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THE INVESTIGATION OF THE PREHISTORIC LANDSCAPE ALONG THE ROUTE OF THE A303 ROAD IMPROVEMENT BETWEEN ANDOVER, HAMPSHIRE AND AMESBURY, WILTSHIRE 1984–1987

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ABSTRACT

Limited archaeological work in advance of a road improvement programme along the A303 between Andover and Amesbury in 1984 and 1986 examined the north side of an Iron Age enclosure and several sets of field systems. This area of the ditched enclosure was occupied from the fifth to first centuries BC. Evidence for the cultivation of both wet and dry soils, grain storage and processing, animal husbandry, butchery and skinning, the use of local and non-local pottery, and textile production was revealed. The extensive linear boundary systems were determined as either undated or of probable middle–late Bronze Age construction in a well-established open landscape.

GENERAL INTRODUCTION

The A303 trunk road improvement programme was designed to upgrade the route between the Andover by-pass and Beacon Hill, Amesbury to dual carriageway (Fig 1). This was undertaken in two phases; the first (contract 1) between Andover and Thruxton began in summer 1984, and the second (contract 2) between Thruxton and Amesbury started in autumn 1986. The associated programme of archaeological work carried out by the Trust for Wessex Archaeology was in three parts: a watching brief by P Harding along the route of the first phase, Section 3 of this report (TWA archive W69); a watching brief along the rest of the route supervised by H Riley, Section 2 (TWA archive W151); and a limited rescue excavation of an Iron Age enclosure at Lains Farm (SU269444) also supervised by H Riley, Section 1 (TWA archive W160). All three parts of the project are discussed in Section 4. The archives and finds for all three parts of the project have been deposited with the Hampshire County Museum Service.

The route crosses a gently undulating area of Upper Chalk, the eastern half of which forms part of the River Test basin and the western half forms part of the River Bourne basin (Fig 1). It cuts across a complex and well-developed archaeological landscape which has previously been recorded by Bowen (1975a and b; 1978) and extensively mapped from aerial photographic data by Palmer (1984). This information, together with the data published from the excavations at Danebury (Cunliffe 1984), provided the framework within which the following archaeological investigations were conducted.

The archaeological landscape is divided up by several extensive linear ditch systems, which have a general NNW–SSE trend, and contains traces of many blocks of both cohesive and aggregate field systems, which have a complex relationship to the linear ditches (Palmer 1984, fig 24). Within this landscape are many more discrete sites including the hillforts of Danebury (Cunliffe 1984), Bury Hill (Hawkes 1940) and Quarley Hill (Hawkes 1939) and a large number of enclosures and settlements including Lains Farm, High View Farm (Dacre 1979; Dacre 1980), Old Down Farm (Davies 1981) and Balksbury (Wainwright 1970; Wainwright and Davies, forthcoming).

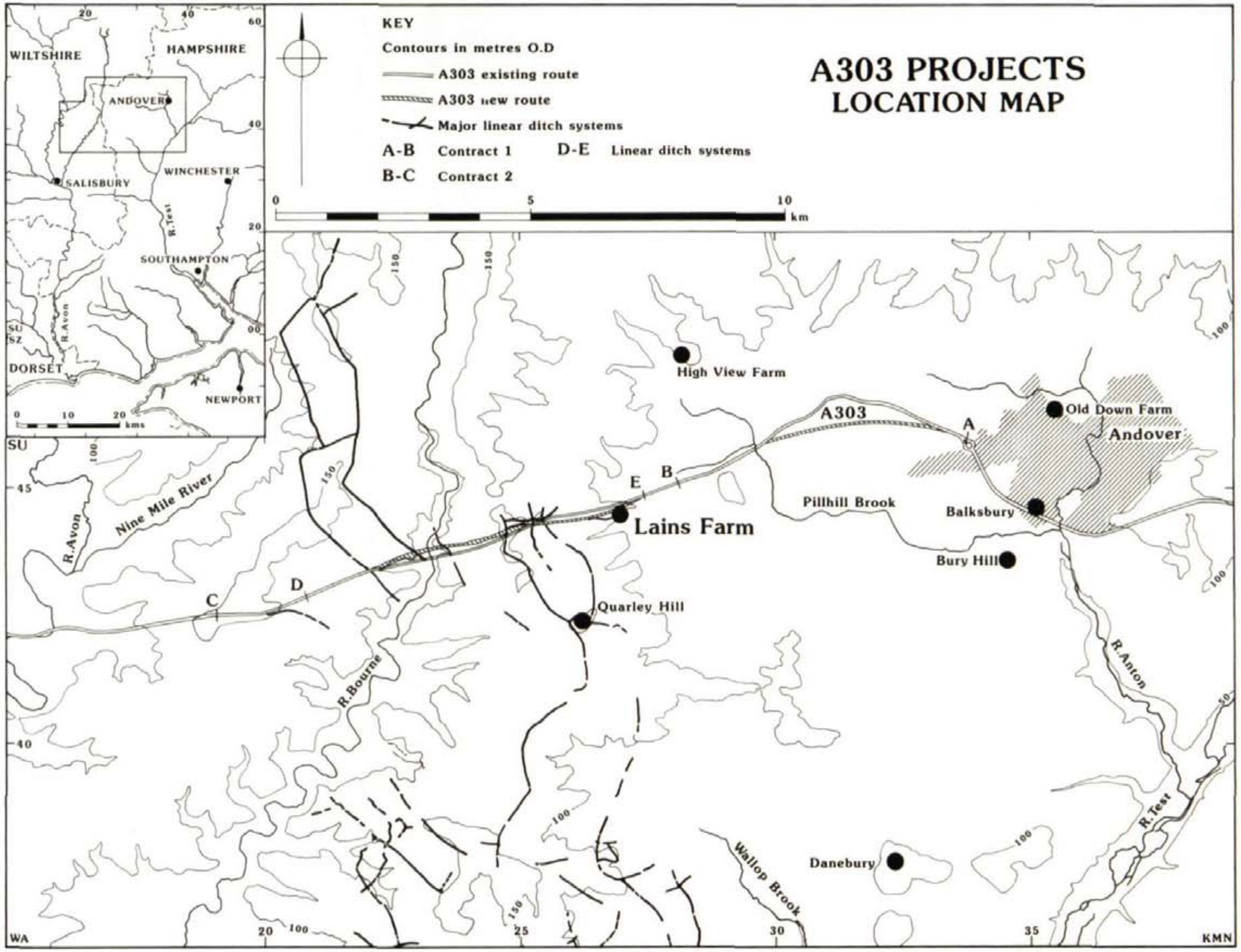

Fig 1. The route of the A303 and major features of the archaeological landscape.

The western part of the A303 dissects some of the major 'Wessex' linear ditches including a system which converges on Quarley Hill. This system appears to define an area which is devoid of ancient fields (Palmer 1984, fig 24). The relationship of the linear ditches with the hillfort on Quarley Hill was investigated by Hawkes (1939) and a Bronze Age date was suggested for some of them but the evidence also suggests that some parts of the system at least, continued into the Iron Age. Another section across the 'Quarley Low' linear on Quarley Hill (Arnold 1972) did not provide any further dating evidence but produced some environmental data. Excavations on the linear ditch system on Blagdon Plantation and Knoll Down (Evans and Vaughan 1985), while not in the immediate area, provide useful comparative data both on the development of these systems and on the contemporary environment.

SECTION ONE: THE EXCAVATION OF AN IRON AGE ENCLOSURE AT LAINS FARM

INTRODUCTION

The Lains Farm enclosure lies on a slight chalk ridge trending ENE–WNW at about 100 m OD. It lies roughly equidistant between the Pillhill Brook and the River Bourne but it is within two kilometres of a small tributary of the Pillhill Brook (Fig 1). The site was known prior to the recent road improvement scheme and an aerial photographic plot of the site was published by Palmer (1984). This showed it to be a wide-ditched, D-shaped enclosure, 1.83 ha in area with a further small curvilinear enclosure, 0.118 ha in area in the southern half.

A reassessment of this complex is necessary in the light of additional data from more recent aerial photographs taken in late 1986–early 1987. The larger D-shaped enclosure appears much as plotted by Palmer although the western side is not visible on these recent photographs. The internal features previously plotted were not visible but additional features can be recognised which clarify the site morphology (Fig 2). Superimposed on the southern part of the larger enclosure is a smaller roughly D-shaped enclosure, *c* 0.57 ha in area, with two ditches curving outwards from the middle of the northern side to form a possible banjo enclosure. There appears to be a slight change in the line of the eastern side of the larger enclosure at the intersection with the eastern flanking ditch of the banjo. One of the photographs reveals a large number of pits in the interior of the northern part of the enclosure complex. A large funnel-shaped enclosure is attached to the eastern side of this complex. The ditch of the northern arm is noticeably wider at the western end where it meets the north-eastern corner of the D-shaped enclosure. There is a possible entrance gap at this intersection. The exact relationship between these features is not clear; the banjo appears to be later than the D-shaped enclosure but the change in alignment of the ditch on the eastern side might indicate that these were both an integral part of the same complex. The funnel-shaped enclosure appears to be a later addition. The relationship between the banjo and funnel-shaped enclosures is not known.

THE EXCAVATIONS AND STRUCTURAL EVIDENCE

The new route for the road cut a 55 m wide swathe across the northern end of this enclosure complex. When the archaeological investigations began, the northern half of the area had been very recently stripped so the definition of features was relatively clear, but the southern half was more weathered and disturbed by machinery and in some areas obscured by flooding. The contractors' activity had removed any surviving deposits overlying the chalk bedrock and may have truncated the

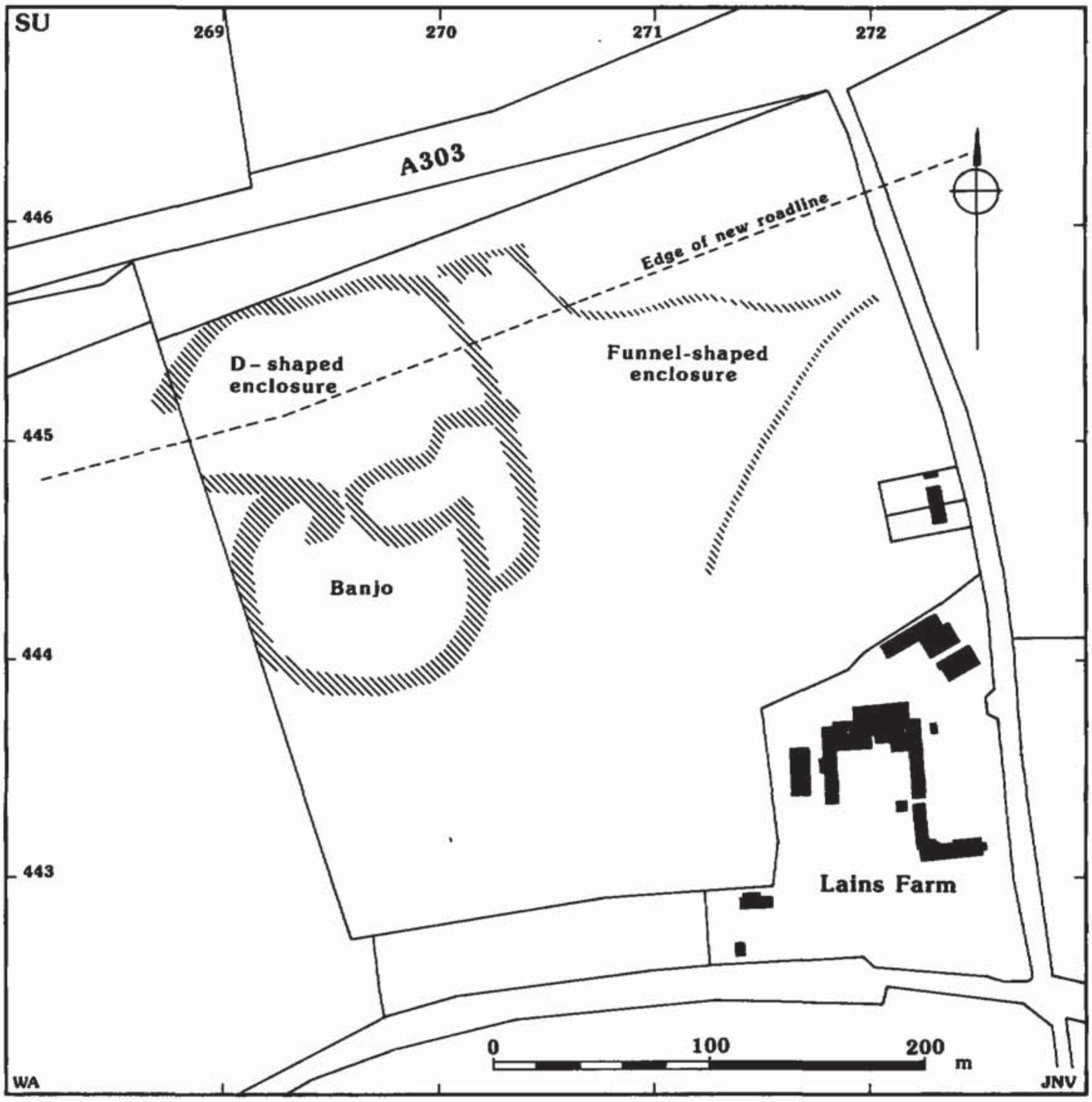

Fig 2. Lains Farm: plot of aerial photographic survey (taken winter 1986).

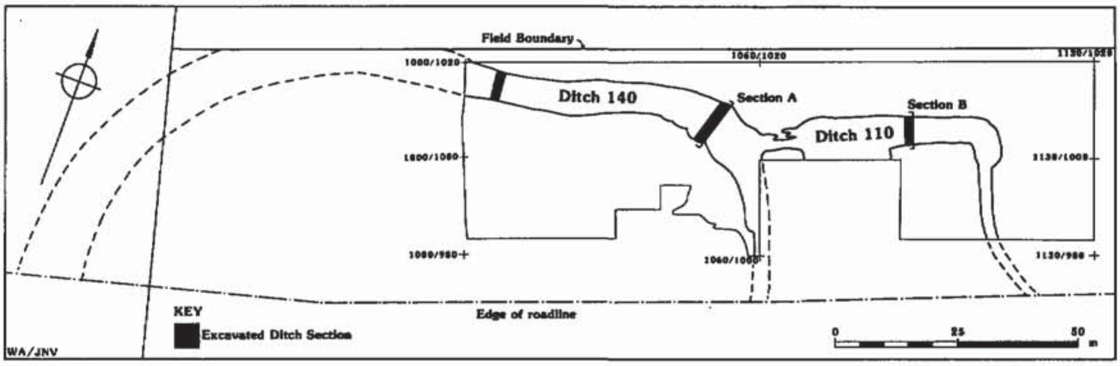

Fig 3. Lains Farm: area of detailed investigations and location of the major ditch sections.

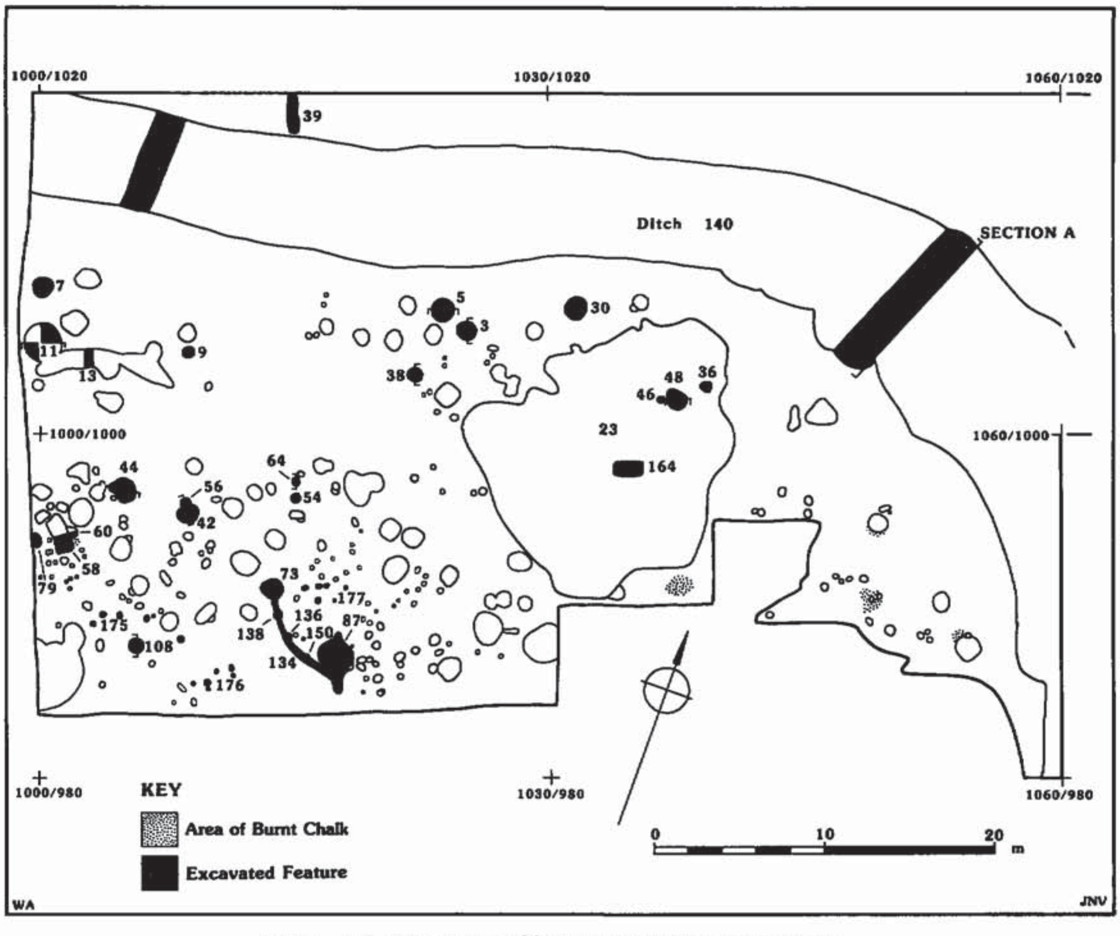

Fig 4. Lains Farm: plan of features within the main enclosure.

top of many features. The archaeological work, severely constrained by time and financial factors, was in two parts: limited excavation, which concentrated on an area measuring 130 m by 40 m in the north-eastern corner of the main enclosure (Fig 3); and a later watching brief carried out when the contractors removed the fillings of the major features by mechanical excavator. The excavation strategy was designed to recover a detailed plan of the investigated area and to excavate a proportion of features by type to allow an assessment of the chronology and the nature of the environmental and economic basis of the site. To this end, mollusc samples were taken from the enclosure ditches and a limited number of samples were taken from pits for the recovery of seeds and animal bone.

The excavation concentrated on the north-eastern corner of the enclosure and the junction with the funnel-shaped enclosure. Within the former, a large number of pits and post-holes, a large quarry scoop and various other features including a curvilinear gully, hearths and burnt areas were identified (Fig 4). Only a single, indeterminate feature (39) was recognised outside the enclosure. Few of these features were observed to be intercut and, therefore, virtually no stratigraphic data were available. A late Roman grave (164) was discovered during the watching brief when soil was being removed from the quarry scoop by contractor's plant.

Main Enclosure Ditch

The overall shape of the enclosure has already been discussed above. Two small trenches were excavated by mechanical plant under archaeological supervision across the northern side of the large D-shaped enclosure and a single trench cut in the same manner across the northern ditch of the funnel-shaped enclosure (Fig 3). These trenches were examined manually to reveal that the enclosure was defined by a complex of ditches rather than a single wide ditch as suggested by the aerial photographs. More detailed and extensive manual excavation of Section A indicated that there were at least three main phases to the ditch (Fig 5A).

The evidence for the first phase had been almost completely destroyed and consisted of a single, small flat-bottomed ditch (173), at least 0.60 m wide with an original depth of about 1.0 m, which had been almost completely cut away by ditch 160 in the subsequent phase. There was neither any visible trace of this early ditch in the other exposed section across the enclosure, nor was it observed during the watching brief.

The second phase was more substantial and consisted of two similar flat-bottomed ditches (159 and 160), both about 2.3 m wide and 1.0 m deep which were dug about 4.5 m apart. The southern ditch (160) appeared to be an enlargement of the original ditch (173) and both ditches were filled with similar material. The very similar shape, size, filling and stratigraphic position suggests that ditches 159 and 160 formed part of a double-ditched circuit or were possibly recuts on slightly different alignments. In the second ditch section to the west (recorded by photography alone), only a single flat-bottomed ditch was visible, in the same position as ditch 159. Unless the other ditch was completely destroyed by the latest ditch phase, it would seem that the enclosure was only partially double-ditched along its circuit. Initially, the ditches were filled with chalk rubble and several interleaving humic lenses which probably represents the primary erosion of the sides. These layers only survived as a wedge of material against the outside edge of each ditch (Fig 5A, contexts 147 and 148). The rest might have been removed by a later recut. Above the chalk rubble filling was a silty clay loam (161, 162) which appeared to have accumulated gradually by natural silting processes.

The third phase of the development of the enclosure circuit consisted of a large irregular V-shaped ditch with a flat bottom (140) which measured approximately 5.1 m wide and 2.5 m deep and was visible in both sections. The base of the ditch was filled with fine chalk silt (146) and above this was a layer of chalk rubble (145) which had been tipped in from the southern side. This might be evidence for the erosion of an internal bank; however, this layer was only recognised in one section. No other evidence of a bank was found. Above layer 145 the ditch appears to have silted up naturally. In the other western ditch section, a layer of burnt flint was observed tipping down the southern side just above the primary filling from a depth of approximately 1.3 to 1.5 m. This probably represents the deliberate disposal of waste from inside the enclosure into the ditch. The rest of the ditch appeared to have silted up naturally.

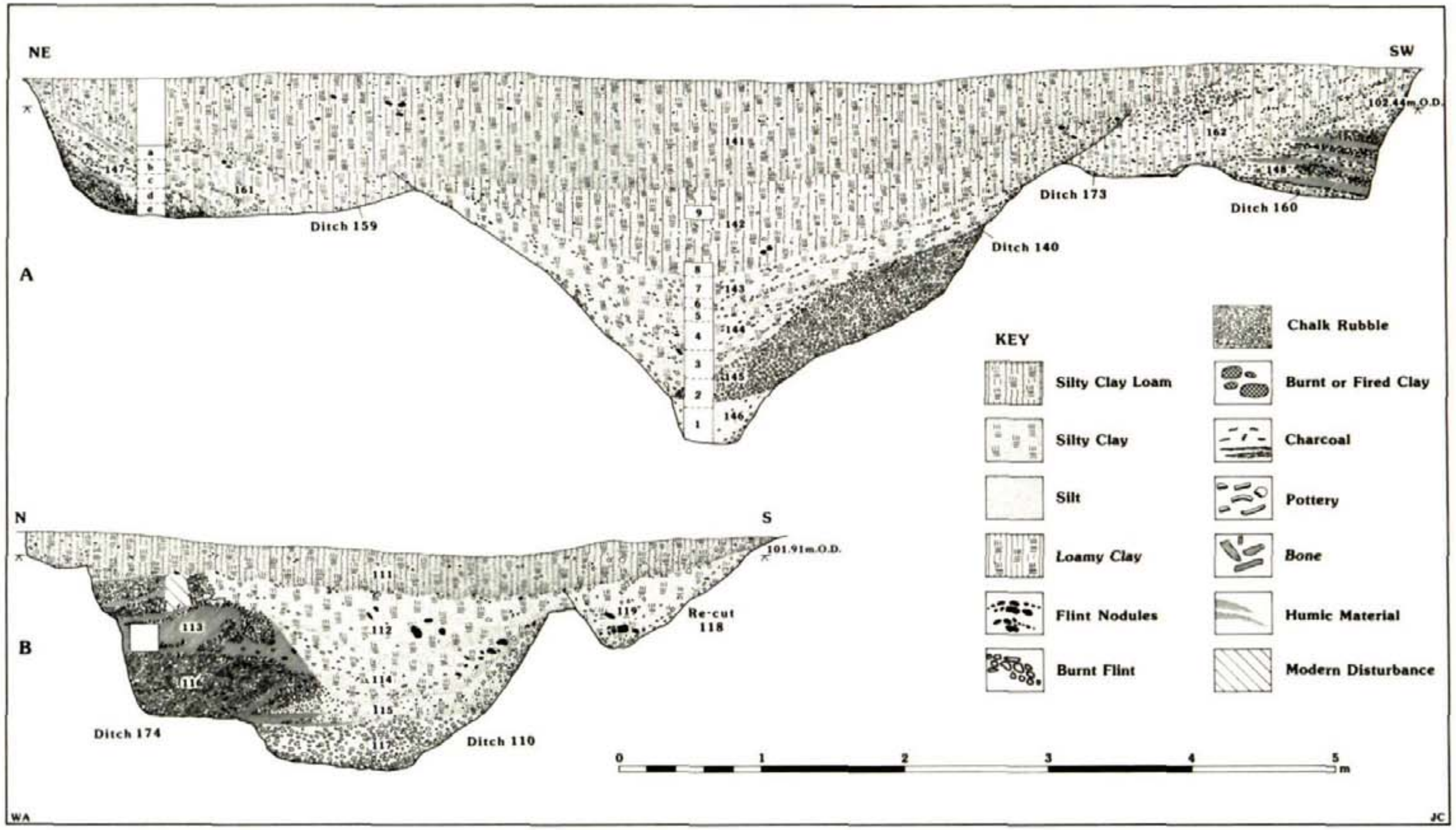

Fig 5. Lains Farm: the enclosure ditch sections.

Quarry Scoop

A large irregularly shaped feature (23), approximately 16 m by 16 m in plan and filled with dark yellowish brown silty clay soil (24), was discovered in the north-eastern corner of the enclosure. It was not fully excavated manually but was at least 0.5 m deep. The large size and irregular nature of this feature suggest that it was a quarry scoop. Analogous features have been found at other Iron Age sites at Old Down Farm (Davies 1981), Winnall Down (Fasham 1985) and Danebury (Cunliffe 1984).

Pits

A selection of 16 pits were either totally or partially excavated (Fig 4). The forms of these have been divided according to the classification used for Danebury and the volumes calculated (Table 1) using the same criteria (Whittle 1984) but it must be remembered that the original top of the pits may have been destroyed by erosion or by the contractors' stripping of the topsoil and the majority had eroded sides. No tool marks have been recorded from any of the pits. Pit 64 (Fig 6D) had a layer of burnt clay (context 75; not visible on Fig 6D) at the bottom which was interpreted as being part of a lining. The size range of the different pit types (Table 1) appear to confirm the data from Danebury, that is the cylindrical pits have a wider range of sizes but the beehive pits tend to be larger and deeper. There is no surviving evidence for the primary use and function of these features but the majority of pits are assumed to have been used for storage. A small quantity of carbonised seeds was found in pits 3, 5, 9, 44, 73 and 108 but as the majority came from the upper levels of the pits, this is unlikely to represent primary function but rather secondary deposition processes.

The nature of the fillings indicates that the pits were filled either artificially, by natural silting, or by a combination of the two (Table 1). The majority of pits excavated appear to have been deliberately backfilled fairly rapidly after they were emptied, as only two pits (11 and 38) had evidence of natural silting at the base (Figs 6H and 6C), and only one (pit 11) had evidence for the erosion of the sides during backfilling, suggesting that it was filled up gradually and intermittently (Fig 6H). Pit 42 was the only example displaying evidence for complete natural silting (Fig 6G). The range and variety of the fillings will not be studied in detail here, but a sample of the pits is illustrated in Figure 6 and the detailed information is available in the archive. The value of any spatial analysis is limited as only a very small number of the pits observed were excavated. No discernible patterns were observed in the distribution of the different types of pit and fillings.

A few pits, however, are worthy of further comment. Two pits (38 and 64) were deliberately sealed with a capping of hard-packed chalk rubble (Figs 6C and 6D). A similar phenomenon has been noted at Danebury (Whittle 1984, 145). Pit 11 contained a large collection of loomweights. Pit 36 yielded a very large quantity of pottery. Six pits (3,

Table 1. Lains Farm: Pit metrical data.

Feature Number	Type	Mouth Dia (m)	Base Dia (m)	Depth (m)	Volume (m^3)	Type of Filling
3	beehive	1.20	1.48	0.85	1.20	artificial
5	beehive	1.40	1.50	0.42	0.69	artificial
11	beehive	2.00	2.26	1.70	6.09	combination
73	beehive	1.34	?	1.30	?	artificial
108	beehive	0.90	1.24	0.99	1.15	artificial
9	cylindrical	0.69		0.42	0.16	artificial
30	cylindrical	1.20		0.36	0.41	artificial
38	cylindrical	0.84		0.70	0.39	combination
42	cylindrical	1.00		0.43	0.34	natural
44	cylindrical	1.90		1.00	2.83	artificial
54	cylindrical	0.48		0.10	0.02	artificial
64	cylindrical	0.50		0.18	0.04	artificial
79	cylindrical	0.65		0.58	0.19	combination
58	subrectangular	1.10x1.00	?	>1.30	?	artificial
48	conical	1.20		0.50		artificial
36	unclassified	0.50	?	?	?	artificial
87	?	2.00	?	?	?	?

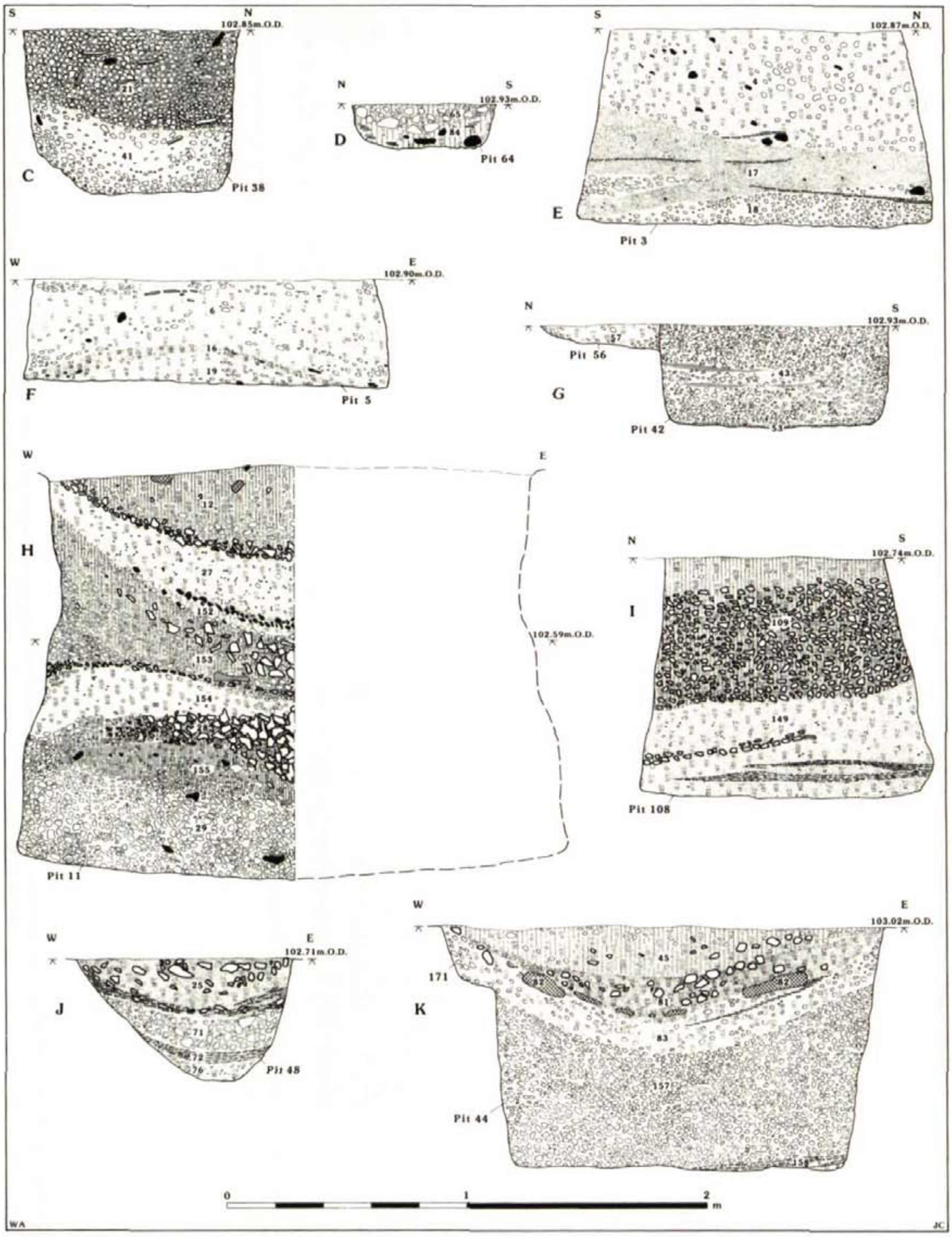

Fig 6. Lains Farm: selection of excavated pit sections.

