

HEYDON GRANGE
-- Archaeological Field Assessment --
-- Fieldwalking --

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HEYDON ESTATE

Archaeological Field Assessment

Topography

The whole area is covered by sand and flinty gravel lying on chalk. The site is cleft with a dry valley and was probably heathland in the Middle Ages, there being no furlong boundary banks and not a single sherd of medieval pottery. The fine 16th /17th century barn at the old Grange Farm is listed.

Method and Conditions

The whole site of the proposed golf course was walked in lines about 30m apart, chosen to suit the geomorphology of each field and the direction of survey egress. All the farm was planted with crops just emergent. Weathering and surface conditions were good for identification of artifacts and for long distance viewing.

Results

The fields were numbered 1-5 as indicated on the plan. All the archaeological activity consists of early prehistoric lithics, mainly Neolithic with some Mesolithic in places, there being nothing later artefacts. Areas where the lithic activity was considerably in excess of any background are listed in sequence with numbers prefixed by L.

Field 1 had a slight background mainly in the northern half and a considerable concentration at

L1 TL 4251 4292. This covered 0.2 ha and is located on high ground. The material is mainly Neolithic in character, and 76 pieces were collected.

Field 2 has the shallow valley running across the middle and a knoll near the centre. The valley is very flinty and without any particular lithic concentration. There was a widespread background that yielded a fabricator from TL 4230 4284.

L2 TL 4210 4300 spread over 0.5 ha and was mainly Neolithic, 21 pieces were collected.

L3 TL 4203 4311 laid on a sandy part of the field and yielded 45 flints.

L4 TL 4188 4292 covered 0.4 ha and produced Mesolithic flints with a slight patination and many blades and blade cores. Bag 1 contains 55 pieces, and Bag 2 has 64 flints.

Field 3 is high at the north east falling away to the west and south. It contained very little material at all except for a light background on the highest north-eastern part centred TL 4245 4273 over about 1 ha.

Field 4 has the dry valley at the south east. The background was very low in the valley. On the highest ground was

L5 TL 4267 4230 covering 1.8 ha, with 91 collected pieces.

At the north east was

L6 TL 4175 4254 covering 0.2 ha and yielding 64 flints. There was a high background between these two areas.

Interpretation and Recommendations

The lithic activity was very much higher than expected and presumably relates to the well known prehistoric monuments and cropmarks on the nearby chalk ridge. It is in accord with lithics found to the west of the area (in a gravel pit at TL 416 427 (SMR 04004 and at TL 408 423 (SMR 03984)). There is every likelihood that the activity represents art of the 'settlement' area, and was probably wetter in prehistoric times than now. It lies below the chalk ridge and must collect water, even though this is not visible in the modern, well organised landscape.

Most of the lithic collections contain a range of waste flakes and tools and probably represent some form of domestic activity rather than being industrial areas.

Subsurface features are likely to have been severely plough damaged, but it is well worth making a more detailed grid-collection on some of the areas and open up sample trenches. It would help interpretation of the nature of these lithic 'sites' in other regions.

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9th November, 1991

Introduction

This, the second stage of an on-going field assessment of the proposed golf course at Heydon Grange, commissioned by Easthope Associates, further evaluates the archaeological impact of the application area through field-walking. This study is limited to the area of direct development which encompasses approximately 300ha of land south of the A505 and Southeast of Flint Cross on the edge of the Essex Plateau (Figure 1).

The proposed development is bounded on two sides (the north and the west) by modern field boundaries and on the other two sides by roads. The development area is divided by five modern fields with a fine 17th century barn at the centre (Heydon Grange, Grade II Listed). The known archaeology of the area has already been covered in Stage 1, *The Archaeology of Heydon Grange -- a Desktop Study* (Boast 1991).

Topography

The subsoil of the area is (middle) chalk overlain by 0.30-0.70m of sandy loam with flinty gravel. The area is a relatively hilly ground, which drains to the north from the Essex Plateau. The area drains into the flood-plain of the River Cam approximately seven kilometres to the north.

The land rises from 40m OD in the north to 60m OD in the south. The south-west corner of the site is a prominent hill with dry valleys running to the north along the western boundary and through the centre. Along the eastern boundary is another lower promontory hill.

