Environment & Economic Developmen 







### ARCHAEOLOGY SERVICE

HER SZ4

#### **TOPLER'S HILL**

#### **ARCHAEOLOGICAL EVALUATION STAGE 1**

Document 1998/61 Project TPL526

27<sup>th</sup> October 1998

Produced for: Thorburn Colquhoun

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#### Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Bedfordshire County Archaeology Service (BCAS) cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

#### Acknowledgements

Mike Luke (Project Officer) directed the evaluation under the overall management of Drew Shotliff (Project Manager). Mike Luke and Rob Edwards (Archaeological Supervisor) undertook aerial photograph analysis with assistance from Jonathan Edis (Archaeological Aerial Photograph Consultant from Palisade Consultants). Mark Phillips (Archaeological Supervisor) with the assistance of Craig Halsey and Joan Lightning (Archaeological Technicians) and Gary Edmondson and Christiane Meckseper (Archaeological Supervisors) undertook the field artefact collection. Artefacts were analysed and reported on by Jackie Wells (Artefact Supervisor). This report has been prepared by Mike Luke with illustrations prepared by Joan Lightning.

Bedfordshire County Archaeology Service would like to acknowledge the cooperation of the landowners or tenants; David Smyth of Edworth Manor and David Lamman of Bleak Hall. Thanks are also due to the library staff at CUCAP and NLAP. The assistance of Marcus John (Thorburn Colquhoun) is also appreciated.

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#### Key terms

Throughout this project the	he following terms or abbreviations are used:
ACO	Archaeological Conservation Officer of BCC
BCAS	Bedfordshire County Archaeology Service
BCC	Bedfordshire County Council
Client	Thorburn Colquhoun Consulting Engineers
The Project Design	Document: Project Proposal and Tender for Archaeological Field Evaluation of Land at Topler's Hill, Bedfordshire.
The Specification	Document: Specification fo the Archaeological Field Evaluation of land at Topler's Hill, Bedfordshire



#### Non-Technical Summary

The non-intrusive archaeological evaluation has identified a series of ditched enclosures to the east but immediately adjacent to the A1. Geophysical survey suggests a number of these contain pits and roundhouses. Their typological form suggests these enclosures are likely to be Iron Age or Roman in date. The field artefact collection did not provide a date for the enclosures or locate activity areas. The enclosures probably represent a series of farmsteads immediately adjacent to the A1, which within the Study Area overlies the Roman road from Baldock to Sandy. Burials were reported in the Topler's Hill area during the 19<sup>th</sup> Century and these may relate to this settlement.

The enclosures are restricted to within 60m of the modern A1 in the eastern field. They do not continue towards the northern limit of this field. There was no evidence for a corresponding system in the field to the west of the A1. If such a system existed in the past, it is possible it mainly underlies the north bound carriageway of the modern road.

The quantity and distribution of medieval pottery suggests this may be assoicated with the settlements believed to be located to the south-east of the Study Area. Without more accurate dating it is possible the enclosures also relate to this settlement.



#### *1.* INTRODUCTION

#### 1.1 Background to the project

Thorburn Colquhoun (Consulting Engineers), on behalf of the Highways Agency, are developing a junction improvement scheme for the A1 Langford Turn at Topler's Hill, Bedfordshire.

The ACO of BCC has advised that the area under consideration is archaeologically sensitive and that a junction improvement scheme is likely to have a significant impact on archaeological deposits. In order to assess the archaeological implication of the proposed scheme and develop an appropriate mitigation strategy a *Specification* was issued by the ACO for Stage 1 of an Archaeological Field Evaluation.

On 28<sup>th</sup> July 1998 Thorburn Colquhoun appointed BCAS to undertake the project and this report presents the results of the Archaeological Field Evaluation Stage 1.

#### 1.2 Site location and description (Fig. 1)

Topler's Hill is located c. 3.5km south of Biggleswade and 500m west of the village of Edworth in south-east Bedfordshire. The Study Area is 11 ha in extent centred on TL216405 but it is bisected by the A1 dividing the area into two unequal parts.

Topographically the site is on the eastern end of a low ridge overlooking a shallow dry valley to the north-east. The area west of the A1 is flat at around 75m OD but the eastern area slopes downwards from south-west (75m OD) to north-east (70m OD).

The geology of the area is Boulder Clay overlying Lower Chalk. There is no evidence for drift deposits, although colluvial (hillwash) is possible on the slope to the east.

#### 1.3 Archaeological background (Fig. 1)

BCC has a catalogue of archaeological sites and historic buildings, the Historic Environment Record (HER), in which all known discoveries in Bedfordshire are recorded. Three HER sites are known within the Study Area from a variety of sources. A greater number of HER sites are known in the vicinity some of which may be significant for the Study Area.

The Roman road between the major Roman settlement at Baldock (to the south), and Godmanchester (to the north), is believed to underlie the A1 within the Study Area (HER 505). The exact position of the Roman road is uncertain. Topler's Hill is situated halfway between the Roman town at Sandy (to the north) and Baldock.

During the construction of the Great North Road turnpike human remains accompanied with jewellery were reported from the Topler's Hill area (HER



524). No firmer locational details are known. The artefacts were ascribed to the Roman period during the 19<sup>th</sup> Century (due to their proximity to a known Roman road), but they may equally be of Saxon date.

Cropmarks in the vicinity of the water tower, adjacent to the western limit of the Study Area, have been interpreted as indicating rectangular enclosures (HER 3545).

