

**ROECLIFFE LANE, BOROUGHBRIDGE,
NORTH YORKSHIRE
ARCHAEOLOGICAL EVALUATION REPORT**

SUMMARY

A series of ten trial trenches were excavated as part of a process of archaeological investigation to determine the extent, depth, quantity and quality of archaeological remains within a site adjacent to the Devils' Arrows standing stones, to the south of Roecliffe Lane, Boroughbridge, North Yorkshire. Geophysical survey had identified a number of linear features within the site, together with some less distinct anomalies that may also have been archaeological. The trenches were located so as to test the geophysical survey results and to sample a proportion of the archaeological features identified.

With the possible exception of a possible palisade, the evaluation produced no evidence of features which could be related either by date or form to the late Neolithic/Early Bronze Age, and which might therefore have been related to or associated with the Devils' Arrows standing stones. The features identified appear to be comparable in date to the Iron Age and Roman remains identified in the course of the recent A1 widening at Boroughbridge.

The evaluation demonstrated that the geophysical survey provided a good, but not full, indication of the extent of archaeological features within the site. It demonstrated that features are concentrated towards the northern end of the field and decrease significantly towards the southern area. It confirmed the presence of a number of linear ditch features, likely to represent relict field systems, concentrated in the northern part of the field only. A possible enclosure ditch was also identified in the north-west corner of the site. Although no firm interpretation could be drawn from the limited number of features spatially associated with I, the enclosure was post-dated by a small rectangular post-built feature, which had been burnt in situ. At least two other post-built structures appeared to be present; one of these was a concentration of post-holes in the north-east part of the site, the other was a possible 'palisade' located in the south-west corner of the site.

Only a small assemblage of finds was recovered from the features sampled by the evaluation. The most diagnostic material comprised a small assemblage of pottery, dating to the Iron Age/1st Millennium B.C., which was associated with the enclosure ditch and several adjacent, but discrete features. Samples from the field system ditches and the two northern post-built structures produced suites of carbonised cereals and the presence amongst these of rye and cultivated oats may suggest that these features are Roman or post-Roman in date. Fragments of cremated human bone were recovered from a single pit, but were not associated with other finds and can be dated only by radiocarbon assay.

There was extensive evidence of severe plough truncation of archaeological features in the northern half of the site. A large number of the linear ditches, which are likely to have been amongst the most substantial archaeological features, survived less than 0.15m deep. On the southern edge of the site, above the River Tutt, the evaluation identified no archaeological features within or beneath 'colluvial' material, which would have been expected to protect such remains if they had existed.

The reservation of the north-west corner of the site as undeveloped public open space adjacent to the southernmost standing stone, would preserve the enclosure and the area

with the greatest concentration of archaeological features. Development of the remainder of the site could be undertaken subject to the implementation of an appropriate mitigation strategy to ensure the recording of a full plan and the excavation of an adequate sample. Given the level of damage to the remains and the fact that this would continue if the area were returned to agricultural use, development of part of the site and the 'preservation by record' of the surviving archaeology would potentially afford the archaeological remains greater protection in the longer term. Given the identification of the single human cremation, the presence of further human remains cannot be discounted and a Home Office licence would be required prior to the commencement of any excavation.

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1.0 INTRODUCTION

- 1.1 This document presents the results of an archaeological evaluation undertaken on land adjacent to Roecliffe Lane, Boroughbridge, centred on grid reference SE 392 666 (Fig. 1).
- 1.2 The site is approximately 3.77 hectares in size, situated on falling ground between 25 and 15m AOD, north of the River Tutt. Originally part of two fields (Fig. 2), the site occupies a single L-shaped field which is currently fallow.
- 1.3 The evaluation was undertaken on behalf of Bryant Homes, to fulfill a brief for archaeological works (Y297E029.NC/1) prepared by the Archaeological Officer of North Yorkshire County Council. The site was originally proposed for housing allocation within the Consultation Draft of the Harrogate District Local Plan, but was subsequently excluded from the Deposit Draft of the Local Plan. English Heritage had objected to this allocation on the grounds that the site formed part of the setting of the Devil's Arrows scheduled ancient monument (Nat. mon. no. 28221), an alignment of prehistoric standing stones. The evaluation was undertaken in order to establish the potential for development on this land and to support the objection against the non-allocation at the public inquiry.

2.0 BACKGROUND

- 2.1 The Scheduled Monument includes an alignment of three standing stones of Millstone Grit dating approximately from the late Neolithic - Early Bronze Age. The stones are considered to be part of a wider complex of prehistoric remains, but the full extent and nature of this complex has yet to be confirmed. The presence of a fourth stone was recorded historically, and its construction pit may still survive. In addition, the complex may contain the remains of round barrows, cists and cairns, ditches and pit features buried beneath the surface. These remains would be rare evidence of ceremonial and ritual life in the early prehistoric period.
- 2.2 During road construction in 1993, Iron Age and Roman features were identified in three locations immediately north and south of the River Ure at Boroughbridge. These included two rectilinear stock enclosures with an associated field system north of the river; part of a ring ditch, and field system beneath a 1st century A.D. Roman fort and vicus south of the river; and a complex of ditches, pits and part of a cremation cemetery pits, east of the A1, adjacent to the current evaluation area. The orientation of the ditched features in the latter area suggested that they extended into the evaluation area. The proposed development site was therefore considered to have potential for multi-period remains to survive within it.
- 2.3 A gradiometer survey undertaken by Geophysical Surveys of Bradford in November 1997 (Report 97/97), on behalf of Ed Dennison Archaeological Services (EDAS), was carried out over the whole development area. The survey located a number of linear anomalies (Fig. 3). These anomalies were largely concentrated within the northern part of the site and particularly in the area adjacent to the southernmost Devil's Arrow monolith. The linear anomalies ran approximately northwest - southeast, but there were other shorter lengths on other alignments, including a possible enclosure. In the central zone of the survey there was evidence of two linear anomalies aligned north-south, possibly part of a trackway, with intersecting linear features visible at their northern end. There were also a number of low level anomalies that may also have been archaeological. The southernmost third of the area contained few potential

archaeological anomalies, however, it was considered that upcast from the stream and colluvium may be having a masking effect in this area.