Method and Conditions

This stage of works was divided into two phases. In the first phase, the application area was walked in lines about 30m apart, chosen to suit the geomorphology of each field and the direction of survey egress. All the farm was planted with crops just emergent. Weathering and surface conditions were good for identification of artefacts and for long distance viewing. A series of lithic scatters were identified and diagnostic material collected by grab sample.

In the second phase, the major concentrations (Sc1, Sc4, Sc5 and Sc6) were grid collected along 5.00m wide transects (see Figure 2). All finds were collected within 5-by-10m units. These transects were designed to measure the degree of secondary and tertiary waste within select lithic scatters and to further test the character of these sites (i.e. industrial or settlement).

Results

The fields were numbered 1-5 as indicated on Figure 1. All the archaeological activity consists of early prehistoric lithics, mainly Neolithic with some Mesolithic in places, there being no later artefacts. Areas where the lithic activity was considerably in excess of any background were listed in sequence with numbers prefixed by 'Sc'.

Field 1 had a slight background mainly in the northern half and a considerable concentration at

Sc1 TL 4251 4292 This covered 0.2 ha and is located on high ground. The material is mainly Neolithic in character, and 76 pieces were collected.

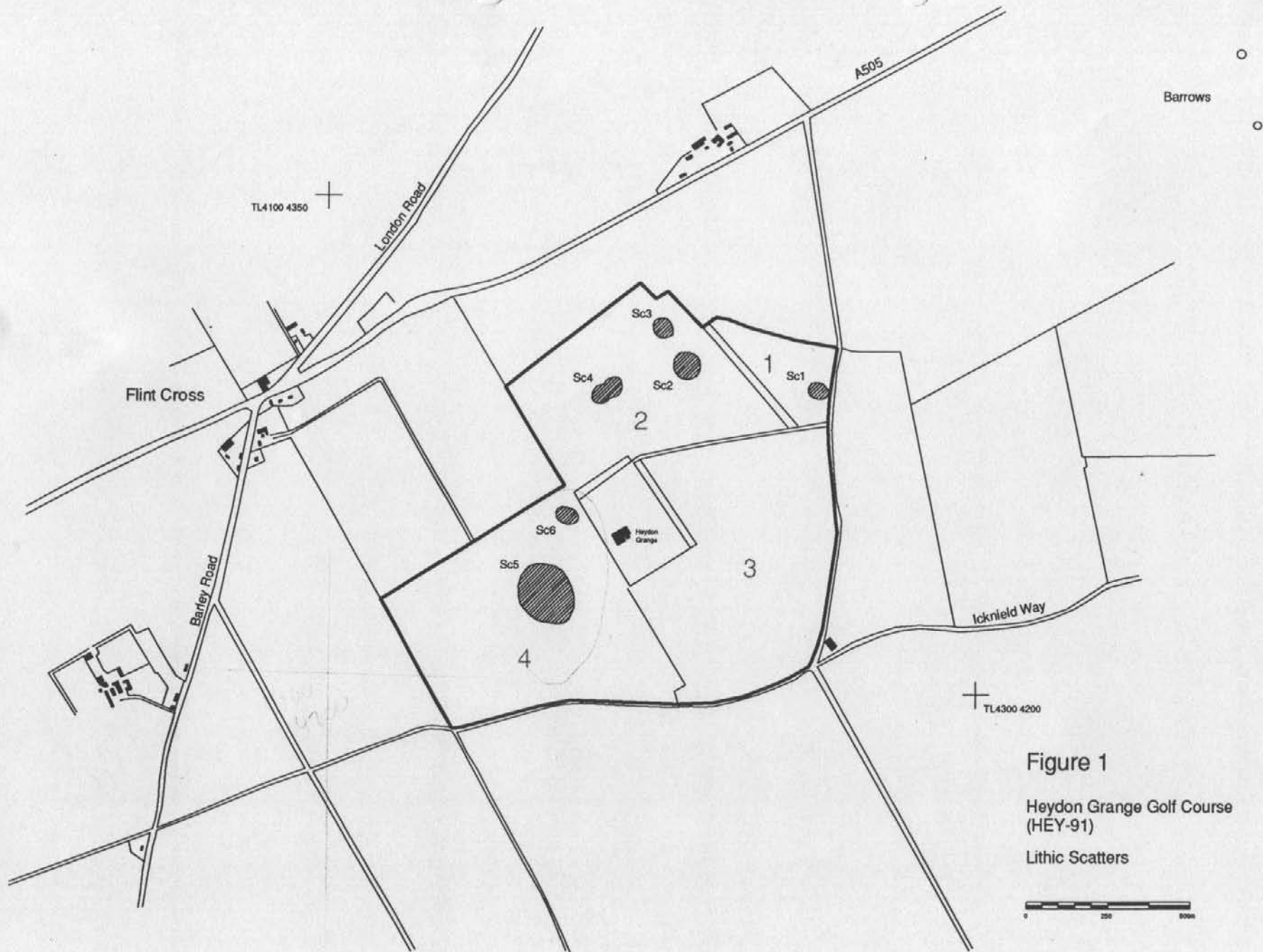


Figure 1

Heydon Grange Golf Course
(HEY-91)

Lithic Scatters



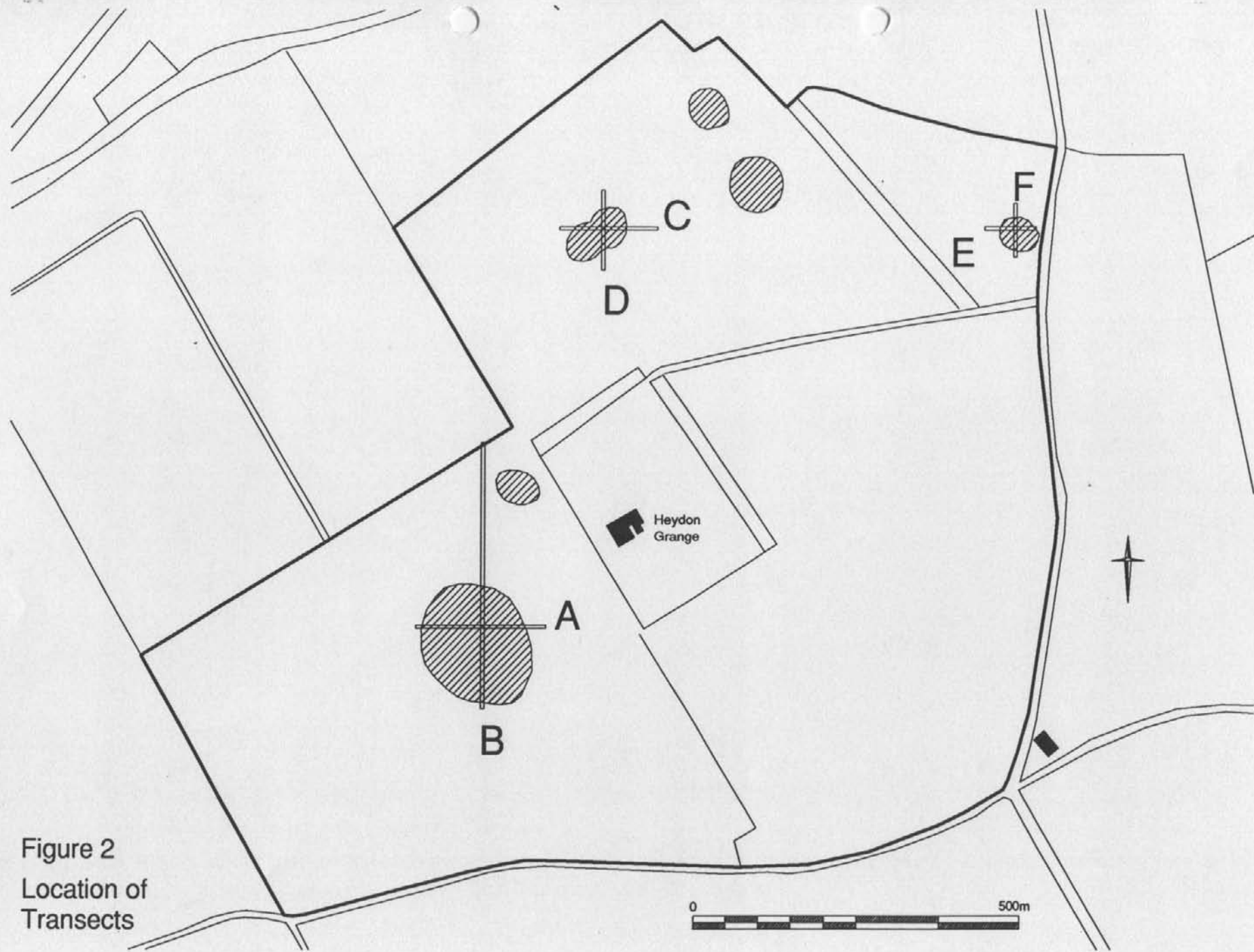


Figure 2
Location of
Transects

0 500m

Field 2 has the shallow valley running across the middle and a knoll near the centre. The valley is very flinty and without any particular lithic concentration. There was a widespread background that yielded a fabricator from TL 4230 4284.

