

An Archaeological Investigation of DULLINGHAM TO SWAFFHAMS PIPELINE

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1992

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Report no. 65 *Romano-Celtic Temple foundations exposed in pipetrench easement at Whiteland Springs, Bottisham*



SUMMARY

Fieldwalking surveys, excavations and pipe-trench monitoring were carried out by Ben Robinson (Cambridgeshire County Council Archaeology Section) on behalf of the National Rivers Authority, along the route of the Dullingham to Swaffhams river support pipeline.

A fieldwalking survey was carried out prior to pipe-trench easement stripping. The entire length of the pipeline was examined; no new sites were located.

Pipe-trench monitoring was used to supplement information gained by prior excavation. In various locations along the pipe route archaeological features were encountered.

Excavations were carried out prior to trenching. A summary of the excavated sites is given below. Excavation archives are stored with Cambridgeshire County Council's Archaeology Section.

Mill Stream, Swaffham Bulbeck (SWAFB-PL 92) TL 560/610

A portion of the old Mill Stream was exposed. Iron age/Romano-British grain storage pits were excavated.

Whiteland Spring, Bottisham (BOTWS-PL 92) TL 557/605

A Romano-British building and enclosures were detected by geophysical prospecting. Pits and ditches, and a gated entrance to an enclosure were excavated. The remains of a probable Romano-Celtic temple were investigated.

Devil's Dyke, Swaffham Prior (SWAFDD-PL 92) TL 580/647

Post-medieval cart tracks and a cartway leading into the ditch of Devil's Dyke were located.

Goodwin Farm, Swaffham Prior (SWAFGF-PL 92) TL 579/643

A trackway leading from a substantial Romano-British building to a possible temple site was examined.

Cadenham Plantation, Swaffham Prior (SWAFCP-PL 92) TL 569/627

The profile of a medieval lynchet, now a parish boundary, was recorded.

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CONVENTIONS

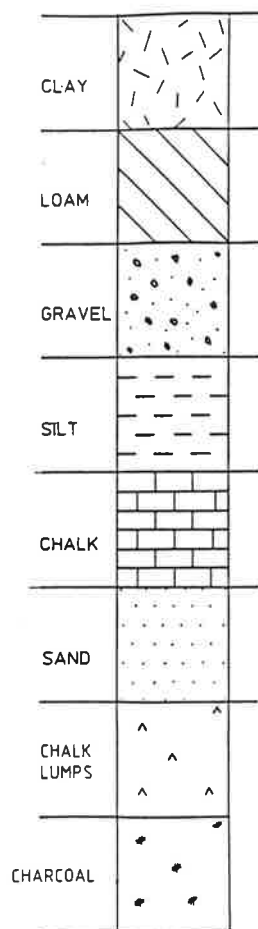
MESO.	Mesolithic
NEO.	Neolithic
BA.	Bronze Age
IA.	Iron Age
PREH.	Prehistoric
RO.	Romano-British
AS.	Anglo-Saxon
MED.	Medieval