11, 64, 73, 79 and 108) contained concentrations of burnt flint and other evidence for burning which suggests that they were filled with material derived from hearths, or had been used as locations for pyrotechnical activities. The top of pit 44 had an oven (82) built into it (Fig 6K) and the conical pit (48) appeared to have some *in situ* burning. These last two features are discussed in greater detail below.

Postholes

A total of 22 postholes was excavated. These were all roughly circular, between 0.25 and 0.40 m in diameter and between 0.1 and 0.25 m in depth, and were filled with either a pale brown silty clay or a yellowish brown silty clay loam. No significant patterns could be observed in the distribution of the postholes, both excavated and unexcavated, although there was a definite clustering towards the south-western part of the excavated area. No post-hole structures can be postulated with any confidence. Although there is some stratigraphical differentiation (cf the relationship of postholes 138, 136, and 150 with gully 134 (Fig 4)), there is no observable pattern to the chronological sequence. It is unclear whether the different fillings indicate chronological distinction as there is no explicit patterning in their distribution.

Hearths and Ovens

A single possible clay oven base (82) was discovered. This structure was not completely recorded so many of the details are not clear. It was built on top of pit 44 and had partly subsided as a consequence (Fig 6K). This structure consisted of a roughly circular area of burnt daub or clay, approximately 1.15 m in diameter, which was composed of a rim *c* 0.25 m wide and 0.06 m thick, defining a central area of burnt clay 0.75 m across that survived approximately 0.02 m thick. There was a large amount of burnt flint, charcoal and carbonised seeds in the overlying layers (81, 45) but no daub which might have come from the oven plate or cover. No traces of burning were recorded in the immediate vicinity. Oven bases of similar size and shape have been found on other Iron Age sites such as Danebury (Poole 1984, 115), Glastonbury (Bullied and St George Gray 1911, 78–9, 156) and Maiden Castle (Wheeler 1943, 55, 93– 6). The use of pits containing daub structures and large quantities of burnt flint for the parching of grain has been discussed elsewhere (see Neal 1980).

The conical pit 48 (Fig 6J) is perhaps best interpreted as a hearth or fire pit. Two possible phases can be isolated in this feature. At the base of the pit was a 0.07 m thick layer of clay (76), that appeared to have been burnt *in situ*, overlain by a thin layer of charcoal (72) which was probably the remains of the original hearth. This was sealed by a deliberate deposit of angular chalk rubble (71). On top of this was a layer (25) with a high proportion of burnt flint and with a concentration of charcoal at the base. This was possibly the remains of another hearth. There were, however, no traces of burning on the surrounding chalk.

In addition to these two excavated features, there were five burnt patches visible on the chalk bedrock: one next to pit 58 and four in the area south-east of the quarry scoop (Fig 4).

Other Features

A single small curvilinear flat bottomed gully (134), 0.20 m wide and 0.07 m deep, was found running between pits 73 and 87 (Fig 4). The relationship between the gully and the two pits was not determined because of problems with collapse and slumping of the pit fillings during excavation. It cut through posthole 138 and was cut by postholes 136 and 150. This gully could not be ascribed to a structure.

Four small bowl-shaped scoops (7, 46, 56, 60) which ranged in size between 0.4 and 1.4 m across and between 0.10 and 0.25 m deep, were excavated (Fig 4). The function of these is uncertain and most appear to have been deliberately backfilled.

In the north-western part of the excavated area was a large curving feature (13). A single section, excavated across the centre of it, revealed that it had vertical sides and a flat bottom 0.8 m deep with a large quantity of burnt flint in its filling. Too little was excavated to allow any proper assessment of its composition; however, the complex plan shape suggests that it was, in fact, several intercutting features.

A single sub-rectangular, V-shaped cut (39), 2.0 m long, 0.8 m wide and 0.24 m deep was found immediately outside the northern edge of the enclosure. No finds were recovered and the significance of this feature is uncertain.

The Late Roman Grave

A single inhumation burial was found in the watching brief during mechanical excavation of quarry scoop 23. Consequently, the location of the grave and its relationship to underlying deposits is not known as precisely as the other excavated features. However, it probably cut into quarry scoop 23. The grave (164), which was a simple rectangular, flat-bottomed cut, was orientated roughly east–west and measured at least 1.5 m long by 0.9 m wide with a minimum depth of 0.20 m. It contained a supine, extended inhumation of a young adult male with his head to the west. The western end of the grave and the upper part of the skeleton had been removed by machine. The bones, plus a late Roman New Forest flagon "found near the skull" and a similar New Forest vessel "found nearby" were collected initially by the contractors. No trace of a coffin or any other grave furniture was found. This grave is probably associated with the small Roman cemetery of four graves found about 250 m away on the northern side of the A303 (SU26824476) (Fowler 1969).

The Funnel-Shaped Enclosure

A single, mechanically excavated trench was cut across the northern arm of this enclosure near the junction with the main enclosure (Fig 3, section B). This section revealed a complex sequence of ditches which can be divided into three phases (Fig 5B). The first phase was a flat-bottomed U-shaped ditch 174 which survived up to 1.4 m wide and 1.2 m deep. Its southern side had been cut away by the ditch of the subsequent phase. It was filled with vacuous chalk rubble (116) containing some humic lenses (113) which suggested that it had silted up naturally and had not been cleaned out. The second phase consisted of a larger U-shaped ditch (110) which cut the southern edge of ditch 174. The shape of the cut has been partly obscured by the slumping of the earlier ditch filling. It measured approximately 3.7 m wide across the top and was 1.5 m deep. This ditch also appears to have silted up naturally. The third phase consisted of a small V-shaped ditch (118) with a rounded bottom, 1.3 m wide and 0.75 m deep, which cut the southern edge of ditch 110. This also appeared to have silted up naturally. No finds were recovered from any of these ditches. This sequence cannot be taken to be representative of the whole of this enclosure as the aerial photographs show that the ditch was wider at this point than along the rest of the enclosure ditch (Fig 2) and therefore may contain more phases. No features were found inside this enclosure but most of the area investigated was obscured by flooding. Nevertheless, even from such a very limited area, the evidence from the absence of occupation debris in its backfilling suggests that this enclosure ditch was unlikely to have defined an area which was intensively used.

The aerial photographic evidence suggests that there was a gap in the funnel enclosure where it joined the main enclosure. Unfortunately, the relationship between the two enclosures was not investigated by excavation and the plan of the junction is equivocal (Fig 3). The rather irregular shape of the ditch at this point might be partly due to disturbance by machine and by flooding and may mask the presence of an entrance gap. There do, however, seem to be fairly clear traces of a small ditch approximately 1.5 m wide on the southern side which continues through to join the main enclosure ditch. This is probably ditch 118.

THE ARTEFACTS AND ECONOMIC EVIDENCE

edited by Elaine L Morris

The occurrence of the major finds within individual features is shown on Table 2. The individual material types are discussed below and are considered together as a complete assemblage in the discussion of the Lains Farm enclosure. The location of objects and bulk finds by context within feature is also presented by table either in text or in microfiche for each material type. Objects are referred to by individual number (eg SF63).

Artefacts were recovered manually under salvage conditions and by watching brief. In addition, several features were sieved and the quantities of material from these are presented in Table 12 (Mf I, 36) but not discussed with the exception of the animal bone (see pp 32–6), and environmental evidence (pp 36–45). The sieving revealed a significant quantity of burnt flint from features, a class of material which was not retained during the excavation, although the presence of varying quantities had been noticed. Future work at this site, and other sites in the area, should quantify this material by number and weight of pieces as evidence of particular human activities, in order for comparison with other sites of a

Table 2. Lains Farm: Quantification of excavated artefacts by feature or other context (excluding sieved material)

Feature type	no	Pottery no/wt	Fired Clay frags no/wt	Ceramic Loomwts no	Stone Loomwts no	Spindle Whorls no	Quern frags no	Whet-stones no	Flint Hammersts no	Worked Flint no	Iron Nail no	Worked Bone no	Animal Bone no/wt
pits	3	20/131	1147/100	–	–	–	–	–	–	4	–	–	231/964
	5	13/66	14/74	–	–	–	–	–	–	1	–	–	428/950
	9	114/446	–	2	–	1	–	–	–	2	–	–	113/156
	11	48/978	52/451	20	1	1	–	–	–	–	–	–	176/146
	30	28/332	89/12	–	–	–	–	–	–	–	–	–	1819/3930
	36	351/329	–	–	–	–	–	–	–	–	–	–	7/35
	38	112/339	–	–	–	–	1	–	1	–	–	–	73/80
	42	–	–	–	–	–	–	–	–	–	–	–	3/35
	44	31/409	36/22	–	–	–	1	–	1	–	–	–	994/7893
	48	1/10	3/4	–	–	–	–	–	–	1	–	–	23/404
	54	–	–	–	–	–	–	–	–	6	–	–	3/18
	58	37/357	53/330	1	–	–	–	–	–	2	–	–	158/889
	64	–	65/9	–	–	–	–	–	–	4	–	–	–
	73	90/849	1/109	–	–	–	–	–	–	1	–	–	400/3202
	79	62/899	28/462	–	–	–	–	1	–	–	–	–	13/38
	87	12/65	–	–	–	–	–	–	–	–	–	–	3/9
	108	23/660	218/823	–	–	–	–	–	–	–	–	–	142/1116
scoops													
	7	3/37	1/1	–	–	–	–	–	–	–	–	–	81/59
	46	–	5/5	–	–	–	–	–	–	–	–	–	43/22
	56	–	–	–	–	–	–	–	–	–	–	–	1/1
quarry													
	23	36/158	1/1	1	–	–	–	1	–	–	–	–	27/72
post holes	51	–	3/23	–	–	–	–	–	–	–	–	–	–
	68	19/22	2/4	–	–	–	–	–	–	–	–	–	1/7
	104	–	–	–	–	–	–	–	–	–	–	–	8/41
	122	–	–	–	–	–	–	–	–	–	–	–	1/1
	124	2/3	–	–	–	–	–	–	–	–	–	–	10/8
	130	8/18	–	–	–	–	–	–	–	–	–	–	1/20
	136	–	–	–	–	–	–	–	–	–	–	–	4/7
ditch													
	140	6/77	–	–	–	–	–	–	–	–	–	–	–
	160	–	–	–	–	–	–	–	–	2	–	–	–
grave													
	164	50/702	1/19	–	–	–	1	–	–	1	–	–	–
other													
	13	24/224	52/234	1	–	–	–	–	1	–	–	1	67/302
	89	1/10	–	–	–	–	–	–	–	–	–	–	5/3
	134	–	–	–	–	–	–	–	–	–	–	–	9/19
	U/S	253/3798	–	1	–	–	2	1	–	–	–	–	not counted
	total	1344/10919	1781/2683	26	1	2	5	3	3	23	1	1	4844/20527

similar nature where this material has been recorded (cf Little Somborne; Neal 1980).

The Pottery by Elaine L Morris

A total of 1,054 sherds (9,253 g) of later prehistoric pottery was recovered from excavated features and 253 sherds (3,798 g) from unstratified locations. In addition, a small group of Romano-British material from two vessels and a single, unstratified sherd (45 sherds; 664 g) were also identified and are described at the end of this report.

The pottery was analysed and recorded using the standard TWA methods (Morris 1989) which include the definition of individual fabric types and broad fabric groups on the basis of the dominant inclusion, using a binocular microscope (x20), form types and vessel sizes based on rim and base shapes and diameters, wall thickness, evidence for firing condition, decorations, surface treatments, residues and perforations. The assemblage was counted and weighed (to the nearest whole gramme) by fabric and form type for each context, and summarized by feature. This detailed record is available in the archive. Comparable, well-dated examples for the vessel forms and decorations were identified from sites in the immediate region to provide evidence for the dating of features by ceramic phasing, in the absence of stratigraphical phasing and independent dating information.

Various methods of comparative analysis and assessment of the pottery were not attempted, beyond the determination of broadly-based ceramic phasing, for a variety of reasons. Seriation of the later prehistoric pottery, from the 23 features or ditch sections containing this material, was not feasible due to the paucity of features containing a minimum amount of diagnostic pottery. A minimum quantity of either 25 sherds or 200 grammes per feature was established in order to follow previous standards for comparative work on similar later prehistoric assemblages (Shennan 1981; Morris 1983, 1988). Only 12 of the excavated ditch sections or features at Lains Farm contained this requirement, determined as the likely amount to be representative of a proportion of the range of datable material present at the time of deposition. In addition, the limited number of features with pottery precludes comparative analysis using mean sherd size variation to examine aspects of breakage, discard and depositional processes (Bradley and Fulford 1980; Lambrick 1984).

The Fabrics

The broad fabric groups defined for this collection include flint-tempered or flint-gritted fabrics (Group F), a grog-tempered fabric (Group G), one limestone-tempered fabric (Group L), a large range of sandy fabrics (Group Q), three shelly fabrics (Group S) and fabrics containing varying amounts of organic matter (Group V). Detailed descriptions of the fabrics are presented in microfiche (Mf I, 1–5), where the definitions refer to the grain-size, sorting and roundness classifications of sediments (Pettijohn 1975; Terry and Chilingar 1955).

A selection of the fabrics was chosen for thin-sectioning and petrological analysis to determine the likely source for the inclusions identified macroscopically (Williams, Mf I, 18–23) and thin sections were made of those sherds selected for slip analysis (Middleton and Tite, Mf I, 24–30); the results of both analyses are included below. A geological map is presented here for use in the discussion of resource utilisation and production where appropriate (Fig 7).

Investigation of pottery production systems based on ethnographic data has demonstrated that potters are most likely to utilise suitable potting clays and temper located within 1–10 km of their homebase, if available, due to the amount of energy necessary to profitably exploit the raw materials for ceramic production. These zones are known as the preferred and maximum territories of exploitation (Arnold 1981; 1985, 33). The immediate area within a 10 km radius around Lains Farm is dominated by Upper Chalk and includes only deposits of Clay-with-Flints as obvious clay sources likely to be suitable for pottery production, based on

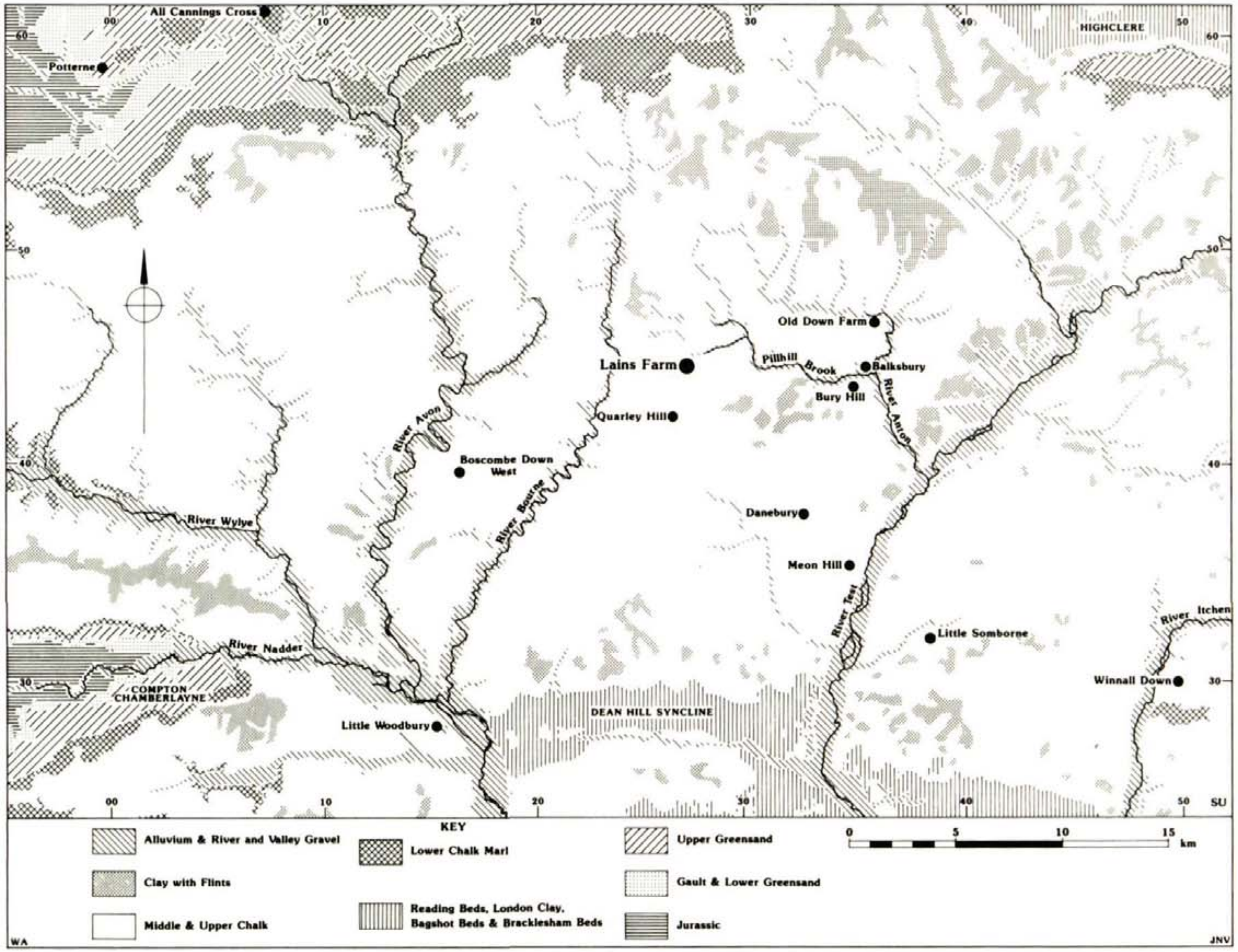

Fig 7. Lains Farm: local geology and clay sources.

its known exploitation for the production of bricks (Jukes-Brown 1908, 50–54). The flint fabrics (Group F), several of the sandy fabrics (Q1, Q2, Q3, Q5, and Q8) and the limestone-tempered fabric (L1) could have been produced from these deposits.

Outside this zone, the Dean Hill Syncline and various other geological strata, suggested as the most likely sources for potting clays used in the pottery recovered from Danebury (Cunliffe 1984, 244), are located just over 15 km to the south of Lains Farm. The Reading Beds, which occur just over 20 km to the north-east of Lains Farm in the area of Highclere are another potential source for potting clays (Wandibba 1981, 93), being similarly suitable for the production of bricks and tiles (Jukes-Brown 1908, 39–41). The glauconitic sandy fabrics (Q4 and Q7) could originate from Upper Greensand and Gault clay deposits or the Upper Chalk basal glauconitic strata located either 28 km to the south-west at Compton Chamberlayne (Cunliffe 1984, 245), approximately 15 km to the north-west or 23 km north-east of Lains Farm (Middleton and Tite, Mf I, 28; Jukes – Brown 1908, 26). Even the Bracklesham Beds to the north-east in the Highclere area contain green sands and clay deposits previously exploited for brickmaking (Jukes-Brown 1908, 46–8).

The fossiliferous shelly fabrics (Group S) are likely to have been made from clays and inclusions originating from Jurassic formations, the closest lying 30 km to the northwest (Fig 7), and also 40 km to the west of Lains Farm (Wandibba 1981; Williams, Mf I, 19).

A reference collection of these fabrics is available at the Trust for Wessex Archaeology. All fabric percentages have been calculated from the total sherd weight. A correlation of fabrics with forms is also presented (Table 3; Mf I, 14).

Group F: flint-tempered or flint-gritted

The flint-bearing fabrics comprise a limited range from truly flint-tempered wares to those which are probably naturally-gritted. There are only 70 sherds (1179 g) in this group which represents a small proportion of the later prehistoric pottery collection (9.0%). None of these Group F fabrics were selected for petrological analysis.

F1 – flint-tempered, slightly sandy fabric (36 sherds/403 g/3.1%)

F2 – sparse–moderately flint-tempered, sandy fabric (17/201 g/1.5%)

F3 – sparse–moderately flint-gritted, very sandy, harsh fabric (5/92 g/0.7%)

F4 – abundantly flint-tempered, sandy fabric (1/218 g/1.7%)

F5 – sparse–moderately flint-gritted, fine sand-silty fabric (11/265 g/2.0%)

Group G: grog-tempered fabric

The sherds in this fabric, although descriptively similar and therefore classified as the same fabric, are likely to be chronologically different. The two body sherds are fired in a manner which is typical of later Neolithic or early Bronze Age pottery (Cleal 1990), while the base sherd, which is burnished, is likely to be later prehistoric in date. Grog-tempered fabrics are found at Danebury (Cunliffe 1984, 308) and Old Down Farm (fabric 9; Davies 1981, 91). All three sherds were unstratified and represent only a small proportion of the collection (0.1%). None were selected for petrological analysis.

G1 – grog-tempered fabric (3 sherds/13 g/0.1%)

Group L: limestone and sandy fabric

The sherds in this fabric group are rare (<1%) but occur as well-burnished, diagnostic vessel forms, Types 15 and 16 (Table 3; Mf I, 14). One sherd was selected for petrological analysis, the results of which indicated that this fabric could have originated from clays local to Lains Farm.

L1 – chalk-like limestone in a sandy clay matrix (14/123 g/0.9%)

Group Q: sandy fabrics

Sandy wares are common fabrics at Iron Age sites in the chalkland zones of Hampshire and occur throughout the period (Davies, 1981, 89; Cunliffe, 1984, 232; Hawkes 1985, table 5; Rees, forthcoming; Neal 1980). Lains Farm is no exception; 78.9% of the collection is made from fabrics containing various types and proportions of quartz or glauconite and quartz grains in vessel forms representing the full range of pottery recovered (Table 3; Mf I, 14). Nine sherds were selected from diagnostic forms for petrological analysis, which indicated that fabrics its known exploitation for the production of bricks (Jukes-Brown 1908, 50–54). The flint fabrics (Group F), several of the sandy fabrics (Q1, Q2, Q3, Q5, and Q8) and the limestone-tempered fabric (L1) could have been produced from these deposits.

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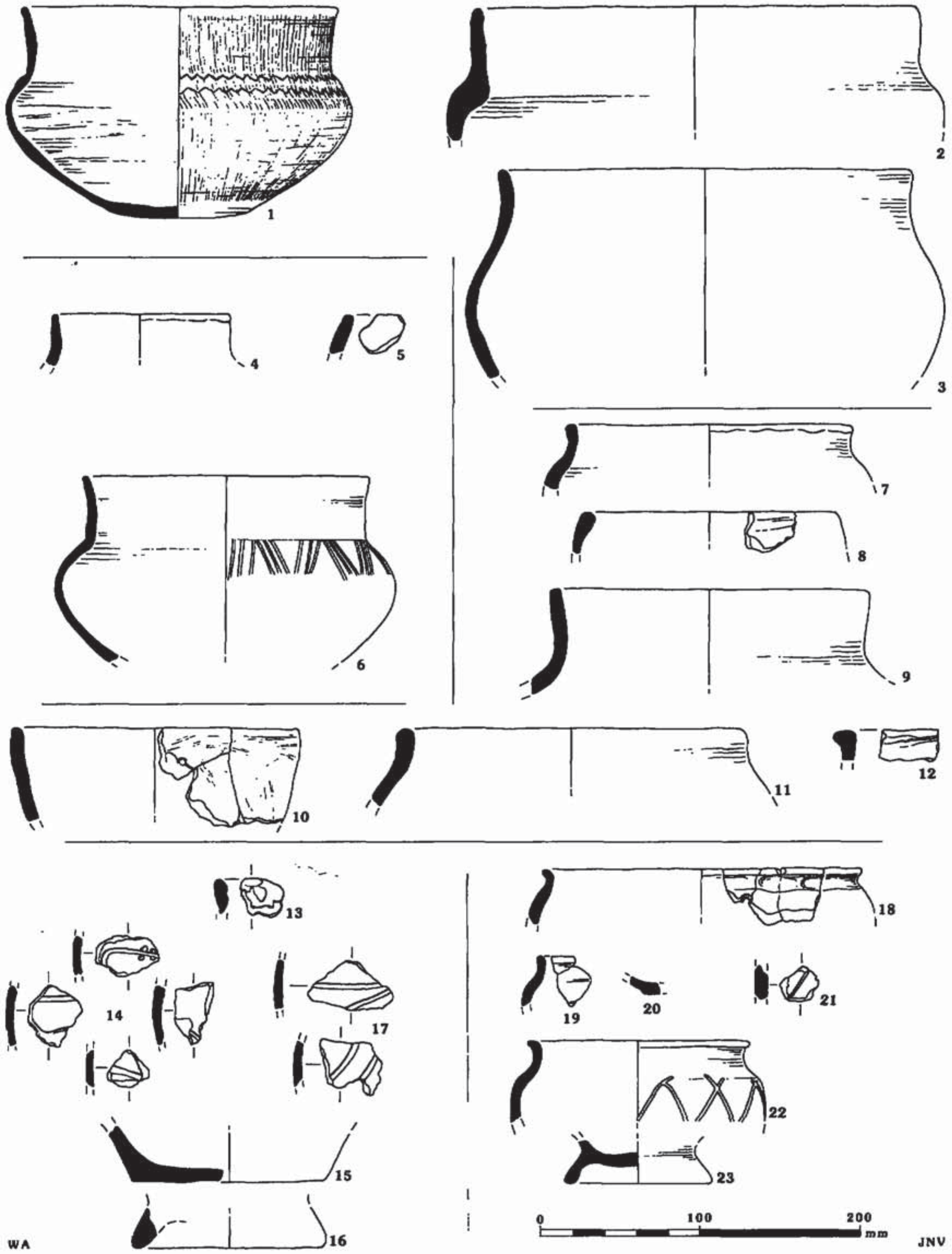

Fig 8. Lains Farm: the pottery, illustrations no 1–23.

Type 2 – long-necked rim of an unknown vessel shape (Fig 9, 32)
Type 3 – slack-shouldered jar with simple, vertical or beaded rim with ovoid vessel form (Fig 8, 11; Fig 9, 27, 29)
Type 4 – slightly everted rim on high-shouldered, neckless jar (Fig 9, 33)
Type 5 – long-necked, round-bodied bowl (Fig 8, 1, 6)
Type 6 – inward sloping, flat-topped rim with inner and outer overhanging edges (Fig 9, 34)
Type 7 – flat-topped, vertical rim on a necked and slightly shouldered, round-bodied bowl (Fig 9, 35)
Type 8 – thin-walled, rounded, long, simple, vertical rim from an unknown vessel shape (Fig 9, 36)
Type 9 – thick, rounded rim from a necked vessel (Fig 9, 37)
Type 10 – ovoid jar with thickened, incurving rim; barrel-shaped jar form (Fig 8, 5, 8)
Type 11 – slightly everted/pulled-out, thickened rim (Fig 8, 12)
Type 12 – straight-sided, or vase-shaped open vessel (Fig 9, 38)
Type 13 – vertical, long or short rim on strongly shouldered jar (Fig 8, 2)
Type 14 – vessel with smooth, S-shaped profile (Fig 8, 3)
Type 15 – 'proto-saucepan pot' or saucepan pot with profile either tapering towards base or convex and simple, rounded rim (Fig 8, 10)
Type 16 – shouldered open vessel/bowl with simple, rounded vertical or everted rim (Fig 8, 19, 22)
Type 17 – saucepan pot with beaded and bevelled rim (Fig 9, 41)
Type 18 – a very large, slightly shouldered, necked, open vessel with thick, expanded, flat-topped rim (Fig 9, 30)
Type 19 – very slack-shouldered, small jar with knife-trimmed, long-necked, flat-topped rim with finger-tipping decoration on top of rim (Fig 9, 24)
Type 99 – indeterminate rim form (Fig 8, 13)

Bases

Type 200 – flat base; simple or beaded forms (Fig 8, 15, 20; Fig 9, 25)
Type 201 – pedestal base (Fig 8, 16, 23)

Decorations

Dec. Type 1 – raised horizontal ridge or cordon ('Meon Hill-style') (Fig 8, 1; Fig 9, 28, 39)
Dec. Type 2 – shallowly tooled grooves or burnished lines in a geometric pattern of convergent groups of parallel lines in an open chevron design (Fig 8, 6)
Dec. Type 3 – shallow-tooled grooves in a pattern of curved line and paired dots, parallel lines or lines at various angles (Fig 8, 14, 17, 21, 22)
Dec. Type 4 – post-firing scratched design as either faint traces of open triangles with separated sides and a vertical apex or a connected zig-zag design (Fig 8, 1; Fig 9, 28)
Dec. Type 5 – diagonal slashes (Fig 9, 39)
Dec. Type 6 – finger-tip or finger-nail impressions (Fig 9, 24, 40)

Surface treatments

Three types of surface treatment were recognised within the collection: wiped, red-finished or red-slipped, and burnished. Surface wiping which drags inclusions across the surface or leaves ridge and groove marks on the surface is a rare occurrence (<1% of the collection). Burnishing is found on examples of rim Types 1, 5, 6, 7, 8, 10, 11, 15–18 and base Types 200 and 201. The presence of a red-finish on the surface of two types of vessels (Types 5 and 6) was identified.

Four samples from the red-finished Type 5 vessels were presented to the British Museum Research Laboratory for X-ray diffraction analysis and examination in the scanning electron microscope (Middleton and Tite, Mf I, 24–30). Two of these are the form traditionally known as 'haematite-coated', scratched cordoned ware (Fig 8, 1; Fig 9, 28), one is a simple round-bodied, red-finished bowl with grooved decoration (Fig 8, 6) and the fourth is a cordoned and slashed body sherd (Fig 9, 39). The first three proved conclusively to have been produced by the application of a slip containing fine-grained particles of iron oxide of variable thickness, while the fourth sample had no slip coating or even any increase in iron oxide on the surface. The slipped examples do not contain haematite, but rather a very slight proportional increase in iron oxide above that already contained in the fabric clay matrix. These samples are very similar to those observed elsewhere in Wessex (Middleton 1987).

Perforations

Several sherds bore perforations made before or after the vessels had been fired. These were located either on the base in multiple combinations (Fig 9, 25) or along the upper or lower wall of a vessel (Fig 8, 10, 18; and one not illustrated). Such a small number of examples on such a variety of different fabrics (F4, L1, Q1, V1), vessel forms (Types 1, 15, 200) and surface finishes (burnished and plain examples) cannot be used to differentiate clearly functional uses. However, perforations on Iron Age vessels have been recognised as a common occurrence and are clearly worthy of further study (Wainwright 1979, fig 59 and figs 63–67; Davies 1981, fig 28, 102–103; Cunliffe 1984, fig 6.74, 38; Hawkes 1985, fig 53, 46 and fig 56, 79–80; Hawkes 1987, fig 21, 8).

