



Replacement Magazine Storage Facility, Porton Down, Wiltshire

Archaeological Assessment Report





**REPLACEMENT MAGAZINE STORAGE FACILITY
PORTON DOWN
WILTSHIRE**

**Assessment Report on Archaeological Excavation and Proposals for
Post-Excavation Analysis and Publication**

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Assessment Report on Archaeological Excavation and Proposals for Post-Excavation Analysis and Publication

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SUMMARY

An archaeological excavation was undertaken in August and September 2011 at Porton Down, Wiltshire (NGR 421450 136400), in advance of the proposed construction of new magazines, ancillary structures and associated access roads.

Previous geophysical survey and evaluation had indicated a generally low density of features within what is a rich archaeological landscape on the eastern edge of Salisbury Plain. However, the prehistoric features excavated have been shown to be of local to regional significance.

The most important discovery was a funerary monument of Early Bronze Age date which comprised an unusually complex sequence of eight or more burials surrounded by a (probably later) segmented ditch 15m in diameter. Although the precise sequence remains to be determined, the earliest burial appears to have been that of an adult female in the centre of the monument. This was followed by a large grave which contained the disturbed remains of an adult female, accompanied by a Beaker (c. 23rd century BC), which had probably been placed within a timber chamber and later 'revisited' on one or more occasions. The central sequence continued with what appears to have been an 'empty grave' (although it contained bones from three individuals and sherds from possibly two or more Beakers), and this in turn was cut by the grave of an infant. A short distance to the west of these burials was a grave containing a subadult female and a neonate, whilst immediately to the east were two graves containing a neonate and an infant respectively, each accompanied by a Food Vessel (c. 22nd century BC), and a cremation burial of an infant made within an inverted Collared Urn (c. 1900 - 1700 BC). The detailed excavation and recording of the entire group has provided a rare opportunity to examine an unusually complex Early Bronze Age funerary monument which, when coupled with scientific dating and analysis, may provide important new information on the nature and period of use of these monuments, with only females and young children present in this example.

Part of a probable Late Bronze Age 'Wessex Linear Ditch' crossed the northern part of the site. Further south was a smaller, rather sinuous ditch with at least two narrow entrances which may also have been of Bronze Age date, although whether it pre- or post-dated the 'Wessex Linear' is currently unclear. A Middle or Late Bronze Age date is thought most likely, and proposed radiocarbon dating of an apparently associated inhumation burial, capped with flint nodules, may resolve this. Both these boundaries reflect prehistoric land divisions probably related to stock control.

A programme of further analysis is proposed which will lead to the production of a publication report, to be submitted to the *Wiltshire Archaeological and Natural History Magazine*.

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The archaeological fieldwork was directed by Phil Andrews and Steve Thompson, with the assistance of Olly Good, Ellie Brook, Dave Murdie, Tom Wells, Ben Cullen and Rachel Cruse.

The human bone was assessed by Jacqueline I. McKinley, the pottery by Lorraine Mephram, the worked flint by Matt Leivers and the animal bone by Lorrain Higbee. Alistair Barclay advised on radiocarbon dating and Lyn Wooten consolidated the pottery vessels. We are grateful to Catriona Gibson and Alistair Barclay for additional discussion of the burials and their significance, and to Dave Norcott and Chris Stevens for advising on the potential for environmental sampling.

This report was written by Phil Andrews, with illustrations by Liz James. The project was managed for Wessex Archaeology by Sue Farr.

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 Wessex Archaeology (WA) was commissioned by Dstl (the Client) to undertake the archaeological mitigation required ahead of the development of a new magazine storage facility at Porton Down, Wiltshire, centred on National Grid reference (NGR) 421450 136400 (hereafter 'the Site') (**Figure 1**).
- 1.1.2 The proposed development covers an area of approximately 24 hectares and comprises the construction of a replacement explosives storage facility, with associated landscaping and access. Previous archaeological investigations, including a geophysical survey (Archaeological Surveys Ltd 2008) and an archaeological evaluation (WA 2009), have identified significant and extensive prehistoric remains within the Site.
- 1.1.3 A planning application (S/2010/1856) has been submitted to Wiltshire Council for the development of a replacement magazine storage facility comprising the following: administration building/gatehouse, receipt and dispatch building, three small stores, eight medium stores, one large store, misfire store, pyrotechnic store, pyrotechnic process facility, box and forklift store, roads, tracks, perimeter fences, traverses, lorry park, car parking, lighting, cctv, swales, bunds, emergency water store and electricity substation.
- 1.1.4 Following consultation with the Wiltshire Assistant County Archaeologist, and in line with PPS5 requirements, an archaeological mitigation strategy was proposed to ensure the archaeology within the development area is preserved by record, followed by an appropriate programme of assessment, analysis, publication and archiving.
- 1.1.5 A Written Scheme of Investigation (WSI) was prepared which set out the strategy and methodology by which Wessex Archaeology would implement the archaeological mitigation (WA 2011). In format and content it conforms with current best practice and to the guidance outlined in *Management of Research Projects in the Historic Environment* (English Heritage 2006), the Institute for Archaeologists' *Standards and Guidance for Archaeological Excavation* (IfA 2008) and *Standards and Guidance for Archaeological Watching Briefs* (IfA 2008). The WSI was submitted to and approved by the Wiltshire Assistant County Archaeologist and the Client prior to fieldwork commencing.

1.1.6 The fieldwork was carried out between 8th August and 7th September 2011.

1.2 Scope of Document

1.2.1 This Assessment Report provides a summary of the results of the excavation and sets out the methods by which Wessex Archaeology will undertake further analysis of the Site, the finds and the human bone recovered during the fieldwork. It also presents proposals for the subsequent publication and archiving of the project.

2 THE SITE

2.1 Site Location, Topography and Geology

2.1.1 The Site is located on Porton Down, between Idmiston Down to the north-east and Battery Hill to the south-west, c. 1.5km east of the village of Porton (**Figure 1**). The northern third of the Site is fairly flat, at c. 110m above Ordnance Datum (aOD), but the remaining land slopes down to the south-west, falling to a height of c. 98m aOD, with a shallow dry valley in the south-eastern corner.

2.1.2 The British Geological Survey map for the area (1:50,000 Solid and Drift Series, sheet 298) indicates that the underlying geology of the Site consists of Upper Chalk. Alluvial deposits and Valley Gravel associated with the River Bourne lie a short distance to the north and west.

2.1.3 The Site lay under short grass pasture at the time of the excavation.

2.2 Archaeological Background

2.2.1 Since the then Office of War took over Porton Down in World War 1, there has been a long history of archaeological investigations within this protected area, most notably by JFS (Marcus) Stone beginning around 1930. He and subsequently others have done much to investigate and record the rich prehistoric landscape of this area of chalk downland, with a particular focus on the Neolithic and Bronze Age remains (Ride 2006). This work has continued up to the present day, led by Porton Down's Conservation Group's Archaeological Section.

2.2.2 A total of 10 Scheduled Monuments lie within the Site's immediate environs. These statutorily protected monuments include several groups of Bronze Age barrows (burial mounds) to the north of the Site (SMs 26772, 26773, 26774, 26783 and 26784). The monument listing for SM 26784 also includes a group of early 20th century gas testing trenches. Further groups of barrows lie to the east of the Site (SM 26785, the monument listing for which includes a Bronze Age enclosure) and to the south and south-west (SMs 26775-26778).

2.2.3 Two previous archaeological investigations have been undertaken within the Site, comprising geophysical survey and field evaluation:

Geophysical survey

2.2.4 A programme of magnetometer survey was undertaken at the Site in October 2008 (Archaeological Surveys Ltd 2008), the results of which

identified a number of anomalies of certain or likely archaeological origin. It is not proposed to describe the geophysical survey findings further here as the Site was subsequently subject to targeted trial trench evaluation based upon these results.

Archaeological field evaluation

- 2.2.5 Subsequent to completion of the geophysical survey, a programme of archaeological trial trenching based upon the geophysical survey results was undertaken in November 2009 (Wessex Archaeology 2009). The main findings of the geophysical survey alongside the locations of the trial trenches are illustrated in **Figure 1**.
- 2.2.6 A total of 45 evaluation trenches were machine-excavated across the Site. The evaluation established that archaeological features comprising a possible enclosure ditch, a crouched inhumation burial, ring-ditches and part of a 'Wessex Linear Ditch' were present, though dating evidence was very limited. Relatively few other archaeological features were identified and the evaluation demonstrated that the geophysical survey had been very accurate in indicating the distribution, size and general nature of features present.
- 2.2.7 What was interpreted as a segmented enclosure ditch, comprising at least three distinct segments and two identified entrances (one to the south and one to the south-east) was identified crossing the southern part of the Site. This putative enclosure, which is potentially associated with a known feature recorded on the Wiltshire Sites and Monuments Record (WSMR, see 'cropmark feature'), was tentatively dated to the Late Neolithic/Early Bronze Age (2900-1500 BC). This was largely on the basis of its apparent association with a crouched inhumation burial capped with flints, regarded as a typical form of burial during this period, recorded in Trench 33. The burial, probably sealed beneath a cairn of flints, would have marked the south-eastern entrance into the enclosure.
- 2.2.8 A section of a probable 'Wessex Linear Ditch' of likely Late Bronze Age date (1100-700 BC) was revealed towards the north of the Site and aligned with another feature known from the WSMR.
- 2.2.9 Two further potentially early prehistoric features were identified including a ring-ditch, interpreted as a possible barrow, henge or large roundhouse, which was separated from a small horseshoe-shaped enclosure by an internal ditch within the larger segmented enclosure.

3 AIMS

3.1 Archaeological Investigation

3.1.1 The general aims of the archaeological mitigation were to:

- Define the nature, extent, character and chronology of the prehistoric activity within the areas of excavation.
- Assess the degree of existing impacts to sub-surface horizons and to document the extent of archaeological survival of buried deposits.

- Produce a report which will present the results of the archaeological mitigation in sufficient detail to put the Site's archaeological potential in a wider context.

4 METHODS

4.1 Excavation and 'Strip, Map and Record'

4.1.1 The fieldwork comprised a single phase of work consisting of two phases of mitigation (**Figure 2**). The mitigation commenced with archaeological excavation of two areas in the southern part of the Site, with a proposed total of approximately 1ha, focussing on concentrations of features identified by geophysical survey and trial trenching.

