CHANGES IN THE LANDSCAPE: ARCHAEOLOGICAL INVESTIGATION OF AN IRON AGE ENCLOSURE ON THE STOKE HAMMOND BYPASS

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An early-middle Iron Age enclosure was investigated during the construction of the northern link of the Stoke Hammond Bypass, just south of Bletchley, Milton Keynes. It had been identified as a significant archaeological site by a geophysical survey and its early-middle Iron Age date confirmed by trial-trench evaluation.

In 2002 an open-area excavation was conducted by Albion Archaeology on behalf of Babtie Group, This uncovered the northern part of an enclosure and the ditches of an associated droveway. The main function of these features was probably to facilitate the movement and control of animals, perhaps indicating a fairly organised landscape within a pastoral economy. There was also evidence of a change in the use of land later in the early-middle from Age; the enclosure went out of use and there was a phase of settlement on the site, with at least two roundhouses, a burial and related features. At some point (perhaps many centuries) after the small farmstead was abandoned, the land became wooded. The tree cover was probably cleared when field systems of ridge and furrow were laid out at some point from the middle to late Sason period onwards.

INTRODUCTION

When Buckinghamshire County Council was considering the construction of a bypass around the village of Stoke Hammond, the archaeological impact of the proposals was assessed through a programme of desk-based research (Smith *et al* 1994, Parkhouse 1995) and geophysical assessment (Bartlett and Clark 1994). Two ditches of an enclosure and other nearby anomalies were identified on land just south of the Lakes Estate in Bletchley (on the proposed route of the Northern Link of the bypass). This newly-discovered site was then subject to trial-trench evaluation (Bonnet 1996).

A brief for a programme of mitigation measures was subsequently issued by the County Archaeological Officer (Kidd 2002). This specified a pre-construction open-area excavation to further investigate the enclosure and associated features, together with a watching brief during construction either side of the site along the eastwest corridor of the Northern Link. Babtie Group was commissioned for various archaeological works on the Northern Link of the bypass through its contract with Buckinghamshire County Council for Highways Design and Engineering Consultancy, and Albion Archaeology was appointed as sub-consultant for the archaeological fieldwork, which was carried out in 2002–3.

Figure 1 shows the location of the site. Also marked are the evaluation trenches, the area of full excavation, the land either side which was covered by the intensive watching brief, the course of a Transco gas pipeline, and the route of the bypass.



FIGURE 1 Location map, showing area of 1994 trial trenches, 2002 excavation trench and 2002–2003 intensive watching brief.

TOPOGRAPHY, GEOLOGY AND LAND USE

The site of the full excavation was centred on NGR SP 8800 3153 at a height of approximately 85m AOD, on a low ridge overlooking the valley of the River Ouzel, which runs half a kilometre to the east. The ground slopes down towards the south and the east. On the near side of the Ouzel, running north-south, is the Grand Union Canal (opened

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1805). The northern boundary of the site was formed by the southern boundary of the city of Milton Keynes, marked here by a wide green lane or track with ditches on either side, running WSW-ESE along the top of the ridge. This was an important route between Drayton Parslow and Fenny Stratford in the late eighteenth century – depicted on the earliest map of the area in 1774. The belt of trees on the former track provided an effective screen, dividing the urban area to the north (the Lakes Estate in Bletchley) from the rural area to the south (Stoke Hammond parish).

The land crossed by the bypass was largely under arable cultivation, though the field in which the enclosure was discovered was under grass. Aerial photos, however, show that it had also been ploughed in recent years. Apart from ridge and furrow, no significant archaeological features appear as cropmarks. The one feature visible on aerial photos is the gas pipeline, which crosses the line of the bypass from NE–SW.

Modern ploughsoil was between 0.15m and 0.28m deep. The subsoil was a light orange-brown sandy elay which varied in depth from 0.15m to 0.35m – deeper towards the NW and shallower towards the SE. The underlying geology was Boulder Clay. This had a blue-grey hue when first uncovered, changing to yellow-brown once exposed to the elements. A regular pattern of parallel, linear striations, running roughly from north to south visible on aerial photographs, were shown to be of geological rather than human origin. Occasional irregular, but roughly linear, spreads of gravel within the clay, easily mistaken for artificially laid surfaces, were also shown to be of natural origin.

ARCHAEOLOGICAL BACKGROUND

The locations of all the sites discussed here are shown on Figure 2. The site of the enclosure discussed in this report (SMR 6123) is on the southern periphery of a group of Iron Age sites that have been recorded within Milton Keynes: at Pennyland and Hartigans (Williams 1993), at Wavendon Gate (Williams et al 1996), at Baneroft (Williams and Zeepvat 1994), and at Fenny Lock (Ford and Taylor 2001). Iron Age field systems were also found at Westbury (Ivens *et al* 1994). Environmental evidence from these sites indicates the presence of open grassland with mixed farming at this period (Zeepval 1991). About 4km to the NE, and visible from the site, is the prominent Danesborough hillfort, one of only very few places in this region which could possibly be interpreted as a protourban centre in the late from Age period. The Roman fort and small town of Magiovinium lies 2.5km to the NE where Walling Street crosses the Ouzel. Immediately to the NW traces of a Romano-British occupation site now beneath the Lakes Housing Estate have been found (SMR 3055).

North of the western part of the watching-brief area, a late Neolithic to late Bronze Age flint scatter had previously been found (SMR 6137, see report by Buckinghamshire County Archaeology Service 1996).

The relative scarcity of known archaeological sites south of the Milton Keynes boundary is due to the fact that there has been less development here and, therefore, much less archaeological work than on the northern side. A cropmark of an enclosure (SMR 5608) 1km to the south of the excavation site is thought to be Roman in date, on the basis of pottery finds. A rectangular enclosure (SMR 6200) showing as a cropmark half a kilometre to the SE and adjacent to the River Ouzel could be of Iron Age or Roman date.

A small cluster of sites on the other side the River Ouzel to the NE, include a possible enclosure and associated linear features (SMR 1872), a possible ring ditch (SMR 1864) and burials thought to be Roman in date found beside the bank of the river (SMR 5967).

NATURE OF THE INVESTIGATIONS

Several phases of archaeological investigation preceded the excavation. At an early stage of planning for the bypass, a desk-based assessment of a long corridor of land known as the *Long Railway Route' was carried out (Parkhouse 1995). This included a programme of geophysical survey (Bartlett and Clarke 1994). Magnetometer scans of large areas of the proposed bypass corridor were followed by detailed magnetometer surveys of areas where significant anomalies had been identified. The enclosure described in this report was discovered by this method.

Trial-trenching was carried out in September 1996. Six trenches from 35m to 80m in length were excavated on a grid system, positioned according to the results of the geophysical survey. Within the total



FIGURE 2 Known archaeological sites in the Milton Keynes and Stoke Hammond area.

trenched area of 644.4 sq m, 87 features were uncovered. These included not just the expected enclosure ditch, but also a number of smaller ditches/gullies, pits, and an inhumation burial. Pottery from the enclosure ditch fills was of early-middle Iron Age date (650–350BC). Several agricultural furrows of probable medieval date, post-medieval land drains and a few natural features were also found (Bonner 1996).

The full excavation, in August and September

2002, opened up an area of 0.8ha which included the northern part of the enclosure and the area to the north and west. It was unfortunately not possible to excavate the enclosure in its entirety, due to the southern limit of the bypass (though this has had the positive effect of leaving the southern part as an undamaged resource for potential future excavation). The watching brief continued monitoring of groundworks along the bypass corridor right through into 2003.

Results from the trial-trench evaluation, full excavation and watching brief have been combined for the purposes of this report. The written, drawn and finds records from the earlier investigation have been integrated into the digital database created during the 2002–03 work. Ceramic and animal bone assemblages from the evaluation were reexamined and their significance re-assessed in the light of the full excavation results.

During post-excavation analysis, evidence has been organised into an interpretive hierarchy of Phases (P), Landscapes (L) and Groups (G). In the following account, reference will be made to these rather than to individual contexts.

The archives of finds and records from both the evaluation and the mitigation work are held by Buckinghamshire County Museum under accession codes 1998.114 and 2002.124 respectively.

RESULTS OF THE INVESTIGATIONS

An all-features plan (Figure 3) shows the principal archaeological features discovered during all phases of investigation, including those observed during the watching brief on either side of the main excavation area. The reader can use this plan to locate evidence shown in more detail in subsequent figures.

PHASE 1: LATE BRONZE AGE / EARLY IRON AGE (c.1000–350BC) (Figure 4)

Pit Alignment G1.