3.0 EVALUATION METHODOLOGY

3.1 The aim of the evaluation was to gather sufficient information to establish the presence / absence, nature, date, depth, quality of survival and importance of any archaeological deposits within the proposed development area.

3.2 The objectives of the individual trenches were

- To determine and confirm the nature of the remains present
- To determine and confirm the nature of the geophysical anomalies where these were targeted
- To determine and confirm the apparent absence of archaeological features where trenches were located in apparently 'blank' areas on the geophysical survey
- To determine and confirm the approximate date or date range of remains, by means of artefactual or other evidence.
- To determine the condition and state of preservation of the remains present
- To determine the degree of complexity of the vertical and horizontal stratigraphy present
- To determine the likely range, quality and quantity of artefactual evidence present
- To establish where practicable the function of archaeological features, feature groups or areas
- To determine the potential of the site to provide palaeoenvironmental and or economic evidence and the forms in which such evidence may be present

3.3 The evaluation comprised the excavation of ten trenches totalling 2,175 sq. metres in area, which represented approximately a 6% sample of the site (Fig. 4). The location of the trenches was agreed in advance with the archaeological curator and these were excavated according to the methodology outlined in the Project Design (NAA 1998).

3.4 Topsoil and modern overburden were removed by a 360° excavator, fitted with a toothless ditching bucket, under the supervision of an archaeologist. Excavation was continued incrementally in shallow "spits" until the horizon into which the archaeological features were cut was revealed in plan, or natural drift geology were encountered.

4.0 RESULTS OF EXCAVATION

4.1 Introduction

4.1.1 This section describes in summary the archaeological features identified within the trial trenches. Where appropriate, reference is made to those anomalies identified by the geophysical survey (GSB 97/97). The finds assemblages are discussed in summary and the full assessment reports are included in this report as appendices.

4.2 Trial trench 1 (Fig. 4, Plates 1, 2 & 3)

4.2.1 This trench was L-shaped in plan; one arm measured 30m by 10m and the second arm measured 20m by 10m. The trench was located in order to investigate the area of the site which contained the greatest density of anomalies identified by the geophysical survey. These features included an L-shaped feature (**a4**), interpreted as an enclosure boundary, at least three other substantial linear features (**a1**, **a5**, & **a9**), and three substantial pit-type features (**a2**, **a7** & **a8**).

4.2.2 All of the major geophysical anomalies were identified within the evaluation trench together with an additional twenty discrete features, comprising pits and postholes. The linear features identified fell into two distinct phases, although no chronological distinctions were apparent from the associated finds, which were uniformly Iron Age. The discrete features could have been associated with either phase.

4.2.3 The enclosure comprised substantial ditches on the northern (**144**) and eastern sides (**134**), reflecting geophysical anomaly **a4**, with a more ephemeral ditch on the southern side (**113**) reflecting geophysical anomaly **a5**. The enclosure measured some 11.6m long, and 9m wide with a possible entrance in the north-west corner. Sections excavated through the ditches demonstrated that they were somewhat variable in profile. Ditch **144** had a U shaped profile and measured 0.41m deep while ditch **134** had a V-shaped profile and measured 0.48m deep. Ditch **113** also had a U-shaped profile but was found to be only 0.06m deep. The only finds associated with the enclosure ditches were some 23 sherds of pottery from **143** representing the base and lower body of a single large, coil built, storage jar of Iron Age date.

4.2.4 Two linear features **123** and **141** were traced intermittently within the enclosure, but their relationship to the side ditches could not be established. The former was particularly ephemeral, measuring only 0.09m deep. Two substantial sub-rectangular pits **130** and **138**, five post-holes (**125**, **132**, **117**, **119** and **121**) and a narrow linear slot **127** were also identified within the enclosure. The evidence is too limited to allow any structural interpretation, however, posthole **121** appeared to cut the fill of the southern enclosure ditch **113**. The postholes measured between 0.5 - 0.66m in diameter, while pit **130** measured 1.74m by 0.64m by 0.24m deep. This latter feature also produced sherds of coarse, coil built Iron Age pottery.

4.2.4 A further group of four pits (**115**, **150**, **152** and **154**) and three small postholes (**156**, **158** and **160**) lay outside and to the south of the enclosure. The pits varied in diameter between 0.5m - 1.2m and the postholes between 0.17 - 0.24m. Pit **115** was sectioned and found to have U-shaped profile, measuring 0.24m deep. The fill incorporated heat reddened stone, very substantial quantities of charcoal and rim sherds from two barrel-shaped jars, one of which would have measured c.15cm in diameter. This material appeared to represent the debris from a fire, the carbonised material included both cereals (barley, wheat and oats) and local fruits (hawthorn and hazelnut shells).

4.2.5 Two substantial features, comprising a possible structure and a substantial ditch, appeared to post-date the enclosure. The northern ditch of the enclosure was cut by

a substantial rectangular feature which measured c. 4.0m by 2.5m by 0.35m deep. Three distinct fills were identified within the feature, the latest of which (**111**) comprised a concentrated spread of charcoal, which also included cereal grains, sloe and hazelnut. Associated with this feature were four postholes; three offset 0.2m from the eastern edge of the feature and a single posthole on the western side. One of the postholes contained a single wall sherd of Iron Age pottery.