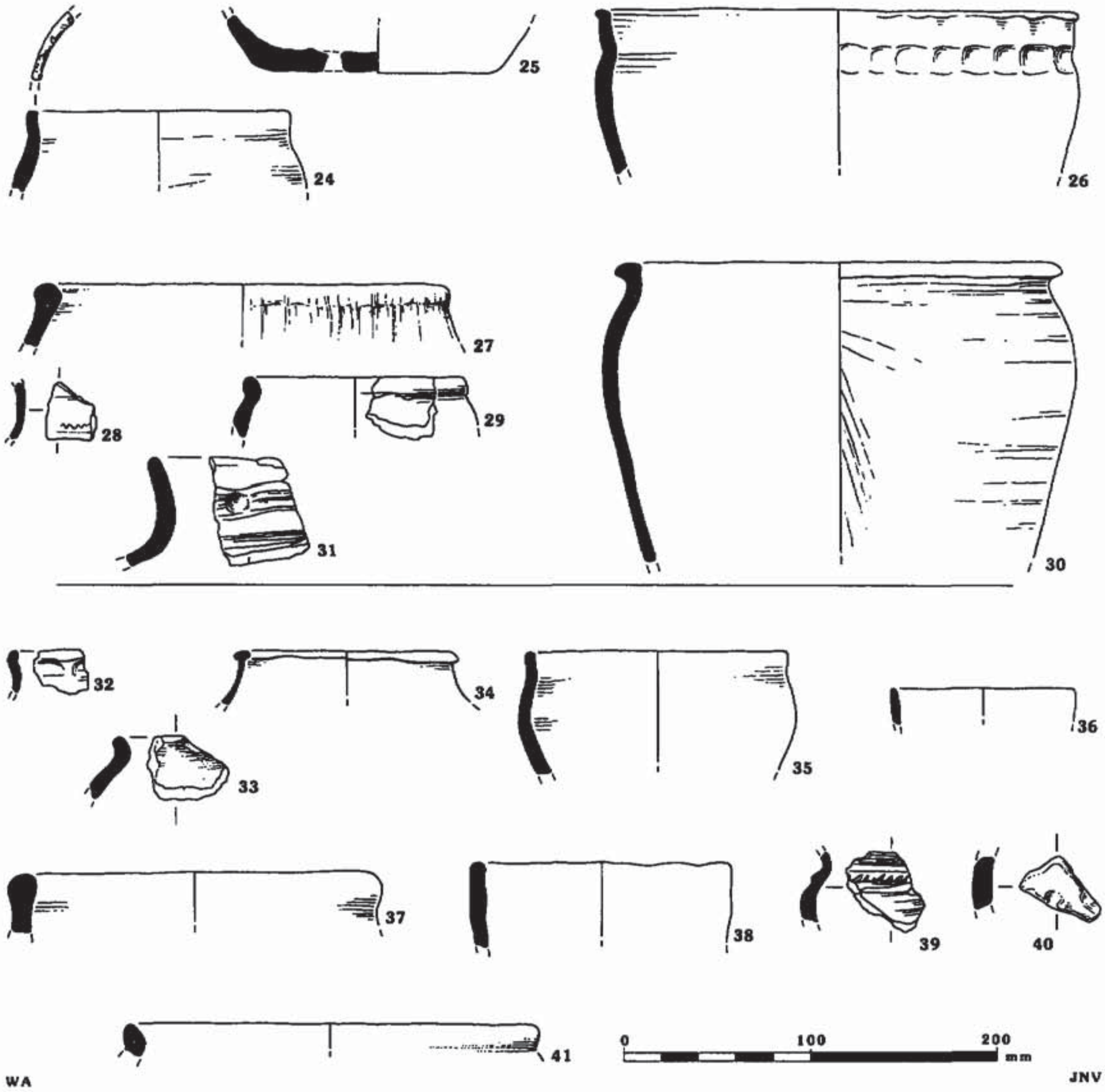

Fig 9. Lains Farm: the pottery, illustrations no 24–41.

Residues
Residues were recorded where observed but the number of instances is proportionately low and, therefore, no specific correlations were recognised between types of vessels, fabrics and use (cf Hally 1983).

Overfired material
Two overfired sherds, one each from features 11 and 58, were also identified. Both appear to have been made from fabric Q1. These isolated examples cannot be used to indicate on-site pottery production, but the recognition of such material is not unusual on sites dating to the Iron Age in the area (Davies 1981, 118; Cunliffe 1984, 248 and 259).

Ceramic Phasing

The dating evidence for the pottery recovered from the twelve features which contained the recommended minimum amount of material for reliable dating is discussed below. The proportions of fabrics are tabulated by weight (Table 4; Mf I, 15), while the presence of vessel forms is by number of sherds (Table 5; Mf I, 16), where the occurrence of decoration is also indicated. These tables also list the information for those features not containing the required minimum material.

The pottery recovered during both the limited excavation and the unstratified salvage recovery spans most of the 1st millennium BC, from about the 7th to 1st centuries (Figs 8 and 9). This date range is comparable to the entire ceramic sequence at Danebury (cp 3–7; Cunliffe 1984), to Phases 3–5 at Old Down Farm (Davies 1981) and to much of the Iron Age occupation at Balksbury (Rees, forthcoming). The majority of the stratified material belongs to the 5th to 1st centuries BC. Jars bearing finger-tip impressions, round-bodied, decorated, red-slipped and burnished bowls, a variety of plain shouldered and slack-shouldered jars, large, open burnished vessels, proto-saucepan pots, saucepan pots and burnished bowls with pedestal bases and decorated with shallow-tooled designs complete the full range. The fabrics also belong to a variety of wares already known for this period and in similar proportions with sandy fabrics dominating the collection.

For each feature the date range of the pottery is presented and a suggested *terminus post quem* for the infilling of that feature is given (Table 6). Only the dating of those features with the recommended minimum quantity is discussed here. Figure 9 presents examples of those form types not recovered from features, or found in features with too few sherds for reliable dating.

Two features contain pottery which can confidently be assigned to the 5th century BC (features 36 and 79) (Fig 8, 1–3). The range of pottery from these includes Types 1, 13 and 14 jars, Type 5 bowls, Type 200 bases, body sherds bearing red-slipped surface finish, decorations consisting of cordons and scratched designs or burnished tooling in a chevron design and a predominance of sandy fabrics (from 96.5 to 100% of the pottery in each feature). This first ceramic phase at Lains Farm is comparable to cp 3–4 at Danebury (Cunliffe 1984, figs 6.84–6.86) and to the early Iron Age occupation at Quarley Hill (Hawkes 1939).

A second ceramic phase is characterised in features 13 (Fig 8, 4–6), 23, 30, 38, 44, 58 and 108 by the presence of some pottery forms of the earlier ceramic phase (Types 1 and 5) and also pottery from a slightly later phase dating from the end of the 5th up to the 3rd century BC. The range includes form Types 3, 9, 10 and 12 jars, Types 7 and 8 bowls, Type 200 bases, very few red-slipped sherds and a widely varying proportion of different fabrics (Table 4; Mf 00, 15). The fabric range can be dominated by flint fabrics (71% of features 58 and 30), by sandy fabrics (84–91% of features 13, 38 and 108) or by variable amounts of different fabrics such as in features 23 (28%-S1; 30%-V1; 32%-Q1) and 44 (58%-S1; 11%-Q1; 22%-Q4). This ceramic phase is comparable to cp 4–5 at Danebury (Cunliffe 1984, figs. 6.87–6.90).

The third ceramic phase can be found in the contents of three features (9, 11, 73) (Fig 8, 7–23). As for the second phase, the range includes pottery characteristic of the earlier

Table 6. Lains Farm: Pottery dating evidence [too few sherds for reliable dating).*

Feature	*Context*	*Date Range*	*t p q*	*No of Sherds*	*Weight of Sherds*
7*	8	cp 3	cp 3 or later	3	37
11	12	cp 3–7	cp 6–7	24	159
	28	cp 3–7	cp 6–7	23	798
	29	IA	IA	1	21
13	14	cp 3	cp 3	14	82
	37	cp 3–5	cp 5	10	142
9	10	cp 7	cp 7	30	101
	15	cp 3–7	cp 7	84	345
38	21	post cp 3	?cp 4–5	102	273
	41	cp 3 or later	?cp 4–5	10	66
5*	6	cp 3–4	cp 3–4	12	60
	16	cp 3–4	cp 3–4	1	6
3*	4	?pre-cp 3–4	?pre-cp 3–4	17	92
	18	?IA	?IA	3	39
30	34	?cp 3	?cp 3	2	10
	31	cp 3–5	cp 4–5	26	322
48*	25	?IA	?IA	1	10
36	26	cp 3–4	cp 3–4	351	3291
23	24	cp 3–5	cp 3–5	36	158
140*	141	?cp 3–5	?cp 3–5	6	77
79	80	cp 3–4	cp 3–4	61	883
	86	IA	IA	1	16
58	59	cp 3–4/5	cp 3–4/5	28	293
	70	IA	IA	2	15
	78	IA	IA	7	49
44	45	cp 3–4	cp 3–4	16	286
	81	IA	IA	10	50
	83	cp 3–5	cp 3–5	5	73
68*	69	IA	IA	19	22
108	149	cp 4–5	cp 4–5	23	660
73	74	cp 3–7	cp 7	72	533
	91	IA	IA	1	41
	92	cp 7	cp 7	17	275
87*	88	cp 4–5	cp 4–5	12	65
89*	90	cp 4–5	cp 4–5	1	10
124*	125	IA	IA	3	2
130*	131	IA	IA	18	8
164	165	RB	early 4th C AD	44	650

Table 7. Lains Farm: List of illustrated sherds.

Figure No	Key Group	Date Range	Feature	Context	Form	Fabric	Dec	Surface	FSN
Fig 8,*1	1	cp 3–4	79	80	5	Q7	1/4	RSB	375
2			79	80	13	Q4	–	–	376
*3			79	80	14	Q4	–	–	377/378
4	2	cp 3–5	13	37	1	Q1	–	–	308
5			13	37	10	Q4	–	B	309
*6			13	37	5	Q4	2	RSB	307
7	3	cp 3–6/7	11	12	1	Q4	–	–	300
8			11	12	10	Q4	–	–	301
9			11	28	1	Q4	–	–	302
*10			11	28	15	L1	+	B	303
11			11	28	3	Q4	–	B	304
12			11	28	11	Q4	–	B	305
13	4	cp 3–7	9	10	99	Q4	–	B	311
*14			9	10	–	Q4	3	B	312
15			9	15	200	Q4	–	B	313
16			9	15	201	Q4	–	B	314
17			9	15	–	Q4	3	B	315
*18	5	cp 3–7	73	74	1	V1	–	–	379
19			73	74	16	L1	–	B	385–387
20			73	74	200	L1	–	B	388
21			73	74	–	Q4	3	B	381
22			73	92	16	Q4	3	B	390
*23			73	92	201	Q4	–	B	391
Fig 9,24	–	?cp 1–3	U/S	U/S	19	Q6	6	–	500
25		–	U/S	U/S	200	F4	+	–	502
*26		cp 3–?4	U/S	U/S	1	Q4	–	–	503
27		cp 4–5	U/S	U/S	3	Q1	–	W	504
*28		cp 3–?4	U/S	U/S	–	Q4	1/4	RSB	511
29		cp 4–5	U/S	U/S	3	F1	–	–	512
*30		?cp 2–6	U/S	U/S	18	Q4	–	B	518
31		cp 3–4	U/S	U/S	1	Q4	–	B	519
32	–	cp 3–4	5	16	2	F2	–	–	317
33		U/S	U/S	2	4	F1	–	–	326
34		pre-cp 3–4	3	4	6	Q1	–	RSB	318
35		cp 3–5	23	24	7	S2	–	W/B	352
36		cp 3–5	23	24	8	V2	–	B	355
37		cp 3–5	30	31	9	S1	–	–	323
38		cp 3–4	44	83	12	Q2	–	–	368
*39		U/S	U/S	2	–	Q8	5	RS	324
40		LBA/EIA	48	25	–	Q4	6	–	328
41		U/S	U/S	U/S	17	F1	–	B	501

* = thin-sectioned; RSB = red-slipped and burnished; + = post-firing perforation(s); B = burnished; FSN = Featured Sherd Number; W = wiped

phases which is likely to be redeposited, as well as new forms and fabric proportions. New forms include Types 11, 15 and 16 rims and Type 201 pedestal base which together can be placed within the 3rd to 1st centuries BC. This phase is also characterised by the appearance of curvilinear and linear, shallow-tooled decoration (Dec Type 3) and an increase in the number of burnished sherds without red-slip. The fabrics are dominated by sandy wares again (pit 9 (100%); pit 11 (80%); pit 73 (61%)), although the full range of fabrics can still be present (Table 4; Mf I, 15). This ceramic phase is comparable to cp 6–7 at Danebury (Cunliffe 1984, figs 6.92–6.94).

These three phases are typical examples of the ceramic changes from the 5th to the 1st centuries BC in central southern Britain. Shouldered jars with decorated, slipped, and burnished, round-bodied bowls were replaced by a range of plain jars and simple bowls which in turn were replaced by various saucepan pots and jars, as well as decorated and burnished bowls with pedestal bases.

Production and Distribution

For the collection as a whole, approximately 30% of the pottery is likely to have been produced locally within 10 km of the site, while the remainder originated from diverse intra-regional sources located between 10–40 km distance from Lains Farm. The modes of production which may have created these handmade, locally produced vessels and the more elaborate, decorated or undecorated, burnished, non-local wares are similar to household production and household industry respectively (Peacock 1982, 8). The petrological analysis of fabrics defined for the Old Down Farm assemblage identified a similar range of local and non-local wares (Davies 1981, 146). Therefore, during the second half of the 1st millennium BC, there may have been at least two levels of production occurring: production for consumption at a local level and production for exchange at an intra-regional level. Both of these modes can be seen as part-time, sporadic activities (Peacock 1982). What may be surprising, however, is the proportion of pottery which was not locally produced in the area of Lains Farm, or Old Down Farm. At the latter, over 51% of the vessels, in use during the period of occupation similar to that at Lains Farm, were not likely to have been produced from local materials (Davies 1981, tables 5, 8, 11, 12). At both sites, the majority of sandy fabrics contain glauconite and both sites have shell-gritted fabrics; neither of which are locally produced wares. Only the flint-gritted fabrics and some of the limestone fabrics and sandy fabrics appear to be local products. Therefore, although it was expected that a large proportion of the pottery would have been made from resources found in the immediate area, this was not the case. Instead it appears that the majority of the pottery utilised at Lains Farm from the 5th to 1st centuries BC was either produced from clays and inclusions located elsewhere and brought to the site, or that these resources were brought from a considerable distance to Lains Farm and then manufactured there. There are at least three possible explanations which could account for this pattern:

1) The quality of clays and temper, such as found in the glauconitic sandy fabrics, is better technologically than the local Clay-with-Flints deposits and the potters in the Andover area were willing to procure a better resource beyond the expected territory; this may not be surprising for these sandy wares since different sources of glauconite sand are known to have been used in fabrics from many sites over a wide area such as Danebury (Cunliffe 1984, fig 64.14) and Winklebury in Hampshire (Smith 1977), Chinnor on the Oxfordshire–Buckinghamshire border (Freestone and Tite 1979), Potterne in Wiltshire (Morris 1991) and elsewhere (Freestone 1982), which implies a good basic recipe.

2) Generally, there was much more trade and exchange happening at this level than predicted due to the need to maintain good social relationships and thriving net-

works of exchange as part of a prehistoric insurance policy, such as 'social storage' (Halstead and O'Shea 1982). Although it was possible for pottery to be made from resources in the immediate area of Lains Farm, this practical activity was reduced in favour of acquiring wares through trading partners.

3) Instead of separating the explanations into either a technological or a social sphere, a combination whereby the quality of the pottery is such that the inhabitants of these farmsteads traded for wares due to their technological superiority and in so doing maintained networks of contact which reinforced security is equally valid.

The small number of key groups of stratified wares at Lains Farm eliminates the possibility of examining chronological changes in pottery production and distribution, but it is important to reiterate that the identification of plain, simple vessel forms (Fig 8, 5–6; Fig 9, 26) found in non-local fabrics is a new development in our understanding of the complexities of production and distribution of Iron Age ceramics in the area.

The Late Roman Pottery

Two wheelthrown vessels were recovered during the watching brief. One of these appeared to accompany the skeleton found in grave 164 and the second was 'found nearby'. The vessels, both without rims, are New Forest flagons (Type 1.1–16) in the Red-Slipped fabric, painted with ring-and-dot and ladder motifs (not illustrated). These can be dated to the early 4th century AD (Fulford 1975). Flagons similar to these have been found in late Roman graves elsewhere (Clarke 1979, 229, vessel 172, fig 76, G141). In addition, a single, unstratified, body sherd of wheelthrown buff sandy ware was identified.

The Fired Clay Objects and Material by Lorraine Mepham

A total of 1862 fragments of fired clay (33,256 g) was recovered from the site. Of this total, 1714 fragments (1,709 g) were completely undiagnostic fragments. The remainder comprised pieces with recognisable surfaces, including fragments of loomweights, and possible daub.

The Fabrics

Six separate fabric types were recognised (Fabrics FC 1–6); 99.0% of the fired clay occurred in one fabric type (FC 1). The fabrics are described in detail in the microfiche (Mf I, 31–32).

Daub

Only one fragment of fired clay which showed clearly recognisable wattle impressions was recovered, although several other fragments with identifiable surfaces may have derived from daub. This piece was found in pit 73, dated to the third Iron Age ceramic phase.

Loomweights

Eighty-one ceramic loomweight fragments (30,571 g) were recovered, representing 20 complete or almost complete loomweights (Fig 10), plus fragments of a minimum of six other weights (Table 8; Mf I, 33). All the loomweights which were sufficiently complete to allow identification by form were of the same type: the triangular weight which is found from the 5th century BC throughout the lowland regions of southern England (cf Champion 1975, fig 2). Nineteen of the weights had three perforations, one through each corner; one example had only two perforations. The remaining six examples were too fragmentary and/or abraded to determine the number of perforations. All the weights had rounded corners, and on several examples, one or more of the corners had been flattened, perhaps by wear during use, although there were no clear traces of grooves round the

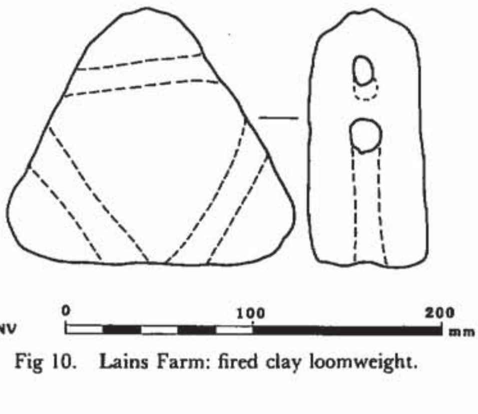

Fig 10. Lains Farm: fired clay loomweight.

corners, such as have been identified, for example, at Winnall Down (Fasham 1985, 90).

In general, the loomweights appear to be relatively well-madė and carefully finished; the length of side in each example is generally constant, varying no more than 5 mm and surfaces, where not abraded, have been evenly smoothed. Weights and measurements vary between individual examples, although the range of variation is not large (Table 8; Mf I, 33). The measurement of thickness ranges from 55 to 75 mm; length of side from 140 to 185 mm; hole diameter from 10 to 20 mm; and weight of complete examples from 1240 to 1865 g.

Apart from one example, the fabric used for the manufacture of the loomweights was the same throughout. This consisted of a soft, very friable clay matrix with varying amounts of iron oxides, containing large amounts of poorly-sorted, crushed and occasionally burnt chalk, a moderate amount of organic temper and some natural flint pebbles (Fabric FC 1). The single exception, although apparently of the same form as the examples in Fabric FC 1, was in a hard-fired, iron-rich clay matrix with common organic temper and some natural flint pebbles (Fabric FC 6). The latter example was found stratified above examples in Fabric FC 1 in pit 11.

Loomweight fragments were found in five features on the site (9, 11, 13, 23, 58), which suggests a concentration at the western end of the site. The majority were recovered from one pit (11). Eighteen complete or almost complete weights, plus fragments from one other example, were found at the base of the pit (context 29), with one fragment occurring higher up in the filling (28). Pit 11 also contained the stone loomweight (see p 28).

The dating of these weights is based on the associated diagnostic pottery. The earliest examples of loomweights were found in features 13, 23 and 58 with pottery dating from the end of the 5th century to the 3rd century BC, the second ceramic phase at Lains Farm. The majority of weights, however, were found in features 9 and 11, and were associated with pottery dated to the 3rd to 1st centuries BC, the Iron Age ceramic phase at Lains Farm. The two weights from pit 9 are slightly thinner and have slightly longer sides than the other measurable examples. Both are almost complete, and as such are unlikely to be residual.

Discussion

There is no clear evidence to suggest any definition of activity areas associated with the use of the loomweights. The concentration at the west end of the excavated area has been noted, but it should be remembered that this includes the large quantity of weights dumped in pit 11. Their point of discard need not necessarily reflect their place of use. It would seem likely that the 19 ceramic, and one stone, loomweights from the base of pit 11 represent a single deposit, probably a dump from a single loom. Similar dumps have been tentatively identified at Winnall Down (Fasham 1985, 92). The range of variation in thickness (60–70 mm) and length of side (140–160 mm) is much less than the overall range of variation for the whole assemblage. All 19 are complete or almost complete, and are unlikely to be residual. A stone weight (Fig 11, 4) was also recovered from the same context. It is interesting to note that the metrical weight of this stone is within the range of the complete clay weights (Table 8; Mf I, 33).

It has been suggested that loomweights, and other artefacts associated with weaving, are more common on hillforts, while spindle whorls are more prevalent on settlement sites, and that this apparent dichotomy may have wider implications for the organisation of textile production (Cunliffe 1984, 439). This theory has recently been questioned on the basis of lack of evidence; a survey of sites in Wessex showed no distinction between hillforts and settlement sites on the basis of spindle whorl to loomweight ratios (Marchant 1989). Two spindle whorls were recovered from Lains Farm in pits 9 and 11 (Fig 11, 2–3), which gives an overall spindle whorl to loomweight ratio of 1:13 for the middle to later Iron Age phase. This is comparable with the ratio from the early Iron Age Phase 3 at Winnall Down (1:13.3), and falls right at the top end of the scale. The ratio for the middle Iron Age phase at Winnall Down is only 1:4.3 The highest ratio of phased material from Danebury is only 1:5.3. In any case, the assumption that the importance of weaving in relation to spinning can be implied by the ratio of spindle whorls to loomweights takes no account of the possibility that a number of loomweights would have been used for one loom. This

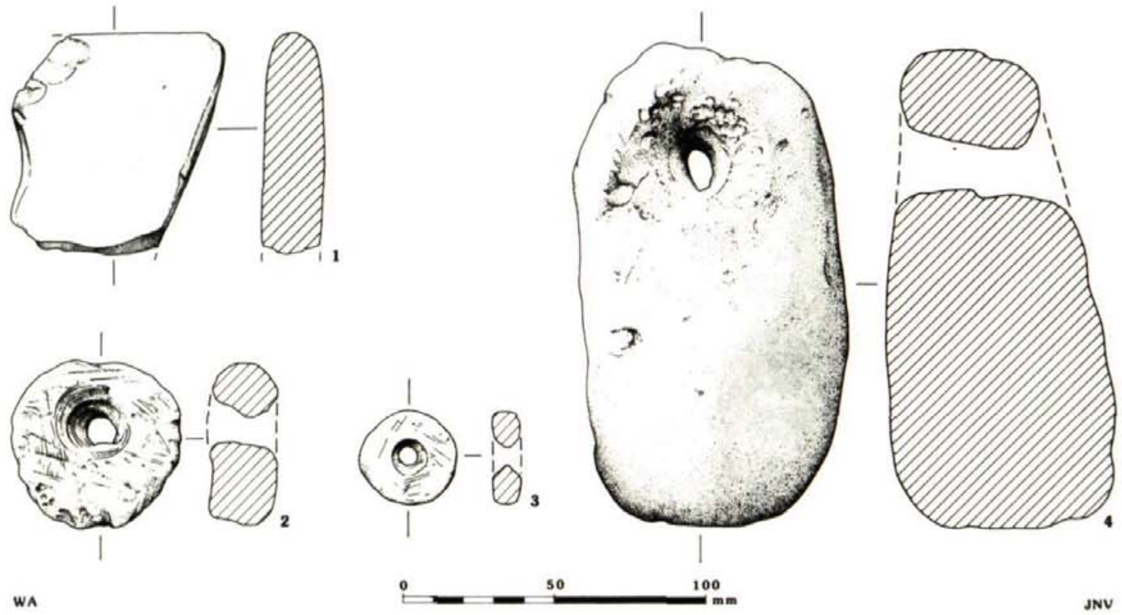

Fig 11. Lains Farm: worked stone objects.

seems to be the case for a large quantity of the loomweights from one area at Lains Farm; the 26 clay weights and one stone weight from the excavated part of the site are likely to represent two or three looms. Nevertheless, weaving did take place at this settlement site.

The Worked Stone and Flint by Peter S Bellamy

Worked Stone

Twenty-five pieces of stone were recovered from the excavation; of these 11 had been worked. The details of the worked stone objects are presented in Table 10 (Mf I, 35) and are briefly discussed below.

The majority of the stone fragments were not of local origin (Table 9; Mf I, 34). The geological identification was undertaken by Dr D F Williams, University of Southampton. The different stone types found at Lains Farm were also present at Danebury (Brown 1984). However, as might be expected with such a small assemblage as was excavated at Lains Farm, the range of types is much more restricted. The major difference is the complete absence of Greensand from Lains Farm. This is remarkable when one considers the high proportion of Greensand found, not only at Danebury, but also at other Iron Age enclosures in the area eg Balksbury (Buckley, forthcoming), Gussage All Saints (Wainwright 1979) and Old Down Farm (Davies 1981). It is not possible to determine conclusively whether the assemblage recovered is a representative sample from the site or whether it is a result of recovery bias. Pieces of Greensand, including one possible quern fragment, were observed on the field surface of the south-western part of the enclosure during previous fieldwork (H C Bowen pers comm). This might point to some spatial patterning within the enclosure with no Greensand being used in the north-eastern part. However, this cannot be tested without more extensive sampling of the whole interior of the enclosure and is complicated by the presence of the possible banjo enclosure superimposed on the southern half.

Quernstones

Five possible quern fragments were recovered but all were too small to be able to determine the types. None are illustrated. Most of the fragments consisted of a broken piece with one flat, slightly polished surface. One fragment (SF39) had a rounded rather than a flat surface and may have been part of a rubber. All are Tertiary sandstones except one (SF41) which is possibly Pennant sandstone from the Bristol/South Wales area.

Whetstones
Three broken whetstones were recovered. Two (SF44, SF45) consisted of flat oval pebbles (one quartzite, one indurated mudstone) and were similar to many of those found at Danebury (Brown 1984). The other (Fig 11, 1; SF3) was a carefully worked flat piece of medium grained sandstone of unknown origin.

Spindle whorls
Two chalk spindle whorls (Fig 11, 2–3; SF4, SF5) were recovered. Although they were different in size and standard of finish, they both fell within the range of chalk spindle whorls found at Danebury (Brown 1984). Both had unworn countersunk perforations with many small concentric grooves, presumably formed as a result of drilling the hole, which suggests that they were both unused. There were also many traces of tool marks indicating the use of a small pointed implement 1–2 mm wide on one (Fig 11, 2).

Loomweight
A single sarsen loomweight (Fig 11, 4; SF2), of a type more commonly made from chalk (cf Danebury (Brown 1984); Old Down Farm (Davies 1981)), was found in pit 11 (context 29). It was sub-rectangular in shape with an oval countersunk perforation at one end. The bottom of the weight had been pecked flat and there were traces of tool marks around the perforation which had been worn to a smooth glossy sheen. This loomweight was recovered from the base of pit 11 which also produced a large number of ceramic loomweights. The metrical weight and dimensions of this loomweight fell within the range of the fired clay loomweights (Table 8; Mf I, 33).

Worked Flint
The total flint assemblage, recovered mainly from pits, consists of nine complete flakes, four broken flakes, thirteen chips, one piece of miscellaneous debitage and three hammerstones. The flakes were broad with thick butts and were removed by a hard hammer mode (Ohnuma and Bergman 1982). The hammerstones form a disproportionately large part of this assemblage and probably relate to Iron Age activity within the enclosure. The assemblage is too small, with no diagnostic artefacts, to allow any meaningful characterisation; however, it is likely that this is residual material, probably late Neolithic–early Bronze Age in date, accidentally incorporated into the later features. The small number and the diffuse distribution suggest an absence of previous intensive activity in the immediate vicinity.

The Iron Object by Peter S Bellamy

A single iron nail (SF35; context 165) was recovered from grave 164. This was of a type similar to the Iron Age type found at Danebury and unlike those normally associated with Romano-British grave fittings. It is therefore likely to be a residual artefact from the enclosure rather than associated with the burial itself.

The Worked Bone by Peter S Bellamy

A single broken cattle metatarsus with signs of working (Fig 12; SF1) was recovered from the filling of pit 13 (context 14). The distal end had been cut and several knife cuts are present. There are transverse wear striations along the length of the shaft.

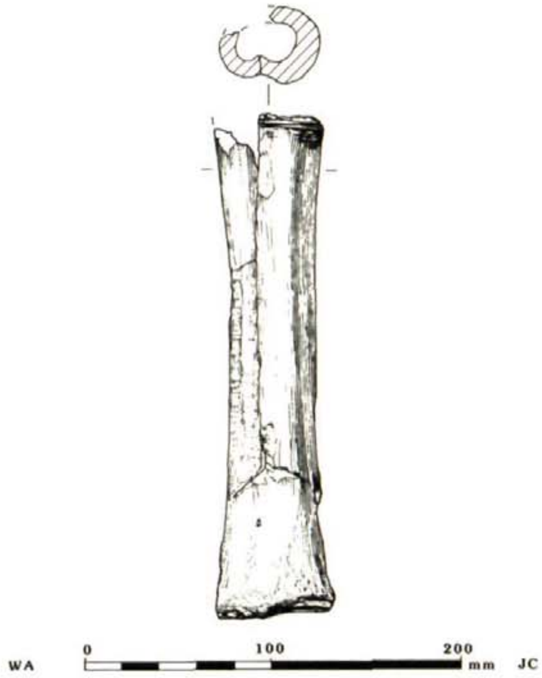

Fig 12. Lains Farm: worked bone.

In addition, three horse scapulae, which were polished in the region of the base of the scapular spine, were discovered in pit 73 (context 92). These may have been used as shovels (see Animal Bone report below).

The Human Bone by Vincent Jenkins

A single skeleton (SF32, context 165) was recovered from a late Roman grave (164). The bones were in good condition and nearly all were present. The skeleton proved to be from a robust adult male, as determined by the sexing methods recommended by the Workshop of European Anthropologists (1980). His stature was estimated from the regression equations of Trotter and Gleser as published by Brothwell (1981) to be 1.71 m (5ft 7½in). Dental eruption and epiphyseal fusion being complete (McKern 1970), the conformation of the pubic symphysis (Katz and Suchey 1986) suggested an age at death of 25–30 years. Dental health was poor; six teeth were carious, seven had been lost *ante mortem* (three of these were abscessed), and periodontitis was evident from alveolar recession. Calculus was slight to moderate, and chipping of the teeth suggested a gritty element to the diet. The 4th and 5th fingers of the right hand had been fractured and on healing became shorter and crooked; otherwise, there was no obvious pathology or abnormality.

The Animal Bone by Jennie P Coy

A total of 1001 pieces of animal bone was examined from 12 features (Table 11), excluding the upper, potentially contaminated, pit fillings and those with very small quantities of material. A limited series of 13 samples was taken from well-stratified fillings of ten pits (Table 12; Mf I, 36), and sieved through 1 mm and 2 mm mesh. Only a very small quantity of animal bone was recovered from these samples. This material was scanned for evidence of new species and other new information and this is given where relevant below.

Nature of the Collection

As a result of the activity of heavy vehicles and the rushed nature of the excavation there were a lot of modern breaks but the bones mended easily and were generally very well preserved, much better than from most of the recent sites studied from chalklands in Hampshire. Care was taken to record only the results of ancient fragmentation and, therefore, as far as possible the results represent the fragments which were deposited rather than the much larger number of fragments retrieved.

For the cattle, several successful attempts were made to match distal and proximal leg bones, but for sheep this could not be done because the small carpal and tarsal bones which join the two together were rarely retrieved. A number of sheep elbows were reconstructed as these are generally a good fit but no knees were successfully reconstructed.