This feature consisted of five shallow pits on a WNW-ESE alignment, spaced about 1m apart (see Figure 4 and sections 9–11). No evidence for an accompanying bank survived. Together they formed a boundary feature at least 13m long. The alignment may have continued in both directions,



FIGURE 3 General view of site: main archaeological features.





however, no continuation was found during later monitoring of groundworks to the WNW. A single sherd of late Bronze Age / early Iron Age pottery was found in one of the fills. This could date the pit alignment, making it earlier than the enclosure and droveway to the east (see Figure 4), but it is possible that the sherd was residual in what was a later (Iron Age) boundary feature.

As a recent study of pit alignments in the South Midlands concluded (Jones 2003), no simple, single interpretation can be applied to these monuments. The limited nature of the evidence from the present site precludes further discussion as to function. G 1.1 Cuts of pits. Sub-oval in outline, more like shallow scoops in profile, the pits were on average 1.5m long, 0.6m wide and 0.15m deep.

G 1.2 Fills of pits were mostly firm mid-brown silty clays with occasional small-medium stones and very occasional flecks of chalk and charcoal. These fills are thought to have accumulated through natural silting up of the pits. There was little variation in fill from one pit to another.

Boundary ditches/ field system (L2).

Provisionally assigned to this early phase, but with a degree of uncertainty, are the ditches and gullies (G2–5, G22) of a field system aligned WNW–ESE, roughly parallel and perpendicular to each other as well as to the pit alignment described above. They seem to belong to a field system and to a phase of activity quite separate from that of the main enclosure and its associated droveway. Limited stratigraphic evidence (G22 is cut by the north side of the enclosure) suggests it is earlier. The field system could have been contemporary with the pit alignment G1, at least in its use if not in its construction.

G 2.1 Cut of ditch/gully G2, running WNW-ESE. The ditch was 0.75m wide and 0.26m deep in the west, tapering to 0.45m wide and 0.7m deep near the castern end. It was steep-sided with a concave base. An 11m length was uncovered, with the ditch continuing westwards beyond the edge of excavation.

G 2.2 Fills of the ditch were compact greyish-brown silty clays, with occasional small-medium stones and flecks of charcoal.

G 3.1 Cut of ditch, orientated WNW-ESE. Steep-sided feature about 1.1m wide and 0.3m deep with a concave base and only one fill, A 27m length was found, with terminals at both ends.

G 3.2 Fills were firm mid orange-brown and mid greybrown silty clays with occasional small-medium stones and moderate chalk fleeks. These are thought to be the result of natural silting.

G 4.1 Cut of ditch orientated WNW-ESE. It was up to 1m wide and 0.2m deep, with a shallow concave profile. An 8m stretch of ditch was uncovered, with a terminal to the NW but continuing to the SE. This ditch is a recut/extension of G3.

G 4.2 Fills were compact brown, silty clays with occasional small stones. In places a lower fill was discerned which contained a much greater number of small stones and had a gravelly appearance.

G 5.1 Cut of gully running NE-SW. Average width 0.6m and average depth 0.25m. Sides sloped steeply down to a flattish base. A straight length of 25m was uncovered.

G 5.2 The single fill of the gully was a firm, yellowbrown silty clay with occasional small-medium stones, probably accumulated through natural silting.

G 22.1 Cut of ditch running ENE–WSW with moderately steep, straight sides and a concave base, It was 0.5m wide and 0.09m deep. A total length of about 9m was uncovered. The feature is cut by, and therefore earlier, than the enclosure ditch G11.

G 22.2 The fill of the ditch was a mid orange-brown sandy elay with occasional small stones.

PHASE 2: EARLY-MIDDLE IRON AGE DROVE-WAYS (c.650-350BC) (Figure 5)

Droveways L3

The main droveway G6 changes direction from a NNE–SSW orientation to a N–S alignment near the middle of the site of the main excavation (Figure 5), though the reason for this change in alignment is not known. It was about 12m to 15m wide between ditches. Its construction is likely to have been broadly contemporary with the enclosure L6, the component parts of which are interwoven with the eastern ditch of the droveway. However, it is possible that the droveway was the first element to be constructed and it is therefore dealt with as a separate phase.

An interesting characteristic of this droveway is that its two ditches were wholly different in form. On the eastern side was a typical concave ditch up to 1m wide. On the western side was a very straight vertical-sided gully, about 0.6m wide, similar to a palisade trench (though there was no evidence of postholes within it). A possible sequence of events is that the eastern ditch was constructed first as a field boundary, onto which the western gully was added later to create a droveway feature. This would explain the quite different forms of the eastern and western ditch/gully.

G 6.1 Cuts of W ditch or gully as recorded in seven excavated segments. It was a very well-defined feature with linear straight parallel cuts, near-vertical sides and flattish base. Average width 0.6m. Average depth 0.2–0.3m. Total length uncovered about 100m, continuing on beyond the edge of excavation in both directions.

G 6.2 Fills were firm light-mid brown silty clays with occasional small stones and chalk flecks.

G 6.3 Cuts of E ditch. Average width 0.9m. Average depth 0.35m. Total length uncovered about 80m, with continuation to the N. It may also have continued southwards but, if so, this stretch had been cut and obliterated by the W part of the enclosure ditch.

G 6.4 Fills were compact mid orange-brown sandy clays with occasional small stones.

G 6.5 The cut of a small gully running alongside and parallel to the E droveway ditch for a distance of about 3m. It appears to cut the W edge of the larger ditch but evidence for the stratigraphic relationship is slight and inconclusive. Width 0.47m. Depth 0.12m.

G 6.6 The fill was a compact mid-brown silty clay with occasional small stones.

Also tentatively included in this period of landscape (although no dating evidence was recovered) was a second droveway G30, west of the main excavation area, about 40m of which was uncovered during the watching brief (Figs. 3 and 5). It comprised a pair of ditches 8m apart – running roughly parallel to droveway G6 in a NNE–SSW direction, 60m to the west. This distance may reflect the width of the field or landholding between the droveways in the early-middle Iron Age.

G 30.1 Cut of the ditch on the NW side of the droveway. Width 1.10m. Depth 0.5m. The outer side sloped steeply, while the inner side sloped more gently down to a narrow concave base.

G 30.2 Only one fill was identified, a firm, light yellowbrown silty clay with occasional small stones.

G 30.3 Cut of one of the ditches on the SE side of the droveway, which was divided into two sections. The southernmost of the two ditches was up to 1.25m wide



FIGURE 5 Phase 2 early-middle Iron Age droveways G30 and G6: plan and sections.

and 0.35m deep. Its profile was concave with fairly steep sides, A length of 24m was uncovered, with the ditch terminating at its NE end

G 30.4 The fill was a firm, light yellow-brown silty elay with occasional small stones.

G 30.5 Cut of the northernmost of the two ditches on the SE side of the droveway. A length of about 13m was uncovered, with a terminal at the SE end. Width of the ditch was up to 1.16m. Depth was up to 0.46m,

G 30.6 The fills were firm, light yellow-brown silty clays with occasional small stones.

PHASE 3: EARLY-MIDDLE IRON AGE ENCLOSURE (c.650–350BC) (Figure 6)

Enclosure L6

The northern part of an enclosure was investigated during the excavation. Its western side (aligned north-south) was uncovered for a length of 20m, though it clearly extended further south. Its northern side (aligned east-west) was uncovered for a length of 60m. About half way along it changed orientation very slightly towards the ESE. It must be acknowledged that the identification of the ditches as part of an "enclosure" entails an assumption about their course beyond the bypass construction corridor and the area covered by excavation.

The enclosure and droveway G6 (see above) might have been components of a single system of stock control, with the western enclosure ditch also serving as part of the eastern ditch of the droveway. Construction and use of the two components is likely to be broadly contemporary. Surviving stratigraphic relations, which *appear* to show the enclosure cutting the droveway, probably reflect continual re-cutting of the enclosure ditches rather than a later date for the enclosure as a whole. Phases 2 and 3, as defined here, probably represent one episode.

The archaeology of the enclosure testifies to a multiplicity of events and phases of activity. The ditches of the enclosure were re-cut several times. Intercutting pits intersect with these re-cuts in complex stratigraphic sequences. All this indicates that it was intensively used, and went through several transitions during its lifetime. Throughout these changes, it seems to have retained its basic shape, at least on its northern side. The pottery assemblage from the enclosure is markedly uniform. Fragments from 196 vessels were recovered. The primary fills of the earliest ditch on the north side contained some residual late Bronze Age / early Iron Age material (<3% of the total assemblage). The final infilling of the ditches produced a small amount of later Iron Age and Roman pottery (<5% of the total assemblage). The vast majority (>92%) of the assemblage was, however, in early-middle Iron Age fabrics, present at all levels within the ditches from their primary silting to final infilling.