4.1.2 This was followed by a strip, map and record investigation in other areas within the Site where development is proposed.

Archaeological excavation areas

4.1.3 Area 1 was positioned partially over the segmented enclosure ditch and the ditch extending from it to the north, and included one of the potential entrances. Features recorded within the putative enclosure include a ring-ditch and a horseshoe-shaped enclosure. The proposed development was designed such that both were to be preserved *in situ*, with archaeological excavation to the immediate south and north of these features. However, during stripping the southern part of the ring-ditch was unexpectedly revealed and, following discussions with the Assistant County Archaeologist and the Client, it was agreed to extend the excavation area to the north to expose the central part of the ring-ditch in order that more might be learnt about the nature, date and function of the monument.

4.1.4 Area 2 was tightly focused over a burial identified and partially excavated during the evaluation within Trench 33. Although the burial was within an area of the Site which will not be disturbed, the Assistant County Archaeologist requested its excavation, given it has been partially disturbed during the evaluation phase of works and there is only a shallow depth of overburden protecting the grave.

Strip, map and record areas

4.1.5 The remainder of the southern two-thirds of the development area was subject to a strip, map and record investigation. The small number of archaeological features identified through geophysics and evaluation within this area included a further section of the segmented enclosure ditch and part of the Wessex Linear Ditch system.

4.1.6 It was apparent at an early stage of stripping that there were very few archaeological features other than those previously recorded in the geophysics, and limited investigation of a sample showed them to be shallow and devoid of dating evidence, as were the tree holes identified. It was also learned that the proposed perimeter track was to remain grass covered - resulting in no below ground disturbance, whilst the earthen bunds (and their construction) around many of the proposed installations would similarly involve no impact on any archaeological deposits present. Furthermore, the two circuits of proposed perimeter fencing were to be

bedded in very narrow, shallow trenches which would not extend into the natural chalk and thus cause no damage to archaeological deposits. Therefore, with the agreement of the Assistant County Archaeologist, stripping was restricted to areas of significant impact or exposure, namely the footprints of the access roads and the structures, including those to be built within the bunds.

- 4.1.7 Although the WCAS agreed no further mitigation was necessary within the northern third of the Site, the client requested a similar methodology be adopted for this area, to eliminate any risk of delays to their groundworks programme. As in the southern two-thirds of the Site, stripping was restricted to areas of significant impact or exposure.
- 4.1.8 The footprint of the proposed new development (including roads, structures, bunds and fences, as well as the perimeter track) were set out prior to excavation by a specialist survey company commissioned by Serco.
- 4.1.9 The excavation areas, strip, map and record areas and archaeological features were located in relation to the OS national grid by Wessex Archaeology, using a Trimble Real Time Differential GPS survey system.
- 4.1.10 All overburden was removed under the constant supervision of an archaeologist and a range warden, using two 360° tracked excavators, one taking off turf and the upper topsoil and the other removing the lower topsoil and, if present, any subsoil. Machining was suspended whenever possible ordnance or other suspicious objects were encountered, and stopped at the surface of the underlying natural chalk.
- 4.1.11 The methodologies for the excavation are set out in detail in the WSI (WA 2011) and are not repeated here. All works were carried out as specified in this document, in accordance with the Institute for Archaeologists' *Standard and Guidance for Archaeological Excavations* (IfA 2008).

5 RESULTS

5.1 Introduction

- 5.1.1 The excavations are described in chronological order (as this is currently understood) below (**Figure 2**). Further details of individual contexts can be found in the site database and archive.

5.2 Stratigraphic Sequence

- 5.2.1 The topsoil over most of the Site was extremely shallow, as is typical of chalk downland which has been under limited agricultural activity in recent decades. Only in the fairly flat, northern part of the Site, (which was ploughed up to 2011) was the topsoil/ploughsoil a little thicker, measuring up to 0.4m deep with, in places, subsoil up to 0.2m thick. Elsewhere, the topsoil was generally between 0.2m and 0.3m thick and overlay natural geology. For most of the Site this comprised chalk, but in the northern third consisted of large areas of clay-with-flints. Towards the lower, south-east corner of the Site was a layer of small to medium-sized rounded flints overlying the chalk natural. This flinty layer is a relatively common feature of dry valleys in the

area, and is of probable Late Glacial date (c. 12,000 – 10,000 BC). It is likely to be the result of large-scale erosion of the chalk under severe climatic conditions (especially freeze/thaw) combined with occasional high energy overland flow of water.

- 5.2.2 It is clear that the underlying natural geology has been impacted upon by ploughing, the size of some of the plough scars suggesting that they were created by steam ploughing, potentially as early as the 1840s.

5.3 Early Bronze Age

Burial Group [5225]

- 5.3.1 The earliest complex of features identified comprised a circular, segmented ditch approximately 15m in diameter which surrounded a sequence of seven inhumation burials and one cremation burial (**Figure 3; Front Cover**). Some redeposited bone may derive from further individuals. The precise chronological sequence remains to be established, but it is currently thought that the segmented ditch was one of the later, if not the last event in this sequence, probably dug to provide material to erect a mound over the central group of burials. Nevertheless, the possibility cannot be ruled out that it was an early feature, perhaps associated with the earliest grave (**[5169]**, see below). It is also possible that further burials lie within the relatively small unexcavated areas within the space enclosed by the segmented ditch. However, no further burials were found in evaluation trench 25, which exposed part of the northern half of the interior not uncovered during the excavation, and the remaining areas are very limited in size.
- 5.3.2 Towards the centre of the area enclosed by the segmented ditch was grave **[5171]**. This was probably later than grave **[5169]**, though the relationship between the two features is uncertain as the junction between them had been destroyed by later 'empty' grave **[5100]** (see below). Only the southern end of grave **[5169]** survived (see **Plate 3**), the remainder having been removed by grave **[5100]**. Grave **[5169]** appeared to have been sub-rectangular (at least at the southern end), aligned approximately south-north, and measured at least 1.1m long, 1m wide and 0.3m deep. In the surviving part of the grave was the skull and shoulders of adult female (**5223**), though the burial posture could not be ascertained from the small proportion of the skeleton that survived. A single Beaker sherd came from the fill of the surviving part of the grave.
- 5.3.3 A large, sub-rectangular grave **[5171]** aligned approximately north-south (**Plate 1**) lay in the centre of the monument. Grave **[5171]** measured 1.83m long, 1.23m wide and 0.95m deep, and had vertical sides and a flat bottom. Around the sides was a layer of chalk rubble packing (**5172**) between c. 0.15 and 0.3m thick (but with numerous voids) and surviving to a maximum height of 0.65m above the base of the grave (on the north-west side). This had been used to infill the gap between the edges of the grave and the timber chamber it once contained. No wood survived, but its presence is indicated by a space approximately 0.1m wide between the chalk packing and the spread of disarticulated bone (**5224**) in the base of the grave (**Plates 2 and 3**). A small quantity of redeposited adult human bone was present within chalk rubble packing (**5172**), indicating that grave **[5171]** was not the earliest in the group; and this bone possibly derived from grave

[5169] (see above). Bone **(5224)** comprised what appeared to be a disarticulated 'jumble' of well-preserved material, derived from a single adult female, although apart from several teeth there were no identifiable skull or mandible fragments. (All of the bones have been planned and individually numbered, or numbered in groups as appropriate). Relatively large sherds of a single Beaker (dating to around the 23rd century BC) were found together towards the southern end of the grave and represent the only surviving remains of any grave-goods.

- 5.3.4 'Empty' grave **[5100]** was a large sub-rectangular feature aligned approximately north-north-west to south-south-east. It measured 2.45m long, 1.45m wide and 0.6m deep, and had near-vertical sides and a flat base. It resembled a grave in both shape and size, though it contained no burial. However, the fill **(5130)**, excavated in 0.1m spits, contained a moderate amount of redeposited human bone (individually numbered and plotted) from two adult females and an infant and a few sherds from perhaps two or more Beakers. 'Empty' grave **[5100]** had been dug through the upper part of grave **[5171]** and also truncated the majority of grave **[5169]**, destroying the relationship between the earlier features.
- 5.3.5 Grave **[5104]** was a sub-oval feature, aligned north-east to south-west, which had been dug through the northern end of 'empty' grave **[5100]** (see **Front Cover**, bottom right). It measured approximately 1m by 0.7m and 0.3m deep, and contained the unaccompanied, (slightly) crouched skeleton **(5105)** of an infant, possibly a female.
- 5.3.6 A little over a metre to the north-west of the central sequence of graves was sub-oval grave **[5110]** (**Plate 4** and **Back Cover**). A small extension to the excavation area revealed the entire extent of this grave, which was aligned approximately south-south-west to north-north-east and measured 1.70m by 1.05m and 0.22m deep. Grave **[5110]** contained a crouched burial **(5108)** of a subadult female lying on its right side and facing east. The skeleton of a neonate **(5109)** overlay the shoulder and upper right arm of burial **(5108)**, so that they lay 'face-to-face'. No grave-goods were present.
- 5.3.7 A short distance to the east and south-east of the central sequence of graves were three further graves, comprising inhumation burials **[5087]** and **[5116]** and cremation burial **[5078]** (see **Plate 1** and **Front Cover**). Inhumation burials **[5087]** and **[5116]** comprised a neonate and an infant respectively, both placed in small graves and each accompanied by a Food Vessel (22nd century BC). In the smaller of the two graves **[5087]**, to the south of the central group of graves, the Food Vessel had been inverted, whilst in the smaller **[5116]**, to the east, the Food Vessel lay on its side (**Plate 5**). Cremation burial **[5078]**, an infant, lay to the east and furthest from the central group of graves. This had been made in a Collared Urn (c. 1900 – 1500BC), which had been inverted and placed in a small pit barely large enough to hold the urn.
- 5.3.8 The segmented ditch which surrounded the central sequence of graves was approximately 15m in diameter (see **Figure 3**; **Plates 1, 6** and **Front Cover**), and a series of opposing slots was excavated to provide a continuous longitudinal section and a series of cross sections. All or parts of four segments **[5226]**, **[5227]**, **[5228]** and **[5229]** on the southern side

were exposed in the excavation, and parts of one or possibly two other segments were recorded in evaluation trench 25 which crossed the northern half of the monument. The northern extent has not been revealed, though it is clearly visible on the geophysical survey, however the number and location of likely further gaps between the ditch segments cannot be discerned. The full extent of segments [5227] and [5228] were revealed, each measuring 5.20m in length. All of the ditch segments were generally 0.5m - 0.7m wide and 0.5 – 0.55m deep, with open U-shaped profiles and rounded terminals. The three gaps between the ditches were narrow, between 0.05 and 0.40m wide, though there is some evidence from the evaluation and geophysical results to suggest that there was a slightly wider gap in the east side. No finds came from the fills of any of the ditch segments, with the sequences generally comprising redeposited or washed-in chalk overlain by more loamy and generally heavily bioturbated material. No tip lines were apparent and it appears that any bank or mound material probably did not lie close to the edges of the ditches.