Species Present

The species represented were the common domestic ungulates: horse, cattle, pig and sheep. In addition there was a single dog bone, a jaw of an adult dog in pit 30. There was no evidence of goat although some of the horn core fragments look superficially goat-like until matched with comparable fragments which join specifically identifiable sheep crania. The horn cores of at least ten sheep found in pit 44 were small and thin-walled. It is suggested that most of them were young males or castrates. All ovicaprid bones have been classified as sheep in Tables 13–15 (Mf I, 37–39), although in the archive they are recorded as 'sheep' only if they bear specifically identifiable anatomical criteria, otherwise they are recorded as sheep/goat.

Butchery evidence suggests that horse, cattle, sheep, and possibly pig had been utilised for food; more is said about this below. The relative importance on the site of the four species from period to period is difficult to determine from this collection because of the biases explained above. However, the relative importance of the different ungulates in this particular sample can be deduced from the results of fragment counts given in Table 13 (Mf I, 37), which records the 943 fragments of ungulate recovered by manual excavation.

In Table 13, the 14 'fragments' of sheep and the 20 'fragments' of pig represent a lamb skeleton and a foetal pig skeleton, respectively. Table 13 also includes four fragments of calf, three other foetal or very young piglet bones, and another 28 small lamb bones (one possibly foetal). This high incidence of very young bones is quite usual in Iron Age deposits and was noted at Danebury, for example (Grant

Table 11. Lains Farm: Catalogue of animal bone by feature (LAR, large artiodactyl; MIC, short-tailed vole; APO, woodmouse; SAR, small artiodactyl; Mus Mus, *housemouse; PAS, house sparrow).*

F.	Context	Cow	Horse	Dog	LAR	MIC	APO	Pig	Sheep/ Goat	SAR	Sheep	*Mus Mus*	Rodent	PAS	TOTAL
3	4	8	1	–	–	–	–	–	22	1	2	–	–	–	34
	17	4	–	–	–	–	–	–	1	8	1	–	–	–	14
	18	3	–	–	–	–	–	–	–	–	–	–	–	–	3
5	6	5	2	–	–	–	–	2	10	4	1	–	–	–	24
	16	4	–	–	–	2	–	20	2	2	1	–	1	–	32
9	15	2	–	–	–	–	–	1	29	3	6	20	1	–	62
11	28	8	6	–	5	–	–	2	9	1	4	–	–	–	35
13	14	5	–	–	2	–	–	–	14	12	1	–	–	–	34
	37	1	–	–	–	–	–	2	5	5	–	–	–	–	13
23	25	6	–	–	1	–	–	–	–	–	–	–	–	–	7
30	31	39	1	1	3	–	1	1	12	4	3	1	–	–	66
44	45	19	–	–	1	–	–	3	27	5	20	–	–	–	75
	81	6	–	–	–	5	–	–	2	–	3	–	–	–	16
	82	11	–	–	1	–	–	–	4	–	4	–	–	–	20
	83	75	3	–	–	–	–	4	94	–	88	–	–	–	264
	157	1	–	–	–	–	–	–	–	–	–	–	–	–	1
48	72	3	1	–	–	–	–	–	3	–	–	–	–	–	7
58	59	1	–	–	–	–	–	1	11	8	2	–	–	–	23
	78	8	1	–	1	–	–	1	24	18	2	–	–	–	55
73	74	23	1	–	18	–	–	5	25	47	–	–	–	–	119
	91	1	–	–	–	–	–	–	3	–	–	5	–	10	19
	92	15	4	–	7	–	–	3	3	7	14	–	–	–	53
108	109	2	1	–	–	–	–	1	3	1	–	–	3	–	11
	149	6	2	–	–	2	–	1	2	1	–	–	–	–	14
Total		256	23	1	39	9	1	47	305	127	152	26	5	10	1001

1984). It is likely that the high number of loose teeth belong to fragmented skulls and their release was due to modern breakage.

A number of small wild species were also found; mostly their bones came from the 2 mm sieved samples. They included remains of the house sparrow, *Passer domesticus* (pit 73), short-tailed vole, *Microtus agrestis* (pit 44, and pit 108), and woodmouse, *Apodemus* sp (pit 30).

Exploitation

Bones from all over the body were represented but there is a definite bias towards cattle limbs and skulls, and limbs of sheep. The reasons for this are probably closely related to butchery, deposition, and survival of bones but are difficult to sort out with such a limited excavation. The way in which animal carcases may have been treated is discussed in more detail below, with regard to the evidence recovered from pit 44.

There is some evidence for a scarcity of ribs and vertebrae and sheep scapulae seem remarkably few. Pelvis, however, is well represented. Grant, in her preliminary analysis of the animal bones from nearby Danebury does not include vertebral remains in tables, although she does suggest, both for cattle and sheep, that all parts of the body are reasonably well represented (Grant 1984). Overall, this looks like a fairly normal mixed assemblage but with some preservation and recovery bias.

Maltby has shown that articulated lengths of vertebrae may sometimes be regarded as primary waste and notes this at Owslebury for some 3rd–4th century BC features (Maltby 1987). Pit 44 has such a length of cattle spine in context 45.

Skinning marks are present on cattle first phalanges and sheep have fine cuts around the ankle, some of which could be skinning marks. Because the cuts on cattle phalanges are generally mid-phalanx in position and because some second and third phalanges are also present, it is unlikely that these marks are connected with removal of the toes for separate processing. Skinning marks so low on the foot indicate maximum use of the skins. It is assumed that meat was thoroughly removed after the skinning process although defleshing marks are rare. Expert defleshing though does not necessarily leave marks and this is reinforced by the fact that in a case of paired limbs one shows defleshing marks and the other does not.

Surprisingly, there is no evidence at all for the exploitation of marrow. All butchery could have been carried out using a sharp fine blade and much of the bone showed no actual marks although it is likely that it was from butchered carcases. This is in line with what was noted in Foot's detailed study of butchery at Old Down Farm (Maltby 1981) and in the subsequent analyses at Balksbury and Owslebury (Maltby 1984; 1987). There was very little gnawing on the bones and in the best preserved collection in pit 44 the places where gnawing had taken place (at shoulder, elbow, ankle, distal metapodial, and toe tip) are those not covered by meat.

Eight of the 23 horse bones bore fine marks from a sharp blade, probably caused when removing meat – these included scapulae, pelvis, and tibia. There is evidence of horse scapulae being utilised as shovels (see below). Compared with the butchery on the large ungulates, sheep bones rarely show cuts but this is common on Iron Age sites and there is little doubt (from the occasional cut bone in each deposit of bones) that these were utilised for food. The sheep skulls (all with horn cores) from pit 44 give the highest MIND (Minimum Number of Individuals) and appear to carry no signs of exploitation.

The small amount of pig bone had few butchery marks present but its association with the other material indicates that it probably represents food remains. The single dog bone was not butchered although dogs were sometimes eaten in the Iron Age.

Discussion by Feature

The following is a general discussion of the animal bone from the selected features (Table 11).

Pit 3: This produced 51 bones representing both cattle and sheep, including two ribs from a lamb or sheep foetus. There was a single horse incisor tooth.

Pit 5: This produced 56 fragments of horse, cattle, sheep and pit with the foetal skeleton of pig and evidence of short-tailed vole in context 16.

Pit 9: Context 15 produced fragments of cattle, sheep, and a single pig bone as well as a partial skeleton of lamb and a skeleton of house mouse.

Pit 11: Context 28 produced fragments of cattle, horse (including a butchered radius and ulna), sheep and pig.

Feature 13: This feature produced 47 fragments of cattle, sheep and pig, including a calf and lamb bones.

Pit 30: Context 31 contained the articulated remains of two cattle hindlimbs, probably from different animals. These are included in Table 15 (Mf I, 39). It also included horse, sheep, pig and the dog bone and remains of house mouse and *Apodemus*.

Pit 44: Most of the bones in the lower part of this pit come from context 83, but there are smaller but similar deposits in the contexts 45 and 81 above. The pit 44 results represent a number of discrete cattle limbs (probably from four individual animals) and the remains of at least ten sheep and are summarised in Table 14 (Mf I, 38). It is interesting that these seem to be the only bones in context 83, there being a complete lack of small unidentifiable ungulate fragments, although there are some fragments in the other layers. This may mean that context 83 built up quickly and was used for specialised disposal rather than receiving debris built up over a period.

The limbs were fitted together where possible and comparative withers height estimates calculated using the method of Matolsci for the proximal bones and those of Fock for the metapodials (Driesch and Boessneck 1976). That these do not give quite the same values has been much discussed and they are given here for comparative purposes. Table 15 (Mf I, 39) gives details of the articulated cattle limbs from all the lower layers of pit 44. Specimens 2 and 7 have no carpals to join lower and upper limbs so the association between them is a guess based on the appearance of the bones. Similarly the bones in Specimen 6 are only linked by similar pathology.

The cattle limbs show evidence of skinning and removal of meat. There are fine cuts on a cattle frontal also suggesting skinning. The sheep in pit 44 are present as skulls and limbs, there being a distinct lack of vertebrae. The horn cores on the sheep skulls give a minimum number of ten individuals. Amongst the sheep bones at least five articulated elbows are represented. Most of the hind limbs were probably associated on deposition as well but fragmentation and the difficulty already mentioned in matching across knee joints makes this difficult to prove. The cannon bones are also there but again are difficult to match to the rest of the limbs because the very small carpals and tarsals have not been retrieved. There are no sheep phalanges, probably also as a result of retrieval bias.

Of interest is the near lack of bones in the bottom layers, 157 and 158, the former producing only a single cattle jaw. The layer above the main bone deposit, however, produced quantities of burnt flint and seeds.

Pit 48: This produced few fragments – mostly cattle, but also sheep and horse.

Pit 58: This produced 78 fragments of cattle, sheep (including lamb) and pig.

Pit 73: This was the second richest deposit of bones in these pits. Of note was a collection in the bottom layer (context 92) of three horse and four cattle scapulae. Most bore defleshing marks and the horse scapulae were polished in the region of the base of the scapular spine. It is likely that this was caused by their use as shovels. Horse scapulae are better for this than cattle scapulae as the spine does not get in the way so much.

Pit 108: The fragments from this feature represented horse, cattle, sheep and pig, including foetal bones of the last two species.

Size

Overall the measurements for sheep and cattle were within the range given for Danebury (Grant 1984). There are too few measurements for each ceramic phase to show any changes through time. The cattle represented are very small and slender by modern standards and typical of these normally found on excavations of Hampshire chalkland sites. Withers height estimates for cattle fluctuate at around a metre (Table 15; Mf I, 39). The sheep withers height estimates obtained using the method of Teichert (Driesch and Boessneck 1976) give a range of 0.56–0.58 m with a mean of 0.57 for ten results (data retained in archive).

Conclusions

In view of the complexities of differential disposal on Iron Age settlements (Maltby 1985) and the differences often observed between upper and lower halves of pits (Maltby 1984), it is not possible to use this sample to interpret the economy of the settlement except to say that sheep and cattle seem to have been major sources of food and horse and pig also contributed.

Usage included thorough skinning but there is no evidence here of use of the limb bones for marrow or bone working. The evidence from pit 44 is the most useful. It is tempting to assume, from the lack of small unidentifiable fragments, that this feature was used (or reused) for a single event. This might have had a sequence as follows:

Freshly killed animals were skinned in a way to maximise the amount of skin obtained (down to the ankle and wrist joint in sheep and the upper toe bones in cattle). After this the heads of sheep were severed and the limbs of both cattle and sheep were defleshed with a sharp blade. Heads of cattle and the body meat with its associated ribs and vertebrae may have been kept with the meat removed from the limbs. This may explain the relative paucity of cattle skulls and the vertebrae and ribs of both cattle and sheep. Alternatively the bones fleshed out later in the dismemberment process may have been deposited in a feature which was not excavated. The boned out limbs were thrown into the pit, having suffered only very superficial gnawing by dogs. A fresh cattle leg would suffer very rapid gnawing disintegration from a hungry dog and the short period of gnawing which seems to have occurred on cattle bones might have taken place in the time it took to deflesh the animal and divide up the meat. When the bones entered the pit the elbows, ankles, and wrists were still articulated.

It is tempting to suggest that the burnt clay in context 82 and the burnt flint and charcoal in context 81 may have been associated with the pit roasting of the meat removed, if not from the animals contributing to the primary waste in context 83, then from a later event. Pit roasting in Britain is likely to have been a skilled procedure as the large amount of water in the soil diverts the heat produced from contributing to the cooking process. An experimental pit roast carried out at Southampton by the writer and Professor Lewis Binford suggested that some way would need to be found to insulate the meat from the water in the cold soil. A baked clay lining and/or a layer of stones (flints if this is all that was available) might help.

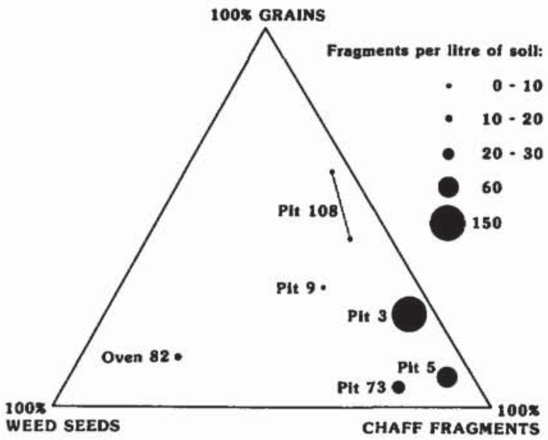

Fig 13. Lains Farm: scattergram of carbonised plant remains.

The Carbonised and Mineralised Plant Remains by Wendy J. Carruthers

A small number of soil samples was taken from well stratified deposits in selected pits (Table 16). Each of the 15 litre samples was wet sieved through nested sieves ranging from 2 mm to 500 µ in mesh size. The 2 mm residues were macroscopically sorted by eye and the remaining residues sorted under a dissecting microscope.

Results

Due to the limited resources it was only possible to examine seven samples from six pits (3, 5, 9, 44, 73 and 108) in detail. The list of taxa recorded is given in Table 16. In order to make maximum use of the small amount of data collected, two diagrams were drawn. The data from the carbonised assemblages has been presented as a triangular scattergram (Fig 13), so that comparisons can be made with results from other sites of this period. In Figure 14 the measurements from 300 glume bases identified as belonging to spelt wheat were recorded. The resulting histogram bears close comparison with similar diagrams given by Jones (1978, 104) for the Iron Age settlement site at Abingdon.

Notes on identification

Most of the cereal caryopses were recovered in a poor state of preservation so that identification even to the level of genus was not often possible. The grains were generally vacuolated, indicating carbonisation under high temperatures. They were also very fragmentary which was probably owing to their weakened state. Most of the weed seeds and glume bases were well preserved, suggesting that post-depositional erosion was not a major problem.

The strong veination characteristic of spelt (*Triticum spelta* L.) glume bases was clearly visible on many of the fragments recovered, including all of the 300 glume bases measured for Figure 14. However, the few glume bases identified as cf emmer (*Triticum* cf *dicoccum* Schübl.) were less well pre-

Table 16. Lains Farm: The carbonised and mineralised plant remains.

TAXA	Habitat	feature/context 82/81	5/16	3/17	108/109	108/149	9/15	73/91
Grain:								
Triticum dicoccum/T. spelta (emmer/spelt caryopses)		1	8	36	5	–	3	2
Hordeum vulgare L. emend. (6-row hulled barley caryopses)		–	–	2	–	–	–	–
Hordeum sp. (barley caryopses)		–	2	4	–	1	1	1
Indeterminate cereal caryopses		39	52	503	75	61	23	12
Chaff:								
Triticum cf. *dicoccum* Schübl. (cf. emmer glume bases)		1	3	–	–	–	–	–
T. spelta L. (spelt glume bases)		18	148	797	7	8	8	56
T. spelta L. (spelt spikelet forks)		–	49	5	–	–	–	10
T. dicoccum/T. spelta (emmer/spelt glume bases)		41	564	692	34	50	30	201
T. dicoccum/T. spelta (emmer/spelt spikelet forks)		4	–	47	–	6	–	14
T. dicoccum/T. spelta (emmer/spelt rachis fragments)		1	12	3	–	–	–	2
Hordeum vulgare L. emend. (6-row barley rachis fragments)		–	1	21	–	–	–	10
Cereal culm nodes		1	–	3	–	1	–	1
cf. cereal culm bases		–	1	7	1	–	–	–
Weeds:								
cf. *Anagallis arvensis* L. (scarlet pimpernel)	CR	–	–	–	–	–	[2]	–
Anthemis cotula L. (stinking mayweed)	ADh	–	–	–	1	–	–	–
Aphanes arvensis agg. (parsley piert)	AGdo	–	–	–	–	–	1	–
Arrhenatherum tuberosum (Gilib.) Schultz (onion couch)	DG	–	–	1	1	1	–	1
Atriplex hastata/patula L. (orache)	CD	150	–	–	–	1	–	–
Bilderdykia convolvulus (L.) Dumort, (black bindweed)	AD	6	–	1	–	–	–	–
Brassica sp./*Sinapis* sp.	ACD	–	–	[1]	–	–	[188]	2[23]
Bromus sect. *Bromus* (chess)	ADG	2	29	44	–	4	1	1
Bromus sect. *Genea* (barren brome)	DG	–	–	2	–	–	–	–
Carex sp (sedge)	GM	–	–	–	–	1	–	10
Caryophyllaceae NFI		–	–	–	–	–	–	[2]
Chenopodium album L. (fat hen)	CDn	5	2	–	–	–	2	–
Chenopodium sp./*Atriplex* sp.	CD	–	–	–	–	–	[1]	[1]
Compositae NFI		–	–	–	–	–	[2]	1
Eleocharis subg. *Palustres* (spike-rush)	MPw	–	–	1	–	–	–	–
Fumaria sp. (fumitory)	CD1	5	2	3	2	–	1	2
Galium aparine L. (cleavers)	DH	1	9	8	–	–	2	3
Gramineae NFI	CG	10	–	–	–	1	2	8
Linum catharticum L. (purging flax)	Gcd	–	–	–	–	–	[1]	–
Lithospermum arvense L. (corn gromwell)	AD	–	4	50	–	–	[6]	11
Medicago lupulina L. (black medick)	GR	–	–	1	–	–	2	7
Montia fontana ssp. *chondrosperma* (blinks)	alw	–	–	–	–	–	–	1
Myosotis sp. (forget-me-not)	CGMW	–	–	–	–	–	[4]	–
Papaver dubium/hybridum (poppy)	AD	–	–	–	–	–	–	3[1]
Papaver sp. (poppy)	AD	–	–	–	–	–	[58]	[16]
Plantago lanceolata L. (ribwort plantain)	Gc	–	1	1	–	–	1	2
Polygonum aviculare agg. (knotgrass)	AD	2	–	–	–	–	1	–
Polygonum sp.		3	–	–	–	–	–	–

TAXA	Habitat	feature/context 82/81	5/16	3/17	108/109	108/149	9/15	73/91
Ranunculus acris/bulbosus/repens (buttercup)	DG	–	–	–	–	1	–	1
Rumex sp. (dock)		11	3	1	–	2	2	–
Sheradia arvensis L. (field madder)	AD	–	6	11	1	1	1	5
Silene cf. *vulgaris* (Moench) Garcke (cf. bladder campion)	AGR	–	1	–	–	–	–	–
Stellaria media (L.) Vill. (chickweed)	AD	–	2	–	–	–	–	–
Torilis nodosa (L.) Gaertn. (knotted hedge-parsley)	Ao	–	–	–	–	–	[1]	–
cf. *Torilis* sp.		–	–	–	–	–	[4]	–
Tripleurospermum maritimum (L.) Koch (scentless mayweed	AD	–	1	–	1	–	1	12
Umbelliferae NFI		–	–	–	–	–	[2]	–
Urtica dioica L. (stinging nettle)	DGHWn	–	–	–	–	–	[2]	–
U. urens L. (small nettle)	CDl	–	–	–	–	–	[2]	–
Valerianella dentata (L.) Poll, (lamb's lettuce)	AD	–	3	3	1	1	–	–
Veronica hederifolia L. (ivy-leaved speedwell)	C	–	–	2	–	–	–	–
Vicia sp./*Lathyrus* sp. (vetch/tare)		–	2	2	–	–	1	3
TOTAL		301	905	2251[1]	129	140	83[275]	383[41]
Carbonised only % grain		13	7	24	62	44	32	4
% chaff		22	86	70	33	46	46	77
% weeds		65	7	6	5	10	22	19

Notes for Table 16

[number] = mineralised number = carbonised

Habitat preferences:

A = arable
C = cultivated land
D = disturbed land
G = grassland
H = hedgerows
M = marsh
P = pond/river banks
R = roadsides
W = woodland

a = acidic soils
c = calcareous/basic soils
d = dry soils
h = heavy soils
l = light, sandy soils
n = nitrogen-/phosporous-rich soils
o = open habitats
w = wet/seasonally wet soils

served. The identification was therefore only tentative, based on both measurements and the apparent absence of intermediate veination.

The rachis fragments assigned to emmer/spelt were typical of brittle rachis wheats, possessing clean breaks at each node. The six-row barley (*Hordeum vulgare* L. emend.) rachis fragments ranged in nodal length from *c* 1.5–3.0 mm, indicating that both the lax and dense-eared forms were present. As suggested by Jones (1978, 105) it seems likely that these forms had not yet become genetically distinct by the Iron Age.

The mineralised remains were amber in colour and generally typical of calcium phosphate replaced material.

Discussion

Since limited resources necessitated the use of a selective sampling strategy, as opposed to a probabilistic one, it was not possible to know whether the assemblages recovered were representative of the site as a whole. The interpretation, therefore, has been limited to observations and comparisons specific to the seven samples, and does not cover the economy of the site as a whole. In addition, spatial analyses and comparisons between phases could not be undertaken on the basis of data from so few samples. Only broad comparisons with other sites in the region such as Danebury, Winnall Down and Old Down Farm have been attempted.

The carbonised assemblages (Table 16)

Four of the six pits sampled were large, beehive shaped pits of the type shown experimentally by Reynolds (1974) to be suitable for grain storage. Most of the contexts sampled represented deliberate backfilling which presumably had taken place after the pits had become unfit for use or surplus to requirement. Plant remains recovered from such deposits are likely to consist of waste material which may have originated from a variety of sources. As can be seen in Figure 13, none of the assemblages recovered was characteristic of the stored crop itself, as all contained small amounts of grain but high percentages of chaff fragments and weed seeds. The carbonised remains appear to represent primarily waste from a late stage in crop processing as described by Hillman (1981, 133), for example the final sieving which retains the prime grain in the sieve but allows the tail grain, small weed seeds, glume bases and rachis segments to fall through (stage 12, Hillman 1981). Three of the pits (3, 73, 108) contained quantities of burnt flint (Fig 6E and I) which may have been derived from hearths. The plant remains recovered were not notably different in composition to those from the other pits. It is probable that all of the pits contained some carbonised remains from hearths, as crop processing waste makes a useful tinder.

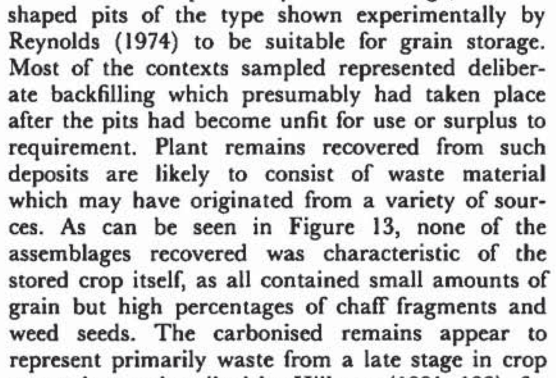

Fig 14. Lains Farm: measurement of 300 spelt wheat glume bases.

Although the number of pits sampled at Lains Farm was few, the scattergram (Fig 13) can be compared with diagrams drawn for assemblages from other Iron Age sites such as Danebury, Ashville, Mount Farm, Claydon Pike and Smith's Field (all in Jones 1985); Hengistbury Head (Nye and Jones 1987) and Thorpe Thewles, Cleveland (Van der Veen 1987). Compared with these diagrams, and with data from other Iron Age sites, the pit fills contained relatively few weed seeds but large numbers of chaff fragments, perhaps indicating that weeds were less of a problem on this site. However, caution should be used when attempting to judge the quality of the crop from such remains, since the material is likely to have come from several sources and some differential preservation may have taken place.

Using results from the scattergrams, Jones (1985, 118) suggested that a difference between producer and consumer sites could be observed. In the case of Lains Farm, however, the number of samples taken was too few and the area of excavation too limited to be sure that the assemblages were representative of the site as a whole.

As in most other sites of this period, spelt wheat was the predominant cereal recovered, with some six-row barley and a little cf. emmer. The two adjacent Iron Age enclosures examined by Murphy (1977) and Green (1981), Portway and Old Down Farm, Andover, produced spelt wheat, six-row barley, a little emmer and, in the case of Portway, some bread wheat. As suggested by Green (1981) for Old Down Farm, the apparently low occurrence of emmer wheat in the assemblages from Lains Farm could indicate that it was growing as a weed rather than a crop in its own right.

Some Iron Age sites, for example Winnall Down (Monk 1985), have produced greater quantities of barley (*Hordeum* sp.) and others (eg Danebury, Jones 1984) a little bread wheat (*Triticum aestivocompactum* s.l.) or a few oats (*Avena* sp.) However, on the whole the species compositions of assemblages from Iron Age sites examined to date in southern England tend to be very similar. This is also the case for the range of weed taxa. Weeds such as scentless mayweed (*Tripleurospermum maritimum* (L.) Koch), field madder (*Sherardia arvensis* L.), lamb's lettuce (*Valerianella dentata* (L.) Poll.), spike-rush (*Eleocharis* subg. *Palustres*) and often blinks (*Montia fontana* ssp. *chondrosperma*) appear to be characteristic of Iron Age assemblages. The first three species grow on dry soils and the other two taxa require damp habitats.

Blinks requires the soil to be damp at least part of the year, in spring. The occurrence of these weeds on many Iron Age sites is probably related to the widespread cultivation of spelt. The weeds of damp soils indicate the cultivation of heavier, damp soils in valley bottoms more suited to the cultivation of spelt than the barley of the late Bronze Age (Jones 1981, 111). The soils in the environs of Lains Farm are primarily well-drained, calcareous soils. However, the nearby alluvial soils of the Pillhill Brook to the east and the River Bourne to the west of the site might have provided suitable habitats for spike-rush and blinks.

Of the other weeds in the assemblages only the onion couch (*Arrhenatherum tuberosum* (Gilib.) Schultz) tubers were worthy of note. These remains are usually associated with earlier contexts, in particular Bronze Age cremations. However, Van der Veen (1987) recovered some tubers from Iron Age contexts at Thorpe Thewles, Cleveland. Onion couch often grows in rough grassland on abandoned arable land or other soils that have been disturbed in the past, but it can also be a troublesome weed of cultivation.

The fifth pit examined was a much smaller, shallower cylindrical pit (9). The carbonised assemblage recovered did not differ greatly from those in the beehive pits. However, it did contain the majority of the mineralised remains, the nature of which is discussed in a later section.

The sample from the sixth pit (44) came from context 81 which was directly above the suggested oven base (82) constructed within this pit (Fig 6K). Although this sample contained a similar range of taxa to the others, Figure 13 demonstrates the differences in percentage composition. Context 81 contained a greater proportion of weed seeds, largely due to a high occurrence of orache (*Atriplex patula/hastata*). Chaff has long been valued as tinder to light ovens and kilns. The assemblage recovered from this feature could consist of the remains from many such kindlings, the orache representing one badly infested crop or a preferentially preserved taxon. It is also possible that such prolific seed producers as orache were consumed, but it is unlikely that such small seeds would need to be dried in an oven prior to storage or consumption.

The mineralised assemblages

The presence of calcium phosphate replaced mineralised seeds indicates the deposition of material of faecal or some other highly organic origin. Such remains in the past have typically been recovered from garderobes and medieval cess pits where the preservation occurred because of the presence of high concentrations of minerals under wet conditions. However, the occurrence of mineralised remains over a large area of the later Bronze Age deposit at Potterne (Carruthers 1986 & forthcoming (a)) has demonstrated that mineralisation can occur in a wider range of contexts than was originally thought possible. A few mineralised seeds similar in nature to those found at Lains Farm were found at the base of Iron Age storage pits at Maiden Castle, and X-ray diffraction showed the presence of both phosphate and carbonate fossils (Martin Jones, pers comm). Iron Age pits at Brighton Hill South, Basingstoke have also produced mineralised seeds (Carruthers, forthcoming (b)).

Little is known of the disposal of faecal waste in prehistoric times. Medieval faecal remains are characterised by the presence of a high proportion of fruit seeds, and sometimes bran fragments, amongst the assemblages. However, differences in diet in the Iron Age, and the relatively low concentration of remains in these deposits make it difficult to determine the origin of the Lains Farm material.

The taxa represented include possible arable weeds, for example poppy (*Papaver* sp.) and corn gromwell (*Lithospermum arvense* L.), as well as weeds of disturbed land such as stinging nettle (*Urtica dioica* L.). Some of these could have been consumed as contaminants of grain, others deliberately gathered as seeds or vegetables, and seeds from others may have been shed from vegetation growing around the place of deposition of the faeces. Alternatively, the seeds may have been preserved in dung and other highly organic waste having originated from crop processing waste and the surrounding vegetation. The remains were relatively few in number when compared to the concentrations found in cess pits and no mineralised concretions were recovered, so it is not likely that the disused storage pits were used directly as cess pits. However, some faecal or organic waste could have been incorporated into the domestic waste being deposited in the pits.

Summary

The carbonised plant remains recovered from two cylindrical and four beehive pits were composed primarily of spelt glume bases, with some arable weed seeds and poorly preserved grain. Six-row barley, cf emmer wheat and onion couch tubers were also present. The range of taxa was very similar to other Iron Age settlements sites sampled to date. The

weed seeds indicated the cultivation of both dry and damp soils.

Several mineralised seeds were also recovered from three of the pits, the majority coming from pit 9. The taxa represented were arable and wasteground weeds. It is uncertain whether their preservation was due to the presence of faeces or other highly organic material.

THE ENVIRONMENTAL EVIDENCE
by M J Allen

The environmental evidence consists of information from the analysis of land molluscs and magnetic susceptibility data.

The Molluscan Evidence

Introduction

A series of samples through the Iron Age enclosure ditches at Lains Farm were taken for molluscan analysis. The analyses presented here are restricted to ditch section A and were comprised of a column of five samples (a–e) from the primary fills of ditch 159 and a column of a further nine samples through the larger, recut enclosure ditch 140 (Fig 5A). The aim of analysis was to establish the nature of the immediate environs at the time of construction of the Iron Age enclosure and thereby establish the site environmental history. The site interpretation is provided by this analysis and then placed into a broader landscape context by the analyses of mollusc assemblages from ditch profiles sectioned along the route of the A303 road improvements, see below.

Methodology

The methods of mollusc analysis employed for both Lains Farm and the A303 sites were those outlined by Evans (1972, 40–45). One kilogram of air-dried soil was soaked and disaggregated in water and hydrogen peroxide (H_2O_2), the flot decanted and the soil washed through a nest of sieves of 5.6 mm, 2 mm, 1 mm and 0.5 mm mesh aperture. Mollusca were extracted, identified and quantified using a x10 to x30 stereo-binocular microscope. The residue weights were recorded to quantify the fluctuation in coarse and fine particular material. The data provide a crude index of weathering and rate of sedimentation which enables some evaluation of the suitability of the micro-habitat for mollusc life. The record of the stone fraction (data retained in archive) also enables the quantification and monitoring of the fine, mollusc-bearing, portion of the sample. Magnetic susceptibility measurements were also recorded for every sample using the method described by Allen and Macphail (1985; 1987), using a Bartington MS2B meter coupled to a MS1B sensor coil calibrated for 100 g of air-dried soil. Magnetic susceptibility was recorded in SI Units (10^{-8} SI/Kg) and the results are presented in Table 16. Magnetic susceptibility enhancement can be seen to be caused either by human activity or by pedogenic processes; topsoils are enhanced, whilst subsoils are not, and the natural chalk records very low magnetic susceptibility. Therefore, magnetic susceptibility values can indicate the derivation of sediment (ie topsoil, subsoil or natural components) and may allow interpretations of sedimentation regimes and anthropogenic activity (Allen 1986; 1990). This analysis was undertaken to augment the interpretation of the origin and nature of the ditch fills provided by mollusc analysis.

