

*BIRMINGHAM UNIVERSITY  
FIELD ARCHAEOLOGY UNIT*

A46 Upper Swainswick to M4 Tormarton  
Archaeological Survey  
Stage II Assessment Report

*B.U.F.A.U.*



Birmingham University Field Archaeology Unit

**Report No. 235**

February 1993

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Stage II Assessment Report**

Prepared for  
MRM Partnership Consulting Engineers  
on behalf of the Department of Transport

by

Birmingham University Field Archaeology Unit

For further information please contact:  
Simon Buteux (Manager), Peter Leach or Iain Ferris (Assistant Directors)  
Birmingham University Field Archaeology Unit  
The University of Birmingham  
Edgbaston  
Birmingham B15 2TT  
Tel: 021 414 5513  
Fax: 021 414 5516

# A46 Upper Swainswick to M4 Tormarton Archaeological Survey Stage II Assessment Report

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# **A46 Upper Swainswick to M4 Tormarton**

## **Archaeological Survey Stage II Assessment Report**

### **1 INTRODUCTION**

#### **1.1 General**

**1.1.1** This report sets out the detailed results of a Stage II archaeological assessment undertaken by Birmingham University Field Archaeology Unit (BUFAU) in Summer 1992. The project was commissioned by the MRM Partnership on behalf of the Department of Transport, following their announcement of the Preferred Route for the A46 road improvement between the M4 at Tormarton and Upper Swainswick, Bath in the county of Avon.

**1.1.2** A Stage I assessment of the proposed road corridor was prepared prior to this by Avon County Council and submitted as a report to the Department of Transport (Erskine and Russett 1991). That report, and an earlier assessment of the section from Swainswick to Cold Ashton for Avon County Council and English Heritage (Ellis 1987), were the basis of a brief for the Stage II assessment.

#### **1.2 Objectives**

**1.2.1** The principal objective of the Stage II assessment was to obtain sufficient field data in order to establish the presence/absence, character, period, extent and condition of any archaeological sites or material within the proposed road corridor.

**1.2.2** On the basis of these records recommendations could then be formulated in respect of the management of the archaeological resources to be affected by proposed road construction works.

**1.2.3** At the time of commission, specifications for Stage II, as stated in the Stage I report, were found to be too wide ranging and not always appropriate for the requirements. In consequence, a more specific and selective approach was proposed by BUFAU in consultation with MRM and the brief reformulated. Details of the strategy employed and its scope are summarised in Section 3 of this document.

#### **1.3 Previous Archaeological Work**

**1.3.1** Previous archaeological work in the immediate vicinity of the roadline was undertaken in the 1940s on Charny Down in advance of the construction of an airfield during the 1939-45 war (Grimes 1960). Of direct importance to the roadline archaeology (see Section 4.8, 4.9 and 4.10, Sites 8A, 8B and 9, below) was a summary and discussion of Iron Age field boundaries in existence until the airfield site was levelled. The 1960 publication also discussed the finds from fieldwalking in the early part of this century.

A second site directly on the roadline (Section 4.2 Site 2, below) had been recorded in 1953 during the preparation of an inventory of prehistoric barrows in Gloucestershire (O'Neil and Grinsell 1960).

A short section of the roadline formed part of a survey of Marshfield parish undertaken in the early 1980s (Russett 1985).

**1.3.2** More recently, specific archaeological research targeted upon the proposed road corridor is documented in the Stage I assessment report from Avon County Council (Erskine and Russett 1981), and its predecessor involving only the southern half of the route (Ellis 1987). Both were primarily 'desk top' studies based upon the Avon County Council Sites and Monuments Record, other relevant documentary sources, and initial, non-intensive field survey.

#### **1.4 Report Format**

**1.4.1** This document summarises the Stage II archaeological field assessment of the route selected for the A46. The report is structured on a site specific basis, subject to the range of investigative methodologies employed in each case. In addition to a summary of techniques and results (Section 4), their effectiveness and implications are assessed for each site (Section 6).

**1.4.2** A more general discussion of the archaeological results is provided in Section 5, and the potential impact of road construction upon archaeological resources along the road corridor as a whole is assessed in Section 6; followed by site specific recommendations for amelioration responses, as appropriate, in Section 7.

**1.4.3** The numerical system identifying the archaeological sites assessed in this report replaces a more cumbersome system devised for the Stage I report. Cross referencing is however provided to that report and to the Avon County Sites and Monuments Record (ASMR).

## **1.5 Survey and Report Team**

**1.5.1** The Stage II assessment was directed by Peter Ellis, who was responsible for additional documentary research, supervision in the field and for preparation of Sections 2, 4 and 5 in this report. Peter Leach wrote Sections 1, 3, 6 and 7, monitored the project overall, and edited the report with Simon Buteux. Laurence Jones was responsible for site surveys and additional supervision. Finds material was processed and reported upon by Lynne Bevan and identified by specialists within BUFAU and the University of Birmingham.

## **1.6 Acknowledgements**

**1.6.1** Thanks are due to Jan Roberts and Vince Russett at Avon County Council, to the landowners and tenants for allowing access, and to Mike Widdowson, Scheme Manager, MRM Partnership, Bristol.

Peter Ellis is also grateful to Peter Davenport, Richard McDonnell and Vince Russett for on-site discussions; and to the field team, Bob Burrows, Catherine Mould, Laurence Pontin, Andrew Rutherford, Charles and Nancy Hollinrake, Peter Sommer and Keith Faxon. This report was produced by Ann Humphries and Liz Hooper and illustrated by Nigel Dodds.

## **2 THE PREFERRED ROUTE AND ITS CONTEXT**

### **2.1 The Route**

**2.1.1** The line of this proposed improvement of

the A46 road extends south from the junction with the M4 at Tormarton (Junction 18) to Upper Swainswick on the north-east fringes of the City of Bath (Fig. 1). The section assessed in this report is 10.4km long. This section lies within the County of Avon (Northavon and Wansdyke Districts) and passes through the parishes of Batheaston, Cold Ashton, Dyrham and Hinton, Marshfield, Swainswick, Tormarton, Wapley and Codrington, and West Littleton.

**2.1.2** Although specified in the Stage I report as a 200m wide corridor centred upon the centre line of the proposed route, the survey area in that assessment encompassed archaeological sites up to 0.75km away from the line actually proposed. The 1991 Preferred Route assessed in the Stage II report involved a much narrower corridor, generally less than 100m wide but involving more extensive areas at the junctions with other roads.

### **2.2 Geology and Topography**

**2.2.1** Geological and topographical factors provide a context for the cultural development of the landscape. The area concerned comprises a plateau of Jurassic limestone rocks (the Inferior Oolite). The characteristic soils are calcareous with a clayey texture. This is suitable for cultivation provided the location is reasonably well-drained and depending on the degree of slope.

**2.2.3** Topographically, from Tormarton the road line follows the western scarp edge of the Jurassic limestone ridge forming the southern end of the Cotswold hills at about 200m above sea level. At Cold Ashton the high ground is deeply dissected by a number of south-flowing streams. From here the route follows the Charny Down ridge between the Boyd and St. Catherine's valleys before beginning the descent into the valley of the River Avon at Swainswick.

**2.2.4** Much of the land is now cultivated, but until the 18th and 19th centuries these uplands were principally downland pasture supporting sheep. The present pattern of fields and land holdings has been created by enclosure at that period but belies a whole palimpsest of earlier land use, traces of which can still be detected.



## 2.3 Archaeology and the Developed Landscape

2.3.1 The proposed road line lies within the hinterland of the major Romano-British and medieval town of Bath - a 'hinterland' here being defined as the area surrounding a town where travel to and return from its markets could be achieved on foot within a day. The northern part of the roadline north of Dyrham wood coincides with the Jurassic Way, a prehistoric ridgeway route running in this area from Old Sodbury hillfort to Tog Hill, and then across to Lansdown (Grimes 1951; 1960). This route was also used in Roman times (Margary 1973, 143). Later it has been identified as a salt traders' route (Smith 1964, i, 20), and it remained the main northern access route to Bath until replaced by the present A46 roadline in the late 18th century as part of the Turnpike Trust system. However, much of this new route from Dyrham Park southward is also adjudged to have had a prehistoric origin, running from the Jurassic Way south to Charmy Down where it divided, with one part leaving the plateau above Swainswick to run southward to Bath, and a second section running south east across the Down (Grimes 1960, 200, fig 81). The proposed roadline also crosses the Herepath of the Saxon Charters near Pennsylvania (Grundy 1936, 78).

2.3.2 The Cotswolds themselves have attracted much archaeological research, ranging from analyses of finds from fieldwalking exercises (Marshall 1985) to important period discussions (Saville 1984), and from inventories of monuments (Saville 1980, RCHM 1976) to major excavations of prehistoric and Roman sites. The economy of the uplands in post-Roman times has also been addressed (Betley 1986).

2.3.3 Other relevant archaeological work has focused on the southern Cotswolds. The hinterland of Bath has attracted comment both in terms of the economic setting of the city and of its communication routes, and also from the function of Bath as an important ritual and religious focus in the prehistoric and Roman periods. Sites such as Little Down on Lansdown demonstrate a mixture of industrial structures with circular buildings which may have been small temples (Hanley 1987, fig 9). At the major site of Nettleton Scrubb on the Fosse Way there

appears to have been a similar commercial and religious focus (Wedlake 1982).

2.3.4 Existing archaeological research shows that all periods are represented in the vicinity of the roadline. Mesolithic finds are known from Henley Hill south of Cold Ashton (ASMR 4717), and have been found on Charmy Down (Grimes 1960, 203). Neolithic flints are not uncommon in these upland fields, as shown by the Marshfield parish survey where a particular concentration was recorded in the west of the parish (Russett 1985). On Charmy Down a major collection of Neolithic date was made in the early part of this century, and Neolithic features have been found (Grimes 1960, 203). Bronze Age round barrows are known on Freezing Hill, Lansdown, Charmy Down, and in Marshfield parish, as well as Site 2 reported on here (4.2; O'Neil and Grinsell 1961). Bronze Age flint implements indicative of settlements have also been found.

2.3.5 The Iron Age period is evidenced by a closely spaced group of hillforts on the scarp edge at Old Sodbury, Hinton Camp, Little Sodbury, and Bathampton Down; by lineardykes on Freezing Hill (RCHM 1976, 45); and by the field systems and settlement sites on Charmy Down (Grimes 1960). Romano-British settlement is represented by numerous villa and farmstead sites, including Site 6 reported on here at Nimlet (4.6). This village's name derives from a Romano-British placename indicative of a religious site of prehistoric origin (Rivet and Smith 1979). Roman burials are known near the roadline in Dyrham parish (RCHM 1976, 51) and other Romano-British roadside settlements cannot be ruled out.

2.3.6 The medieval and post-medieval periods are marked by existing settlements, surviving areas of lynchets, and by the parkland, ponds, quarries and lime kilns to be found today. As Erskine and Russett point out (1991, 5), the proposed roadline crosses areas predominantly lying at the outer limits of a number of parishes, localities where new settlement is less likely in the medieval period. North of Oldfield Gate, the parish boundaries originate from land allotment based on the Roman road (Margary 1973, 143).

The remains of World War II features on Charmy Down are also of importance (Appendix 1.6) (Roberts 1981).



### 3 STRATEGY

#### 3.1 Archaeological Assessment

**3.1.1** An assessment of the archaeological resource potentially affected by proposals for the A46 road improvement has been undertaken in two stages. Stage I required a desk top study involving examination of relevant air photographs, map and documentary sources, combined with some non-intensive field work, to identify known archaeological sites within a broad corridor flanking the proposed route. Stage II was devised as a follow-up procedure, taking into account the data collected at Stage I and amplifying it by means of more intensive, site specific field assessments within a narrower corridor of study.

**3.1.2** The parameters for the Stage I assessment are set out in the relevant document (Erskine and Russett 1991), and a gazetteer of sites with outline proposals for their preservation or further investigation is provided. Beyond this, and more general recommendations for the second stage of assessment, there was no clearly defined overall brief for a Stage II assessment proposed in the Stage I report. Using that report and the results of an earlier survey (Ellis 1987), and an initial brief supplied by MRM in 1991, a site specific assessment strategy was eventually devised for Stage II in consultation with MRM Partnership and the Department of Transport. This was targeted upon monuments or suspected sites potentially directly affected by the Preferred Route, but no reassessment of the route overall was included. The individual briefs are summarised for each site in Section 4 of this report.

**3.1.3** The revised Stage II brief specifies nine sites or areas for further investigation, one of which (Site 8) was subsequently subdivided into two parts. The sites are identified in numerical order (1-9) from north to south and with reference to their ASMR number and Stage I report or Ellis 1987 survey entry. The sites selected and a summary of techniques adopted for their assessment are outlined in Section 4, below.

#### 3.2 Techniques

**3.2.1** For an assessment of this nature both intervention and non-interventive techniques are

employed, with an emphasis initially upon the latter as a non-destructive approach. Following on from the non-interventionist procedures of Stage I, these techniques adopted for Stage II comprised further intensive fieldwalking, geophysical prospection, and metrical field survey.

**3.2.2** Intensive fieldwalking involves the surface collection of portable artefact remains and the record of other potentially significant surface features (soil marks, building debris, etc.) from pre-determined and surveyed areas or modules covering more extensive tracts of exposed ground (normally ploughed land). This technique may indicate the presence of buried archaeological remains, their approximate period, character, and potential arrangement, through the plotted distribution densities of different classes of material. It was applied over the fields of Site 1, and subsequently at Site 2, but its more extensive application was restricted by the presence of pasture or growing crops elsewhere, a circumstance which unavoidably coincided with the period of the Stage II assessment fieldwork.

**3.2.3** Geophysical prospection is a technique employed to detect the presence of buried archaeological features through the measurement of below ground magnetic or resistance anomalies. In favourable conditions this may reveal patterns of sub-surface features susceptible to a degree of archaeological interpretation, whose presence may not have been detectable by other non-interventionist techniques. Magnetic surveys were undertaken on six of the sites (Appendix 2) using a Fluxgate Gradiometer (Geoscan FM36) by Geophysical Surveys of Bradford (Sites 2, 4, 5, 6, 8b and 9, Section 4).

**3.2.4** Metrical field survey is applicable wherever upstanding features of archaeological significance survive, whether as built structures or stone/earthwork remains. Scale survey plans and elevations were prepared for two sites; 7, the limekiln and its environs, and 9, the Down Farm field system earthworks (4.7 and 4.10).

**3.2.5** Trial trenching is an interventionist technique employed to assess and define with more precision an archaeological site whose presence is suggested by evidence accumulated

by other means. With the assistance of machine excavation to remove the topsoil cover, subsoil transects can be examined by hand to locate and, where appropriate, sample excavate potential archaeological features and deposits. This process and the records produced (written, graphic and photographic), combined with evidence obtained through such techniques as aerial photography, geophysical survey, or field walking, may verify the presence of a site and provide information on its character and complexity, date and state of preservation.

Any excavation, however well documented, must by definition be a destructive process, and the procedures adopted in trial trenching should always seek to minimise that effect. This constraint and the necessarily restricted view provided by limited area or transect excavation may distort or limit the inferences to be made using this technique, but in combination with other approaches greatly enhance the scope and value of the Stage II assessment.

Excepting Sites 1 and 7, trial excavation trenching was employed extensively as an important element in this assessment (Section 5, below). The machined trenches, cut with a tooth-less ditching bucket, generally to a width of a little under 2m, usually removed no more than 0.2-0.3m of disturbed topsoil overburden.

## **4 SITE EVALUATION**

### **4.1 Site 1, Beacon Lane (ASMR 7389 and 7395; Stage I, 4.2 and 7.5)**

#### **4.1.1 Brief**

A further programme of detailed fieldwalking to be targeted upon fields between Beacon Lane and Tolldown. Subject to results, a subsequent phase of geophysical survey may be employed to amplify the evidence of any archaeological site suggested by artefact concentrations. Any requirement for trial trenching to be assessed and costed for separately, should fieldwalking and geophysical survey produce positive results.

#### **4.1.2 The site (Fig 1)**

North of Tolldown Farm as far as the northern end of the Preferred Route, six fields are affected by the route (OS parcels 1300, 3442, 3758, 4700, 6143 and 6868). The Stage I report noted two flint flakes in OS parcel 6868, and a tanged

arrowhead and a further flake in OS parcel 3442, although there were no indications of archaeological remains from air photographs or other sources.

#### **4.1.3 Fieldwalking**

The three fields west of the A46 were rapidly examined in September following the harvest. The ground was partly obscured by weed cover. No artefactual indications of sites were recorded and a larger-scale fieldwalking exercise was felt to be unnecessary. The southern of the three fields east of the road was fieldwalked in September in good conditions following ploughing and harrowing. The results comprised a handful of flint flakes together with a small quantity of abraded Romano-British and later pottery. The two northern fields east of the road were not available for fieldwalking by the team in September. The field south of Beacon Lane was walked in November, yielding a handful of flint flakes and chips. These small quantities from two of the three eastern fields were sufficient to demonstrate that further work prior to road construction could not be justified.

### **4.2 Site 2, Mouse Barrow, Tolldown (ASMR 1965; Stage I, 7.13)**

#### **4.2.1 Brief**

A suspected prehistoric burial mound site south west of the junction between the existing A46 road and the Hinton Road at Tolldown was identified in the Stage I report. Trial trenching preceded by a geophysical survey was required to locate and assess the extent and condition of any surviving remains. Fieldwalking was proposed as a supplement, subject to the condition and availability of the land.

#### **4.2.2 The site (Figs 1 and 2)**

A barrow in this location had been suggested by Grinsell (O'Neil and Grinsell 1961). In 1953 he recorded a double mound which he interpreted either as two conjoined barrows (hence of Bronze Age date) or as a long barrow (hence of Neolithic date) which would have owed its irregular shape to some later use such as quarrying. The east end of the monument at that time was cut by the road. Grinsell also suggested an association with the 'Mouse Barrow' of the Saxon charters (Grundy 1936).

Since Grinsell's record, road works have severely damaged the monument. The east side of the field containing the barrow has been relocated in its present position and the piece of ground between the road and the field boundary has been levelled to allow sight lines across the road bend. There is no record of this event in the Avon SMR, but the work must be placed soon after the date of Grinsell's visit.

At the time of the Stage I survey the earthwork comprised a slight rise in the field representing the west side of a barrow and a distinct rise and drop of the drystone field boundary wall as it ran across the top of the earthwork. On the road side the ground level had been reduced from that indicated in the field and by the level of the road itself.

#### 4.2.3 Geophysical survey (Appendix 2)

Geophysical survey results gave no evidence of a curving ditch, the usual indicator of a barrow in such surveys. Instead, two anomalies were noted to the south and north of the earthwork which suggested an anthropomorphic origin. Slight parallel linear anomalies to the west were interpreted as having a natural origin.

#### 4.2.4 Fieldwalking

Fieldwalking in the field containing Site 2 was possible following trial trenching, but yielded only a handful of flint flakes and no other clear indication of archaeological remains in the vicinity.

#### 4.2.5 Trial trenching (Figs 2 and 3)

Two trenches were cut by JCB forming a T-shaped arrangement, with the junction at the highest point of the earthwork. The main trench ran for 49m parallel with the field boundary wall and 2m from it. The trenches were taken down to the natural surface which comprised a limestone bedrock, and the sections were then recut and the surface cleaned by hand. The surface of bedrock was loose and friable. Three distinct phases of activity could be recognised on this site, interpreted as Periods 1, 2 and 3.

#### 4.2.6 Period 1 (Fig 3)

A number of features were located beneath the Period 2 barrow. Slight linear cuts into the

bedrock with very shallow V-sections punctuated by occasional deeper areas suggesting stakeholes, may be evidence of a phase of activity prior to the barrow. The features comprised F6, a slight linear cut punctuated by deeper areas, perhaps stakeholes; F7 and F8, two possible stakeholes 0.15m and 0.2m deep respectively; and F10, an irregular circular depression. All were filled with material indistinguishable from the overlying clay forming the barrow.

While these may represent features from an earlier period of site use, it could also be the case that these were clay-and-stone filled natural features resulting from weathering of the upper surface of bedrock.

#### 4.2.7 Period 2 (Figs 3 and 4)

A barrow was defined in plan by a U-shaped trench (variously F1, F2, and F3), which could be traced across the excavated area and was excavated at three points. The regular curve of the ditch could be plotted to suggest an overall diameter of 21m. In the excavated section the ditch was uniform, with a rather flat-based U-shaped section giving a width varying between 0.7 and 1.1m and a depth of about 0.25m. The ditch cut the Period 1 feature F10. Within the line of the ditch, parallel to it and about 0.5m from it, a slighter ditch, F4 and F5, could be traced in places. The two sections located seemed to indicate a polygonal rather than circular plan. Excavation of F4 demonstrated a slight V-shaped cut to a maximum depth of 0.15m. On the north side a line of possible stakeholes, F9, none more than 0.1m deep, lay between F1 and F4. These features were sealed beneath a mass of red-coloured clay which formed the body of the barrow and which had slumped over the surrounding ditch in the course of time. The cut F4 may represent a trench for a palisade to retain or define the barrow mound. As with those of Period 1, the fills of Period 2 features were all indistinguishable from the overlying clay forming the barrow. There was no evidence of a buried soil beneath the mound, or for the location of a primary burial or burials associated with it.

#### 4.2.8 Period 3 (Figs 3 and 4)

Other features were excavated outside the barrow ditch line, showing first as marginally



looser fills of rock and clay in the overall weathered bedrock surface. Two of these, F14 and F15, proved to be inhumation burials to the south of the barrow. It was difficult to define the extent of the grave cuts in plan. In the case of F15 the sides of the feature were not defined but an exploratory cut was made into the hard-packed fills of stone and clay. In both cases only small parts of the grave fill were removed and neither of the burials was disturbed beyond the requirements of cleaning for planning and photography. The skeletons were found at a depth of 0.4m orientated approximately east west, and in F14 large stones were found over the burial. Here the skull was exposed lying on its right side. The bone was crushed and distorted but preservation was good. The stones may represent parts of a cist. In F15 the remains comprised two rib bones and the radius and ulna of the left arm. No large stones were noted here although the excavated area was smaller.

Other features were found to the north of the barrow and comprised a possible shallow ditch, F11, and two possible stakeholes, F12 and F13.

Excavation outside the barrow circumference was on a limited scale and was focused on the geophysical anomalies. There were other areas of slight variation in the surface of bedrock which might have represented man-made features but there was insufficient time for further examination. None of these phenomena could be directly related by finds or stratigraphy to Periods 1 or 2, their designation within Period 3 need not imply a chronologically later origin.

#### 4.2.9 Finds

These were limited to material later in date than that presumed for the earthwork and its surrounding features from which no datable artefacts were recovered. The few sherds of pottery found ranged from Roman to post-medieval in date and a few fragments of iron were found. All must have arrived in the field as a result of normal agricultural practices such as manuring rather than being an indication of nearby settlement. Some sherds were found directly on bedrock and must have been deposited there by the plough or have travelled downward through cultivated soil. Bulk soil samples from the barrow mound itself and from F1 and F2 were processed.

A single carbonised seed husk was found from the mound itself but otherwise no environmental material was present.

#### 4.2.10 Discussion

The trial excavation suggests that Grinsell's barrow identification was correct. However, the difference between Grinsell's description in 1953 and what was visible on the ground in 1992 makes it quite clear that much of this monument has been lost in the intervening period. The ditch located must indicate that the earthworks seen by Grinsell represented one or more round barrows and should be dated to the Bronze Age. The excavated features bear no resemblance to what might be expected to lie at the western end of a Neolithic Cotswold/Severn long barrow.

The surviving section is probably little changed from the earthwork seen by Grinsell. Although the actual barrow diameter extrapolated from the excavated data is smaller than Grinsell's 90', the extent of the clay barrow material would tally with his figure. Grinsell's height of 2è' would refer to the area since lost, but is perhaps also an indication of the degradation effect from ploughing over the past 40 years. The maximum depth of surviving barrow material was 0.25m, which with topsoil would give a total height to the feature today of 0.35m, little more than 1'.

If the features found beneath the barrow are not natural in origin they may indicate some use of the site, perhaps ritual, prior to the construction of the barrow. These features can only be distinguished as natural or as man-made with the stripping of larger areas.

The barrow material was of clay. The surrounding ditch was clearly not deep enough to have been a source of any significant component of the barrow and it may be suggested that stone formed no part of the construction. Machine excavation through the barrow material did not allow the careful excavation that might demonstrate whether it was formed of turves. The amount of material involved in the construction of perhaps two barrows may indicate that turf was readily available and that clay was present in the vicinity. The surrounding ditch must have defined the barrow area but the slight trench found immediately within its circumference may indicate some structural

element forming a curb to the barrow material.

The identification here of the remains of an earthen Bronze Age round barrow allows it to be compared with some of those excavated on Charny Down (Williams 1950; Grimes 1960). These varied between barrows of stone, stone revetted soil dumps, and soil. The Hartley Down group was found in excavation to comprise four separate examples with Neolithic features nearby. The barrow entirely constructed of soil (no 6) was the latest in the sequence (Grimes 1960, 220).

The two burials found outside the perimeter ditch to the south at Site 2 are assumed to be later since secondary burials are frequently found in relation to barrows. More can be assumed and indeed may have lain within the trench area but were not excavated. The presence of inhumation rather than cremation burials seems to point to a Roman or post-Roman date. Alternatively, the suggestion that these are inhumations within cists might be an indication that they are contemporary with the barrow or barrows. Just conceivably they may represent primary burials within an earlier barrow now completely lost.