5.4 Middle – Late Bronze Age?

Ditch [5230, 5231, 5232, 5233, 5235]

- 5.4.1 A shallow, somewhat sinuous ditch extended across the entire Site for a distance of at least 450m, continuing to the east and west beyond the limits of the proposed development area (**Figure 2**). This ditch was revealed in the geophysical survey and investigated in both the evaluation and the excavation. These showed it to run from west to east, before turning to continue north-eastwards in the eastern half of the Site (**Plate 7**).
- 5.4.2 The ditch crossed gentle to moderately sloping ground, and in places appeared to follow a very slight break of slope, particularly in the central part of the Site. It may have turned to the north-east in the eastern half of the Site to avoid a shallow, dry valley in this area. There were two narrow entrances approximately 270m apart along the length of ditch exposed, one facing south and the other south-east, that to the north-east formed by slightly overlapping offset ditch terminals. Group numbers [5230] and [5231] have been assigned to the western ditch section, [5231] and [5232] to the central section, and [5235] to the eastern section.
- 5.4.3 There was a further, associated length of ditch which extended approximately 80m north from the main ditch in the western half of the Site. This ran midway between Early Bronze Age burial group [5225] to the west and the undated horseshoe-shaped feature to the east, the latter recorded in the geophysics and evaluation but not exposed in the excavation. The north-south ditch has been assigned group number [5232] as it appears to be part of the same ditch which has been assigned that number to the south, though the precise relationship at the ditch junction is somewhat ambiguous.
- 5.4.4 The westernmost section of ditch shows clear evidence for having been recut, with the later phase [5230] diverging along part of its length from earlier ditch [5231] (**Figure 4**), though this sequence was not apparent elsewhere unless the earlier ditch had been completely removed by the digging of the later ditch. To the east of this, the western part of the central section and its northerly branch [5232] appear to be later than the eastern

part of the central section [5233], but the former probably represent a recutting of an earlier phase of ditch of which no trace survived (or was detected). The eastern part of the central section of ditch [5233] had a slot along the base indicating that it had been cleaned out on at least one occasion if not wholly recut. There was also some evidence for a similar slot along the base of the easternmost section of ditch [5325], though it was less pronounced here than in the central section.

5.4.5 Approximately 30 slots were dug across the various lengths of ditch and these showed generally consistent, open U-shaped profiles, though ditch [5233] in particular exhibited a more 'shouldered' profile from having been cleaned out (Figure 4). Widths varied between 1.1m and 2.8m, with an average of approximately 1.8m, whilst depths varied between 0.35m and 0.85m with an average of approximately 0.65m. The lower fills contained increasing quantities of chalk with depth, whilst the upper fills were all dark loamy soils with much bioturbation resulting from root and earthworm action. From the fill sequences it was not clear which side of the ditches any associated bank may have been located, but it seems reasonable to assume that this lay on the upslope, northern side of the main ditch that crossed the Site.

5.4.6 The dating of the ditch remains uncertain. It seems clearly to respect Early Bronze Age burial monument [5225], though its relationship with the undated horseshoe-shaped feature is less clear; the two features may have been contemporary (see below). The relationship with the probable 'Wessex Linear Ditch' [5234] of likely Late Bronze Age date is also unclear, and the projected junction between the two ditches lay just beyond the eastern limit of excavation, in an area which had suffered a greater degree of plough truncation and some modern disturbance. Four sherds of Early Bronze Age pottery (two of Beaker), three sherds of Middle or probable Late Bronze Age pottery and approximately 30 sherds of Romano-British pottery were recovered from the various ditch segments, but this all came from the uppermost fills, having been deposited (or redeposited) there after the ditch had almost completely silted up. On this basis an Iron Age or Roman date might be surmised but, overall, a Middle-Late Bronze Age date is currently considered most likely. This may be resolved by obtaining a radiocarbon date from burial [5003], which appears to have been associated with the ditch (see below).

Burial [5003]

5.4.7 This was exposed in evaluation trench 33, partially investigated and when discovered to be a burial covered over again and left until the excavation stage of the project.

5.4.8 Subsequent excavation revealed an oval grave measuring approximately 1m by 0.8m and 0.2m deep. This lay close to the south-western terminal of ditch [5235], and partly blocked the entrance formed by this and the north-eastern terminal of ditch [5233], suggesting that the burial was broadly contemporary with the ditches (Figure 2).

5.4.9 Grave [5003] contained the tightly flexed or crouched skeleton (5002) of a possible male adult, lying on its front, with the arms underneath and the knees to the north-west; the skull, shoulders and much of the left foot were

missing, apparently truncated by ploughing (**Plate 8**). The body had been covered by a tightly-packed capping of flint nodules (**5001**), perhaps to form a small cairn marking the entrance or to protect the body from scavengers. The burial was unaccompanied and no finds were recovered from the chalk backfill in the grave.

- 5.4.10 Two nearby unexcavated features, identified as possible pits in the evaluation, were investigated and appear more likely to have been tree holes.

5.5 Late Bronze Age

Ditch [5234]

- 5.5.1 This was a straight ditch, at least 400m long, which ran west-north-west to east-south-east across the northern half of the Site, extending to the east and west beyond the limits of the proposed development area (**Figure 2**). Ditch **[5234]** is interpreted below as a 'Wessex Linear Ditch' (a Late Bronze monumental earthwork), and the ditch and associated bank is likely to have formed a component of an extensive network of land boundaries within the wider area (Bradley, Entwistle and Raymond 1994).

- 5.5.2 Ditch **[5234]** was recorded in the geophysical survey and this indicated a gap, possibly an entrance, approximately 5m wide, in an area which is not going to be disturbed by the proposed development. However, the ditch was investigated in three other locations during the evaluation and excavation, and these showed it to be approximately 3.5m wide and 1.5m deep, with a V-shaped profile (**Figure 4; Plate 9**).

- 5.5.3 The ditch fills largely comprised natural erosion deposits, with similar material eroding from both sides, and slight evidence for a bank having been located on the north side. Very few finds were recovered, comprising a few sherds of potentially Early Bronze Age pottery along with others of Iron Age and Roman date, all from the secondary and tertiary fills. However, these would not be inconsistent with a Late Bronze Age date for this major boundary feature.

5.6 Undated Features

- 5.6.1 A small number of undated features were recorded, in addition to a background scatter of tree holes which also remain undated. However, in the few cases where relationships existed and could be determined, the tree holes always predated the archaeological features. A sample of tree holes were excavated, but other than the very occasional surface find (usually struck flint) were devoid of dating evidence and even burnt flint was largely absent.

- 5.6.2 Only five small features were identified in the excavation that are undated but of probable pre-modern date, all in fairly close proximity (but not necessarily related to) the possible Middle – Late Bronze Age ditch crossing the Site (**Figure 2**). These comprise two small, circular post-holes **[5066]** and **[5068]** to the south of ditch segment **[5231]**, two post-holes **[5196]** and **[5198]** close to the northern terminus of ditch segment **[5232]**, and a small pit **[5214]** adjacent to ditch segment **[5235]** near the eastern edge of the

Site. Pit [5214] contained a single sherd of Beaker pottery which may be residual in this context.

- 5.6.3 Also remaining undated is horseshoe-shaped enclosure [2607] / [2703], approximately 15m across and open to the north-east, recorded in evaluation trenches 26 and 27 but excluded from the excavation area (**Figure 1**). This enclosure lay within the right-angle formed by the junction of possible Middle – Late Bronze Age ditches [5232] and [5233], and may have been contemporary with them, but remains undated.
- 5.6.4 What was interpreted as a large pit [2517] was found in evaluation trench 25 but not further exposed in the excavation. This pit was c. 3.6m wide and at least 1m deep, and located a few metres to the east of the segmented ditch forming part of burial group [5225]. Pit [2517] is undated and whether it is an archaeological feature, and if so whether it was related to [5225], remains unknown.
- 5.6.5 Finally, what appears to have been a large but very slight, possibly sub-circular earthwork approximately 70m in diameter was noted during the evaluation. This lay towards the north-west corner of the Site but outside the footprint of the proposed development and was not, therefore, targeted for investigation in either the evaluation or excavation. The nature and date of this possible earthwork remain unknown, though it was barely visible at the time of the excavation and its existence as an archaeological feature is unproven.

5.7 Modern Features

- 5.7.1 Several, shallow communication cable trenches were noted during the machine stripping, but generally these barely penetrated the topsoil and have not been assigned context numbers.
- 5.7.2 Only two features have been assigned context numbers, both likely to have been cable trenches, one [5203] cutting the southern edge of 'Wessex Linear Ditch' [5234], the other [5210] in the south-east corner of the Site.
- 5.7.3 A few other MoD-related features were recorded in the evaluation, predominantly in the western part of the Site, and included cable trenches and possible fox-holes.

6 FINDS

6.1 Introduction

- 6.1.1 This section considers the finds recovered from the Site. Finds from the evaluation have already been reported on (Wessex Archaeology 2009), but summary information from this stage of work is incorporated here.
- 6.1.2 The assemblage largely relates to an Early Bronze Age funerary monument in which a sequence of burials (both inhumation and cremation) were made, some accompanied by grave goods. Finds including pottery, animal bone and worked and burnt flint were also recovered from other features across

the Site; datable material is focused on the prehistoric period, although there is also a small quantity of Romano-British material within the assemblage.

- 6.1.3 All finds have been quantified by material type within each context, and totals by material type are presented in **Table 1**. This section discusses the finds by material type; this information is based on an assessment of their potential to contribute to our understanding of the Site, and a statement of any proposed further analysis considered necessary to achieve this.