+ AS BROOCH S.M.R. Findspot

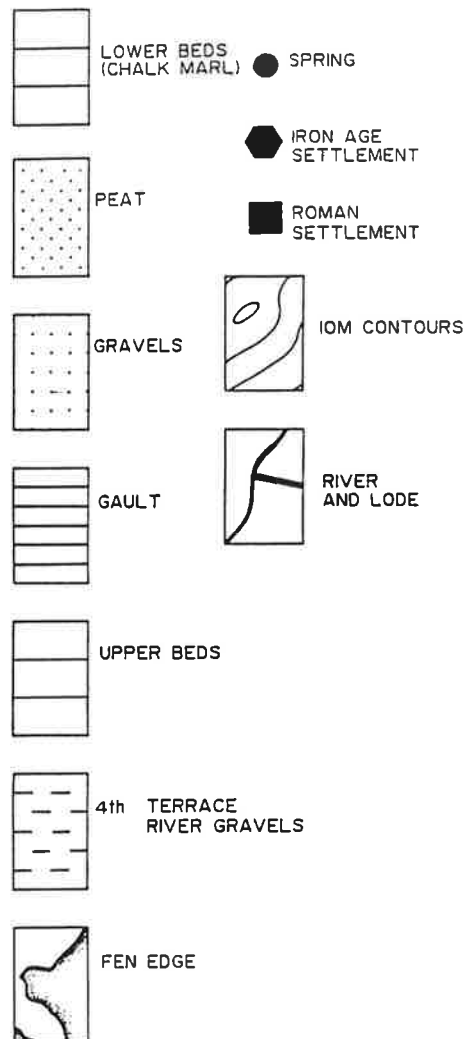
⋈ 19.95 m Height above Ordnance Datum

⊕ 123/456 Site grid coordinate

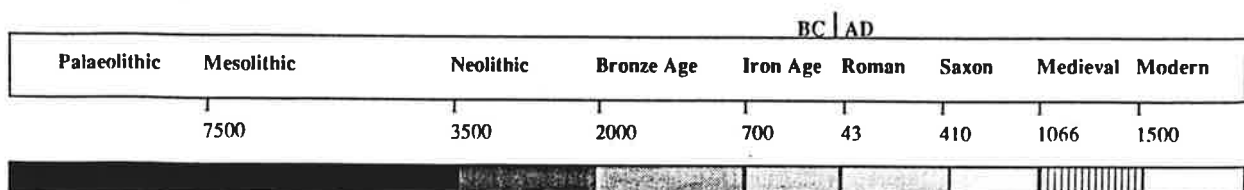
Fill Conventions

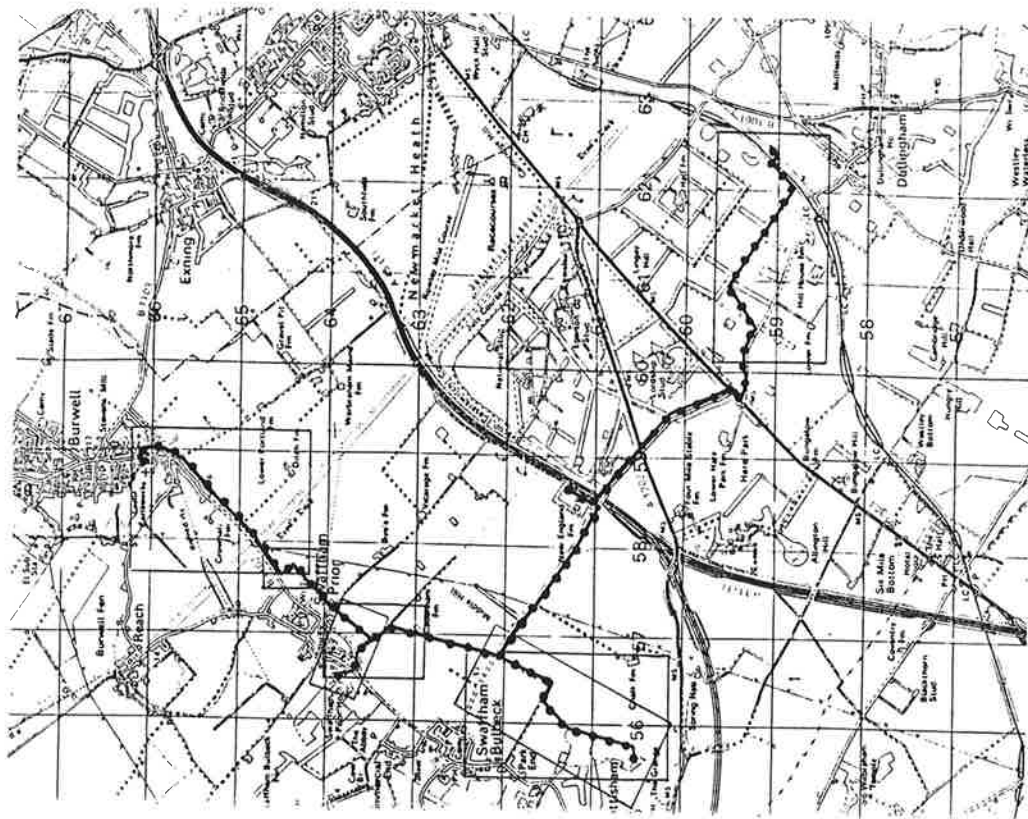


Conventions for Figure 29

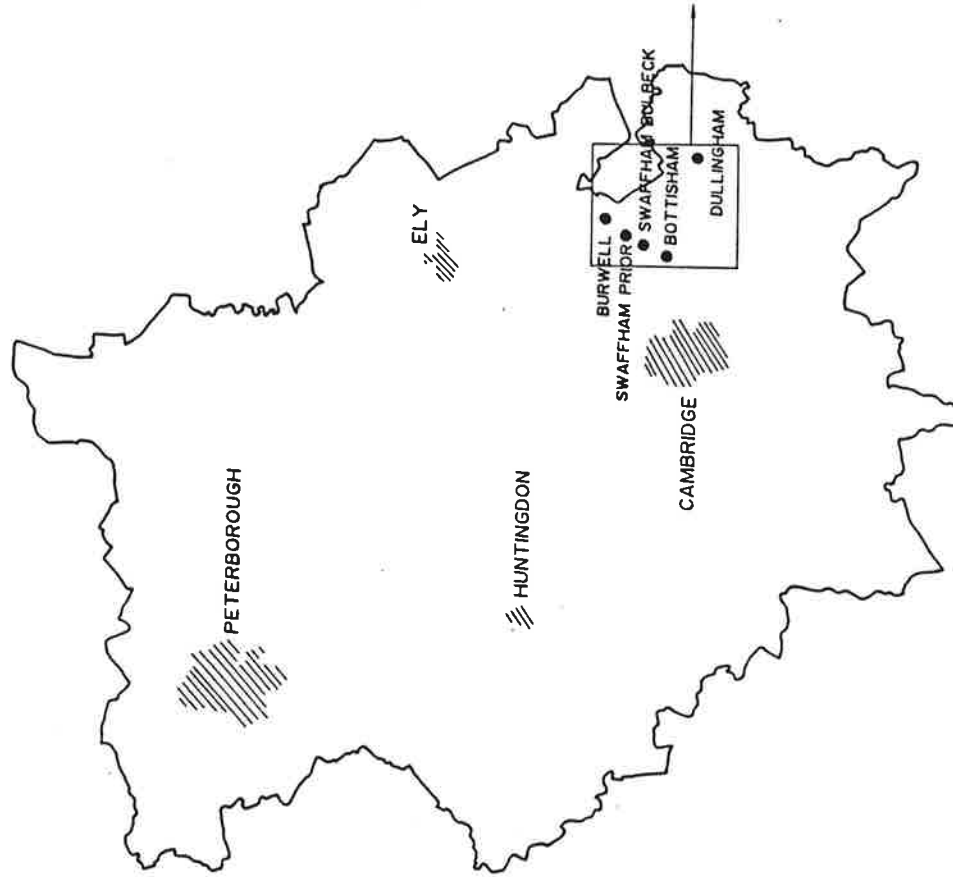
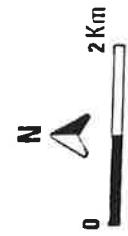


Archaeological Timechart





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DULLINGHAM - SWAFFHAMS PIPELINE LOCATION PLAN

FIG. 1

1.0 INTRODUCTION

The Dullingham to Swaffhams and Burwell River Support Pipeline was commissioned by the National Rivers Authority as part of the Lodes-Granta Groundwater Development Scheme. The pipeline is intended to top up the drought-affected dykes of Bottisham, Swaffham Prior and Burwell, from a source at Dullingham.