- 4.2.6 A very substantial ditch feature (**103**), which bisected the northern arm of the trench on an approximately east-west alignment, reflected geophysical anomaly **a1**. The ditch, which had relatively shallow sides and a flat base, varied in width from 1.7m to 3.35m and measured 0.86m deep. The ditch contained two fills (**139** and **102**); the primary fill, deposit **139**, contained horse and cattle bones, burnt mammal and human bone, some charcoal including cereal grains, and a legume, and waterlogged elderberry seeds.
- 4.2.7 To the north of ditch **103**, two further features were identified although both extended beyond the edge of the trench; one of these was located in the north-west corner and reflected geophysical anomaly **a2**, while the second was a large sub-circular pit some 1.2m in diameter and 0.24m deep.

4.3 Trial trench 2

- 4.3.1 This trench 2, which measured 25m by 5m, was located at the northern limit of the field to test an area which was 'blank' on the geophysical survey. No archaeological features or deposits were observed within the trench. Machine excavation of the topsoil (**200**) revealed a relict ploughsoil of light brown silt (**201**) which lay above subsoil (**202**); comprising a light yellow-brown silt with frequent small rounded stone inclusions.

4.4 Trial trench 3 (Fig. 5, Plate 4)

- 4.4.1 Trial trench 3 measured 40m by 5m and was oriented on a north-south alignment. The trench was located in the north eastern part of the field and was intended to examine the eastern end of the linear feature (**a1**) examined in trench 1 and a substantial pit-type feature (**a15**).
- 4.4.2 Although the trial trench did not identify the pit-type feature (**a15**), the southern half of the trench contained a ditch which could be equated with the geophysical feature **a1** together with two other significant linear features and a concentration of some 17 pits and postholes.
- 4.4.3 At the southern end of the trench a substantial ditch (**352**), 1.73m wide, extended across the trench on an east-west alignment reflecting anomaly **a1**. The feature was U-shaped in profile and measured a maximum of 0.42m deep. This ditch, though still substantial, was considerably smaller in scale than the equivalent feature (**103**) in trench 1. To the north of this were two further ditches on the same alignment; ditch **350** measured 0.5m wide and 0.15m deep; ditch **318** measured 1.5m wide and between 0.12 – 0.26m deep. Two further linear features were attached to ditch **318**. The edge of a substantial feature (**320**) was traced for 3m along the western edge of the trench, and a narrow rectilinear feature (**314**), 0.28m wide, extended on a north-east to south-west alignment for 1.6m, from pit **316** to ditch feature **318**. Two further pits (**309**, **312**) and a shallow linear slot (**307**) lay on the north side of the ditch **318**.

4.4.4 Between these shallow ditches (**350** & **318**) was a group of some 13 postholes, (features **324**, **326**, **328**, **330**, **332**, **334**, **336**, **338**, **340**, **342**, **344**, **346** and **348**), three of which (**336**, **340** and **342**) were half sectioned and found to be shallow, between 0.09m and 0.17m deep. One of these contained a moderate quantity of charcoal, including oak, conifer, cereal grains and blackberry seeds. The postholes did not form any apparent pattern and no structural interpretation is possible.

4.5 Trial trench 4 (Fig. 6, Plates 5 & 6)

4.5.1 This trench was L-shaped in plan, with arms measuring 40m by 5m (east-west) and 20m by 5m (north-south). The trench was located in the central eastern part of the site with the intention of examining a series of possible inter-relationships between features identified by the geophysical survey. These features included a curvilinear anomaly (**b1**), which appeared to transect the northern end of a possible trackway feature (**b2** & **b3**); three linear features (**a5**, **a10** & **a13**), which converge on the trench but stopped short of it, and three pit-type features (**b5**, **b5** & **b6**) at the eastern end of the trench.

4.5.2 A total of nine linear features and eleven discrete features were identified within the trial trench. The principal differences from the geophysical survey were that in the eastern arm of the trench, the possible trackway ditches did not exist, nor did the three discrete pits. Of the three linear features which converged on the northern end of the trench, only one (**a5**) was recognised. Nevertheless, more linear features were recognised than were predicted by the geophysical survey and in part this may have been due to the severe levels of truncation encountered.

4.5.3 Ditch **417** was the most substantial ditch encountered within the trench, measuring between 1.2 – 1.8m in width and 0.51m deep. The base of the feature formed a slot, roughly rectangular in cross-section, 0.16m wide and 0.07m deep. A second section of this ditch was traced for 7.5m in the eastern arm of the trench where it was found to have a steep V-shaped profile. A number of fractured medium sized (c0.14m x 0.08m x 0.07m) rounded stones found within the ditch fill may represent potboilers; a small quantity of carbonised cereal grain was also found to be present.

4.5.4 A pair of ditches crossed the trench on an east-west alignment immediately to the south of ditch **417**. The most northerly (**421**) measure 0.63m wide and 0.07m deep and was cut by the more southerly ditch (**423**). This last measured 1.25m wide and 0.14m deep. An irregular linear feature (**427**) crossed the trench on an east-west alignment 2m south of ditch **423**. This ditch varied in width between 0.28m and 0.65m in width, probably due to a high level of truncation. It was cut at its eastern end by a shallow curvilinear ditch (**402**). Ditch (**437**) lay 4m to the south of **427** and measured 0.5m wide and 0.04m deep. A rectilinear feature (**454**) which extended up to 0.48m into the east leg of the trench may represent an extension of ditch **437**.

4.5.5 A further substantial east-west oriented linear feature (**405**) was traced against the southern limit of the trench. The feature which extended for c.0.6m into the trench was traced for 24.7m from the western limit of excavation before it either terminated or curved to the south beyond the limit of excavation. The southern edge of the trench was extended a further 1.5m to the south in order to recover the full width of the feature. This revealed that there were in fact two parallel ditches (**405** and **447**), both of which were extremely shallow (0.09 and 0.13m deep respectively).