To the north of Bleak Hall, outside the Study Area, a rectangular enclosure is visible as a cropmark (HER 3546). To the east a moat (HER 1484) and earthworks (HER 2580) probably associated with the medieval village of Edworth are known. Earthworks (HER 2848) to the immediate south-east of the Study Area have been interpreted as house platforms probably associated with Edworth. The Viatores (1964) proposed a Roman road branching from the Langford Turn and following a westward alignment (HER 3545).

#### 1.3. Method statement

Throughout the project, the standards set in BCC's Procedures Manual for Archaeological Fieldwork and the Analysis of Fieldwork Records (1996), the Institute of Field Archaeologists' Code of Conduct, English Heritage's Management of Archaeological Projects (1991) and Preparing Archaeological Archives for Deposition in Registered Museums in Bedfordshire (1993) were adhered to.

Section 4.3 of the *Specification* stated that the following information was required.

- The location, extent, nature and date of any archaeological features or deposits that are present.
- The integrity and state of preservation of any archaeological features or deposits that are present.

The *Specification* stipulated three stages, utilising different non intrusive evaluation techniques. The methodology of each stage is therefore described separately in this report. An additional element involving historic map research was undertaken prior to the commencement of the aerial photograph analysis.

#### 1.4 Structure of the report

This report is structured around each of the stages of the evaluation and presented in the order in which they were undertaken. The stages comprise:-

Stage I	Air Photographic Plotting and Analysis
Stage II	Geophysical Survey
Stage III	Field Artefact Collection

The results of each stage are combined in section 3, Synthesis of Evaluation Results, which provides a summary of the archaeological evidence.



#### 2.1 Introduction

Given suitable conditions, including soil and crop type, aerial photographs can record sub-surface archaeological features surviving at the time of the photograph. Generally, cropmarks are most visible within ripe crops, frequently during the months of June and July. Cropmark visibility can vary for a wide variety of reasons which means that absence cannot be taken to indicate an absence of archaeological features.

#### 2.2 Method statement

The object of the analysis (*Specification* section 5.5.1) was to identify all cropmarks and map them at a scale of 1:2,500. This was undertaken by examining a variety of aerial photographs, converting these to a digital format (correcting them to vertical if required), drawing all cropmarks and interpreting them.

#### 2.3 Sources of photographs

The Study Area and its immediate environs were subject to aerial photographic library searches during September 1998. The three collections studied comprised:

- Historic Environment Record (HER)- County Hall, Bedford.
- National Library of Air Photographs (NLAP)- Kemble Drive, Swindon.
- Cambridge University Collection of Aerial Photographs (CUCAP)-Mond Building, Free School Lane, Cambridge.

#### 2.4 Types of photographs

The searches comprised:

- Vertical photographs- taken by a camera mounted inside an aircraft providing 'blanket' coverage at a fixed scale. These have been taken for a variety of purposes and by a range of organisations including the Ministry of Defence and BCC.
- **Oblique photographs-** frequently taken by archaeologists, with a hand held camera from inside an aircraft providing 'specialist' coverage of identified cropmarks.

Photographs containing cropmarks were noted and all those necessary to produce a rectified plot were identified.

#### 2.5 Transcription methods

All photographs were examined by eye and in a digital format. Vertical and oblique photographs were scanned at 400 dots per inch (DPI) using a Hewlett Packard Scanjet 4c and saved as Tagged Information Format (TIF) image files. Vertical photograph files were individually loaded into Gsys 2.8g (an archaeological Geographical Information System) and geo-referenced. This process requires at least two OS co-ordinate points to be identified on the aerial photographs.



Cropmarks identified on the aerial photographs were digitised within Gsys as polygons and assigned a status of either:

- archaeology
- possible archaeology
- geology
- modern

#### 2.6 Limitations and reliability of the evidence

The fields within the Study Area appear to have been under continuous cultivation since at least the 1940s when the first aerial photographs within the Study Area were taken. Photographs have inevitably been taken at a variety of different times during the year and therefore conditions have not been suitable for cropmarks to appear on the majority of the photographs. The two fields on either side of the A1 are in different ownership and unfortunately have not been cultivated at the same time. This is particularly true of the 1996 photographs where cropmarks are suitable in the field to the east where the crops have ripened, but not to the west.

The nature and quantity of cropmarks of geological origin makes it difficult in some places to distinguish these, from those of archaeological origin. It is therefore possible some of the cropmarks interpreted as of geological origin may infact be archaeological in origin. This is a fairly frequent problem with aerial photograph interpretation and occurred at Hinksley Road, Flitwick (BCAS 1993) where an Iron Age enclosure was obscured on aerial photographs by dense geological features. A number of linear cropmarks represent water pipes associated with the water tower. Short lengths of these have the appearance of being archaeological in origin. The inevitable orientation of agricultural tractor tracks parallel with the A1 may have obscured any cropmarks of archaeological origin on the same alignment. To the east of the Study Area there may be deposits of colluvium (hillwash) or alluvium (stream/river deposits) indicated by dark crops on the 1996 photographs. These may mask any archaeological features in this area.

To test the accuracy of the digital photograph images the OS map was loaded within Gsys as an overlay. By comparing field boundaries, roads and buildings it is likely that the digitised cropmark drawing varies in accuracy between 2m and 4m.



