during the Bronze Age, Iron Age, Roman and Saxon periods is widely known (eg Woodward 2000; Thomas 2007; Cooper 2016), with examples of reuse during the Bronze Age evidenced at Grendon (Gibson and McCormick 1985), Raunds (Harding and Healy 2007) and Tansor (Chapman 1997).

5.2.2 Analysis of the charcoal found on site identified a diverse range of taxa indicative of a varied local woodland comprising at least oak, ash, hazel, alder, elm, hawthorn and holly. The predominance of ash charcoal within the cremation burial samples, in contrast to other sampled features on site, suggests that ash was the main pyre fuel used during the cremation process. A small number of other taxa are represented within the cremation burial samples and may be representative of smaller brushwood fuels (Campbell 2007, 30). Although it is unclear if ash was deliberately selected for the middle Bronze Age cremation burial as part of a ritual element of the funerary process, for its burning capabilities or for its availability within the landscape (Thompson 1999, 247–9; Campbell 2007, 30; O'Donnell 2016, 165, 168, 170), its predominance within the sampled cremated remains suggests that it may have held some significance.

5.3 Phase 3: Iron Age

5.3.1 Evidence of Iron Age activity, in the form of a rectangular posthole structure and isolated pits and postholes, was scattered across the excavation area, with concentrations around the Phase 1 ring ditch and to its south-west. To the south of the ring ditch, NW–SE aligned ditch 10230 extended across the site and continued beyond its excavation limits and has been tentatively dated to the Iron Age, though a medieval/post-medieval date cannot be ruled out.

5.3.2 No clear evidence of Iron Age settlement, in the form of ditched enclosures or roundhouse gullies, was identified. The posthole structure together with the other pits and postholes recorded on site, however, are indicative of some activity during the Iron Age. While the primary functions of these features are not known, it is probable that they constituted the remains of outlying activity associated with the middle Iron Age settlement to the south-west. The location of these features in close proximity to the late Neolithic/early Bronze Age ring ditch may also reflect the importance and reuse of the earlier barrow monument during the Iron Age. Early Iron Age pits and postholes have been similarly recorded close to an early Bronze Age barrow ring ditch during excavations at Elstow Lower School, Bedfordshire, and are considered to reflect activity deliberately undertaken near to an extant barrow mound (Carlyle 2017, 31).

5.3.3 Although not of a typical Iron Age plan, a rectangular four-post structure of Iron Age date was located adjacent to the late Neolithic/early Bronze ring ditch. More typical four-post structures were previously revealed on the Phase 3 site to the west and south-west (Markus and Morris 2019; Fig. 9). While the majority of these structures lay within the main settlement area, two were isolated to the north of the settlement in proximity of the early Bronze Age segmented enclosure. Such structures are typical of Iron Age settlement sites and are often referred to as raised granaries (Kidd 2004, 54), although it could be argued that the narrow proportions of the Apex Park Phase 4 example are not consistent with a grain store. However, the location of the Iron Age structures in proximity of the earlier monuments away from the settlement site may be indicative of an alternative, perhaps more specialised function, in connection with the existing monuments. Given its proximity to the earlier barrow/ring ditch it is possible that the structure may have been related to Iron Age funerary activity, potentially having functioned as a platform perhaps for excarnation, or for laying a body out before further funerary treatment, though no direct evidence of related human remains within the posthole fills or nearby ring ditch fills was identified (Madgwick 2008, 106; Sharples 2010, 248–9, 271).

5.3.4 The Iron Age pottery recovered from the pits and postholes cannot be closely dated, though some sherds are likely to be middle Iron Age in date, demonstrating the possible contemporaneity between the Phase 3 Apex Park settlement site to the south-west and outlying activity around the ring ditch monument. With the exception of the flint assemblage, the limited quantity and range of other finds recovered from the ring ditch and surrounding Iron Age features suggests that a low level of activity took place within the immediate vicinity of the ring ditch during the Iron Age; however, the association of this Iron Age activity with the earlier monument suggests that the monument held some particular significance to the Iron Age community living nearby. The nature of the flint assemblage recovered from the upper fills of the ring ditch suggests that the monument may have acted as a focal point for flint knapping and perhaps served as a source of material. Together with the pottery and flint assemblages, a probable grain rubber, burnt stones, burnt animal bone and charred plant remains, albeit in only very small quantities, recovered from the Iron Age features and upper fills of the ring ditch are also suggestive of food preparation and consumption. That such activity appears to have taken place in proximity to the earlier monument, away from the middle Iron Age settlement site located to the south-west

(Markus and Morris 2019), is suggestive of the more specialised, perhaps ritual, nature of this food preparation/consumption and the deposition of its associated material culture in direct relation to the reuse of the monument. Evidence of food consumption and possible feasting at the site of ring ditch monuments during the Bronze and Iron Ages has been uncovered, for example, at Raunds (Harding and Healy 2007) and Cossington, Leicestershire (Thomas 2007).

5.3.5 While a later date for linear ditch 10230 cannot be entirely ruled out, it has been tentatively dated to the Iron Age on the basis of its limited dating evidence and the general paucity of features dated to other periods both on site and within the wider vicinity. If this ditch was indeed prehistoric in date, it may have been associated with the middle Iron Age settlement previously excavated to the south-west at the Phase 3 site (Markus and Morris 2019; Fig. 9). The undated north-westward continuation of the ditch was revealed within the Phase 3 site, situated between the early Bronze Age segmented enclosure to its north-east and the middle Iron Age settlement to the south-west (Markus and Morris 2019). Given the position of the ditch within the landscape, it is possible that it acted as a boundary between the earlier prehistoric monuments to its north-east and the middle Iron Age settlement to its south-west. As a number of Iron Age pits and postholes, including four-post structures, were identified in the vicinity of both the ring ditch and the nearby segmented enclosure, the ditch may have defined and separated an area of outlying activity related to the earlier monuments from the area of settlement activity.

5.4 Phase 4: Medieval/post-medieval–modern

5.4.1 Evidence of medieval/post-medieval agricultural activity is limited to the remains of plough furrows, constituting the remains of ridge-and-furrow cultivation, and field boundary ditches revealed by the 2018 and 2019 evaluations of the site (Sumo 2018; CA 2018; OA 2020a). These are very poorly dated, with only a single sherd of post-medieval pottery recovered from one (OA 2020a). The spacing of the plough furrows, together with the reversed S-shaped curve evident in their alignment, as seen in the geophysical survey (Sumo 2018), are suggestive of a medieval origin (Taylor 1975, 82; Rackham 1986, 167–9; CA 2018). Further evidence of medieval/post-medieval ridge-and-furrow cultivation and land division has been identified to the west of the site at the Apex Park Phase 3 development site (Markus and Morris 2019, 65) and further to the north-east across the Middlemore Farm development site (eg OA 2020c). This demonstrates the continued agricultural use of the landscape presumably associated with the nearby villages of Drayton and Braunston, as reflected on historic mapping dating from the 19th and 20th centuries. The insertion of more-modern land drains within the plough furrows provides further evidence of continued agricultural land use in the post-medieval, which also extended into the modern era.