- 4.5.6 Two narrow linear features (**456** and **458**) were both cut by ditch **405**. The former (**456**) was a narrow rectilinear slot, which measured 2.6m by 0.42m and had a rounded terminus at its north-east end. Feature 458 was cut by feature 456 and measured 4.5m in length.
- 4.5.7 Three post holes (**425**, **433** and **435**) and a pit (**431**) lay between ditch **437** and ditch **423**. Posthole **433**, was cut by pit **431**, which was oriented approximately north-south and which measured 0.5m wide and 0.98m long. The fill of the pit had a very high charcoal content and a considerable quantity of burnt human bone and represents part of a cremation. A sub-square post-hole and three other pits (**439**, **443**, **452** and **460**) lay between ditches **437** and **441**. Posthole **439** measured 0.6m by 0.5m and only 0.08m deep.

4.6 Trial trench 5 (Fig. 7)

- 4.6.1 This trench, which measured 20m by 5m, was located in the central western part of the field and was intended to investigate a substantial feature (**b9**) identified by the geophysical survey.
- 4.6.2 A substantial pit feature (**503**), almost certainly that detected by the geophysics, was revealed in the central area of the trench. The feature, oval in shape, measured 2.35m wide and was over 2.2m long extending beyond the limit of excavation to the north. The feature measured 0.75m deep with moderately steep sides and with a gradual break of slope to a flat base. The upper fill contained five heavily abraded sherds of pottery, of which only one white ware sherd was identifiable as the rim of a Roman flagon.
- 4.6.3 A small irregular pit feature (**512**) which measured 1.0m north south and 0.7m east west was located on the centre line of the trench 3.5m west of pit **503**. Adjacent to this feature and slightly further to the west a narrow linear feature (**507**), 0.53m wide, was traced for 6.7m on a north-west to south-east alignment. Feature **507** was cut by a furrow (**505**) which extended across the trench on an approximate west-south-west to east-north-east alignment. The furrow, which was 1.2m wide, was sectioned and found to have a shallow U-shaped profile 0.15m deep. A second furrow (**509**), up to 2.5m wide and parallel to **505** lay c.6m to the south-east. These latter two features were the remnants of ridge and furrow cultivation

4.7 Trial trench 6

- 4.7.1 Trial trench 6 measured 30m by 5m and was oriented on an east-west alignment. The trench was located in the central eastern part of the field south of trench 4. The trench was intended to investigate two ephemeral north-south linear features (**b2** and **b3**) identified by the geophysical survey. No archaeological features or deposits were observed within the trench and it seems likely that geophysical anomalies are the result of variations in the natural subsoil

4.8 Trial trench 7 (Fig. 7)

- 4.8.1 Trial trench 7 was oriented east-west and measured 40m by 5m. The trench was located in the central eastern part of the field south of trench 6 and was intended to investigate the southern extent of the two ephemeral north-south linear features (**b2** & **b3**) and their possible relationship with a third linear feature (**c1**) aligned north-west to south-east. Only the latter feature was identified and excavated.

- 4.8.2 A single curvilinear ditch (**703**), 0.67m wide, extended across the trench on a north-west to south-east alignment, passing beyond the limit of excavation in both directions. The ditch was U-shaped in profile and 0.25m deep, with a single undifferentiated fill (**702**) of firmly compacted medium brown clay and silt with

towards the base; **1016** the slightly deeper of the two at 0.21m compared to 0.17m for **1014**. The feature could be interpreted either as a palisade or a post row, but no dating evidence was retrieved from the excavated section.

- 4.11.4 Distinct bands representing variations within the subsoil on the edge of the break of slope above the River Tutt were noted within the trench, of which one was a spread of clean gravel (**1006**).

5.0 FINDS

- 5.1 A small assemblage of prehistoric pottery was recovered from trench 1, excavated adjacent to the southernmost Devil's Arrows. The sherds represent cooking pot and storage jar types of a domestic character dating to the Iron Age- late 1st Millennium BC. The fabrics, which are hard fired with much poorly sorted quartz sand temper, and the weak-profiled vessel profiles, compare well with the Iron Age assemblage from Roelcliffe. Temper characteristics are indicative of local manufacture. Between four and five vessels in three distinct fabrics were represented by rims and bases, but no profiles were reconstructable. There was also a possible loom weight fragment. Only one fragment of Roman pottery was recovered; a rim fragment from a white ware flagon
- 5.2 A small flint assemblage, comprising 9 struck pieces was recovered. The assemblage is too small and too residual to be statistically assessed. It comprised a blade, a core, five flakes or chippings and two retouched flakes. All but one of the pieces comes from till/gravel derived sources, the significant exception to this being a slightly broken blade of greenstone/epidiorite. Most of the assemblage comes from the latter stages of lithic reduction. While there are no chronologically diagnostic pieces, the core and retouched flakes are most suggestive of a Later Neolithic/Early Bronze Age date.
- 5.3 Six soil samples were processed and assessed, and all produced at least some charred plant remains which were generally in a good state of preservation. Most of the material was cereal grain but chaff and a few weed seeds were recorded. Given the good preservation it seems reasonable to suggest that this lack of processing debris is real and that maybe cereals were being used nearby but not processed. Most of the identifiable grain was hulled barley. Oats were the next most abundant and may have been either the wild or cultivated species since the diagnostic floret bases were not recovered. Rye and wheat, including spelt and probable bread wheat, were present too. Spelt glumes and a spikelet fork reinforced the presence of spelt wheat. The presence of rye and, perhaps cultivated, oats could suggest a date later than the prehistoric period - possibly post- Roman which would make the site of more importance regionally. The low levels of weed seeds are interesting since a more rural site, as this apparently is, would be expected to be processing its own grain.
- 5.4 Finds of animal bones were sparse, being present in only five features. The state of preservation was poor and only two species, cattle and horse, were present. The bones of these animals are large and robust and therefore take longer to decay than the bones of smaller animals, such as sheep. Horse was represented only by teeth, while cattle were represented by a variety of skeletal elements. Both the cattle bones and horse teeth are from small sized animals, and thus are domestic. The cattle bones suggest that the occupants consumed beef. It is unclear whether the horse teeth represent the use of horse meat for food or ritual use for the head or skull.