North Side of Enclosure

G 11.1 Cut of earliest enclosure ditch on N side. It had steep sides and a narrow flat base. A total length of 58m was uncovered in both evaluation and full excavation. It was up to 1.65m wide and 0.98m deep, and had been extensively re-cut, Primary fills consisted of firm, greybrown sandy clay with occasional small stones and lenses of charcoal.

G 11.2 The disuse fills of the earliest enclosure ditch on N side. These consisted of firm, sandy clay loams and silty clays in hues varying from grey-brown to orangebrown, with occasional small stones, flecks of charcoal and small grits of chalk.

G 12.1 Re-cut of enclosure ditch on N side. This extended east from the junction with the droveway for about 15m before its terminal. It cut G11 but was itself cut by the later re-cut G13. It seems to mark only a very temporary phase in the life of the enclosure. It was about 1.5m wide and up to 0.4m deep, steep-sided with a flat bottom. Its primary fill, 0.05m in depth, consisted of a grey-brown silty clay with very occasional grits of chalk.

G 12.2 Fills of enclosure ditch re-cut. These were yellow-brown silty clays, with occasional small stones.

G 13.1 Latest enclosure ditch on N side. This re-cut followed the course of the original and earliest enclosure ditch G11, in some cases coming close to its original form. It should be regarded as a re-establishment of G11, after the change represented by the intermediate re-cut G12. The ditch was steep sided with a generally flat, sometimes uneven base, It was up to 1m wide and 0.65m deep. The primary fill was a compact dark greyisth-brown silty clay, up to 0.2m deep, with occasional small stones and charcoal flecks.

G 13.2 Upper fills of the enclosure ditch. These consisted of compact, mid greyish-brown silty clays towards the base of the ditch, changing to mid yellowish-brown silty



FIGURE 6 Phase 3 early-middle Iron Age enclosure L6: plan and sections.

clays higher up. There were occasional inclusions of small stones and flecks of charcoal.

West Side of Enclosure

The enclosure ditch on the west side had also been re-cut, and sequences of re-cutting on both sides of the enclosure were interwoven with one another. The earliest ditch on the west side was shown to be later than the enclosure ditches on the north side. However, it might represent a re-cut of the already existing eastern droveway ditch.

G 14.1 Cut of earliest enclosure ditch on W side. This ditch was encountered in both evaluation and excavation. It ran N–S, broadening and butting out to the N but continuing beyond the limit of excavation to the S. In all, a total length of 24m was uncovered. It had shallow upper sides, fairly steep lower sides leading down to a flat, nar-

row base. It was up to 3m wide and 1.2m deep. A primary fill, 0.15m in depth, was identified in the base of the terminal of the ditch at its N end. This was a firm dark-brown silty elay with moderate amounts of charcoal and grit.

G 14.2 Fills of enclosure ditch, consisting of sandy/silty clays which varied from mid grey-brown to mid yellowbrown, with occasional small stones and flecks of charcoal. Lenses of charcoal were noted near the base of the ditch.

G 15.1 Cut of later enclosure ditch on the W side. This ditch followed the course of the earlier enclosure ditch but was slightly narrower. It is, in effect, a re-cut and re-establishment of the earlier ditch. It was up to 2.5m wide and 1.13m deep, with steep sides leading down to a concave base. A total length of 23.5m was uncovered. It butt-ended to the N. A primary fill, 0.11m in depth, was identified at

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the base of this ditch. If was a firm, light blue-grey silty clay containing charcoal flecks and occasional small stones. A secondary fill immediately above the primary fill contained high concentrations of charcoal and bone.

G 15.2 Disuse fills of enclosure ditch, consisting of firm mid-light brown silty clays, only slightly darker than the natural clays in the sides of the feature. The upper fills contained a possible structured deposit G15.3 (see below).

The northern terminal of ditch G15, marking the corner of the enclosure and the droveway ditch, could have had some ritual significance at least while it was in the process of silting up since a possible 'structured deposit' G15.3 was found here.

G 15.3 Deposit of disarticulated animal bone within the upper fill of the enclosure ditch terminal (the corner of the enclosure as a whole) sealed beneath a stone capping. Two spreads of disarticulated animal bone, one above the other and covering an area of about 0.25 m x 0.50 m, had been placed within the ditch as it silted up. A capping of large ironstone fragments sealed these deposits over an area of about 0.9 m x 0.9 m (Figure 7).

The bone in this deposit was mostly from eattle. One of the spreads comprised at least eight vertebrae and three ribs (disarticulated) from the same skeleton. There was no evidence of butchery. The other consisted of about 25 fragments of cattle bone and loose teeth, which could possibly have belonged to the same animal. If so, however, the material had been severely disturbed and fragmented before or after burial (eight foot bones of foxes were found amongst the cattle bone). There is nothing in the nature of the animal bone itself to suggest a ritual significance to this assemblage; however, its location in the corner of the enclosure and the presence of the stone capping suggest more than simple rubbish disposal. As discussed below, there is a possible association with the use of one of the Phase 4 roundhouses.

Pits on or near course of enclosure ditch

Within the stratigraphic sequence of enclosure ditches on the northern side was a group of three pits contemporary with the use of the enclosure, in so far as they cut (and are therefore later than) earliest versions of the ditch but are also cut by (and are therefore earlier than) later versions of the enclosure ditch and the eastern ditch of the droveway. Their position on the corner of the enclosure and the droveway is clearly significant. Their function may be partly practical and partly ritual.

G 10.1 Cuts of three ovoid pits, apparently in a clear 1-2-3 stratigraphic constructional sequence. One large pit, measuring about 2.2m x $1.2m \ge 0.73m$, cut a smaller pit of 0.8m $\ge 0.3m \ge 0.25m$ which itself cut another pit of similar size. As the earliest pit was cut by the droveway ditch, and the latest pit cut the earliest version of the N enclosure ditch, there is an indication that the droveway is in fact later than this part of the enclosure. However, at least one of the stratigraphic relationships was badly obscured by a field drain and should be regarded with some caution.

G 10.2 Disuse fills of pits. All fairly similar compact light-brown silty clays, mottled slightly red, with moderate small stone and tiny fragments of chalk.

Further examples of large pits along the line of the ditches include:

G 27.1 Two oval or sub-circular pits, one measuring $1.5m \pm 0.98m \pm 0.35m$, the other measuring $0.5m \pm 0.5m \pm 0.13m$, cut by G13. As in the group of three pits described above, one of these pits cut the earliest version of the ditch G11.

G 27.2 Fills of pits. Firm mid orange-brown to dark yellow-brown silty clays, with occasional small stones and charcoal flecks.

G 27.3 Cut of pit just to N of enclosure ditch G13. Suboval in shape, fairly shallow with concave sides and flat base sloping down towards S. Length 1.5m, width 0.98m, depth 0.36m.

G 27.4 Fill of pit. Firm dark yellow-brown clay silt, containing occasional small stones, flints, chalk.

G 28.1 Substantial pit, cut by and therefore earlier than the W enclosure ditch G14. It was situated in the very complex area at the junction of the enclosure and droveway ditches. Once sub-circular or sub-oval in form, it was truncated by construction of the enclosure. It is the earliest feature in a sequence of pits, ditches and structured deposits which seem to mark out this area as being of special significance, and for this reason it has been included as part of the (constructional sequence of) the enclosure. Length 1.75m, width 0.39m. Not excavated.

G 28.2 Fill of pit. Compact mid-brown silty clay:

There was presumably at least one entrance between the enclosure and its contiguous droveway



FIGURE 7 Phase 3 or 4 early-middle Iron Age finds deposit G15.3 in upper fills of enclosure ditch. Upper: ironstone scatter above animal bone. Lower: deposit of disarticulated animal bones below iron-stone sealing.

on the west, although its location is unknown. It is thought that the enclosure was intended, and used, largely for the keeping of animals as part of a system of stock movement and control. However, after it went out of use, it still provided a suitable place for a roundhouse-type structure to be built, nestled into its NW corner. PHASE 4: EARLY-MIDDLE IRON AGE SETTLEMENT (c.650–350BC) (Figure 8)

Roundhouses L4

Traces of at least two roundhouse drip-gullies were discovered some 20m apart (Figure 8). Both were about the same size, roughly 11.5m in diameter. Roundhouse 2 was nestled just into the NW corner of the preceding enclosure, its gully cutting the upper fills of the ditch. From this evidence it is possible to infer that if there had been an inner enclosure bank, it no longer existed at this period. However, it could well be that any hedges associated with the earlier enclosure did survive to provide some shelter for the house. Roundhouse 1 was situated outside of the enclosure to the north.

If the two roundhouses were broadly contemporary, they would represent a distinct phase of use of the site, following the abandonment of the enclosure. However, the pottery assemblage from the fills of their drip gullies and associated features is exclusively in early-middle Iron Age fabrics, and therefore impossible to distinguish from that of the preceding Phase 3. Fragments from 25 vessels were recovered. The majority (80%) came from Roundhouse 2, possibly a reflection of its better state of preservation.