5.4.2 While linear ditch 10230 has been tentatively date to the Iron Age, it is also possible that the ditch may have instead been medieval or post-medieval in date and related to agricultural land division. While it does not directly correspond with any field boundaries depicted on late 19th-century OS maps, it may correlate with a field boundary shown on the 1813 OS map (Fig. 10), though the accuracy of early OS maps is problematic, with only approximate field layouts and boundaries given.

6 PUBLICATION AND ARCHIVING

6.1 Publication

6.1.1 The results of the excavation are described comprehensively in this excavation report, which will be submitted to Northamptonshire HER and will be disseminated online, being made available for download as a PDF through OA's online library (https://library.thehumanjourney.net/).

6.1.2 A synthetic publication report of up to 10,000 words will also be prepared for publication in the county journal, *Northamptonshire Archaeology*. The publication report will present the results of the excavation alongside those from the nearby excavations of the Iron Age and Roman settlement at Daventry Middlemore and will include the key results of the analysis of the stratigraphy, finds and environmental evidence, from both sites, along with a synthetic landscape narrative and combined introductory material/archaeological background, but will omit some data tables and some of the more technical aspects of the specialist contributions that are presented in the full reports.

6.2 Archiving, retention and disposal

6.2.1 On completion of the reporting stage of the project, the finds and documentary archive will be prepared for deposition in accordance with the methodology set out in the WSI (OA 2019) and current professional standards (Brown 2011; CIfA 2014b; NCC 2020).

6.2.2 Subject to the agreement of the legal landowner, the finds and documentary archive will be deposited with the Northamptonshire Archaeological Resource Centre (NARC). The archive will be identified by its unique code: ENN109557.

6.2.3 It is recommended that the finds be retained in the archive, with the exception of the fired clay and unworked flint and burnt stone, which can be considered for disposal.

6.2.4 The human skeletal remains are currently held at Oxford Archaeology under Ministry of Justice licence 19-0139. This licence is valid until 24 June 2024; if deposition is delayed beyond this date, a Ministry of Justice burial licence deferral application must be completed.

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APPENDIX A SITE SUMMARY DETAILS / OASIS REPORT FORM

Site name:	Apex Park, Daventry, Northamptonshire
Site code:	DAPA19
Grid Reference	SP 55630 64480
Type:	Excavation
Date and duration:	July–August 2019
Area of Site	*c* 0.53ha
Location of archive:	The archive is currently held at Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Northamptonshire Archaeological Resource Centre in due course under a unique accession number: ENN109557.
Summary of Results:	Preceding geophysical survey and trial-trench evaluation in 2018 and 2019 of the wider *c* 14.9ha Phase 4 development site established the presence of prehistoric remains, notably a ring ditch, upon which an excavation area, totalling c 0.53ha, was subsequently targeted. The excavation exposed the *c* 16m-wide ring ditch. Charcoal radiocarbon dated to 1873–1663 cal BC and late Neolithic flint recovered from its lower fills indicate a late Neolithic/early Bronze Age date for its construction. Abraded late Neolithic/early Bronze Age (Beaker), Bronze Age and Iron Age pottery within its upper fills suggest that the ring ditch continued to form part of the landscape into the Iron Age. It is likely that the ring ditch surrounded a barrow, though no primary burial was encountered. A cremation burial recorded during the 2019 evaluation to the east of the ring ditch has been radiocarbon dated to the middle Bronze Age. A small number of scattered Iron Age pits and postholes provide evidence of outlying activity associated with a settlement previously excavated to the south-west. A large quantity of worked flint recovered from the ring ditch and Iron Age features suggests that the monument was a focus of later prehistoric activity. A NW–SE aligned ditch tentatively dated to the Iron Age crossed the site and may have formed a boundary between the earlier prehistoric monument to its north and Bronze Age/Iron Age settlement to the south-west. A medieval or post-medieval date for the ditch, however, cannot be entirely ruled out, and it may have constituted the remains of a field boundary. Remains of land use post-dating the Iron Age were scare and indicative of medieval/post-medieval and modern agricultural activities.

OASIS DATA COLLECTION FORM: England

List of Projects | Manage Projects | Search Projects | New project | Change your details | HER coverage | Change country | Log out

Printable version

OASIS ID: oxfordar1-360659

Project details

Project name	Daventry Apex Park
Short description of the project	OA was commissioned by RPS Consulting Services Ltd, on behalf of Prologis UK to excavate at Apex Park, Daventry, Northamptonshire prior to submission of a planning application. Previous geophysical surveys and evaluations established the presence of prehistoric remains including ring ditch. This excavation area targeted these remains. The excavation exposed the Neolithic/early Bronze Age c 16m diameter ring ditch, dated by late flint, and charcoal recovered from its lower fills. Abraded late Neolithic/early Bronze Age (Beaker), Bronze Age and Iron Age pottery from upper fills suggest use continued into the Iron Age. The ring ditch probably surrounded a barrow, though no primary burial was encountered a cremation burial recorded during the evaluation was radiocarbon dated to the middle Bronze Age. The ring ditch lies a short distance to the south-east of a known larger segmented Early Bronze Age enclosure ditch. A quantity of worked flint was recovered from the ring ditch and neighbouring Iron Age features. Iron Age pottery from the ring ditch and Iron Age pits and postholes (including a possible rectangular four-post structure) evidence outlying activity associated with a settlement previously excavated to the south-west. A NW-SE aligned ditch south of the ring ditch is tentatively dated to the Iron Age possibly forming a boundary between the earlier prehistoric monument to its north and middle Iron Age settlement to the south-west. A later date for the ditch cannot be entirely ruled out, and it may be the remains of a medieval or post-medieval field boundary.
Project dates	Start: 17-07-2019 End: 31-08-2019
Previous/future work	Yes / Not known
Any associated project reference codes	DAPA19 - Sitecode
Any associated project reference codes	ENN109557 - HER event no.
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 4 - Character Undetermined
Monument type	RING DITCH Bronze Age
Monument type	PIT Iron Age
Monument type	POSTHOLE Iron Age
Monument type	DITCH Uncertain
Monument type	FLINT Late Neolithic

Monument type	FLINT Early Bronze Age
Monument type	STONE RUBBER Early Bronze Age
Significant Finds	POTTERY Neolithic
Significant Finds	POTTERY Early Bronze Age
Significant Finds	POTTERY Bronze Age
Significant Finds	POTTERY Iron Age
Investigation type	""Part Excavation""
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	NORTHAMPTONSHIRE DAVENTRY DAVENTRY Apex Park
Study area	0.53 Hectares
Site coordinates	SP 55630 64480 52.275258510198 -1.184568453417 52 16 30 N 001 11 04 W Point