5.5 Human remains in the form of cremated or calcined bone was recovered from one feature in trench 4. The fragments were small and this probably indicates selective picking of cremated remains from the pyre for burial, with no deliberate breaking of bone. Recognisable human bone fragments included pieces of skull, a possible rib fragment, and some long bone fragments (large and small diameter). There were no indications as to sex or age at death.

6.0 CONCLUSIONS

6.1 The geophysical survey proved to be a generally accurate and reliable guide to the presence of the more substantial archaeological remains within the site. A number of features were identified within the trenches which were not seen by the geophysical survey; these were either smaller features which would be unlikely to be detected as anomalies by the survey or very shallow truncated features.

6.2 The general distribution of features and their density within the site coincides well with that predicted by the geophysics, with the main concentration of features lying in the northern third of the field. Trenches 1 and 3 have shown up a high density of features and some structural evidence. The complete absence of features within trench 2 implies that the feature density within trenches 1 and 3 cannot be extrapolated across the northern part of the field as a whole. The southern half of the site would appear to contain only a very low density of archaeological features and large areas appear to be completely devoid of features.

6.3 With the possible exception of the palisade identified in trench 10 in the south-west corner of the site, the evaluation produced no evidence of features which could be related either by date or form to the late Neolithic/Early Bronze Age, and which might therefore have been related to or associated with the Devils' Arrows standing stones. The enclosure and field system components identified appear to be part of an extensive pattern of Iron Age settlement and field systems which existed on both banks of the River Ure in the vicinity of Boroughbridge. The presence of groups of post holes in trenches 1, 3 and 4 suggests that structural evidence will survive in the northern part of the site.

6.4 The level of truncation of features was significant throughout the sampled area and this has implications with regard to the value which can be placed on the archaeological resource. A large number of features, in particular the ditches, were less than 0.15m in depth, and this would imply that a number of less substantial, associated features have probably been lost. The post-holes within trenches 1, 3 and 4 could not be resolved into recognisable structures due in part to truncation. The preservation of organic material was universally poor over the whole area of the field in which features were encountered.

6.5 The reservation of the north-west corner of the site as undeveloped public open space adjacent to the southernmost standing stone, would preserve the enclosure and the area with the greatest concentration of archaeological features. Development of the remainder of the site could be undertaken subject to the implementation of an appropriate mitigation strategy to ensure the recording of a full plan and the excavation of an adequate sample. Given the level of damage to the remains and the fact that this would continue if the area were returned to agricultural use, development of part of the site and the 'preservation by record' of the surviving archaeology would potentially afford the archaeological remains greater protection in the longer term. Given the identification of the single human cremation, the presence

of further human remains cannot be discounted and a Home Office licence would be required prior to the commencement of any excavation.

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Appendix 1

Prehistoric Pottery Assessment

T.G. Manby

Summary

A small pottery assemblage was recovered from only one of a series of evaluation trenches excavated to the south of the Devil's Arrows, Boroughbridge. The sherds represent cooking pot and storage jar types of a domestic character dating to the Iron Age- late 1st Millennium BC. The fabrics, which are hard fired with much poorly sorted quartz sand temper, and the weak-profiled vessel profiles, compare well with the Iron Age assemblage from Roecliffe. Temper characteristics are indicative of local manufacture.

Between four and five vessels were represented by rims and bases, but no profiles were reconstructable. There was also a possible loom weight fragment. The fabrics could be divided into three types:-

Finer fabric: [114] Two jars/cooking pots,
Coarse fabric: [128] [143] [145] large storage jar, hard brittle body, profuse coarse quartz sand tempering.
Intermediate fabric: [135] smaller grain sized temper.

Catalogue

Condition:- All unweathered showing sharp fractured edges except for on small rim [114] with slight rounded edges.

T1. Surface. Small sherd (1.5cm) Weight 5gm.
A possible rim ? pointed profile to lip. Hard slightly laminated; Dark grey. Temper fine quartz sand. Wall thickness 6mm.

U/S T1. Two pieces, one a flat shale fragment

Flake (6x3.5x0.9cm) 15gm. Irregular moulded external surface probably from a loom weight. Hard compact matrix; dark grey to brown-grey. Temper abundant fine quartz sand.

[114] Three sherds (two rims) Weight 40 gm
a. Rim and upper body profile (2 joining pieces, >7cm.), out-turned thickened rim, about 15mm. diameter, barrel profiled jar. Hard laminated fabric; dark grey exterior, well smoothed surface; orange-brown core and interior, irregular surface with elongated crescentic scars. Temper 10% range, mostly small sand - chips and sub-angular quartz grains, scarce rock fragments >7mm. (sandstone). Wall thickness 7mm. Patches of carbonised incrustation on body and under rim.

b. Small rim (>2.5cm.) Slightly weathered. Thin out-curving profile, rounded lip. Hard compact laminated fabric; dark grey with some buff-brown toning. Horizontal smoothing inside the lip. Temper 10%, poorly sorted sand, sub-angular quartz grains, rare rock fragment >2mm. Traces of carbonised layer on exterior below rim and inside lip.

[128] Three wall sherds (>6cm.) Weight 809m.

a. Two sherds, fractured along ring build junction. Coarse fabric; hard, heavy, laminated; orange-brown exterior, dark grey core and interior. Temper 15% sand, poorly sorted sub-angular quartz grains. Wall thickness 9-10mm. Shallow vertical finger furrowing on exterior. Patches of carbon on the interior.

b. One sherd. Coarse fabric; hard laminated; orange-brown, toned dark brown to dark grey. Temper 15% profuse fine sand and scattered sub-angular quartz grains >2mm. Wall thickness. Wear patch on exterior.