Table 1. Finds totals by material type

	EVALUATION		EXCAVATION		TOTAL	
Pottery	16	82	151	1903	167	1985
<i>Early Prehistoric</i>	2	13	125	1758	127	1771
<i>Late Prehistoric</i>	6	23	1	1	7	24
<i>Romano-British</i>	8	46	25	144	33	190
Burnt Flint	19	1154	10	245	29	1399
Worked Flint	6	494	209	3400	215	3894
Iron	1	15	-	-	1	15
Human Bone	-	-	8 inhum; 1 crem; 490 disartic.		8 inhum; 1 crem; 490 disartic.	
Animal Bone	34	299	115	699	149	998

6.2 Pottery

- 6.2.1 The primary dating evidence for the Site has been provided by the pottery. The assemblage includes two complete vessels, and one partially complete, all three deriving from grave contexts of Early Bronze Age date. The remainder of the assemblage consists of sherds of early prehistoric, late prehistoric and Romano-British date. The condition of these sherds is generally small and abraded; the distribution across the Site was at an extremely low level and, consequently, the use of the pottery to date various features and deposits must be treated with caution as they cannot necessarily be regarded as representing *in situ* deposits.

Neolithic

- 6.2.2 A single sherd of Middle/Late Neolithic date was identified from the evaluation, comprising the decorated rim of a Peterborough ware (probably Fengate-type) vessel, recovered from ploughsoil.

Early Bronze Age

- 6.2.3 The remains of a Beaker (8 sherds) were found in burial group [5225], associated with bone (5224). Part of the rim and body are represented; the vessel carries simple linear comb-tooth decoration. A ninth small sherd came from the backfill of grave [5169] in the same burial group, but is likely to be residual here. A further 12 Beaker sherds came from the backfill of 'empty' grave [5100], and appear to derive from at least two different vessels, both with comb-tooth decoration, while another decorated Beaker sherd from the backfill of inhumation grave [5116] is almost certainly residual here – the inhumation was accompanied by a complete Food Vessel (see below).

- 6.2.4 One other small Beaker sherd came from pit [5214], but could be residual in this context; and two more sherds were certainly residual in ditch [5233], occurring alongside Romano-British sherds.
- 6.2.5 Two complete small Food Vessels were found accompanying, respectively, neonate inhumation burials [5087] and [5116]. The vessel from [5087] is a simple bipartite form, with comb-tooth decoration in cross-hatched motifs over the upper two-thirds, with crudely executed chevrons on the lower third; this vessel could, alternatively, belong to the Collared Urn tradition. The vessel from [5116] has a wider, squatter profile with a series of pinched-up horizontal ridges and diagonal comb-tooth impressions.
- 6.2.6 In burial [5078] the cremated remains of an individual were contained in a Collared Urn, which had been inverted; the lower part of the vessel had subsequently been truncated and only the upper part survived. The vessel is tripartite, and carries an incised chevron pattern on the collar, and in a band around the lower carination.
- 6.2.7 All of the Beaker, Food Vessel and Collared Urn ceramics occurred in grog-tempered fabrics, with a varying degree of coarseness. Three further grog-tempered sherds carry no decoration and are otherwise undiagnostic; these have been dated as Early Bronze Age, although ceramic tradition is uncertain. All three were residual in later ditches [5021], [5233], [5234].

Late Prehistoric

- 6.2.8 Two sherds in a profusely flint-tempered but relatively well sorted fabric from a secondary fill of ditch [5232] are characteristic of the Deverel-Rimbury ceramic tradition of the Middle Bronze Age.
- 6.2.9 One small sherd with sparser, more poorly sorted flint inclusions, from topsoil in an evaluation trench, is probably Late Bronze Age, while another with fossil shell inclusions from ditch [5232] could be of the same date.
- 6.2.10 Three sherds in sandy fabrics recovered during the evaluation, are not particularly chronologically distinctive, but are probably later prehistoric, and have been tentatively dated as Iron Age (ditch [5234]).

Romano-British

- 6.2.11 The remaining 33 sherds are Romano-British. They comprise one sherd of imported samian, one of Oxfordshire colour coated ware, two of south-east Dorset Black Burnished ware (including one dropped flange bowl), and 29 of coarse greywares of unknown source(s). Although a very small group, the range of fabrics and forms suggests a date range spanning most of the Roman period, from at least the 2nd (possibly late 1st) century through to the late 3rd/4th century AD.
- 6.2.12 Romano-British sherds were found in the secondary and tertiary fills of ditches [5232], [5233] and [5234], and in ditches [5021], [5044] and [5210].

6.3 Worked Flint

- 6.3.1 A total of 222 pieces of worked flint were recovered, as in **Table 2**. Generally the flint is dark grey with a pale brown cortex. The source of the

material is doubtless local, obtained from the Upper Chalk during the digging of pits and ditches or during cultivation. Condition varies, but most pieces are heavily patinated, reflecting the situation on the Chalk. Most of the pieces are in good condition, with no evidence of extensive redeposition.

Table 2. Worked flint: composition of the assemblage

Flint Types	No.	% of assemblage
Retouched tools:		
Scrapers	2	0.90
Misc. retouched pieces	3	1.35
<i>Retouched tools sub-total</i>	<i>(5)</i>	<i>(2.25)</i>
Unretouched tools:		
Cobble pounders	1	0.45
Debitage:		
Flakes (incl. broken)	208	93.70
Blade(lets)	1	0.45
Cores / core fragments	2	0.90
Irregulardebitage	5	2.25
Chips		
Total	222	100.0%

6.3.2 Although predominantlydebitage, the technological characteristics of the assemblage suggest that most if not all of it dates to the Late Neolithic and/or Early Bronze Age. Flakes are predominantly large and broad, struck with hard hammers from multi-platformed cores showing a minimum of maintenance.

6.3.3 Although little confidence can be placed in such a small sample, the scrapers also conform to type – end scrapers on thin flakes with a flattened oval plan.

6.3.4 Most features contain between one and five pieces. Exceptions are ditches [5209] (58 pieces) and [5233] (132 pieces), both of likely Middle – Late Bronze Age (or later, in the case of the upper fills) date. However, the condition of the flint is not markedly worse than elsewhere, and the material in [5209] was very fresh.

6.4 Iron

6.4.1 A single iron object, a staple, was found during the evaluation (layer (1302)). It is undated, but is likely to be Romano-British or later.

6.5 Animal Bone

6.5.1 A total of 149 fragments (or 998g; **Table 1**) of animal bone was recovered from the Site. Once conjoins are taken into account this figure falls to just 109 fragments, of which only 18 fragments are from the Early Bronze Age funerary monument, while the rest are from Romano-British and undated contexts.

- 6.5.2 Bone preservation is generally quite poor; cortical surfaces are badly eroded and/or root etched and some fragments, notably those from Romano-British ditches, are in an abraded condition. It is likely that these fragments have been reworked from earlier deposits. The number of gnawed bones is extremely low however this evidence is likely to have been lost due to poor preservation.
- 6.5.3 The Early Bronze Age assemblage includes only five identifiable fragments, all of which belong to cattle and sheep. Identified bones include several loose teeth, a scapula blade and tibia shaft. The Roman-British assemblage is almost entirely from the uppermost fills of ditches and includes only eight identified fragments of cattle and sheep bone. Ten identified bones were recovered from undated contexts, mostly ditch fills but also a pit [2517]. The identified fragments all belong to cattle and sheep.

7 ENVIRONMENTAL

7.1 Introduction

- 7.1.1 No bulk or other environmental samples were taken on the advice of the relevant Wessex Archaeology archaeo-botanical and geo-archaeological specialists. The shallow depth of most of the archaeological features, the nature of the fills and the generally high level of bioturbation, as well as the general paucity of cultural material all indicated that the ecofacts would be sparse, often poorly preserved, and from contexts that could not be considered as secure in this respect. Furthermore, any information that might be gained would not add to an understanding of prehistoric use of the chalk downland in this area which has been the subject of considerable recent research (eg Allen 1997).

8 HUMAN BONE

8.1 Introduction

- 8.1.1 Human bone, cremated and unburnt, from 14 contexts was subject to assessment. The majority of the material derived from a group of Beaker/Early Bronze Age mortuary deposits [**Group 5225**] set within the c. 15m diameter area delineated by a segmented ditch situated in the south-west part of the Site (**Figure 3**). The deposits comprise the remains of six inhumation burials (one double) and redeposited unburnt bone from four associated contexts. Cremated remains from an urned cremation burial (inverted collared urn) were also subject to a rapid scan following excavation of the vessel fill by the writer. The remains of one other inhumation burial, probably of Middle-Late Bronze Age date, were recovered from a grave [5003] c. 240m to the north-east of the earlier mortuary complex. In addition, a single fragment of redeposited bone was recovered from the upper fill of ditch [5216], [Gp. 5235], probably also of Middle-Late Bronze Age date, on the north-east margins of the Site.

8.2 Methods

- 8.2.1 The fill of the burial urn was excavated by the writer in a series of five quadrant spits, each of 20mm depth, to enable the burial formation

process to be ascertained. A detailed written and photographic record was made at each spit level, and annotated scale drawings were made. The recovered samples were processed via wet-sieving to 1mm sieve fraction; the sorted >5mm residue from each sub-context was subject to a rapid scan and the smaller fraction residue were retained for scanning in analysis.

- 8.2.2 All the bone was subject to a rapid scan to assess the condition of the bone, demographic data, potential for indices recovery and the presence of pathological lesions. Any animal bone or non-osseous material was separated-out for assessment by the appropriate specialist. Assessments of age and sex were based on standard methodologies (Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000). Grading for preservation of the unburnt bone follows McKinley (2004a, fig 6).