The pipeline (Fig. 1) runs from Eagle Lane, Dullingham, north-westerly (following the Dullingham to Swaffham Bulbeck road) to a point 1 km south-east of Swaffham Bulbeck. Here it branches into two. One branch crosses open fields in a south-westerly direction terminating at Whiteland Springs, Bottisham. The other branch runs north-easterly to Burwell, terminating a few metres from the earthworks of the castle. A sub-branch of this portion runs from Cadenham road to the gardens of Swaffham Prior House.

The pipeline is approximately 17 km in length, of which 12 km crosses open fields and the remainder uses roadside verges. The pipe trench is just under 1 m in width and of a depth dependent upon local topography and calculations of flow (usually 1-2 m). A protective gravel bed was placed around the plastic piping, capped by a plastic proximity warning label and back-filled subsoil. Where the pipe trench crosses arable land a 8-10 m wide easement was excavated to the depth of the topsoil. This ensured that after the pipe-trench had been back-filled the excavated topsoil could be replaced without any subsoil contamination, thus masking the pipe-trench. The easement was also used for vehicle access.

2.0 METHODS

The methods used for the recovery of archaeological information on this pipeline have been employed successfully on a number of pipeline schemes throughout the county in the last two years. They are the result of the on-going development of an effective response to the particular problems posed by pipeline schemes. The strategy can be divided into four elements; survey of known archaeology on the route, fieldwalking survey, rescue excavation (including related post-excavation tasks) and pipe-trench monitoring.

It is impossible to foresee exactly what remains will be encountered until digging has begun and therefore any design will require a degree of flexibility. The intention, however, is to try to minimise delay (and therefore cost) to the pipe-layer by anticipating archaeological requirements and building adequate time for its provision into the works schedule.

3.0 SURVEY OF KNOWN ARCHAEOLOGY

The County Archaeology Office is responsible for the maintenance of the county's Sites and Monuments Record (Cambs. S.M.R.). This is a complete record of the known sites of archaeological interest in Cambridgeshire, regardless of whether they are subject to special protection (ie Scheduled Monuments) or not. Records range from standing structures, such as churches, to single find spots such as a coin discovered by metal-detecting. Each record has a unique identifying number (S.M.R. number) and is stored on indexed cards and on a computer database. In addition, all sites are marked on a series of 1:10,000 scale O.S. maps. Scale representations of cropmark, soilmark and earthwork sites are recorded on transparent overlays.

The survey of known archaeology is based on information held on the Sites and Monuments Record and from secondary sources such as archaeological reports and local history books. The following sites were identified as requiring special attention due to their potential, importance and proximity to the proposed route of the pipeline.

- a) **Cropmark enclosure** at TL596/597 (S.M.R. 09322)
- b) **Cropmark complex** at TL559/612 (S.M.R. 09248)
- c) **Romano-British building** at TL558/606 (S.M.R. 09989)
- d) **Medieval field system** from TL565/615 to TL 587/654 (S.M.R. 06693)
- e) **Cropmark complex (villa or temple ?)** at TL 579/643 (S.M.R. 06872)
- f) **Medieval moat** at TL 564/639 (S.M.R. 01129c)
- g) **Medieval castle earthworks** at TL 587/661 (S.A.M. Camb 71, S.M.R. 01775)
- h) **Anglo-Saxon earthwork, 'Devil's Dyke'** from TL 567/661 to TL653/583 (S.A.M. Camb 5, S.M.R. 07801)

For each of these sites an interval was included in the works schedule, between easement stripping and pipe-laying, to allow for excavation. The maximum programmed period for a site was two weeks, with any extra time required to be agreed in consultation with the National Rivers Authority.

4.0 FIELDWALKING SURVEY

A fieldwalking survey was carried out prior to easement stripping. This involves the collection of surface material indicative of buried archaeological features. Analysis of the material can provide information about the extent, condition and date of the site. The intention of the survey was to locate sites well before trenching began so that provision could be made for any site discovered as quickly as possible. The pipe route is just under 17 km in length, though 9.4 km of this total was unavailable for fieldwalking due to unfavourable crop covering (usually grass or well developed sugar beet).

It was not considered necessary to examine the whole route in a regimented fashion. Particular attention was paid to areas where there was a lack of previously noted sites, and where conditions prevailed that were likely to have hindered previous recognition. Fieldwalking transects were concentrated along the line of the easement and, thus, the area of investigation was narrow (12 m). The limitations of this type of survey are recognised, however, the method employed was considered adequate for locating those sites likely to suffer extensive damage from pipe-trenching.

Each transect was 4 m wide and 10 m 'pick-ups' were used. For material such as tile, the frequency per 'pick-up' was noted though only a sample of the material was retained. Cambridgeshire Archaeology standard fieldwalking forms were used. Where structured fieldwalking was not undertaken a more casual approach was adopted and finds scatters were noted without collection.

The fields surveyed by structured fieldwalking are discussed below. Sketch sections resulting from trench monitoring are reproduced and their locations have been marked by identifying letters on the fieldwalking location maps.