[135] Surface Wall Sherd (>4cm.) Weight 15gm. Hard laminated fabric; dark grey, buff exterior. Temper 20% fine quartz sand. Wall thickness 12mm.

[143] 23 sherds and flakes including a base (>8cm). Weight 420gm. Base angle, 17cm. dia. thickness 4cm>. and lower body sherds showing fracture at ring build junctions. Coarse fabric; hard, heavy, laminated, brittle fracture; Oxidised orange-brown exterior, grey-brown interior, greyish core. Temper 20%, much poorly sorted quartz sand, sub-rounded grains >1mm., scattered sub-angular grains. Sparse rock fragments >3mm. quartz and ferruginous sandstone. Wall thickness 12mm thickening towards base to 20mm. Probably all part of the same large storage jar.

[145] Rim Sherd Weight 259m.

Slightly inward sloping rim, rounded lip. Diameter uncertain Coarse fabric; hard laminated, brittle fracture; oxidised brown-orange exterior; irregular interior surface, grey-toned brownish. Temper 20% much sub-angular to sub rounded quartz >5mm., scarce sandstone fragments >4mm. Wall thickness 14mm.

Appendix 2

Flint Assessment

P. Makey

Notes.

- a) The numbers referred to in the following assessment are the record numbers used only on the archive record sheet.
- b) The conventional term patina is used (as opposed to the now frequently used cortication) to avoid confusion between the terms cortex and the process of cortication.

Introduction

The flint assemblage totals 9 struck pieces, with a total collective weight of 27.4g. This lithic assemblage is unfortunately too small and of too poor a contextual integrity to be statistically assessed, however a few salient points can be made:-

Assemblage Traits

The material is in a moderately fresh state with a third of the material having been subjected to breakage (contexts = 151, 301, 422). In two of these instances (contexts = 151 & 422) the damage appears to be related to modern ploughing etc. Slight plough damage is also present on a retouched flake from a topsoil context (400). Slight traces of patination are present on only 2 of the flints, both of which are flakes (record numbers 3 & 5).

Use Wear

With the possible exception of an irregular flake (record number 1) from context 128 none of the pieces shows any trace of attrition characteristic of utilisation.

Reduction Sequence & Technology

A surprisingly high proportion of the assemblage comes from the later stages of lithic reduction; there being at least 5 pieces (55.5%) from tertiary stages of lithic reduction. Context 308 (record number 4) produced a rather small (8.9g in weight), corticated, 3 platformed (2 opposed) irregular micro-flake core of olive grey till flint. Such pieces are characteristic of some of the regions Later Neolithic and Early Bronze Age assemblages.

Raw Material

All but 1 of the pieces are from till / gravel derived flint sources. The **significant** exception to this being a slightly broken blade (record number 2) of greenstone / epidiorite (this specimen is technically an epidiorite) from context 151. The material is similar to that from stone axe petrology groups I-III and it is possible (although in this instance probably not!) that the flake has come from an axe. The origin of this particular raw material is thought to be Cornwall (Clough 1988, 7) though current work (T.G Manby, personal communication) may yet locate a nearer raw material source; possibly in the Langdale area of the central Lake District.

Assemblage Composition

The incidence and composition of the assemblage is given in the table below:-

The Core (see 3)

The Greenstone / Epidiorite Blade (see 4).

The Retouched Flake.

The topsoil (context 400, Record 7) produced a small heavily plough damaged tertiary flake with a small area of nondescript, convex, semi-invasive retouch to its transverse distal end.

The Miscellaneous Retouched Flake.

A small fragmentary retouched flake (record 9) was recovered from context 422. The piece has a slight resemblance to a chisel arrowhead but is probably just a nondescript retouched flake.

TABLE: The Assemblage Composition.

Debitage.		Total	No Broken	Weight in g	Context
Flakes & Chipping's	=	5	(1)	6.9	128, 301, 308 (x2), 416
Blades	=	1	(1)	5.9	151
Cores	=	1	NA	8.9	308
Retouched Implements.					
Edge Retouched Flakes	=	1	NA	4.0	400
Miscellaneous Retouched Flakes	=	1	(1)	1.7	422
Totals		9	(3)	27.4	

() = Number of broken examples.

Chronology

There are no clearly chron-diagnostic pieces in the small assemblage although the core and retouched flakes are most suggestive of a Later Neolithic / Early Bronze Age date.

The greenstone / epidiorite blade is slightly more suggestive of a Later Early to Early Middle Neolithic date. It must be stressed that due to the nature of the assemblage the pieces may not all be of the same date.

Main Features of the Assemblage:

The following 3 points are the major aspects of flint assemblage:-

The assemblage is in a moderately fresh state.

Most of the struck assemblage comes from the later stages of lithic reduction.

The presence of a greenstone / epidiorite flake may prove to be of future significance.

The Archaeological Potential of the Flint Assemblage:

The current assemblage is of little significance other than *caveat* 7.3.

Recommendations

There are no recommendations.

Report Requirements.

The enclosed constitutes all the reportage and archive that is required for this assemblage.

References:

Clough, T.H, McK., 1988. Introduction to the regional reports: Prehistoric stone implements from the British Isles. In Clough, T.H, McK & Cummings, W.A (ed):- **Stone Axe Studies, Volume 2: The petrology of Prehistoric stone implements from the British Isles.** pp. 1-10. C.B.A. Research Report No 67.

Appendix 3

Assessment of the environmental samples

J.P. Huntley

Introduction

The aim of the environmental sampling was to determine the potential for preservation of, in particular, charred plant remains (the site is not waterlogged) and to determine if deposits appropriate for later radiocarbon dating were present - should development proceed.