Project creators

Name of Organisation	Oxford Archaeology
Project brief originator	RPS Consulting Services
Project design originator	Oxford Archaeology
Project director/manager	S. Lawrence
Project supervisor	M Dodd
Type of sponsor/funding body	Consultant
Name of sponsor/funding body	RPS Consulting on behalf of Prologis UK

Project archives

Physical Archive recipient	Northamptonshire Archaeological Resource Centre
Physical Archive ID	ENN109557
Physical Contents	''Animal Bones'',''Ceramics'',''Worked stone/lithics''
Digital Archive recipient	ADS
Digital Archive ID	DAPA19
Digital Contents	''Animal Bones'',''Ceramics'',''Worked stone/lithics'',''other''
Digital Media available	''Images raster / digital photography'',''Spreadsheets'',''Text''
Paper Archive recipient	Northamptonshire Archaeological Resource Centre

Paper Archive ID	ENN109557
Paper Contents	''Animal Bones'',''Stratigraphic'',''Worked stone/lithics'',''Ceramics''
Paper Media available	''Context sheet'',''Plan'',''Report'',''Section''

Project bibliography 1

Publication type	A forthcoming report
Title	Apex Park, Daventry, Northamptonshire Archaeological Excavation Report
Author(s)/Editor(s)	Howsam C
Date	2020
Issuer or publisher	Oxford Archaeology
Description	The results of the excavation are described comprehensively in this excavation report, which will be submitted to Northamptonshire HER and will be disseminated online, being made available for download as a PDF through OA's online library (https://library.thehumanjourney.net/). A synthetic publication report of up to 10,000 words will also be prepared for publication in the county journal, Northamptonshire Archaeology. The publication report will present the results of the excavation alongside those from the nearby excavations of the Iron Age and Roman settlement at Daventry Middlemore and will include the key results of the analysis of the stratigraphy, finds and environmental evidence, from both sites along with a synthetic landscape narrative and combined introductory material/archaeological background, but will omit some data tables and some of the more technical aspects of the specialist contributions that are presented in the full reports.
Entered by	Nicola Scott (nicola.scott@oxfordarchaeology.com)
Entered on	25 September 2020

OASIS:

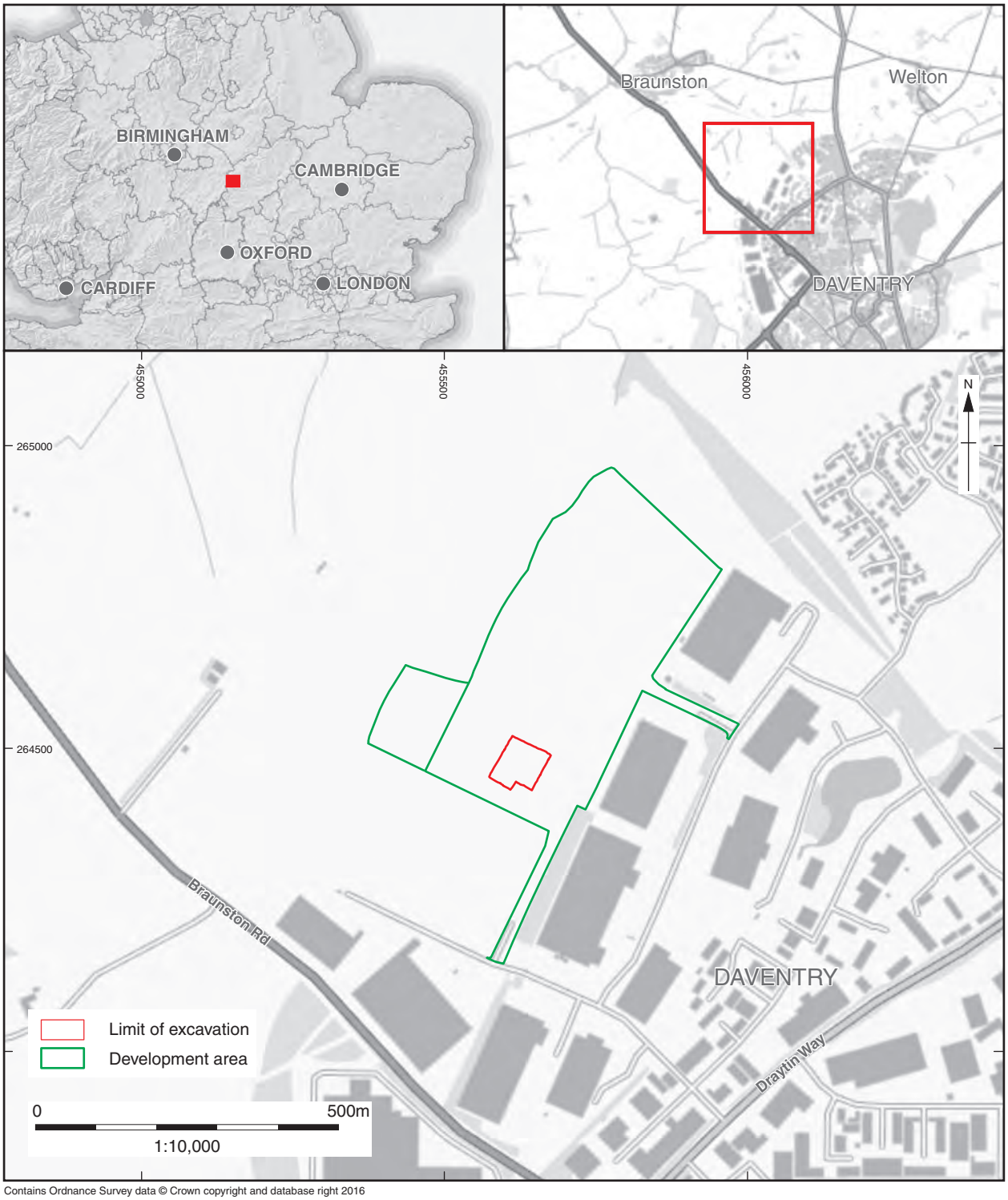

Figure 1: Site location

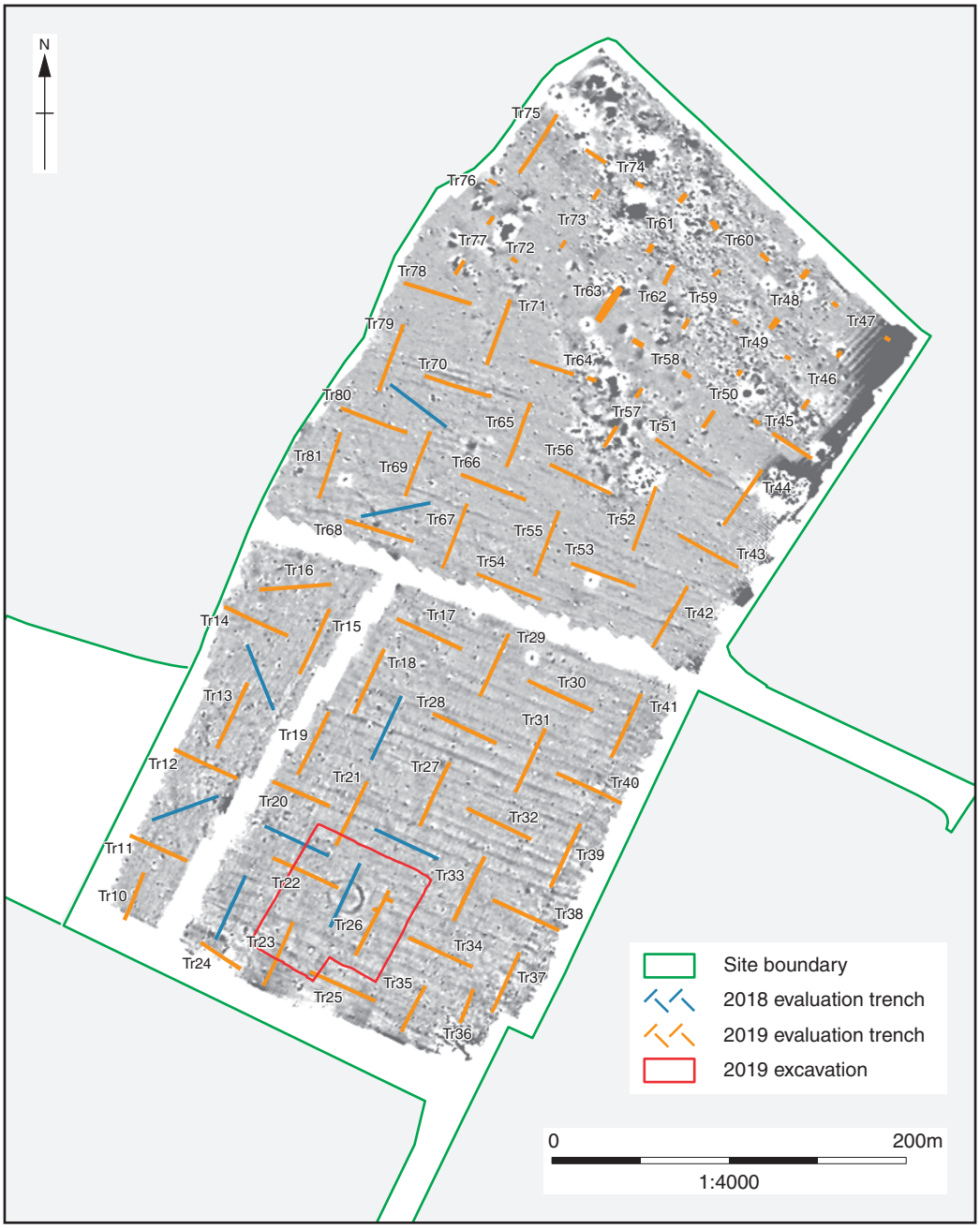

Figure 2: Excavation area with previous geophysical survey results and evaluation trenches