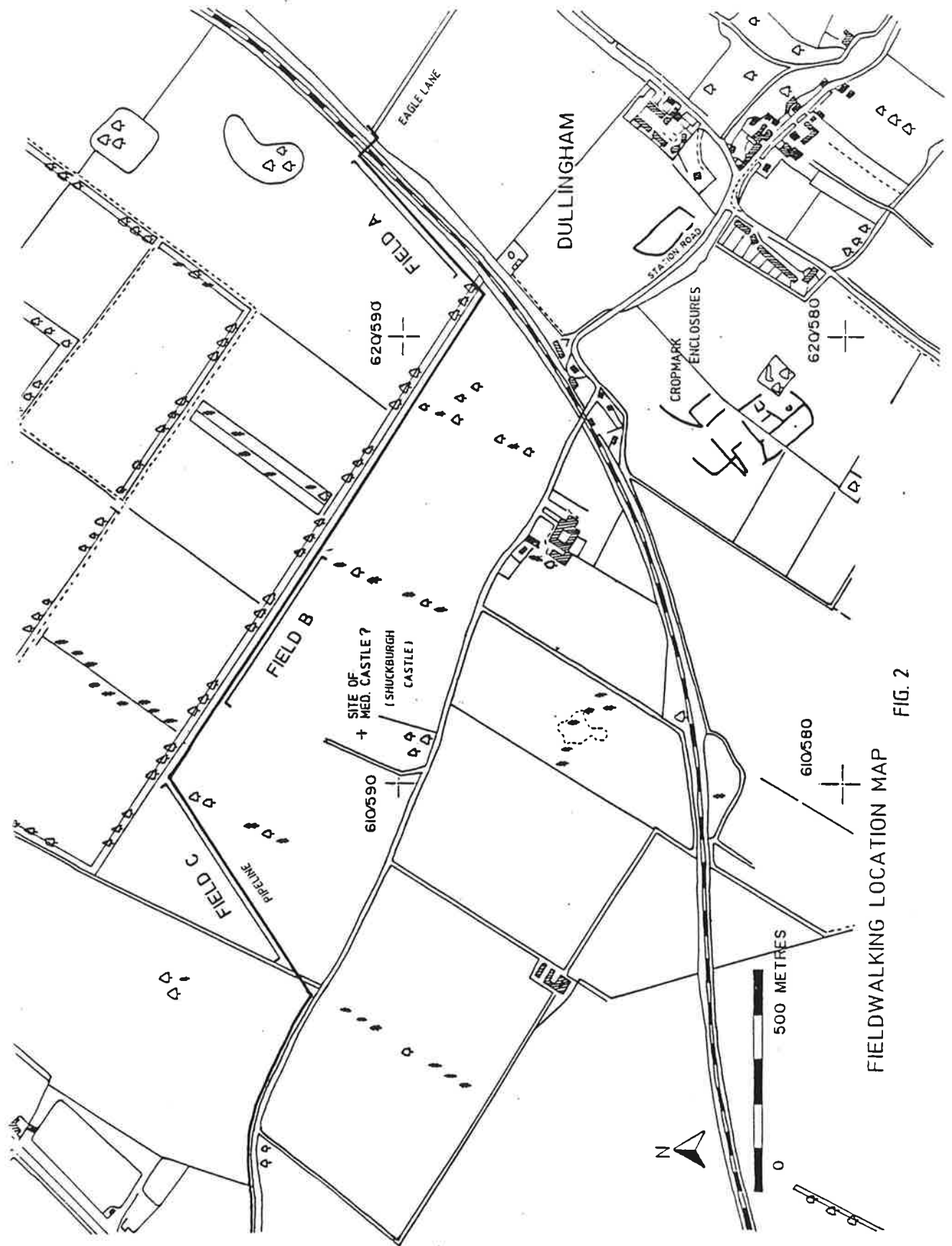
4.1 RESULTS

Field A (Fig. 2)

There are no previously recorded finds in the vicinity. The area examined was situated at the foot of a steep middle chalk slope with a probability of thick colluvial deposits. The field was covered with unploughed stubble providing a fair ground visibility. Two 350 m transects were examined. A few post-medieval finds (glass, brick, clay-pipe stems) were noted.

Field B (Fig. 2)

The reputed site of Shuckburgh Castle lies 700 m to the west of this field. The field is situated partly on a gentle middle chalk slope and partly on a plateau of glacial sand and



FIELDWALKING LOCATION MAP
 FIG. 2

gravel. A cereal crop (5-10 cm high) covered the field. One 390 m transect was examined but only a single undated tile fragment was recovered.

Field C (Fig. 2)

There are no previously recorded sites in the area. The gently sloping (middle chalk / glacial sand and gravel) field was covered with an unploughed cereal stubble giving poor ground visibility. Two 470 m transects were examined. A few post-medieval potsherds, one very abraded medieval potsherd and two fire-cracked flints were collected.

Field D (Fig. 3)

The pipe route runs within 70 m of a cropmark complex. The area over the complex had been briefly examined in 1987 during an archaeological survey of the Cambridgeshire County Farms Estate (Malim 1990). No datable material was noted. The form of the cropmarks, and their association with a trackway leading to a substantial villa site, suggest that the site is Romano-British in date. The field was planted with a cereal crop which was 5-10 cm high at the time of survey. The subsoil is of middle chalk. Four 500 m transects were examined.

A heavy background scatter of glazed post-medieval potsherds and undated tile fragments was encountered. This material was mostly quite abraded and became more concentrated at the foot of the slope. The large amount of post-medieval material and its distribution pattern is consistent with the field's proximity to Swaffham Prior. The Romano-British and medieval potsherds were of a much lower density but were similarly concentrated at the foot of the slope. Very little material was collected adjacent to the cropmark site. Casual examination of the area of cropmark site itself produced a small and very abraded collection of Romano-British potsherds.