Identification of the line of the A46 in this area with a prehistoric route, the Jurassic Way, has been discussed (2.3.1). It is possible to interpret the modern roadline as reflecting the location of the group of Bronze Age barrows seen by Grinsell in 1954 just before their near complete destruction. The road curves slightly eastward, presumably to avoid the barrows (Fig 2), and its northern and southern sections may have been aligned on the barrow or barrows. This topographical evidence serves to emphasise the importance of this putative Tolldown barrow group.

#### **4.3 Site 3, Dunsdown (ASMR 7382; Stage I, 6.3)**

##### **4.3.1 Brief**

A rectilinear soil mark and crop parch mark was identified at Stage I as requiring further assessment. Trial trenching was identified as the most effective technique, supplemented by some fieldwalking, circumstances permitting. Geophysical survey appeared unlikely to be warranted.

#### **4.3.2 The site (Figs 5 and 6)**

This feature, identified from aerial photographs and as a soil mark on the ground, lay within an arable field north of Dunsdown Lane adjacent to a small copse. The failure or poor growth of crops has been noted in this locality (Erskine and Russett 1991, 10).

##### **4.3.3 Trial trenching (Fig 6)**

Two machine excavated trenches were opened, one 43m long running east-west, with a second running for 12m at right angles to the north. Three sides of the rectilinear area were crossed by the layout.

In the event the bare area was seen to coincide with a natural capping of sterile clay over bedrock, and it may well be that the contrasting crop growth on limestone bedrock and on clay gave rise to the differential growth patterns recorded from the air and on the ground. The northern and eastern sides of the area coincided exactly with a change visible in the trenches from clay to rock. To the west, clay continued to the limits of the trench.

On the ground too, some alterations in the field boundaries could be seen, with a ridge suggesting a ploughed-out bank running east-west to the south of the excavated trench. This is in addition to the field boundary removed to the north and noted in the Stage I report.

##### **4.3.4 Conclusions**

No features or finds of archaeological significance were recovered in this assessment. Although the field was impeded by stubble and weed growth, fieldwalking gave a similarly negative impression. The most likely explanation for soil and crop marks on this site is crop response to contrasts between clay deposits and limestone, although it is also possible that the former presence of a small field or enclosure here resulted in the ground and aerial photographic evidence. This may perhaps have been an original part of the adjacent copse now converted to arable.

#### **4.4 Site 4, Great Field (ASMR 3615; Stage I, 8.5)**

##### **4.4.1 Brief**

Discoveries made in fieldwalking and

documented in the Stage I report indicated a requirement for further assessment here. Geophysical survey of sample areas on the line of the Preferred Route, supplemented by further fieldwalking, conditions permitting, was to be undertaken as a preliminary to trial trenching; the latter was to be determined and located according to the results of initial surface surveys.

#### 4.4.2 The site (Figs 7 and 8)

Great Field was highlighted in the Stage I report as the source of a number of flints collected during the Marshfield parish survey (Russett 1985: archive flint report A3). The flints were not specifically located within the field in the survey, but the quantity found per hectare was double that of the next greatest quantity from fields fieldwalked during the survey. The distribution plans of cores and leaf-shaped arrowheads suggests some occupation concentration in Great Field.

#### 4.4.3 Geophysical survey (Appendix 2)

Further definition of likely sites was undertaken by means of geophysical survey of two areas chosen at random within the road line. The results showed anthropogenic anomalies in both areas, suggesting pits and ditches with no real indication of any lessening of their extent although more features were recorded in the southern area than in the northern. This would suggest that adjacent areas to those surveyed would also have yielded anomalies. No fieldwalking was possible at the time of the assessment when the field was under grass. A rapid survey within the line of the Preferred Route undertaken in November yielded a number of flint flakes and chips but no recognisable tools.

#### 4.4.4 Trial trenching (Fig 8)

Six trenches were set out to expose a representative sample of a majority of the anomalies revealed by geophysical survey. In some cases no apparent source of the anomalies was found. In Trench 2 in the southern area (B) bedrock covered the area of the two eastern anomalies, and in Trench 1 in the northern area (A) there was similarly no sign of the anomalies as features in the bedrock. However, in most

cases geophysical anomalies could be linked with alterations to the natural surface. A number of fissures in bedrock were seen which on excavation proved to be filled with a stiff yellow clay which was indubitably of natural origin. The anomalies recorded by geophysical survey could be related to these natural features and could have arisen from the uppermost levels of the clay immediately below the topsoil. In a number of places the clay was reddish and flecked with burnt clay fragments and occasionally charcoal. It is suggested that these result from an episode of burning and thus yielded anomalous readings. It is the case that these readings are very much greater than those that could be recorded from any natural clay deposit so there was undoubtedly an anthropogenic origin. However, that origin might equally have arisen from slash-and-burn clearance in prehistory or from more recent burning, conceivably from stubble burning in recent years. Anomalous readings from areas where undifferentiated bedrock was found must have derived from burnt material in the topsoil and subsoil.

An exception to the general picture of rock fissures filled with grey clay with a mixed red-coloured surface, was found in the northern excavated area. Here, reddish clay was found to completely fill a large pocket in the rock 0.4m wide and 0.8m deep, and a second 1m wide and 0.6m deep linear channel. In both cases the impression gained from excavation of the features was of a natural origin. This clay material was visually similar to that forming the barrow found at Site 2.

Three flint flakes were found in Area A in Trench 2 coincident with the orange clay-filled feature and on its surface. There were no other finds.

#### 4.4.5 Conclusions

Despite the discoveries made in fieldwalking and the anomalies suggested by geophysical prospection, trial trenching failed to locate features which can be conclusively argued to be man-made. Although the assessment results are inconclusive, there remains the possibility of some surviving evidence for human activity centred in the Great Field area.



#### **4.5 Site 5, Cold Ashton (ASMR 7394; Stage I, 9.9)**

##### **4.5.1 Brief**

Following identification in Stage I of a possible rectilinear enclosure as a cropmark from aerial photographs, geophysical survey and, if possible, further fieldwalking was required as a preliminary to an assessment (based on those results) by trial trenching in Stage II.

##### **4.5.2 The site (Figs 9 and 10)**

An air photograph was noted in the Stage I assessment which showed a rectilinear enclosure lying within the road corridor south west of the junction with the A420 road. The photograph was reexamined in the Stage II work and seemed to represent a rectilinear area of differential crop growth rather than reflecting any subsurface linear mark. In either case the image was very faint and was greatly overshadowed by the clear marks of field drains to the south.

##### **4.5.3 Geophysical survey (Appendix 2)**

Geophysical survey was undertaken over the area of the cropmark and the results proved somewhat ambiguous. While the air photograph mark was not exactly matched, other possible but faint enclosure features were recorded which marginally overlapped the air photographic marks and continued further south.

##### **4.5.4 Trial excavation (Fig 10)**

Subsequent trial excavation involved three trenches, two of about 30m each, running at right angles to a third 50m trench. These were designed to intercept all the possible indications of archaeological features. A clay subsoil horizon presented no difficulties in cleaning and definition, from which it was clear that no archaeological features were present.

The excavation yielded two sherds of Romano-British pottery. A rapid field walking exercise located no sites that could be argued to be present on the basis of disturbed artefact scatters, although the occasional find was made ranging from flint flakes to 20th-century pennies.

##### **4.5.5 Conclusions**

Despite prior indications, trial trenching produced no evidence of archaeological features

or remains at this site. As was perhaps the case at Site 3 the air photographic mark seemed to coincide with a slight change of the natural subsoil from pure clay to clay with stone. The geophysical plots on the other hand did register recent field drain trenches.

#### **4.6 Site 6 Nimlet (Ellis 1987, 3.2D)**

##### **4.6.1 Brief**

This suspected Romano-British site was not assessed in the Stage I survey but had been recorded in 1987 by fieldwalking. A Stage II assessment required a geophysical survey to enhance the fieldwalking results and provide a basis for more targeted trial trenching.

##### **4.6.2 The site (Fig 11)**

Nimlet is a placename derived originally from Nemeton - a sacred grove or precinct - which has Celtic and Graeco-Roman associations. Here, more specifically, site definition was on the basis of a scatter of Romano-British pottery found in the 1987 assessment (Ellis 1987). The pottery was located in a field just to the west of the proposed road line on ground sloping slightly to the east about 150m from the ridge of high ground along which the modern A46 runs. The new road is planned where this slight slope increases and sharper breaks of slope run down to St Catherine's valley.

##### **4.6.3 Geophysical survey (Appendix 2)**

Geophysical survey of an area within the line of the Preferred Route gave a clear indication of two ditches together with a pit-like feature and two very straight linear anomalies, one running right across the area examined.

##### **4.6.4 Trial trenching (Figs 11 and 12)**

Four trenches were laid out to intersect with the principal features identified as geophysical anomalies. A topsoil of around 0.2m deep was removed mechanically to a natural bedrock surface in Trenches 1-3, and to clay in Trench 4. In the latter trench a hillwash layer, 0.15m deep, underlay topsoil and sealed the archaeology. The limestone bedrock in the higher trenches was found to overlie a natural clay bed, and in Trenches 2 and 3 cut features could be seen to have penetrated through rock into the clay.

#### 4.6.5 Results (Figs 12 and 13)

The principal archaeological features located were two ditches. The easternmost ditch, variously F1, F4, and F9 in Trenches 1-3 was deeper, ranging from at least 0.5m in Trench 1, to 0.8m in Trench 2 and 0.7m in Trench 3, just to the south of which the geophysical survey suggested that it terminated. The profiles varied from U- to V-shaped. The slighter westernmost ditch, variously F2, F3, F8 and F10 in all four trenches, became deeper the further down the slope it was recorded, increasing from 0.3m deep in Trenches 1 and 2, to 0.5m in Trench 3 and 0.8m in Trench 4. Its profile was flat-based and steep-sided in Trenches 1-3 and U- or V-shaped in Trench 4.

In Trenches 2 and 3 the eastern ditch had been cut through rock into the underlying clay. The fills were uniformly of clay and stone with little cultural debris. There was some concentration of clay towards the base and sides, but the even distribution of large boulders throughout the fills tended to suggest an episode of deliberate backfilling rather than any recutting. The western ditch only cut through into the natural clay in Trench 3. The ditch fills varied from rock and soil upslope to a stiff clay in the lower levels in Trench 4. Here the subsidence over the ditch fill in Trench 4 was filled with a mass of animal bone in layer 4004, some of which was butchers waste, and this was sealed by a dense layer of charcoal and heavily burnt clay, 4003. The upper fills in Trenches 1 and 3, 1003 and 3003, contained soil with pottery, charcoal and bone. In Trench 3 clay, 3008, was found within the fill on both sides of the ditch, possibly material that had slumped back from upcast clay on either side of the ditch. Again the fills gave the impression of backfilling rather than gradual accumulation, although subsidences in the ditch had clearly collected cultural debris in places along its length.

In the near complete absence of archaeological layers outside cut features, no stratigraphic relationships could be established between the two ditches, although both were cut by a modern pipe trench F6. Two other features were located and excavated. In Trench 3 a possible pit, F7, was noted, backfilled with stone and clay. A possible secondary posthole or a recutting of the pit was recorded as F13. To the south in Trench 4 the easternmost ditch cut through a lowered area,

F11, which had been indicated as an anomaly in the geophysical survey. This feature had been cut down 0.3m and apparently floored with a cobbled surface, 4008, laid over the natural surface of clay. This cobbled surface was covered with a mass of charcoal and soil, 4006, with many fragments of fired clay, some perhaps lining from hearths or furnaces. This was in turn sealed beneath a layer of clay and stone, 4005.

The surface of bedrock in Trenches 1-3 was varied but some uniform surfaces of small stones appeared to be man-made rather than the broken upper levels of the limestone. In particular the western ends of Trenches 1 and 2 gave an impression of having been deliberately surfaced, and then worn with use. Here may have been the edge of a yard or trackway.

#### 4.6.6 Finds by Lynne Bevan

Amongst the total pottery assemblage of 382 sherds, a proportion (around 20%) was Late Iron Age in date, represented by two fabrics, one shell-tempered and the second grog and organic-tempered. Sherds were found in both ditches and in F11 in Trench 4, as well as in the upper overall layers in all the trenches (Table 1). In all cases the pottery was found together with Romano-British material - in F11 however this was represented by a single Roman sherd.

Table 1

##### Site 6: Incidence of Iron Age pottery (Nos of sherds)

Trench	1	2	3	4	total
Topsoil	3	-	2	2	7
West ditch	2	-	1	-	3
East ditch	-	23	39		62
F11				6	6
total	5	23	42	8	78

Of the Romano-British pottery, a small number of sherds were 1st and 2nd century products, with samian ware, early Severn Valley ware, Savernake ware and an early grey ware represented. The majority of the assemblage was later Roman in date and was dominated by coarsewares. Black burnished ware formed about a third of the total assemblage with datable rim

forms falling into a mid to late 3rd-century bracket. Oxfordshire ware from the 3rd and 4th centuries was present in small quantities, as was a small group of finewares, presumably from a local source.

The predominance of locally manufactured wares and of coarsewares is what would be expected from a rural assemblage. Wider contacts are however indicated by smaller numbers of non-local sherds occurring throughout the chronological range of the pottery.

Other finds included a copper alloy brooch pin from Trench 1, a burnt fragment from the neck of a Roman glass flask and an iron door fitting, both from Trench 3. Spreads of metalworking debris were found in Trench 4 in F11 as well as the fired clay (4.6.5 above).

Botanical samples from layer 4003, the charcoal-rich upper fill of ditch F10, showed the presence of quantities of snails and carbonised material.

#### 4.6.7 Discussion

From the assessments made of this site it is evident that part of a Romano-British rural settlement is represented by the remains here. Although no Iron Age features were recognised (all those investigated contained some Romano-British material), pre-Roman settlement activity must also be suspected. Iron Age pottery found redeposited in Romano-British features presumably derived from earlier contemporary features and levels.

The excavated features, all of which, bar the modern pipe trench, are of Roman date, have been given a context by the geophysical survey. It is possible to suggest that one ditch replaced the other and that both might mark features towards the periphery of a settlement. They might be seen either as field boundaries or as ditches alongside trackways exiting downslope from a settlement to the west. The possible industrial area found in Trench 4 would thus lie towards the edge of the occupied area.

The ditches might also be seen as forming the eastern boundary of the settlement, although topographically it might be expected that the settlement limits would have been on the more

gently sloping ground and thus run on a more north-south line.

It can perhaps be best argued that the western ditch postdated the eastern, the latter possibly deliberately infilled to be replaced by the former which then remained open for some time and continued to receive rubbish from an expanding settlement. The eastern ditch contained by far the greatest quantity of Iron Age pottery (Table 1) as might be the case if it was cut and backfilled earlier than the western ditch. However no temporal relationship could be proven. The finding in a limited area west of the ditches of a pit and possible posthole, F7/F13, and of a possible courtyard or trackway area, must suggest that the trenches were sited within the settlement area. The lowered area F11 might be interpreted as a trackway with an overlying accumulation of rubbish, or as an industrial working area perhaps set a distance away from the settlement. The curious bend in the eastern ditch may perhaps indicate a structure to the north west of the bend.

Fieldwalking in the arable fields to the east and west of Site 6 (undertaken in 1987 and 1992), and in the next but one field to the south (in 1987), shows that the pottery scatter is limited to the site. A possible context might be an upland farmstead of later Iron Age and Romano-British date sited just away from the scarp edge. Roman period farmsteads on the Cotswolds are known to be numerous, mostly recognised by pottery and building stone scatters (RCHM 1976; Rees 1984; Russett 1985). A nearby settlement is known at Marshfield (Rawes 1989, 257) and a later Roman farmstead is suggested at Ironmongers Piece to the north of Marshfield (Blockley 1985).

However, the indications from the pottery that the site was not only probably occupied throughout the Roman period, but also continued from a Late Iron Age site, may suggest that Site 6 is more than a farmstead. The extent of the pottery spread may indicate a larger settlement, as might the finding of the possible industrial working area coupled with the slight indications of complexity in the finds such as the glass fragment. The communication route southward across Charny Down is argued to predate the Roman period (Grimes 1960, fig 81), and it may



be that Site 6 should be seen as associated with a road and as larger than a simple farmstead. In addition a religious origin as suggested by the placename Nimlet cannot be ruled out.

The Iron Age findings, although restricted to pottery sherds, are intriguing, and might suggest that the site should be seen in the context of the Charmy Down Iron Age evidence. There, Iron Age farm sites are suggested towards the edges of the plateau, and these may perhaps be seen as accompanied by similar sites set within a few hundred metres of the higher ground.

#### **4.7 Hartley Farm Limekiln (ASMR 7364; Stage I 11.4)**

##### **4.7.1 Brief**

Field metrical survey of the limekiln remains and its environs, supplemented by trial trenching (if appropriate) and further documentary research, was required.

##### **4.7.2 The site (Fig 14)**

The Stage I assessment noted the existence of a limekiln within the Preferred Route corridor below Hartley Farm and overlooking the Monkswood valley. These are common landscape features dating from the last century and the early years of this. This example is in good condition though somewhat overgrown. Stage II field work recognised that the bank into which the limekiln had been inserted was one of at least three cultivation lynchets running downslope and facing east.

##### **4.7.3 Field survey**

For Stage II, the work undertaken comprised a field survey of the lynchets and of the position of the limekiln within the complex (Fig 14), and

a detailed photographic and drawn record of the limekiln structure as it exists today. Excavation or major clearance was felt to be unjustified at this stage, and further documentary research shed no more light upon its history or origins.

The kiln structure (Fig 15) is of roughly coursed limestone blocks set back into the middle north-south running lynchet. Its width is 4.2m by at

least a similar amount built back into the bank, and its maximum visible height facing east is 1.7m. The upper parts of recesses in the north and south faces must lie above the stoke holes. The southern recess is 1.56m wide and the northern 1.4m. The upper level of the kiln has been lost but would have provided a ridge around the circular inverted cone of the kiln itself. This was choked with soil but sufficient survived to gauge the angle of the sides and thus estimate the likely depth of the kiln. From the surviving top of the kiln upwards the interior face would have been vertical. The east face of the structure is featureless.

#### **4.8 Site 8A Charmy Down Field System (ASMR 1697 and 1706; Stage I 11.5)**

##### **4.8.1 Brief**

A segment of the extensive Charmy Down ancient field system previously disturbed by World War II airfield installations will be destroyed by the Preferred Route south of Hartley Farm. Geophysical survey, combined possibly with further field survey, was proposed as a preliminary to trial trenching of surviving earthworks, or trenching in other areas where archaeological remains were suspected.

##### **4.8.2 The site (Fig 16)**

This sites noted in the Stage I report forms part of a well-known system of ancient remains on Charmy Down. In this sector were recorded in the early 1940s the location of a number of field boundaries (some apparently of more than one phase) of presumed Iron Age date (Grimes 1960, fig 80). These boundaries all run towards the scarp edge and respect a trackway still partly surviving in use today. The airfield buildings have removed most of the evidence, although in general the banks survive as slight earthworks. The field contains a north-south running water pipe with subsidiary supplies running to the east.

##### **4.8.3 Geophysical and field survey**

Initial readings with the geophysical prospection instruments prior to laying out a grid gave wide ranging readings suggesting that no useful results would be forthcoming. The area is

almost certainly contaminated by the disturbances and debris associated with the airfield and more recent activities, and thus no detailed survey was undertaken. Surface inspection throughout this area suggested that the surviving earthworks of suspected ancient origin all corresponded to those recorded in the early 1940s (Grimes 1960, fig 80). No further field survey of these earthworks was therefore deemed necessary for the Stage II assessment.

#### 4.8.4 Trial trenching (Figs 16 and 17)

Three trenches were excavated. All three were intended to intersect a sample of the banks plotted by Grimes and still visible on the ground, as well as sampling areas in between. In the event the northern trench stopped short of the boundary bank, since the bank was found to coincide with a modern service trench. Archaeological information recovered was confined to the two field boundary banks. Modern levels relating to World War II buildings were found in Trench 1, but otherwise the areas away from the banks were featureless.

The banks were unaccompanied by ditches. Both were severely degraded, the southern, F2, surviving to a height of 0.35m and the northern, F1, to only 0.2m. Neither was completely excavated, recording being limited to a plan of the surviving upper levels.

The northern bank, F1, barely survived and this allowed what may have been a core line of large stones to be visible. One of these was 0.6 by 0.35m in plan and together with four others formed a linear arrangement aligned to the bank line and set to its east. The bank's surviving width was 3.7m. The southern bank, F2, was about 5m wide and was formed of large limestone boulders averaging about 0.4m by 0.3m apparently set at random. In both cases the boulders were naturally weathered and set in a soft, sandy, red clay matrix. There was no dating evidence.

These boundary features are discussed with the evidence from Site 9.

### 4.9 Site 8B Hartley Farm Settlement Site (ASMR 1707; Stage I, 11.6)

#### 4.9.1 Brief

Part of the Charny Down earthwork complex, where evidence recorded in the 1940s (Grimes 1960) suggested an enclosure set within remains of the ancient field systems. Further assessment in Stage II required geophysical survey as a preliminary to trial trenching on this suspected site.

#### 4.9.2 The site (Fig 16)

Traces of a small rectilinear enclosure and three field boundaries were plotted as earthworks and from air photographs by Grimes (1960, fig 80). In 1992 these were now barely visible within a pasture field east of the track approaching Hartley Farm from the south.

#### 4.9.3 Geophysical survey (Appendix 2)

Survey of a 60m by 20m area suggested part of an enclosure in a rather different position to that shown by Grimes (1960). Other pit type anomalies were suspected, although ferrous interference was also apparent. In the event the main linear mark suggesting the west side of an enclosure proved to correspond to a modern electric cable trench.

#### 4.9.4 Trial trenching (Figs 16 and 18)

Further assessment involving excavation was by means of three trenches placed in order to intersect the geophysical features and those shown on Grimes' plan, although their position was slightly modified by the presence of a very wet area coincident with the plotted enclosure, which was avoided. The main trench was cut north-south for 60m parallel to, and 22m from the trackway to the west. The two other trenches were located running westward from the main trench. Topsoil cover of 0.2m was removed down to natural and archaeological surfaces, and then cleaned by hand. A further area at the intersection of Trenches 1 and 3 was deturfed by hand at a later stage of the evaluation.

Archaeological horizons were apparent in almost all the areas opened. The exceptions were the northern 15m of Trench 1 and the southern 10m of Trench 2, although in both cases it was not possible to be sure that the weathered natural rock was not a worn yard surface. The natural bedrock surface was of shattered limestone ranging from quite small fragments to larger pieces, which was interrupted in places by pockets of natural clay.

#### **4.9.5 Period 1 - Iron Age and undated (Figs 18-20)**

A slightly raised area of large limestone rocks, F11, in Trench 1 strongly resembled the other exposures of Iron Age banks in Site 8A (4.8) and at Site 9 (4.10). As with two of the other excavated examples, a central spine of large stones was possibly represented by a line of flat stones, F12. This latter feature coincided with the line of the field bank plotted by Grimes (1960, fig 80). The bank itself may represent the east side of a north-south running bank existing in 1940.

A slight ditch, F14, was recorded in the south part of Trench 1. This was a shallow, 0.3m deep, V-sectioned cutting into bedrock filled with brown clay. The feature was aligned to run beneath the Period 2 building but no relationship was established. There was no dating evidence.

#### **Period 2 - medieval (Figs 18-20)**

A building, Building 1, was represented by two parallel walls 3.7m apart (Fig 19). The southern wall, F1, was the best preserved and was 0.8m wide with a single surviving course of facing stones having a filling of smaller material. The lowest course of the northern wall, F3, had presumably been caught by the plough but the facing stones formed a clear linear feature only slightly misaligned. An interior wall to the west, F4, was less clearly represented by a linear spread of flat stones of the same size as those making the more definite wall lines. This internal wall butted up against F1. It marked the west side of a room about 4m east-west which was marked on its east side by a wall, F2, only part of which lay in the excavated area. Like F4, F2 was butted against the south wall F1. An entry to this room from the exterior on the south side was represented by an opening, F13, through the wall F1, with a marked concentration of pitched stones on the

west side perhaps indicating that the door was hung from a post on the east side. To the east of F2, 1.4m of a second room was exposed. Excavation here failed to locate a definite floor level and this was thus formed of the natural rock and clay surface. A third room would have lain to the west of F4. The building's roofing material was indicated by a handful of broken pennant sandstone roof tiles.

On the exterior of the building to the south a possible paved area, F17, 1.5m wide was suggested in Trench 1, abutting the south wall and running alongside it. To the north was a rubbish dump, F19, containing cooking pots smashed where they had been discarded. To the west in Trench 2 it was hard to tell whether the exposed loose rock surface was in fact the natural surface or perhaps a laid yard.

Some 10m further north was the remains of what could be interpreted as a second building, Building 2 (Fig 20). A similar space of 3.7m divided two possible walls F10 and F18, although in both cases the evidence was decidedly impressionistic. The space between the two buildings was marked by clay and stone presumably forming a yard. Further pennant sandstone roof tiles were found to the north of this suggested building, where there appeared to be a stony area, perhaps a yard. A group of rounded fire-stained cobbles, F20, suggested a hearth. Further north the Iron Age bank would have remained an upstanding feature, perhaps explaining the positioning of hearths in its lee. At the western end of Trench 3 a spread of larger stone, F9, may indicate another disturbed wall. Beyond it a hard-packed area of clay and stone may have been a trackway, in which case the wall remains may represent a boundary to the trackway, which has subsequently shifted westward to its present position.

#### **4.9.7 The finds by Lynne Bevan**

Just over 1500 sherds of medieval pottery were collected. The condition of the material was surprisingly good given the evidence for plough damage, with some groups of less fragmented vessels found together. The assemblage included a number of large cooking vessels with most rim diameters varying within the range 16 and 22cm and bases from 18 and 20cm. Two principal



fabrics were noted representing about half the assemblage each, a third fabric was represented by four sherds.