Sc2 TL.4210 4300 spread over 0.5 ha and was mainly Neolithic, 21 pieces were collected.

Sc3 TL 4203 4311 laid on a sandy part of the field and yielded 45 flints.

Sc4 TL.4188 4292 covered 0.4 ha and produced Mesolithic flints with a slight patination and many blades and blade cores. A total of 119 artefacts were collected.

Field 3 is high at the north east falling away to the west and south. It contained very little material at all except for a light background on the highest north-eastern part centred TL 4245 4273 over about 1 ha.

Field 4 has the dry valley at the south east. The background was very low in the valley. On the highest ground was

Sc5 TL 4267 4230 covering 1.8 ha, with 91 collected pieces.
At the north east was

Sc6 TL 4175 4254 covering 0.2 ha and yielding 64 flints. There was a high background between these two areas.

The Lithic Materials (M. Edmonds)

The initial phase of the field-walking survey involved the general characterisation of the nature and extent of surface scatters in the study area, and the non-grid (grab sample) collection of artefactual material. This was itself undertaken in two stages, the first being the characterisation of material by individual field. It is difficult to draw any significant conclusions concerning overall densities from grab samples. However, the lithics recorded in table one are instructive insofar as they include individual pieces which are diagnostic of the Neolithic period. These include a particularly fine fabricator from Field 2, which retains wear patterns indicative of heavy use. A similar chronological attribution can be assigned to the scrapers from Fields 2 and 4.

	Field 1	Field 2	Field 3
Cores	-	4	2
Scrapers	-	1	1
A'heads	-	-	-
Axes	-	-	-
Fabricators	-	1	-
Blades	4	7	4
Retouched	8	6	2
Burnt pieces	5	-	-
1ry flakes	-	-	-
2ry flakes	16	25	8
3ry flakes	15	28	9
Total No.	48	72	29
Total Wt. (g.)	466	638	400

Table 1: Lithic materials recovered during general field characterisation.

In addition to the definition of the general background within the fields, the collection of a series of grab samples and the characterisation of the location, extent and density of surface scatters within individual fields was also undertaken. The results are summarised in Table 2.

Of the three stages of analysis, the samples presented in table two are perhaps the most informative regarding the character and extent of prehistoric activity in the immediate area. Overall, six scatters were recognised: scatter Sc1 in field one; scatters Sc2, Sc3 and Sc4 in field two; and scatters Sc5 and Sc6 in field four. These vary in both density and extent, the largest being Sc5 and the smallest Sc1. Scatters Sc2, Sc3, Sc4 and Sc6 are roughly comparable in both size and density (see figure 1).

	Sc1	Sc2	Sc3	Sc4	Sc5	Sc6
Cores/frags	4	2	5	13	5	2
Scrapers	2	1	1	-	3	2
Arrowheads	1	-	-	-	-	-
Borers	1	-	-	-	-	-
Blades	5	2	3	8	-	8
Retouch	3	2	5	7	7	5
Burnt flint	-	1	-	-	3	-
1ry flakes	2	-	2	2	-	-
2ry flakes	30	12	18	50	36	27
3ry flakes	27	3	15	44	40	25
Tot. No.	72	21	43	117	87	64
Tot. Wt.	784	220	431	1500	948	816

Table 2: Lithic materials collected by grab sampling.

In technological terms, much of the material reflects the working of flint cores. As Table 2 shows, the bulk of each sample comprises secondary and tertiary flake and blade removals. The patterning of scars on the dorsal face of many of these pieces suggests that the majority were created during the secondary or tertiary working of cores with either single or opposed platforms. Although the frequency of primary flakes (the earliest removals from cores or tools) is always much lower compared to secondary and tertiary pieces, the virtual absence of primary material here suggests that the initial procurement, testing and reduction of raw material was undertaken outside of the immediate area. In addition to core working, a smaller number of flakes bear scars and faceted platforms which suggest that they were produced during the tertiary working or reworking of larger bifacial tools such as axes, chisels or fabricators.