Field E (Fig. 4)

The pipeline ran across ploughed-out medieval field boundaries which survive as low earthworks in the fields to the east of the Swaffhams. The geology here is of lower chalk. A cereal crop (5-10 cm high) covered the field giving good visibility. Three 310 m transects were examined. A lot of post-medieval material, a few very abraded Romano-British sherds and a very small quantity of medieval sherds were collected.

Field F (Fig. 4)

An area 150 m to the north-east of a Romano-British material finds scatter was examined. The field was harrowed but unsown, providing a good ground visibility. Subsoil was of chalk marl. Three 80 m transects were covered. Much modern material was noted and only two small abraded Romano-British potsherds were recovered.

Field G (Fig. 5)

This field was crossed by ploughed-out medieval field boundaries, the area examined passes within 170 m of the find spot for two worked flints. A cereal crop (5-10 cm high) covered the field. A small quantity of medieval and post-medieval potsherds were recovered.

Field H (Fig. 5)

The area examined spanned the top of a hill of lower chalk, set with a cereal crop. Again the ploughed-out field boundaries were apparent. Three transects of 590 m length were examined. A quantity of undated tile and one medieval rim sherd were noted.

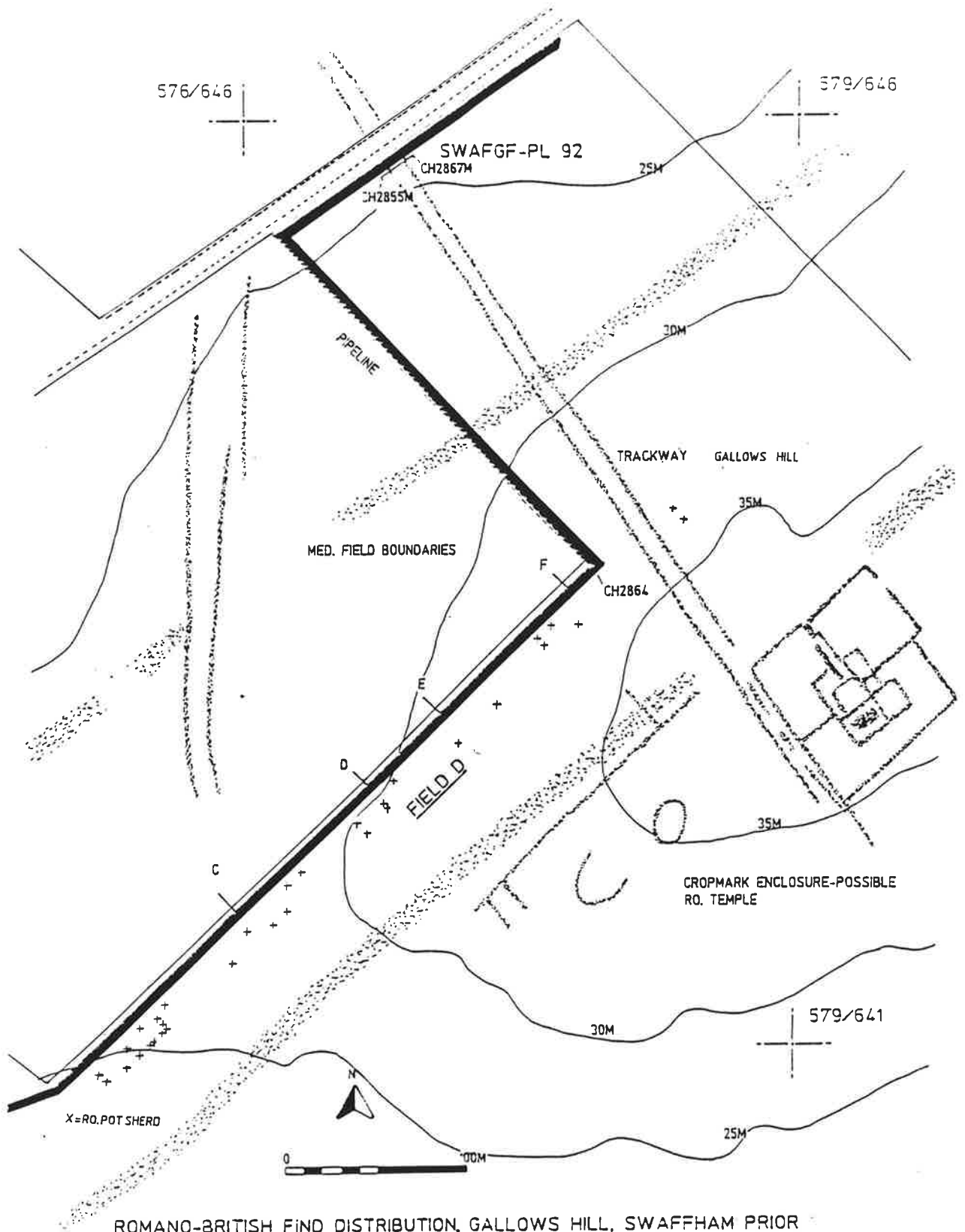


FIG. 3

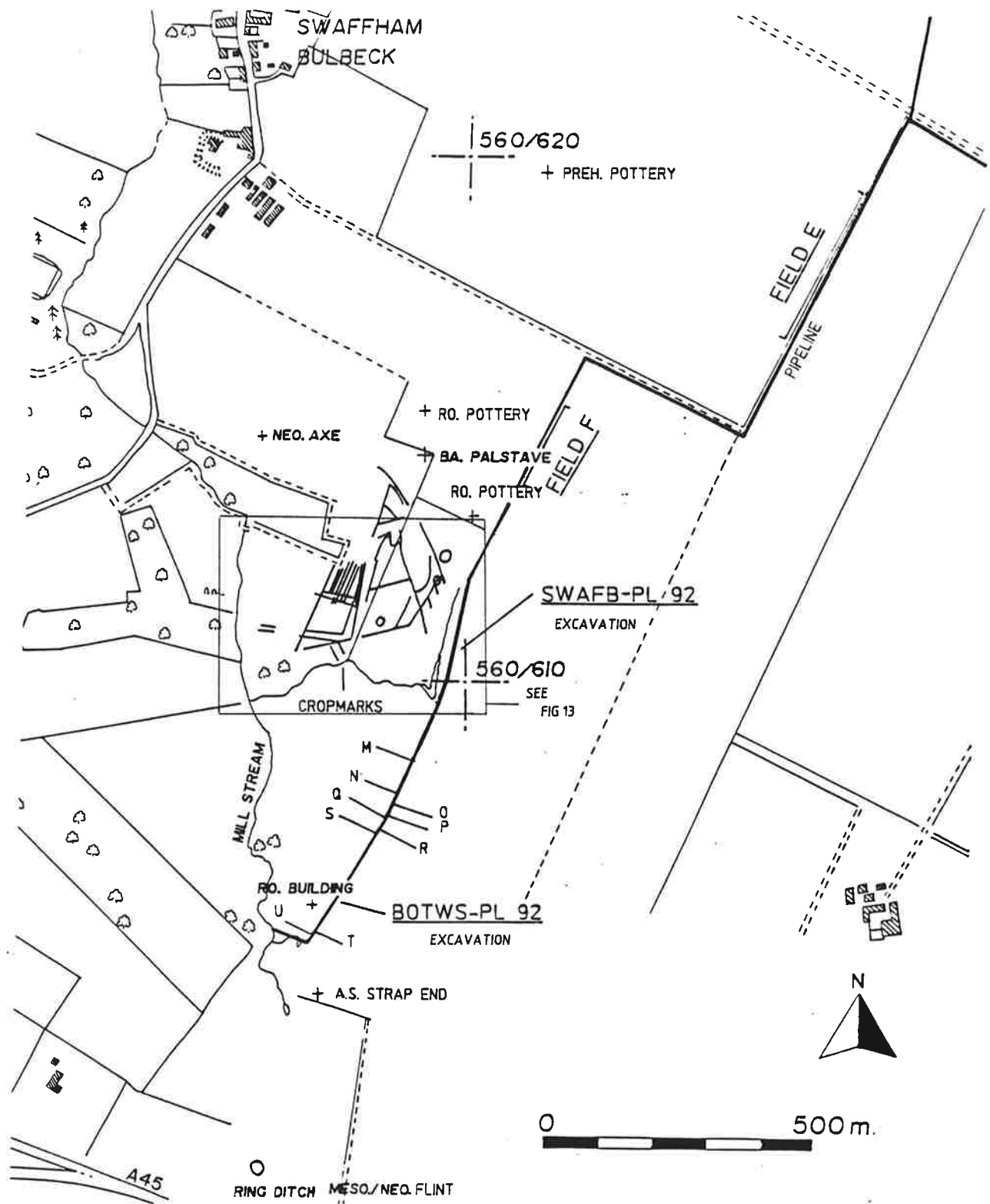


FIG. 4

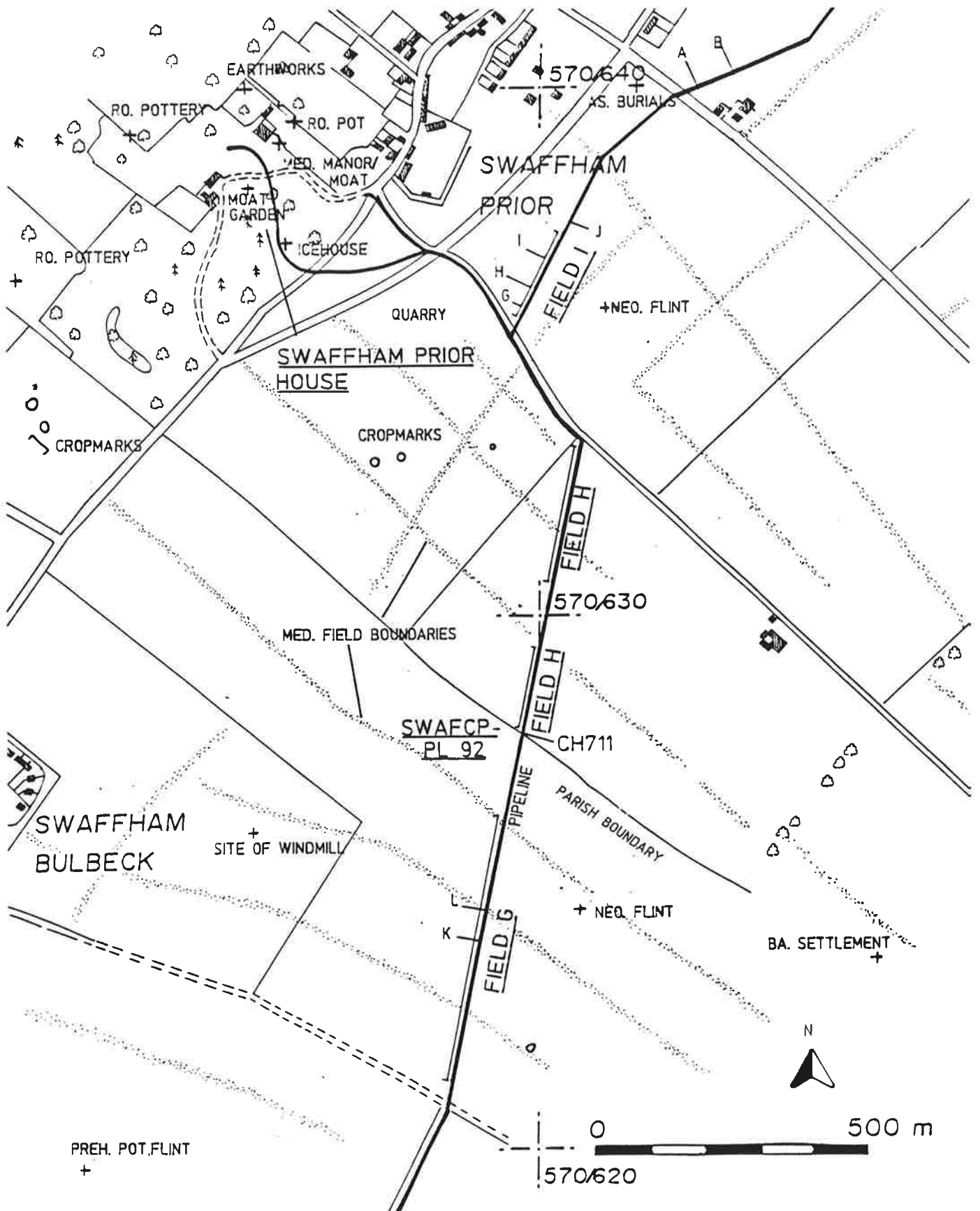


FIG. 5

Field I (Fig. 5)

The area examined was on level ground to the east of Swaffham Prior. The field was covered with a uniform spread of post - medieval tile and potsherds. Five very abraded Romano - British potsherds were also recovered.

5.0 TRENCH MONITORING

Trench monitoring took place throughout the project. The speed with which the pipe trench was dug and then back - filled with gravel, did not allow for anything but the briefest recording of features encountered. The narrow pipe trench was examined for features in section, which were then recorded by photography and measured sketches with notes. An attempt was made to extract datable material from exposed sections, though this was only achieved in a few instances. This