The two main fabrics are closely comparable to Bath A and Bath B/D (Cunliffe 1979). These are commonly found in the west Wiltshire, Gloucestershire and Somerset region with occasional examples of Bath A found further afield in the west Midlands. Bath A is currently dated from the 10th/11th century (at Bath and Trowbridge) to the late 14th century. Bath B/D first occurs at Bath in the 11th century with production ceasing some time in the 13th century (Vince 1983). No kiln sites have been found, but the characteristics of Bath A temper suggest production at a site on the margins of the Upper and Lower Cretaceous series, with the Warminster area a possible source.

Little of the Charny Down pottery was decorated although one sherd in Fabric B/D was found double stamped with a design paralleled amongst pottery from Bath (Cunliffe 1979, fig 65.34). There was also a thumb-impressed lug handle in Bath A fabric.

Sherds in the third fabric, possibly another variant of Bath B/D, may have derived from a single vessel. One was decorated with stab impressions, perhaps made with a small bone, and retained faint traces of green glaze.

The absence of tripod pitchers and jugs, or of any green glazed pottery other than the fragment noted above, suggests that the assemblage can be dated to a period before the 13th century, since pitchers and jugs would have been commonly used by then. This would seem to be a characteristic Saxo-Norman collection of limited forms and fabrics, indicating that site use may have ceased by the mid-12th century.

A sherd of abraded samian and a possible spindle whorl made from the base of a small beaker can both be dated to the Roman period. Post-medieval pottery was noted in the topsoil but not collected. Its incidence is unsurprising in fields ploughed in recent times.

Other finds included an unidentifiable copper alloy coin, perhaps Roman, a pennant sandstone 'rubber' stone used for grinding and sharpening, probably medieval, some pieces of pennant

sandstone roof tile, also medieval in date, a copper alloy plate of indeterminate function, and a 19th or 20th century slate pencil. Fragments of iron included nails, studs, shoe cleats, part of a key, and three blades. Industrial residues were represented by fragments of slag.

#### 4.9.8 Discussion

Only one of the prehistoric field boundaries shown by Grimes as existing in the early 1940s was located. The southern boundary may have lain just beyond the south end of Trench 1, while the slight line of the central boundary may now be interpreted as part of the located medieval farmstead. What is clear is that the farmstead was built within the existing system of still upstanding boundaries which would have been by then over 1000 years old.

The western end of a building, presumably a medieval longhouse, was found, and a possible second building to the north. A domestic context was demonstrated by the cooking pots found and by animal bone, although this occurred in far smaller quantities. The rooms opened within the southern building could not be assigned a use, and might be for animals or humans, or be a ground floor below an upper level as suggested by the substantial width of the surviving outer walls F1 and F3.

The survival as earthworks of the Iron Age boundaries and of an Iron Age farmstead about 200m to the east suggests that Charny Down was not cultivated in the early medieval period but used for sheep, as was the case in more recent times. The medieval buildings found in the evaluation may have originated as a shepherd's shieling and then become a more permanent structure. A relationship with Hartley Farm itself may be suggested, and indeed local continuity of agricultural exploitation and settlement from the Iron Age onwards is possible with various farm sites all within 250m of one another, although of widely different dates.

The discovery of a medieval farmstead on Charny Down must mean a new approach to the data recorded by Grimes. It cannot now be assumed that all the earthwork sites plotted around the periphery of the Down plateau are Iron Age or Roman, although this must remain the most

likely interpretation in the absence of excavation. Presumably other medieval farmsteads and shielings remain to be found if they have survived ploughing and the airfield construction, but these may well not have left evidence above ground, unlike their earthwork predecessors noted by Grimes.

#### **4.10 Site 9 Down Farm Field System (ASMR 7375; Stage I, 11.2)**

##### **4.10.1 Brief**

Field metrical survey of surviving earthworks supplemented by a sample area for geophysical survey within the proposed line of the road was required. A further phase of selective trial excavation was to be determined on the basis of previous survey results.

##### **4.10.2 The site (Fig 16)**

The field to the north of Down Farm contains the last surviving examples of the unploughed Iron Age field system known to have covered much of Charny Down in the 1930s (Grimes 1960). These have subsequently been much reduced by ploughing or totally destroyed. A large proportion of this survival lies within the Preferred Route.

##### **4.10.3 Field survey**

A previous metrical survey of the upstanding earthworks undertaken for Avon County Council could not be located and a new survey of the whole system surviving in this field was undertaken at 1:500. Portions of low, linear grassed field banks in a more recent permanent pasture field were surveyed. The banks appeared to be of collapsed stone rubble, thinly covered with turf and defining parts of rectilinear field plots. An entrance between fields is apparent at one point but there is no indication of settlement earthworks here.

##### **4.10.4 Geophysical survey (Appendix 2)**

One survey area, 100m x 20m was laid out to sample field boundaries and intervening areas, and in particular to cover an area where an entranceway between fields seemed likely from the earthworks. The survey suggested some possible pit-like features and recorded anomalous readings, as might be expected, over the banks. There was no data from the area of the

entranceway. Ridge and furrow formations were recorded, and these could be seen to conform with very slight surface ridge and furrow surviving in places.

##### **4.10.5 Trial trenching (Fig 21)**

Two excavation trenches, Trenches 1 and 4, were machine excavated within the fields themselves to test their archaeology. Both were partially hand cleaned to the natural bedrock and both proved devoid of archaeological features. The main focus of attention was a hand dug trench, Trench 3, across a section of bank which was carefully dismantled to the underlying natural surface. A second trench, Trench 2, was laid out over the entranceway and the turf was removed by hand to expose the archaeology.

##### **4.10.6 Results (Fig 22)**

On the removal of the turf and topsoil cover in Trench 2 an area of densely packed large stones was cleaned and recorded. The surface gave the impression that traffic had crossed it - boulder surfaces were worn and the surface appeared compacted. There were no limits to the surface in the exposed area. The archaeology seemed surprisingly complex and was deemed better examined in more detail at a later date and with greater resources if appropriate.

A passageway between fields must be assumed here from the disposition of field boundaries. The evidence from the small area examined suggests two possibilities, one that this entrance was blocked and then reused, and a second that an earlier bank layout underlies the fields apparent as earthworks.

In Trench 3 the exposed bank was about 5m wide and 0.4m high, and made up of large weathered stones generally 0.2 by 0.2 by 0.1m deep. These appeared to have been randomly deposited. A lower layer of boulders was set in a brown clay matrix while the upper layer was set in a soil matrix. The bank sealed a layer up to 0.2m thick of orange clay.

An exceptionally large stone, which remained partly in the section, may well have formed part of a marking out line. The boulder was 0.6m by at least 0.6m by 0.25m deep. This stone was set well to the south of the existing bank. There was a suggestion therefore that this was the centre

line of a primary bank, and that the northern part of the bank was a secondary addition. This suggestion was enhanced by the observation that boulders tended to be slightly pitched about 2.5m from the northern edge, perhaps indicating a more rounded bank profile over the spinal line of large stones, against which further stones were placed in the course of time.

#### 4.10.7 Discussion

There do not appear to be ditches accompanying the banks, and the banks appear not to be revetted with drystone facing walls. Instead the structure seems to have more than one phase with additional material added over the course of time. The large boulders at Site 9 are complemented by the line of larger stones found at both Sites 8A (4.8) and 8B (4.9), both of which are also slightly off centre. Thus an initial laying out of stone boundaries appears to mark a planned allotment. Whether this was also the initial laying out of field boundaries is not clear, since work on Dartmoor has shown that some stone boundaries overlie a slight earthen bank (Fleming 1988, fig 42b). The buried soil found at Site 9 may have originally been a bank.

The stone structure of the bank seemed quite random and it may be suspected that the banks were not intended to be very much higher than they are today. The absence of a retaining wall and the apparently haphazard deposition of boulders would mean that this was not the foundation for a structure of height such as a drystone wall. The banks may have been topped by hedges as has been suggested elsewhere (Fleming 1988, fig 52).

Within the field, the opportunity exists for relating sections of bank and unravelling sequences. Work at this stage in Trench 2 suggested that larger areas needed to be carefully recorded and dismantled. Equally, the small section cut across a bank at Trench 3 was insufficient to properly demonstrate the presence or absence of structure, and the nature of the buried surfaces.

Although essentially the last undisturbed area of the Charmy Down field system still surviving, the geophysical survey indicated an episode of ridge and furrow cultivation within the ancient

field plots and just visible on the ground. This may be dated to the medieval period.

## 5 DISCUSSION AND ASSESSMENT OF ARCHAEOLOGICAL DATA

### 5.1 Summary of Results

The Stage II assessment has confirmed the existence of a barrow at Site 2 (4.2), as suggested by ground evidence and previous fieldwork. Excavation has shown that little remains of the barrow, but two inhumations found nearby may indicate an associated cemetery of later date. At Site 6 (4.6) the existence of a Romano-British farmstead and the possibility of an Iron Age predecessor is suggested. The evidence is probably confined to pits and ditches with surface features damaged by the plough, except in an area sealed by hillwash deposits. On Charmy Down a medieval farmstead has been located within a prehistoric field system at Site 8B (4.9), and excavation of ancient field boundary banks at Sites 8A (4.8) and 9 (4.10) has indicated that much useful information remains to be gathered from further investigation of the remnants of this ancient landscape.

Indications of the existence of archaeological features at Sites 3 (4.3), 4 (4.4), and 5 (4.5) have been examined and shown to derive from natural or modern features. Upstanding remains and surface features have been recorded at Site 7 (4.7) without excavation. Fieldwalking at Site 1 has failed to find a focus for further work.

### 5.2 Significance of Results

5.2.1 In Appendix 1 the archaeological value of each site is assessed in terms of a set of criteria defining rarity, contemporary setting, survival and vulnerability, complexity, and lastly its potential; and a summary of recommendations for its future management is provided.

#### 5.2.2 Site 2 (4.2)

This site is an example of a relatively common type of prehistoric funerary monument. Relatively little of the barrow now survives; however, good quality environmental, artefactual, chronological, and construction technique data can often be recovered in barrow excavations, and complete excavation of the surviving remnant should provide significant results. Relatively recent



barrow excavations have taken place on Charmy Down (Williams 1950; Grimes 1960), and a number of others in the locality were examined in the 19th century. Excavation of Site 2 would allow the data to be set against an existing body of information, regionally and nationally. Perhaps the greatest potential of the site lies in the discovery of an associated cemetery. The location of this site apparently as the focus of an ancient route, its proximity to parish boundaries, and its identification with the name 'Mouse barrow', raises the possibility of its use as a focus for much later burial in the Romano-British or pagan Anglo-Saxon periods. The potential social and chronological evidence from these burials will be of regional significance.

#### 5.2.3 Site 6 (4.6)

The key to a full understanding of Site 6 probably lies to the west of the area examined and outside the Preferred Route, where the evidence suggests the main focus of settlement survives. There may be some survival of structures above the old ground surface as is suggested by the possible exterior cobbled yard found, but judging by the abraded nature of the pottery in the ploughsoil this would seem unlikely. If there were still surviving stratigraphy it would probably show after each ploughing in the form of freshly broken and relatively large pottery sherds together with some evidence of building materials. This was not observed and the surviving archaeology must be presumed to be in negative features such as pits and ditches.

Site 6 appears to be a representative of a relatively common site type - a Romano-British rural agricultural settlement with Iron Age origins. Despite its plough damaged status and thus relative devaluation, a number of factors, the presence of pottery ranging from the Late Iron Age to the late Roman period, the location of the site within the hinterland of Bath, the proximity of Charmy Down and its relationship with that originally more extensive ancient landscape, and the nearby placename Nimlet, give the site an added significance.

#### 5.2.4 Sites 8A, 8B, and 9 (4.8, 4.9, 4.10)

The Charmy Down sites, Sites 8A, 8B, and 9, together represent the most important findings

and potential demonstrated by the Stage II assessment. The archaeology of Charmy Down itself should be seen as of national importance in view of the completeness of the remains on the plateau until 1940. The Down represents an economic unit from the perspective of historical geography, a perspective exploited brilliantly by Grimes (1960). Other work has recently been undertaken on the Down by the Bath Archaeological Trust, and the Royal Commission on Historical Monuments has expressed an interest in the potential for more fieldwork (Peter Davenport pers comm). The combination of settlement possibilities from the Mesolithic period onwards, with a landscape of Iron Age and Romano-British fields and farms, and the new information relating to medieval exploitation deriving from this project, makes this an area of considerable archaeological importance.

The sectioning of field banks must be seen in this wider perspective. The survival only at Site 9 of banks undamaged by the activities of the last half century make this a crucial area for their interpretation. The importance of the medieval settlement remains at Site 8B can be asserted in its own right. Apart from plough damage, which though serious is not yet terminal, the site is little disturbed or altered at ground level. There is a good possibility that the complete farmstead plan can be recovered, together with a representative sample of its artefactual components, and data illuminating its economic and social basis.

#### 5.2.5 Sites 1, 3, 4 and 5 (4.1, 4.3, 4.4, 4.5)

At this group of sites the Stage II assessment has produced largely negative archaeological results. At Sites 1 and 3 no foci of significant archaeological potential could be identified, while at Sites 4 and 5 the foci of interest identified in Stage I proved to be combinations of relatively modern agricultural features with natural geological phenomena. While no further specific archaeological investigation appears warranted at these sites, their potential cannot be wholly discounted.

#### 5.2.6 Site 7 (4.7)

This is primarily a monument of relatively recent origin with a local importance as a well-

known class of post-medieval agricultural/industrial site. Having surveyed the remains and their immediate context as currently surviving no further recording or exploration would be required until the site faces obliteration in the course of road construction works.

### 5.2.7 Mile and boundary stones

A group of monuments was identified in the Stage I assessment report as requiring protection or conservation should the Preferred Route be adopted (Table 2). Of these only ASMR 7335 will be affected by the new roadline (see also Appendix 3).

**Table 2: Portable items recommended to be protected, resited or curated in the Stage I assessment**

ASMR	Description	Stage I assessment symbol	NGR	Remarks
7396	boundary stone	Fig 1 S	ST 75737760	not located 1991
7335	milestone	Fig 1 N	ST 75257693	
3612	boundary stone	Fig 1 U	ST 74777484	
3603	milestone	Fig 1 Z	ST 74707459	
7421	milestone	Fig 3 X	ST 74637153	not located 1991
7422	boundary stone	Fig 3 Y	ST 74517091	not located 1991
7423	milestone	Fig 3 Z	ST 75107022	not located 1991

### 5.2.8 Overview

Both the Stage I and Stage II assessments have demonstrated the existence of a Bronze Age burial site (the Mouse Barrow), as well as suggesting from flint scatters the possibility of others. On Charmy Down later prehistoric remains have been found in good condition and there is potential for Iron Age deposits surviving at Site 6. A Romano-British settlement is indicated there and occasional finds of Romano-British pottery have come from Sites 2, 5 and 8B. A Romano-British or post-Roman cemetery is suspected as a later accompaniment to the Bronze Age barrow or barrows at Site 2. Medieval finds include the farm site on Charmy Down and the lynchet at Site 7 (although this may be prehistoric in origin). Post-medieval survivals include the limekiln at Site 7, parish boundary stones, and the milestones from the 19th-century turnpike. Archaeology from all periods from the Late

Neolithic/Early Bronze Age to the 19th century is thus represented.

In all cases except Sites 7, 8A and 9 the archaeology has been under the plough. In addition there has been modern damage on Charmy Down.

Parts of the roadline have not been fieldwalked, either because access opportunities did not arise in the Stage I work, or because fields were down to pasture. No further general assessment of the route by means of fieldwalking, geophysical survey, augering, soil pit, or trial trench excavation formed part of the Stage II programme. Apart from the Charmy Down coverage, none of the air photographic evidence has derived from specifically archaeological photographs. In favourable conditions Sites 6 and 8B might be considered to be the types of site which would yield cropmarks visible from the air. The fact that they do not appear on the existing coverage might suggest the limitations of the available air photographs.

## 6 THE IMPACT OF DEVELOPMENT UPON THE ARCHAEOLOGICAL RESOURCE

### 6.1 General

6.1.1 On those sites assessed in Stage II where archaeological remains and deposits have been demonstrated to survive in situ, all are present within a zone less than 1 metre deep. The great majority lie directly upon an old ground surface or subsoil/bedrock horizon, or within relatively shallow cuts into that horizon, beneath a shallow modern ploughsoil or turf/topsoil rarely exceeding 0.2m depth.

In these circumstances it must be assumed that everything found which lies within the proposed road construction corridor will suffer severe or total destruction. At those sites where any downcutting for the road or its foundations is envisaged this will be inevitable. Wherever embankment and makeup above existing ground levels is required the disturbance or compaction of the existing surface will still result in substantial if not total destruction of any resource, since none sampled penetrated more than 0.70m below present ground level.

## **6.2 The Sites**

### **6.2.1 Site 2 (4.2)**

This locality and the remains of the barrow here have already been seriously damaged by road widening. Construction of the Preferred Route here would result in the remainder of the barrow being destroyed. The full extent of a suspected inhumation cemetery of later date around the barrow was not established but the shallow depths of those graves located suggests that these and any others within the road construction corridor would be obliterated.

### **6.2.2 Site 6 (4.6)**

The road construction corridor affecting Site 6 will destroy or severely damage all the sub-surface evidence of this settlement, even where burial beneath any embankment is envisaged. The presence of shallow hillwash deposits above some archaeological features is unlikely to provide any significant protection, and it should be noted that the full extent of remains within the Preferred Route corridor may not have been established to the north and south.

### **6.2.3 Site 7 (4.7)**

The remains of this monument will be totally destroyed during road construction works within the proposed corridor here. Although its surface remains are fully recorded, further sub-surface evidence probably survives and will require investigation and recording prior to and during removal.

### **6.2.4 Sites 8A, 8B and 9 (4, 8, 4.9 and 4.10)**

Within the road construction corridor all upstanding and sub-surface remains at these sites will be totally destroyed. The extent and potential of Sites 8B and 9 have been well defined in the Stage II assessment. Site 8A was effectively only a sample of the ancient field system earthworks around Hartley Farm, other elements of which may still survive within the proposed route line among structures and disturbances relating to the World War II airfield.

### **6.2.5 Stage I Sites**

Several sites identified in Stage I but not assessed further in Stage II, will be affected by the Preferred Route, all apparently of post-medieval origin. These comprise quarries

(ASMR nos. 7350, 7336, 3611, 7347 and 7376), modern buildings (ASMR 3913 and 7386), a pond (ASMR 7381) and a well (ASMR 7361). Milestones and parish boundary stones require some further protection. (Table 2; 5.2.7)

### **6.2.6 Other Sites**

The World War II remains on Charny Down will be destroyed on the line of the Preferred Route.

## **6.3 Non-assessed Impact**

**6.3.1** It should not be assumed that the impact upon archaeological resources is restricted to those sites identified and assessed at Stage I and at Stage II in this report. Some basic data for site recognition was not obtained or available for certain sections of the route. Areas between Sites 3 and 4 and between Sites 4 and 5 could not be fieldwalked at Stage I, and, as was noted above (5.2.8), no further programme of route assessment beyond site specific evaluations was formulated for Stage II. It has also been noted (5.2.8.) that the non-appearance of Sites 6 and 8B on available air photographs implies that the existing coverage is of limited archaeological value.

Whatever the level of assessment undertaken for a scheme of this type and scale, and given the nature of archaeological remains and their survival, it must always be recognised that some potential for unrecognised archaeological resources will remain. In these circumstances it must be envisaged that some remains of archaeological significance will only come to light during the course of earthmoving operations within the road construction programme.

## **7 RECOMMENDATIONS**

**7.1** Following the presentation of data from the Stage I and Stage II assessments a series of recommendations relating to a Stage III response is offered, once the proposed scheme for reconstruction of the A46 between the M4 Tornarton and Upper Swainswick is approved.

### **7.2 Site Specific Recommendations**

**7.2.1 Site 2 (4.2)** Full archaeological excavation of the remains of the round barrow will be required prior to road construction



ground works. Further exploratory work should seek to determine the extent of the adjacent inhumation cemetery and provision be made for the excavation of all remains located within the proposed road corridor here. Some additional investigation of the area of the present road verge immediately east of the surviving barrow remains should take place.

The remains here, though significant, are not of sufficient national importance to warrant any redesign of the proposed road line; their preservation by full archaeological record being an acceptable alternative. Extensive preliminary topsoil stripping under archaeological supervision should expose all of the surviving barrow remains for excavation, along with those inhumation burials already located and any others suspected to lie within the extent of the road corridor. Further geophysical survey immediately preceeding the excavation may help locate any such graves. At the same time, additional exploratory work on the present road verge may determine whether any remains of the barrow still survive there, in which case these should also be recorded in excavation. A maximum allowance of four weeks will be required for archaeological excavations, preferably following compulsory land purchase but prior to the commencement of road construction works in this area.

**7.2.2 Site 6 (4.6) Full archaeological excavation of features and deposits relating to that sample of the suspected Iron Age and Romano-British settlement lying within the road construction corridor will be required in advance of works commencing. Further exploration by geophysical survey should seek to verify the full extent of remains north and south of the area assessed in Stage II, and excavations be extended as appropriate.**

The remains here, though significant, are not of sufficient national importance to warrant any redesign of the proposed road line to ensure their physical preservation. An acceptable alternative, resulting in preservation by full archaeological record, would involve extensive preliminary topsoil stripping of areas containing settlement remains within the road corridor, prior to their excavation and recording. Further geophysical

survey within the corridor north and south of the Stage II assessment would better define the area for topsoil removal and excavation. An additional option would permit some limited sampling by excavation of associated remains continuing just beyond the confines of the road corridor. A maximum period of four weeks should be allowed for the archaeological excavation of these remains, preferably following immediately upon compulsory purchase of the road corridor but prior to road construction works in this area.

**7.2.3 Site 7 (4.7) Full exposure and further recoding of the limekiln remains is required prior to their destruction in the course of road construction works. Trial trenching at this time should seek to verify the existence of any other associated below-ground remains and to record as appropriate.**

The remains at this site, though significant, are not of sufficient national importance to warrant any redesign of the proposed road line to ensure their physical preservation. An acceptable alternative, resulting in preservation by full archaeological record, would involve full exposure and dismantling of the structural remains under archaeological supervision accompanied by some adjacent trial trench excavation. Up to one week should be allowed for additional excavation and recording of this site, preferably within the period immediately following compulsory purchase of the road corridor but prior to the commencement of road construction works in this area.

**7.2.4 Site 8B (4.8) Full archaeological excavation of the entire medieval farm site and its immediate environs, all of which appears to lie within an area to be affected by road construction, is required in advance of those works.**

The remains here, though significant, are not of sufficient national importance to warrant any redesign of the proposed road line to ensure their physical preservation. An acceptable alternative, resulting in preservation by full archaeological record, would involve preliminary topsoil stripping of the settlement site and further trenching in its vicinity. Such is the vulnerability of the remains demonstrated in the Stage II evaluation that this approach is justified, even in

relation to the currently proposed road junction works here which may not completely obliterate the site. A maximum period of three weeks should be allowed for the archaeological excavation of these remains, preferably following immediately upon compulsory purchase of the road corridor but prior to road construction works commencing in this area.

**7.2.5 Sites 8A and 9 (4.8 and 4.10)** At both locations substantial samples of the upstanding boundary features lying within the proposed road corridor will require full archaeological excavation in advance of works commencing. Fieldwork along the corridor at the commencement of road construction, north and south of Site 8A, may identify additional elements of the ancient landscape requiring similar sample excavation and recording.

The remains at these sites, though significant in a wider context of the Charmy Down field system, are not of sufficient national importance themselves to warrant any redesign of the proposed road line to ensure their physical preservation. An acceptable alternative, resulting in preservation by full archaeological record, would involve some topsoil stripping and the dismantling of substantial segments of the upstanding field banks. At Site 9 an area excavation would involve an entrance and the junction of several banks. Other portions of ancient boundaries, which may only come to light in the early stages of earthmoving in the vicinity of Site 8A will have to be recorded as part of the general monitoring programme (7.3.1). Up to three weeks should be allowed for excavation works at these sites, preferably following immediately upon compulsory purchase of the road corridor but prior to road construction works commencing in this area.

**7.2.6 Tolldown milestone (ASMR 7335)** This milestone, identified in the Stage I assessment (Erskine and Russett 1991, 13), should be removed to a safe place during road construction works and be subsequently repositioned as close as possible to its original site.

This milestone appears to be the only monument of this type directly affected by the proposed route, and its current location does not

justify any redesign of the corridor, providing that it can be relocated. Should any subsequent modifications be made to the course of the current Preferred Route which affect other monuments of this class (milestone and boundary markers) identified in the Stage I assessment, similar provision must be made for their relocation or protection in situ as appropriate.

**7.2.7 World War II features, Charmy Down.** These should be recorded photographically and a basic record of building measurements taken. A descriptive text should be prepared for the County SMR. (Appendix 1, 6)

### **7.3 General Recommendations**

**7.3.1** An archaeological watching brief should be maintained throughout the road corridor during the initial stages of earthmoving and in connection with other contractor's excavations for structural foundations, drainage ditches, etc.

Access for archaeological salvage and recording purposes should not imply any delay or hindrance to the road construction programme except in very exceptional circumstances. This recommendation could provide significant supplementary information at or adjacent to the sites identified in Stages I and II, and may contribute data on new archaeological sites in sectors where previous assessment failed to locate any remains.

**7.3.2** Care should be taken with the location of access points, storage areas or other activities subsidiary to the road corridor relative to Sites 2, 6, 8A and B and 9, to avoid damage to any portions which may lie outside the scope of this assessment. The same caveat to apply should any significant change to the currently Preferred Route be adopted.