The tripartite classification of ditch fills (primary, secondary and tertiary) is that provided by Evans (1972, 321–328) and Limbrey (1975, 290–300). The terrestrial mollusc nomenclature follows Walden (1976) and the results of analysis are presented in Table 17 and graphically as histograms of relative abundance (Fig 15) in which each species is plotted as a percentage of the total individuals per sample. This however excludes the burrowing, and thus palaeoecologically insignificant species *Cecilioides acicula* which is recorded as a percentage over and above the rest of the assemblage. Percentages less than 1.5% are recorded as a cross.

Mollusca

Although the molluscs were in a good state of preservation, it was noted that numbers of individuals were comparatively sparse in view of the highly calcareous deposits. Nevertheless numbers were sufficient to enable a full interpretation of the site history.

The primary fill of the earlier ditch (context 147) was rapidly deposited chalk rubble and consequently contains few molluscs. Nevertheless, as this fill is likely to occur during the first few winters

Table 17. Lains Farm: Mollusc data.

Sample	e	d	c	b	a	1	2	3	4	5	6	7	8	9
depth	85–95	75–85	65–75	55–65	45–55	245–220	220–200	200–180	150–160	160–152	152–144	144–128	128–120	75–86
context	147	147	147	161	161	146	145	144	144	144	143	148	142	142
weight (g)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Mollusca														
Pomatias elegans (Müller)	+	1	+	2	1	+	+	1	+	+	1	+	–	+
Carychium tridentatum (Risso)	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Cochlicopa lubrica (Müller)	–	–	–	–	1	–	–	–	–	–	–		–	2
cochlicopa spp.	–	–	–	1	2	–	–	–	–	–	–	–	–	–
Vertigo pymaea (Draparnaud)	–	–	–	–	1	–	–	–	–	–	–	–	–	1
Pupilla muscorum (Linnaeus)	–	4	4	2	11	3	4	26	2	10	9	–	–	10
Vallonia costata (Müller)	–	–	2	3	3	12	7	40	10	14	23	5	1	9
Vallonia excentrica Sterki	–	2	7	5	9	–	–	1	–	2	–	–	–	16
Vallonia spp.	–	–	–	–	–	–	–	–	–	–	–	2	–	–
Discus rotundatus (Müller)	–	–	–	+	–	–	–	–	–	+	–	–	–	–
Vitrina pellucida (Müller)	–	–	1	–	–	2	–	–	–	–	–	–	–	–
Aegopinella pura (Alder)	1	–	–	–	–	1	–	–	–	–	–	–	–	–
Aegopinella nitidula (Draparnaud)	–	–	–	–	–	–	–	1	–	1	–	–	–	–
Oxychilus cellarius (Müller)	–	–	–	–	–	–	–	–	–	–	1	1	–	1
Limacidae	1	–	–	–	–	–	–	2	–	–	–	–	–	1
Cecilioides acicula (Müller)	–	1	20	22	3	–	–	–	–	–	–	–	–	5
Clausilia bidentata (Ström)	–	–	–	–	–	–	–	+	–	1	–	–	–	–
Candidula intersecta (Poiret)	–	–	–	–	–	–	–	–	–	–	–	–		1
Helicella itala (Linnaeus)	–	1	2	2	6	1	2	16	6	5	6	–	–	8
Trichia striolata (C. Pfeiffer)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Trichia hispida (Linnaeus)	–	–	2	2	1	3	18	24	8	21	8	4	3	19
Helicigona lapicida (Linnaeus)	+	–	–	–	–	–	–	–	–	–	–	–	–	–
Cepaea/Arianta spp.	–	–	–	–	1	–	–	–	–	–	–	–	–	1
TOTAL	2	8	19	17	37	21	31	112	26	54	48	12	4	69
Taxa	2	4	7	7	10	5	4	9	4	7	6	3	2	12
% shade-loving	0.0	0.0	10.5	0.0	2.7	9.5	0.0	1.8	0.0	3.7	2.1	8.3	0.0	1.5
% catholic	50.0	12.5	10.5	29.4	16.2	14.3	58.1	24.1	30.8	38.8	18.8	33.3	75.0	33.3
% open country	50.0	87.5	79.0	70.5	81.1	76.2	41.9	74.1	69.2	57.4	79.1	58.3	25.0	65.5

(Crabtree 1971), the molluscs are likely to reflect the pre-enclosure ditch environment. The few molluscs are predominantly open country species even in the basal fills. Even the few relict shade-loving species that do survive (*Aegopinella pura, Clausilia bidentata* and *Vitrina pellucida*) are themselves not particularly confined to woodland habitats. The species that predominate are *Trichia hispida, Pupilla muscorum, Helicella itala*, and the Vallonias. Such an assemblage is typical of very open dry calcareous grassland or arable contexts. The presence of *Pomatias elegans* in the lighter (upper) primary fills is suggestive of broken ground, perhaps associated with construction of the enclosure and the rubble fills themselves. A subsequent small increase in *Pupilla muscorum, Helicella itala* and *Vallonia excentrica* with a corresponding decrease in *Vallonia costata* may indicate bare, patchily vegetated ground. It is evidence therefore that this ditch was cut into an open downland environment. However, whether this relates to construction and intensive use of the enclosure or arable contexts is not discernible. Magnetic susceptibility samples analysed in tandem with the Mollusca show a typical increase in enhancement up profile as the deposits contain less chalk rubble and more enhanced soil material.

The main column of nine samples was taken sequentially through the large, recut ditch. Mollusc numbers are surprisingly low, with one exception, and the taxonomic range is severely restricted,

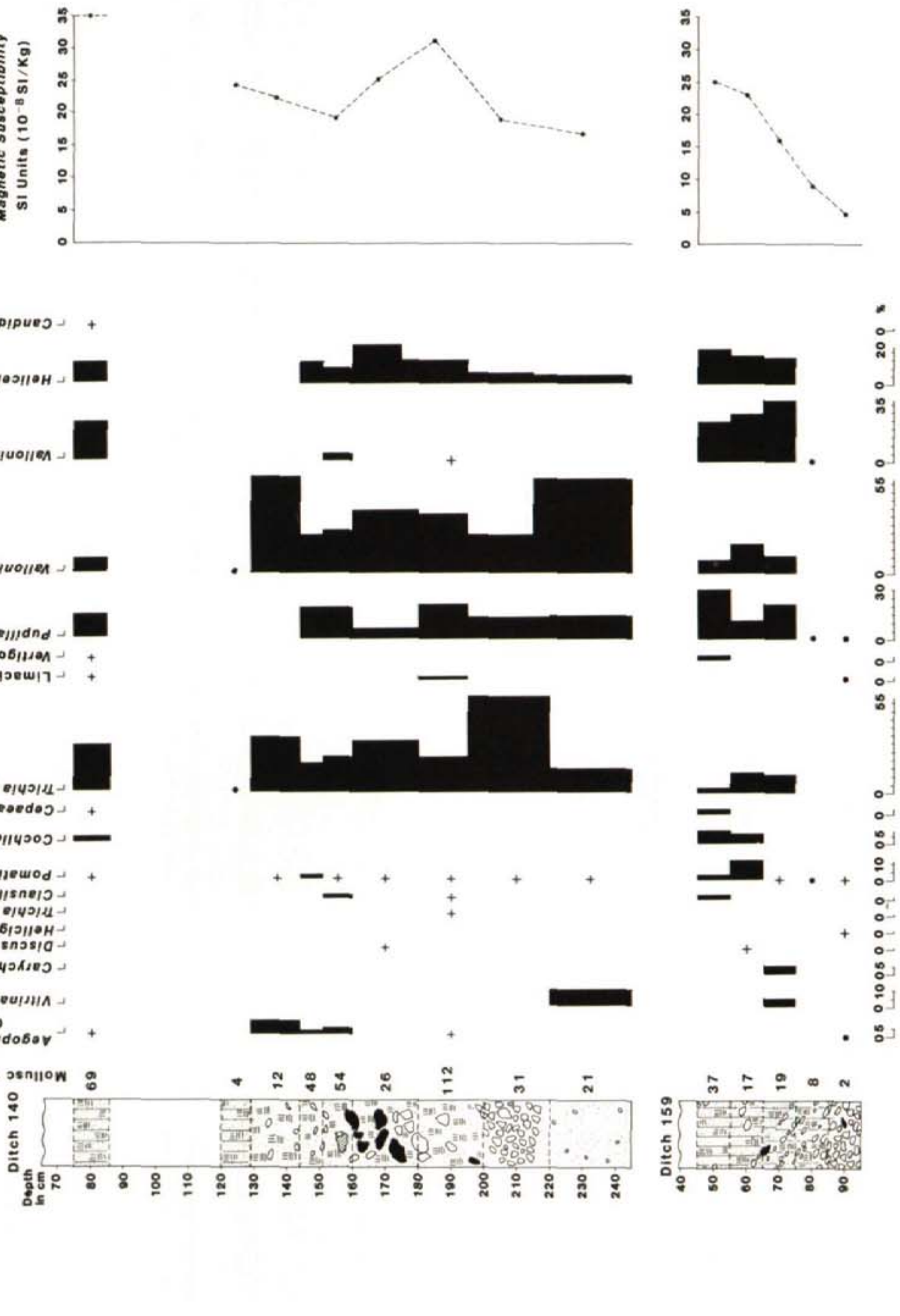

Fig 15. Lains Farm: relative mollusc abundance and magnetic susceptibility data from ditch section A.

indicating harsh local conditions. The assemblages are predominantly of open country species, in particular *Vallonia costata*, *Pupilla muscorum* and *Helicella itala*. These are indicative of open conditions associated with the life of the enclosure. The coarser fill of context 145 (sample 2) is reflected in both the reduction of snail numbers and an increase of *Trichia hispida*, a catholic species generally more tolerant of changing habitats.

The secondary fill (context 144) displays variation in mollusc numbers up profile. It is evident that the base of the secondary fill indicates an episode of stabilisation; the deposits are finer and mollusc numbers peak at 112 per kilogram. However, the open nature of the local environment remains unchanged. The secondary fill becomes progressively coarser and snail numbers decrease. A relative increase in *Vallonia costata* and *Helicella itala* indicates more stable grassland rather than open ground. Stabilisation is also indicated in the upper part of the secondary fill by the appearance, albeit minimal, of the shade-loving species *Aegopinella nitidula, Oxychilus cellarius, Clausilia bidentata* and *Discus rotundatus*. This is probably a result of the vegetation becoming established in and around the ditch affording more local shade. Tall grasses, small shrubs and bushes would provide shade and a scrubbier habitat which was probably confined to the ditch and ditch sides whilst it is evident that open country species prevailed. A peak in magnetic susceptibility in the upper secondary fills corresponds with the increase in shade-loving species and provides confirmatory evidence for stabilisation.

A single sample from the tertiary fill (context 142) produced the greatest number of taxa. *Vallonia excentrica* predominates over *Vallonia costata*, and with *Trichia hispida* is typical of arable contexts. The presence of *Candidula intersecta* suggests that this assemblage belongs to Kerney's (1977) mollusc biozone 'f' ie medieval. Thus the tertiary fill can be seen to be ploughwash, the upper portion of which is probably medieval in date.

Magnetic Susceptibility

Magnetic susceptibility analysis was also conducted on three other samples from the westernmost section through the enclosure ditch 114 which was not analysed for Mollusca. The samples were taken through a discrete horizon of burnt flints. The magnetic susceptibility results show typical background readings of 21 and 23 SI x 10^{-8} SI/kg in the underlying deposits, but significant enhancement

Table 18. Lains Farm: Magnetic susceptibility data.

Sample	*Depth*	*Context*	*MS**	*(Analysed for Mollusca)*
		Column A (Ditch Section A)		
e	85–95 cm	147	5	x
d	75–85 cm	147	9	x
c	65–75 cm	147	16	x
b	55–65 cm	161	23	x
a	45–55 cm	161	25	x
		Column 1 (Ditch Section A)		
1	245–220 cm	146	17	x
2	220–200 cm	145	18	x
3	200–180 cm	144	19	x
4	180–160 cm	144	31	x
5	160–152 cm	144	25	x
6	152–144 cm	143	19	x
7	144–128 cm	143	22	x
8	128–120 cm	142	24	x
9	75–86 cm	142	35	x
		Column 2 (West Section of Ditch 140)		
10	spot sample (humic)		60	not analysed
11	190–170 cm		21	not analysed
12	170–155 cm		23	not analysed
13	155–130 cm	burnt	89	not analysed

* *Magnetic susceptibility recorded in SI units (x10^{-8} SI/kg).*

(89) in that containing the burnt flint. It can be concluded that either burning occurred *in situ* or that the deposition of the burnt flint was accompanied by its corresponding burnt soil (Table 18). Nevertheless, it is evident that the process involved in the production of burnt flint was not far removed from the ditch.

Summary of the Iron Age Environment of Lains Farm

The enclosure ditches at Lains Farm were constructed in a pre-existing open grassland environment. Intensive human activity is evident during the life of the site by the reduced mollusc numbers and restricted taxonomic range. The ditch sides were stabilised by the establishment of a patchy vegetation cover; probably of long grass and small shrubs. There is however, no evidence of any episodes of abandonment and neglect with total vegetation regeneration. By the medieval period the ditches had been largely infilled by ploughwash and arable activity prevailed in the vicinity.

SECTION TWO: THE A303 WATCHING BRIEF: THRUXTON TO AMESBURY

by Peter S Bellamy

INTRODUCTION

The route of the second phase of road improvement cut across two linear ditch systems; the 'Quarley' system and the 'Devil's Ditch' system to the west of it (Palmer 1984, fig 24), but only passed through one recognised block of ancient fields (in the Lains Farm complex). The majority of the features observed during the watching brief had previously been plotted from aerial photographs (Palmer 1984) and only a single major linear feature from this corpus was not identified on the ground (Fig 16). For the purposes of site recording, the route was divided into a total of 21 plots which correspond to the previous modern field boundaries. All the visible archaeological features were recorded within a given plot and the majority were investigated by excavating a single small trench across each and recording the section. Six of the larger linear ditch elements were also sampled for mollusca. The aim of the project was to recover data from individual spinal elements to provide dates for the ditch systems and their sedimentation sequence and to identify the contemporary environmental conditions and subsequent changes.

The majority of the plots were observed after the topsoil had been stripped. Two transects were fieldwalked in plot 9 before the ploughsoil was removed. Plots 6, 7, 18, 19, 20 and 21 were fairly clean and undisturbed when recorded, the rest were very disturbed by mechanical plant movement and plots 15 and 16 were completely destroyed by chalk quarrying. The majority of the linear features were sectioned by machine when digging hedge and drainage trenches, thus not all of the features were sectioned at right angles and not all were completely bottomed.

THE ARCHAEOLOGICAL EVIDENCE

The Linear Ditches

The elements of the linear ditch systems have been divided into two types, the 'Wessex' and the 'local' linears (Bowen 1978; Palmer 1984, fig 24). Both elements, as well as some field boundary ditches, were observed during this project. The data on all the linear features recorded during this watching brief have been summarised in Table 19. It is not proposed to describe each feature individually but to concentrate on some of the more significant elements and indicate the apparent trends and patterns. For the ease of description and discussion the features have been divided into three separate complexes: the Lains Farm complex; the Quarley system; and the 'Devil's Ditch' system (Fig 16). Full

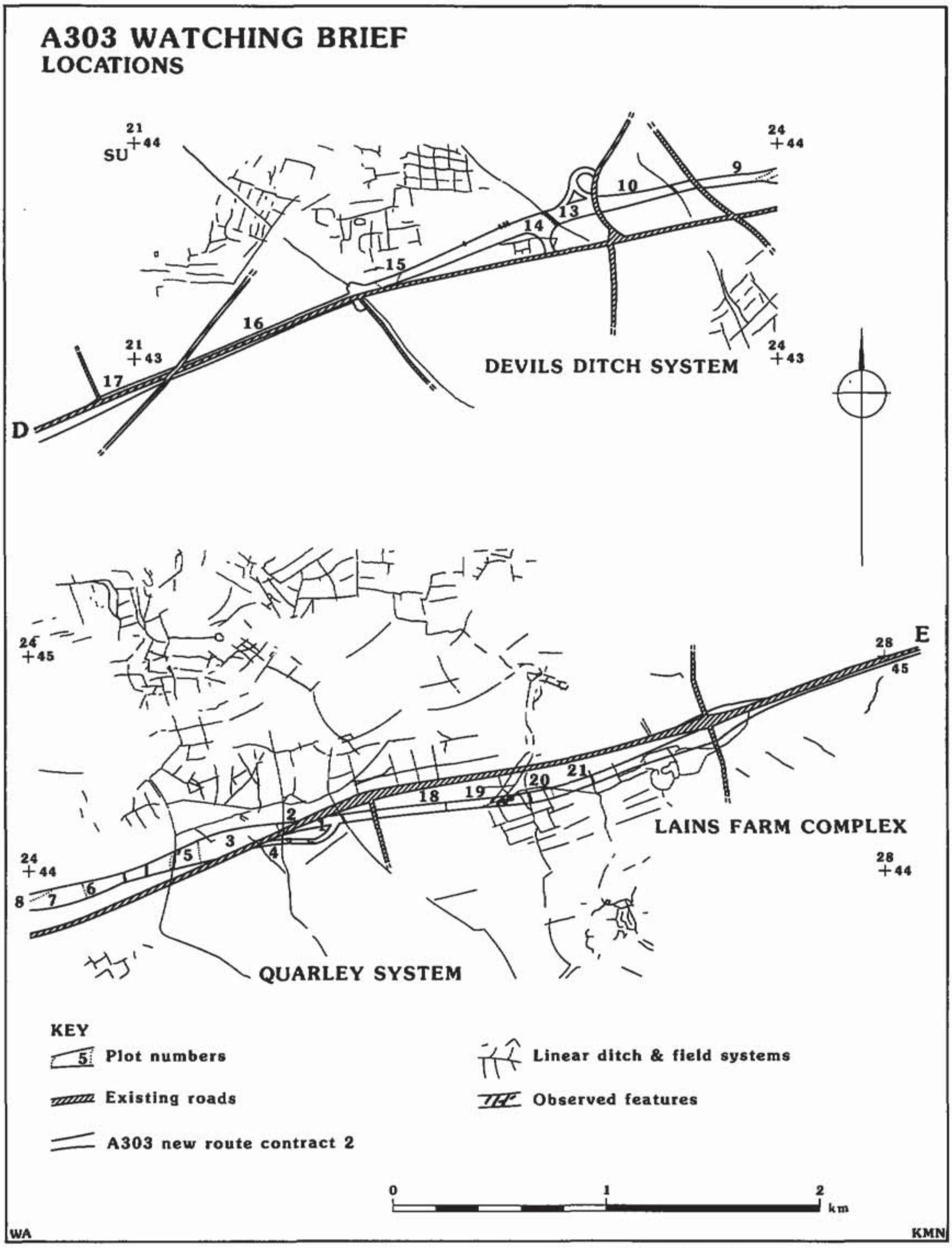

Fig 16. A303 Contract 2: aerial photographic plot of linear ditches (after Palmer 1984).

site records are available in the project archive (ref W151 1986).

Lains Farm Complex

This complex includes the Iron Age enclosures sampled by excavation and described above, as well as part of an associated field system to the west (Fig 17). The field system consists of a series of probable field boundary ditches oriented roughly NNW–SSE, bounded on the northern side by a linear feature oriented very roughly E–W, which joins the western side of the Lains Farm enclosure. To the north is another series of ditches running roughly NE–SW. The field system appears to be dissected by two 'local' linear ditches trending roughly N–S which connect to another settlement complex, south-west of Lains Farm. Not all of the features visible on the aerial photographs were observed during the road construction.

The course of the large E–W linear feature was not identified positively but there were some discontinuous traces of a small linear ditch in approximately the correct position (Fig 17). A single section was cut across it which revealed a small U-shaped ditch (93) 0.55 m wide and 0.35 m deep, filled by a pale brown silty clay layer (75) with lenses of chalk rubble (Fig 18C). This feature was much smaller and discontinuous than that visible on the aerial photographs where it appears to be more like a hollow-way. It is possible that most of this feature was removed when the topsoil was stripped. No traces of the field system to the south were located during the observations.

At the western end of the complex, three roughly parallel ditches oriented approximately NE–SW were observed. These ditches were spaced about 25 m apart and two (92, 95) were excavated. Ditch 92 was a small V-shaped ditch 0.5 m wide and 0.27 m deep (Fig 18A), filled with silt and chalk rubble (74). Ditch 95 was a wider U-shaped ditch, 1.2 m wide and 0.5 m deep, with a very irregular bottom (Fig 18B). It was filled with silty clay (98) and lenses of rounded chalk rubble and humic material (97). The filling of both these ditches suggested that they had been cleaned out and the shape of ditch 95 also suggests that it had been recut. These ditches eventually silted up naturally. When ditch 95 had almost completely silted up it was cut by a small U-shaped ditch (96), 0.7 m wide and 0.5 m deep, which ran almost at right angles to it. This ditch also appeared to have silted up naturally. These ditches were all previously recognised from aerial photographs and probably form part of a field system. The only dating evidence for this system was a few pottery sherds of Iron Age and Romano-British date in the very top of ditch 95 (context 71) and a single Iron Age sherd from the top of ditch 96 (context 72).

The two 'local' linear ditches (128, 131) were much larger than the other ditches investigated in this complex. Ditch 128 (Fig 18D) was a large eroded V-shaped ditch with a rounded base which

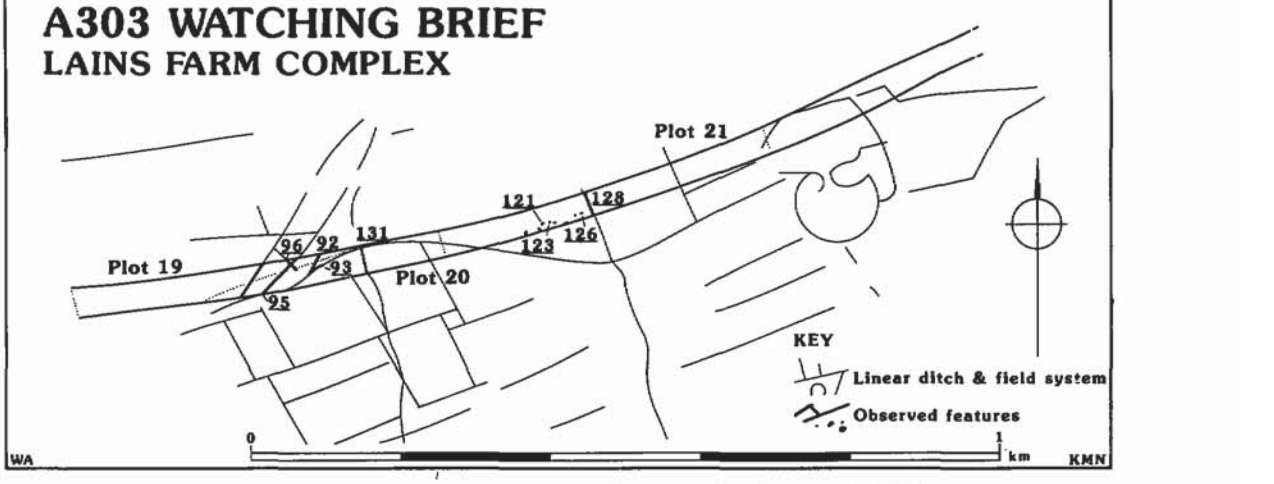

Fig 17. A303 Contract 2: detail plan of the Lains Farm complex of linear and field ditches.

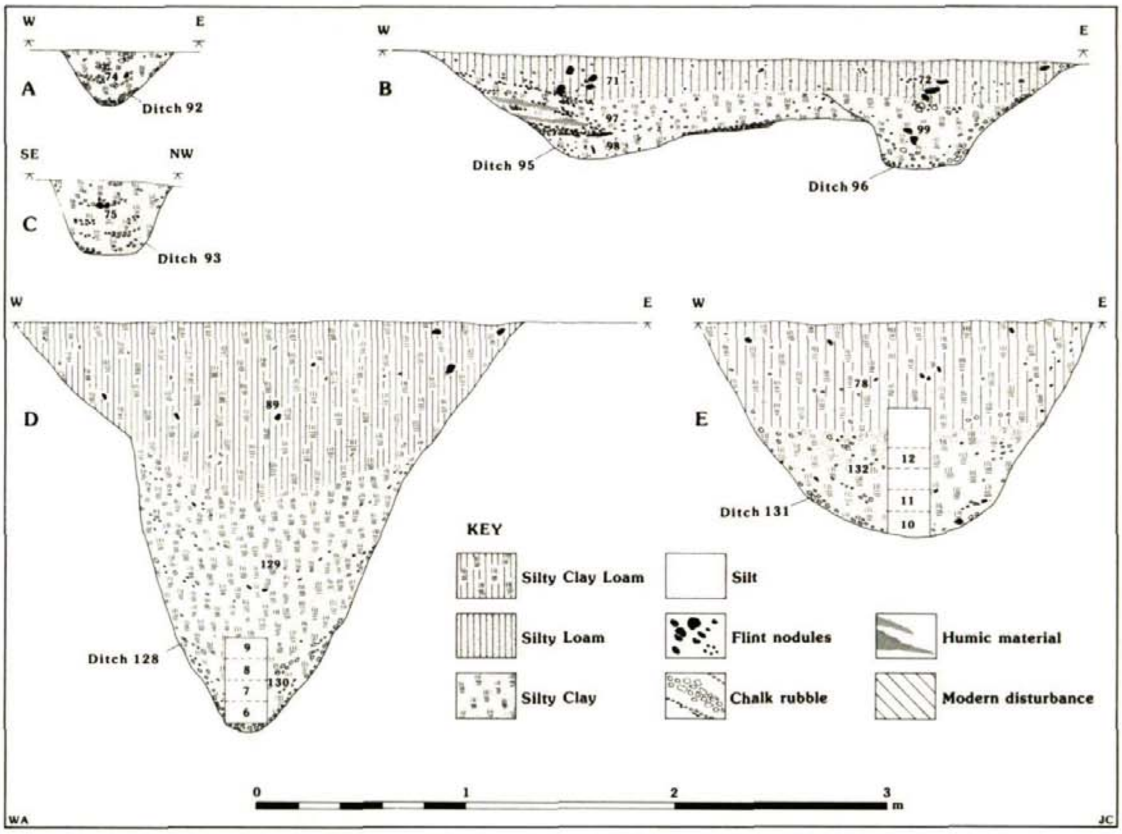

Fig 18. A303 Contract 2: excavated ditch sections in the Lains Farm complex.

measured 2.4 m across the top and was 1.92 m deep. The lowest layer in the ditch, a pale brown silty clay with rounded chalk rubble (130), suggests that the base of the ditch rapidly silted up naturally. The upper part (above context 129) was much more eroded and there was also a change to a more loamy filling (89) at this point which might indicate that there was a period of relative stability in the filling before a renewed silting episode. Ditch 131 was smaller with a round bottomed V-shaped profile (Fig 18E) which measured 1.85 m in width and 1.0 m in depth. The filling of this ditch suggests that it had a similar silting sequence. The relationship of these linear ditches to the field system was not determined.

Quarley Ditch System

The 'Quarley' system is the better known of the two linear ditch systems traversed by the road scheme (Hawkes 1939; Arnold 1972). This consists of two major ditches trending NNW–SSE (Fig 19). The western ditch, known as the 'Quarley High' linear, runs from Quarley Hill along the top of the chalk ridge which forms the watershed between the drainage basins for the rivers Anton and Bourne. It was sectioned in two places as it crossed Thruxton Hill. It was labelled ditch 15 on the northern side of the road development and ditch 21 on the southern side (Fig 19). The eastern, 'Quarley Low', linear runs parallel to this on lower ground and was defined by a double ditch (67, 136) at the point where it was intersected by the road development. In addition several other ditches (7, 49, 54, 55, 59) were recorded within the area defined by these major linears and may have been related in some way to this system.

The Quarley High ditch had a very similar size, shape and filling in both sections cut through it.

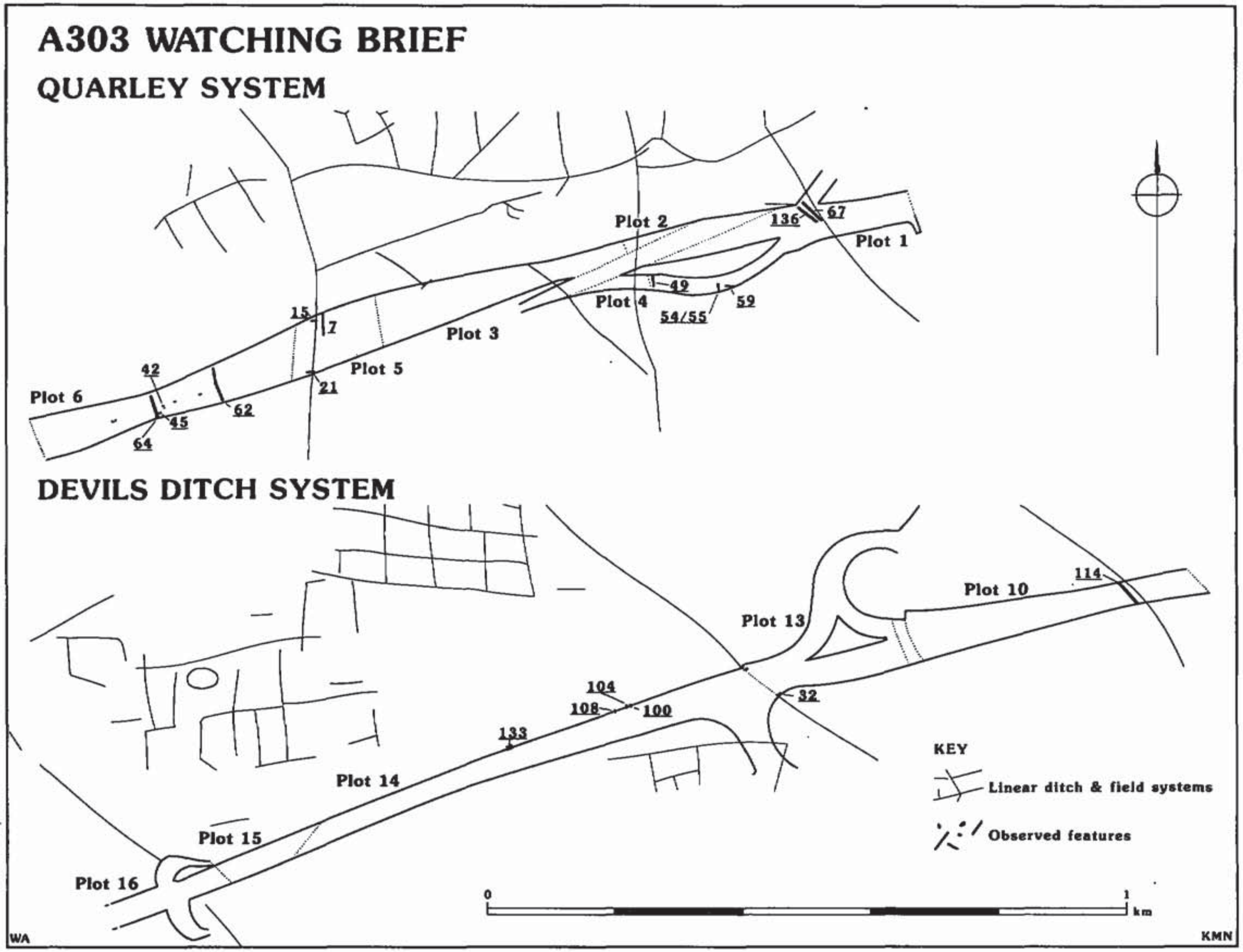

Fig 19. A303 Contract 2: detail plan of the Quarley and 'Devil's Ditch' systems.

Table 19. A303 Contract 2: Classification and measurements of recorded ditches.