phase of the project generally produced information of limited quality, nevertheless it was useful in confirming the absence of features in certain areas, or indicating buried archaeological features in areas with previously unrecognised sites (Fig. 6 & 7). Two sites deserve special mention.

Mandeville, Burwell (TL 589/661)

The pipe trench passes close to the north side of the burial ground surrounding St Mary's church, following a lane (Mandeville) which separates the churchyard from the site of Burwell castle. The lane is considerably lower than the level of the burial ground, which here is bordered by a 19th century flint - faced wall. There was a possibility that this boundary does not reflect the earlier extent of the churchyard and that burials would be encountered. Examination of the pipe trench revealed that the modern road (a ballast of sand and flint rubble covered with tarmac) had been laid directly onto the natural chalk. There were no burials and no evidence of a former road surface.

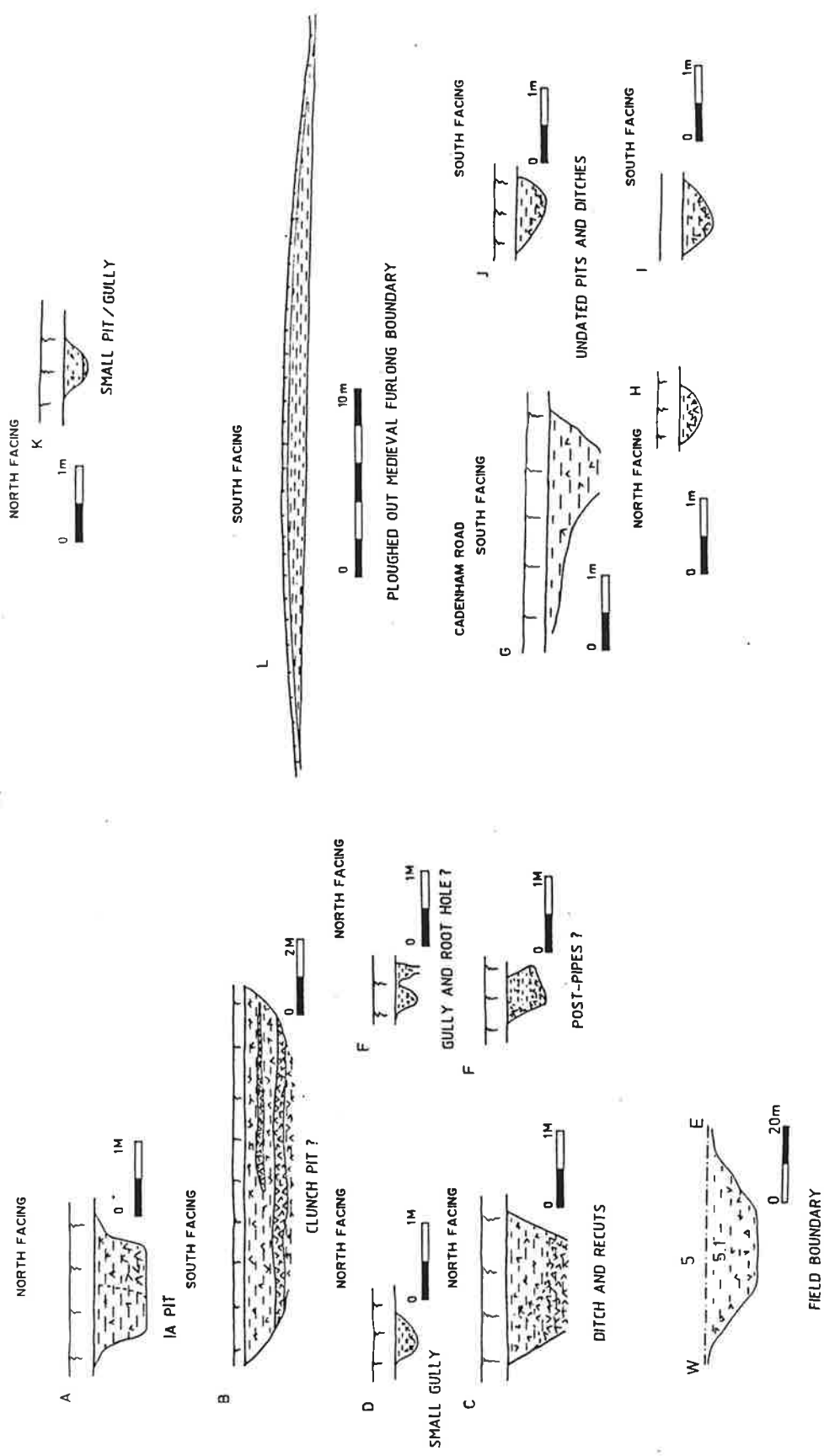
Swaffham Prior House, Swaffham Prior (TL 564/639)