The Stage I report (Erskine and Russett 1991) identifies a range of sites and monuments currently outside the line of the Preferred Route, whose importance and sensitivity should be noted in the event of such circumstances arising (Appendix 3). The importance and sensitivity of remains on Charmy Down and adjacent to Sites 2 and 6 should be emphasised, and disturbances limited strictly to the agreed road corridor at these localities.

7.3.3 Excepting the work recommended under 7.3.1. (above), the archaeological works recommended as part of a Stage III response (7.2) would ideally be undertaken in a period between the Department taking possession of the land and Contractor's road construction works commencing.

All the recommended fieldwork could be undertaken within a six week period, subject to availability of the sites for investigation and allowing for concurrent work programmes. In the event of problems arising with this timetable, and subject to suitable arrangements with individual landowners, some or all of this

fieldwork programme could be undertaken prior to compulsory purchase and possession of the road corridor.

7.3.4 The detailed results of all fieldwork undertaken at Stage II and at an agreed Stage III must be processed, analysed and made available for publication according to a format and procedure recommended by English Heritage (MAP.2).

This requirement will be an integral part of any detailed proposals for a Stage III programme and resourced accordingly.

## Appendix 1: Site summaries

### Stage II assessment sites recommended for further work

#### **1 Site 2: Barrow and inhumation cemetery, Tolldown (4.2 above)**

**1.1 Description:** Round barrow recognised by Grinsell in 1953, interpretation confirmed by excavation in 1992. A slight, circular barrow ditch and hint of an internal revetment slot lie beneath the spread clay of the barrow itself. Earlier features buried beneath the barrow are possible. Nearby, two graves with inhumation burials were potentially representatives of a later cemetery.

**1.2 Period:** Bronze Age; ?Romano-British/Anglo-Saxon. Possible pre-barrow features.

**1.3 Rarity:** There are a number of round barrows known in the area - many have been destroyed through various agencies in this century. Later inhumation cemeteries associated with barrows are unusual but are occasionally documented elsewhere in Britain.

**1.4 Documentation:** ASMR 1965; O'Neil and Grinsell 1961; Erskine and Russett 1991

**1.5 Group value:** Fieldwalking has not yielded evidence of associated settlement or other barrows. The evidence of Grinsell and the layout of roads suggest that there may have been a group of barrows at this site. The presence of ?later burials suggests a formerly important and long surviving feature in the landscape - the 'Mouse barrow'.

**1.6 Survival/condition:** Much of the barrow has been removed since 1953 and other suggested barrows have vanished; ploughing has spread and lowered the barrow material. The inhumation ?cemetery is of unknown extent, but bone preservation is good and other burials probably survive.

**1.7 Fragility/vulnerability:** ploughing will continue to denude the barrow and may disturb the burials in time. Road development will erase

all the features.

**1.8 Diversity:** As well as the barrow itself, possible earlier features are suggested, and traces of other barrows may still survive.

**1.9 Potential:** Data on the barrow structure and associated artefacts would be valuable and comparable with that from other excavated monuments. Excavation could provide environmental data from beneath the barrow and from the barrow itself, although the assessment results were not promising. Study of human bones from any cemetery would provide socio-economic and dating evidence.

**1.10 Recommendations:** Diversion of the road to avoid the small amount of barrow remaining cannot be justified, and preservation by record through archaeological excavation is suggested. The limits of the inhumation cemetery need establishing by further geophysical survey, followed by full excavation.

#### **2 Site 6: Iron Age and Romano-British settlement at Nimlet (4.6 above)**

**2.1 Description:** A Roman site, possibly a farmstead but more likely a larger settlement, is marked by a spread of Roman pottery in the ploughsoil. Excavation revealed Romano-British ditches, a lowered area, a pit, and a possible yard surface. Prehistoric pottery suggests an earlier phase.

**2.2 Period:** Late Iron Age to later Roman, with pottery predominantly of the 3rd and 4th centuries AD. The evidence does not indicate any break in continuity of occupation.

**2.3 Rarity:** Romano-British settlement sites are common on the Cotswolds and many may well have Iron Age antecedents. Most have been recognised from fieldwalking observations of pottery and building stone scatters, but relatively few have been excavated.



**2.4 Documentation:** Ellis 1987.

**2.5 Group value:** the value of the site is enhanced by its proximity to Bath, to Roman sites on Lansdown and at Marshfield, and to the Charmy Down Iron Age and Romano-British landscape.

**2.6 Survival/condition:** Plough damage is marked by fieldwalking finds and by absence of stratified levels in the upper part of the area examined, although a yard surface was possible. The site now survives in the form of pits and ditches and their contents. Downslope features are sealed beneath a hillwash layer.

**2.7 Fragility/vulnerability:** The site remains vulnerable to plough damage. Road construction works in the Preferred Route corridor will probably erase all the archaeology.

**2.8 Diversity:** The ditches seem likely to represent different phases and one is later than a possible industrial area. The dating evidence suggests four centuries of occupation.

**2.9 Potential:** The layout of the settlement may be recovered and differing functional areas recognised. Material from hillwash sealed features may yield environmental evidence. The pottery assemblage can usefully be compared with assemblages from Bath. Possible Iron Age settlement evidence may be found which can be set in the context of the Charmy Down data.

**2.10 Recommendations:** Preservation by record through archaeological excavation of the threatened area is the recommended option, together with limited sampling of the archaeology of the remaining settlement outside the main roadline.

### **3 Site 7 Limekiln, Hartley Farm (4.7 above)**

**3.1 Description:** Remains of a stone-built limekiln, set into an earlier field lynchet, one of a set of three here.

**3.2 Period:** A 19th-century structure with possible earlier post-medieval antecedents. The lynchets are medieval or earlier.

**3.3 Rarity:** A very common historic agricultural feature usually recorded as an industrial monument. Identified as a Type C kiln (Taylor 1989, 22).

**3.4 Documentation:** Erskine and Russett 1991, 29.

**3.5 Group value:** Some possibility of an earlier kiln or of associated contemporary structures.

**3.6 Survival/condition:** The visible structure is relatively well preserved, although partly buried and obscured by vegetation.

**3.7 Fragility/vulnerability:** Although not at present directly affected by current land use, the site will be completely destroyed in the course of proposed road construction.

**3.8 Diversity:** The structure appears to be of one period - probably built early in the 19th century.

**3.9 Potential:** Further clearance and a more complete recording of the surviving structure can be accomplished for comparative data with similar contemporary sites. The possibility of a predecessor and/or associated structures in the immediate vicinity should be tested at the time of its removal.

**3.10 Recommendations:** Recording of the surviving structure should be completed at the time of its demolition. Any below ground remains to be investigated and recorded if encountered at this time.

### **4 Site 8B: Medieval farm site on Charmy Down (4.9 above)**

**4.1 Description:** A farm site set within a known system of Iron Age fields and farms. The evidence comprises part of a house, yards, and a possible hearth.

**4.2 Period:** Occupation from the late Saxon period to the 12th century is indicated by the pottery.

**4.3 Rarity:** Medieval farm sites are not uncommon, although hitherto unknown on Charmy Down. The apparent abandonment of the site c 1200 increases its rarity value.

**4.4 Documentation:** None

**4.5 Group value:** The site lies in a field where former earthworks suggest an Iron Age farm site, and is near an existing 18th-century farm. Thus the site may be seen as one of a succession of farms within a long period of agricultural exploitation on Charmy Down.

**4.6 Survival/condition:** The lowest course of a stone building survives, and demolition material was found over surfaces contemporary with the building. Archaeological levels may survive substantially intact.

**4.7 Fragility/vulnerability:** The site is being damaged by the plough. The evidence suggests that the archaeological horizons are very thin. The site is vulnerable to further ploughing and will not survive road construction.

**4.8 Diversity:** The medieval settlement site incorporated existing prehistoric features.

**4.9 Potential:** The opportunity exists to analyse building functions, different use areas, and the relationships of various elements of the farm site. While no evidence suggested a complex sequence from the trial trenches, changing building uses may be revealed. The artefactual and faunal data will relate solely to the use of the site which itself, on present evidence, belongs in a relatively short time-frame. There may be indications of earlier structures, perhaps of timber, from which the farm developed.

**4.10 Recommendations:** Preservation by record through archaeological excavation is proposed for these vulnerable remains. Further geophysical prospection may indicate the main features and the limits of the site. It should be possible to achieve total excavation and recovery of all the surviving archaeology of this site.

**5 Sites 8A and 9: Iron Age field banks on Charmy Down (4.8 and 4.10 above)**

**5.1 Description:** Banks of stone surviving to a height of 0.3 to 0.4m should represent Iron Age field boundaries formerly covering much of Charmy Down. Structurally the banks seem to be laid out on an initial line of marker stones. Soils beneath may represent ancient buried soils or a preceding earthen boundary.

**5.2 Period:** Prehistoric. Assumed to be of Iron Age origin although there is no intrinsic dating and little to distinguish prehistoric or Romano-British field boundaries in different periods.

**5.3 Rarity:** On Charmy Down the Site 9 group is the last remaining set of boundaries which have not been ploughed this century nor damaged by the airfield. Prehistoric field boundaries are

common in southern England, although many have been lost this century and the remainder are fast disappearing. Very few have been examined by extensive modern excavation.

**5.4 Documentation:** Grimes 1960; air photographs from the 1930s onward held at Avon County Council and at the National Monuments Record.

**5.5 Group value:** As part of the field systems recorded by Grimes

**5.6 Survival/condition:** At Site 9 the condition of the banks is excellent, at Site 8A poor.

**5.7 Fragility/vulnerability:** The evidence survives almost entirely above ground level, hence they are highly susceptible to damaging agents. They will be largely erased by the road in these areas.

**5.8 Diversity:** There is some evidence from the limited excavation at Stage II that there are phases of bank construction, and that there are rearranged layouts at the suggested entranceway.

**5.9 Potential:** Attention can be focused on the construction method itself and on the buried ecofacts. Evidence from the former can widen perspectives on the function of the Charmy Down field system, on any changes to it, and on the resources of the Iron Age community, as well as providing valuable comparative data for such remains elsewhere. Evidence from environmental samples may suggest the contemporary and pre-field system environments giving data on agricultural activity and on palaeoecology, although samples collected at Stage II contained no environmental ecofacts.

**5.10 Recommendations:** Rerouting the roadline to avoid these few remaining banks cannot be justified. Preservation by record through archaeological excavation is the preferred option. A minimum total length of bank - perhaps 50m - should be dismantled and recorded in detail and environmental samples taken from buried soils. The junction of field boundaries at Site 9 should be examined in detail, although this lies just outside the roadline. The work would be concentrated at Site 9, but bank sections at Site 8A should also be examined and contrasted with those at Site 9.



## **6 World War II airfield features, Charmy Down**

**6.1 Description:** Nissen huts, a guardhouse (with cells) and other temporary domestic and technical buildings, a blast proof bunker, and a number of concrete footings, survive within the Preferred Route line. These are of brick, concrete and corrugated iron, representing standard mass-produced military architecture.

**6.2 Period:** Built 1941, occupied August 1941-December 1945.

**6.3 Rarity:** There were a number of airfields in Avon (then Somerset and Gloucestershire) and Wiltshire. Some World War II structures are still in use but most of the airfields were levelled after the war.

**6.4 Documentation:** Roberts 1981.

**6.5 Group value:** The control tower, the runways and access routes, and a number of blast proof airplane shelters also survive on Charmy Down.

**6.6 Survival/condition:** The guardhouse is currently inhabited, others are used for farm buildings. Many have been demolished and survive as footings only.

**6.7 Fragility/vulnerability:** The road construction will destroy many of these buildings. They are reasonably resistant to other destructive agencies although in the long term they will disintegrate.

**6.8 Diversity:** These belong uniformly to a single 20th-century military presence.

**6.9 Potential:** Twentieth century military archaeology consists as yet of nothing more than preservation and record (eg English Heritage's Dover Castle work). No attempt has been made to address the potential of the material or to establish criteria for preservation.

**6.10 Recommendations:** Any structures within the Preferred Route need to be recorded prior to road construction by means of photographs, graphics and a written record.

## Appendix 2: Stage I recommendations

The following gazetteer relists sites noted in the Stage I report (Erskine and Russett 1991) into three groups. Group 1 comprises sites on the roadline (other than those examined at Stage II) for which no Stage II work was deemed useful, Group 2 comprises vulnerable sites near the road line, and Group 3 comprises sites which will not be affected by road construction. The Avon Sites and Monuments record number is given first, followed by reference to the figure in the 1991 report. The order follows that in the text.

**Group 1:** Sites on the Preferred Route line which will require special attention during the watching brief (7.3.1).

7389 Fig 1 A field with flints finds

7342 Fig 1 B lane

7350 Fig 1 Q quarry

7336 Fig 1 S quarry

7347 Fig 1 Y quarry

7381 Fig 2 N pond

7358 Fig 2 T wall and track

7386 Fig 3 A standing building

7367 Fig 3 K quarry

**Group 2:** Sites close to Preferred Route which should be drawn to the attention of road construction contractors and given protection if necessary

7396 Fig 1 \$ boundary stone (not located 1990)

7335 Fig 1 N milestone

3603 Fig 1 Z milestone

3913 Fig 2 H ruined building

7361 Fig 3 E well and wind pump

7423 Fig 3 Z milestone (not located 1990)

7354 Fig 2 I Anglo Saxon 'herepath'

6345 Fig 2 O Anglo Saxon 'herepath'

6133 Fig 2 P park

**Group 3:** Sites outside the Preferred Route corridor. No further action required.

7390 Fig 1 C ponds

7339 Fig 1 D gardens

1966 Fig 1 E round barrow

1967 Fig 1 E cropmark

4452 Fig 1 E round barrow

7338 Fig 1 G quarry

7337 Fig 1 I standing building

7349 Fig 1 J standing building

7388 Fig 1 K crop mark

7340 Fig 1 L pond

7341 Fig 1 M ruined building

2854 Fig 1 O standing building

7334 Fig 1 R quarry

7343 Fig 1 T standing building

7344 Fig 1 T standing building

7345 Fig 1 V garden

7346 Fig 1 V garden

2349 Fig 1 W standing building

2013 Fig 2 A Romano-British burials

2010 Fig 2 B road

7348 Fig 2 C spring

4465 Fig 2 D round barrow

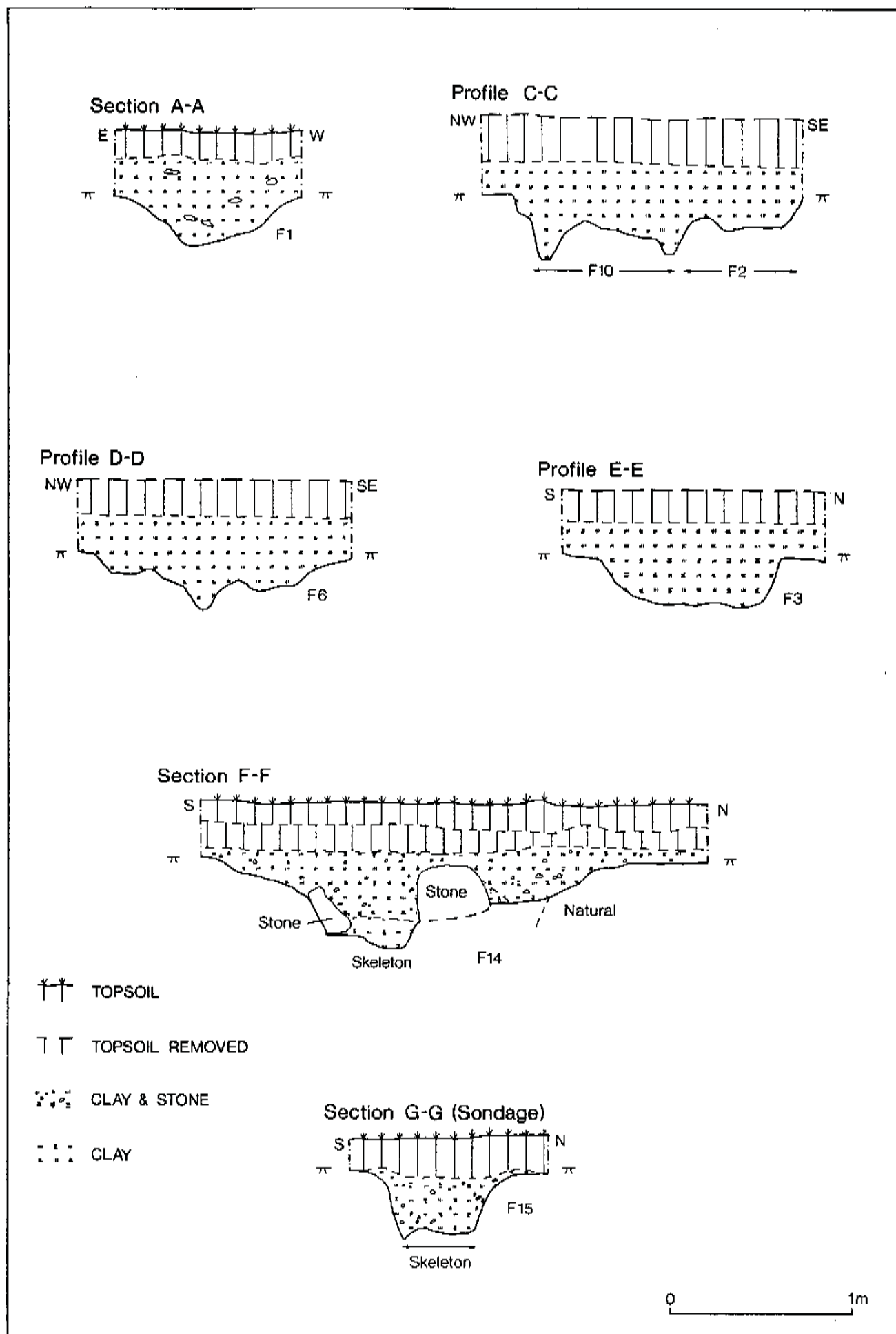
3611 Fig 1 X quarry	7421 Fig 3 X milestone (not located 1990)
3610 Fig 2 F quarry	7422 Fig 3 Y boundary stone
7351 Fig 2 G field name	7362 Fig 3 F garden
7352 Fig 2 J pond	7366 Fig 3 G well
3602 Fig 2 K standing building	7367 Fig 3 H quarries
7353 Fig 2 L ridge and furrow	7369 Fig 3 I earthworks
3609 Fig 2 M flint scatter	7370 Fig 3 J standing building
7355 Fig 2 Q quarry	7378 Fig 3 L earthworks
7356 Fig 2 R quarry	1705 Fig 3 L earthworks
7357 Fig 2 S quarry	7397 Fig 3 M quarry
7383 Fig 2 U standing buildings	2657 Fig 3 N earthworks
3558 Fig 2 V earthworks	7380 Fig 3 O quarry
7359 Fig 2 W earthworks	1698 Fig 3 P trackway
2015 Fig 2 X earthworks	7363 Fig 3 Q ruined building
7384 Fig 2 Z standing building	7365 Fig 3 R spring
7385 Fig 2 Y standing building	2025 Fig 3 AB round barrow
4717 Fig 3 B earthworks	2027 Fig 3 AC round barrow
7360 Fig 3 C quarry	2037 former earthworks north of AB and AC
7387 Fig 3 D standing buildings	7377 Fig 3 U ruined buildings

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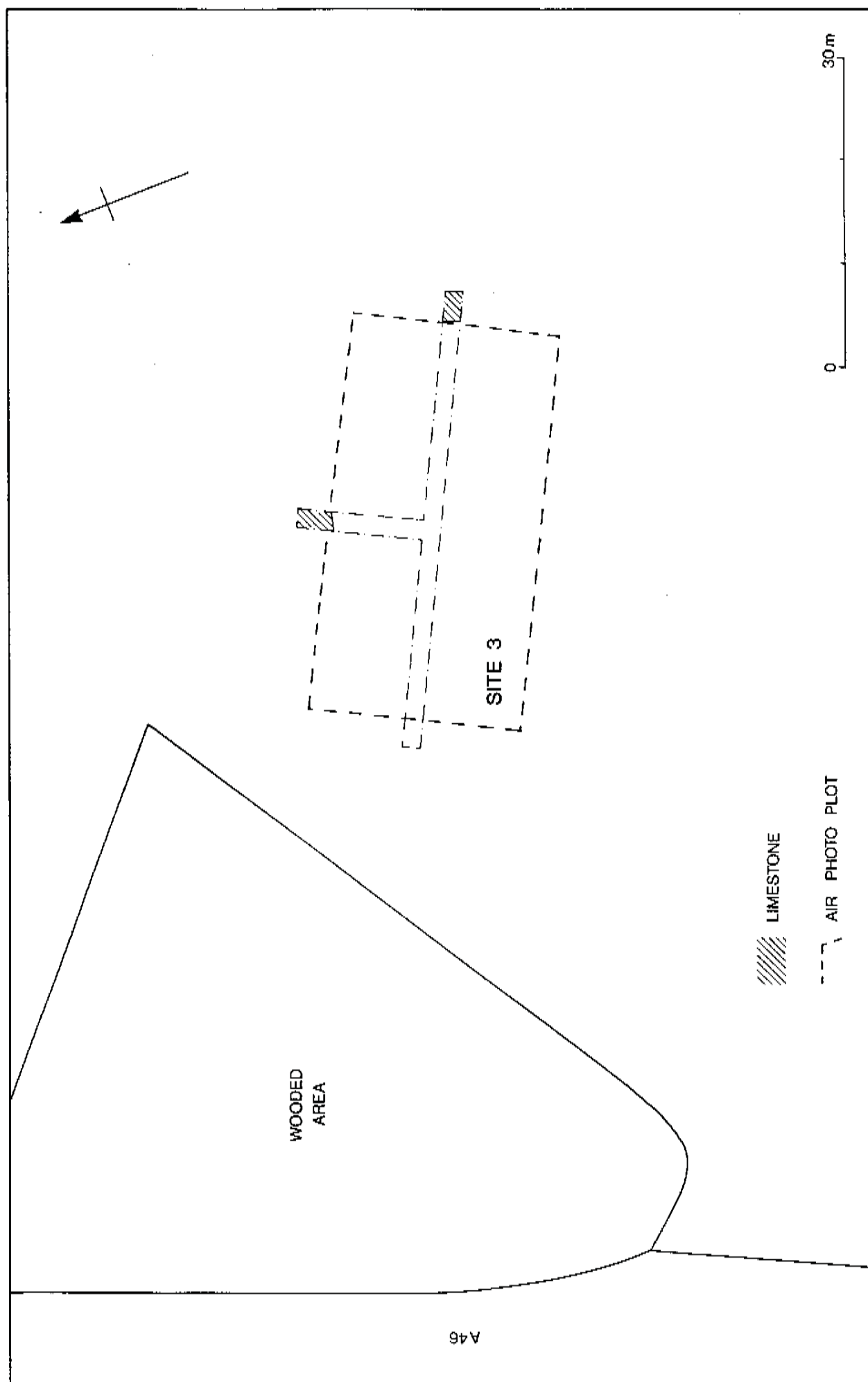