8.3 Results

- 8.3.1 A summary of the results is presented in **Table 3** (at end of report).
- 8.3.2 Most of the graves had survived to a relatively substantial depth, with only two at less than 0.20m and none below 0.10m, and there is only one case where it seems likely that some bone may have been lost due to horizontal truncation. The body in the probable Middle-Late Bronze Age grave **[5003]** had been laid with the lower leg/feet and the head/shoulders angled up against the edges of the cut, as a consequence of which most of the skull had been disturbed and largely lost.
- 8.3.3 Although most of the graves formed discrete cuts, four located centrally within the confines of the segmented ditch were intercutting. Grave **[5169]** may represent the earliest cut (see below), in which only the remains of the head and shoulders were *in situ*. The rest of the skeleton appears to have been removed by the insertion of grave **[5171]** and subsequently grave **[5100]**. The latter also cut into the upper fills of grave **[5171]** but did not extend to the level of the human bone which lay redeposited (manipulated) across the base to a depth of 0.20m. No *in situ* remains were found in grave **[5100]**, the upper levels of which were cut through by **[5104]**, the last grave in the sequence. Grave **[5104]** did not extend deep enough to have disturbed any *in situ* remains within **[5100]**, which suggests that the latter either never held a complete corpse or that it was subject to later deliberate human manipulation in a similar fashion to its predecessor, grave **[5171]**. Cut **[5100]** contained the disarticulated remains of a minimum of three individuals, two adult females and an infant. At least some of the adult bone could have originally derived from the two underlying graves, having been deliberately removed, curated and replaced in the later mortuary deposit. The infant bone could also have originated from either of the underlying features via a similar mechanism of deliberate human manipulation, though the absence of any immature bone from the fills of either of the earlier graves may indicate that **[5100]** was originally the grave of this individual.
- 8.3.4 The unburnt bone is generally in fairly good condition, with some slight surface erosion. A few elements from some graves are more heavily eroded (generally the upper side of the skull), and the few bones from one of the two adult females redeposited in grave **[5100]** are substantially more abraded than the rest of the bone suggesting they have been subject to

repeated episodes of manipulation. Crania are occasionally slightly warped due to the pressure of the grave fills (inclusive of chalk lumps), and many are heavily fragmented. Skeletal recovery is, however, generally good even for the immature individuals. The cremated bone is in excellent condition and includes a high proportion of trabecular bone (generally subject to preferential loss in an aggressive burial environment).

- 8.3.5 A minimum of 11 individuals is represented; one cremated and ten unburnt. The assemblage from mortuary group **[5225]** comprises seven immature individuals (two neonates, four infants of less than 2 years of age, and one subadult female) and two adult females of less than 40 years of age. The probable Middle-Late Bronze Age singleton **[5003]** represents the only male within the assemblage. The redeposited fragment of femur from ditch **[5126]** represents an unduplicated skeletal element which could have derived from one of the adults within the mortuary group **[5225]**, but given the likely later date of the ditch, distance from the mortuary group (nearly 400m) and condition of the bone it is more likely to represent the remains of another individual.
- 8.3.6 Pathological lesions were observed in the remains of a minimum of six individuals, including two of the infants. Two of the adults have relatively minor dental lesions which may provide insights into the nature of their diet. One of the adult females shows evidence of have suffered a fall on the right elbow, an injury which may have been sustained at the same time as what appears to be a compression fracture in one of the lumbar vertebrae; the latter, at least, suggests a heavy fall onto the feet or buttocks. One of the neonates has slight lesions in the orbital vaults suggestive of a case of scurvy (Vitamin C deficiency; Roberts and Cox 2003, 104). Since the dietary needs of the infant would have derived from its mother's milk, the condition, if correctly diagnosed, suggests a nutritional deficiency in the mother. One other neonate has slight but extensive periosteal new bone indicative of a systemic non-specific infection which probably caused the baby's death. There are also some indications that there may have been infection within the bone (osteomyelitis).
- 8.3.7 The quantity of bone included in the cremation burial **[5079]** is relatively high given the young age of the individual, demonstrating both good bone survival and that a substantial proportion of the cremation remains were collected for inclusion in the burial. Much of the bone is black or blue/grey in colour indicative of poor levels of oxidation; the most probable cause is a lack of time for complete oxidation to occur due either to insufficient fuel being used to construct the pyre or adverse weather conditions (i.e. rain). The detailed excavation of the vessel suggest that either the bone was initially placed in a bag before being put in the urn or that the fill originally included a similar amount of incompletely oxidised soft tissue which subsequently disintegrated.

9 STATEMENT OF POTENTIAL

9.1 Archaeological Deposits

- 9.1.1 The excavation revealed a moderate number of features, relating predominantly to two main phases of activity – the Early Bronze Age and

probably the Middle – Late Bronze Age (though possibly extending into the Iron Age or even as late as the Romano-British period; this is likely to be clarified through radiocarbon dating). The nature of the activity on the Site changed between the Early Bronze Age and the Late Bronze Age. During the Early Bronze Age a funerary monument was established comprising a complex sequence of burials enclosed within a probably slightly later segmented ring-ditch. In the Middle – Late Bronze Age (and possibly later) the emphasis was different, and there is evidence for the partitioning of the landscape through land divisions marked by probably two or more phases of ditches.

- 9.1.2 The excavation has achieved the basic aims identified in the Written Scheme of Investigation in that it has defined the nature, extent, character and chronology of the prehistoric activity within the areas of excavation, and has shown that the layout and density of the features closely matches the results from the geophysical survey. It has also shown that other than some truncation as a result of former ploughing, there has been very little impact to sub-surface horizons and buried archaeological deposits survive extensively within the area.
- 9.1.3 The Site can be examined against the known background for the immediate area and also has the potential to contribute to broader regional research agendas that have been identified in the South West Archaeological Research Framework (SWARF, Webster 2008). In particular, the chronology of burial in the Early Bronze Age, and the placement and grouping of barrows, whilst in the Middle - Late Bronze Age the process of formal land division can be further examined.

Early Bronze Age

- 9.1.4 The Early Bronze Age saw changes to burial practices, with both cremation and inhumation taking place, variously associated with a new and diverse range of pottery including Late Beakers, Food Vessels and Collared Urns. Both burial rites and all of these types of pottery vessel are present in the one burial group at Porton. There is also clear evidence of a substantial timber grave structure associated with what may have been the second burial in the group, and the digging of a circular, segmented ditch provided material for a mound that was erected later in the sequence. Such a group of diverse Early Bronze Age burials is a relatively rare occurrence, though Salisbury Plain and the surrounding area have some notable examples. Burials in timber chambers or large central graves include Amesbury G15 (Lawson 2007, 231), G51 (Ashbee 1978) and, particularly, G71 (Christie 1967), Wilsford G2b (Field 1961; Lawson 2007, 153) and Shrewton G5k (Green and Rollo-Smith 1984). Other complex sequences have been recorded at, for example, West Overton 6b (Smith and Simpson 1966), Durrington 7 (Richards 1990), Wilsford G1 (Field 1961; Lawson 2007, 153) and Wilsford G52 (Smith 1991).
- 9.1.5 There is an unusually extended Early Bronze Age chronology to the burial group, with evidence for episodes of re-visiting and re-use over a period of possibly as long as 500 years. Radiocarbon dating of the various burial events will enable the sequence to be further refined, and also provide dates for a diversity of broadly contemporary traditions of funerary practice (Sheridan 2008, 57-63). As a result, the use of the monument will be better

understood in terms of the history of its use and how it may have been perceived by a succession of people who used it for the burial of selected members of their group or groups (eg Last 1998).

- 9.1.6 The meticulous excavation will allow a rare opportunity to examine in detail the treatment of bone and bodies, in particular the disarticulated bone and associated Beaker within the early timber grave structure. Comparable examples of disarticulated bone groups can be cited from Radley, Oxfordshire (Barclay and Halpin 1999) and Crichel Down, Dorset (Piggott and Piggott 1944) but, as Lawson (2007, 156) has remarked, '... only where they [barrow sequences] have been carefully excavated can interesting conclusions be drawn'. The group is also likely to provide further information on how burial practices changed from the multiple inhumations of the Late Neolithic to the individual inhumations of the Early Bronze Age via complete, incomplete, articulated, disarticulated, inhumations and cremations within the intervening and overlapping 'Beaker' or Chalcolithic period (Gibson 2007).
- 9.1.7 Proposed isotope analysis has the potential to provide information on the origin of the people buried in this one place (Sheridan 2008, 63-7), while any future aDNA analysis may indicate whether any of the individuals were related.
- 9.1.8 The absence of grave-goods other than the pottery vessels means that none of the burials can be regarded as 'rich', and so there is little potential for analysing the burials in terms of their associated material culture. Nevertheless, the presence of pots (including Beakers, Food Vessels and a Collared Urn) in some graves and not others does offer some scope for examining this aspect of the burials. It can be noted here that in 2000 only ten graves accompanied by Food Vessels were known in the Stonehenge landscape (Exon *et al.* 2000).
- 9.1.9 The mound that was erected over the central graves was on a slight false crest, and there will be the opportunity to understand the monument in terms of the surrounding topography and also in terms of the disposition of other, presumably later, known Bronze Age barrows in the vicinity (Pollard and Healy 2008, 79).

Middle - Late Bronze Age

- 9.1.10 The two principal ditches assigned to this broad period are likely to represent different phases of land division related to pastoral agriculture and, in particular, a greater emphasis on cattle rearing. It is currently suggested that the smaller ditch is of Middle – Late Bronze Age date, while the larger 'Wessex Linear Ditch' has been assigned to the Late Bronze Age. Both ditches can be related to the wider pattern of complex ditch systems on Porton Down and the surrounding area, though the precise dates of these systems are uncertain (Ride 2006, 92-4). Suggested ranges span various periods between c. 1500 – c. 600 BC and it seems likely that the earliest of these systems was in place by the beginning of the first millennium BC (Ride 2006, 99-101. See also Bradley *et al.* 1994; McComish *et al.* 2002).
- 9.1.11 There was no evidence for contemporary Bronze Age settlement in the vicinity, though a single probably associated burial was excavated adjacent

to one of the ditch terminals. The significance of the small quantity of Romano-British pottery (spanning possibly the late 1st to the late 3rd / 4th centuries) in the upper ditch fills is uncertain, and no settlement of this period is known in the immediately surrounding area.

9.2 Finds

9.2.1 Of most interest within this small finds assemblage are the ceramic grave goods (four vessels) from within Early Bronze Age burial group [5225]. There is the potential here to investigate a sequence of inhumation and cremation burials, with their associated burial rites. Further analysis of the ceramics will help to establish their closest affinities and, combined with radiocarbon dating, may enable refinement of this sequence.

9.2.2 Finds from other features, comprising small quantities of pottery, worked flint and animal bone, has limited further potential. The pottery has provided dating evidence, although the limitations of this have been discussed. The worked flint cannot be closely dated and includes few tools. The faunal assemblage is too small and poorly preserved to merit further more detailed work.

9.3 Human Bone

9.3.1 Full analysis will provide more detailed demographic data with regard to the number, age and sex of individuals. With limited reconstruction some metric data can be recovered for most individuals, and it should be possible to calculate most of the major skeletal indices for the adults. A study of the pathological lesions will enable a broad assessment of the health status of individuals.