At a more detailed level, the flakes and blades which make up the bulk of each scatter, retain attributes which allow chronological inferences to be drawn. Like the blades recovered from scatters Sc1, Sc3, Sc4 and Sc6, many of the flakes have abraded or trimmed platforms and parallel scars running down their dorsal faces. Core rejuvenation flakes, which allow the producer to correct mistakes and prolong the life of a core, were also recovered from four of the scatters. Taken together, these attributes would suggest that much of this material was produced during the earlier Neolithic. However, the recovery of core tablets in scatters Sc1 and Sc4 may indicate some Later Mesolithic activity in the area.

These chronological inferences are supported by the character of the retouched tools found in each scatter. Flakes or blades with simple retouch or use damage are well represented - a trait noted on a number of earlier Neolithic sites. Similarly, the cores recovered from each scatter are typical of the forms that were produced during this period. These include single and opposed platform cores, and small multi platform cores with carefully prepared platforms. The possibility that the immediate area witnessed some

activity during the later Mesolithic is also suggested by the presence of small blade cores in scatters Sc1 and Sc3. Other tool forms add further weight to the idea that these scatters reflect earlier Neolithic activity. For example, although our typologies are by no means secure, the majority of the eight scrapers recovered from scatters Sc1, Sc2, Sc3, Sc5 and Sc6 are likely to belong to this same phase. Many possess medium to invasive retouch, concentrated around the end of the blanks upon which they were made. The two scrapers with more extensive retouch around their circumference are also likely to be Neolithic in date, but may belong to a slightly later phase within the period. To this can be added the presence of an unfinished arrowhead in scatter Sc1. Whilst this piece appears to have been abandoned during manufacturing, it is clearly an earlier Neolithic leaf-shaped form.

As noted above, the grab sample survey proved sufficient to determine both the extent and the broad date of the scatters located in Fields 1, 2 and 4. These data comprise much of the material visible on the surface during November and December of 1991. Given current models of surface/ploughsoil density ratios, it is likely that any further tillage in the area would bring more archaeological material to the surface. However, it is equally likely that this would not change the overall spatial distribution of sites in the area.

This last point was largely confirmed during the final stage of field survey, which entailed the systematic walking of a series of transects across each scatter. As Appendix A shows, the volume of material collected during this stage was generally low. Since the grab sampling survey resulted in the recovery of the vast majority of the diagnostic artefacts visible on the surface during 1991, the transect survey results cannot be taken in isolation. However, they do indicate the general level of the 'background noise' for the area, as well as adding further dimensions to the picture. In general terms, the artefacts recovered during this final stage support the impressions gained during the earlier work. Here again, blades and flakes with 'earlier Neolithic' characteristics were recovered, as were a small number of cores. The one borer recovered from transect C6 is a particularly crude form, and may well date to the Bronze Age. One further pattern is worth noting here. Despite the fact that all cultural material was collected from the sampling transects, the overall density of burnt/worked flint remains particularly low. Whilst burnt flint is often a useful indicator of settlement activity, extensive survey in other areas has shown that large volumes of this material do not always occur on the surface of earlier Neolithic settlement sites.

Discussion

On the basis of the present evidence, it seems reasonable to suggest that the scatters identified in the vicinity of Heydon Grange are the surface indicators of earlier Neolithic activity in the immediate area. It is also possible that the area witnessed some form of activity during the Later Mesolithic. However, this last suggestion is based solely on the presence of a small number of cores which are not - in themselves - wholly reliable indicators. In this regard, the absence of any other diagnostic Late Mesolithic artefacts is worth noting.

The components of these sites, and their diminutive size, are entirely in keeping with earlier Neolithic scatters recognised elsewhere (Healy 1987, Richards 1990, Woodward 1991). Settlements or non-monumental sites of this date are not that well represented in the archaeological record for southern Britain. However, those that have been recognised are often spatially discrete and of limited extent. These patterns would accord with a general model of a relatively mobile settlement and subsistence regime. Given these observations, the small scatters identified here might attest to more than one episode of activity in the area during the period. Alternatively, they may reflect a small number of contemporary activity areas. Whilst the general extent and density of earlier Neolithic surface scatters is largely a function of the scale and duration of activity, one further issue needs to be considered here. The earlier Neolithic witnesses the development of a tradition of placing cultural material (pottery, flint tools, food remains etc.) in pits. Research conducted elsewhere in the region has shown that these limited surface scatters



Figure 3
Avoidance Zones

0 500m

may often lie above or close to features such as these. Indeed, apart from vestigial traces of hearths and arcs of post-holes, these pits are often the only primary sub-surface evidence that survives, particularly in areas under cultivation. In sum, these surface traces indicate that the immediate area may have formed a focus for earlier Neolithic activity. Given the characteristics of the lithic materials recovered during grab sampling and transect collection, it is probable that these activities may have been associated with settlement.