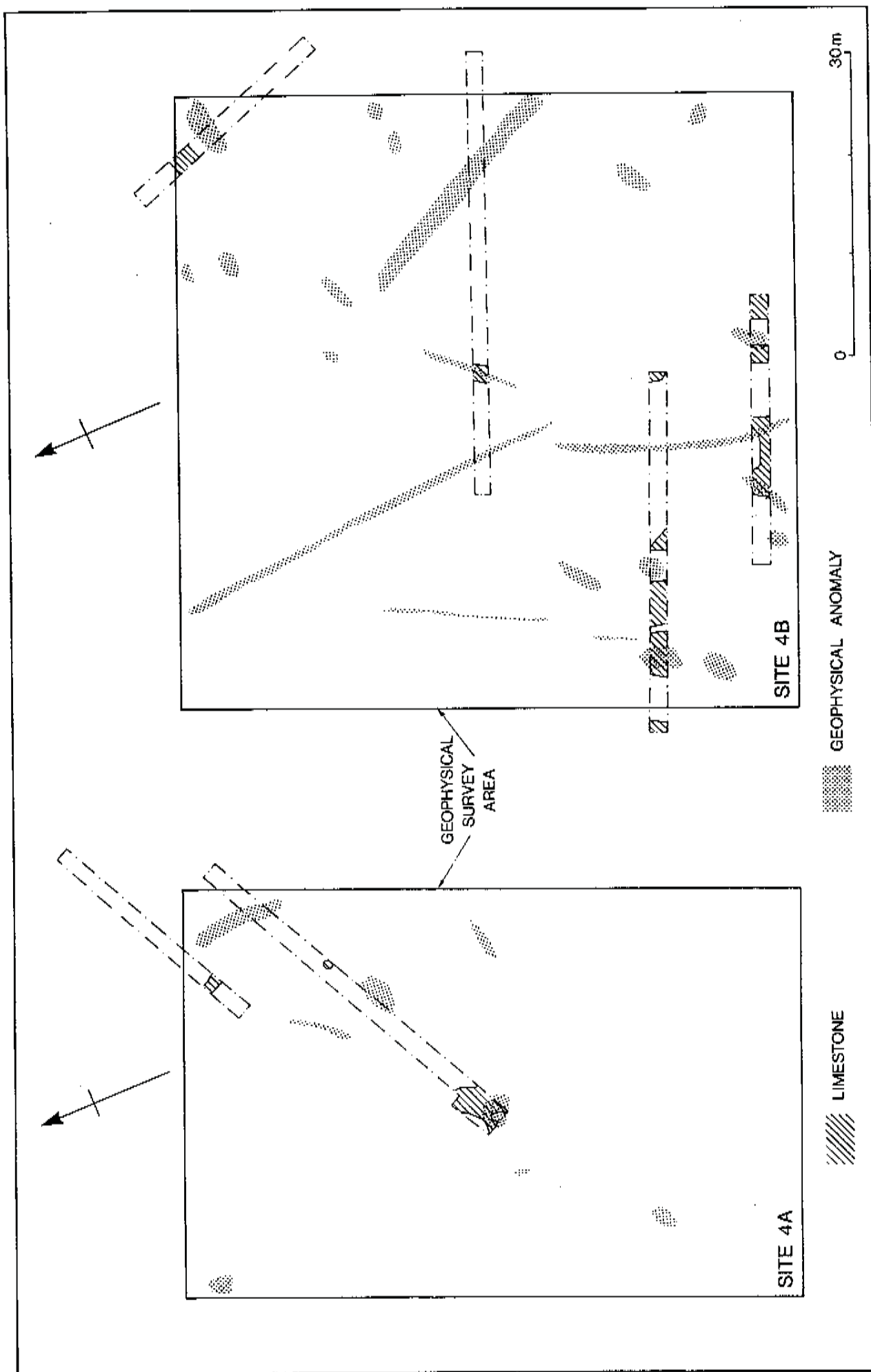
A46 Archaeological Survey Stage II

Fig 4 Site 2: feature profiles



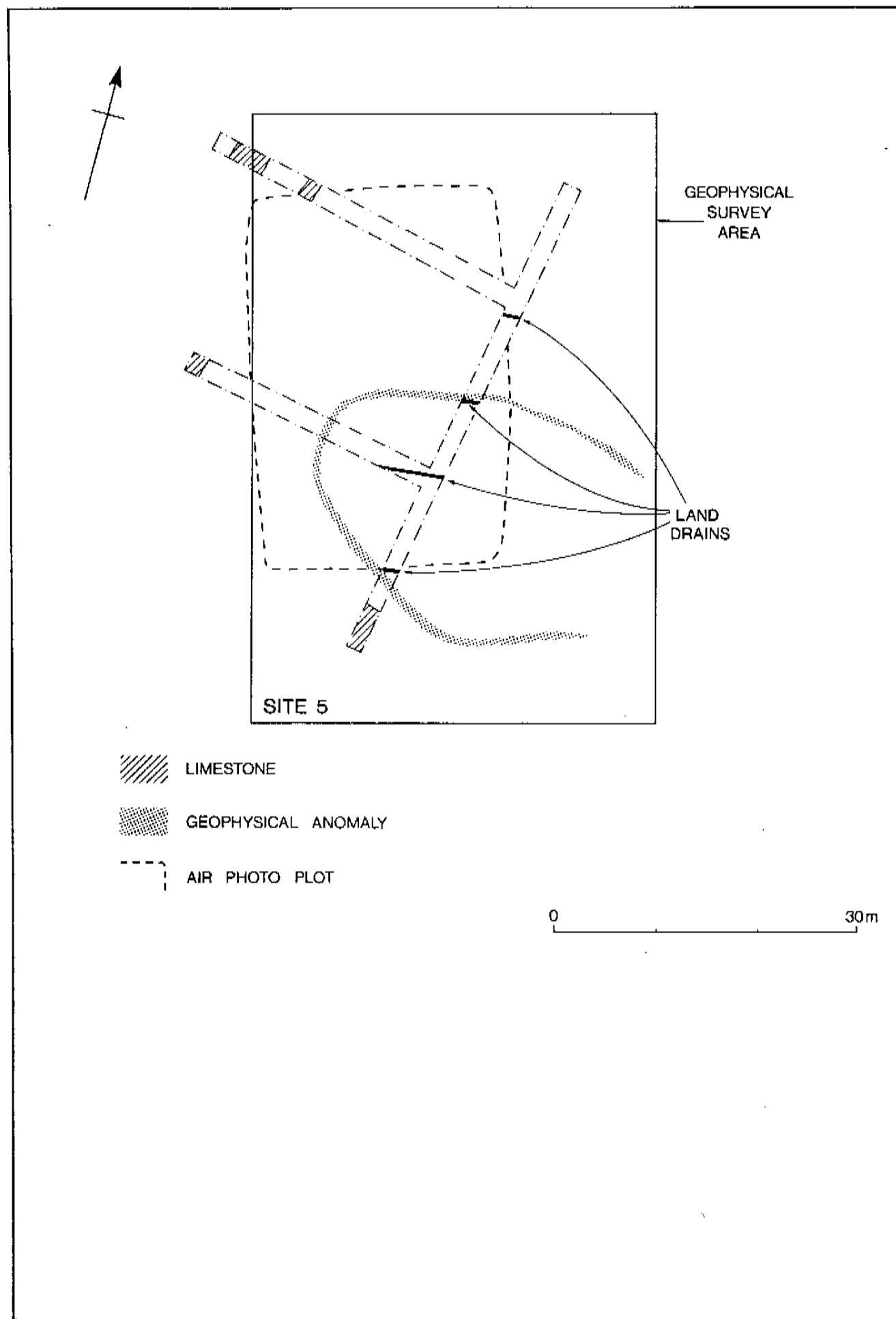
A46 Archaeological Survey Stage II

Fig 6 Site 3: trial trench findings and location of air photo plot

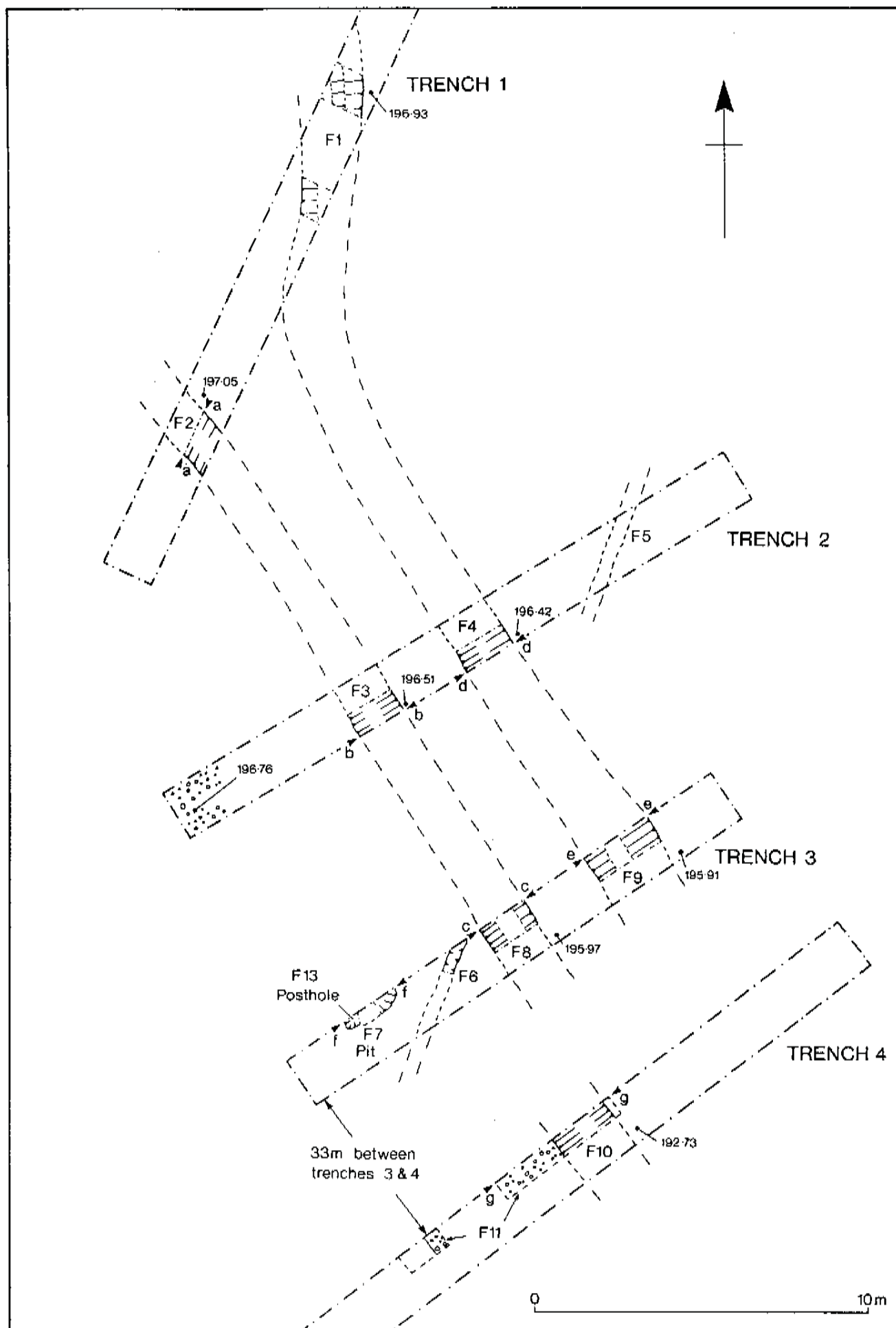


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Fig 8 Site 4: geophysical and trial trench findings



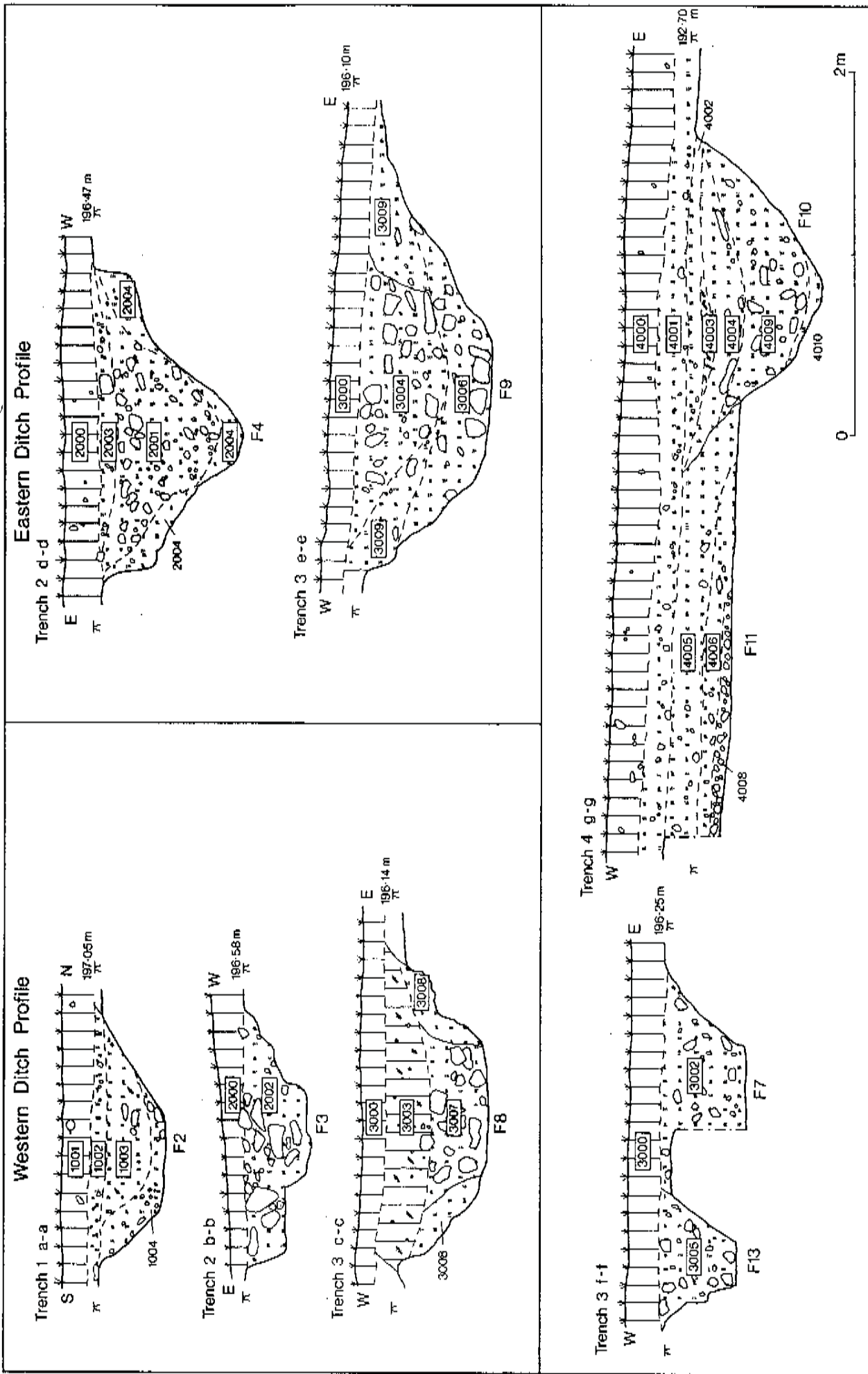


A46 Archaeological Survey Stage II  
Fig 10 Site 5: geophysical and trial trench findings



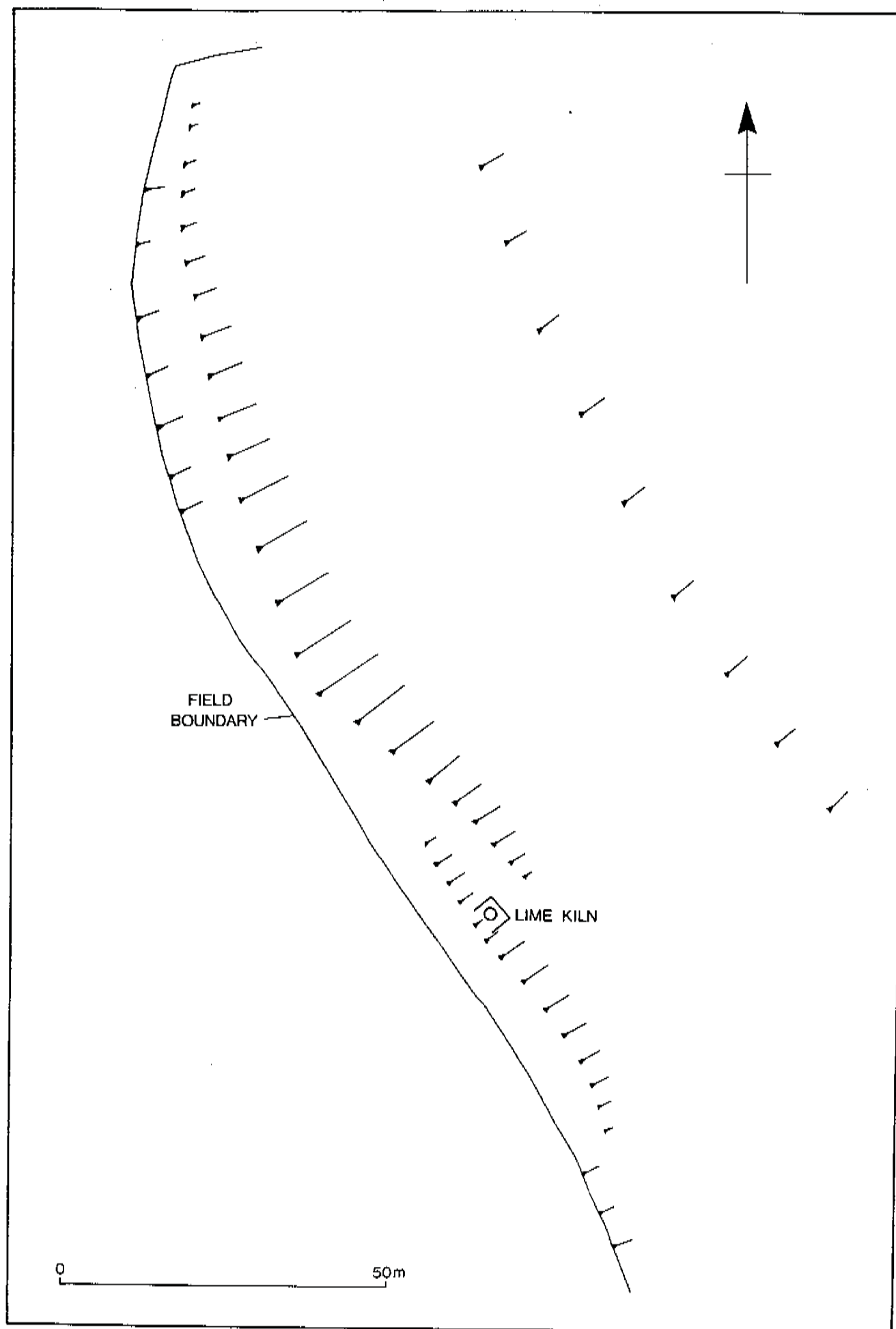
A46 Archaeological Survey Stage II

Fig 12 Site 6: excavated features



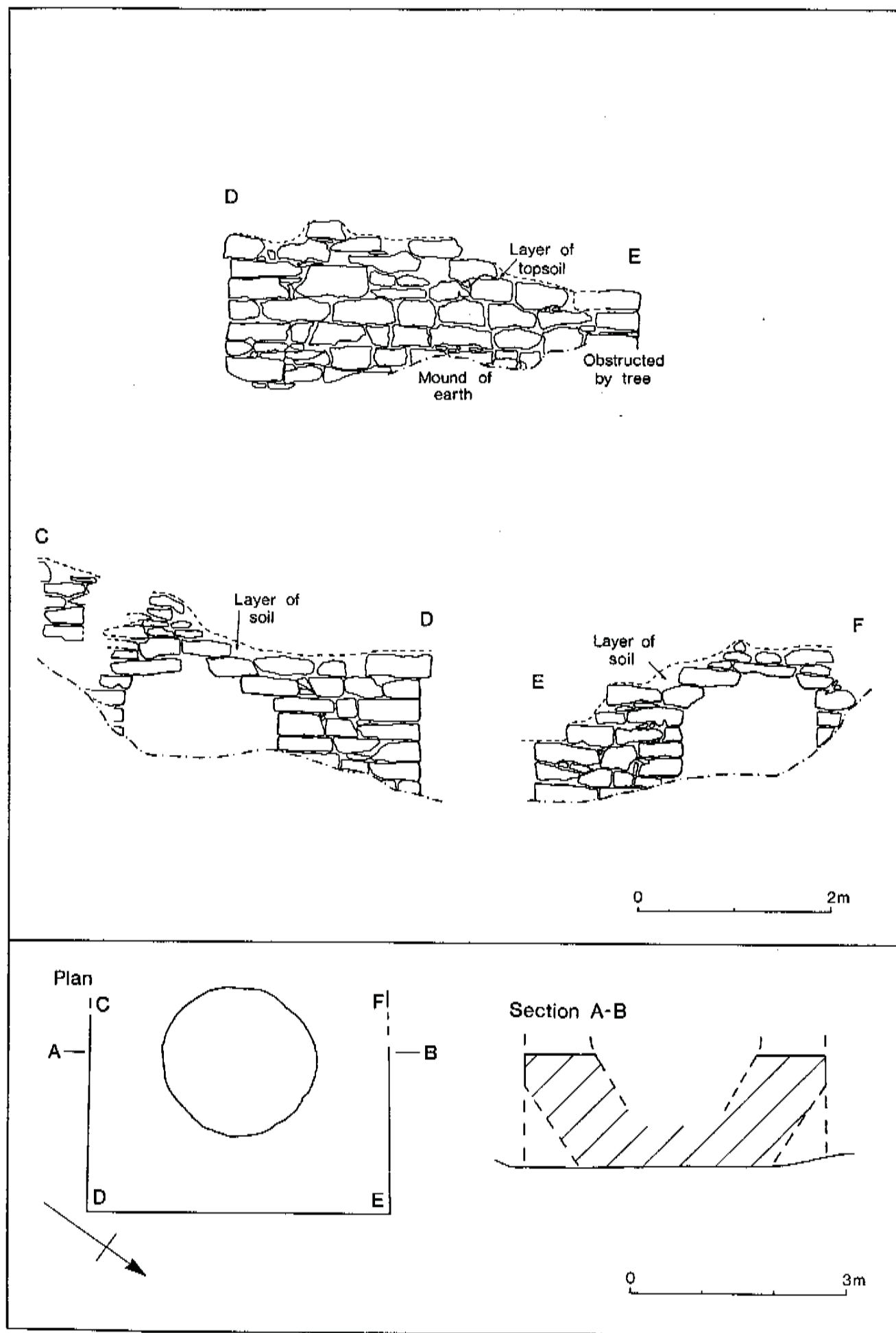
A46 Archaeological Survey Stage II

Fig 13 Site 6: feature profiles



A46 Archaeological Survey Stage II  
Fig 14 Site 7: location and earthwork hachure plan





A46 Archaeological Survey Stage II  
 Fig 15 Site 7: limekiln elevations and reconstructions

## Appendix 4: Archive index

The A46 Stage II archaeological survey archive is currently held at Birmingham University Field Archaeology Unit. It will be deposited eventually with the finds at Bath Museum. The archive is indexed as follows:

### **A: Field records**

A1 Folder with site recording forms

### **B: Finds**

B1 Finds recording forms

B2 Site 6, 1 box pottery and other materials, excavation finds

B3 Site 8b, 2 boxes of excavation finds, pottery and other materials

B4 Sites 1, 2, 4, 5, 8A and 9, 1 box of field walking and excavation finds, pottery and other materials

### **C: Field illustrations**

C1-4 Site 2: Field plans and sections (4 sheets)

C5 Sites 3, 4, and 5: Field plan (1 sheet)

C6 Site 4: Field plans and sections (1 sheet)

C7-11 Site 6: Field plans and sections (5 sheets)

C12-14 Site 7: Field survey and elevations (3 sheets)

C15 Site 8A: Field plans and sections (1 sheet)

C16-18 Site 8B: Field plans and sections (3 sheets)

C19-22 Site 9: Field plans and section (4 sheets)

### **D: Maps**

D1 annotated copies of Stage I 1:2500 maps

D2 annotated 1:2500 maps

D3 annotated geophysical 1:500 plots

### **E: Photographs**

E1 catalogue of photographs

E2 Site 2 photographs

E3 Site 3 photographs

E4 Site 4 photographs

E5 Site 5 photographs

E6 Site 6 photographs

E7 Site 7 photographs

E8A Site 8A photographs

E8B Site 8B photographs

E9 Site 9 photographs

### **F: Correspondence**

F1 MRM

F2 Geophysical surveys of Bradford

F3 Tenants/land agents

F4 Avon County Council

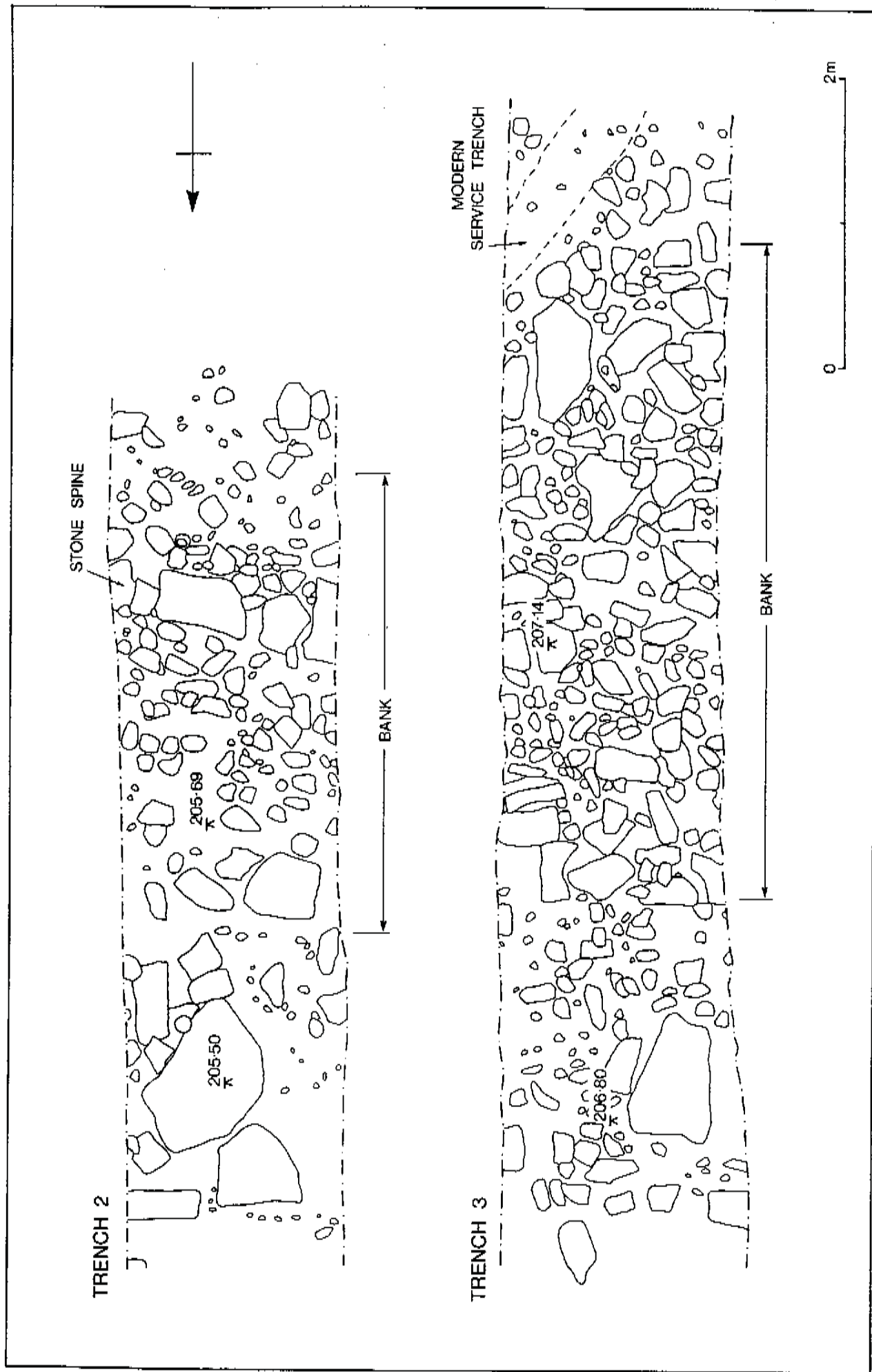
F5 Magnetic disc with copies of Peter Ellis' correspondence