Methodology

Bulk samples were taken from ditch and pit fills. these were manually floated in the laboratory with both flot and residue retained upon 500 μ mesh. After drying the residues were scanned for artefactual and ecofactual material. The flots were sorted under a stereomicroscope, at magnifications of up to x40, and notes made of the matrix components. Charred plant remains were sorted out, identified by comparison with modern reference material and numbers of each type counted. All data, both matrix and botanical, were numerically coded and input to the suite of programs PHYTOPAK (Huntley, Huntley and Birks, 1981) for manipulation in tabular form.

Results and discussion

Six samples were processed and assessed, the details are presented in table 1. All produced at least some charred plant remains (table 2) which were generally in a good state of preservation. There is no clear evidence that they were moved around once deposited. Most of the material was cereal grain but chaff and a few weed seeds were recorded. Given the good preservation it seems reasonable to suggest that this lack of processing debris is real and that maybe cereals were being used nearby but not processed.

Most of the identifiable grain was hulled barley. Oats were the next most abundant and may have been either the wild or cultivated species since the diagnostic floret bases were not recovered. Rye and wheat, including spelt and probable bread wheat, were present too. Spelt glumes and a spikelet fork reinforced the presence of spelt wheat.

Table 1: sample details

Context	Notes
111 AB	Fill from within rectangular structure (148) which appears to have been burnt in situ. Substantial amounts of charcoal were associated with both the structural remains and the central fill. The excavator intends two radiocarbon assays from this feature. 19 litres of sandy soil produced a moderate flot of flaky charcoal and a very small amount of industrial waste. Reasonable numbers of charred cereal grains were recorded - principally hulled barley but rye and indeterminate wheat as well. About one third of the grains were not identifiable to species. Hazelnuts and a sloe stone, also charred, attest further dietary material probably. One spelt glume base was present.
114 AA	Fill of a substantial pit (115); high charcoal content noted although no trace of in situ burning was recorded. Prehistoric pottery was recovered. 22 litres dark brown sandy silt processed. Considerable numbers of well preserved charred plant remains were present; these were fragmentary in many cases although otherwise well preserved with no sign of abrasion. The majority of the grains consisted of hulled barley but hexaploid wheat

and oats were also common. One probable rye grain was recorded. A selection of weed seeds was present mostly indicating nutrient enriched and damp ground. Hawthorn and hazel nut shell suggest local fruits.

- 139 AA Primary fill of a substantial ditch identified through geophysical survey. Prehistoric pottery was recovered from the fill. Although 23 litres of brown/orange sandy loam produced only 50ml of flot. This was very rich in tiny fragments of calcined mammal bone and a few fragments of burnt bone. At least some of the large pieces were apparently human although identification needs to be checked. About 25% of the charcoal was twiggy or roundwood with rather less than usual of the flaky oak charcoal of other contexts. Waterlogged elderberry seeds (*Sambucus nigra*) scored 2 indicating frequent occurrence. The charred material was not abundant but spelt glume bases were the most common. Spelt spikelet fragment, oat awn fragment and a rye rachis node were all recovered with one indet. cereal grain and one barley grain. A fragment of a large legume provides limited evidence for other food plants.
- 329 AA Fill of post hole 330. 8 litres brown sandy loam produced a moderate sized flot of charcoal. The charcoal included both the flaky oak characteristic of many samples from this site and a small amount of twiggy material - some oak but other species present too, including a conifer. A tiny amount of industrial spatter was present as was the occasional fragment of mammal bone. A few cereal grains were recorded - mostly hulled barley but also oats and a possible wheat although it may have been rye. Oat awn fragments were present. One burnt blackberry pip was recorded as were several waterlogged blackberry seeds.
- 416 AA Fill of ditch 417. A number of fractured pebbles recovered from the fill may represent pot boilers and worked flint from the fill may provide a date once examined. 17 litres of brown sandy clay produced a very small flot of charcoal with industrial waste. This latter was metallic-coloured and honeycombed. Hulled barley and one each of oats and probable bread wheat grains were recovered.
- 430 AA Sample from pit with high proportion of burnt bone. 16 litres of dark brown loam produced a moderate sized flot of charcoal and the very occasional fragment of calcined bone. Only one spelt glume base was present.

These features clearly are in receipt of plant material with cereal grains being common and well preserved. The presence of rye and, perhaps cultivated, oats could suggest a date later than the prehistoric period - possibly post-Roman which would make the site of more importance regionally. The low levels of weed seeds are interesting since a more rural site, as this apparently is, would be expected to be processing its own grain. However, the area excavated is small and need not be typical of the archaeological site as a whole. Material appropriate for radiocarbon dating is present and it is recommended that AMS dates are sought on cereal grains wherever possible rather than upon the oak charcoal.

The trial trenches have demonstrated the potential for further environmental work to be considered as essential should further intervention be undertaken. If the material does indeed date to the post Roman period it adds to the continuity of occupation of this part of North Yorkshire and could add considerably to our knowledge of crop husbandry at that time - otherwise of very limited extent only.

Reference

Huntley, J.P., B. Huntley and H.J.B. Birks (1981). PHYTOPAK: a suite of computer programs designed for the handling and analysing of phytosociological data. *Vegetatio* **45**: 85-95.