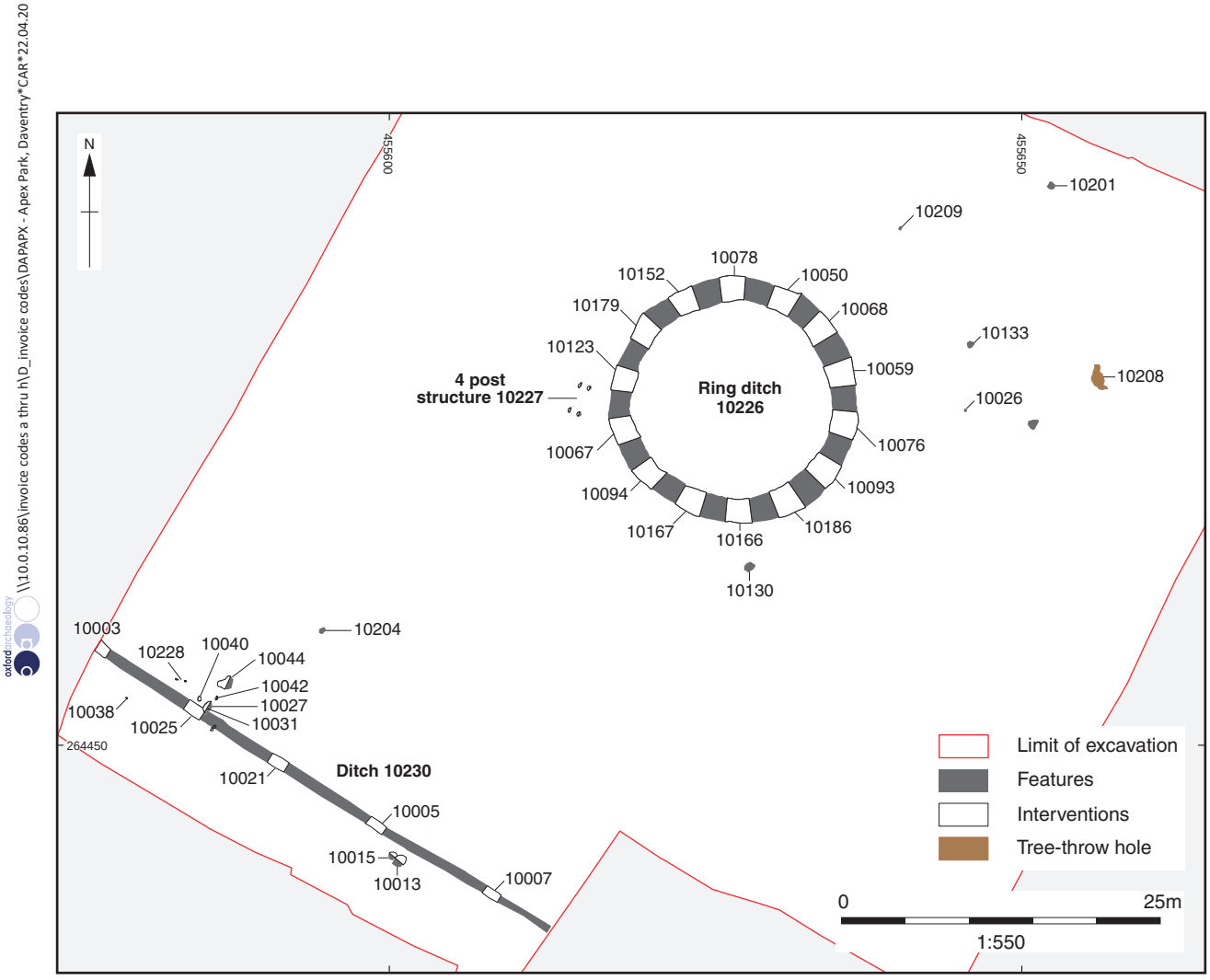

Figure 3: Plan of excavation area

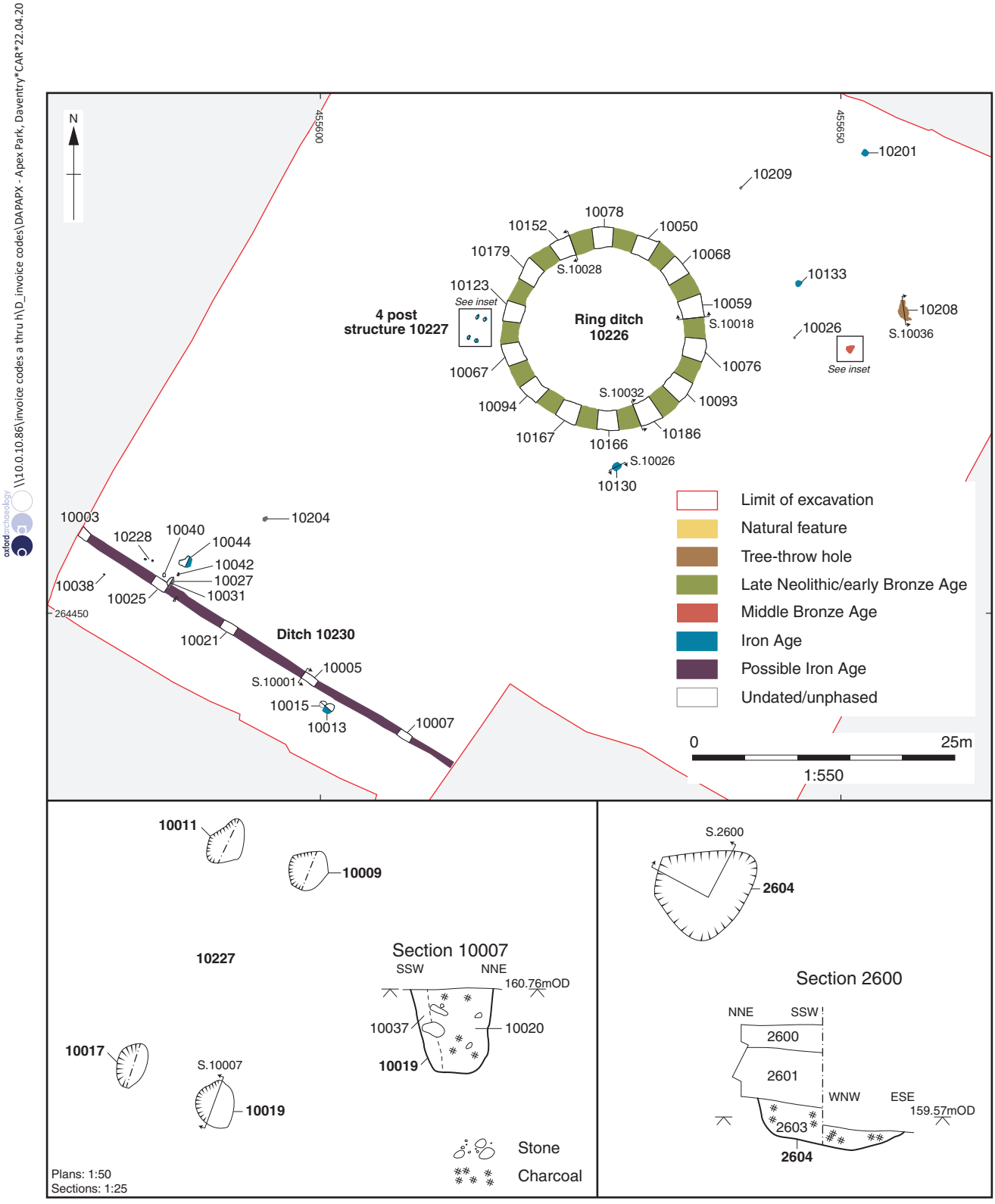

Figure 4: Phased plan of excavation area

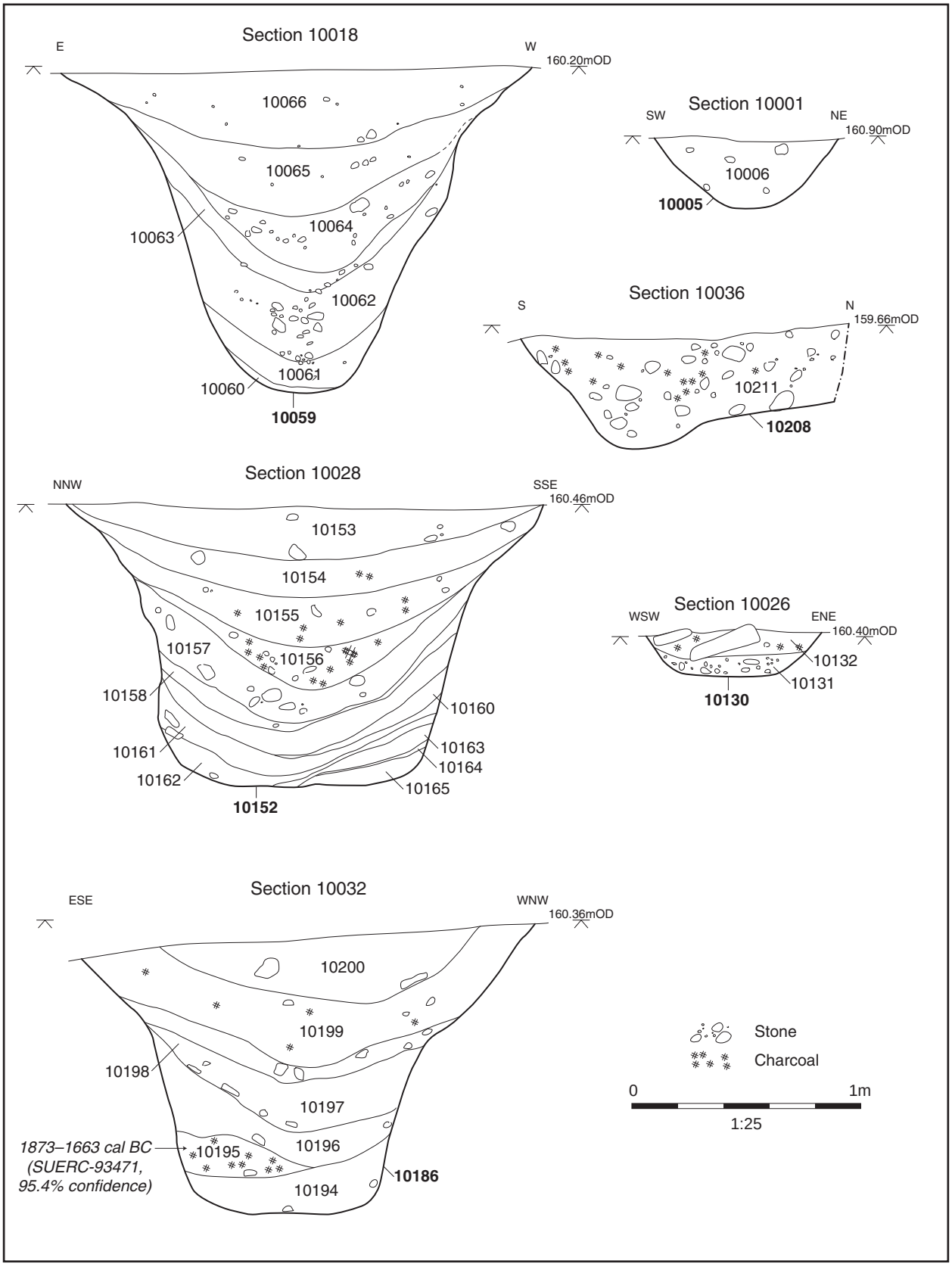

Figure 5: Sections

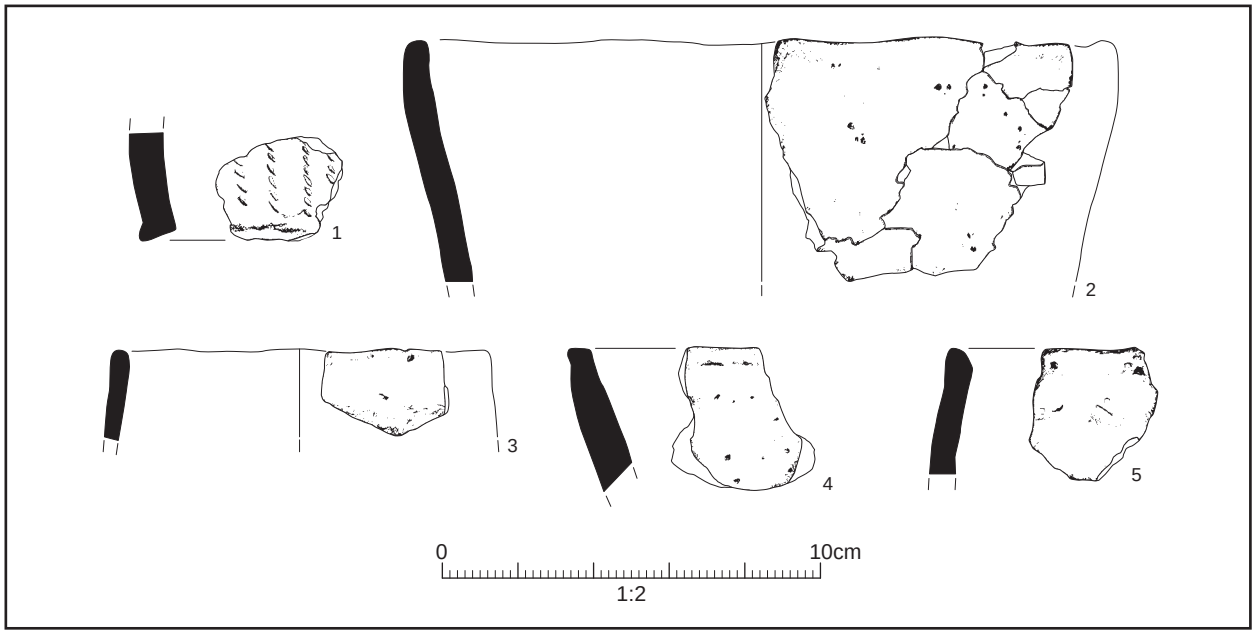

Figure 6: Prehistoric pottery

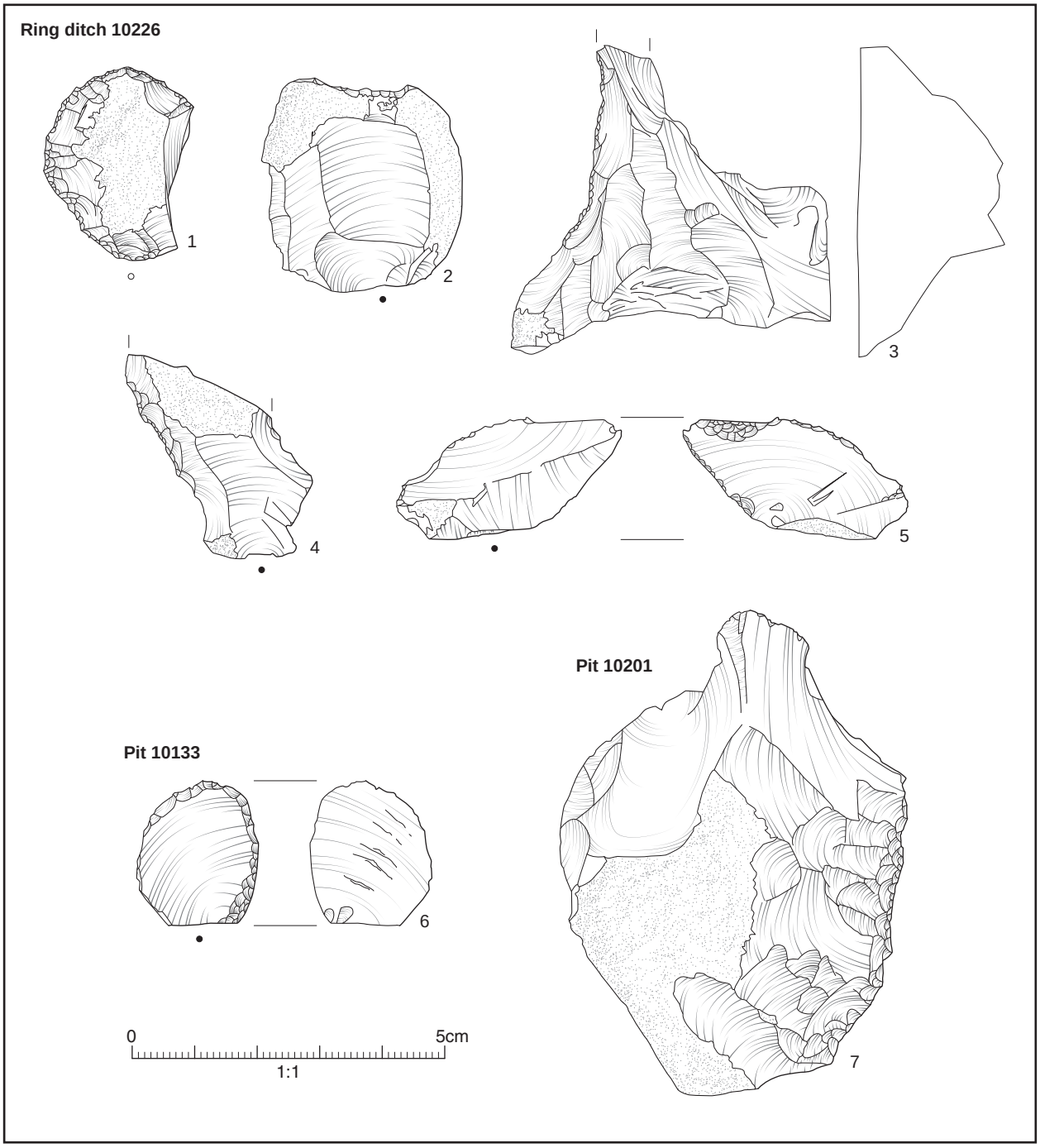