9.3.2 The full nature and formation process of some of the unburnt bone deposits within the mortuary group [5225] is currently ambiguous. Analysis of the bone in corroboration with the detailed site records should help clarify the mortuary rites being undertaken.

9.3.3 The demographic make-up of the small mortuary group is of particular interest. The mortuary treatment of adult females in this Early Bronze Age/Beaker period is not as well understood as that of their male counterparts. It would be of great value to identify as closely as possible the temporal proximity of this group to the numerous 'Beaker' burials, predominantly of males, in the wider vicinity. A similar demographic group has recently been excavated from a barrow location at Boscombe Down, Wiltshire (McKinley in prep.), and analysis of the data from Porton in the light of that from such contemporaneous groups may help illustrate the reasoning behind the choice of location for the burial of adult females and young children in the Early Bronze Age, and possibly the role of the dead within the landscape, community and wider society.

9.3.4 The bone from the cremation-related contexts is in good condition and will provide good quality data for all areas of analysis. This data, used in corroboration with the site data, should provide further inform on aspects of the mortuary rite. The form of the cremation-related deposits will be considered in their regional and national contexts.

9.4 Radiocarbon Dating

- 9.4.1 Several of the individuals within burial group [5225], and also that in grave [5205], lack associated dating evidence. Radiocarbon dating of selected individuals offers the opportunity to clarify the sequence and chronological span of the burial group (including associated ceramic vessels), as well as helping to confirm the overall site sequence.

10 PROPOSALS

10.1 Archaeological Deposits

- 10.1.1 The known archaeology of the area will be re-examined by reviewing published reports and available grey literature. This will contribute towards the discussion of the Site within its wider landscape and its relationship to nearby sites, in particular other Early Bronze Age burial monuments and later Bronze Age land divisions.

- 10.1.2 Once the further post-excavation and stratigraphic analysis and radiocarbon dating is completed, revisions will be made as required to the phasing. The publication text will be written and will integrate the key results of the proposed specialist work. Illustrations (comprising figures and plates) will be prepared to accompany the report. The results will be discussed in their local and regional context.

- 10.1.3 For the earlier Bronze Age, the focus will be on clarifying the precise sequence of interments within the burial group. This will then be related to the overall span of development and use of the monument and understanding how the nature of this use may have changed over time, possibly several centuries.

- 10.1.4 For the later Bronze Age, the focus will be on clarifying the sequence of land boundaries and placing these within the wider pattern of land division known from Porton Down and the wider landscape.

10.2 Finds

- 10.2.1 The early prehistoric pottery will be analysed following the standard Wessex Archaeology recording system for pottery (Morris 1994), which concurs with nationally recommended guidelines (PCRG 1997), and which is based on the definition of fabrics and forms. The pottery will be described and discussed in relation to ceramic tradition, with any chronological implications (including information from radiocarbon dating). The vessels occurring as grave goods (one Beaker, two Food Vessels and one Collared Urn) will be illustrated, as well as the Peterborough ware rim sherd and a maximum of six further Beaker sherds.

10.3 Human Bone

- 10.3.1 Analysis of the cremated bone will follow the writer's standard procedure (McKinley 1994, 5-6; 2004b). All unsorted <4mm residues will be subject to a rapid scan at this stage to extract any identifiable material, osseous or artefactual.

- 10.3.2 Taphonomic factors potentially affecting differential bone preservation will be assessed. The minimum number of unburnt individuals will be assessed following McKinley 2004a. The age of individuals will be assessed using standard methodologies (Brothwell 1972; Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000). Sex will be ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994). Where possible a standard suite of measurement will be taken (Brothwell and Zakrzewski 2004) and non-metric traits recorded (Berry and Berry 1967; Finnegan 1978), and skeletal indices calculated (Bass 1987; Trotter and Gleser 1952; 1958).
- 10.3.3 Pathological lesions have been recorded in text and via digital photography. X-radiography will be required in at least two cases to aid diagnosis, and several lesions are likely to warrant photographing for publication purposes.
- 10.3.4 Strontium/Oxygen (Sr/O) isotope analysis of tooth enamel, the data from which has successfully been used to identify the area of origin of individuals, is increasingly being employed to further our understanding of population movement and social interaction. A growing body of such data has been recovered from skeletal material of Early Bronze Age date from this area (e.g. Fitzpatrick 2011; Powell and Barclay in prep.). It would be advantageous if appropriate tooth samples from the three females and the male adult could be submitted for such analysis.

10.4 Radiocarbon Dating

- 10.4.1 It is recommended that bone samples from the infant from the urned cremation burial and each of the three unburnt subadult/adult individuals in burial group **[5225]** are submitted for radiocarbon dating. This will provide a tighter date range enabling the formation of the mortuary group itself to be better appreciated and allow the data to be fixed more closely in its wider regional context.
- 10.4.2 It is also recommended that a bone sample from the adult in grave **[5003]** is submitted for radiocarbon dating. This will not only date the burial but probably, by association, the adjacent ditch of suspected Middle – Late Bronze Age date.

11 PUBLICATION AND PROGRAMME

11.1 Report Structure

- 11.1.1 Once the post-excavation assessment report has been approved the programme for further analysis and likely publication timetable will be confirmed.
- 11.1.2 It is anticipated that the report will most likely be submitted to the regional journal, *Wiltshire Archaeological and Natural History Magazine*, and a draft synopsis is presented below.

Table 4. Draft publication synopsis

Section	Contents	Words	Figs / plates	Tables
Introduction				
	Project and archaeological background, location, topography and geology	800	1/-	
Site description				
	EBA barrow	2000	2/4	
	M-LBA land divisions	1000	1/1	
Finds				
	Pottery	500	2/-	
	Summary of other finds	100		
Human bone				
	Description and discussion of material	2000	-/1	1
Radiocarbon dating				
	Description and discussion of results	250	1/-	1
Discussion				
	Chronology and form of the EBA barrow	600		
	The burial sequence and wider connections	500		
	The later prehistoric landscape	500		
Acknowledgements		250		
Bibliography		1000		
TOTAL		9500 words	7 figs / 6 pls	2

11.1.3 It is envisaged that the report will be in the region of 20 - 25 pages in length.

11.2 Management Structure

11.2.1 Wessex Archaeology operates a project management system. The team will be headed by the Project Manager, in this instance Sue Farr, who will assume ultimate responsibility for the implementation and execution of the project specification as above, and the achievement of performance targets, be they academic, budgetary, or scheduled.

11.2.2 The Post-Excavation Manager (Phil Andrews) may delegate specific aspects of the project to other key staff who both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external specialists who are contributing to the publication report, and the museum named as the recipient of the project archive. The Post-Excavation Manager will have a major input into how the publication report is written and will define and control the scope and form of the post-excavation programme.

11.3 Performance Monitoring and Quality Standards

11.3.1 The Post-Excavation Manager will be assisted by the Reports Manager (Julie Gardiner), who will help to ensure that the report meets internal quality standards as defined in Wessex Archaeology's guidelines. The overall progress will be monitored internally by the Head of Section (Nick Truckle).

11.4 Designated Project Team

11.4.1 The team consists primarily of internal Wessex Archaeology staff. **Table 5** summarises the WA staff and external specialists that are scheduled to undertake the work as outlined in the task list (**Table 6**).

11.5 Personnel

11.5.1 It is currently proposed that the following Wessex Archaeology core staff will be involved in the programme of post-excavation analyses:

Table 5. Project Team

Fieldwork Project Manager	Sue Farr BA, MIFA
Post-excavation Manager	Phil Andrews BSc, FSA, MIFA
Senior Manager (publications)	Julie Gardiner BA PhD, FSA MIFA
Senior Project Officer (human bone)	Jacqueline I. McKinley BTech, FSA, MIFA
Senior Project Officer (prehistoric pottery)	Matt Leivers BA PhD, AIFA
Senior Project Officer (radiocarbon dating)	Alistair Barclay BA, PhD, FSA, MIFA
Senior Illustrator	Liz James BA, MAAIS
Archive Officer	Helen MacIntyre BSc, HND

12 TASK LIST, RESOURCES AND PROGRAMME

12.1 Task List and Resources

12.1.1 The tasks necessary to complete the proposed programme of post-excavation analyses and publication are summarised below.

Task No	Task	Grade	Name
Management			
1	Management & consultation	PM	S Farr
Stratigraphic analysis			
2	Check and enhance phasing	PM	P Andrews
3	Update database & digital plans	PM	P Andrews
4	Site narrative	PM	P Andrews
5	Figures for publication	DO	Illustrator
Finds			
6	Pottery analysis and report writing	SPO	M Leivers
7	Summary of other finds (fired clay, stone etc)	PO	TBC
8	Finds illustration	DO	Illustrator
Human bone			
9	Analysis and report writing	SPO	J. McKinley
Radiocarbon			
10	Selection of radiocarbon samples, submission forms, calibration and results	SPM	A Barclay
11	Radiocarbon dating – 5 samples @ £295 per date	Ext	SUERC
12	Isotope analysis – 2 samples @ £300 per date	Ext	XX
Report			
13	Assemble report, introduction, background, captions, bibliography	PM	P Andrews
14	Write discussion	PM	P Andrews
15	Review and QA report	SPM	J Gardiner
16	Editors corrections	All	All
17	Proofs check	All	All
18	Publication grant	Ext	Ext
Archive			
19	Archive preparation	PO	H MacIntyre
20	Microfilm jobsheets and checking	PA	TBA
21	Microfilm paper records	Marathon	Ext
22	Archive deposition + car hire and fuel	PO	H MacIntyre
23	Box storage grant		Ext

13 STORAGE AND CURATION

13.1 Museum

13.1.1 It is recommended that the project archive resulting from the excavation be deposited with Wiltshire Heritage Museum, Devizes. Devizes Museum has agreed in principle to accept the project archive on completion of the project. Deposition of the finds with the Museum will only be carried out with the full agreement of the landowner.

13.1.2 Details of the Site will also be submitted online to the OASIS (Online Access to the Index of Archaeological Investigations) database.

13.2 Preparation and Contents of Archive

13.2.1 The complete site archive, which will include paper records, photographic records, graphics, artefacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Devizes Museum, and in general following nationally recommended guidelines (Walker 1990; SMA 1995; Richards and Robinson 2000; Brown 2007).