The term 'roundhouse' should here be taken to include the possibility that circular channels normally understood to have served as drip-gullies collecting water from roofs of houses, may have served other purposes – for example delineating or enclosing areas for storing animal fodder (Knight 1984).

Roundhouse 1

This structure was encountered first during the evaluation and subsequently in full excavation. It had an incomplete circular gully which had been very badly damaged by ploughing, with a later furrow running right through the middle. Pits inside and outside the gully may have been associated with the structure. A gap in the gully to the east may indicate the position of a doorway.

G 7.1 Cut of roundhouse drip gully on N side, Curvilinear in shape, averaging 0.3m–0.4m wide and up to 0.2m deep, with fairly steep sloping sides and a concave base. The gully had a terminal to the SE, perhaps indicating the position of a doorway. G 7.2 Fills of drip gully. Firm mid orange-brown silty clays with occasional small stones and flecks of charcoal. Thought to represent natural silting of the feature.

G 7.3 Cut of roundhouse drip gully on S side, measuring approximately 0.40m wide and 0.15m deep, with steep sloping sides and concave base. The feature was badly disturbed by a medieval furrow.

G 7.4 Fills of drip gully. Firm mid orange-brown silty clay with occasional small stones and flecks of charcoal.

G 7.5 Cuts of two sub-oval pits in interior of roundhouse. One was 1m long, 0.5m wide and 0.3m deep – situated near the centre of the roundhouse. The other was located on the E side of the interior – of similar size but much shallower (0.14m deep). Other pit-like features in the interior were shown to be natural.

G 7.6 Fills of pits in interior of roundhouse. Firm dark yellow-brown/mid orange-brown sandy clay with occasional small stones and chalk fragments.

G 7.7 Cut of pit beyond, but possibly associated with, the roundhouse. Roughly circular in shape, 0.8m in diameter. Depth unknown. Unfortunately the pit was vandalised (dug out at night) before it could be properly excavated.

G 7.8 Fill of pit. A firm mid-brown silty clay with occasional small stones.

Roundhouse 2

This roundhouse partly cut the upper fills of the enclosure ditch and therefore clearly post-dated the primary use of the enclosure. It is likely that it was deliberately sited within the corner of the enclosure, its boundaries perhaps surviving in the form of hedges. Its location strongly suggests there was no surviving internal bank to the enclosure at the time the roundhouse was built. There were some associated internal and external postholes/pits. Pairs of parallel gullies may also be associated.

As with Roundhouse 1, there are indications that the entrance was on the east side, although other evidence points to a second doorway facing NW.

G 8.1 Cuts of N part of curvilinear drip gully. U-shaped in profile, with steep sides and a concave base, 0.35m-0.60m wide and 0.20m deep. The feature cut the upper fills of the enclosure ditch. **G 8.2** Fills of N part of drip-gully. Firm dark greybrown/orange-brown silty clay, with occasional small stones and flecks of charcoal.

G 8.3 Cuts of two gullies running parallel to each other on a WNW–ESE alignment. Lengths of about 6m were uncovered. These were interpreted as part of the roundhouse drip gully or gullies. However, they are fairly straight and other interpretations are possible. On average they were 0.5m side and 0.2m deep.

G 8.4 Fills of parallel gullies. Compact grey-brown silty clays with occasional small stones, fragments of chalk and some lenses of charcoal.

G 8.5 Cuts of several pits/postholes inside or just outside the roundhouse. These were generally sub-circular or sub-oval in shape, up to $0.75 \text{m} \times 0.75 \text{m} \times 0.3 \text{m}$, although a few were much smaller and shallower. In profile these features varied from steep-sided and flat-bottomed to shallow scoop-like depressions. They did not make any discernible pattern and cannot definitely be identified as parts of a structure.

G 8.6 Fills of pits/postholes, mostly comprising compact mid orange-brown or grey-brown silty clays, with moderate inclusions of small stones and fragments of chalk.

G 8.7 Cut of gully (interpreted as) forming SE side of roundhouse. Width was 0.25m, depth was 0.17m. The feature had fairly steep sides and a flat base.

G 8.8 Fill of gully. Firm dark orange-brown silty clay with occasional small stones and tiny fragments of chalk.

Sets of parallel gullies

Two pairs of parallel gullies south of the roundhouse were recorded in the evaluation. However, it was not possible to explore their continuations in the full excavation as they lay outside the excavated area. It is possible they form part of a separate roundhouse within the enclosure, or alternatively some kind of square or rectangular compound. Here, it is assumed that they are associated in some way with the roundhouse immediately to the north.

G 23.1 Cuts of N–S orientated gullies, 3m apart. The gully on the W side was wider at 1.1m. It was 0.14m deep with steep sides and a flat base. The gully on the E side was much narrower at 0.31m. It was 0.9m deep.

G 23.2 Fills of gullies, comprising light-mid orangebrown sandy clays with occasional small stones and charcoal flecks. **G 26.1** Cuts of WNW–ESE gullies, 1,2m apart. The southernmost gully was smaller, only 0.25m wide and 0.10m deep, terminating at its W end. The northernmost gully was 0.8m wide and 0.18m deep. Both had gently sloping sides with concave bases.

G 26.2 Fills of gullies, comprising mid orange-brown sandy clays with occasional small stones and charcoal flecks.

It is possible that the two spreads of animal bone covered by a stone capping found in the upper fills of the enclosure ditch (see G15.3, described as part of L6: refer back to Figs. 6 and 7), could be associated with the use of Roundhouse 2.

Inhumation burial G24

During the evaluation a human burial was identified (but not excavated) 20m to the west of the enclosure (Figure 8). It seems likely that it was contemporary with the farmstead represented by the roundhouses, but there is no dating evidence to confirm this. Strenuous attempts to re-locate the burial during the full excavation were unsuccessful.

G24 Cranium and long bones of a probably crouched infant inhumation in a shallow grave, measuring $0.6m \times 0.2m$. The burial was orientated NNW-SSE.

PHASE 5: IRON AGE DROVEWAY (c.650BC-AD50) (Figure 9)

Droveway G9

A droveway ran NE to SW across the SE corner of the site, consisting of two parallel ditches 5m apart. Both features cut, and were therefore later than, the infilled ditches of the northern side of the enclosure. A total length of 55m was uncovered, with the ditches continuing in both directions outside the excavated area. A single posthole was found in the base of one of the ditches. This droveway may have been associated with the Phase 4 farmstead represented by the two roundhouses, or may represent a later development. Only a single sherd of late Iron Age pottery was recovered from it.

G 9.1 Cuts of N droveway ditch. Average width 0.9m, average depth 0.45m, with gently sloping sides and a concave base.



Changes in the Landscape: Archaeological Investigation on the Stoke Hammond Bypass

FIGURE 8 Phase 4 early-middle Iron Age roundhouses G7 and G8: plan and sections.

G 9.2 Disuse fills of N ditch, comprising compact orange to mid-brown sandy clay with occasional small stones and pieces of chalk. Lower fills seem to have tipped in from the S side, giving a strong indication of the former existence of an internal bank.

G 9.3 Cuts of S droveway ditch. Average width 0.8m, average depth 0.4m, with a concave profile.

G 9.4 Disuse fills of S ditch. These were mainly compact mid-brown sandy clay with occasional small stones. Only one fill was identified in all the segments excavated.

G 9.5 Cut of posthole in base of ditch. Circular in plan and concave in section. Only 0.13m in diameter and 0.5m deep. The posthole was dug when the ditch was still open. On its own, it does not constitute evidence for a palisade.

G 9.6 Fill of posthole, comprising a mid orange-brown silty clay, similar to the fill of the ditch.

PHASE 6: WOODLAND COVER AND SUBSEQUENT CLEARANCE (Figure 10)

Tree throws L8

A phase of woodland, or scattered tree cover, was indicated by 40 to 50 randomly distributed medium to large features, with the characteristic attributes of tree throws. Some were mistaken at first for man-made archaeological features. Seven were partially excavated and recorded but the rest were left unexcavated.

Of particular interest are those tree throws which had stratigraphic relationships with phased archaeological features. Wherever this occurred, tree throws always cut Iron Age ditches but were themselves cut by medieval furrows. This suggests a phase of woodland cover following Iron Age use of the site. It seems reasonable to infer that this woodland may have been cleared at some point from the middle to late Saxon period onwards.



FIGURE 9 Phase 5 early-middle Iron Age droveway G9: plan and sections.