The following tables describe the aerial photographs that were examined during the analysis.

i,	Ref	Run	Repository	Scale	Date	
1066/UK/1635	423	1447/8	MOD	1:10000	09 Jul 46	
RAF/CPE/UK/1993	612	3126/7	MOD	1:9800	13 Apr 47	
RAF/CPE/UK/2139	663	3068/9	MOD	1:9800	03 Jun 47	
RAF/CPE/UK/2139	663	4068/9	MOD	1:9800	03 Jun 47	
RAF/CPE/UK/2139	663	4091	MOD	1:9800	03 Jun 47	
RAF/CPE/UK/2159	680	3347/8	MOD	1:9800	13 Jun 47	
RAF/CPE/UK/2159	680	4347/8	MOD	1:9800	13 Jun 47	
541/148	931	4187/8	MOD	1:10000	31 Aug 48	
82/1006	1520	198-200	MOD	1:15000	31 Aug 54	
82/1004	3950	308/9	MOD	1:19000	31 Aug 54	
58/4646	2204	23-254	MOD	1:12000	28 Aug 61	
OS/66002	9308	13/4	NMR	1:7500	8 Mar 66	
OS/66139	9309	10-12	NMR	1:7500	30 Jun 66	
OS/66139	9309	24/5	NMR	1:7500	30 Jun 66	
OS/66139	9309	10-12	MOD	1:7500	30 Jun 66	
OS/69059	9315	187/9	NMR	1:7500	04 Apr 69	
MAL/69033	5509	145-7	NMR	1:12000	06 Apr 69	
MAL/69033	5509	152-4	NMR	1:12000	06 Apr 69	
HSL UK BED 68 858	7684	17	BCC	1:10000	08 Apr 69	
HSL UK BED 68 858	7685	17	BCC	1:10000	08 Apr 69	
OS/70437	11686	62-4	NMR	1:22000	22 Nov 70	
OS/72417	9107	465/6	OS	1:7200	06 Oct 72	
HSL UK 76 27	1934	4	BCC	1:10000	25 Jun 76	
HSL UK 76 27	1935	4	BCC	1:10000	25 Jun 76	
HSL BEDS 81 1	8609	4	BCC	1:10000	13 Jun 81	
HSL BEDS 81 1	8610	4	BCC	1:10000	13 Jun 81	
HSL UK 86 79	1624	4	BCC	1:10000	5 Aug 86	
HSL UK 86 79	1625	4	BCC	1:10000	5 Aug 86	
OS/89064	11802	14/5	NMR	1:8000	30 Mar 89	
AEROFILMS/91/C/114	1445	21	BCC	1:10000	20 Aug 91	
AEROFILMS/91/C/114	1446	21	BCC	1:10000	20 Aug 91	
AEROFILMS/96C/565	1775	21	BCC	1:10000	18 Jul 96	
AEROFILMS/96C/565	1776	21	BCC	1:10000	18 Jul 96	

Table 1: Vertical aerial photographs examined

	Accession No.	Frame	Repository	Date
TL2140/1	311	347-9	NMR	22 Jul 1971
TL 2141/1	311	345	NMR	22 Jul 1971
CDR 23			CUCAP	29 Jul 1977
TL 2140/3	1811	314,315	NMR	04 Jul 1980

Table 2: Oblique aerial photographs examined



Despite the Study Area being situated predominately over clay, cropmarks are visible on several of the aerial photographs. The clearest photograph was taken in July 1996 when a number of cropmarks are visible in the eastern field for the first time. Unfortunately the crop in the western field was not suitable for cropmarks on the same photograph. Close examination of aerial photographs both in Bedfordshire (BCAS 1998) and other counties indicate that when ground and crop conditions are suitable cropmarks can be seen even in clay subsoils.

Cropmark features visible within the Study Area can be broadly divided into:

- Geological features- linears mainly to the west and possible masking deposits to the east.
- Archaeological features- five ditched enclosures and one trackway.
- Possible archaeological- occasional ditches.
- Modern features- former field boundaries and pipes.

#### 2.8.1 Cropmarks of geological origin

A series of south-west to north-east-aligned linear cropmarks are visible on photographs from 1976 onwards mainly outside the Study Area to the west. They are usually around 2-3m in width, but vary from 1m to 40m. Individual lengths vary from 18m to 40m, frequently continuing the same alignments in different fields. The density of these features to the west of the Study Area may conceal real archaeological features. This is especially true of the northwest to south-east features. Cropmarks of field boundaries and archaeological features are visible over these linears, suggesting they are of an earlier date and probably geological in origin. They may represent variations in the natural clay/gravel or even periglacial cracks, which are known to occur frequently in gravels, for example south-west of Orton Longueville, Cambridgeshire (Wilson 1982).

Large areas of dark crop occur on the 1996 photograph (AEROFILMS 96C/565) towards the eastern and northern limit and beyond the Study Area. A similar curving band, visible on a 1969 photograph (HSL UK BED 69 858) to the north, generally co-incides with lower ground and may represent a former stream. The other dark cropmarks may represent damper conditions or masking deposits like hillwash. Smaller darker areas are visible on both the 1969 and 1996 photograph in the vicinity of the large area to the east of the Study Area. These too are likely to be of geological origin.

#### 2.8.2 Cropmarks of archaeological origin

Cropmarks interpreted as of archaeological origin are generally dark well defined features with fairly sharp boundaries. These are all visible on the 1996 aerial photograph except for the possible trackway (OS/69/059). Many of the archaeological cropmarks are situated in the area of linear geological features and are therefore slightly confused. All cropmarks assigned to archaeological origins represent ditches, which either form field boundaries or enclosures. The absence of pit type cropmarks may not be indicative of a real absence



because features with diameters less then 1.5m rarely show up as cropmarks.