Context	*Shape*	*Max Width (m)*	*Depth (m)*	*Type*
15	V	3.9	1.47	'Wessex' linear
21	V	4.1	1.36	'Wessex' linear
67	V	2.4	1.20	'Wessex' linear
136	V	3.2?	1.6?	'Wessex' linear
114	V	4.6	1.87	'Wessex' linear
32	V?	?	?	'Wessex' linear
49	V	1.6	0.77	Medieval boundary
128	V	2.4	1.92	'Local' linear
131	V	1.85	1.00	'Local' linear
54	V	0.95	0.32	field boundary
92	V	0.5	0.27	field boundary
104	V	1.7	0.90	unclassified
7	U	0.8	0.18	unclassified
55	U	2.4	0.4	field boundary
59	U	1.4	0.45	field boundary
62	U	1.7	0.3	field boundary
64	U	2.3	0.36	field boundary
93	U	0.56	0.35	field boundary
95	U	1.2	0.50	field boundary
96	U	0.7	0.50	field boundary
100	U	1.8	0.90	unclassified
108	U	1.5	0.52	unclassified

Ditch cut 21 was sampled for molluscan evidence and this section will be described in detail. The ditch has an eroded V-shaped profile with a narrow flat bottom (Fig 20F) which measured 4.1 m across the top and 0.42 m across the base with a depth of 1.36 m. No trace of an accompanying bank was visible at this point but the chalk bedrock on the eastern side was less eroded which might suggest the former presence of one. The primary layers of silt, chalk rubble and humic lenses (26) indicate that the ditch filled up with a fairly rapid natural silting of material derived from the erosion of the sides. As it stabilised, the material became finer and less chalky (25) with several large flint nodules which rolled down into the centre of the ditch. The ditch became progressively more eroded above this point and the filling becomes much more chalk and stone free (24, 23). The top layer (22) represents the modern soil development and was much disturbed by tree roots. No dating evidence was found in this ditch. It was the only feature investigated to contain any significant quantity of worked flint (Table 19).

The Quarley Low linear consisted of two very similar parallel ditches (67, 136) about four metres apart. One of these ditches (67) was recorded in detail (Fig 20I) but the two ditches were similar both in size and filling. Ditch 67 had a V-shaped profile with a rounded base which measured 2.4 m across the top and was 1.2 m deep. The ditch had silted up naturally with chalk rubble and silt (70, 69), becoming progressively more silty towards the top (68). The profile of the ditch is more eroded above context 69 and there appeared to be a change in the nature of the filling which was more loamy rather than silty above this point, suggesting that there had been some period of stabilisation before a renewed silting episode. A single sherd of Romano-British grey ware towards the bottom of layer 68 provides a *terminus post quem* for this postulated renewed episode of silting. No other dating evidence was found in the ditch.

Between the two major ditches was another shorter 'local' linear (49) which had the same NNW–SSE trend. It was approximately 1.6 m wide and 0.77 m deep with an eroded V-shaped profile and a rounded bottom. The eastern side was very disturbed (Fig 20G). This ditch was smaller than the major linears but like them it had silted up naturally. The molluscan evidence indicates that this ditch was probably medieval in date and is, therefore, unlikely to be part of the Quarley linear ditch system.

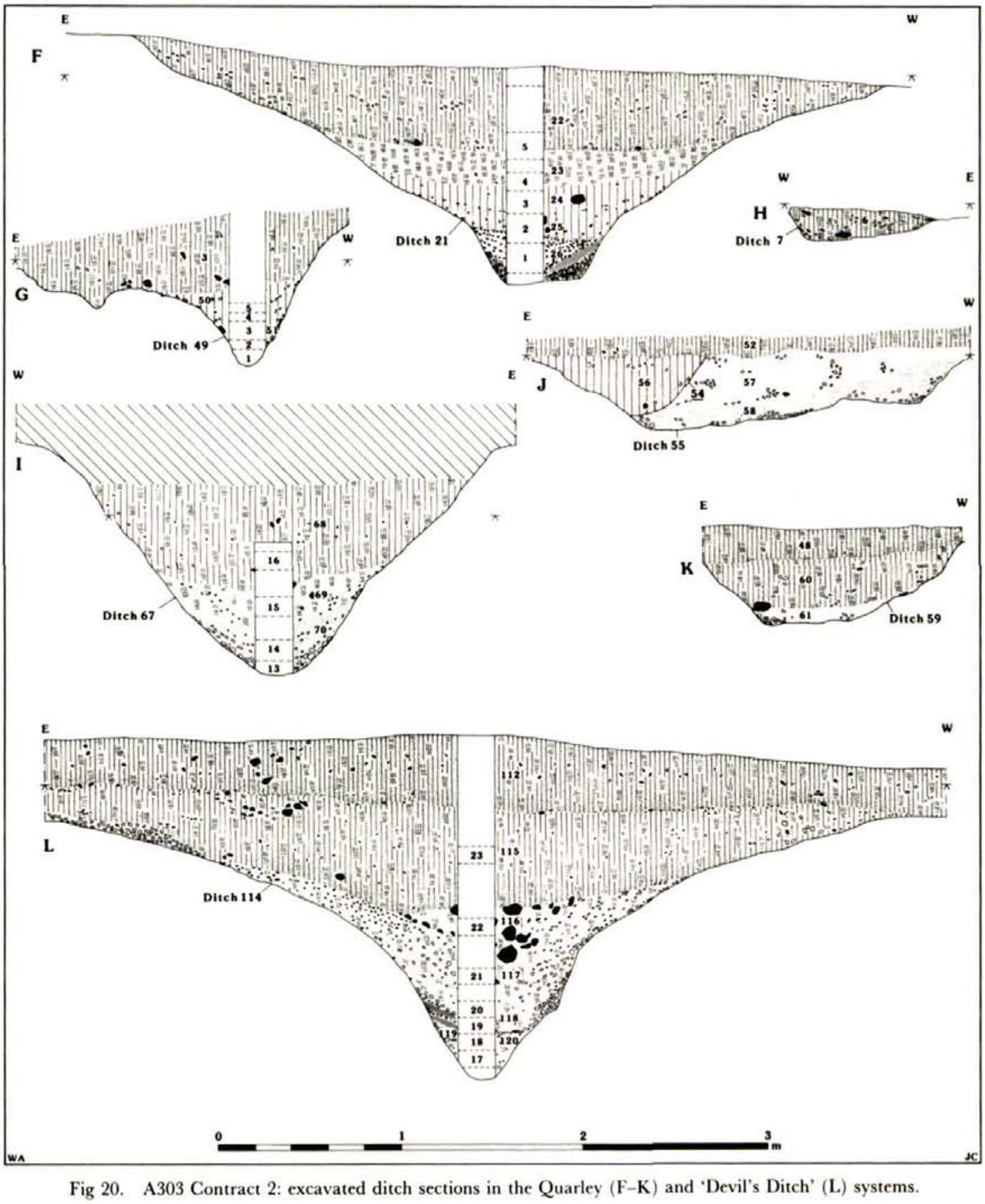

Fig 20. A303 Contract 2: excavated ditch sections in the Quarley (F–K) and 'Devil's Ditch' (L) systems.

The other ditches observed within this system were all very much smaller. The relationship of these to the large linears is uncertain. A small shallow flat bottomed ditch (7), 0.8 m wide and 0.18 m deep (Fig 20H) was discovered roughly parallel to and about 190 m to the east of ditch 15/21. This feature did not show on the aerial photographs. At the base of the ditch, in the excavated slot, three stakeholes (10, 12, 14) 0.09 m apart were found in a line across the ditch. This ditch was filled with dark brown silty clay loam (6) which contained a single sherd of Beaker pottery. This may indicate the presence of a very early ditch but the nature of the filling was unlike any of the other prehistoric ditch silts and was similar to the modern soils, so this sherd may be residual and the feature of fairly recent date. The 'stakeholes' could be the result of root penetration into the bedrock.

One other feature contained datable material within this system. This was ditch 59, a small U-shaped ditch approximately 1.0 m wide and 0.3 m deep (Fig 20K) which, unlike any of the other ditches, was oriented roughly WNW–ESE. Several sherds of middle–late Bronze Age type probably from two vessels were found in the second layer of the filling (context 60).

Immediately to the west of ditch 59 was another shallow U-shaped ditch (55) which was oriented roughly NNW–SSE. It measured 2.40 m in width and was 0.4 m deep with an irregular base which bears traces of several recuts (Fig 20J). These recuts may have been part of the cleaning out of the ditch. It finally filled up naturally with silt and chalk rubble (58, 57). A smaller V-shaped ditch (54) was cut along the eastern side of ditch 55 before the ditch completely silted up. This recut was 0.95 m wide and 0.32 m deep and had silted up naturally with light grey silty loam (56). The modern soil (52) developed over the top of both ditch cuts.

'Devil's Ditch' System

This system consisted primarily of two large linears trending NNW–SSE. The easternmost linear is known as the 'Devil's Ditch'. Very little of this system was recorded. The western linear ditch was not observed at all and the 'Devil's Ditch' (32) was only cut obliquely by a contractor's trench which did not reach to the bottom of the cut. The size and shape of this ditch were not recorded but the top filling was a layer of dark brown silty clay loam (33) over 1.10 m thick. This filling was different from the other ditch fillings observed along the route and may represent more recent silting. No dating evidence was found.

Between the two major defining ditches of this system, three more ditches not previously plotted were discovered when they were cut by a trench dug by the road contractors. These features were not observed in plan and too small an area was exposed by the trench to be able to determine the precise orientation of the ditches but they all appeared to be roughly parallel, running in an approximate N–S direction. The relationship to the major linears is uncertain. Ditch 100 was a large U-shaped ditch with a rounded base which measured 1.8 m in width and 0.9 m in depth. Ditch 104 had a V-shaped profile 1.7 m wide and 0.9 m deep. Ditch 108 was a much shallower U-shaped feature 1.5 m wide and 0.5 m deep. All three ditches silted up naturally.

Between the Quarley and 'Devil's Ditch' systems a single 'local' linear ditch (114) was recorded (Fig 20L). This was an eroded V-shaped ditch 4.6 m wide and 1.87 m deep which silted up naturally. In common with the 'local' linears in the Lains Farm complex there was some suggestion that there was a period of stability (117, 116) before a renewed increase in the rate of silting (115).

Other Features

Only a very small number of non-linear features were discovered, of which five were excavated. They occurred as two separate concentrations in plots 6 and 21. The majority of these were small scoops of indeterminate age and origin. All had silted up naturally and may have been natural rather than artificial features. No finds were recovered from any of them.

A large ditch (133) found in plot 14 was unlike the ditches described in the previous section as it was filled with a single brownish yellow silty clay loam layer (111). It was not excavated to its full depth so its true shape is not known, but it appeared to have steeply sloping sides and was about 5.4 m wide and over 2.0 m deep. This feature may have been a relict river channel rather than an artificially cut ditch.

THE ARTEFACTUAL EVIDENCE

Small quantities of pottery and worked flint were recovered during this watching brief.

The Pottery by Elaine L Morris

There are 50 sherds of pottery (151 g) in the collection from this watching brief. The material was recovered from five ditches (7, 59, 67, 95 and 96) and two unstratified contexts (47 and 112). Certain sherds are chronologically diagnostic, based usually on fabric but occasionally also on form or decoration, and range from Bronze Age to Romano-British in date. Nearly all of the pottery is very small, but the sherds are not worn or heavily abraded with rounded edges.

Methodology

Each sherd was examined using a binocular microscope (x10 power) and assigned to a fabric group, based on the dominant inclusion present, and a fabric type, based on the general period of production and the technological variations of those inclusions. Sherds displaying additional attributes such as form or decoration were recorded and assigned code numbers.

The Fabrics

There are five prehistoric and two Romano-British fabric types in the collection. These are listed below, and full descriptive details are available in the archive. The coding given to the fabrics is unique to this watching brief; three of the fabrics were also found at Lains Farm and are indicated below.

Prehistoric fabrics

F1 – a sparsely flint-tempered, sandy Bronze Age fabric (4 sherds/14 g)
F2 – a flint-tempered, Bronze Age fabric (40 sherds/66 g)
G1 – a grog-tempered, Beaker fabric (Lains Farm fabric G1) (1 sherd/2 g)
Q1 – a sandy, Iron Age fabric (Lains Farm fabric Q4) (2 sherds/6 g)
S1 – a shell-tempered, sandy Iron Age fabric (Lains Farm fabric S1) (1 sherd/2 g)

Fabrics F1 and F2 are typical Bronze Age-type fabrics which occur frequently in the Hampshire/Berkshire area (Hawkes 1969; Dacre and Ellison 1981; Hawkes 1985; Ellison 1989; Mepham, forthcoming; Lobb and Morris, forthcoming), and two sherds display Bronze Age characteristics. The single sherd of fabric G1 with impressed decoration was identified as typical Beaker pottery. Fabrics Q1 and S1 were also identified in the collection of pottery from the excavation at Lains Farm, and are Iron Age in date.

Romano-British fabrics

G100 – grog-tempered grey ware (1 sherd/60 g)
Q100 – buff/orange coarseware (1 sherd/1 g)

Fabric G100 is a common Romano-British-type fabric found throughout the period in Hampshire (Rees, forthcoming), as well as Berkshire (Mepham, forthcoming; Walker, forthcoming). Fabric Q100 is a relatively fine coarseware with no distinguishing characteristics other than being Romano-British.

The Forms and Decoration

There are only two bases, one rim and a single decorated sherd in the collection. All are prehistoric types.

Form 1 – ovoid jar; Fabric F2
Form 200 – flat base, with (Fabric F1) or without (Fabric Q1) extra surface grits on the underside
DT 1 – impressed decoration, possibly twisted cord or comb impressed; Fabric G1

The ovoid rim vessel is a very simple vessel type of middle–late Bronze Age and later date found in the area (Dacre and Ellison 1981, figs 19–20; Lobb and Morris, forthcoming). The flat base form, with an abundance of flint grits underneath, is also a distinctively Bronze Age characteristic (Mepham, forthcoming). The rather faint decoration of possible twisted cord found on the sherd of fabric G1 indicates a Beaker date for this example (Cleal 1990; forthcoming).

Discussion

The pottery is presented in Table 20, by fabric and form types as identified. Ditch 7 (context 6) contained the decorated sherd of Beaker pottery. Ditch 59 (context 60) contained two different vessels, both of Bronze Age type flint-tempered fabric, one of which is an ovoid rim vessel. Ditch 67 (context 68) had a single sherd of Romano-British grog-tempered grey ware fabric with secondary alteration. Ditch 96 (context 72) contained only one sherd of Iron Age type identical to material from Lains Farm nearby, while Ditch 95 (context 71) had two sherds of Iron Age type and one sherd of Romano-British pottery. One body sherd of fabric G100 displayed evidence for an attempted perforation of the wall of this rather rounded sherd, as though for the manufacture of a spindle whorl.

The Worked Flint

A total of 148 pieces of worked flint was recovered from this watching brief (Table 21). The small assemblage size and the widely varying level of

Table 20. A303 Contract 2: Classification of pottery forms, fabrics and date.

Ditch	*Context*	*Fabric*	*Form*	*Number*	*Weight*	*Date*
7	6	G1	dec. body DT1	1	2g	Beaker
59	60	F2	rim Form 1	2	7g	Bronze Age
		F2	body	38	59g	Bronze Age
67	68	G100	body	1	60g	Romano-British
95	71	Q1	base Form 200	1	1g	Iron Age
		Q1	body	1	5g	Iron Age
		Q100	body	1	1g	Romano-British
96	72	S1	body	1	2g	Iron Age
U/S	47	F1	base Form 200	1	10g	Bronze Age
U/S	112	F1	body	3	4g	Bronze Age

Table 21. A303 Contract 2: Flint assemblage.

Plot	Feature	cores	complete flakes	broken flakes	retouched	implements scraper	flake tool	misc. debitage	total
1	49	0	0	0	1	0	0	0	1
3	topsoil	0	1	0	0	0	0	0	1
5	topsoil	0	3	2	0	0	0	0	5
	15	0	24	9	0	0	1	9	43
	21	1	14	5	0	0	0	4	24
6	topsoil	0	2	2	0	0	0	0	4
	42	0	1	0	0	0	0	0	1
	64	0	0	1	0	0	0	0	1
7	topsoil	0	0	0	0	1	0	1	2
9	topsoil	0	22	7	4	1	0	1	35
10	topsoil	0	9	5	0	0	0	0	14
19	95	0	5	3	0	0	0	2	10
	96	0	3	2	0	0	0	0	5
20	93	0	1	1	0	0	0	0	2
TOTAL		1	85	37	5	2	1	17	148

recovery severely limit any meaningful statistical and metrical analyses. No spatial analysis will be attempted as this is more likely to reflect the differing intensity of observation rather than any archaeological patterning in the data. The assemblage consists mainly of broad thick primary and secondary flakes with a very small number of narrow blade-like flakes also present. Only one core was recovered – a multi-platform class C type (Clerk *et al* 1960) from ditch 21. Three implements were recovered: two end scrapers from the topsoil and one multiple flake tool (rod/knife) from ditch 15. The retouched flakes were all very cursorily retouched and given that most were found in the topsoil, this may have been the result of accidental damage rather than deliberate reworking. Although no diagnostic pieces were present, the general character of this assemblage suggests that it is late Neolithic–early Bronze Age in date.

THE ENVIRONMENTAL EVIDENCE
by M J Allen

A suite of six columns of soil samples were taken from selected excavated linear ditches for mollusc analysis (Table 22). Sampling and analysis was biased towards the lower fills in most cases, although when well differentiated horizons were visible, more complete sequences were sampled. The aim of molluscan analysis was to identify the local environmental conditions at the time of construction and determine the nature of the boundary. Furthermore, changes in the environment post-construction and subsequent use of the boundaries were examined. Thus these analyses enable a general reconstruction of the downland land-use history. The methods of analysis are discussed earlier, and each ditch profile is initially discussed individually below.

Lains Farm Complex

Two ditches from the Lains Farm sequence were analysed. They were ditch section 128 (column 5) and ditch section 131 (column 6). These features not only provide landscape evidence but also augment the analyses presented above from the Iron Age ditches at Lains Farm.

Ditch Section 128 (column 5) (Fig 18D)
This was a V-shaped ditch *c* 2.0 m deep and 2.4 m wide. Mollusc analysis was confined to four samples from the basal fills (contexts 129 and 130) which primarily consisted of loose, small to medium chalk pieces in a silty loam matrix. The ditch is relatively deep and it is possible that some of the molluscs may reflect the shady habitat of the ditch micro-environment itself. However, as analysis shows, shade-loving species and members of Evans' Punctum Group (1972, 331) characteristic of ditch flora regeneration were sparse, never exceeding more than 1% of the total assemblage.

The assemblages were open country and dominated by *Pupilla muscorum, Helicella itala* and the Vallonias. The consistent increase in *Vallonia excentrica* up profile and corresponding decrease in *Vallonia costata* may be taken to indicate more xerophilous conditions typical of arable contexts. Though surprisingly *Trichia hispida* is significantly inconspicuous, *Pupilla muscorum* which occurs in abundance prefers very open habitats and often occurs in bare patches of earth amongst short-grazed downland, tending to shun intensive agriculture. The upper sample from the basal portion of context 129 shows an increase in *Pomatias elegans* and *Vitrea contracta* which may indicate that these species were living among the loose rubble fills. A lack of shade-loving species indicates that not only did the ditch exist in an open environment but that it was constructed in a pre-existing open downland. It is likely, in view of the large numbers of *P. muscorum* and *V. excentrica* that the land adjacent to the ditch was either short-grazed grassland or arable, and probably a combination of the two. The ditch obviously silted rapidly and on the basis of the Overton Down experiment (Crabtree 1971; Fowler pers comm) it is unlikely that the samples represent a time span greater than about 30 years.

Ditch Section 131 (column 6) (Fig 18E)
This was a V-shaped, round-bottomed ditch only *c* 1.0 m deep and 1.85 m wide. Only three samples were analysed from the basal fill (context 132) which consisted of lenses of small to medium chalk pieces within a silty loam matrix.

Mollusc numbers were low from all three samples yet it is evident that they all represent very open conditions. Again *Pupilla muscorum, Helicella itala* and the Vallonias are the predominant species. The presence of *Pomatias elegans* may either reflect the loose ditch fill environment or it may be associated with arable and loose filled earth contexts. The lack

Table 22. A303 Contract 2: Mollusc data.

Ditch	128	128	128	128	131	131	131	67	67	67	67	21	21	21	21	21	21	49	49
Sample	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	1	2
context	130	130	130	129	132	132	132	70	70	69	68	25	25	24	24	23	–	51	51
weight (g)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	400	984
Mollusca																			
Pomatias elegans (Müller)	2	1	1	4	2	2	3	4	7	7	–	1	1	1	–	1	1	7	10
Carychium tridentatum (Risso)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2
Carychium sp.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cochlicopa lubrica (Müller)	–	1	1	–	–	–	–	1	2	4	21	–	1	8	21	2	1	2	2
Cochlicopa cf. *lubricella* (Porro)	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–
Cochlicopa sp.	9	1	2	1	–	+	1	3	4	–	17	3	2	2	8	8	–	1	2
Vertigo substriata (Jeffreys)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–
Vertigo pymaea (Draparnaud)	1	3	–	1	–	1	–	2	–	+	6	–.	1	–	17	5	4	–	–
Pupilla muscorum (Linnaeus)	56	43	23	19	16	10	9	120	86	78	566	51	135	220	581	416	48	3	11
Vallonia costata (Müller)	22	12	5	4	9	7	9	32	17	15	212	4	12	42	99	3	15	–	–
Vallonia excentrica Sterki	29	24	19	2	5	6	–	15	34	23	54	2	4	10	47	14	–	1	–
Punctum pygmaeum (Draparnaud)	–	–	–	–	1	1	–	–	–	–	2	–	–	2	2	1	13	–	–
Discus rotundatus (Müller)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vitrina pellucida (Müller)	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	6	–	–
Vitrina contracta (Westerlund)	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	25	1	–
Nesouitrea hammonis (Ström)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–
Aegopinella nitidula (Müller)	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	13	–	1
Aegopinella pura (Alder)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	4	–	–
Oxychilus cellarius (Müller)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	–
Limacidae	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–
Cecilioides acicula (Müller)	–	–	–	–	–	–	–	–	–	–	1	–	–	1	5	–	3	–	1
Clausilia bidentata (Ström)	1	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–
Cernulla virgata (da Costa)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–
Candidula intersecta (Poiret)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	–	1
Helicella itala (Linnaeus)	10	11	8	2	–	–	6	8	9	9	50	6	28	34	42	22	6	5	1
Trichia hispidia (Linnaeus)	–	1	–	–	–	–	–	–	–	1	29	2	2	18	55	3	10	1	2
Trichia striolata (C. Pfeiffer)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	–
Helicigona lapicida (Linnaeus)	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cepaea nemoralis (Linnaeus)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–
Cepaea sp.	+	–	–	+	–	–	–	–	1	1	–	–	–	–	–	–	–	+	+
Taxa	8	8	6	8	5	6	5	8	8	8	10	7	9	8	13	10	17	8	8
TOTAL	130	96	59	34	33	27	28	186	161	138	959	69	187	337	879	477	165	22	32

Table 22 (I)

Ditch	128	128	128	128	131	131	131	67	67	67	67
Sample	6	7	8	9	10	11	12	13	14	15	16
context	130	130	130	129	132	132	132	70	70	69	68
weight (g)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Mollusca											
Pomatias elegans (Müller)	2	1	1	4	2	2	3	4	7	7	–
Carychium tridentatum (Risso)	–	–	–	–	–	–	–	–	–	–	–
Carychium sp.	–	–	–	–	–	–	–	–	–	–	–
Cochlicopa lubrica (Müller)	–	1	1	–	–	–	–	1	2	4	21
Cochlicopa cf. *lubricella* (Porro)	–	–	–	–	–	–	–	–	–	–	–
Cochlicopa sp.	9	1	2	1	–	+	1	3	4	–	17
Vertigo substriata (Jeffreys)	–	–	–	–	–	–	–	–	–	–	–
Vertigo pymaea (Draparnaud)	1	3	–	1	–	1	–	2	–	+	6
Pupilla muscorum (Linnaeus)	56	43	23	19	16	10	9	120	86	78	566
Vallonia costata (Müller)	22	12	5	4	9	7	9	32	17	15	212
Vallonia excentrica Sterki	29	24	19	2	5	6	–	15	34	23	54
Punctum pygmaeum (Draparnaud)	–	–	–	–	1	1	–	–	–	–	2
Discus rotundatus (Müller)	–	–	–	–	–	–	–	–	–	–	–
Vitrina pellucida (Müller)	–	–	–	–	–	–	–	–	1	–	–
Vitrina contracta (Westerlund)	–	–	–	1	–	–	–	–	–	–	–
Nesouitrea hammonis (Ström)	–	–	–	–	–	–	–	–	–	–	–
Aegopinella nitidula (Müller)	–	–	–	–	–	–	–	–	–	–	1
Aegopinella pura (Alder)	–	–	–	–	–	–	–	–	–	–	–
Oxychilus cellarius (Müller)	–	–	–	–	–	–	–	–	–	–	–
Limacidae	–	–	–	–	–	–	–	–	–	–	–
Cecilioides acicula (Müller)	–	–	–	–	–	–	–	–	–	–	1
Clausilia bidentata (Ström)	1	–	–	–	–	–	–	1	–	–	1
Cernulla virgata (da Costa)	–	–	–	–	–	–	–	–	–	–	–
Candidula intersecta (Poiret)	–	–	–	–	–	–	–	–	–	–	–
Helicella itala (Linnaeus)	10	11	8	2	–	–	6	8	9	9	50
Trichia hispidia (Linnaeus)	–	1	–	–	–	–	–	–	–	1	29
Trichia striolata (C. Pfeiffer)	–	–	–	–	–	–	–	–	–	–	–
Helicigona lapicida (Linnaeus)	+	–	–	–	–	–	–	–	–	–	–
Cepaea nemoralis (Linnaeus)	–	–	–	–	–	–	–	–	–	–	–
Cepaea sp.	+	–	–	+	–	–	–	–	1	1	–
Taxa	8	8	6	8	5	6	5	8	8	8	10
TOTAL	130	96	59	34	33	27	28	186	161	138	959

Table 22 (II)

Ditch	21	21	21	21	21	21	49	49	49	49	49	114	114	114	114	114	114	114
Sample	1	2	3	4	5	6	1	2	3	4	5	17	18	19	20	21	22	23
context	25	25	24	24	23	–	51	51	50	50	50	120	120	119	118	117	116	115
weight (g)	1000	1000	1000	1000	1000	1000	400	984	862	990	1000	1000	1000	1000	1000	1000	1000	1000
Mollusca																		
Pomatias elegans (Müller)	1	1	1	–	1	1	7	10	24	51	15	–	+	–	–	–	–	–
Carychium tridentatum (Risso)	–	–	–	–	–	–	1	2	12	14	10	–	2	–	–	–	–	–
Carychium sp.	–	–	–	–	–	–	–	–	2	2	–	–	–	–	–	–	–	–
Cochlicopa lubrica (Müller)	–	1	8	21	2	1	2	2	–	2	7	–	–	–	–	–	10	10
Cochlicopa cf. *lubricella* (Porro)	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cochlicopa sp.	3	2	2	8	8	–	1	2	3	4	5	–	–	–	1	1	7	13
Vertigo substriata (Jeffreys)	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Vertigo pymaea (Draparnaud)	–	1	–	17	5	4	–	–	3	2	2	1	1	1	1	1	13	36
Pupilla muscorum (Linnaeus)	51	135	220	581	416	48	3	11	50	61	102	1	1	1	8	13	94	103
Vallonia costata (Müller)	4	12	42	99	3	15	–	–	–	3	6	2	2	1	2	1	23	3
Vallonia excentrica Sterki	2	4	10	47	14	–	1	–	2	3	7	–	–	–	6	3	170	109
Punctum pygmaeum (Draparnaud)	–	–	2	2	1	13	–	–	–	1	–	–	–	–	–	–	7	–
Discus rotundatus (Müller)	–	–	–	–	–	–	–	–	2	5	4	–	+	–	–	–	–	–
Vitrina pellucida (Müller)	–	–	–	1	–	6	–	–	–	–	–	–	–	–	–	–	–	–
Vitrina contracta (Westerlund)	–	–	–	–	–	25	1	–	–	–	–	–	1	–	1	–	–	–
Nesouitrea hammonis (Ström)	–	–	–	2	–	–	–	–	–	2	–	–	–	–	–	–	–	–
Aegopinella nitidula (Müller)	–	–	–	1	–	13	–	1	2	–	–	–	–	–	–	–	–	–
Aegopinella pura (Alder)	–	–	–	2	–	4	–	–	1	2	3	–	–	–	–	–	–	–
Oxychilus cellarius (Müller)	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–
Limacidae	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	2	2
Cecilioides acicula (Müller)	–	–	1	·5	–	3	–	1	2	1	–	–	–	1	–	–	9	18
Clausilia bidentata (Ström)	–	–	–	–	–	–	–	–	1	4	1	–	–	–	–	–	–	–
Cernulla virgata (da Costa)	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	1
Candidula intersecta (Poiret)	–	–	–	–	–	7	–	1	1	–	2	–	–	–	–	–	–	–
Helicella itala (Linnaeus)	6	28	34	42	22	6	5	1	12	7	5	1	–	1	–	5	33	16
Trichia hispidia (Linnaeus)	2	2	18	55	3	10	1	2	2	1	3	1	–	–	1	3	94	45
Trichia striolata (C. Pfeiffer)	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	–	–
Helicigona lapicida (Linnaeus)	–	–	–	–	–	–	–	–	–	+	–	–	–	+	–	–	–	–
Cepaea nemoralis (Linnaeus)	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cepaea sp.	–	–	–	–	–	–	+	+	1	+	3	–	–	–	–	–	–	–
Taxa	7	9	8	13	10	17	8	8	14	15	14	5	5	4	8	7	9	9
TOTAL	69	187	337	879	477	165	22	32	118	164	175	6	7	4	21	27	453	338

of shade-loving species, with the exception of *Punctum pygmaeum*, indicates the existence of established open conditions. *P. pygmaeum*, although classified as shade-loving (Evans 1972, 195) is frequently found in open chalk grassland habitats with *Cochlicopa* sp. (Evans 1972, 183), which is also present here. Once again the ditch fills indicate rapid inwash; thus the assemblages can be seen to be contemporary with, and to immediately post-date, the construction of the ditch.

Quarley Ditch System

Three ditches were sampled from the Quarley linear ditch system. These ditches (67, 49 and 21) provide a contrast to those of the Lains Farm system, and are approximately 1.5 km from the Iron Age complex.

Ditch Section 67 (column 3) (Fig 20I)
This ditch was more comprehensively sampled than most in an attempt to assess and identify any change in the local environs during the existence of the ditch. The V-shaped ditch was 1.2 m deep and samples were taken from the chalk rubble of the primary fill (context 70), the brown calcareous silty clay secondary fill (context 69) and the silty loam of the tertiary fill (68).

Mollusc numbers throughout this ditch sequence were high to very high; even the basal fill contained 186 molluscs per kilogram. In the primary and secondary fills open country species (*P. muscorum, H. itala* and Vallonias) dominate the assemblages. This is certainly again indicative of the ditch having been constructed in an open downland landscape and probably used as a demarcation for a field. The assemblages are typical of both arable and short-grazed downland. The tertiary fill displays a similar assemblage though stabilisation in the ditch-fill regime is indicated by the high mollusc numbers (959 per kilogram) and the presence of a larger range of shade-loving species. The tertiary fill is finer, containing fewer chalk pieces, thus confirming this hypothesis.

Ditch section 21 (column 1) (Fig 20F)
A simple V-shaped ditch *c* 1.36 m deep was sampled so that each context was represented and the topsoil was sampled immediately adjacent to the stripped plot. Thus representative samples of the entire ditch fill sequence from the Bronze Age to the present were analysed. Interestingly this ditch lay under an open wood comprised of hawthorn and elder scrub, with no vegetational ground cover. Shells were well preserved in all contexts and numbers per kilogram were respectable even for the basal fill.