Changes in the Landscape: Archaeological Investigation on the Stoke Hammond Bypass -

G 17.1 Cuts of tree throws. These were of irregular subcircular or sub-oval form, varying in size up to 3.0m x 3.0m. Their uneven sides sloped, sometimes steeply and sometimes gently, down to an uneven base, up to 0.5m deep. Tree root balls seem to have spread out widely through the subsoil, without penetrating too far into the underlying Boulder Clay.

G 17.2 Fills of tree throws. Many of the features displayed the characteristic pattern of outer, crescentic, dark silts partly surrounding an inner area consisting usually of Boulder Clay but very occasionally of gravel.

PHASE 7: MEDIEVAL OPEN FIELD SYSTEM (Figures 10, 11)

Ridge and furrow L7

Traces of medieval and post-medieval furrows were encountered at all stages of the archaeological

investigations. Evidence of three contiguous fields or 'furlongs' were found, the middle field of which was 135m wide. Furrows were a major factor in denuding traces of earlier activity. Both Iron Age roundhouses, for example, had been significantly scarred by furrows.

Furrows mostly ran ENE–WSW on the central and eastern part of the main excavation area. Faint traces of a headland (in the form of a slightly raised ground level, visible in the southern section of the site) marked the former furlong boundary, which would have run more or less N–S. Several furrows recorded to the west of this also ran roughly N–S. A post-medieval ditch, encountered during the watching brief to the west of the excavation area, marked the other boundary of this field. To the west of this the furrows ran E–W.



FIGURE 10 Phase 6 plan of tree throw holes and Phase 7 medieval furrows.

G 16.1 Cuts of furrows. Straight, linear, parallel cuts, up to about 2m wide. Furrows spaced at about 6m on average.

G 16.2 Fills of furrows. Light-mid yellow-brown silty clays with occasional small stones.

G 16.3 Headland. Faint traces only, noted as a slight rise in ground level but not manifesting itself in the form of layers visible in plan or section.

Figure 11 shows wider patterns of ridge and furrow, taken from the Buckinghamshire Sites and Monuments Record map (information originally compiled from aerial photographs) with field names from historic map sources.

PHASE 8: POST-MEDIEVAL AND MODERN AGRICULTURE

Land Drains and Ploughsoils

Land drains followed to a certain extent the pattern

of ridge and furrow, with early drains tending to be placed along the middle of furrows.

G 18 Two systems of land drains were encountered. The earliest, probably laid down in the 19th century, follows closely the pattern of ridge and furrow. In the E and central part of the excavation area, drains were often aligned precisely along the centre of furrows with the same orientation (ENE–WSW) and spacing (6–7m apart). A second system takes a slightly different alignment, unrelated to the ridge and furrow, suggesting that any upstanding earthworks had been completely ploughed out by this time.

G 21 Modern ploughsoil and topsoil. Friable dark greybrown silty-clay containing occasional small-medium stones. Its depth was fairly uniform across the site, varying from 0.2m 0.25m.





THE ARTEFACTS by Jackie Wells

POTTERY

Introduction and Methodology

The investigations produced 671 pottery sherds, representing 286 individual vessels, weighing 4,3kg. The pottery was examined by context and twenty-six fabric types¹ identified in accordance with the Bedfordshire Ceramic Type Series, held by Albion Archaeology (see Appendix 1). Form codes were assigned and catalogued within fabric type. Quantification was by minimum vessel and sherd count, and weight. Sherds belonging to the same vessel, but deriving from separate contexts were quantified as a single vessel. Attributes including decoration, manufacturing techniques, levels of abrasion, and evidence of use (such as the presence/absence of residues, sooting and wear marks) were recorded.

Drawing Conventions

A representative sample of the pottery has been illustrated (Figure 12). Standard drawing conventions have been used, with vessels shown at onequarter size, external view on the right and a section and internal view on the left. Hatched sections indicate handmade vessels. The pie diagram at the base of each illustration indicates the proportion of the vessel recovered.

Discussion

The proportions of fabric types within each phase and landscape are presented in the Table 1. The pottery is discussed below by chronological period, with reference to the structural hierarchy (Phases, Landscapes and Groups) where appropriate. The majority of the assemblage is datable to the earlymiddle Iron Age period (c.650-350BC). The small quantity of pottery recovered and the lack of diagnostic forms preclude further chronological refinement. Small quantities of earlier prehistoric, late Iron Age, Roman and post-Roman material were also identified.

Late Bronze Age/early Iron Age (2.2% total assemblage)

The late Bronze Age/early from Age assemblage comprises twelve sherds, representing six vessels

(180g) of fine and coarse flint-tempered pottery (fabric types F01A, B and C), characteristic of the period. Diagnostic forms comprise a vertical-sided vessel (Fig. 12: no 1). A flat base sherd and body sherd with an incised horizontal groove were also noted. Single sherds were recovered from the pit alignment L1 and the system of boundary ditches L2 (both Phase 1) while the remainder were residual in later Phase 3 features.

Early-middle Iron Age (88.7% total assemblage)

Pottery datable to the early-middle Iron Age comprises 598 sherds, representing 242 vessels, weighing 3.5kg. Despite constituting the majority of the ceramic assemblage, the material is fairly fragmented, with an average sherd weight of 6g and low vessel to sherd ratio of 1:2. Although the pottery is moderately abraded, several vessels are represented by more than one sherd. The homogeneity of the assemblage may suggest a relatively short period of occupation.

Fabric and Form

Early-middle Iron Age fabrics are generally hardfired and robust, although shell-tempered fabric F16 has suffered some post-depositional leaching and abrasion. A number of vessels exhibit extensive variation in surface colour and appearance. indicating that bonfire or clamp kiln firings were not precisely controlled. The incidence of firing faults, such as spalling or cracking, however, is low. None of the vessels show evidence of repair. Handmade vessels, tempered either entirely or partly with quartz sand (fabric types F19, F28, F29, F35 and F36) constitute 74% of the assemblage; those containing calcareous inclusions 22%; shell 3%; and organic matter less than 1%. The preponderance of quartz-tempered fabric types is comparable with nearby Hartigans (Knight 1993, 230), although differs from fabric frequency noted at Pennyland (ibid, 220), Wavendon Gate (Elsdon 1996, 170) and Bancroft (Knight 1994, 384), emphasising the localised nature of pottery production during this period. The kind of clay used suggests that all pottery types are of local manufacture.

Eight fineware sherds, in a uniformly reduced black-burnished and relatively gritless fabric, have been tentatively classified as Chinnor-Wandlebury

Defined either by type and quantity of inclusions, or by finish-

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TABLE 1: Pottery - number of vessels: number of sherds (excludes unphased and unidentified material)

type (Cunliffe 1991). However, the absence of diagnostic forms or characteristic decorative elements in this fabric type preclude its positive identification. If the sherds are Chinnor-Wandlebury type, they may have been locally produced by itinerant potters, although their presence may indicate a more widespread exchange network.

Diagnostic forms comprise round-shouldered vessels with flat, rounded upright, beaded or rolled over rims. Bases are flat or splayed (Fig. 12, nos. 9 and 3) and there are two examples of strap handles (Fig. 12, no, 7 and 8). Decoration is rare and comprises incised motifs, burnishing and 'restricted' finger tip impressions along rim tops. The assemblage is too small for any correlation between fabric and form, or between form and decoration to be observed. Thirty-five sherds bear traces of internal black residues, possibly resulting from the accidental burning of vessel contents during cooking, and forty-five have sooted exteriors. Unfortunately these residues were not of sufficient quantity or quality for radio-carbon dating.

Distribution

Features assigned to Phase 3 contained over 84% of the early-middle Iron Age assemblage. The majority derived from the disuse fills of ditches associated with enclosure L6. The earliest ditches (G11 and G14) yielded 1.7kg of pottery, including the Type F19 sand and organic jar (Fig. 12, no.5). The later re-cuts (G12, G13 and G15) contained sherds weighing 1.2kg, including sand tempered vessels (Fig. 12, nos. 2, 4 and 9), and calcarcous vessels (Fig. 12, nos. 6 and 11).

The Phase 4 assemblage is generally more fragmented and dispersed than that from Phase 3, with only Roundhouse 2 (G8) producing more than 100g of pottery. The fills of gullies G23 and G26 yielded 119g, and pits and postholes G25 only 76g. Nine sherds representing five vessels (87g), including type F37 bowl (Fig. 12, no. 10), derived from the drip gully fills of Roundhouse 1 (G7). Structural and internal features associated with Roundhouse 2 (G8) yielded twenty sherds representing ten vessels, weighing 203g.

Late Belgic Iron Age and Roman (7.3% total assemblage)

Material of late Belgic Iron Age date is represented by twenty-six undiagnostic sherds (178g) in predominantly grog-tempered fabric types F03, F06B and F09. A single sherd of shell tempered type F07 was also identified. All are small (average sherd weight 6g) and abraded. The majority derive from the disuse fills of the Phase 3 enclosure ditches L3.