Recommendations

Due to the extent and quality of the lithic scatters (Sc1-Sc6) and the high probability of surviving associated features (i.e. pits), it is recommended that these areas should be avoided. No sub-surface disturbance should be allowed within the areas, defined as 'Avoidance Zone' in Figure 3, if at all possible. Sub-surface disturbance should be seen to include, but not limited to, deep ploughing, excavation of bunkers, borrow-pits, and services. If sub-surface development is necessary, even to a limited degree, then the areas to be effected should be further assessed through trial trenching and any surviving archaeological features fully excavated at the developer's expense (as outlined in PPG-16). Also, in that the majority of these sites may only survive in the top-soil, an extensive top-soil sampling programme would also be required for any works within the Avoidance Zone.

Areas outside of the Avoidance Zone (Figure 3) have offered no evidence to-date of archaeological activity, except the area covered by the Listed status of the barn (Heydon Grange). Further field assessment (sample trial trenching) prior to development is recommended in the area outside the Avoidance Zone.

References

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Appendix A
Heydon Grange 1991 transect fieldwalking results
Stage 2

TranUnit	Cores/ Core frag	Scrapers	Blades	others	Ret	1ry	2ry	3ry	Bt. wt	Tot. no	Tot. wt.
A 1	-	-	-	-	-	-	1	1	-	2	45
A 2	-	-	-	-	-	-	3	7	-	10	196
A 3	-	-	-	-	-	-	2	3	-	5	53
A 4	1	-	-	-	-	-	4	-	-	4	6
A 5	-	-	-	-	1	-	2	2	-	5	38
A 6	-	-	-	-	1	-	-	4	-	5	52
A 7	-	-	-	-	-	-	3	5	-	8	81
A 8	-	-	-	-	-	-	-	-	-	-	-
A 9	-	-	-	-	-	-	-	-	-	-	-
A 10	-	-	-	-	-	-	5	1	-	6	102
A 11	-	-	1	-	-	-	3	11	30(1)	16	110
A 12	-	-	-	-	-	-	2	-	-	2	9
A 13	-	-	-	-	-	-	1	2	6(1)	4	37
A 14	-	-	-	-	-	1	1	2	-	4	51
A 15	-	-	-	-	-	-	1	4	-	5	28
A 16	-	-	-	-	-	-	-	1	-	1	8
A 17	-	-	-	-	-	-	1	1	-	2	36
A 18	-	-	-	-	-	-	-	-	-	-	-
A 19	-	-	-	-	-	-	1	2	97(2)	5	128
A 20	-	-	-	-	-	-	-	-	-	-	-
<hr/>											
B 1	-	-	-	-	-	-	-	-	-	-	-
B 2	-	-	-	-	-	-	-	-	-	-	-
B 3	-	-	-	-	-	-	-	5	-	5	24
B 4	1	-	-	-	-	-	2	4	27(2)	9	150
B 5	-	-	-	-	-	-	-	-	-	-	-
B 6	-	-	-	-	-	-	-	1	-	1	20
B 7	-	-	-	-	-	-	-	-	-	-	-
B 8	-	-	-	-	-	-	-	-	-	-	-
B 9	-	-	-	-	-	-	-	1	-	1	17
B 10	-	-	-	-	-	-	-	-	-	-	-
B 11	-	-	-	-	-	-	-	2	-	2	28
B 12	-	-	-	-	-	-	3	1	-	4	23
B 13	-	-	-	-	-	-	-	-	-	-	-
B 14	-	-	-	-	-	-	-	2	-	2	3
B 15	-	-	-	-	-	1	3	5	-	9	48
B 16	-	-	-	-	-	-	-	-	-	-	-
B 17	-	-	-	-	-	-	-	1	-	1	2
B 18	1	-	-	-	-	-	1	2	-	4	62
B 19	-	-	-	-	-	-	2	2	71(2)	6	93
B 20	-	-	-	-	-	-	-	1	-	1	2
B 21	-	-	-	-	-	-	3	-	-	3	28
B 22	-	-	-	-	-	-	-	1	-	1	2
B 23	-	-	-	-	-	-	1	1	-	2	6
B 24	-	-	-	-	-	-	-	1	-	1	18
B 25	-	-	-	-	-	-	2	-	-	2	19
B 26	-	-	-	-	-	-	-	1	-	1	2
B 27	-	-	-	-	-	-	-	-	-	-	-
B 28	-	-	1	-	-	-	3	1	-	5	61
B 29	-	-	-	-	-	-	-	-	-	-	-
B 30	-	-	-	-	-	-	-	2	3(1)	3	14
B 31	1	-	-	-	1	-	2	-	-	4	133
B 32	1	-	-	-	-	-	4	1	-	6	60
B 33	-	-	-	-	-	-	-	-	-	-	-
B 34	-	-	-	-	-	-	2	2	-	4	6
B 35	-	-	-	-	-	-	-	-	13(1)	1	13