#### Enclosure A:TL 2175 4030 (Fig. 3)

An arrangement of two ditches may suggest an enclosure at the southern limit of the Study Area, immediately adjacent to the A1. It comprises a northern ditch 34m in length on a south-west to north-east alignment and an eastern ditch 43m in length on a north-west to south-east alignment. Both ditches appear to be continuous with no evidence for a break. They join forming a fairly good right angle. Both ditches continue beyond the limit of the Study Area although the present field hedges may overlie the original returns. The enclosure ditch defines an area of at least 1530 square metres. Some caution should be placed on any cropmark that occupies the corner of a modern field. It is possible that it is of fairly recent origin, although it is not visible historic maps dating back to 1840 that were examined.

#### Enclosure B: TL 2167 4040 (Fig. 3)

Situated 66m to the north of Enclosure A, similarly located adjacent to the A1 was a sub-rectangular enclosure. This was on a similar alignment to the possible enclosure to the south. The northern ditch was 22m in length, in contrast to the southern ditch, which was 44m in length, and the eastern ditch which was 55m in length. An internal ditch dividing the enclosure into two unequal parts appeared to be continuous with the eastern ditch. The northern smaller area was 428 square metres and the larger southern area 1060 square metres. No gaps were visible in the enclosures, which clearly continued westwards.

#### Enclosure C: TL 2164 4050 (Fig 3)

Enclosure C is situated within the Study Area, 60m north of Enclosure B and appears to be semi-circular in shape continuing beyond the western boundary of the field. There is a suggestion to the south of this enclosure of an additional ditch, which may indicate an alteration to the enclosure. The smaller area enclosed would have a diameter of 35m and the larger 45m. No obvious gaps in the cropmark are detectable.

#### Enclosure D and associated ditch: TL 2122 4029 (Fig. 4)

This is situated 240m to the west of the Study Area and comprises a subsquare ditched enclosure. It is situated in the area of geological features, but is distinct from these by its dark and well defined nature. The enclosure was first seen on oblique photographs taken in July 1969 (TL2140/1/347) and later in July 1977 (CDR 23). It is only clearly visible on the vertical photograph taken in 1996, although a dark area visible on the vertical photograph taken in April 1969 (OS 69059) with the benefit of hindsight probably corresponds with the enclosure. The enclosure is orientated south-west to north-east enclosing an area of 2214 square metres. The southern ditches are fairly straight and form a good right angle but the northern side has an obvious curve. There is a slight variation in the cropmark on the south-east side, which tentatively may represent an entranceway. The geological cropmarks obscure the interior of the enclosure.



#### Enclosure E: TL 2127 4071 (Fig. 5)

This square enclosure is situated 400m north-west of the Study Area. The west (84m in length), north (over 80m in length) and south (over 80m in length) ditches are well defined continuous dark cropmarks. The east side of the enclosure can tentatively be seen among the geological features. No internal features of archaeological origin were visible.

#### Ditch F: TL 2113 4040 to TL 2133 4034 (Fig. 4)

Orientated north-west to south-east, this cropmark extends for 224m within the field to the west of the Study Area. If it continued eastwards it would enter the Study Area to the east of the water tower. Its orientation, perpendicular to the main geological features, its darkness and uninterrupted length strongly suggest that it is of archaeological origin.

#### 2.8.3 Cropmarks of possible archaeological origin

The complexity of the cropmarks interpreted as of geological origin means that some of these may obscure others of archaeological origin but on the same alignment. The proximity of a number of short linear cropmarks, although on a different alignment, to the geological cropmarks makes it uncertain if these are of archaeological origin. These are located outside the Study Area immediately south of the water tower. The longest is 35m and they are orientated perpendicular to the geological cropmarks.

#### 2.8.4 Cropmarks of modern origin

A number of linear cropmarks clearly represent former field boundaries, which are visible on the early edition OS maps, and Estate maps. Two other major linear cropmarks visible just north of the water tower represent water pipe trenches. A similar linear cropmark in the field south of the water tower is aligned north-east to south-west before turning to a west to east alignment. The angle between the two alignments strongly suggests this is not an archaeological feature.

#### 2.9 Summary

Aerial photograph analysis has identified a variety of cropmarks both within and immediately adjacent to the Study Area.

The geological features west of the Study Area may obscure those of archaeological origin. Enclosures D and east are visible in this area but are confused by the geological features. The darker cropmarks towards the north and east may further obscure archaeological features. Cropmarks of modern origin are generally straight in alignment and correspond with former field boundaries visible on early historic maps and early aerial photographs. A number of cropmarks indicate pipelines, the locations of which were confirmed by Anglian Water. No cropmarks of archaeological origin were clearly visible on photographs within the Study Area prior to 1996. Enclosures A, B and C differ in shape and size but may be part of the same system. No entrance gaps were visible in the cropmarks suggesting these were probably located to the west.

Enclosures D and E, situated outside the Study Area, differ in shape and size. Although not clearly identified the most likely side for entranceways is to the east. At least two of the individual ditch cropmarks, if projected, would continue into the Study Area.



#### 3. GEOPHYSICAL SURVEY

#### 3.1 Introduction

A specialist contractor; Geophysical Surveys of Bradford (GSB), undertook the geophysical survey, and the full results are submitted in a separate report (GSB98/76). For more detailed information, technical data and scaled plots of the results this report should be consulted.

#### 3.2 Method statement

The survey was conducted in two stages. In the first stage the entire Study Area was scanned with fluxgate gradiometers along traverses approximately 10m apart. The scanning revealed generally quiet levels of background noise except for isolated ferrous type responses. The results of the scanning identified potential archaeological type responses including a concentration along the eastern side of the A1, in the vicinity of the known cropmarks. The scanning suggested that this concentration of anomalies did not extend to the west of the A1, although two areas of possible magnetic disturbance were encountered.