### **G: Miscellaneous**

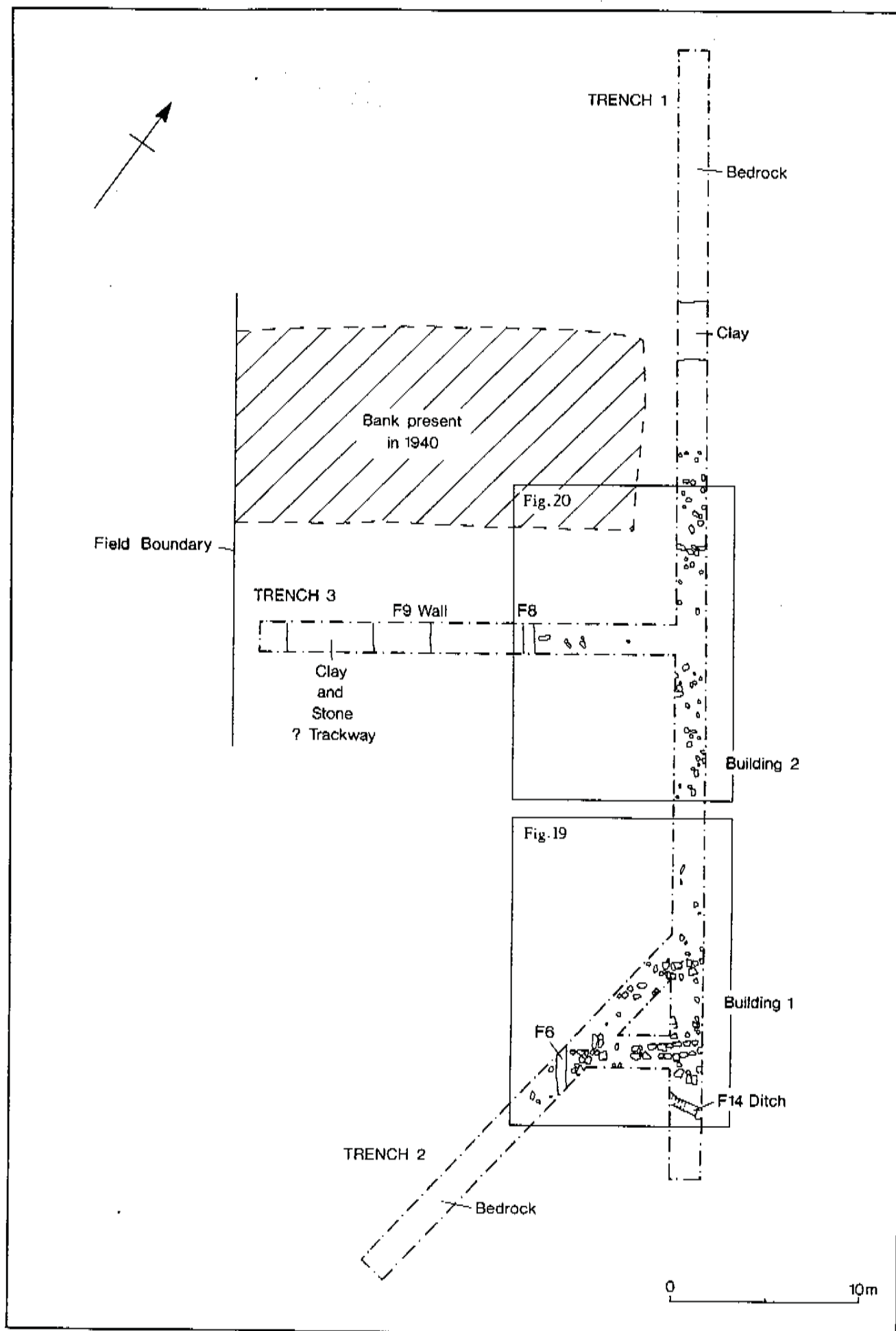
G1 Stage I report

G2 Geophysical survey report

G3 Records of 1987 Stage I survey by Peter Ellis: tithe map tracings; publication drawings; miscellaneous records

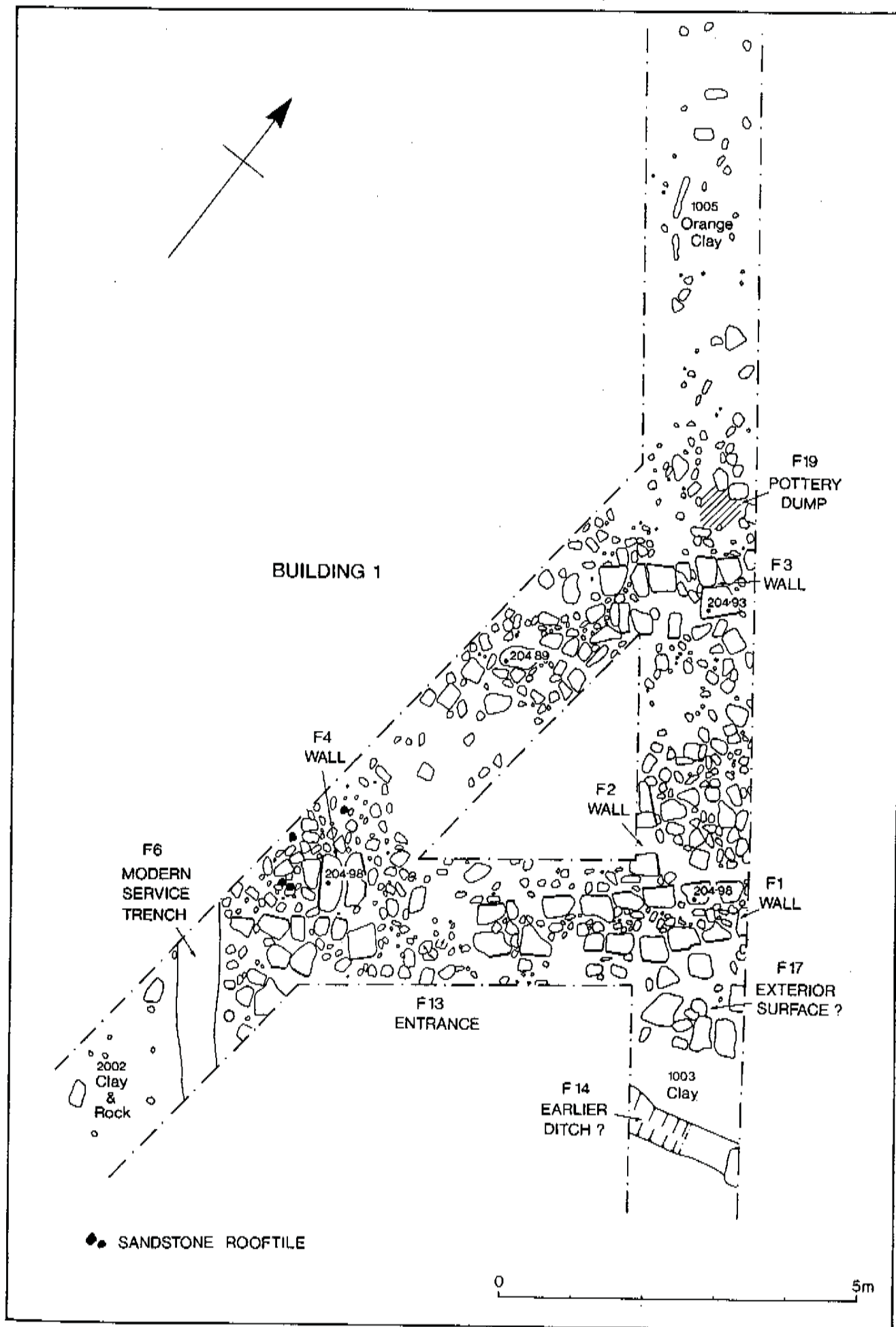


A46 Archaeological Survey Stage II  
 Fig 17 Site 8A: Iron Age banks in Trenches 2 and 3



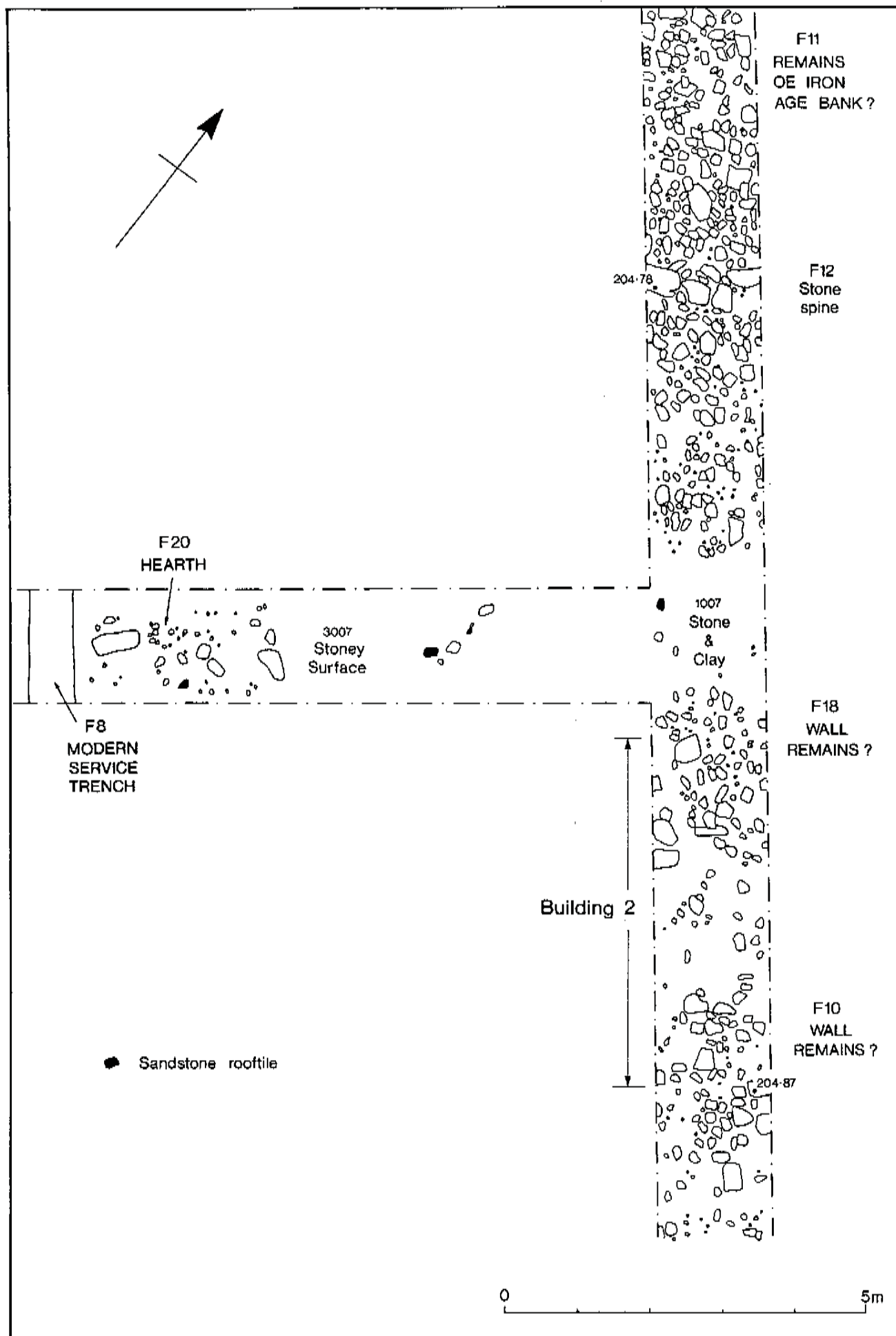
A46 Archaeological Survey Stage II  
 Fig 18 Site 8B: main excavated features



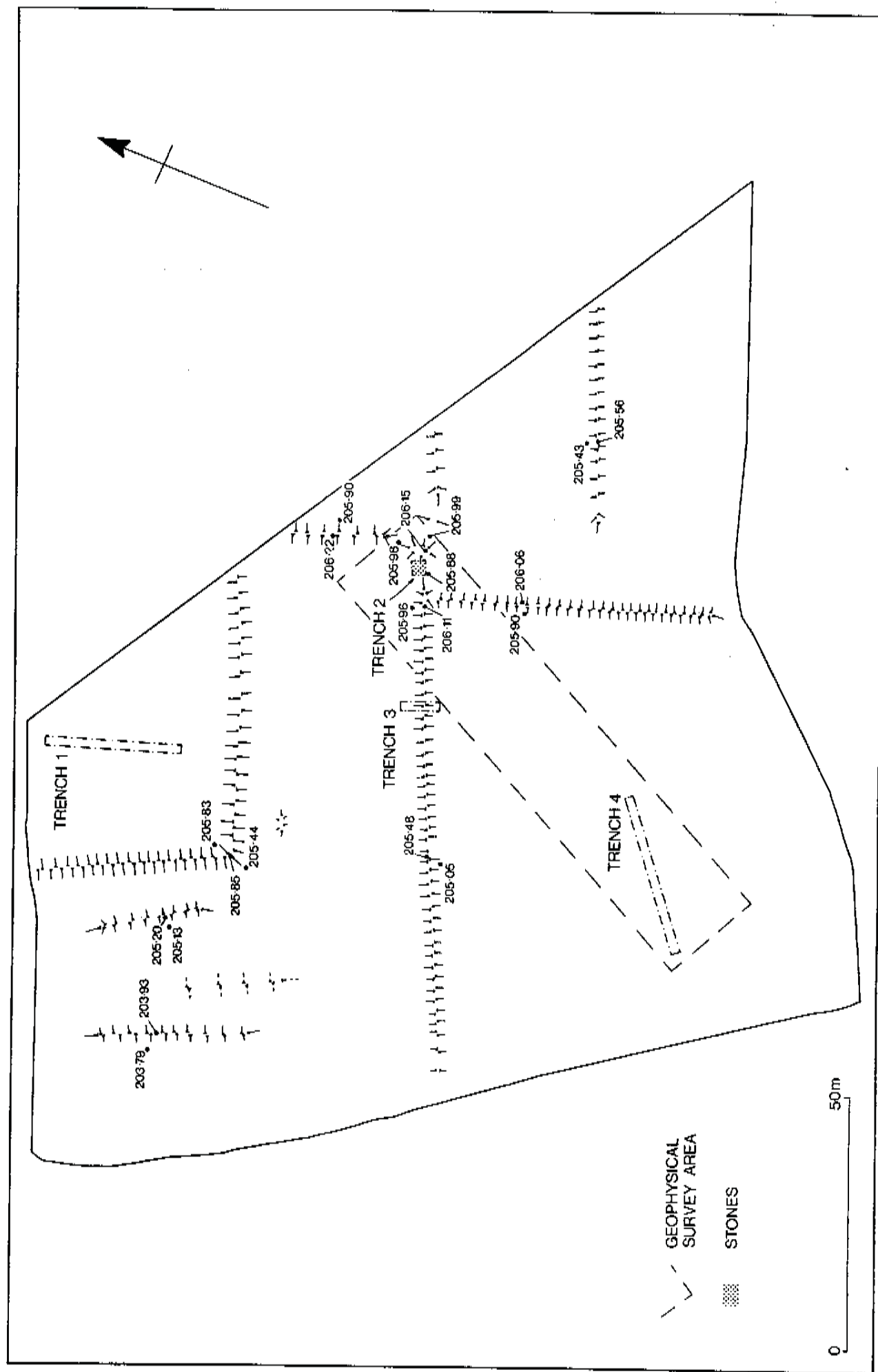


A46 Archaeological Survey Stage II

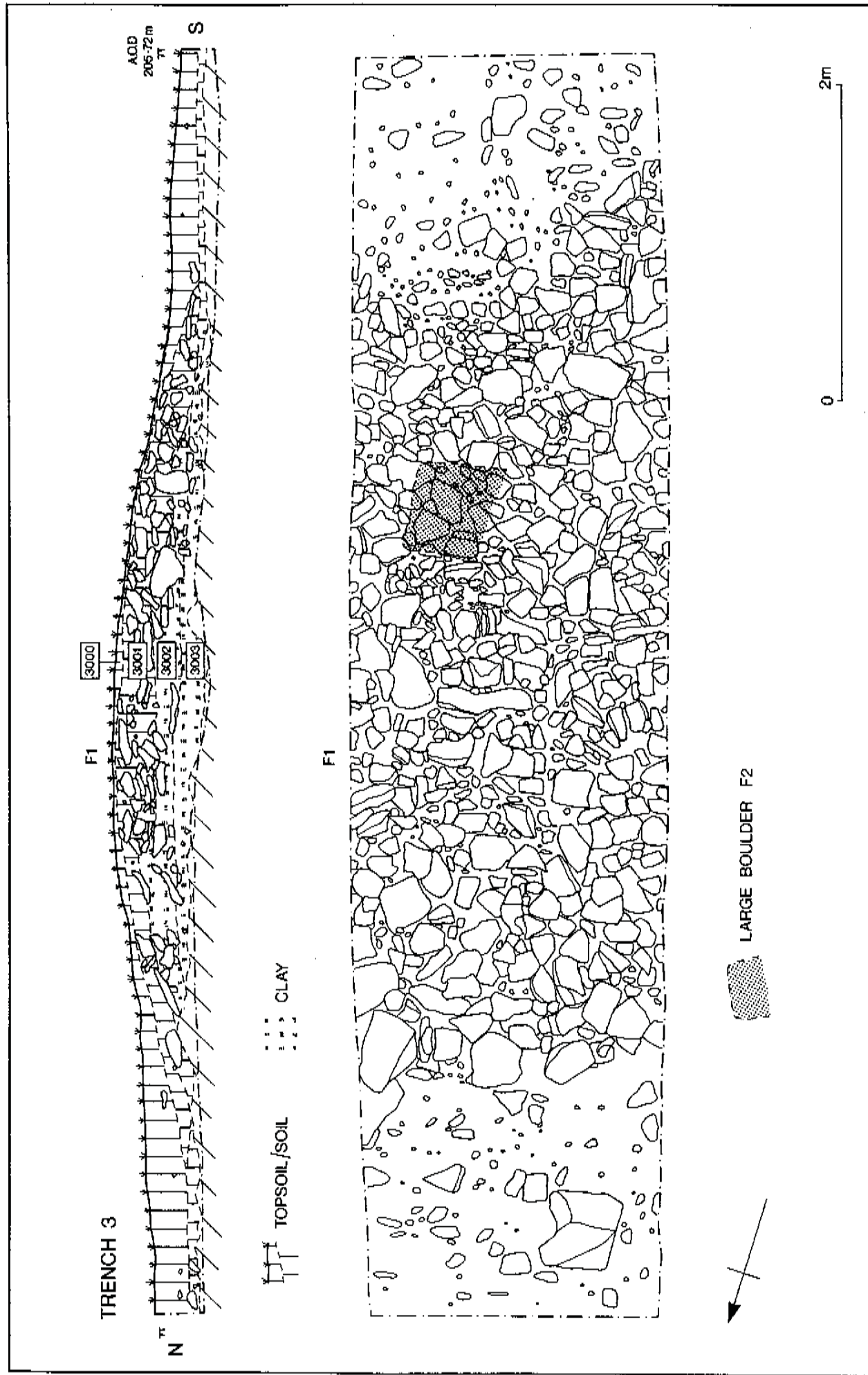
Fig 19 Site 8B: Building 1



A46 Archaeological Survey Stage II  
 Fig 20 Site 8B: Building 2 and Iron Age bank



A46 Archaeological Survey Stage II  
 Fig 21 Site 9: earthwork hachure plan and location of trial trenches



A46 Archaeological Survey Stage II  
 Fig 22 Site 9: plan and section of Iron Age bank in Trench 3




REPORT ON GEOPHYSICAL SURVEY

**A46 TORMARTON TO UPPER SWAINSWICK**

Report Number 92/43

Work commissioned by :

*B.U.F.A.U.* 



The Old Sunday School, Kipping Lane,  
Thornton, Bradford BD13 3EL  
Telephone (0274) 835016  
Fax (0274) 830212

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## **SITE SUMMARY SHEET**

**92 / 43 A46 Tormarton to Upper Swainswick**

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**NGR: ST 745 735 (centre)**

### **Location, topography and geology**

Six sites along the proposed realignment of the A46 road, between Bath and the M4 motorway, were investigated using the magnetic technique. The survey areas were all situated in gently undulating fields, with varied ground cover ranging from pasture to grain crops. The geology is Jurassic limestone bedrock.

### **Archaeology**

The surveys all lie in areas of archaeological interest signified by the presence of earthworks, aerial photographic evidence, and finds recovered during fieldwalking. The archaeology of each site is discussed more fully in the main report (below).

### **Aims of Survey**

The geophysical survey forms part of a wider archaeological evaluation being carried out by **Birmingham University Field Archaeology Unit (BUFAU)**. The aim of the magnetometry survey was to locate any features of possible archaeological significance within the areas specified by **BUFAU**.

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### **Summary of Results \***

The survey has revealed a number of anomalies of archaeological significance, in particular Site 4 (Area B) and Site 6. Anomalies of possible archaeological significance have been located in most of the other sites, although the responses are relatively weak and archaeological interpretation is tentative.

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**\* It is essential that this summary is read in conjunction with the detailed results of the survey.**

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## SURVEY RESULTS

### 92 / 43 A46 Tormarton to Upper Swainswick

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#### 1. Survey Areas (Figure 1)

1.1 A total of six sites, of varying sizes, were surveyed using the magnetic technique along the proposed realignment of the A46, as indicated on Figure 1. The location of each site is shown in more detail on individual location diagrams at a scale of 1:2500.

1.2 The survey grids were set out by Geophysical Surveys of Bradford and tied-in by BUFAU.

1.3 The sites are referred to by the BUFAU number. Where appropriate the National Grid Reference (NGR) and Avon Sites and Monuments Record (ASMR) are provided (A46: An initial assessment of the archaeological implications, J.G.P. Erskine and V.E.J. Russett, 1990).

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#### 2. Display

2.1 The results are displayed as dot density plots and X-Y traces. These display formats are discussed in the *Technical Information* section, at the end of the report.

2.2 All plots, including interpretation diagrams, are reproduced at a scale of 1:500.

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#### 3. General Considerations - Complicating factors

3.1 In general, ground conditions were suitable for magnetometry with each site being generally flat and free of obstructions.

3.2 In some areas the presence of surface ferrous material, including fences, vehicles etc, has created areas of magnetic disturbance.

3.3 The underlying geology of weathered limestone complicates the results. The irregular thickness of topsoil creates responses which can confuse the interpretation of anomalies of archaeological significance.

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#### 4. Results

##### 4.1 Site 2 (Figures 2 - 3)

4.1.1 A magnetometer survey, 50m by 40m, was carried out over the presumed position of a barrow in Tolldown (NGR ST 7524 7687). The barrow, known as the 'Mouse Barrow' (ASMR 1965) has been

damaged by road building/widening and ploughing. The only indication of the site is a slight rise in a dry stone wall.

4.1.2 In the east of the survey area the results have been distorted by ferrous material such as signposts and passing vehicles. As a result of this magnetic disturbance it is not possible to identify any archaeological anomalies.

4.1.3 Within the survey area to the west of the dry stone wall few anomalous responses are apparent. There are diffuse areas of increased response, but these are most likely to be natural or agricultural in origin.

4.1.4 There are suggestions of a few pit like responses which may be significant. While these are indicated as such on Figure 3, interpretation is tentative.

#### 4.2 Site 4 (Figures 4 - 7)

4.2.1 Two surveys, Area A (60m by 40m) and Area B (60m by 60m), were undertaken in Great Field (ASMR 3615). While there is no archaeology recorded at the site, many flints have been found during fieldwalking in the area.

4.2.2 The magnetic responses from Site 4 (Area A) are extremely noisy. There are suggestions of pit and ditch-type responses which may be significant. However, the magnitude of the responses are high. It is very difficult to place the anomalies within a wider archaeological context.

4.2.3 Several anomalies of possible archaeological significance have been detected in Area B, which lies approximately 160m south of Area A. Two clear ditch anomalies are visible as indicated on the interpretation plan. In addition there are several ditch and pit-like response which are possibly significant given their close proximity to the ditches. While these are almost certainly archaeologically significant, it is difficult to provide a precise interpretation.

#### 4.3 Site 5 (Figures 8 - 9)

4.3.1 An area of 40m by 60m over a crop mark (ST 74227268, ASMR 7394) visible in aerial photographs was surveyed using the magnetic technique.

4.3.2 There is a very faint suggestion of a curving ditch anomaly which apparently coincides with the cropmark visible on APs. The background level of magnetic noise is high which has suppressed the level of response from the ditch. If the cropmark had not been known from AP's, the anomaly would not have been identified.

#### 4.4 Site 6 (Figures 10 - 11)

4.4.1 Site 6, 40m by 100m, lies to the east of a Roman pottery scatter located in the late 1980s by P. Ellis. The site does not have a sites and monuments record.

4.4.2 The background magnetic level at this site is very high due to noise generated by the instrument brushing against the tall crop.

4.4.3 The results from this survey are dominated by two curving ditches in the north.

4.4.4 Two lower magnitude linear responses are also visible in the data, aligned NW-SE and NNW-SSE. While these may be archaeological, it is possible that they are due to land drains.



#### 4.5 Site 8b (Figures 12 - 13)

4.5.1 In the general area of the survey there are apparently surviving earthworks (ASMR 1707) which are described as fields and an Iron Age or Romano-British enclosure. Site 8a (ASMR 1697 & 1706) was scanned using the magnetometer and found to be too magnetically disturbed to warrant a detailed survey. Site 8b was surveyed in detail over an area of 20m by 60m.