TranUnit	Cores/ Core frag	Scrapers	Blades	others	Ret	1ry	2ry	3ry	Ht. wt	Tot. no	Tot. wt.
B 36	-	-	-	-	-	-	2	1	-	3	8
B 37	-	-	-	-	-	-	-	-	-	-	-
B 38	-	-	-	-	-	-	2	1	-	3	20
B 39	-	-	-	-	-	-	1	2	-	3	6
B 40	-	-	-	-	-	-	-	-	-	-	-
C 1	-	-	-	-	-	-	-	1	8(1)	2	16
C 2	-	-	-	-	-	-	-	1	-	1	2
C 3	-	-	-	-	-	-	1	4	-	5	43
C 4	-	-	-	-	-	-	-	1	-	1	24
C 5	-	-	-	-	-	-	-	3	-	3	30
C 6	2	-	1	borer	-	-	4	5	5(1)	14	169
C 7	-	-	-	-	-	-	-	1	-	1	3
C 8	-	-	-	-	-	-	-	-	-	-	-
C 9	-	-	-	-	-	-	-	3	-	3	16
C 10	-	-	-	-	-	-	1	-	-	1	12
C 11	-	-	-	-	-	-	-	-	-	-	-
C 12	-	-	-	-	-	-	-	4	-	4	9
C 13	-	-	-	-	-	-	-	2	-	2	4
D 1	-	-	-	-	-	-	1	2	-	3	18
D 2	-	-	-	-	1	1	1	5	-	8	45
D 3	-	-	-	-	-	-	-	1	-	1	11
D 4	-	-	-	-	-	-	1	2	-	3	10
D 5	-	-	-	-	-	-	-	-	-	-	-
D 6	-	-	-	-	-	-	-	2	-	2	19
D 7	-	-	-	-	-	-	-	-	-	-	-
D 8	-	-	-	-	-	1	1	4	-	6	42
D 9	-	-	-	-	-	-	2	-	17(1)	3	23
D 10	-	-	-	-	-	-	1	2	-	3	16
D 11	-	-	-	-	-	-	3	5	-	8	68
D 12	-	-	-	-	-	-	-	-	-	-	-
E 1	-	-	-	-	-	-	-	-	-	-	-
E 2	-	-	-	-	-	-	1	-	-	1	4
E 3	-	-	-	-	-	-	1	-	-	1	28
E 4	-	-	-	-	-	-	-	3	-	3	8
E 5	-	-	-	-	-	-	1	3	-	4	19
E 6	-	-	-	-	-	-	-	5	-	5	26
E 7	-	-	-	-	-	-	1	-	-	1	10
E 8	-	-	-	-	-	-	-	-	-	-	-
F 1	-	-	-	-	-	-	-	1	-	1	11
F 2	-	-	-	-	-	-	-	-	-	-	-
F 3	-	-	-	-	-	-	-	2	98(1)	3	125
F 4	-	-	-	-	-	-	-	4	-	4	17
F 5	-	-	-	-	-	-	2	9	-	11	58
F 6	-	-	-	-	-	-	-	-	-	-	-
F 7	-	-	-	-	-	-	1	-	6(1)	2	17