Figure 7: Flint tools from ring ditch 10226 and Iron Age pits 10201 and 10133

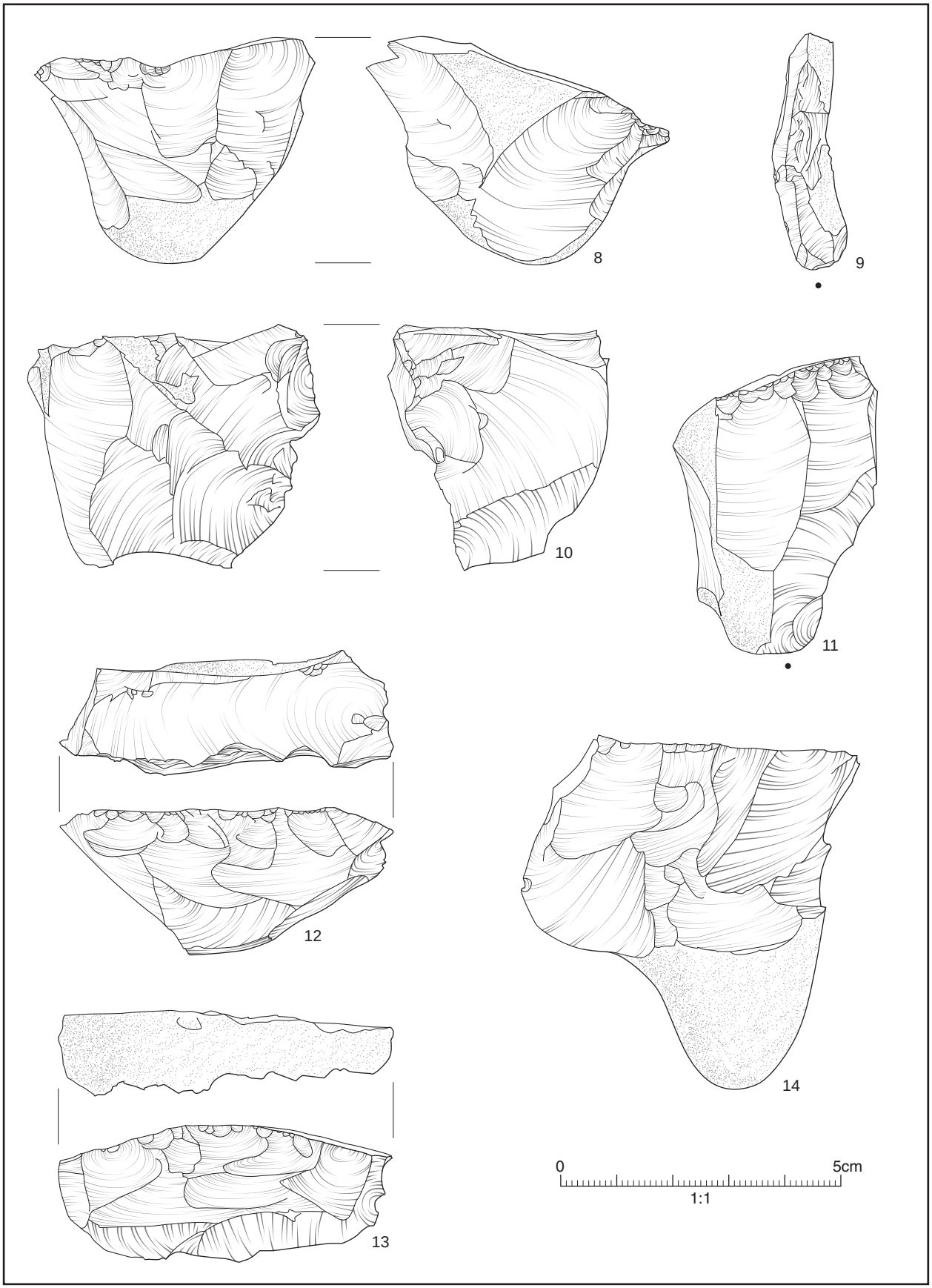

Figure 8: Flint cores from ring ditch 10026

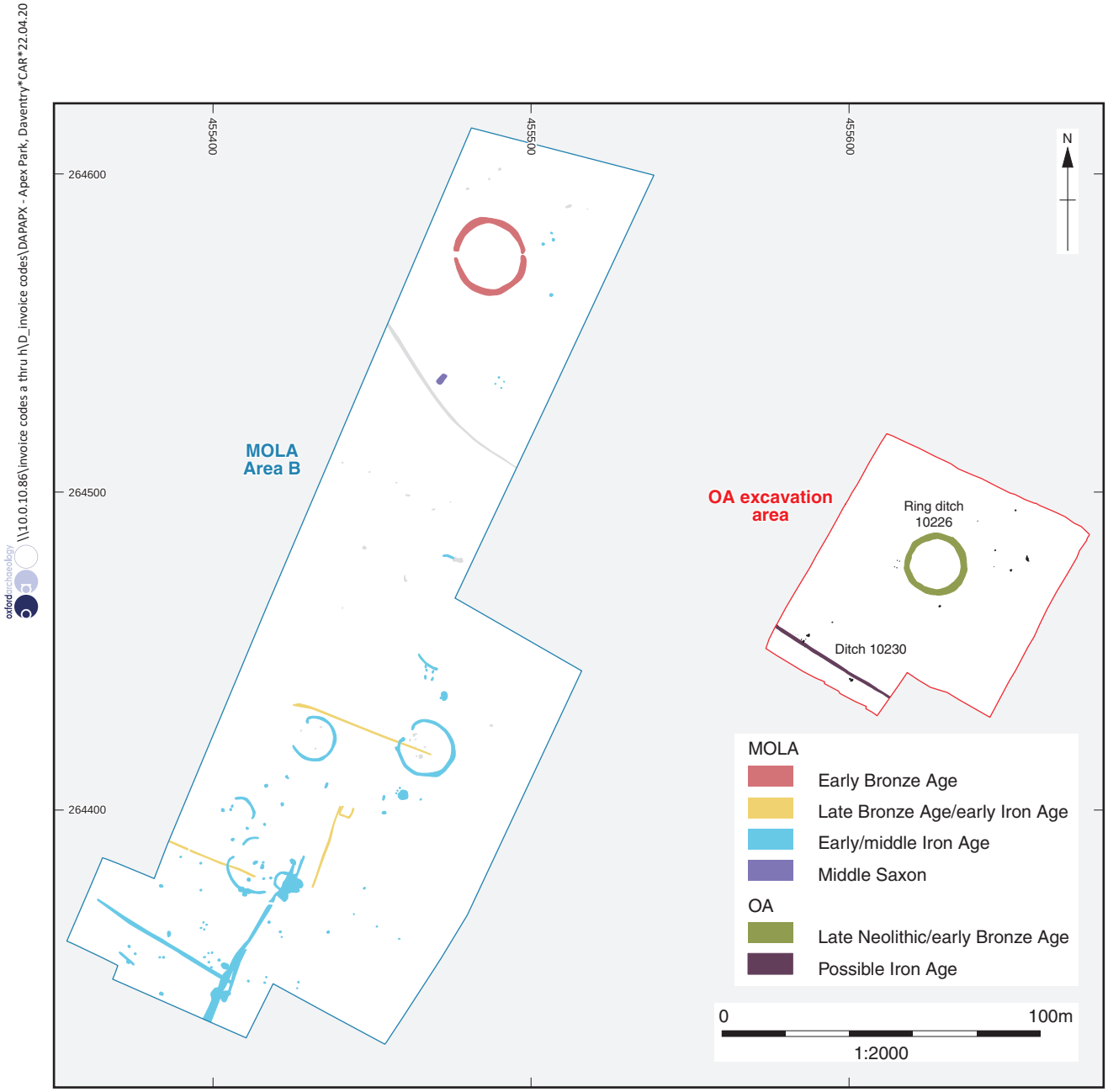

Figure 9: Excavation area with adjacent MOLA Area B excavation site (based on Markus and Morris 2019)

Figure 10: 1813 Ordnance Survey Drawing (After CgMs 2018)

Plate 1: Ring ditch intervention 10059, section 10018