The results of the scanning were discussed with the ACO prior to the second stage of the geophysical survey being undertaken. This comprised detailed gradiometer survey of five areas. These were located to investigate archaeological type anomalies (Area D), strong magnetic anomalies (Area A and C) or in areas where only weak anomalies had been located.

#### 3.3 Results of the detailed geophysical survey (Fig. 6)

#### 3.3.1 Area A

The scanning in the field to the west of the A1 did not locate any archaeological type responses. A detailed block of survey was undertaken to confirm the results of the scanning, investigate further the identified magnetic disturbance and to determine whether the archaeological responses detected to the east of the A1 continue into this area.

The strongest responses were located to the west of the area which were interpreted by GSB as possibly representing burnt archaeological deposits disturbed by ploughing. The presence of a slightly magnetic noisy background may suggest they could represent modern material. Several weak ditch type anomalies were located on a variety of alignments. Some of these share similar alignments to the anomalies located in Area D, although these were much stronger. GSB did not rule out a recent agricultural origin, such as ploughing.

#### 3.3.2 Area B

Scanning had indicated this area was quiet and detailed survey was undertaken to check the results of the scan.

Only weak linear anomalies were located which could represent archaeological ditches but are more likely to relate to agricultural processes.



#### 3.3.3 Area C

During scanning this area had produced a number of discrete magnetic anomalies. Given the proximity to the strong archaeological responses of Area D these were investigated by detailed survey.

Several isolated magnetic anomalies were located, the largest towards the east of the Study Area. Given their proximity to Area D an archaeological origin cannot be ruled out, but as in Area A they may reflect modern material in the ploughsoil. A number of linear trends were noted on similar alignments to those in Area D, but they may have been derived from recent agricultural practice.

#### 3.3.4 Area D

Area D comprised the largest area of detailed survey situated over strong responses during scanning and in the vicinity of known cropmarks.

The detailed survey revealed a complex of magnetically strong ditches forming a series of up to eight enclosures adjacent to the A1. The enclosures are rectangular, oval and circular in shape suggesting they were not constructed as one event. Assuming the A1 represents the western boundary of all the enclosures they would vary from 200 square metres to 1050 square metres in extent. The majority of the enclosures are joined but smaller units are also identifiable. In only one instance is an enclosure situated behind (to the east) of the others and this is one of the smallest. The enclosures did not continue into Area C, but appeared to continue southwards outside the Study Area.

Three circular ditches were identified within two separate enclosures. These varied between 5m and 10m in diameter. These have the characteristics of a drainage gulley around a roundhouse but are rather small (especially the 5m circular ditch). If they do indicate roundhouses this would support the interpretation that the enclosures contained settlements. If the circular ditches are not contemporary with the enclosures they could represent ditches surrounding burial monuments, although they would be exceptionally small examples. Pit type anomalies were located both inside and outside the enclosures and appeared to cluster in a number of areas.

A variety of other ditch type anomalies were located, some continuing eastwards. Many of these appear to respect or be aligned on the enclosure ditches suggesting that, although weaker, they are not agricultural in origin.

#### 3.3.5 Area E

Scanning had indicated this area was relatively quiet. Given the density and type of features located adjacent to the A1 it was decided to undertake a detailed survey to the east of Area D.

A number of short ditch type anomalies were located, some of which are likely to be agricultural in origin. GSB also identified four pit type anomalies.



#### 3.4 Summary

The geophysical survey has identified ditch type and pit type anomalies, many of which are likely to be of human origin. These were concentrated in the eastern field (Area D) where a series of connected but distinct enclosures were located. Many of the enclosures were associated with pits and possible roundhouses suggesting they may have functioned as settlement enclosures. The eastern limit of these enclosures was generally within 60m of the A1. The geophysical survey suggests the enclosures did not continue into the northern part of the field but did continue beyond the Study Area to the south.

The detailed survey identified a number of other ditch type and pit type anomalies, which may be of archaeological origin to the east of the main enclosures. The western field produced no clear archaeological anomalies.



#### 4.1 Methodology

Artefact collection units were based on the national grid to allow the use of permanent reference points and integration with other data sets. The survey was undertaken within a single O.S. kilometre square A (TL 2140), which was subsequently sub-divided into nineteen hectares (Fig. 7). Each hectare was sub-divided into 20 metre square collection units, labelled A-Z (excluding O), which were marked out, starting from the south-west corner using ranging rods and bamboo canes. The team members then walked the centre line of each collection unit and retrieved archaeological material from a one metre strip on either side. By employing this method, a ten percent sample of the Study Area was walked. Artefacts recovered from each 20 metre transect were placed in individually labelled bags with the relevant project, hectare and collection unit identification code.

Approximately 11 hectares were walked over a three day period by a team of five experienced fieldwalkers. Weather conditions varied from bright, low angled sunlight to overcast. The Study Area to the east of the A1 was sown with a cereal crop in an early stage of growth, while to the W, the field had been ploughed two weeks previously.

All material considered to be humanly-made was retrieved. Debris of an obviously modern nature was ignored as far as possible. The artefacts were washed, quantified, weighed and recorded on field artefact collection data sheets, and where possible, diagnostic objects were dated. Pottery identifications are alpha-numeric codes in accordance with the Bedfordshire Ceramic Type Series, held by BCAS. The assemblage is summarised in tables 3 and 4.