The small Roman assemblage comprises seven sherds, representing five vessels, weighing 20g. Fabrics comprise reduced sand tempered wares (types R06 and R14) of probable local manufacture. No diagnostic forms occur. Two Roman sherds (2g) derived from the disuse fills of Phase 3 enclosure ditch G11, while the remainder were unstratified.

Post-Roman (1.8% total assemblage)

Post-Roman material is entirely unstratified and comprises an undiagnostic sherd (8g) of sand tempered medieval pottery, and four sherds (59g) of glazed earthenware, of seventeenth to eighteenth century date.

OTHER FINDS

Fired clay

Sixty-five fired clay fragments (708g) in an oxidised sand and calcareous fabric, similar to pottery type F30, were recovered. Although typologically undatable, their association with early-middle Iron Age pottery suggests they may be of similar date. Most fragments are amorphous, although three retain a finished surface and/or partial edge, in one instance measuring 35mm in thickness, suggesting they may be portions of handmade slabs. The majority (648g) derived from the disuse fills of ditches associated with enclosure L6 (G11–15), The drip gully fills of Roundhouse 1 (G7) contained eight amorphous fragments, weighing 22g. Single pieces were recovered from droveway G6 (Phase 2) and gully G22 (Phase 1).

Flint

The flint assemblage comprises five flakes (42g) and a flake core fragment (114g), all fashioned from poor quality raw material. Most flakes retain a high proportion of cortex, and the core fragment has sustained extensive post-deposition damage. With the exception of one flake recovered from the earliest northern enclosure ditch (G11), the material is unstratified.



Illust.	Fabric type	Description	Phase	Landscape	Group
1	F01B	Straight-sided jar	3	6	11
2	F28	Vessel with incised decoration on shoulder	3	6	15
3	F28	Splayed base with incised horizontal grooves	3	6	11
4	F28	Round-shouldered bowl	3	6	13
5	F19	Bead rim jar	3	6	14
6	F20	Round-shouldered jar	3	6	13
7	F20	Strap handle	3	6	12
8	F29	Strap handle	÷	10	19
9	F29	Flat base	3	6	13
10	F37	Bowl	4	4	7
11	F30	Round-shouldered jar with finger nail slashed rim	3	6	13

FIGURE 12 Selected pottery (1/4 scale).

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ANIMAL BONE

Summary of report by Mark Maliby, School of Conservation Sciences, Bournemouth University

Animal bones from both the full excavation and the evaluation were examined and reported on as a single assemblage by Mark Maltby, of Bournemouth University. The full report (Maltby 2004) is contained in the excavation archive; its key points are summarised here.

Animal bones were obtained from 44 contexts producing an approximate total of 530 fragments of which 320 were unidentified. Of the 508 fragments (302 unidentified) from contexts phased to the early-middle Iron Age period, most contexts produced very few fragments. All but 45 of the fragments were recovered from ditches. Ditch G11 produced the largest sample (185 fragments, of which only 67 were identified) from a feature. Sheep/goat and cattle elements were found in equal numbers in this feature, with horse and pig represented in smaller numbers. Ditch G15 was the only other feature to provide a relatively large sample (132 fragments, including two discrete groups of bones dominated by cattle (deposit G15.3) within the upper fills). None of the other ditches provided over 20 fragments.

A total of 45 fragments were recovered from other types of context including 35 from four pits, seven from four postholes and three from various layers.

The preservation of the assemblages from each context was assigned to one of five grades ranging

from good to poor. Thirteen of the assemblages (211 fragments) were moderately preserved, indicating relatively high levels of modern or ancient breakage, quite high incidences of gnawing but relatively little surface erosion. Most of the assemblages (231 fragments) fell into the "quite poor" category, generally indicating a higher proportion of slightly eroded and heavily fragmented bones. However, only six assemblages (48 fragments) were designated as "poor" with heavy erosion. Only two assemblages (contexts 206 and 1044) fell in the "quite good" category, indicating little erosion and less gnawing damage than the moderately preserved assemblages. Forty fragments were found in these contexts. Overall, the preservation conditions are likely to have favoured the survival and recovery of cattle and horse elements rather than the bones of smaller species. Table 2 shows the species represented in early-middle Iron Age contexts.

Species Representation

Species counts indicated that 206 (41%) of the early-middle Iron Age fragments were identifiable to species. The percentage of unidentified fragments is to be expected given the moderate or quite poor preservation of most of the assemblages.

Cattle bones and teeth dominated the identified assemblage. They provided about 48% of the identified species in early-middle Iron Age deposits. The indications are that cattle were the most common species exploited, although the large size and robustness of their bones would have favoured their

Phase	L no.	G no.	Cow	S/G	Pig	Horse	Red deer	Fox	Unid.	Total
2	3	6	5	3	0	0	1	0	30	39
3	6	11	27	25	6	13	0	0	120	191
3	6	12	3	3	0	6	0	0	2	14
3	6	13	10	2	- E	10	Ú.	0	8	31
3	6	14	2	2	0	1	0.	0	8	13
3	6	15	46	8	1	3	0	8	81	147
4	4	7	2	1	0	0	()	0	13	16
4	4	8	3	5	0	D	0	0	20	29
4	4	23	0	2	0	0	0	0	14	16
4	4	26	0	3	1	0.	0	0	6	10
5	5	9	1	1	0	0	0	0	0	2
		Total	99	55	9	34	1	8	302	508
% of	identifie	ed bone	48.1	26.7	4,4	16.5	0,5	3.9		

TABLE 2 Animal bone from early-middle Iron Age phases

survival and recovery. Ditch deposits, however, do often tend to produce higher percentages of cattle than other types of feature on Iron Age sites (Maltby 1996).

The high percentage of cattle was also the result of the high proportion of this species identified in the animal bone deposit in the upper fills of ditch G15. This produced 45 (73%) cattle bones in an identified sample of 62 fragments. One spread of bones consisted of at least eight vertebrae (mainly thoracic) and three ribs of the same skeleton. The bones formed a cohesive, albeit disarticulated, group which showed no evidence of butchery marks. Unfused vertebral epiphyses indicate it belonged to one animal of under six years old. The other adjacent spread included about 25 fragments of bone and loose teeth of cattle. Many of the teeth could have belonged to the mandibles and maxilla of one animal and these may also have belonged to the vertebrae and ribs described above. However, it is impossible to be certain of this, given the fragmentary nature of the material.

The possible status of this material as part of an intentional deposit has already been discussed. It should be noted, however, that the skeleton involved had been severely disturbed and fragmented, before or after burial, and that there is nothing in the nature of the animal bones themselves that would confirm a ritual significance to the assemblage. The same fill also contained eight well-preserved foot bones of a fox, indicating that the deposits have suffered from more recent disturbance.

Although sheep/goat remains were the second most common species identified, they were relatively poorly represented (only about 27% of the identified assemblage). None of the fragments were identified specifically as sheep or goat, although it is likely that the former provided the majority of the ovicaprid assemblage. Four bones (humerus, pelvis, calcaneum, metatarsal) from the fills of ditch G11 may have been from the same immature animal.

Horse (34 fragments) was the third most commonly represented species (about 17%). Poor survival of bones of the smaller species may have contributed to this unusually high percentage. However, horse remains have sometimes been found in relatively high numbers on Iron Age sites in the Midlands. For example, one area of the Iron Age site at Wilby Way, Wellingborough, produced discrete concentrations of horse bones in numbers greater than those of all other species (Maltby unpublished). The percentage of horse bones from the Stoke Hammond excavations is greater than those from Iron Age levels at Biddenham Loop, Bedford (8–9%, Maltby unpublished). However, the small size of the sample restricts inter-site comparisons. The horse remains included two loose teeth from the same mandible in ditch G12 and a pair of maxillae and associated teeth in ditch G13.

Only nine (4%) pig bones were identified. This may be a consequence of poor survival, however, pig bones tend to be poorly represented in other recent excavations in the region. For example, they provided less than 10% of the Iron Age samples from Biddenham Loop (Maltby unpublished). Provisional assessment of animal bones from Iron Age and Roman deposits at Marsh Leys Farm, Bedford has indicated levels of pig nearly as low as those from this site (Maltby unpublished).

No bones of dogs were recovered, although gnawing by canids was observed on a number of the bones. Red deer was represented by a first phalanx from ditch G6. No bones of bird or fish were found.

Sieved samples did not produce any evidence for species other than those found in the hand-collected material.

Measurable bones

A total of 15 measurable bones were noted (horse 7; cattle 7; sheep/goat 1). Measurements of these were taken and are stored in the site archive. The data are too limited for analysis, although the small size of some of the horse bones was noted. The cattle and sheep/goat bones were also of a size typical of the small stock found on other Iron Age sites in the region.