The primary and secondary fills are overwhelmingly dominated by *Pupilla muscorum* which represents up to 87% of the assemblage. Other than *P. muscorum*, open country species of *Hoitala* and the Vallonias predominate with *Vertigo pygmaea, Trichia hispida, Cochlicopa* sp. and *Pomatias elegans* comprising the rest of the assemblage. Snail numbers increase to a maximum of 879 in the secondary fills (context 24) indicating a degree of stabilisation. It can be seen that the ditch survived in open dry conditions, probably with a lot of bare earth. This would be consistent with arable and intensive pastoral activity. Even in the upper fill the assemblage remains similar and indicates an unchanging environment. Indeed as the upper fill (context 23) contained specimens of *Cernuella virgata* this indicates the onset of Kerney's (1977) mollusc biozone 'f' ie medieval. This assemblage is interesting in that it contains albeit in low frequencies, *Punctum pygmaeum, Nesovitrea hammonis* and *Vitrina pellucida*, which are all members of Evans' Punctum Group indicating ditch colonisation by plants (1972). This is especially noteworthy upon examination of the modern mollusc fauna. Here *P. muscorum* is significantly reduced and the shade-loving species *Vitrea contracta* and *Aegopinella* sp. are common. Thus the present day woodland with an open woodland floor may possibly have been initiated in the medieval or immediate post-medieval periods. It is possible to postulate that here the ditch may have been hedged, which upon abandonment grew into a natural linear wood. Thus this ditch represents continuation of a boundary in one form or another since the Bronze Age.

Ditch Section 49 (column 2) (Fig 20G)
Five samples from the basal deposits of a small, typical V-shaped ditch only 0.78 m deep were analysed. Mollusc numbers were low in the basal two samples but respectable numbers were recovered from the remaining samples. The assemblages contrasted with the ditches described previously. A considerably larger shade-loving element was evident and *Pomatias elegans* was present in large numbers. Further, all but the basal sample contained species of *Cernuella virgata* which indicate that the deposits are medieval or later. The absence of *Cernuella virgata* in the basal deposit and the predominance of *Helicella itala* may be taken to indicate an initial immediate pre-medieval deposit or may be

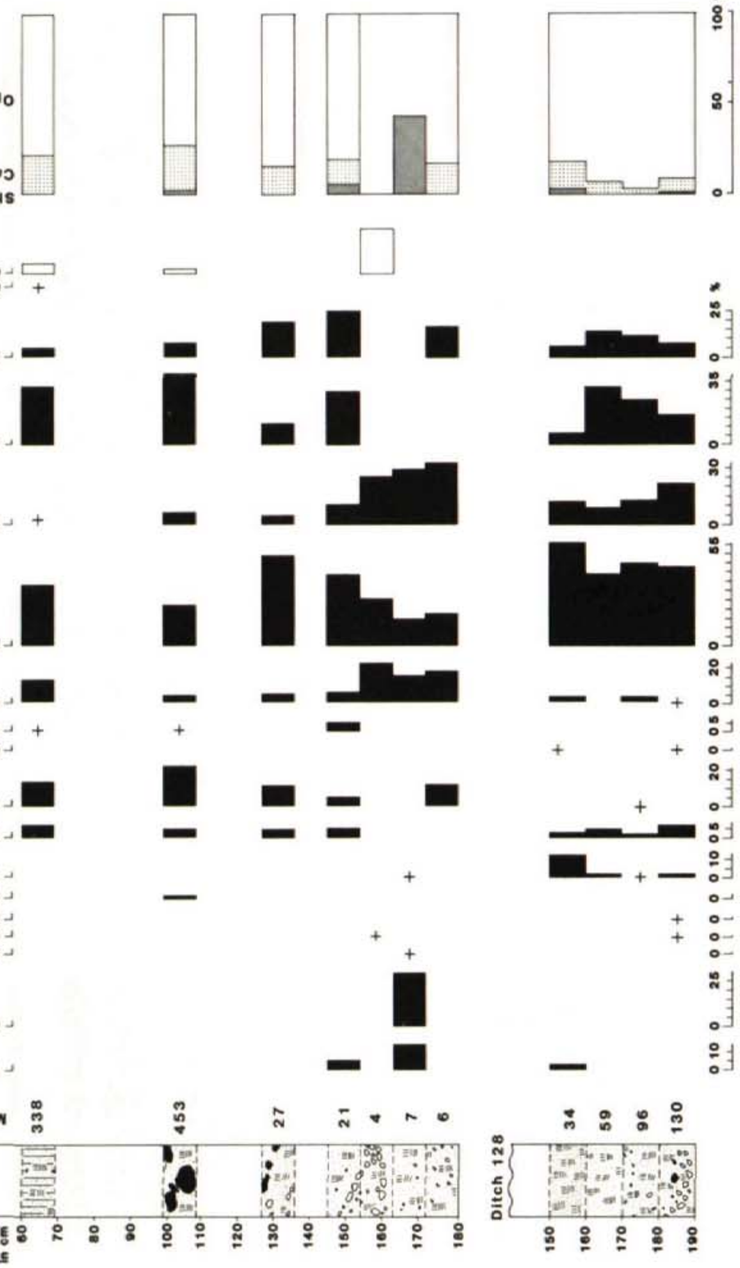

Fig 21. A303 Contract 2: relative mollusc abundance data from ditches 114 and 128.

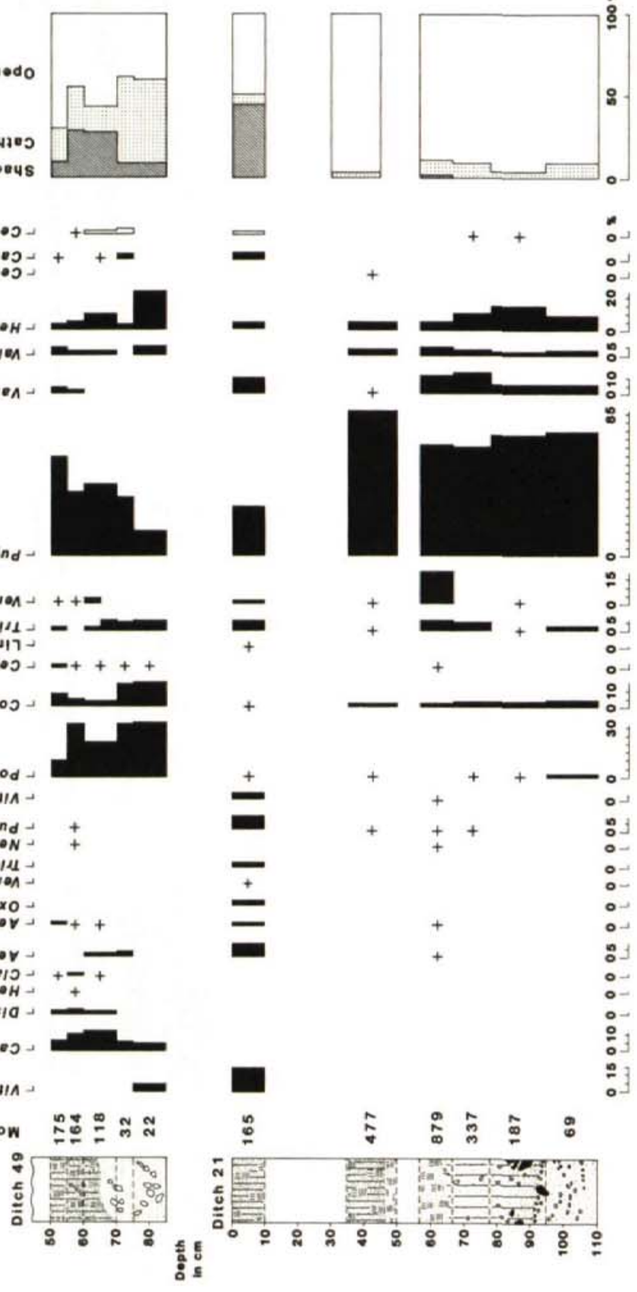

Fig 22. A303 Contract 2: relative mollusc abundance data from ditches 49 and 21.

the result of factors such as assemblage size and ecology.

H. itala, Pupilla muscorum, Cochlicopa lubrica and *Pomatias elegans* are the most numerically abundant species in the basal sample. This essentially indicates open, but disturbed ground which, in conjunction with the shade-loving species *Vitrea contraeta* and *Coryclium tridentatum*, indicates that this was probably not solely indicative of arable or intensive grazing. Above this a marked increase in *P. muscorum* is evident and a significant decline in *H. itala*. Further, increases in *Carychium tridentatum* and the records of *Discus rotundatus* and *Aegopinella* sp. certainly indicate patches of bare soil and some shady habitats. The latter cannot have been offered by the ditch itself and therefore probably indicates the presence of open shrub or tall grasses. The most pertinent question is whether this vegetation belonged to a ditch community or a ditch-side community. In view of the lack of Evans' Punctum Group (1972) which is typical of ditch colonisation by plants, and the presence of *Pomatias elegans* and *Pupilla muscorum* which like bare loose earth, it is likely that the assemblage represents a hedge adjacent to the ditch. This could afford shade, bare soil and allow for open country species.

Thus, this ditch which is distinctly different in size and morphology, can be seen to be medieval, rather than prehistoric, and a hedged rather than an open boundary.

'Devil's Ditch' System

No ditches were sampled in the 'Devil's Ditch' system; however, one single linear ditch (114) that ran between the 'Devil's Ditch' system and the Quarley ditch system was analysed.

Ditch Section 114 (column 4) (Fig 20L)
Samples were analysed from the large V-shaped ditch and the sample suite included a sequence through the primary fills (120, 119), the secondary fill (118) and a spot sample from the fine tertiary fill (115).

Mollusc numbers in both the primary and secondary fills are very low and do not exceed 27 molluscs per kilogram. Although such low numbers make environmental reconstruction difficult, the assemblages are primarily open country, although some shade-loving species, *Vitrea contracta, Carychium tridentatum* and *Discus rotundatus* are present. It is possible that the presence of these shade-loving species indicates a former relict assemblage. Certainly the *Discus rotundatus* and *Helicigona Capicida* specimens are well worn. The open country component is typically predominantly *Pupilla muscorum, Vertigo pygmaea, Helicella itala* and the Vallonias, though the catholic species *Cochlicopa* sp. and *Trichia hispida* are also consistently present in comparatively low numbers. Thus this assemblage is probably more indicative of grassland than arable, especially as *Vallonia costata* predominates over the xerophilous *Vallonia excentrica*.

A single sample taken from the upper secondary fills of the ditch amongst a horizon of large flints (context 116) and a further sample from the fine tertiary fill (context 115) revealed very similar assemblages. Once again the typical open country suite prevails although a more catholic group including *Punctum pygmaeum, Cochlicopa* sp., Limax and *Trichia hispida* is present in the secondary fills. Mollusc numbers increase dramatically to 453 and 338 molluscs per kilogram respectively which with the presence of more catholic species indicate much more stable conditions. *Pupilla muscorum* remains dominant but *Vallonia excentrica* prevails over *Vallonia costata*, indicative of drier environments with patches of bare soil. The secondary fill is a fine calcareous silty clay loam with few chalk pieces but a number of large flints corroborates the hypothesis of more stable conditions, whilst the tertiary fill is a typical calcareous ploughwash which can be ascribed to Kerney's (1977) mollusc biozone 'f' (ie medieval) on the basis of the presence of the introduced Helicellid, *Cernuella Virgata*. Thus this ditch seems to have remained extant into the medieval period, the immediate environs becoming more xerophilic and thus probably predominantly arable in later periods.

Discussion

Unfortunately there is no good dating sequence for the ditches and most of the basic chronological evidence is provided by the mollusc data. It is therefore difficult to interpolate the initiation of the land division that the linear ditches represent. However, apart from the fact that they were all constructed in open dry downland, it is evident from the analysis of the mollusca from the Iron Age enclosure at Lains Farm that they must be at least Iron Age in date, and by analogy with other linear ditches (Hawkes 1939; Arnold 1972; Evans and Vaughan 1985) probably mid–late Bronze Age. If we can therefore tentatively suggest a mid–late Bronze Age date for their inception, then it is possible that clearance of large and extensive tracts of the chalklands occurred in the early–mid Bronze Age. How early initial, rather than extensive, clearance was undertaken cannot be concluded from this study, but as extensive clearance must have been conducted in the earlier Bronze Age it is plausible that initial clearance was early. There is therefore a need to examine early datable soils or colluvial deposits in order to obtain this data.

There is a large variation in mollusc abundance over the transect of downland examined. Mollusca are significantly more prolific in the Quarley ditch system than they are in the Lains Farm series (Table 17). It is possible that this may be due to the greater intensity of human activity in the Lains Farm area resulting in a reduction in the snail fauna. If this is the case then the archaeological evidence supports this because of intensification of land-use in the Iron Age centred around Lains Farm. Thus if the reduction in snail populations is a phenomenon resulting from such activity it may therefore be used as a crude chronological indicator. This would suggest that a temporal dichotomy between the Lains Farm and Quarley ditch system can be postulated. However, this is an extremely tentative hypothesis and other sound ecological and taphonomic factors may be the cause. Nevertheless it is evident that this is not a preservational bias and does seem to reflect a real variation in population densities. Whether this really is a temporal as well as a spatial phenomenon must remain speculative.

SECTION THREE: THE A303 WATCHING BRIEF: ANDOVER TO THRUXTON

by P Harding

INTRODUCTION

This section describes the results of an archaeological watching brief on the first phase of the A303 road improvement scheme from the Monxton roundabout in the east to a point 1.2 km west of Thruxton. The watching brief followed a fieldwalking survey by members of the Test Valley Archaeological Committee (Boismier and Martin 1985) and a geophysical survey by the Ancient Monuments Laboratory (David 1984).

This part of the route (Figs 1 and 23) crosses a gently undulating, south-facing area of Upper Chalk which forms part of the River Test basin. The surface of the chalk is broken by periglacial stripes and some areas are capped with pockets of Clay-with-Flints. Most of the route crossed established arable farmland, including Andover airfield which had been returned to arable following a period of at least 70 years permanent pasture. Examination of the Pillhill Brook valley was not possible, and south of Thruxton village, where the road cut through a heavily wooded slope, the identification of archaeological features was difficult.

No major archaeological sites were known from this stretch of the route (Palmer 1984, 109). This appeared to be confirmed by the geophysical survey (David 1984). However, the fieldwalking survey did identify areas containing heavier concentrations of surface flint and late Bronze Age pottery (Boismier and Martin 1985). The watching brief revealed 11 linear ditches most of which contained pottery, predominantly of late Bronze Age date. No traces of settlement or ring ditches (Palmer 1984, 78–106, Map 1) were observed (Fig 23).

TECHNIQUES

The contractors removed the topsoil which was between 0.20–0.30 m deep, from a strip averaging 40–50 m wide. This strip narrowed

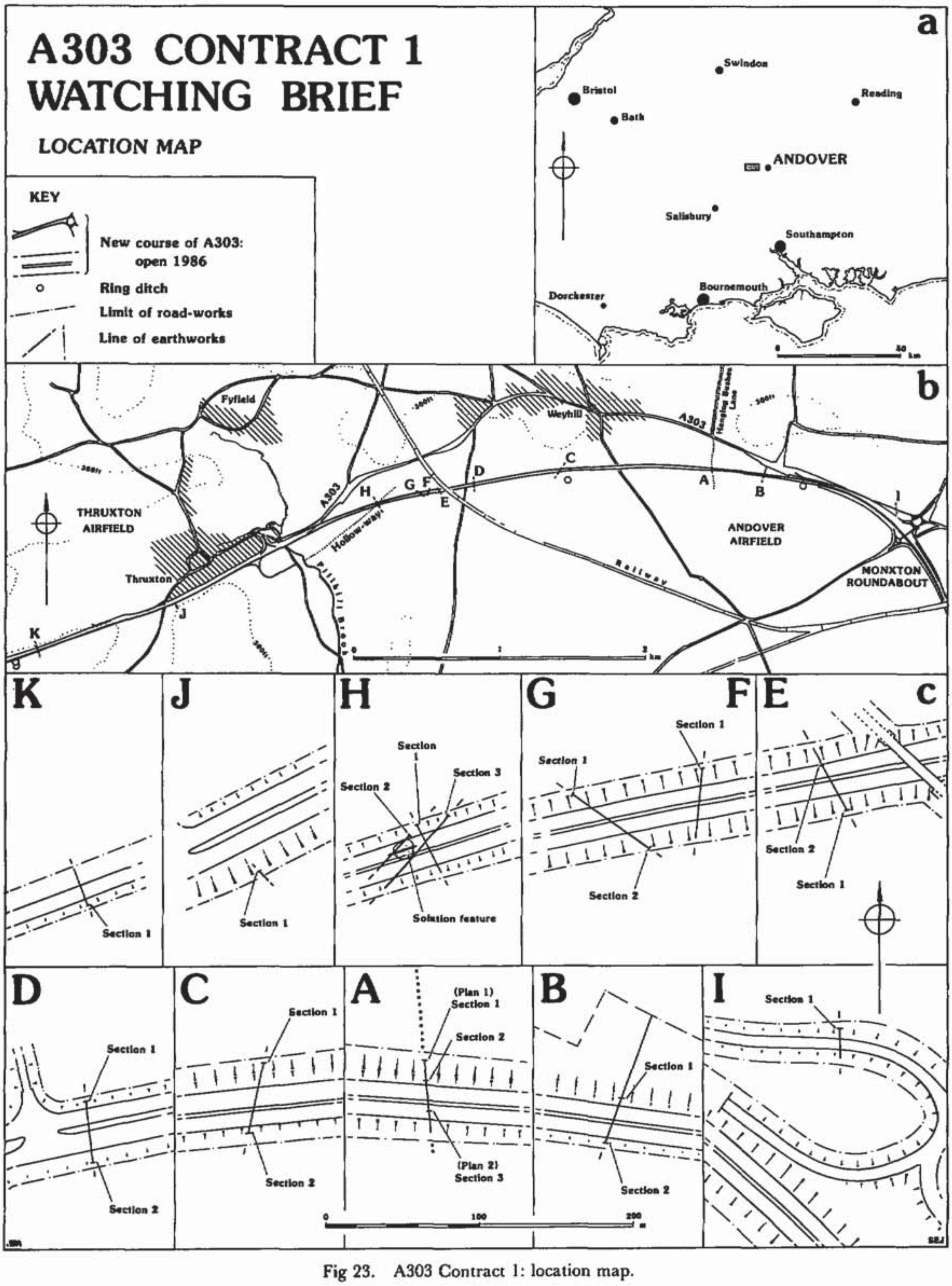

Fig 23. A303 Contract 1: location map.

to approximately 12 m wide to the west of Thruxton where the route ran parallel to the existing carriageway.

A series of linear features was located. These were all coded W69, but were individually identified alphabetically. All features were observed on the ground except W69D which was discovered from aerial photographs taken during road construction by the engineers. All were examined by 1 m wide sections at one edge of the stripped area, or where time allowed at both edges. This limited form of excavation offers no more than a general record of each feature and descriptions of stratigraphy cannot be verified. Context numbers quoted in the text (shown in brackets) correspond with those of the excavation record. Depths of linear features are shown below chalk.

THE EXCAVATIONS AND ARCHAEOLOGICAL EVIDENCE

Site W69A (SU32554622)

A hollow-way, approximately 2.5 m wide, with a flanking ditch 0.35 m to the east, lay between ploughed hedge banks, located 2 m to the west and 5–6 m to the east (Fig 24). It ran N–S along the boundary of Penton Mewsey and Weyhill parishes, an alignment which could be traced northwards into Hanging Bushes Lane as a crop mark (Fig 23).

The hollow-way, which was slightly domed towards the centre, had a deeply rutted base cut 0.17 m into the chalk on the western side. Periglacial solution features (6; Fig 24) were present in the natural chalk. A discontinuous surface of subangular flint cobbling (8) (Fig 24, Section 3) extended across the hollow-way in most places; however this had been re-eroded by the ruts which were filled on the western side with compacted laminated pasty chalk (7). This accentuated erosion together with the asymmetric position of the hollow-way between the hedge banks may indicate that the track had migrated to the west. Paired ruts suggest use by vehicles with an axle gauge of approximately 1.80 m.

A chalk-free loamy turfline (4) overlay the cobbles on the eastern side and extended into the flanking ditch. This may represent total abandonment of the hollow-way, intermittent use, or inaccessibility of this part due to vegetation. The removal of the hedge banks and a phase of ploughing (2) resulted in the levelling of the hollow-way south of the A303 before the construction of the airfield in June 1916.

The flanking ditch, 0.70 m wide and 0.15 m deep, ran parallel to the hollow-way. It had silted naturally and towards the south appears to have been crossed by traffic ruts (Fig 24, Section 3).

No finds were present to date the use of the hollow-way. Three post-medieval pottery sherds and two flint flakes were found in the overlying ploughsoil (2).

Site W69B (SU32894617)

A narrow, shallow linear ditch filled with brown loam ran N–S across the route (Figs 23 and 25). Its course was traced for a further 57 m to the north beyond section S1 (Fig 23). It averaged 0.65 m wide at the surface, 0.50 m wide at the base and was 0.13 m deep.

A single plough-abraded Romano-British coarseware sherd was found at the base of S1; however, the depth is insufficient to be considered reliable for dating. Most finds were concentrated within the upper parts of the ditch in contexts (2) and (4). These included a well worn sherd of Romano-British coarseware, a fragment of fired clay and seven residual flint flakes.

Site W69C (SU31504620)

A linear ditch, aligned NE–SW, averaged 1.35 m wide at the surface and 0.75 m at the base (Figs 23 and 25). It was 0.55 m deep with a steep eastern side and undulating flat base. In section S1, the natural silting of brown chalky loam contained some semi-vacuous chalk rubble in the primary fill but became increasingly less chalky towards the top. The sequence was interrupted by a sorted flint horizon between (3) and (2). The presence of tip lines from the eastern side within (2) suggested evidence of a bank on that side (Fig 25).

The sequence in S2 was more complex with an indication of a probable recut (10) 0.40 m wide which was not visible in section S1. The primary ditch fill (11) and the brown chalky loam of the recut (10) were overlain by three contexts: a compacted chalk wash (13); a stiff rich brown clay (9); and a chalky loam (8) which were probably derived from a bank on the eastern side. The extent of the brown clay was not established. It may represent a localized clay-rich topsoil derived from the bank or natural surface pocket which has

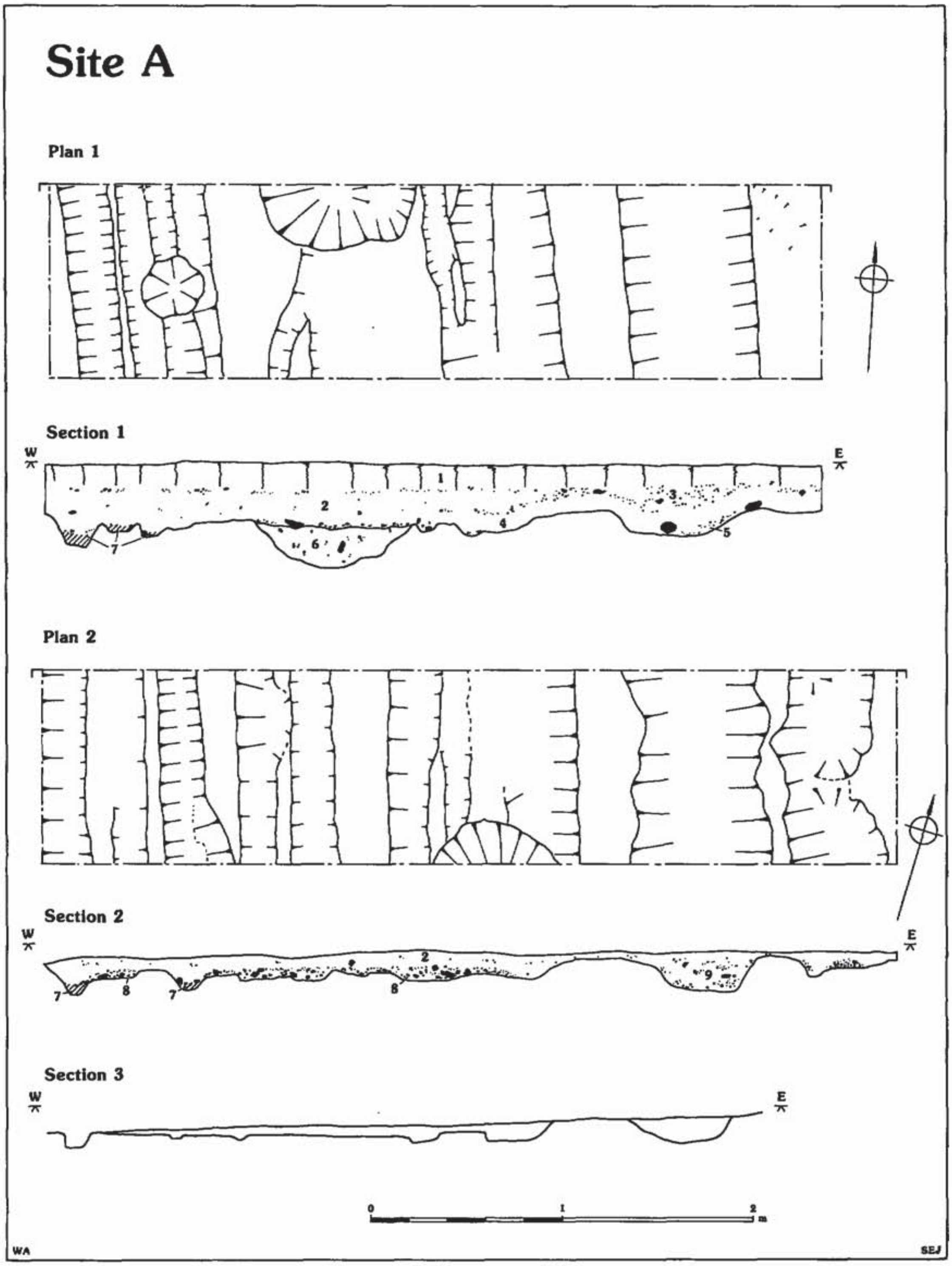

Fig 24. A303 Contract 1: W69A plans and sections.

accelerated decalcification. It shows similarities to the extensive argillic brown earth of the Stonehenge Cursus (Stone 1947) where the circumstances of formation are also uncertain.

An additional linear feature was revealed in a farm access road immediately south of the road strip. It extended from W69C towards the south-east, but there was no opportunity to examine this junction.

The primary contexts of the ditch (4) and the recut (10) contained three late Bronze Age sherds, as well as one flint core, three waste flakes and one flint fabricator which had been used as a hammer at one end. Middle–late Bronze Age pottery was also present in the central contexts (3) and (9), although a single Romano-British coarseware sherd (3) indicated some mixing. Seven small abraded body sherds of middle–late Bronze Age fabric and one of possible Romano-British date were found in the surface contexts (2) and (7). There were, in addition, nine pieces of worked flint, a single platform core, seven flakes and one burnt flake.

Site W69D (SU30924611)

A linear ditch, aligned N–S, was cut into chalk which contained deep periglacial stripes (Fig 23). It varied from 1.08–1.40 m wide at the surface, was 0.37–0.45 m deep and had a steep western edge and irregular base (Fig 25). No recuts were apparent.

The ditch was filled with brown chalky loam (4) and (8), overlain by a chalk-free loam (2) and (6). These contexts were separated by a sorted stony horizon (3), (7), which was concentrated in the central ditch hollow. This may represent a stabilised turfline overlain by modern ploughsoil which completely filled the shallow surface hollow. No evidence of a bank survived.

All contexts from this feature contained finds. The pottery, which consisted of mixed Bronze Age/late Bronze Age and Romano-British sherds, was plough derived ((2), (6) and (7)). It included a Romano-British coarseware rim sherd from a 3rd/4th century flanged bowl. This provides no reliable dating evidence for the construction of the ditch. Twenty-four undiagnostic flint flakes and one core were found throughout the fill but were more common from the flinty horizons (3) and (7).

Site W69E (SU30684606)

A linear feature ran NW–SE across an area of heavily periglaciated chalk with associated pockets of Clay-with-Flints (Fig 23). Its edges, particularly in S2, were therefore uncertain. The profile ranged from 0.77–1.26 m wide at the top, averaged 0.63 m at the base and was 0.20–0.44 m deep (Fig 25).

The fill was predominantly rich brown silty clay, derived from the surrounding natural, with flints towards the base. Where chalk was present in the ditch edge, however, this was reflected as decalcified chalk haloes and pellets in the fill. Evidence for any bank or recutting was absent.

This feature contained two sherds of late Bronze Age date, nine pieces of worked flint from (6) and two flint flakes from (3).

Site W69F (SU30614605)

A single section through a linear feature running N–S revealed a ditch 1.50 m wide at the surface and 0.70 m wide at the base (Figs 23 and 25). It had steep sides cut 0.61 m into periglacial chalk which was overlain by clay with flints.

The primary fill of chalk rubble and wash (4) from the sides had undergone some decalcification. There were no clear tip lines. The overlying colluvium, derived from the surface Clay-with-Flints was divided into a stony clay rich horizon (3) overlain by a sorted loamy fill (2). These were also decalcified. No evidence of a bank survived nor of recutting.

Small sherds of middle–late Bronze Age pottery were found in both (3) and (4). It is likely that these abraded sherds were in a primary context although filtration cannot be discounted. Eleven flint flakes and one core were found in (2) and (3).

Site W69G (SU30564604)

A well-cut ditch aligned NW–SE (Fig 23) narrowed from 1.35 m wide at the top to 0.30 m at the base which was approximately 0.75 m deep (Fig 26). The projected course intersected that of W69F approximately 25 m south of the stripped area at 60°. This intersection was not accessible for excavation.

The ditch contained clay-rich colluvial fill similar to W69F. The primary light brown decalcified chalky wash (5), (9) was overlain by a medium brown flinty clay loam (3), (4), (8), with a similar dark brown sorted material above. Chalk was generally rare or absent throughout. A concentration of flint knapping debris which included conjoining pieces was recovered from (3), (4) and (5). It probably represents dumping onto the primary silts.

One sherd of late Bronze Age pottery was found

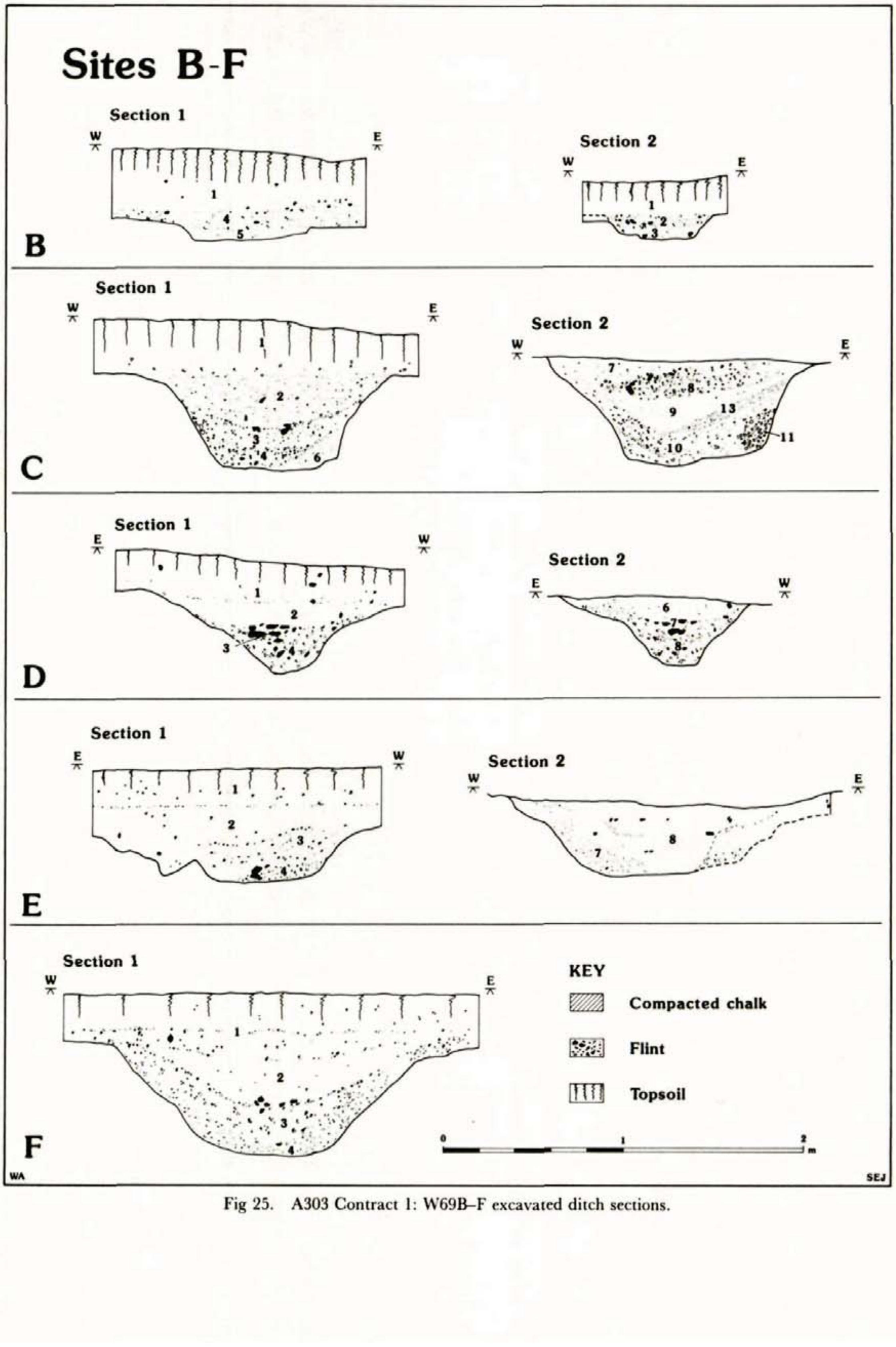

Fig 25. A303 Contract 1: W69B–F excavated ditch sections.