#### 4.2 The artefact assemblage

#### 4.2.1 Flint

Thirty-two pieces of worked flint, weighing 400g were recovered. The majority comprises debitage and cores (6 examples). Core products comprise flakes, including retouched and possible core rejuvenation flakes. The presence of multi-platform flake cores and waste flakes struck with a hard hammer suggest a late Neolithic/early bronze age date for the assemblage. Tools are restricted to a probable scraper and piercer. A single blade suggests an earlier component. The assemblage includes both patinated and unpatinated flint. The fragments have sustained edge damage characteristic of a plough zone assemblage.

The single fragment of burnt flint is not intrinsically datable, although a similar date to the worked flint is likely.

#### 4.2.2 Pottery

A moderate amount of pottery was recovered, ranging in date from the late



Iron Age to post-medieval periods. The sherds are mostly small, abraded and undiagnostic.

#### Late Iron Age - 5 sherds, 83g

Vessels present are undiagnostic grog (F06), grog and sand (F09) and shell tempered (F07) types. All are highly abraded and the shelly vessels leached.

#### Roman - 11 sherds, 88g

Identifications of Roman vessels are based solely on fabric types. This group comprises a limited range of early Roman greywares (R06), oxidised sand tempered wares (R05) and shell tempered wares (R13). The latter are probably products of the Harrold Lodge Farm kilns, situated in north Bedfordshire. Imported vessels comprise two sherds of samian. No vessels of later Roman date are present.

#### Medieval - 23 sherds, 241g

The majority of the assemblage dates to the early medieval period, (12th to 13th century) and is represented by locally manufactured sand tempered fabrics (types C01, C05, and C59A) and a single shell tempered sherd of developed St Neots-type (B07). Later medieval fabrics comprise oxidised wares (E03), dating from the 14th to 15th centuries. Diagnostic forms include jars with everted rims, bowls and jugs with strap handles.

#### Post-medieval - 40 sherds, 399g

Vessels of post-medieval date comprise the majority of the pottery recovered. Fabric types represented are principally glazed earthenwares (P01), with single sherds of Blackware (P14) and salt-glazed stoneware (P37).

#### Undiagnostic - 7 sherds, 23g

Due to their abraded and fragmentary appearance, the distinction between coarse Roman and medieval sherds is unclear. Consequently, seven sand tempered sherds could not be attributed to a particular period.

#### 4.2.3 Ceramic Building Material (CBM)

#### Late medieval/post-medieval - 499 fragments, 11.4kg.

The majority of the ceramic building material derives from sand tempered flat roof tiles of peg type, with smaller quantities of brick present. The fragments are mostly small and abraded.

Twenty-two additional fragments (680g) of post-medieval/modern origin comprise mainly pieces of land drain and modern brick.

#### Undiagnostic - 107 fragments, 1.5kg

A number of pieces were too fragmentary and degraded to be accurately classified.

#### 4.3.4 Lava quernstone fragment

A single fragment (44 g) of continental lava, likely to derive from a rotary quern was recovered. The use of this material throughout both the Roman and medieval periods is well attested, and a more specific date cannot be assigned.



#### 4.2.5 Slag

Five fragments of ferrous slag weighing 859g, were recovered. These are likely to derive from smithing processes, although no date can be assigned to this class of material.

#### 4.3 Artefact distribution

#### 4.3.1 Prehistoric (Fig. 8)

Low density concentrations of lithic material were identified mainly in the eastern field (hectares 67, 76 and 85), and may suggest sporadic activity during the earlier prehistoric period.

#### 4.3.2 Late Iron Age (Fig. 9)

The sample is too small to be spatially significant, although one collection unit within hectare 65 contained two sherds.

#### 4.3.3 Roman (Fig. 10)

The majority of the assemblage came from the eastern field. A small concentration (6 sherds) of Roman pottery was identified in the north-west corner of this field (hectare 57). The remaining sherds are randomly scattered towards the south. The complete absence of Roman ceramic building material suggests there are no substantial structures within the Study Area. The lava quernstone fragment, which may be of Roman date, was located towards the eastern limit of the Study Area within 100m of 3 Roman pottery sherds.

#### 4.3.4 Medieval (Fig. 11)

The incidence of medieval pottery is restricted almost entirely to the south of the Study Area, including hectares 74, 75, 84 and 85. The assemblage may be associated with medieval earthworks located to the south of the Study Area, and could represents an accumulation of contemporary settlement debris. A group of 4 sherds to the north within hectare 68 is located within 30m of the present Edworth road suggesting this route may be of some antiquity.

#### 4.3.5 Post-medieval (Fig. 12 and 13)

The dispersed nature of the post-medieval pottery suggests random deposition. This distribution is broadly replicated by the large quantities of building material of late medieval/post-medieval date, recovered from all parts of the Study Area. Dense concentrations of building material were noted to the west of the A1 (hectares 54 and 64) and to the east within hectares 75, 76 and 68. These do not correspond with any structures visible on historic maps and it is assumed the post-medieval material is derived from agricultural practices, such as manuring.

#### 4.3.6 Undiagnostic pottery and CBM (Fig. 14) and slag (Fig. 15)

Pottery sherds and tile fragments recovered from ploughsoil are frequently small and abraded. The identification purely based on fabric is, in some case unreliable and therefore these have been assigned to an undiagnostic group. The distribution of this category does not appear to correspond to the limited period concentrations.



The slag recovered was equally undiagnostic to a particular period and the small numbers are not concentrated in any particular area.

#### 4.4 Summary

The artefacts recovered from the field artefact collection comprised Iron Age, Roman, medieval and post-medieval pottery, late medieval and post-medieval CBM, worked flint, a quernstone and slag. The actual quantity of artefacts is perhaps less than might be expected given the nature of the geophysical anomalies in the field to the east. The field and weather conditions were almost perfect for field artefact collection.