4.5.2 The results from Site 8b are very confused. There are several ferrous type responses which are almost certainly due to surface ferrous material.

4.5.3 There are also several pit-like responses which may be significant.

#### 4.6 Site 9 (Figures 14 - 15)

4.6.1 This survey, 20m by 100m, covers part of an area of a surviving field system (ASMR 7375).

4.6.2 The data in the centre of the survey have been distorted by the responses from a buried pipe. The large area of magnetic distortion will have masked any lower magnitude responses from archaeological features approximately 10m either side of the pipe.

4.6.3 In the north of the area there is a clear linear response, aligned SW-NE, which is part of the surviving field system. Only part of the earthwork has responded to magnetometry.

4.6.4 In the south there is another clear linear response orientated approximately north-south. This may be a field division. Alternatively it may be associated with agricultural processes. There are suggestions of similar parallel responses immediately to the east.

4.6.5 There are hints of pit-type responses throughout the area.

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#### 5. Conclusions

5.1 Several anomalies of archaeological significance have been detected, particularly Site 4 (Arca B) and Site 6. In the other sites, anomalies of possible archaeological origin have been detected. However, the responses are weaker and interpretation has been hindered by ferrous disturbance and increased instrument noise due to high vegetation. In addition, the geological conditions may have confused the results.

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Project Co-ordinators: Dr C Gaffney  
Project Assistants: S Gaffney and D Redhouse

12th June 1992  
Geophysical Surveys of Bradford

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## TECHNICAL INFORMATION

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The following is a description of the equipment and display formats used in **GEOPHYSICAL SURVEYS OF BRADFORD** reports. It should be emphasised that whilst all of the display options are regularly used, the diagrams produced in the final reports are the most suitable to illustrate the data from each site. The choice of diagrams results from the experience and knowledge of the staff of **GEOPHYSICAL SURVEYS OF BRADFORD**.

All survey reports are prepared and submitted on the basis that whilst they are based on a thorough survey of the site, no responsibility is accepted for any errors or omissions.

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Magnetic readings are logged at 0.5m intervals along one axis in 1m traverses giving 800 readings per 20m x 20m grid, unless otherwise stated. Resistance readings are logged at one metre intervals giving 400 readings per 20m x 20m grid. The data are then transferred to portable computer and stored on 3.5" floppy discs. Field plots are produced on a portable Hewlett Packard Thinkjet. Further processing is carried out back at base on computers linked to appropriate printers and plotters.

### Instrumentation

#### (a) Fluxgate Gradiometer - Geoscan FM36

This instrument comprises two fluxgates mounted vertically apart, at a distance of 500mm. The gradiometer is carried by hand, with the bottom sensor approximately 100-300mm from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is conventionally measured in nanoTesla (nT) or gamma. The fluxgate gradiometer suppresses any diurnal or regional effects. Generally features up to one metre deep may be detected by this method.

#### (b) Resistance Meter - Geoscan RM4 or RM15

This measures the electrical resistance of the earth, using a system of four electrodes (two current and two potential). Depending on the arrangement of these electrodes, an exact measurement of a similar volume of earth may be acquired. In such a case the amount measured may be used to calculate the earth resistivity. Using a 'Twin Probe' arrangement the terms 'resistance' and 'resistivity' may be interchanged. This arrangement involves the pairing of electrodes (one current and one potential), with one pair remaining in a fixed position whilst the other measures the resistivity variations across a fixed grid. Resistance is measured in ohms, while resistivity is measured in ohm-metres. The resistance method has a depth resolution of approximately 0.75m, although the nature of the overburden and underlying geology will cause variations in this generality.

#### (c) Magnetic Susceptibility

Variations in the magnetic susceptibility of subsoils and topsoils can provide valuable information about the 'level of archaeological activity' associated with a site. This phenomenon can also be used in a predictive manner to ascertain the suitability of a site for a magnetic survey. The instrument employed for measuring this culturally enhanced phenomenon is either a field coil or a laboratory based susceptibility bridge. For the latter, standard 50g soil samples are collected in the field.

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## Display Options

The following is a description of the display options used. Unless specifically mentioned in the text, it may be assumed that no filtering or smoothing has been used to enhance the data. For any particular report a limited number of display modes may be used.

### (a) X-Y Plot

This involves a line representation of the data. Each successive row of data is equally incremented in the Y axis, to produce a 'stacked' profile effect. This display may incorporate a 'hidden-line' removal algorithm, which blocks out lines behind the major peaks and can aid interpretation. Advantages of this type of display are that it allows the full range of the data to be viewed and shows the shape of the individual anomalies. Results are produced on a flatbed plotter.

### (b) Dot-Density

In this display, minimum and maximum cut-off levels are chosen. Any value that is below the minimum cut-off value will appear 'white', whilst any value above the maximum cut-off value will appear 'black'. Any value that lies between these two cut-off levels will have a specified number of dots depending on the relative position between the two levels. The focus of the display may be changed using different levels and a contrast factor (C.F.). Usually the C.F. = 1, making a linear scale between the cut-off levels. To assess lower than normal readings involves the use of an inverse plot. This plot simply reverses the minimum and maximum values, resulting in the lower values being represented by more dots. In either representation, each reading is allocated a unique area dependant on its position on the survey grid, within which numbers of dots are randomly placed. The main limitation of this display method is that multiple plots have to be produced in order to view the whole range of the data. It is also difficult to gauge the true strength of any anomaly without looking at the raw data values. This display is much favoured for producing plans of sites, where positioning of the anomalies and features is important.

### (c) Contour

This display joins data points of an equal value by a contour line. Displays are generated on the computer screen or plotted directly on a flat bed plotter / inkjet printer.

### (d) 3-D Mesh

This display joins the data values in both the X and Y axis. The display may be changed by altering the horizontal viewing angle and the angle above the plane. The output may be either colour or black and white. A hidden line option is occasionally used (see (a) above).

### (e) Grey-Scale

This format divides a given range of readings into a set number of classes. These classes have a predefined arrangement of dots or shade of grey, the intensity increasing with value. This gives an appearance of a toned or grey scale.

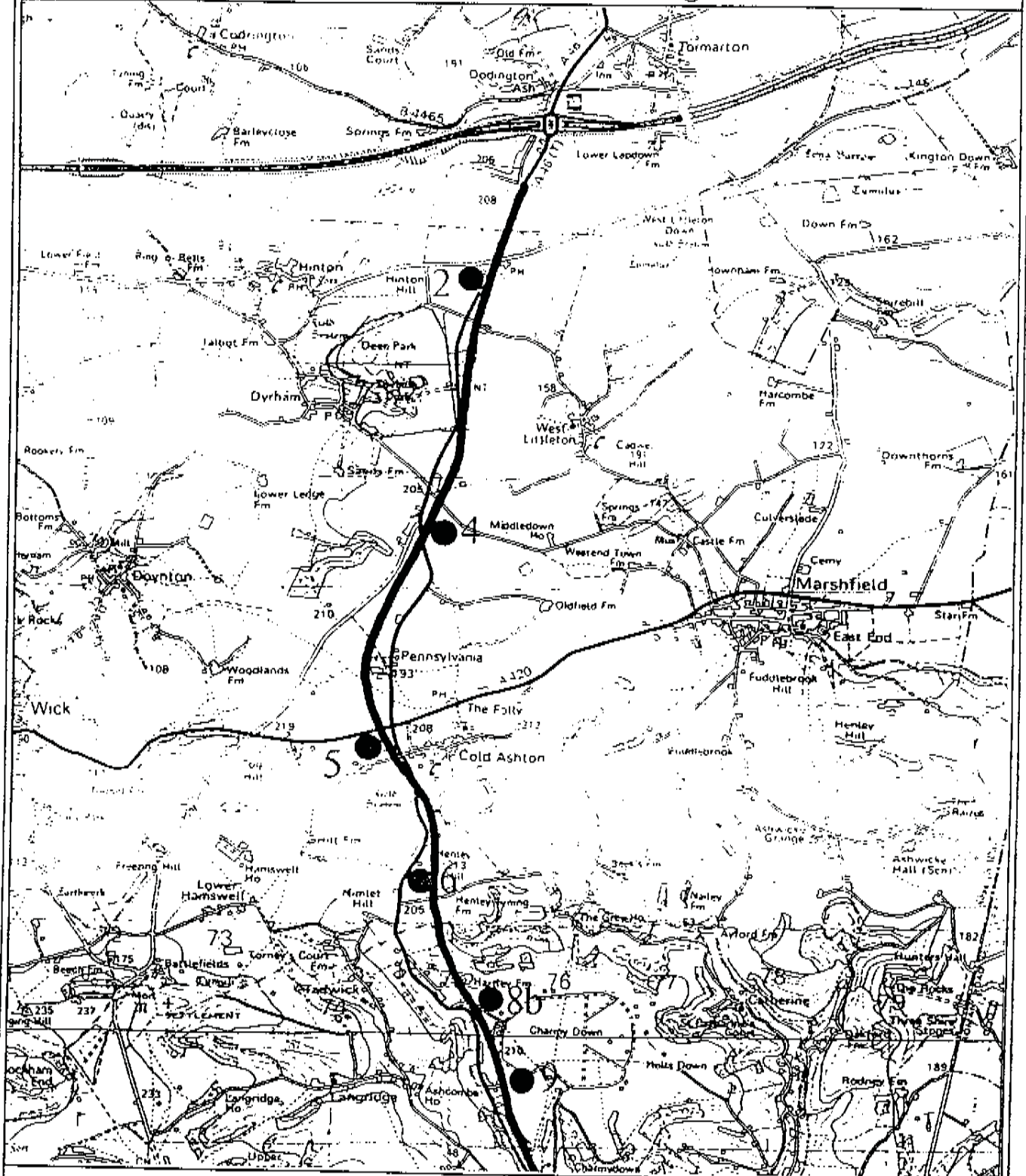
Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. While colour plots can look impressive and can be used to highlight certain anomalies, grey-scales tend to be more informative.

---

# A46

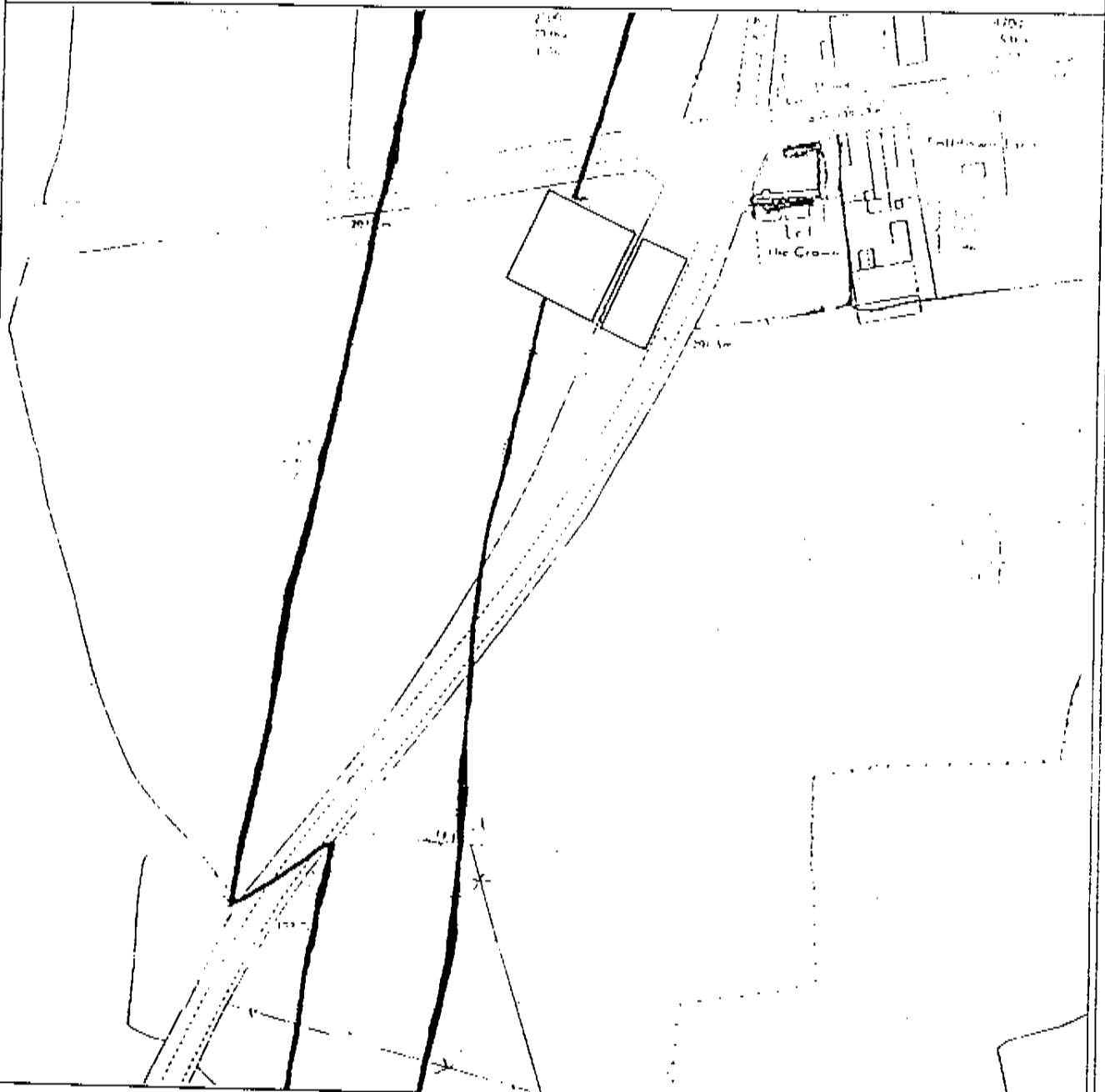
## TORMARTON TO UPPER SWAINSWICK

### Overall Grid Location Diagram



# A46 Site 2

## Grid Location Diagram



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Figure 2



# A46 Site 2

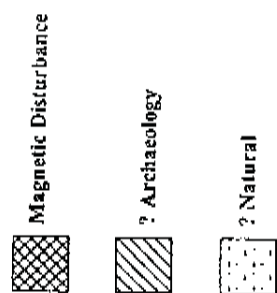
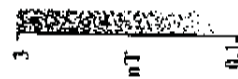
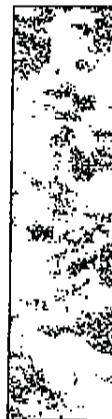
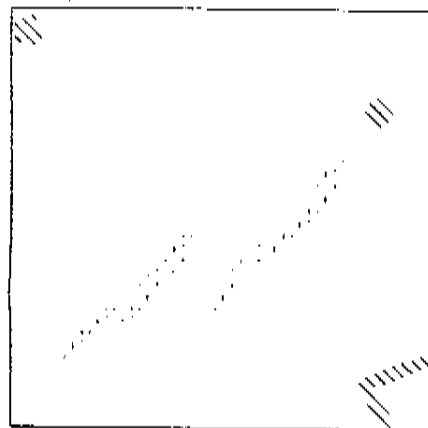
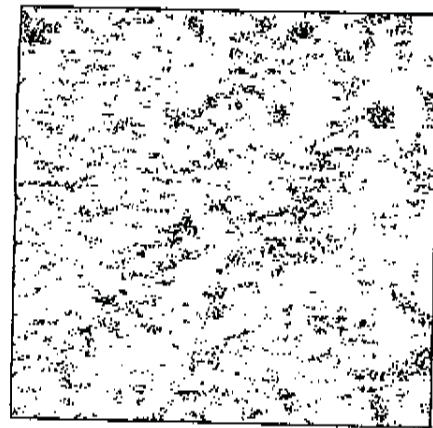
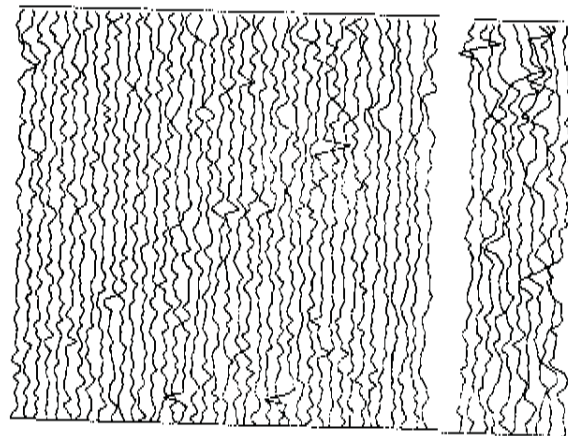


Figure 3

### Grid Location Diagram

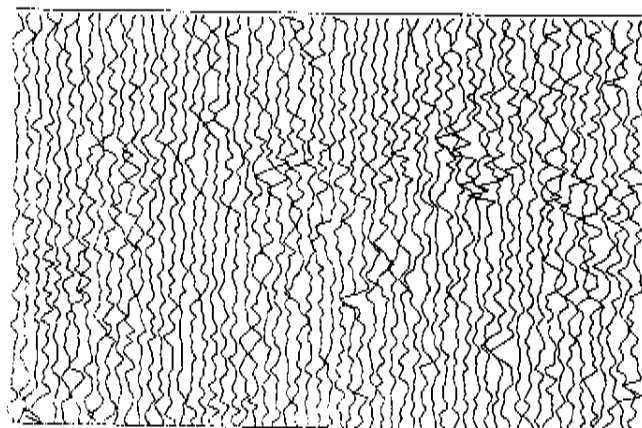


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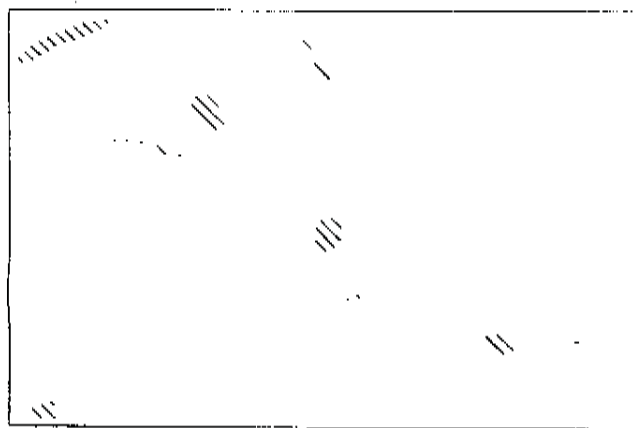
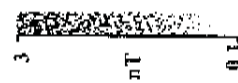
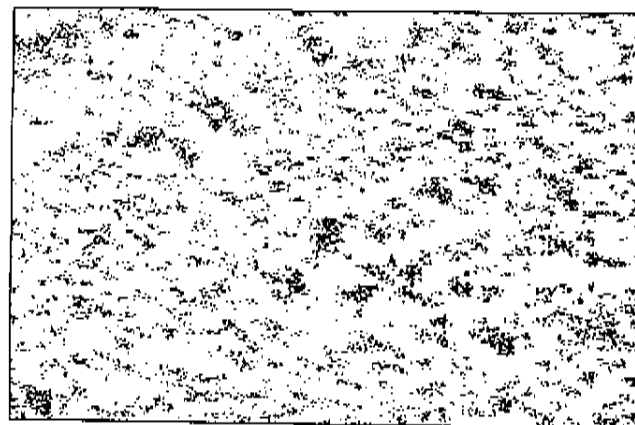
1:2500

**Figure 4**

# A46 Site 4 Area A



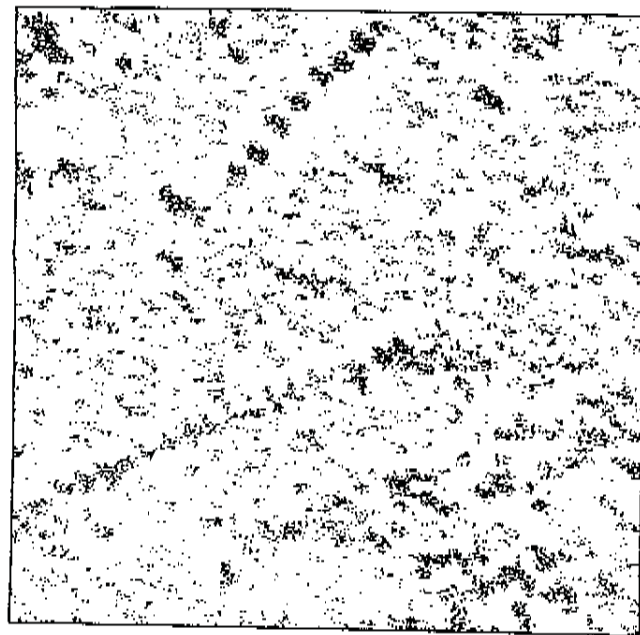
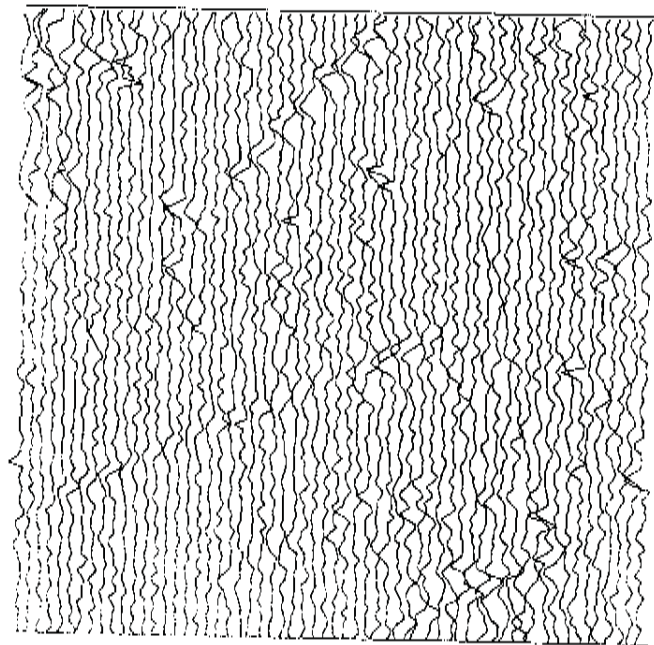
20 nT



? Ditch/Pit

Figure 5

A46 Site 4  
Area B



20 nT

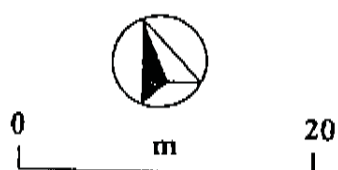
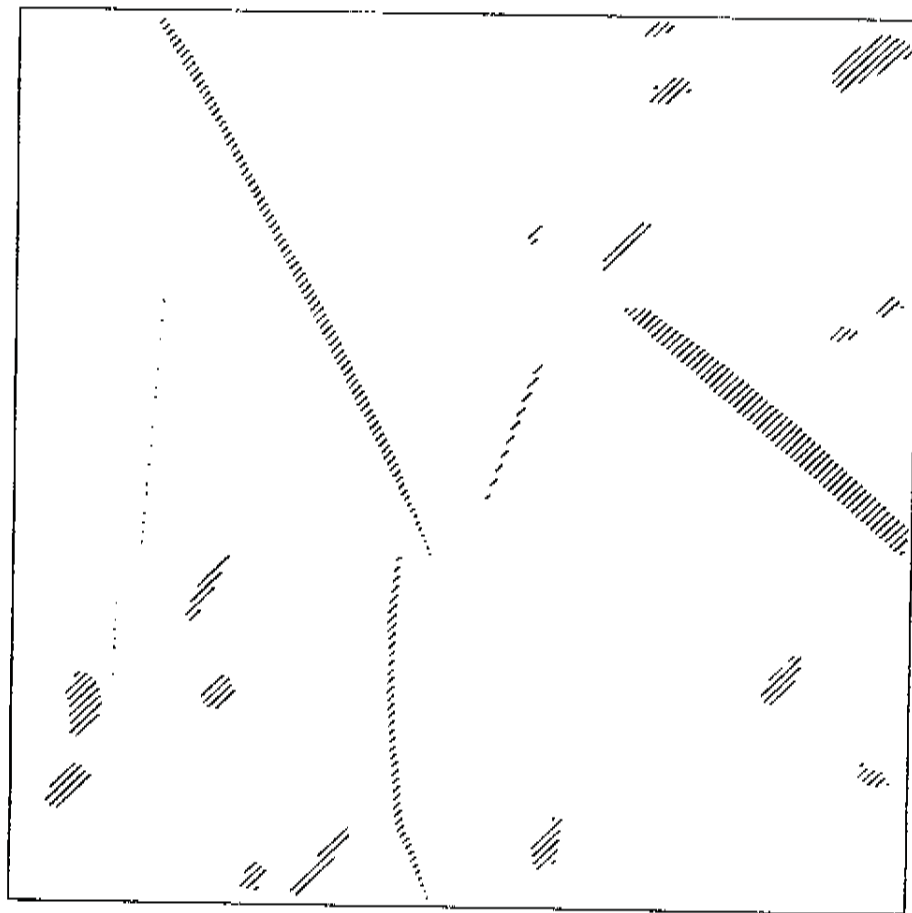