Discussion

The animal bone assemblage is of very small size and generally of moderate or quite poor preservation, limiting the amount of information that can be gathered. Species representation in which cattle elements are dominant followed by sheep/goat with low values of pigs is fairly typical of lowland Iron Age sites in the Midlands (Hambleton 1999). The relatively high percentages of horse bones have also been found in some contemporary samples from the region. The almost complete absence of wild species is also not unusual, although preservation conditions were unfavourable to the survival of bird and fish bones. The two largest assemblages demonstrated that species variability was present, but the samples generally are too small to undertake intra-site analysis of faunal variability.

MACROSCOPIC PLANT REMAINS AND MOLLUSCS

Summary of report by Jenny Robinson

Twenty-three samples, constituting 579 litres of soil, were floated for biological remains onto a 0.25mm mesh. The flots were examined at up to x50 magnification for assessment purposes. Given the limitations of the material, no further analysis was deemed necessary. The excavation archive contains the assessment report, on which the following summary is based.

Charred Plant Remains

Charred plant remains other than charcoal are entirely absent. Nine samples contain charcoal, mostly *Quercus* sp. (oak), although a little cf. *Prunus* sp. (sloe etc) and cf. Pomoideae indet. (hawthorn, apple etc) are also present. All the samples containing charcoal were from Roundhouse 2 gullies, or contexts in the immediate vicinity.

The charcoal taxa identified are unexceptional in an Iron Age context. Of greater interest is the absence of charred crop remains on what appears to be, in part, a settlement site. A comparable sparseness of charred food plant remains has also been noted on early and middle Iron Age sites in Bedfordshire, in contrast to other parts of the Midlands and Central Southern England.

Molluses

Shells are present in six samples, all from ditches. Water snails, particularly *Gyraulus crista*, predominate in Samples 1 and 2 (from ditch fills G15.1) and Sample 15 (from ditch fills G14.1). These were relatively large enclosure ditches and the results suggest they held water, perhaps even had water flowing along them. Samples 6 (from ditch fill G3.2) and 8 (from ditch fill G13.2) contain the amphibious snail *Lymnaea truncatula*, which probably lived in temporary pools of stagnant water in the bottom, and there are also shells of terrestrial snails. *Trichia hispida* gp. occurs in a range of habitats, but *Vallonia excentrica*, present in Sample 8, is characteristic of open, dry conditions. Sample 16 (from G6.4), just contains terrestrial species, including *Pupilla muscorum*, which is also characteristic of open, dry conditions. The terrestrial snails probably reflect general environmental conditions during the Iron Age,

DISCUSSION

Excavations on the Stoke Hammond Northern Link Bypass site have provided a glimpse into the landscape as it was in the early-middle Iron Age, and the changes it has undergone since that time. There are also intriguing hints of features of an even earlier landscape, with a pit alignment possibly dating to the late Bronze Age / early Iron Age. It bears some similarity to the pit alignment at Fenny Lock, which contained pottery of a similar date. There, pits in a curvilinear formation were of similar size and spacing, with the same shallow bowl-shaped profile (Ford and Taylor 2001). The significance of these landscape features, perhaps as special boundary markers, is not fully understood.

The presence of a rectangular stock enclosure with associated droveway, situated on the higher ground overlooking the Ouzel valley, fits in with other evidence from the Milton Keynes area. Other Iron Age rectangular enclosures, often with droveways, are known from sites at Bancroft, Furzton, Hartigans and Pennylands. In contrast to Pennylands (Williams 1993) and other sites, however, there is no evidence at all of cereal cultivation in the form of storage pits, granaries, charred grain or seed. The heavy clay soil probably precluded arable farming at that time. The low percentage of pig bones, together with (albeit limited) land snail evidence, seem to point to a fairly open landscape, and this fits in with environmental evidence from elsewhere in the Milton Keynes area (Zeepvat 1991). A primarily pastoral economy is the best explanation for this.

The open grasslands of the slightly elevated ridge of land, would have provided good grazing for cattle or sheep, with access to the rich resources of the Ouzel flood plain. A picture emerges of a local landscape used primarily for animal husbandry within a wider landscape context where on areas of better and more easily ploughed soil, animal husbandry was combined with crop cultivation. Horses would no doubt have been used in the process of herding and cattle-driving. A network of droveways would have facilitated the movement of stock between enclosures and a direct comparison can perhaps be drawn with the landscape of stockyards and droves envisaged by Francis Prior at West Deeping in Lincolnshire (Prior 2001). Although Prior dates this landscape to the Bronze Age, one of the enclosures and associated droveways there has recently been shown by excavation to be of early-middle Iron Age date (Albion Archaeology 2002). In the sense that they represent links and connections between enclosures/other sites in the form of the movement of animals and people in such a landscape, droveways are a key type of feature.

The enclosure, like those at Pennylands (Williams 1993), was re-cut several times, indicating intensive use although not necessarily over a long period as the largely undisturbed, homogeneous, pottery assemblage may suggest a relatively short period of occupation. The fills of the enclosure ditches are cut by the drip gully of a roundhouse, itself datable to the early-middle Iron Age, and a possibly contemporary droveway. This suggests that the use of the earthwork as a stock enclosure may have lasted no more than two or three hundred years and perhaps as little as just a few generations or even a single lifetime. A possibility to be considered is that the use of such enclosures was largely seasonal, and that the re-cutting of the ditches also took place on a periodic basis, the site being re-used as and when required.

That a roundhouse was constructed in the corner of the enclosure after the ditches had silted up, indicates that the earthwork still maintained some presence in the landscape which provided shelter for a dwelling, perhaps in the form of hedges along the line of ditches. But the fact that the ditches of a new east-west droveway ran right through the silted-up enclosure ditches, suggests that its presence was relatively short-lived: it was perhaps never envisaged or perceived as a permanent feature of the countryside.

The shifting nature of patterns of landscape use is also shown by the absence of any features which can be dated to the late Iron Age and Roman periods (although small amounts of pottery from these periods were found in the upper fills of earlier ditches). It is in these periods that the site may have become wooded, as evidenced by the large number of medium to large tree throw holes, some of which cut earlier Iron Age features. Clearly this change in land use reflected a significant change in agricultural practices, in this localised area at least. The story of the Stoke Hammond Bypass site is very different to that of sites such as Bancroft (Williams and Zeepvat 1994), where Iron Age settlement carried on into the Roman period and beyond.

In the Anglo-Saxon period the land was cleared of trees and turned over to arable cultivation, to become part of the open field system of the township of Stoke Hammond.

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APPENDIX 1: POTTERY TYPE SERIES

Fabrics are summarised below by chronological period. Given the absence of a standardised Buckinghamshire prehistoric type series, fabrics are listed using type codes and common names in accordance with the Bedfordshire Ceramic Type Series, currently held by Albion Archaeology. Full fabric descriptions are given only for those types not previously published. Bracketed figures after fabric types denote a percentage of the total excavated assemblage.

LATE BRONZE AGE / EARLY IRON AGE

Type F01A Coarse flint (<1.0%)

Fabric: hard fired, rough fabric with variable orangebrown to grey surfaces and core. Characterised by abundant poorly sorted angular flint 1.0–5.0mm. Also contains sparse, poorly sorted fine sub-rounded quartz 0.1–0.5mm and red and black iron ore.

Forms: undiagnostic hand-made body sherd.

F01B Fine flint (1.0%)

Fabric: hard fired, rough fabric with variable orangebrown to grey surfaces and core. Occasionally reduced throughout. Contains abundant, well-sorted angular flint 0.5-1.5mm, sparse well-sorted fine subrounded quartz and red and black iron ore.

Forms: Vertical-sided vessel, undiagnostic hand-made body sherds and base fragment.

Illustration: Fig. 12. no 1.

F01C Quartz and flint (<1.0%)

Fabric: hard-medium fired, sandy or harsh to feel with even fracture. Exterior surface generally patchy grey, interior surface and core dark grey or black. Contains common, moderately well sorted, angular flint inclusions, 1.5–3mm; and common, well sorted, rounded, clear or milky-white quartz, 0.2–0.4mm. Also may contain sparse, fine, red and black iron ore.

Forms: undiagnostic hand-made body sherds.

EARLY-MIDDLE IRON AGE

Type F04 Organic (<1.0%)

Fabric: fairly hard, soapy; reduced fabric with mid-grey to brown-black surfaces and a dark grey core. Characterised by common, well defined elongated voids, representing burnt-out organic matter, 1.0–5.0mm. May also contain sparse, fine, subangular quartz and red or black iron ore.