Plate 2: Ring ditch intervention 10152, looking north-east

Plate 3: Overview of ring ditch intervention 10078, looking east

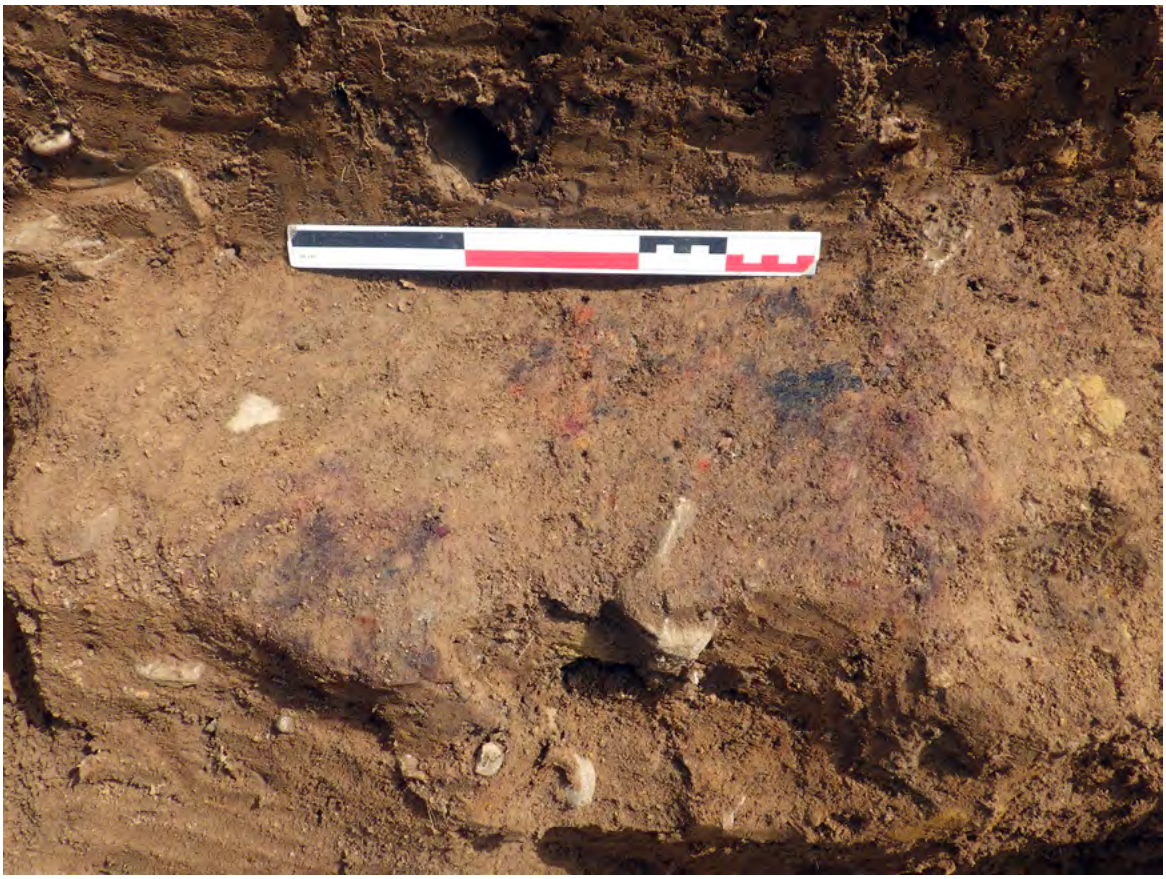

Plate 4: Burnt fill deposit 10052 in ring ditch intervention 10050, looking south-east

Plate 5: Cremation burial pit 2604

Plate 6: Four-post structure 10227, looking east

Plate 7: Pits 10013 and 10015, looking south-west

Plate 8: Pit 10201, looking west

Plate 9: Ditch intervention 10005, looking south-east

Plate 10: Overview of ditch intervention 10025 and undated features 10040, 10042 and 10027, looking west

Plate 11: Overview of undated posthole 10206 and ring ditch 10226, looking west

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