13.2.2 All archive elements (including those from the evaluation) are marked with the site code (**72830/72832**), and a full index will be prepared. The project archive is currently held at the offices of Wessex Archaeology. It is recommended that it is deposited with the Wiltshire County Museum, Devizes at a future date.

13.2.3 The archive comprises :

- 8 Context Register Sheets
- 234 Context Sheets
- 2 Continuation Sheets
- 4 Graphic Register Sheets
- 38 A4 Drawings
- 29 A3 Drawings
- 3 A1 Drawings
- 20 Survey Sheets
- 12 Digital Photographic Records
- 14 Manual Photographic Records
- 652 Digital Photographs
- 204 Colour Transparencies and 204 B&W Prints
- 4+ Pages Photocopies of day book
- 10 Object Registers (217 objects, mainly human bone)
- 11 cardboard boxes or airtight plastic boxes of artefacts, ordered by material type

13.3 Security Copy

13.3.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National

Archaeological Record (English Heritage), a second diazo copy will be deposited with the paper records, and a third diazo copy will be retained by Wessex Archaeology. Alternatively, the security copy may be prepared in electronic form (PDF file).

13.4 Conservation

- 13.4.1 No immediate conservation requirements were noted in the field. However, finds which were subsequently identified as of unstable condition and therefore potentially in need of conservation treatment comprise some of the prehistoric pottery, in particular the two Food Vessels from graves [5087] and [5116]. These vessels have been consolidated as part of the assessment programme.

13.5 Discard Policy

- 13.5.1 Wessex Archaeology follows the guidelines set out in *Selection, Retention and Dispersal* (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. In this instance, burnt, unworked flint has already been discarded (and this process is recorded in the project database), and no further discard is anticipated.

13.6 Copyright

- 13.6.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms with the Copyright and Related Rights regulations 2003.
- 13.6.2 This report, and the archive generally, may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

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APPENDIX 1: HUMAN BONE

Table 3. Summary of results from scan of human bone

context	cut	deposit type	quantification	age/sex	pathology	comment
Unburnt bone						
5002	5003 (0.20m)	inh. burial	c. 78%	adult c. 35-45 yr. ?male	osteophytes - L; enthesophytes – left patella; morphological variation – joined ribs	2-3; mostly fresh breaks some reconstruction required; post-cranial indices (most skull missing); ?intrusive tooth (very worn teeth if from this skeleton); hand bone with left foot; Bag 'disarticulated bone' from evaluation suggests upper end of grave was trashed at that stage but need to check records – possibly some earlier disturbance
5089	5087 (0.11m)	inh. burial	c. 55%	neonate c. 1-4 weeks		3-4; no complete bones; intrusive adult finger phalanx from 'cleaning'
5105	5104 (0.340m)	inh. burial	c. 68%	infant 1.5-2 yr. ?female (pelvis)	?scurvy	3, heavily fragmented, axial skeleton best preserved
5107	5110	R	6 frags. a.u.			= 5108
5108	5110 (0.22m)	inh. burial	c. 94%	subadult c. 17-18 yr. female	dental caries	1-2 except left side skull 3-4; heavily fragmented should reconstruct, most main indices; some immature bone amongst 'displaced' (= 5109) + intrusive very worn adult bone
5109	5110	inh. burial (double)	c. 70%	neonate c. 3-6 mth.	?periosteal new bone /osteomyelitis	2-3; skull heavily fragmented, no complete bones; need x-ray man/max
5117	5116 (0.32m)	inh. burial	c. 70%	infant c. 6-9 mth.		2-3; vertebrae & hand bones with 'lower limb' – suspect actually 'upper limb'! 'Mandible' inc. max. & pelvis
5130	5100 (0.60m)	R	1) 4 frags. s.a.l. 2 & 3) c. 50 elements/frags.	1) infant 1-1.5 yr. 2 & 3) adults c. 25-40 yr. females	osteophytes - T	1-3 2-4 (bone one adult abraded); many complete/almost complete bones; some non-cranial indices; old breaks to semi-green bone (innominates); MNI 2 adults (femur & left innominate duplicated c. 30% of one % 5% of other). All recorded as 3D ONs

5172	5171	R	a.u.l.					4 (abraded)
5218	5216	R	c. 3% I. 1 frag. femur		adult >18 yr. adult >20 yr.			2: longitudinal cracking
5223	5169 (0.30m)	inh. burial	c. 23% s.a.u.		adult c. 20-30 yr. female		dental calculus & caries; apical abscess; periodontal disease	2-4 (left skull worst); skull heavily fragmented, may reconstruct but warped; 'scapula' inc. tarsal bone; cut by 5100
5224	5171 (0.95m)	R	c. 79%		adult c. 25-30 yr female		?trauma – right proximal ulna, L; destructive lesion - L; osteophytes – rib facet, T & L bsm	1-2; teeth only from skull; fresh breaks, some reconstruction, most main indices; need x-rays; dark staining anterior left ribs; 2 fragments heavily eroded bone ?human
Cremated bone								
5079 (inc. 5080)	5078 (0.16m)	urned burial	198.8g		infant c. 1.5-2 yr.			excavated in quadrants & spits; variable oxidation black-white & shades between. Common trabecular bone.

KEY: inh. - inhumation; R - redeposited; s.a.u.l. - skull/axial skeleton/upper limb/lower limb (area of skeleton represented where not all recovered); T/L - thoracic/lumbar vertebra

APPENDIX 2: OASIS RECORD FORM
14.1 Replacement Magazine Storage Facility, Porton Down, Wiltshire - Wessex Archaeology
OASIS ID - wessexar1-119099
Versions

View	Version	Completed by	Email	Date
View 1	1	Sue Farr	s.farr@wessexarch.co.uk	10 February 2012

Completed sections in current version

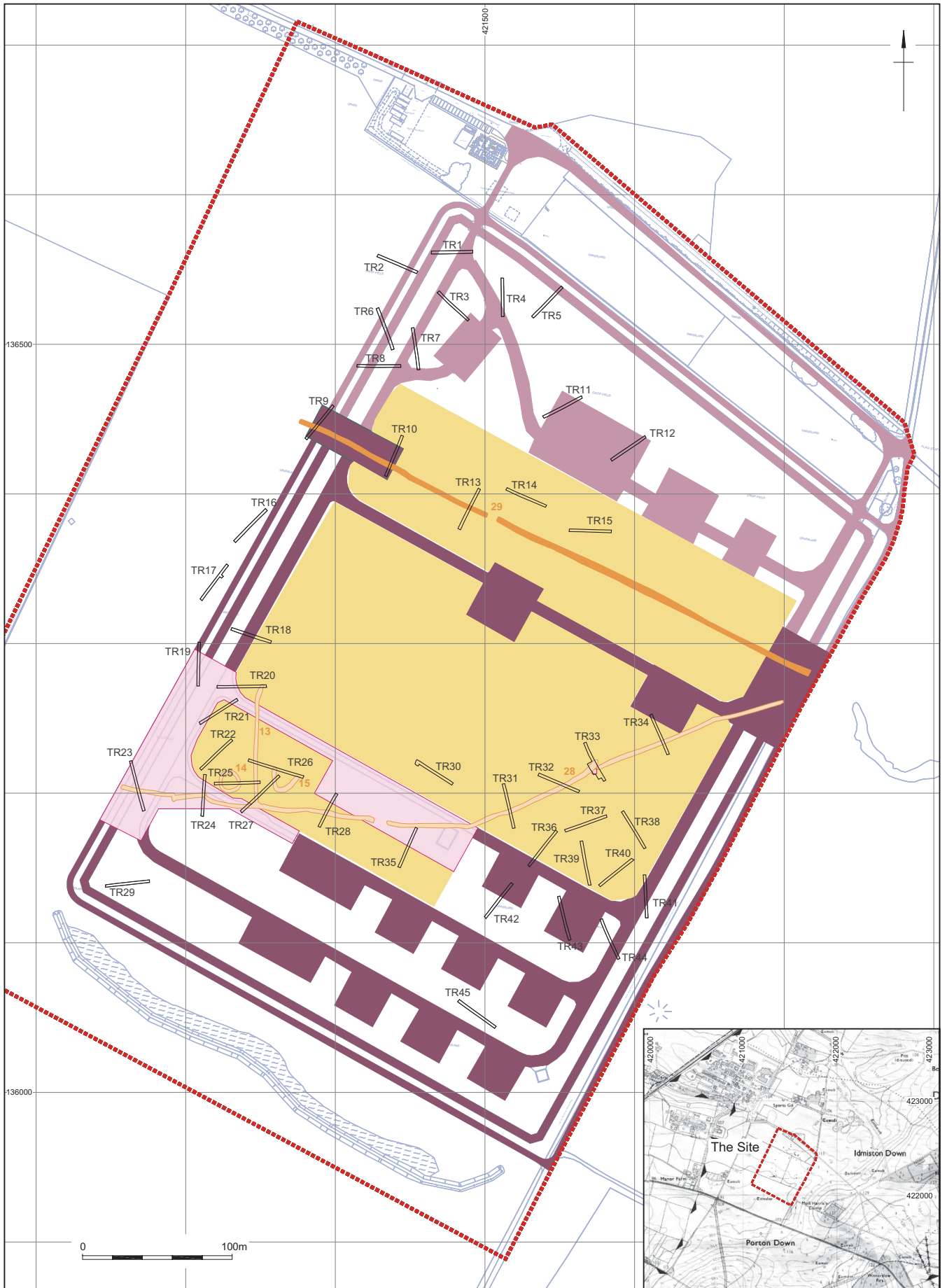
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Validated sections in current version

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File submission and form progress

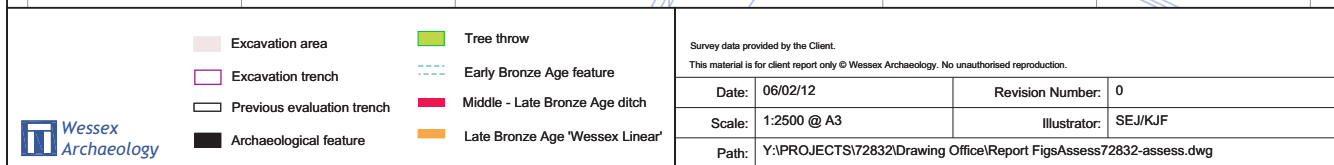
Grey literature report submitted?	No	Grey literature report filename/s
Images submitted?	No	Image filename/s
Boundary file submitted?	No	Boundary filename
HER signed off?		NMR signed off?