Forms: undiagnostic hand-made body sherds, some burnished,

Type F15 Coarse mixed inclusions (<1.0%)

Fabric: hard fired, lumpy fabric, dark grey with patchy orange-buff to brown surfaces. Contains frequent, poorly sorted, coarse shell, 0.5–3.5mm, moderate subrounded grog, 1.0–3.0mm, sparse to moderate black voids from burnt out organic matter, sparse to moderate subrounded quartz, 0.5–0.8mm and very occasional rounded black iron ore, approx, 0.5mm.

Forms: undiagnostic hand-made body sherds.

Comments: originating in the middle Iron Age and continuing into the late Iron Age contemporaneously with wheel-thrown 'Belgic' pottery.

Type F16 Coarse shell (2.4%)

Fabric: soft fired, soapy to feel, with an uneven, laminated fracture, and a tendency to crumble. Typically, buff to mid-brown surfaces and mid-grey core, although often a reddish brown throughout. Characterised by densely packed, coarse shell, 0.3–2.0mm. Also sparse, medium, subrounded to subangular quartz 0.24–0.4mm, black or red iron ore, and occasional coarse grog 0.4–0.8mm. Forms: undiagnostic hand-made body sherds.

Type F19 Sand and organic (11.1%)

Fabric: fine, fairly hard fired fabric, with buff-brown surfaces and a grey core. Smooth and occasionally soapy to the touch, often with burnished exterior surfaces. Contains abundant, subrounded to subangular quartz, 0.3-0.5mm. Frequent elongated voids are present where organic matter has burnt out,

Forms: round shouldered vessels with rounded, flat, beaded or rolled rims, and flat bases. Decoration comprises burnishing and restricted finger tip impressions along rim tops.

Illustration: Fig. 12: no. 5.

Type F20 Limestone inclusions (2,7%)

Fabrie: fairly hard, moderately rough fabrie, with a powdery feel. Surfaces are variable buff-brown with grey patches and the core is mid-grey. Contians frequent, poorly sorted, subrounded to rounded limestone lumps, 0.5– 6.0mm, among which are rare ooliths, approx. 0.6mm. Also moderate subrounded to rounded, well sorted clear quartz, approx. 0.5mm, occasionally up to 1.0mm, sparse rounded black iron ore, 0.3–0.5mm; sparse, subargular, red inclusions, and possible red iron ore, 0.4–0.3mm.

Forms: strap handle and undiagnostic hand-made body sherds,

Illustration: Fig. 12: nos 6 and 7.

Type F28 Fine sand (19.2%)

Fabric: hard-medium fired, sandy or occasionally harsh to feel with even fracture. Variable colour, can be darkgrey throughout, or have mid brown or reddish brown surfaces. Contains abundant, well-sorted, rounded or sub-rounded, clear or milky-white quartz 0.1–0.4mm (occasionally up to 0.8mm); sparse, well-sorted, rounded, black and red iron ore 0.2–0.5mm. Additionally, the matrix may contain sparse, greenish glauconite inclusions 0.1–0.2mm

Forms: round shouldered vessels with flat and rounded rims, single splayed base with incised decoration. Other decoration comprises burnishing, and restricted finger tip impressions along rim tops.

Comments: originating in the late Bronze Age/carly Iron Age and continuing into the middle Iron Age. Illustration: Fig. 12: nos 2, 3 and 4.

Type F29 Coarse sand (6.6%)

Fabric: hard-medium fired, harsh to feel with uneven fracture. Colour variable; may be dark grey throughout, or may have mid-brown or reddish brown surfaces. Contains abundant, moderate-poorly-sorted, rounded or subrounded, clear or milky-white quartz 0.5–1mm (occasionally very coarse-up to 3.5mm); sparse, well-sorted, rounded, black and red iron ore 0.2–0.5mm, Additionally matrix may contain sparse, greenish glauconite inclusions 0.1–0.2mm

Forms: strap handle, undiagnostic vessels with flat bases and plain rounded rims. Decoration comprises burnishing and diagonal incised motifs.

Comments: originating in the late Bronze Age/early Iron Age and continuing into the middle Iron Age

Illustration: Fig. 12: nos 8 and 9,

Type F30 Sand and calcareous inclusions (6.6%)

Fabric: fairly hard fired with a rough texture, although the fabric can vary from fine to coarse. Typically, reddish-brown surfaces and dark grey core, although may be dark grey or brown throughout. Contains abundant, well sorted, rounded or subrounded quartz, 0.2–0.5mm and well sorted rounded calcareous inclusions, 0.4–0.7mm, Also sparse quantities of fine black or red iron ore.

Forms: undiagnostic vessels with flat bases and rounded or rolled rims,

Illustration: Fig. 12: no. 11.

Type F35 Micaceous (2.0%)

Fabric: fairly hard fired with smooth surfaces, reduced dark grey-black throughout. Characterised by the presence of abundant fine white mica, particularly visible on the external surface. Contains abundant, well-sorted subrounded fine quartz, 0.1–0.5mm, and rare elongated voids, up to 1.5mm in size, where organic matter has burnt out.

Forms: undiagnostic rounded rim and hand-made body sherds, some burnished.

Type F36 Chimnor-Wandlebury fineware (1.7%)

Fabric: uniformly reduced black burnished and relatively gritless fabric: discussed by Cunliffe (1991).

Forms: undiagnostic hand-made, burnished body sherds.

Type F37 Calcareous mixed (3.8%)

Fabric: fairly soft fired powdery fabric, buff-grey to bufforange in colour with dark grey-black cores. Generally fairly smooth, although occasional examples may be harsh due to a higher sand content. Characterised by white calcareous inclusions, 0,5–1.0mm, and red iron ore, 0.5–1.5mm, which are particularly visible to the naked eye. The former comprise moderate amounts of rounded limestone and shell, of light grey colour and freshly-crushed appearance. Very occasional bryozoa can be seen. Also contains organic matter, visible as elongated black inclusions in the break, but particularly visible on the surfaces as elongated voids. Sparse subangular quartz grains are also present, occasionally stained red.

Forms: round shouldered vessels, some thick-walled, with flat and beaded rims, and a single strap handle.

Comments: middle Iron Age date, possibly continuing into the late, pre- 'belgic' Iron Age,

Illustration: Fig. 12: no. 10,

Type F Non-specific Iron Age (84 sherds)

Sherds (mainly crumbs) which could not be assigned a fabric type, but whose form or context suggest an earlymiddle from Age date. These are described in the site archive.

LATE IRON AGE

Type F03 Grog and sand (2.8%) Fabric: Slowikowski (2000, 61) Forms: undiagnostic haud-made body sherds, some burnished.

Comments: pre-'Belgie' from Age; originating in the early-middle from Age and continuing into the late from Age contemporaneously with wheel-thrown 'Belgie' pottery.

Type F06B Medium grog (<1.0%) Fabric: Slowikowski (2000, 62): discussed by Thompson (1982). Forms: undiagnostic wheel-thrown body sherds. Comments: late 'Belgic' Iron Age.

Type F07 Shell (<1.0%) Fabric: Slowikowski (2000, 62) Forms: hand-made flat base sherd. Comments: late Iron Age.

Type F09 Sand and grog (2.1%) Fabric: Slowikowski (2000, 62), *c.f.* also Milton Keynes fabric group 47 (Marney 1989, 193–4). Forms: undiagnostic wheel-thrown body sherds. Date range: late 'Belgic' Iron Age.

ROMAN

Type R06B Coarse grey ware (<1.0%) Fabric: harsh gritty fabric, with variable reduced core and surfaces, the latter often smoothed and/or burnished. Contains abundant, ill-sorted, sub-rounded quartz, 0,5-1,0mm. Forms: undiagnostic wheel-thrown body sherd. Comments: 2nd century onwards.

Type R06C Fine grey ware (<1.0%)

Fabric: hard fired, smooth fabric with variable reduced surfaces and paler core. Contains frequent, well-sorted fine quartz, 0.1–0.5mm. Forms: undiagnostic wheel-thrown body sherds. Comments: 2nd century+.

Type R06D Micaceous grey ware (<1.0%) Fabric: soft fired fabric with mid-grey surfaces and paler core. Contains common, well-sorted, sub-rounded fine quartz, 0.1–0.5mm, and sparse inclusions of larger grains. Also rare red iron ore.

Forms: undiagnostic wheel-thrown body sherd. Comments: 2nd century+.

Type R14 Red-brown barsh (<1.0%)

Fabric: harsh, hard fired fabric with variable orangegrey-brown surfaces and core. Contains abundant, fine, clear or opaque quartz, 0.3–1.0mm, and sparse red iron ore.

Forms: undiagnostic wheel-thrown body sherds. Comments: ?2nd-4th century

POST-ROMAN

Medieval and post-medieval pottery constitutes approximately two percent of the excavated assemblage (1 and 4 sherds respectively). A list of post-Roman types is contained in the archive.