No significant concentrations of artefacts were identified from the prehistoric, Iron Age or Roman periods. Medieval pottery appears to be concentrated mainly to the south of the east field, possibly associated with house platforms situated 30m to the south (HER 2848). Despite the large quantities of late medieval/post-medieval pottery and CBM these do not form concentrations and are probably a result of manuring.

If the results of field artefact collection are viewed in isolation they suggest there is little pre-medieval activity within the Study Area. In certain situations field artefact collection appears not to produce a representation of the archaeological remains under the ploughsoil. The results are dependant on a variety of factors including depth and regularity of ploughing, duration of ploughing, presence of masking deposits etc.



### 5. SYNTHESIS OF RESULTS

The results of the three stages of the archaeological evaluation are combined in this section and discussed within broad chronological periods. The limitations of the evidence are considered first.

#### 5.1 Limitations of the evidence

The three stages of investigation were all non-intrusive and it is therefore important to consider the limitations of this kind of evidence.

#### 5.1.1 Aerial photographs

Aerial photographs can reveal previous human activity under certain conditions in the form of earthworks, soilmarks and cropmarks. Only the latter were visible on photographs, revealing the location of former ditches. Cropmarks in the eastern field revealed a number of small enclosures adjacent to the A1. They also provided evidence for activity in the surrounding area including two ditched enclosures and a small number of ditches which may continue into the Study Area. The western field was never photographed under ideal conditions and no cropmarks of archaeological origin were revealed. Wilson (1982) states "in evaluationing cropmarks a fundamental rule is not to rely on negative evidence". This is because when cropmarks are present the probable causes can be inferred, but when absent no inference can be made. Although cropmarks generally indicate the location of human activity, they do not always suggest the function or intensity of activity.

#### 5.1.2 Geophysical survey

The geophysical survey undertaken within the Study Area was of the magnetic susceptibility type. This detects variations in the magnetic susceptibility between topsoils, subsoils and rocks making it possible to detect ditches, pits and other silted up features (Clark 1990). The survey identified a large number of anomalies which are potentially of archaeological origin mainly in the field to the east. A number of the ditch like anomalies corresponded with the cropmark enclosures, but others were not visible on the aerial photographs. The presence of anomalies corresponding to circular ditches (possibly defining buildings) and pits, suggests these enclosures may be domestic in function.

#### 5.1.3 Field artefact collection

The association with artefact scatters is often used as an indication of the period of activity represented by cropmarks or geophysical anomalies, for example at Maddle Farm, Berkshire (Gaffney and Tingle 1989). It is therefore unfortunate that the field artefact collection at Topler's Hill produced only small quantities of artefacts for the pre-medieval periods. A similar situation occurred at Maxey East (Pryor *et al* 1985) where 6 Iron Age sherds were recovered from an area that excavation of cropmark/geophysial features later produced approximately 900. It was presumed that the shell tempered fabrics that dominated the Iron Age pottery at this time had been destroyed by humic and other acids in the topsoil. The authors concluded that "a site cannot be characterised by field survey alone". A similar situation occurred at the



Biddenham Loop, Bedfordshire (BCAS 1991) where 250ha were walked producing only six Iron Age pottery sherds. Later excavation over part of this area revealed the presence of a series of Iron Age farmsteads.

Conditions for artefact collection at Topler's Hill were nearly ideal and it is therefore likely that other factors had an adverse effect on the quantity of artefacts recovered. These factors could include pottery fabric (Iron Age and Roman fabrics in this area are dominated by grog and shell inclusions), depth and regularity of ploughing, soil type, nature of rubbish disposal in antiquity etc.

#### 5.2 Chronological summary of results

The following chronological summary is structured around the field artefact collected material. The cropmark and geophysical features are assigned on typological grounds.

#### 5.2.1 Prehistoric

Pottery of this period rarely survives within the ploughsoil, but lithics are more resilient and are relatively easy to recognise (Holgate 1985). The small quantities and dispersed nature of the flint artefacts suggests there was no permanent settlement of this period within the Study Area. The scatter is probably a result of more than one process of discard or loss and later ploughing must have played an important part in its creation. The round ditch like geophysical anomalies are too small to represent ring ditch burial monuments, being between 5m and 10m in diameter.

#### 5.2.2 Iron Age

Only five sherds of late Iron Age pottery were recovered from various locations within the Study Area. Their small number does not allow any conclusions to be made concerning the nature of Iron Age settlement in the vicinity. All sherds were small, highly abraded and leached, suggesting the numbers found may be an under representation of that originally present in the ploughsoil. A similar small number of Iron Age sherds was recovered from the ploughsoil at Maxey (Pryor *et al* 1985), where later excavation revealed underlying ditched settlement enclosures.

The enclosures revealed by aerial photographs and geophysical survey could, on typological grounds be assigned to the Iron Age. The presence of circular ditches which are typically found surrounding roundhouses supports this assignment. This building tradition did however continue into the early Roman period.

#### 5.2.3 Roman

Eleven sherds of Roman pottery were recovered from the Study Area. Given such a small assemblage caution should be assigned to the apparent concentration of 6 sherds towards the north of the east field. Roman pottery is usually highly durable. For example at Maddle Farm it was found over a 2km area in the vicinity of a villa (Gaffney and Tingle 1989). However, a number of field artefact collection surveys have recovered only small quantities of



material in contrast to the much larger quantities later excavated from subsurface features, for example the Biddenham Loop (BCAS 1991).