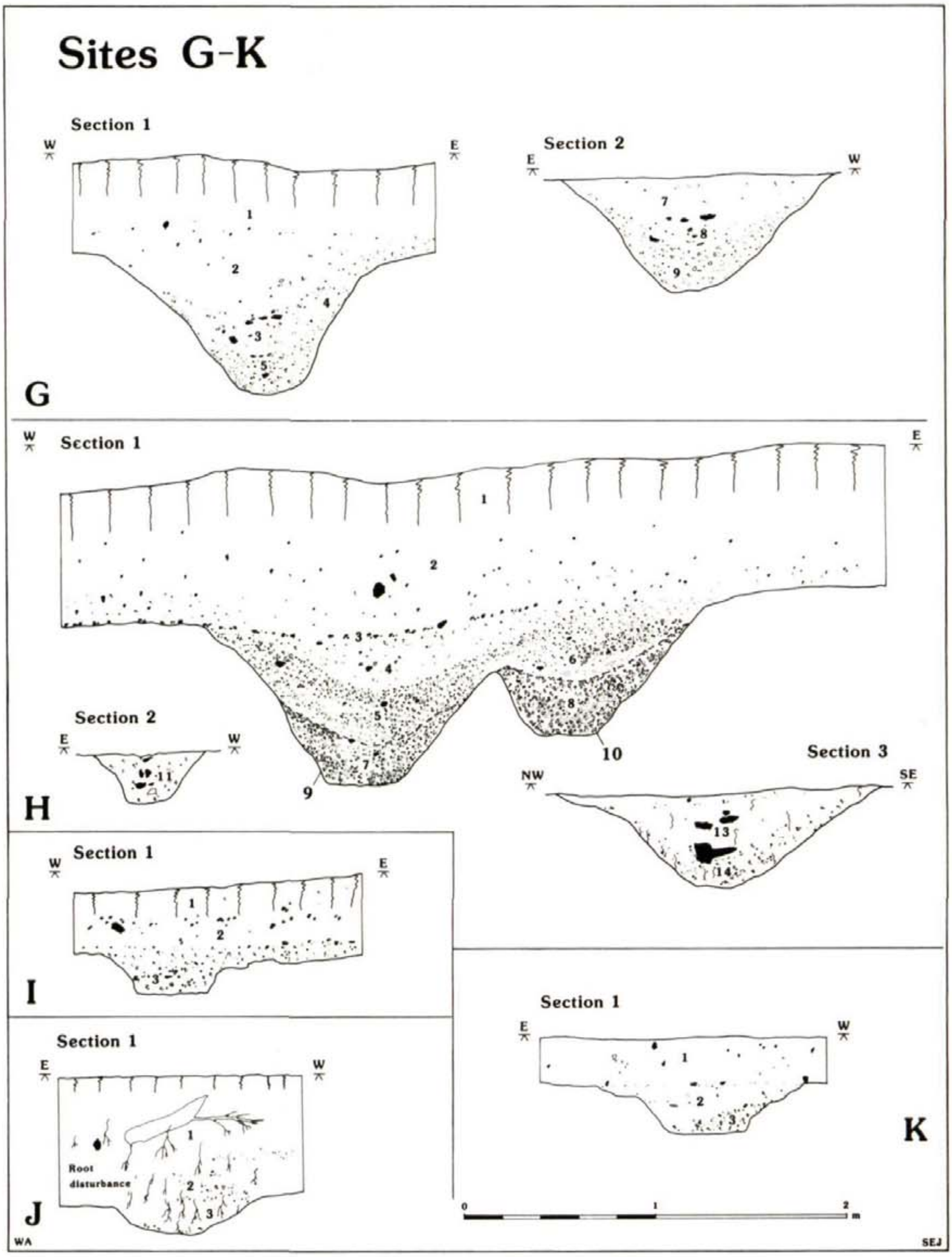

Fig 26. A303 Contract 1: W69G–K excavated ditch sections.

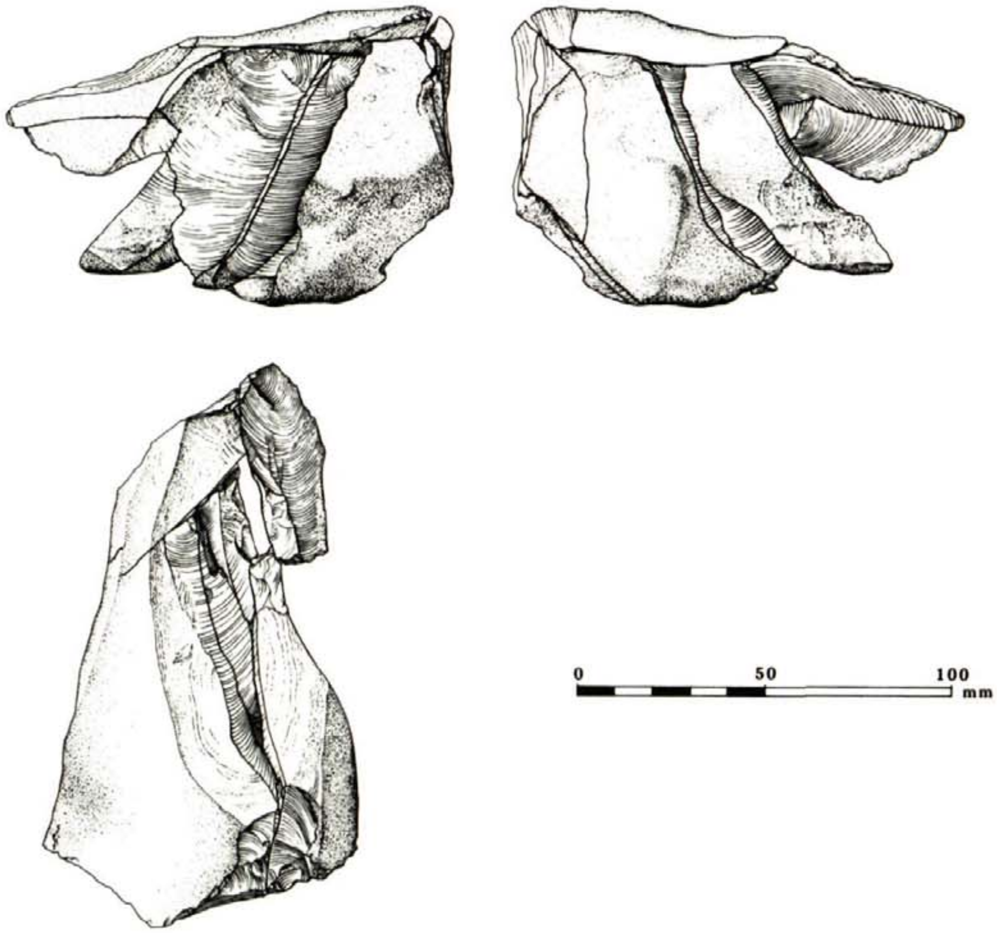

Fig 27. A303 Contract 1: refitted flints from W69G showing core preparation by alternate flaking.

in (4). Five other sherds of similar date from the tertiary fill included a lug with a horizontal perforation from a shouldered jar and a fragment of base.

The flint assemblage included nine cores, 37 flakes, four chips and three other pieces, including two which were retouched. As the extent of the concentration could not be established, this does not represent the total collection. This assemblage was similar in both condition and technology to flakes from other stratified contexts along the route and was studied in some detail.

The raw material consists of large cylindrical and oval nodules with a thick chalky cortex which covers most of the surface. Unspecified flake blanks with broad, unprepared butts were produced from cores using stone hammers. It proved possible to refit flakes from platform preparation and decortication stages to three knapping sequences including two with cores (Fig 27). The flakes from these groups have cortical or feathered edges which were unsuitable for retouch and were abandoned. The three groups were initially prepared as single platform cores with subsequent platforms adopted as necessary. They demonstrate that the normal process of preparing striking platforms was by alternate flaking (Fig 27). Once this had been achieved flakes were produced using ridges as approximate guides for flake length. The widths of the flake butts and the position of the points of percussion suggest that no great care was taken to locate the points of impact precisely.

The remaining seven cores include four which are exhausted. The method of preparation of the refitted sequences probably also applied to the exhausted cores in their earlier stages. This dump of worked flint is likely to be the result of localised exploitation of surface nodules from the Clay-with-Flints.

Site W69H (SU30274597)

A small complex of linear features lay beneath a modern hedge line. The features consisted of two intersecting ditches (9), (10), overlain by a metalled hollow-way flanked by ditches (Figs 23 and 26).

The earliest feature (10) ran NW–SE. It was approximately 1.20 m wide at the surface and 0.70 m deep, with a flat base 0.50 m across. It had silted up with poorly-bedded medium brown fine chalky loam (8) which became less chalky towards the top (6). This ditch had completely silted before a parallel ditch (9) was cut along its western edge. This ditch, 2.00 m wide, 0.90 m deep and with a flat base 0.38 m across had also silted naturally with light–medium brown fine chalky loam (7), (5), capped by a medium brown loam (4).

These ditches were crossed by a hollow-way which ran NE–SW. The route is preserved in the modern hedge line (Fig 23) and probably represents an earlier course of the main road (A303) as it left the Pillhill Brook Valley. The hollow-way was delimited by parallel ditches 12 m apart and was evident as a surface, up to 3.5 m across, of tightly packed sub-angular flint cobbles (3). No ruts were recorded. The smaller flanking northern ditch, 33 m long, 0.56 m wide and 0.25 m deep was filled with light brown clay loam (11). The continuous southern ditch, 1.60 m wide and 0.47 m deep, had sides which sloped gently to a narrow base 0.27 m across. This feature was filled with medium brown loam (13), (14), which was heavily disturbed by roots.

The entire sequence was capped by up to 0.55 m of medium brown loamy ploughsoil (2) which was banked against the downslope side of the present hedge in a headland.

A circular feature (Fig 23), 14 m in diameter and filled with clay was overlain by the hollow-way. It was examined by a machine-cut section which showed that it was approximately 3.5 m deep with steep irregular sides and an undulating rounded base. The homogenous orange brown clay fill included mixed manganese-coated flints and manganese pellets. This feature was probably a product of natural solution of the chalk.

Ditch 10 is poorly dated. No pottery was found and only six flint flakes came from the secondary fill (6). A sherd of late Bronze Age pottery from the primary fill of ditch 9 and another from the secondary fill were probably in prime position. The 35 flint flakes and one core from (9), which include conjoining pieces from the tertiary fill (4) may also suggest that this is not all plough-derived material. Its condition contrasts with three cores and seven flakes from the hollow-way surface which were noticeably abraded. The absence of pottery from the metalled surface and root disturbance in the ditches prevent the date of this hollow-way being established archaeologically. A very weathered Romano-British sherd and some late Bronze Age pottery fragments were undoubtedly residual. Additional late Bronze Age sherds including a fragment of stabbed decorated bowl and an everted rim were present in the overlying ploughsoil (2).

Site W69I (SU33784596)

An undated linear feature aligned N–S (Fig 23) probably formed part of a linear ditch system which converged on the Iron Age Portway enclosure, 450 m to the north. It measured 0.66 m across at the top, 0.40 m at the base and its steep sides were 0.22 m deep. The ditch had silted naturally with medium brown chalky loam (3) which was overlain by a generally chalk-free dark brown loam (2). No bank or evidence of a recut was noted. No finds were recovered from this ditch.

Site W69J (SU28904527)

A shallow ditch 0.75 m wide at the surface, 0.30 m at the base, and 0.18 m deep, was exposed at the edge of the wooded cutting south of Thruxton (Figs 23 & 26). It was traced for approximately 4 m and appeared to be aligned NW–SE. The fill of fine grey-brown loam (3), overlain by up to 0.60 m of hill wash (2) and topsoil (1) derived from the higher ground and from a Celtic field system (Champion 1973, 26) to the south, was heavily root disturbed. No finds were recovered from this ditch.

Site W69K (SU27964496)

A linear ditch which ran NW–SE was virtually absent on the north side of the strip where the chalk surface had been lowered by previous road construction works (Fig 23). It measured 1.10 m wide at the surface, 0.43 m wide at the base and was 0.26 m deep (Fig 26). A primary fill of light brown clay loam (3) is concentrated on the western side and similar slightly darker brown clay loam (2) filled the remainder of the ditch. This may be interpreted as a feature of recutting or of bank collapse but is probably a result of differential weathering. One flint core and five abraded residual flint flakes were found with an iron nail in the ditch fill (2).

A linear ditch immediately south of W69K is shown (Palmer 1984, map 1) aligned NE–SW. It is unclear whether this is part of W69K or forms a separate part of the complex of features and field systems which surround the Lains Farm enclosure 1.1 km to the west.

SECTION FOUR: THE A303 PROJECT

THE LAINS FARM ENCLOSURE

by Peter S Bellamy and Elaine L Morris

The constraints imposed by the limited area investigated restrict an extensive discussion of the status, function and economy of the Lains Farm enclosure. The small proportion of the site excavated (without any systematic sampling) cannot be relied upon to be representative of the site as a whole. In fact, the sequence uncovered may not reflect the overall development of the site; hinted at by the aerial photographic evidence. Therefore, any results and conclusions have to be treated with a great degree of caution.

The problem is highlighted by examining the pottery assemblage (the single most numerous artefact type) in detail. The excavation produced a small amount of stratified pottery; only 12 out of 51 excavated features and ditch sections produced a minimum quantity of material for reliable assessment; 23 contained at least one sherd of pottery (Table 2; Table 4, Mf I, 15). A group of about thirty features is needed for a statistically acceptable number when attempting to seriate quantified data in the study of ceramic phasing (Shennan 1981). Similarly, the examination of spatial variation to investigate the possibility of a wide distribution or close concentration of activity areas needs to have such requirements established for reliable comparative analysis (cf Fasham 1985, 126–143). By inference, 130 features and ditch sections should have been excavated at Lains Farm to provide the possibility of such phasing and functional assessments in the zone available for excavation.

As a result, the artefact data from this site should only be used in very qualified terms; it is recommended that only the *presence* of artefacts be used in any comparative analysis between Lains Farm and similar sites. The Lains Farm data should not be used to indicate the absence of anything either chronological or functional at this site; for example, the absence of earlier prehistoric material or the absence of metal-working debris can not be seen as significant.

However, taking this into account, aspects of this site and the data recovered from the excavations are comparable with other excavated Iron Age enclosures such as Old Down Farm, Winnall Down and Balksbury and the major points can be illuminated by this corpus of data. The position of the enclosure on a chalk spur close to a tributary of the Pillhill Brook is similar to other Iron Age settlement sites in the area (Fig 1) such as High View Farm which is also on a chalk spur above the Pillhill Brook; Old Down Farm which is sited above a tributary of the River Anton; and Balksbury which lies between the Pillhill Brook and the River Anton. This topographic position suggests that Lains Farm looked towards the Pillhill Brook for its water source, rather than the River Bourne, as suggested by Cunliffe (1984, 552). The enclosure was built in an open chalk downland environment. It lies at the edge of the Dry Downland environmental zone close to a zone of Watered Downland beside the Pillhill Brook (Cunliffe 1984, fig 9.1). The evidence from the carbonised plant remains indicates that both dry and damp soil environments were being cultivated which accords well with the position of the site between these two environmental zones.

The recent archaeological work has shown that the site was more complex and the activity within the area of the enclosure possibly of much longer duration than previously envisaged. The pottery evidence suggests that it was probably occupied between the 5th and the 1st centuries BC and there is no evidence for any period of abandonment or neglect. Thus this site was of longer duration than the nearby hillfort of Quarley Hill (which, on the limited evidence available, appears to have gone out of use in the 4th century BC) and was contemporary with the whole of the occupation sequence at Danebury. A similar long sequence of occupation was revealed at both Old Down Farm and Winnall Down.

The morphology of this enclosure is typical of other enclosures of this date in this area (Palmer 1984, *passim*). The enclosure ditch itself contained at least three major phases which are all assumed to have been dug along the same line as no trace of a different alignment was visible on the aerial photographs. In addition, there is a suggestion of a superimposed banjo enclosure. A somewhat analagous situation can be seen at Woodlease Copse (Palmer 1984, 35). Evidence for several phases of ditch development has also been revealed at both Old Down Farm and Balksbury. As at Lains Farm the sequence at both these sites began with a small flat bottomed ditch 0.9 to 1.0 m deep. On all three sites the enclosure circuit developed into a large V-shaped ditch. No evidence for an internal or external bank was recovered at Lains Farm. There was no dating evidence available for dating any of the phases of the ditch. It cannot be determined whether the activity inside the enclosure was strictly contemporary with the ditches or whether it continued after they fell into disuse, as seems to be the case at both Old Down Farm and Balksbury. The fact that there was some indication of deliberate dumping of material into the ditch would suggest that activity continued after the ditches were no longer being kept open. The relationship between the main enclosure and the funnel-shaped enclosure is uncertain but the fact that both structures had three phases of ditch development does suggest that they developed roughly contemporaneously.

The density of features and artefactual material within the enclosure appears to be fairly low. In terms of the density of features, this part of the Lains Farm enclosure is comparable to similar areas within both Winnall Down and Old Down Farm but in contrast, Meon Hill has a very much higher density of activity (Liddell 1933, 1934). The density of artefacts recovered appears comparable to similar Iron Age enclosure sites. No direct evidence for settlement in the form of structures was recovered but the close analogy to Old Down Farm, the nature of the rubbish deposits in the pits and the general range of material recovered indicates that the enclosure was occupied and despite the limited amount of data, a few general points on the economic activities within the enclosure and possible external contacts can be made.

In terms of food production and consumption, the recovered sample does not allow for any definitive interpretation. There is evidence for both cereal cultivation and animal husbandry. The plant remains indicate the cultivation and processing of the standard range of cereals from the Iron Age. The animal bone assemblage suggests that sheep and cattle were possible major sources of food and that both horse and pig may have also been exploited to a lesser extent. This would also seem typical for the other Iron Age enclosures in this area (Maltby 1981, 1985) and also at Danebury (Grant 1984). The slaughtered animals were skinned in such a manner as to maximise the use of skins indicating their importance as a source of raw material. On the other hand there is very little evidence for the use of bones for marrow extraction (also noted at Winnall Down, Maltby 1985, 101) or bone working.

There is evidence for textile manufacture, both spinning and weaving, in the form of spindle whorls and loomweights. It is interesting to note that the spindle whorls occurred in the features which contained the largest number of loomweights (Table 2). Both ceramic and stone loomweights were used, perhaps on the same loom as they were found together in the same context (Table 2). The majority were found as a single dump in pit 11 and may represent the remains of a number of looms.

The fabrics of the fired clay artefacts were generally different from those of the pottery. The fired clay would appear to have been produced from locally available clay sources but the majority of the pottery was manufactured from clays from more distant sources. That the more mundane fired clay objects and simple undecorated pots were locally produced is not surprising; however, the large proportion of non-local pottery is unexpected. A similar pattern was also encountered at Old Down Farm (Davies 1981) and points to a well developed regional exchange network. The sources of the stone utilised on site (Table 9; Mf I, 34) suggest that this material was also part of a regional exchange network. The occasional pieces from further afield point to the existence of inter-regional exchange as well. It is likely that this material arrived at Lains Farm as part of the intra-regional exchange system rather than by direct long distance contact.

Despite the rescue nature of these archaeological investigations, they have added to our understanding of Iron Age communities in this area. Our knowledge of the complexity of this site has been increased and Lains Farm can no longer be simply viewed as an early Iron Age enclosure (cf Palmer 1984, fig 37, 127). Extrapolation from well-excavated sites makes it possible to recognise potential links and territories across the area (cf Cunliffe 1984, 550–554). Lains Farm is one of a series of closely spaced settlements around Quarley Hill but the limited extent of the excavations at both Quarley Hill and Lains Farm makes it difficult to be more specific about the nature of the relationship between them. However, Lains Farm continued in use after Quarley Hill was apparently abandoned in the 4th century BC. The evidence for an extensive regional exchange network of goods and materials which can be closely paralleled at Danebury, suggests that Lains Farm was also part of a regional territory centred on Danebury, perhaps after the demise of Quarley Hill. Whether the extensive remodelling of the enclosure was the result of the shift in emphasis from one hillfort to another cannot be determined on the presently available evidence.

In conclusion, it can be seen that, on a general comparative level, Lains Farm is similar in many of its aspects to other Iron Age enclosures on the chalklands of southern Britain. The complexity of the site, only hinted at by these excavations, mirrors the complex hierarchical relationship to other sites in this landscape.

THE A303 WATCHING BRIEF: AMESBURY TO THRUXTON

by Peter S Bellamy

The range of data recovered from the linear ditches is limited. This means that the discussion necessarily has to be based on morphological and environmental criteria as insufficient precise chronological evidence is available. It can be seen from Table 19 and Figures 18 and 20 that the profiles of the 'Wessex' and 'local' linears are similar, being eroded V-shapes normally with a flat bottom; the dimensions are of the same order of magnitude; and the fillings and silting sequence are comparable. The one exception to this (ditch 49) is probably medieval in date, as indicated by the molluscan assemblage and is unlikely to have been related to the other ditches. It would appear that the distinguishing characteristics between the two linear ditch types can be based on their position in the landscape alone. As the chalk bedrock had already been stripped before the ditches were observed, it was not possible to determine whether there was an accompanying bank nor whether the area between the double ditches of the Quarley Low linear was used as a trackway as has been suggested for some other double ditches in this area such as the New Buildings–Danebury Hill linear (Palmer 1984, 67) and the linear SE of Salisbury Clumps (Hampton and Palmer 1978, fig 9).

All the linear ditches were dug in a pre-existing open downland environment and they provide evidence for arable and intensive grazing practices in prehistory. This indicates the existence of extensive open downlands and, by inference, the occurrence of clearance earlier than the later Bronze Age. This environment remained constant throughout the silting of the ditches with only some very slight changes evident. Ditch 114 was cut through open grassland but by the time of the deposition of the tertiary fillings in the medieval period, the agricultural regime had become increasingly arable. The Quarley High linear initially existed as an open ditch and bank but was later converted to a hedged boundary in the medieval period. The medieval boundary 49 was also hedged. Despite the change in the nature of the boundaries, land-use seems to have remained the same. That these ditches seem to be in a uniform open downland in later prehistory, is in contrast to the Wessex Linear Ditch systems investigated by Evans and Vaughan (1985, 35) who conclude that 'This work has revealed something of the diversity of land use, both spatial and temporal, in an area of Wessex in later prehistoric times.'

It is difficult to determine the date of the construction of these linear boundaries from the evidence derived from the present archaeological work. The 'Devil's Ditch' system cuts across several units of cohesive field systems but otherwise there is no dating evidence available. The Quarley High and Low linears are stratigraphically earlier than the early Iron Age Quarley hillfort (Hawkes 1939). Sherds of Iron Age pottery were found in the upper filling of the Quarley Low ditch on Quarley Hill (Hawkes 1939, 158) and a single sherd of Romano-British coarseware was found in the tertiary filling of ditch 67 (context 68). The tertiary fillings of ditches 21 and 114 and the whole of ditch 49 can be dated to the medieval period on molluscan evidence. The relationship between the linear ditches 128 and 131 in the Lains Farm complex and the surrounding field system is uncertain but they may be later. The field system can be dated to the early Iron Age by the occurrence of pottery of that date in some of the ditches (95 and 96) and its association with the Iron Age enclosure at Lains Farm. Thus, the inception of the linear ditch systems could be in the middle–late Bronze Age as has been suggested for other systems elsewhere on the Hampshire chalk downlands (Evans and Vaughan 1985) although some elements may have a later date. The evidence points to these ditches surviving as such into the medieval period when either local vegetation grew in the ditch or they were hedged. It cannot be assumed that they all continued to be actively used as boundaries at this date but they would still have posed substantial obstacles in the landscape. The Quarley High linear, hedged in the medieval period, exists today as a woodland belt, indicating the continuity of use of the boundary until the present day. Similarly the 'Devil's Ditch' appears to have been equally long-lived.

Both the 'Devil's Ditch' and Quarley systems form large partial enclosures (Fig 1). The 'Devil's Ditch' system cuts across and partly encloses an area of cohesive fields but the Quarley system appears to define a large area which is free of fields (Palmer 1984, fig 24). The 'local' linear (ditch 49) that appears to subdivide the northern end of the Quarley system is in fact medieval in date and it is possible that the other short lengths of ditch between the major defining linears are of a similar date which would leave a single large enclosure bounded by field systems. It has been suggested that the Quarley Hill linear is the primary element in this system by virtue of its position along the highest ground in the locality (Palmer 1984, 65) but the chronological data is insufficiently precise to determine this. There is no evidence for dating the two parallel ditches (67, 136) of the Quarley Low linear but the similar size and the nature of their fillings does suggest that they were planned as a pair of ditches and are thus likely to have been contemporary.

The observations have added only a small amount of data to our knowledge of the 'Devil's Ditch' system as only one of the major defining linears (ditch 32) was observed and this was not completely exposed to its full depth. The status, relationship and date of the three ditches (100, 104, 108) within the area defined by the two major linears cannot be determined as they were not fully investigated and they do not show on the aerial photographs.

The linear ditch systems must represent land management and division on a very large scale involving several separate communities. They appear to have been inserted into an extensive cleared downland which must have been established in the earlier Bronze Age. Although they imply a major reorganisation of the landscape and also of the social structure, the land-use seems to have remained the same. Once established, the major boundaries (the 'Devil's Ditch' and Quarley High) exhibit a remarkable continuity of use as a boundary and land division from the prehistoric period as well as the continuity of land-use itself.

THE A303 WATCHING BRIEF: ANDOVER TO THRUXTON

by P Harding

The archaeology of the Andover area includes an apparent absence of sites which could be recognised from the air (Palmer 1984, 109) despite the presence of the hill fort at Bury Hill (Hawkes 1940) and the large enclosure at Balksbury (Wainwright, 1970). This absence of visible features has been explained as a result of extensive agricultural activity and unfavourable soil cover within the area. Recent development has indicated that sites do exist around and to the east of Andover (Champion 1973; Davies 1980, 1981; Catherall 1984). The work of the A303 watching brief has extended this distribution across a previously barren area archaeologically towards one of well documented earthworks around Quarley Hill.

Although no settlements were discovered, the linear ditches demonstrate extensive prehistoric agricultural activity across the area. The date and precise function of these ditches remains uncertain. Their classification as 'Wessex' ranch boundaries of the late Bronze Age or as 'local' boundaries (Palmer 1984) cannot be determined especially as they are unassociated with Celtic fields (Bowen 1975b, 47). Sections cut through demonstrably late Bronze Age ditches which converge on Quarley Hill fort (Hawkes, 1939, 153ff; Arnold 1972) revealed V-shaped profiles which were generally deeper (*c* 0.82 m) than those of the A303. Section 4 at Quarley Hill (Hawkes 1939, fig 5) however shows ditch 2 to be both 0.75 m wide at the base and in depth, well within the range of most found along the A303. The predominance of late Bronze Age pottery, albeit heavily plough-abraded in both the features and surface ploughsoil (Boismier and Martin 1985) and conjoining flakes in W69G argues that at least some of these linears are also of late Bronze Age date. The shallower ditches are less reliably dated and may be associated (W69I, K) with Iron Age settlements or (W69J) Celtic field systems.

Evidence of post-Roman activity is rare; much of the area, which was among the wealthiest areas of late medieval Hampshire (Hughes 1981, 70) was probably medieval open fields for which most of the dating evidence may have been contained within the topsoil. The two hollow-ways are both difficult to date archaeologically although the ploughsoil accumulation above W69H and the location of W69A along a parish boundary with associated green lane may indicate that these are at least of medieval origin. Documentary records may help to resolve these points.

GENERAL CONCLUSIONS

by Peter S Bellamy

The improvements to the A303 road provided an opportunity to investigate a section across the Hampshire chalkland. Despite the rescue nature of this work and the pitfalls and restrictions in discussing extensive landscape features on the basis of a single section across them, our knowledge of the prehistoric landscape of this area has been increased. This is possible, partly because of the previous extensive mapping of the archaeological features, and also the detailed investigations of specific sites within this landscape, which allows more extensive relationships to be established than would otherwise be feasible.

Evidence for activity prior to the middle–late Bronze Age was not revealed despite the presence of a single Beaker sherd. However, the construction of the extensive linear boundary system probably in the middle–late Bronze Age took place in a well-established open landscape, thus implying earlier extensive landscape clearance and the establishment of an open downland regime incorporating both arable and pasture. The organisation of the landscape prior to the middle–late Bronze Age is still not well understood but it is clear that the nature of that organisation changed with the construction of the large linear ditch systems. For example, elements of the 'Devil's Ditch' system cut across earlier cohesive field systems. However, this reorganisation did not imply large scale changes in land use – intensive pastoral or arable activity still predominated, although local changes are hinted at – in the Bourne valley for example (ditch 114). The large 'Wessex' linear ditch systems appear to be absent from the eastern part of the area in the River Test basin but the number of ditches revealed during this project which are tentatively dated to the middle–late Bronze Age indicate that complex land division was also present in this area.

The early Iron Age landscape, with the imposition and development of hillforts and a range of both open and enclosed settlements, indicates an increasingly complex organisation of the landscape and resources. It is clear that many of the linear ditches were still visible landscape features in the Iron Age and some parts of these systems appear to be retained as boundary features. This is clearly seen in the Quarley system where the siting of Quarley Hill hillfort allows control of most of the elements of that linear ditch system. The lack of evidence for the development of field systems within the Quarley linear ditches suggests that they still functioned as a large partial enclosure. An area of aggregate fields developed outside the northern edge of this system. In the area around Lains Farm, a similar complex relationship between the linear ditches, field systems and Iron Age settlement traces can be observed.

The complexity of the settlement pattern points towards the establishment of a series of territories and the existence of a highly developed system of exchange and social relationships. The continuity of land use and certain boundary features is remarkable as is the long period of use and development of the small settlement enclosures such as Lains Farm.

There is eventual change indicated by the demise of certain hillforts (Quarley Hill) and the increasing importance of others (Danebury) suggesting territorial change and development. This may have been reflected in a certain amount of reorganisation of the landscape illustrated by the change from a D-shaped to a banjo enclosure at Lains Farm. Even within this changing pattern certain elements remain constant. Both the Quarley High and the 'Devil's Ditch' continue to function as boundaries well into the medieval period and beyond.

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