Table 2: Matrix and botanical data

Bar Lane, Boroughbridge: BL98							
	Bio.code	2208	2207	2206	2205	2204	2209
	Context number	139	430	114	416	111	329
	Site code no.	47	47	47	47	47	47
	Excavation	75	75	75	75	75	75
	Volume floated (litres)	23		22	17	14	9
	Volume flot remaining (ml)	50	200	300	10	100	75
	Industrial waste			1	1	1	1
	Calcined mammal bone	4		2	1		
	Charcoal fragments	2	5	5	4	4	5
	Clinker/cinder				1		
	Coarse sand/gravel				3	1	
	Mammal bone						1
	Coal						1
	Charred material (counts)						
ca	Chenopodium album			3			
ca	Fallopia convolvulus					1	
cc	Avena grain			9	1		2
cc	Cerealia undiff.	1		3	1	10	4
cc	cf. Secale cereale			1			
cc	Hordeum hulled			56	4	17	6
cc	Hordeum indet.	1					
cc	Secale cereale grain					1	
cc	Secale rachis node (undiif=2115)	1					
cc	Triticum (hexaploid)			5			
cc	Triticum cf. aestivum				1		
cc	Triticum sp(p). grain					3	1
cc	Triticum spelta			1			
cg	Gramineae >4mm			4			
ch	Sieglingia decumbens	1					
cr	Galium aparine			1			
cr	Rumex obtusifolius-type			1			
cr	Sonchus asper			1			
cs	Triticum spelta glume	6	1			1	
cs	Triticum spelta spikelet	1					
ct	Corylus avellana nut frag.			1		2	
ct	Crataegus monogyna			1			
ct	Prunus spinosa					1	
ct	Rubus fruticosus						1
cw	Carex (lenticular)			1			1
cw	Carex (trigonus)						1

Roeliff Lane, Boroughbridge: Archaeological Evaluation

cx	Bromus sp(p). grain			1			
cx	Legume >4mm	1		2			
	Waterlogged material (scores)						
wt	Sambucus niger	2					
wt	Rubus fruticosus						1

Appendix 4

Animal Bone Assessment

L. J. Gidney

Introduction

Excavation adjacent to the Devil's Arrows produced fragments of animal bone from shallow pits of prehistoric date.

Methods

For this assessment, the hand recovered bones in each bag were scanned and the following information recorded by context for cattle, sheep/goat and pig, if present: Fused Bone; Unfused Bone; Zones; Lower Jaw; Loose Teeth, Measurable Bone. These categories give an indication of the presence of ageable bones and confirm the impression gained of the general level of preservation. Fragments were usually only counted as identifiable if they encompassed a recognisable 'zone', as defined by Rackham (unpubl.). The presence of species other than cattle, sheep/goat and pig was noted. Cattle and sheep size ribs and vertebrae are referred to by the categories Large Ungulate and Small Ungulate respectively.

Results

Finds of animal bones were sparse, being present in only five features. The state of preservation was poor. Only context 139, the largest group, produced two bones with reasonably intact surfaces. The enamel in the teeth is decaying, causing the enamel to flake off. The articular ends of long bones are abraded and therefore unmeasurable. Long bone shafts are disintegrating.

Only two species are present, cattle and horse. The bones of these animals are large and robust and therefore take longer to decay than the bones of smaller animals, such as sheep. Horse is represented only by teeth, a single cheek tooth from context 139 and the remains of two adjacent incisors from context 502. The latter are still held together by mud, rather than bone, and indicate that part of a jaw was originally deposited. The cattle skeletal elements present are: scapula in context 102; two astragali, one humerus and an acetabulum from context 139; a calcaneum and metacarpal in context 352; a metapodial in context 502; a metapodial and first phalanx in context 510. All the epiphysial ends present are fused. Most of these elements are extremely robust and have a higher survival rate than other parts of the body. Cattle teeth were seen in all contexts except for context 510. These teeth were from the permanent adult dentition and all appeared to be in wear, indicating adult animals. Again teeth are robust and have enhanced survival. Two fragments of burnt bone were seen in context 352, one of which is part of a distal cattle metacarpal.

Interpretation

Both the cattle bones and horse teeth are from small sized animals, thus are domestic, farmed animals not wild, hunted animals. The cattle bones suggest that the occupants consumed beef. It is unclear whether the horse teeth represent the use of horse meat for food or ritual use for the head or skull.

Recommendations

Detailed further work is not warranted on this assemblage. However, sites of this period producing animal bone are not common in the region. Therefore some mention should be made in the site report about the features producing animal bone, its poor condition and the species present.

Table X:

Phase	Context	Cattle & LAR	Sheep/ Goat & SAR	Pig	Other Species	Pres	Comments
	102	ZT				P	
	139	ZFT			Horse	P	
	352	ZFT				P	Burnt bone x 2
	502	TZF			Horse	P	
	510	ZF				P	

F = Fused bone present

Z = Bones with zones present

T = Teeth present

LAR = Large ungulate

Preservation: G = Good, A = Average, P = Poor

U = Unfused bone present

J = Lower jaw present

M = Measurable bone present

SAR = Small ungulate

Appendix 5

Assessment of cremated human bone

J. Langston

The cremation remains were washed through a 2mm sieve and stones/pebbles removed by hand prior to drying. There was apparently little loss of very small fragments of bone/ dust (few were visible in the wash-through from the sieve). Following drying the bone fragments were passed through 10mm and 5mm sieves and the residues weighed. Recognisable human bone fragments include pieces of skull (x16), a possible rib fragment, femoral shaft with linea aspera, long bone shaft (large and small diameter) were recovered from sample BL 98 430. There are no indications as to sex or age at death.

Weights:

Retained by 10mm sieve	=	55.2g
5mm	=	31.9g
2mm	=	3.4g

Conclusions on the cremated remains:

The volumes/weights of bone in each context is small and none represents the remains of a complete individual.

The fragments are small but there is an absence of very tiny fragments and bone dust (as evidenced by the wash-through material). This probably indicates selective picking of cremated remains from the pyre for burial, with no deliberate breaking of bone.

The colour of bone fragments indicates incomplete oxidation consistent with a lower temperature burning; fragments are grey/dark blue with occasional black charring. It is noticeable that the inside of the long bone fragments is a darker colour than the outside (i.e. lower temperature and less efficient burning of the larger bones of the body)

Whilst skull fragments and long bone shaft fragments are present, there is a lack of certain other bones such as teeth roots (which tend to survive, especially at lower temperatures), and vertebral fragments (either bodies or processes). Only three phalangeal fragments were noted in total, and only two pieces of bone with articular surface. This perhaps suggests very selective retrieval of material for burial with much of the body being left at the pyre site or buried elsewhere.