The road (HER 505) between the Roman settlements at Baldock and Sandy underlies the A1 adjacent to the Study Area. The construction of this road has been dated in the Sandy area to the mid 1<sup>st</sup> Century (Johnston 1974). Burials of presumed Roman date are known within the Study Area (HER 524). The series of enclosures in the eastern field appear to have entrances fronting the road and are similar, but not as regular as those associated with the Roman settlement at Fenny Stratford, Buckinghamshire (Neal 1987). The presence of large pits within these enclosures probably supports a Roman, rather than later date. Roundhouses, indicated by the geophysical survey, continued to be constructed early in the Roman period. Roman roads frequently acted as a focus for settlement and the location of Topler's Hill, halfway between Sandy and Baldock, would provide several advantages. The form of the settlement and absence of Roman building material suggests a series of farmsteads rather than an official establishment.

The enclosures identified on aerial photographs to the west have a regular appearance and may well be contemporary in date. The cropmarks suggest the east side is the most likely for entranceways (facing the Roman road).

#### 5.2.4 Saxon

No Saxon artefacts were found during the field artefact collection. Material of this period is notoriously under-represented in this type of survey (Millet 1985). The burials mentioned above, although originally believed to be Roman in date, could infact be Saxon.

#### 5.2.5 Medieval

The majority of the 23 identified sherds were <u>early</u> medieval in date. The distribution towards the south of the eastern field would be consistent with manuring from the settlement (HER 2848) situated to the south of the Study Area.

Although the inter-linked enclosures have the appearance of a coherent system it is possible some, especially the southern one, may relate to the house platforms to the south-east. Hall (1991) believed the linear "drove" form of these, superficially had the appearance of a fen drove settlement.

#### 5.2.6 Post-medieval

The manuring of fields is known to have continued into this period (Gaffney, Gaffney and Tingle 1985) and is likely to explain the large quantities of pottery and tile within the Study Area. No discrete concentrations were identified supporting the assumption that no buildings of this period were constructed within the Study area. The studied maps dating from the 1840s onwards, support this inference.



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TABLES

KILOMETRE A										Hecta	are									
Description	53	54	57	58	63	64	65	66	67	68	73	74	75	76	77	78	84	85	86	Total weight (g)
Worked flint		47	13		5		78		37	6	30	26	1	76	18		38	25		400
Unworked burnt flint							19													19
Late Iron Age pottery		9			9		48											17		83
Roman pottery			35	7	4					10			16	16						88
Medieval pottery							40			48		65	29	12			29	18		241
Late medieval/post-medieval CBM	385	839	251	264	156	770	282	462	840	1475		547	1616	828	858	297	447	845	284	11446
Post-medieval pottery	29	27			5	65		49	29	47		22	2	36	18	13	51	6		399
Clay pipe										1							2			3
Post-medieval/modern CBM	158	93				31		20	74	38				21	233			12		680
Undiagnostic CBM	68	30	27		30		80	37	145	106		247	129	290	151	15	106	98		1559
Undiagnostic pottery										4		6	2		2	9				23
Iron nail										3								15		18
Lava quern fragment														44						44
Ferrous Slag	20							_				44			264			531		859
Total weight (g)	660	1045	326	271	209	866	547	568	1125	1738	30	957	1795	1323	1544	334	673	1567	284	15862

Table 3: Field artefact collection: finds assemblage, summary by weight

**CBM = ceramic building material** 

KILOMETRE A			_							He	ctar	e								
Description	53	54	57	58	63	64	65	66	67	68	73	74	75	76	77	78	84	85	86	Total number
Worked flint		2	1		1		2		5	1	2	3	1	6	2		2	4		32
Unworked burnt flint							1													1
Late Iron Age pottery		1			1		2											1		5
Roman Pottery	]		4	1	1					1			2	2						11
Medieval Pottery							2			4		7	3	2			2	3		23
Late medieval/post-medieval CBM	18	49	7	9	8	43	10	21	38	57		32	58	42	31	13	18	31	14	499
Post-medieval pottery	6	4			1	6		3	3	4		2	1	2	2	2	3	1		40
Clay pipe										1							1			2
Post-medieval/modern CBM	2	7				1		2	3	1				1	4			1		22
Undiagnostic CBM	9	3	4		3		10	3	13	4		8	3	16	14	1	10	6		107
Undiagnostic pottery										1		3	1		1	1				7
Iron nail										1								1		2
Lava quern fragment														1						1
Ferrous Slag	1_1											_1			2			1		5
Total number	36	66	16	10	15	50	27	29	62	75	2	56	69	72	56	17	36	49	14	757

Table 4: Field artefact collection: finds assemblage, summary by number

**CBM** = ceramic building material

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#### FIGURES

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### Fig. 1 Study Area location plan and adjacent HER sites









Fig.2 Aerial photograph interpretation plan





## Fig. 3 1996 Aerial photograph and plan of enclosures A, B and C note: the interpretation plan may contain features visible on other aerial photographs

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Key

Archaeology





Modern

Fig. 4 1996 Aerial photograph and plan of enclosure D note: the interpretation plan may contain features visible on other aerial photographs













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Possible Archaeology



# Fig. 5 1996 Aerial photograph and plan of enclosure E note: the interpretation plan may contain features visible on other aerial photographs





## Fig. 6 Geophysical interpretation plan

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Fig.7 Field artefact collection hectare divisions







Fig. 8 Worked flint distribution





Fig. 9 Late Iron Age pottery







Fig 10 Roman pottery and quernstone





Fig.11 Medieval pottery





Fig.12 Late medieval/post-medieval CBM







Fig. 13 Post-medieval pottery





Fig. 14 Undiagnostic pottery and CBM

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Fig. 15 Slag