	<ul style="list-style-type: none"> - - - - The Site — Proposed development No ground works - preservation <i>in situ</i> Proposed excavation area Proposed area of strip and map North Proposed area of strip and map South Previous evaluation trench Positive linear anomaly - cut feature of archaeological potential Positive linear anomaly - possible ditch feature 	<p>Reproduced from the 2007 Ordnance Survey 1:25000 Explorer® map with the permission of the controller of Her Majesty's Stationery Office © Crown copyright, Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB. Licence Number: 100028190. Survey data provided by the Client. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>
	<p>Date: 14/12/11</p> <p>Scale: 1:40000 & 1:2500 @ A3</p> <p>Path: Y:\PROJECTS\72832\Drawing Office\Report FigsAssess\72832-assess.dwg</p>	<p>Revision Number: 0</p> <p>Illustrator: KL/SEJ</p>

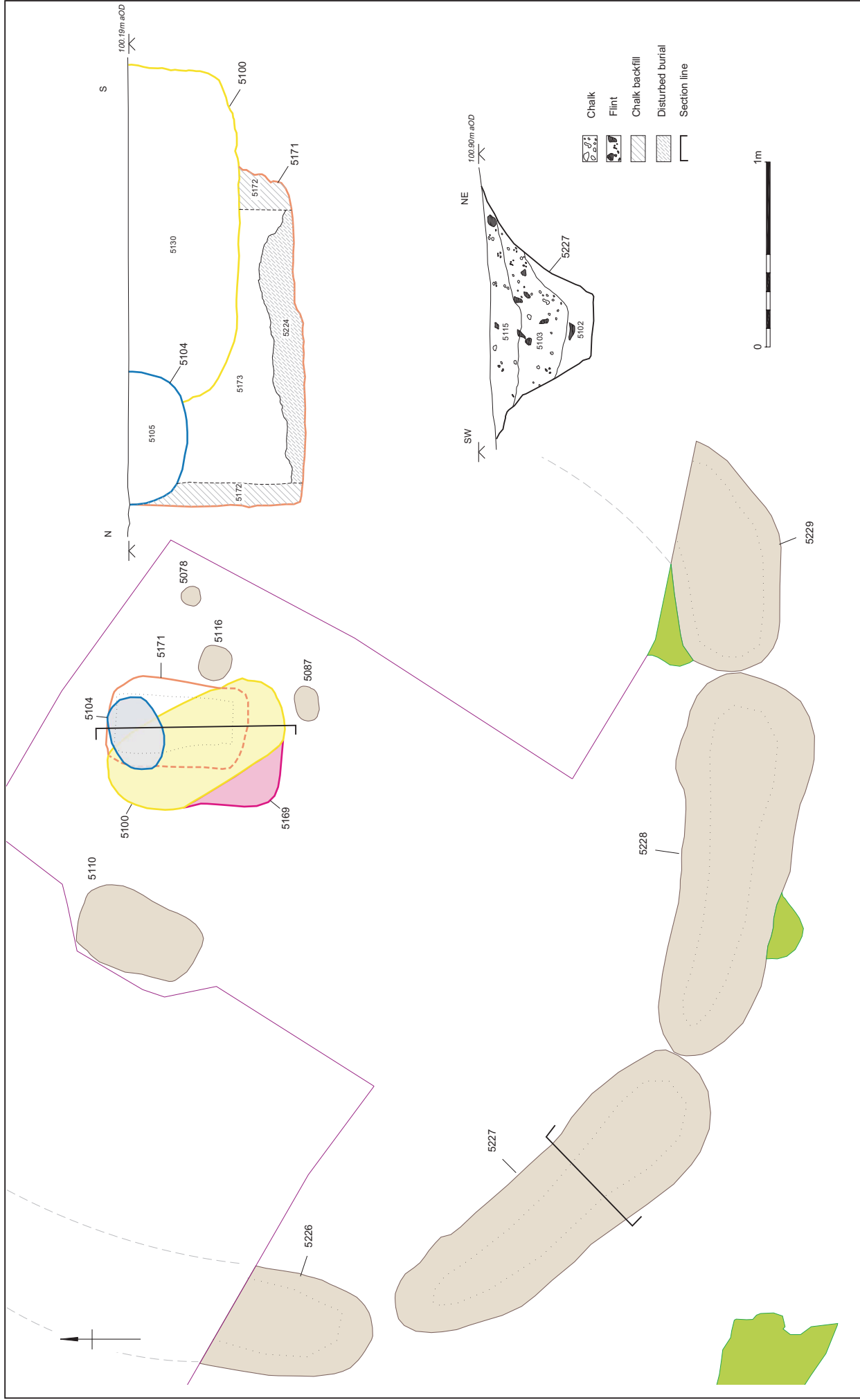
Site plan showing proposed excavation areas, evaluation trenches and geophysical survey, against background of proposed development

Figure 1



Actual excavation and strip & map areas, evaluation trenches and geophysical survey, showing principal archaeological features

Figure 2

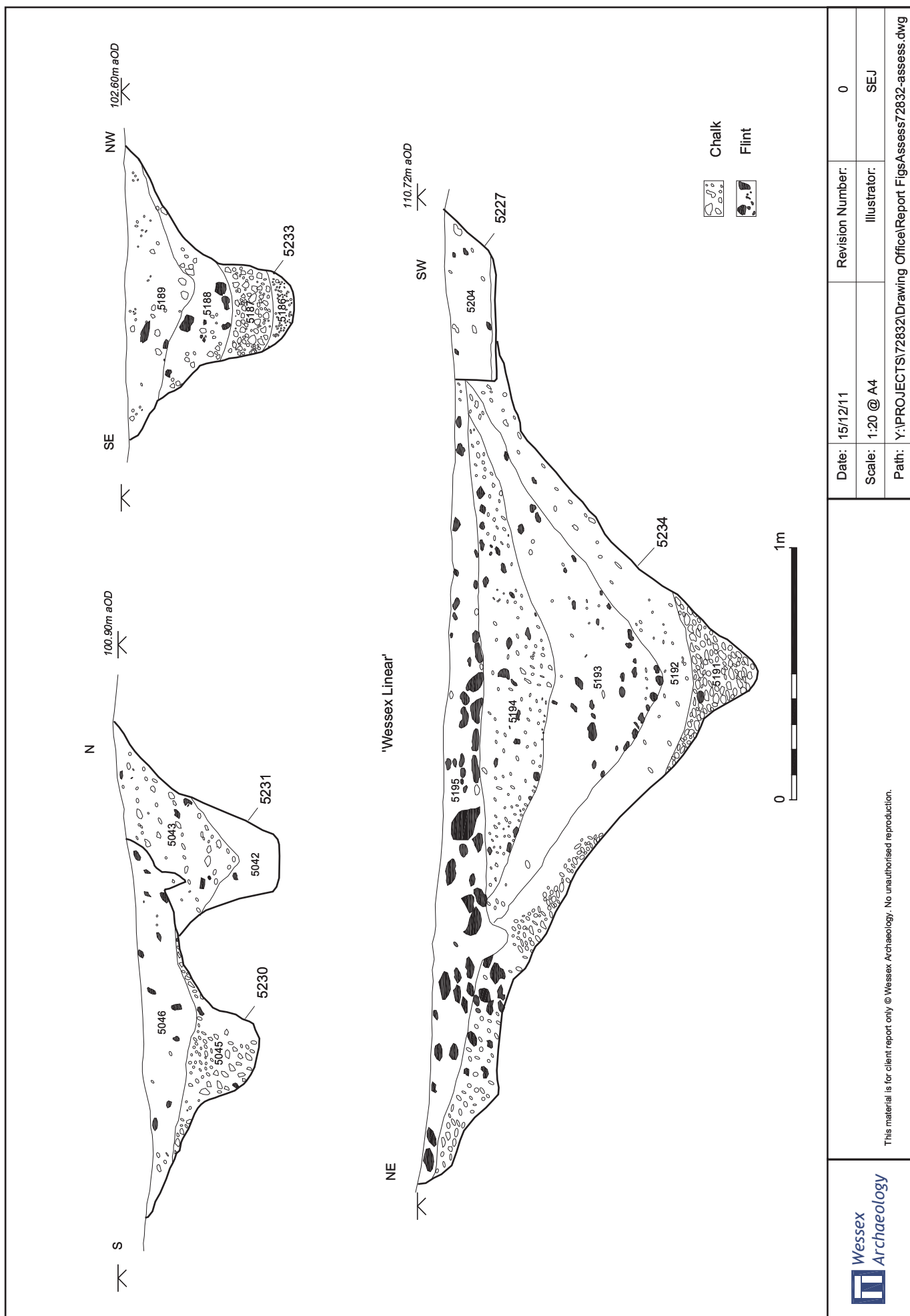


Archaeological feature
Tree throw



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Scale:	Plans=1:50, sections= 1:20 @ A3	Illustrator:	SEJ
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	Scale: 1:20 @ A4	Illustrator: SEJ
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Representative ditch sections Figure 4



Plate 1: Bronze Age burial group [5225], prior to excavation (scales = 2m; from north-west)



Plate 2: Bronze Age burial group [5225]; Central grave [5171], showing disarticulated bone [5224] being exposed. Note chalk rubble backfill (beneath right 'foot') and 'gap' between this and bone, indicating location of sides of timber chamber (from north)



Plate 3: Bronze Age burial group [5225]; Central grave [5171], with disarticulated bone [5224] fully exposed. Grave [5169] (with skull etc) lower left and remains of 'empty grave' [5100] upper left, with grave [5116] lower right (scale = 1m; from south)



Plate 4: Bronze Age burial group [5225]; Grave [5110] (scale = 1m; from north)



Plate 5: Bronze Age burial group [5225]; Grave [5087], with Food Vessel (from south-east; scale = 0.2m)



Plate 6: Bronze Age burial group [5225], following completion of excavation (from north-west)


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	Plates 1 to 6		



Plate 7: Later prehistoric ditch [5231/2/3], with entrance in foreground; Early Bronze Age segmented ditch [5226/7/8/9] to left (from west)



Plate 8: Later prehistoric burial [5003], with flint nodules from capping in foreground; south-west terminus of ditch [5235] in background (from west; scale = 1m)



Plate 9: 'Wessex Linear Ditch' [5234] (from west; scale = 2m)

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