0 20 m

3  
0.1  
nT

# A46 Site 4

## Area B



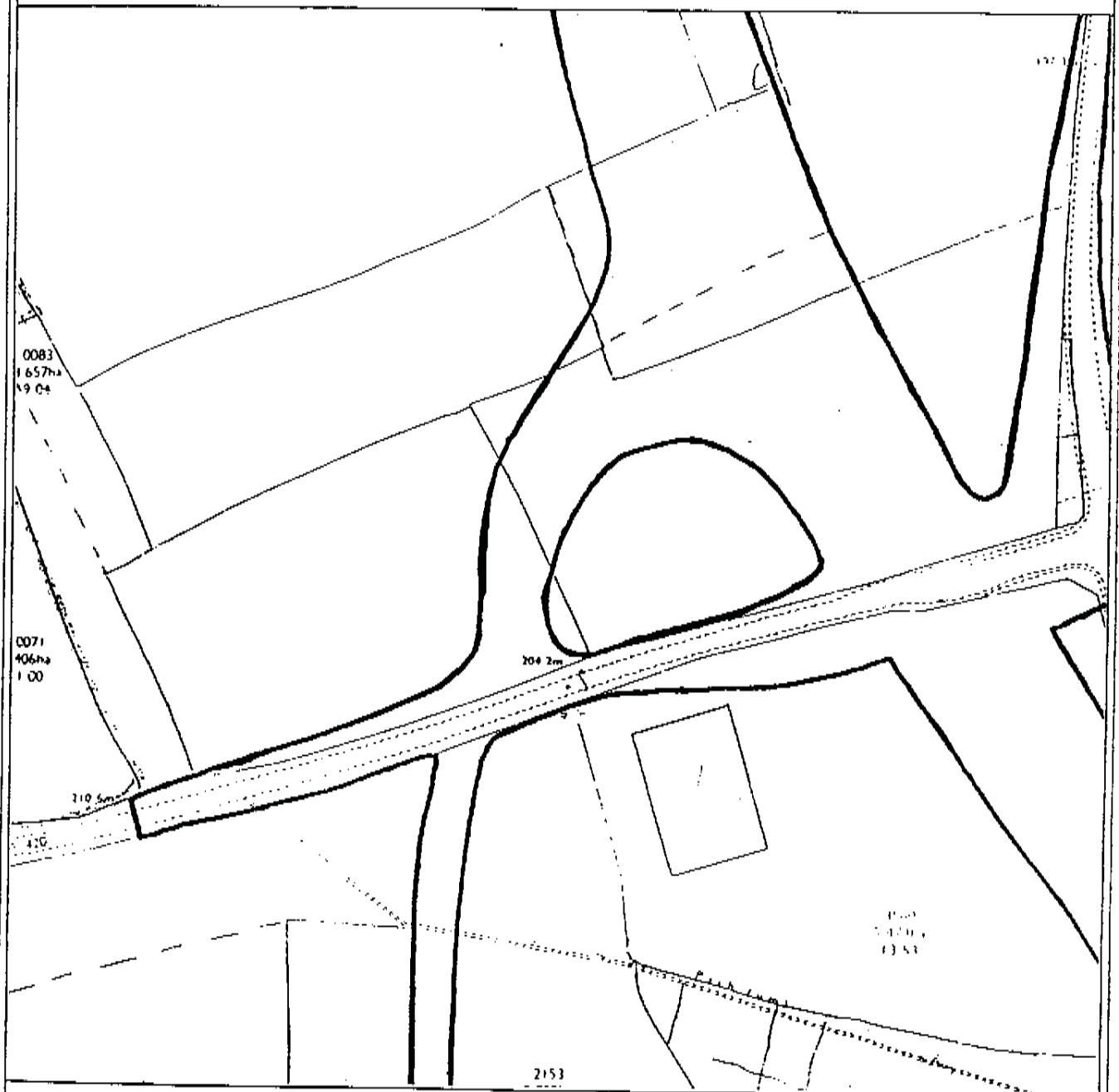
Ditch/Pit

Figure 7



# A46 Site 5

## Grid Location Diagram

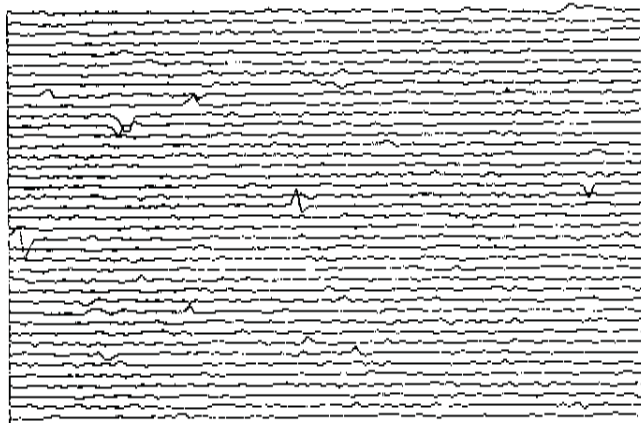


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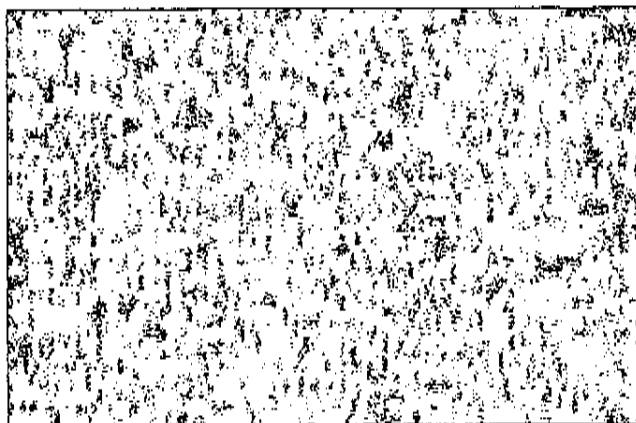
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Figure 8

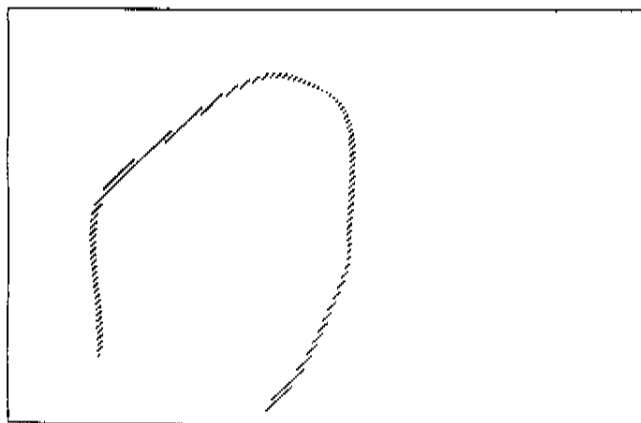
# A46 Site 5



20 nT



3.0  
nT  
0.1



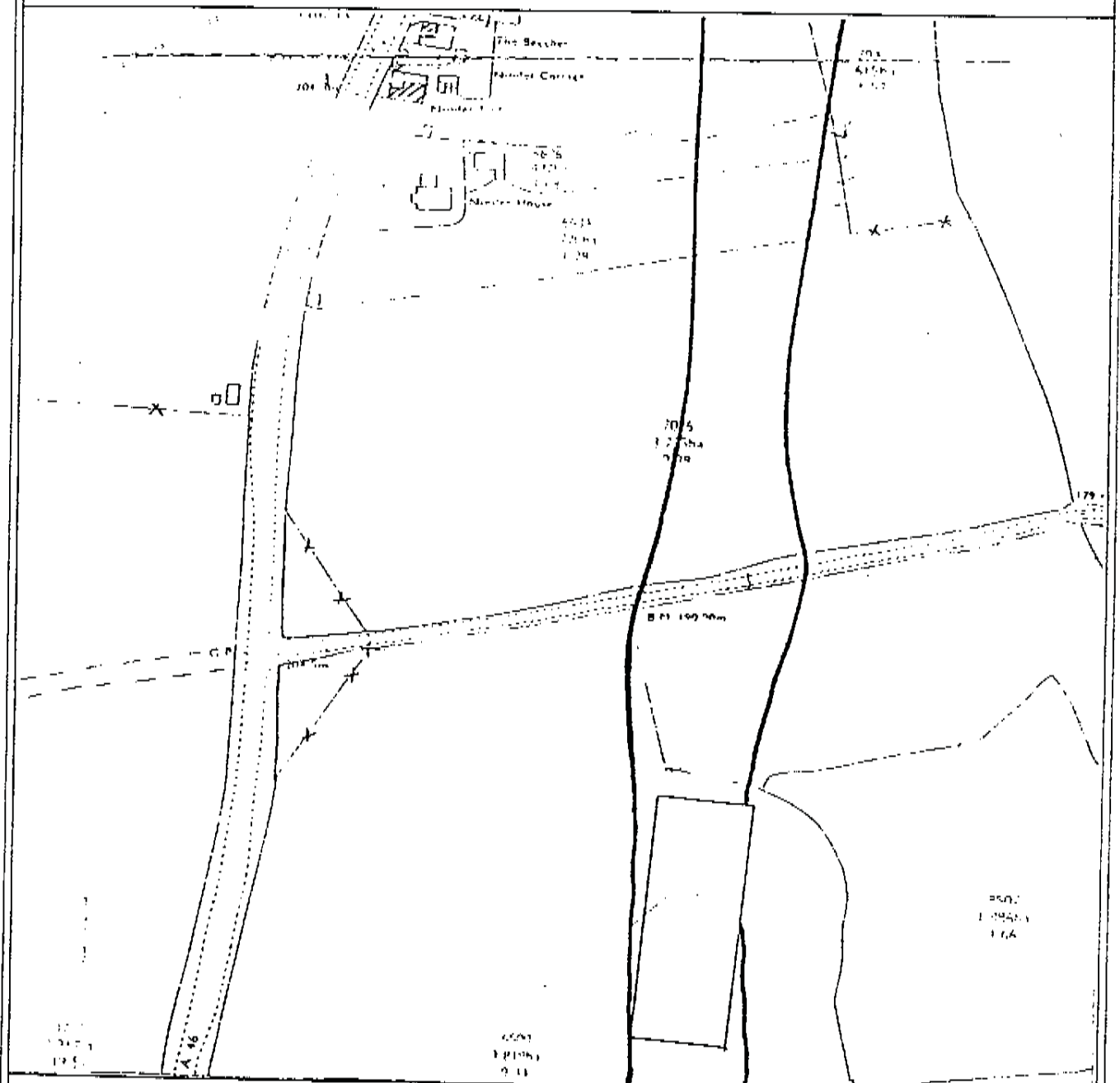
? Ditch



Figure 9

# A46 Site 6

## Grid Location Diagram



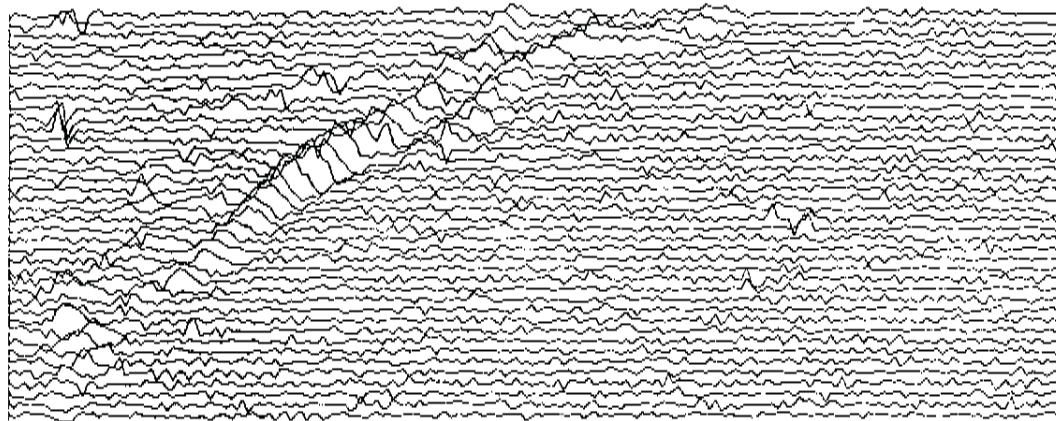
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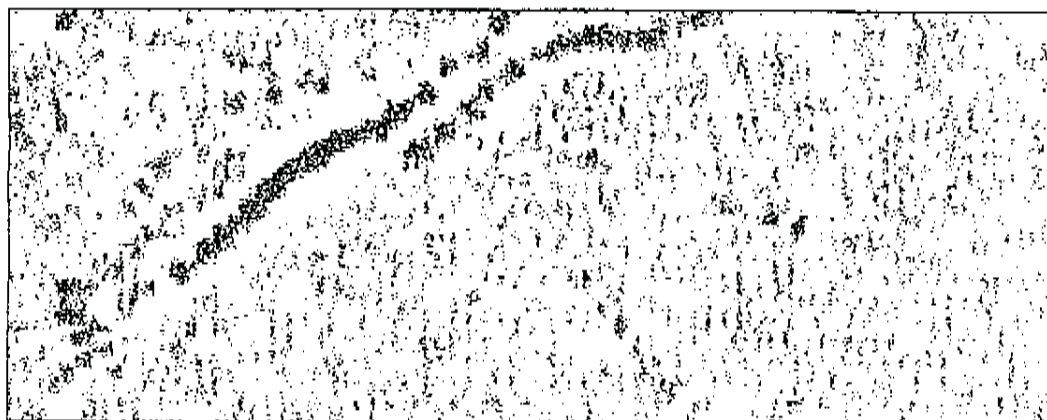
1:2500

Figure 10

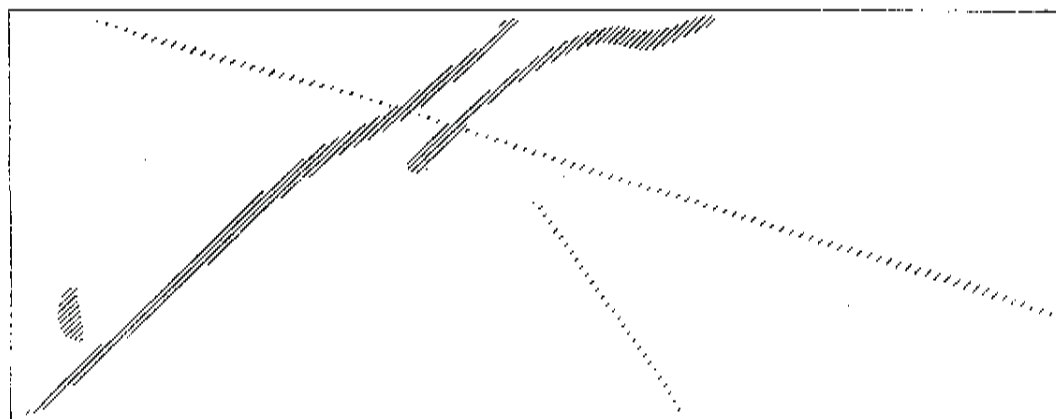
# A46 Site 6



20 nT



3.0  
nT  
0.1



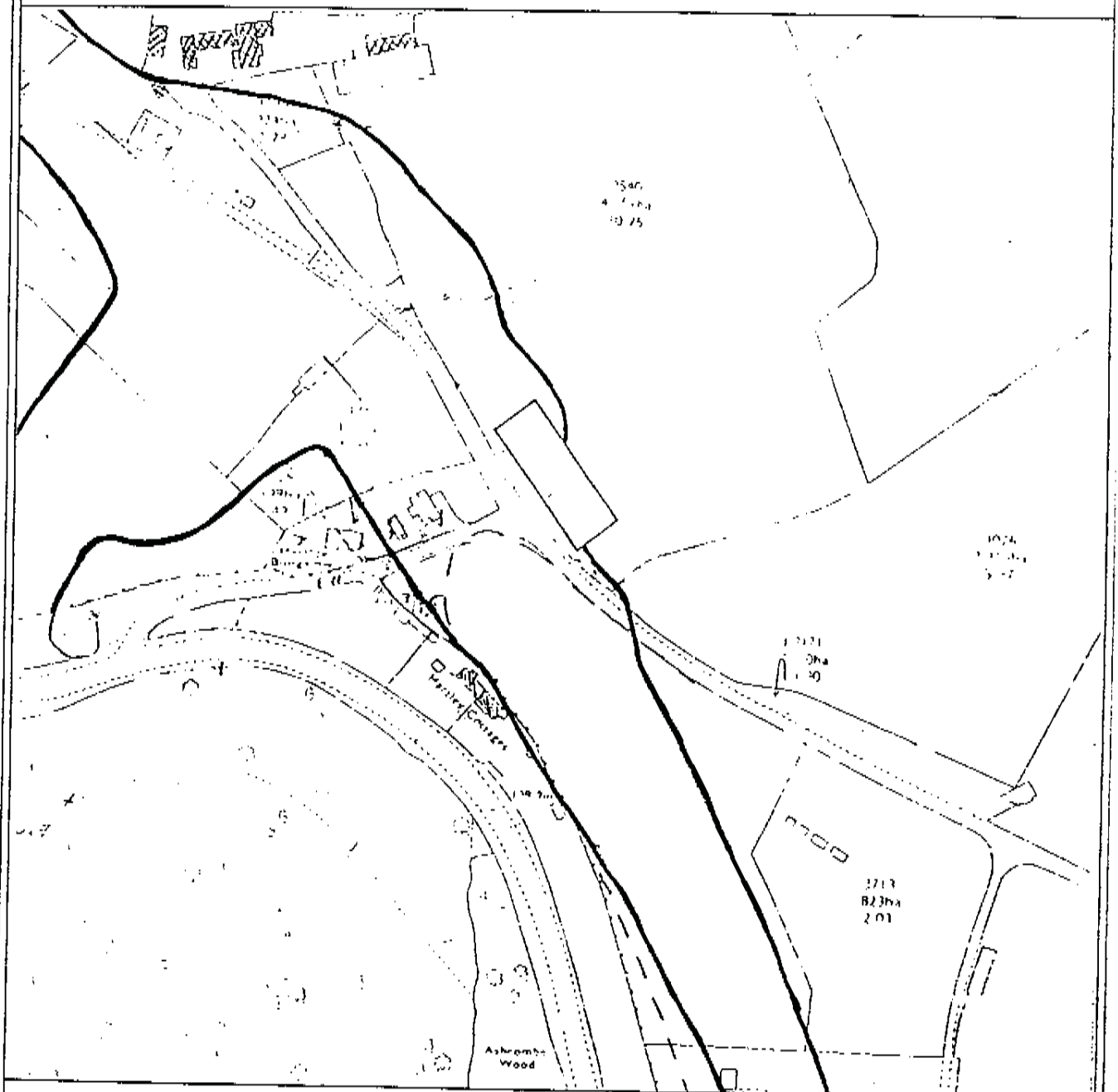
Ditch/Pit  
? Archaeology

0 m 20

Figure 11

# A46 Site 8b

## Grid Location Diagram



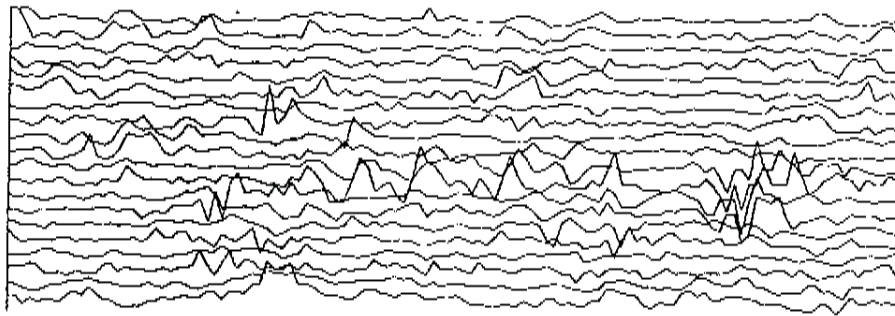
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Figure 12



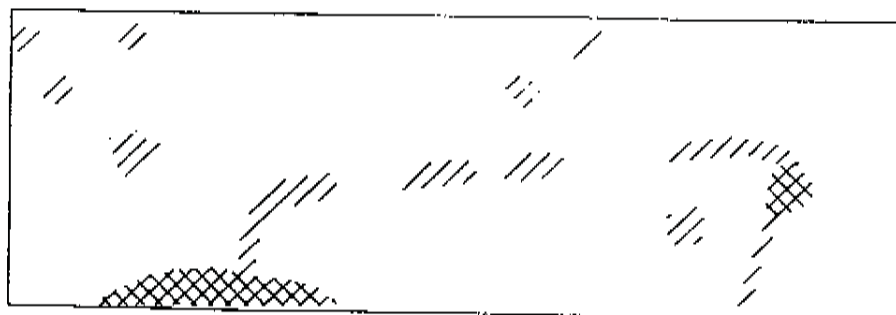
## A46 Site 8b



20 nT



3  
nT  
0.1



0 20  
m



? Ditch/Pit

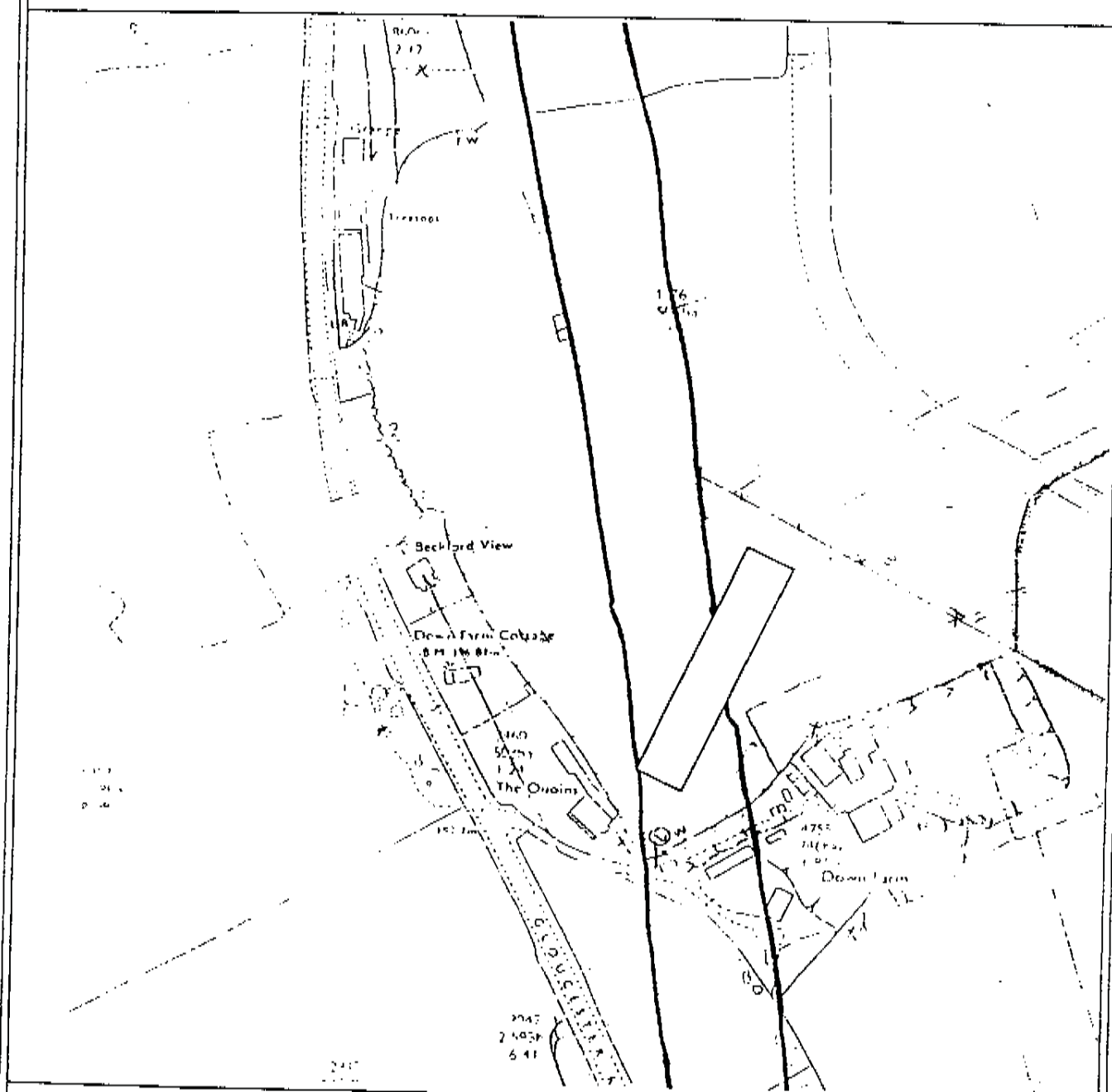


Ferrous

Figure 13

## A46 Site 9

### Grid Location Diagram

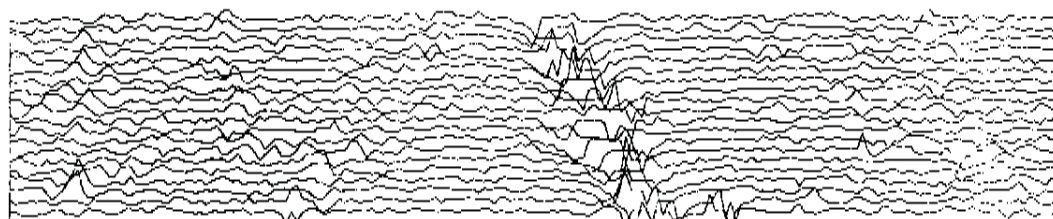


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Figure 14

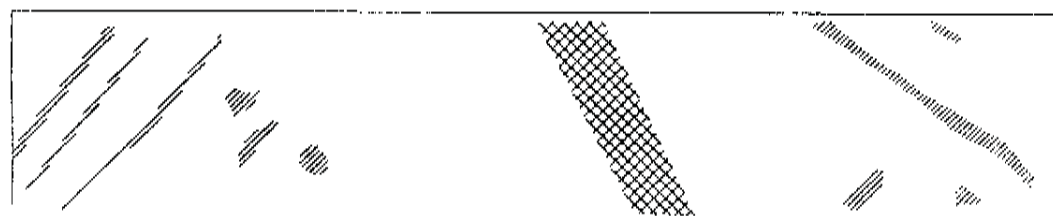
# A46 Site 9



20 nT



3.0  
nT  
0.1



Pipe  
? Ditch/Pit



0 m 20

Figure 15