The pipe trench crosses the grounds of Swaffham Prior house, terminating near the boundary between this property and the grounds of Baldwin Manor. Baldwin Manor is named after its 13th century owners, though the house now standing dates to the 16th century. An enclosure map of 1815 shows that a complete moat surrounded the building, which is now completely in-filled. Extensive landscape gardening has occurred here since at least the 18th century. It was thought probable, however, that the pipe trench would encounter medieval deposits relating to the manor. Examination of the pipe trench revealed post-medieval make-up from the landscaping activities, but no sign of earlier activity. The former moat was not encountered.

6.0 EXCAVATION

The strategy adopted for each site was very much dependent upon the nature of the remains. In general the aims were to establish the date and quality of the remains, to excavate features threatened by pipe-laying and to establish the nature and extent of the site. The latter was subject to the limiting factor of only being able to excavate features within the easement.

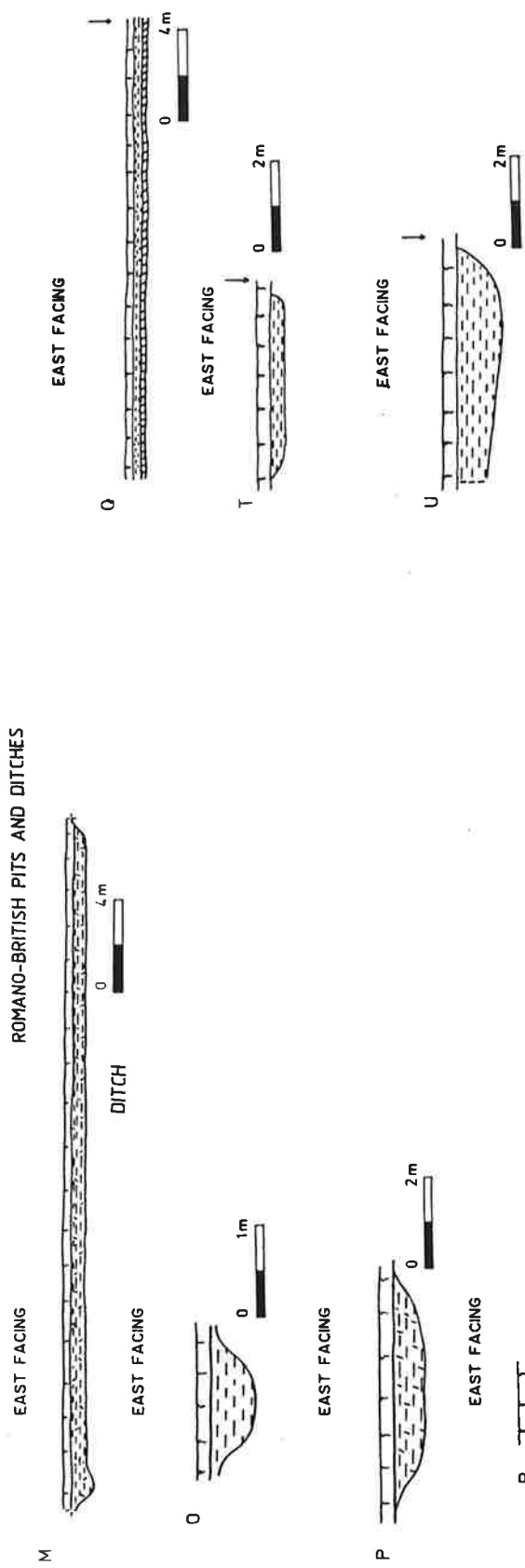
Topsoil stripping over a site was carried out by the pipe-laying contractor under the guidance of an archaeologist. Here a problem became apparent regarding the definition of 'topsoil stripping'. The archaeologist requires that all the topsoil (as well as any other non-archaeological overburden) is removed in order that the archaeological deposits can be seen. Easement diggers usually prefer to leave some topsoil in place, which effectively renders the archaeology invisible. In most cases the difference between requirements only amounted to a few centimetres, where it was more the



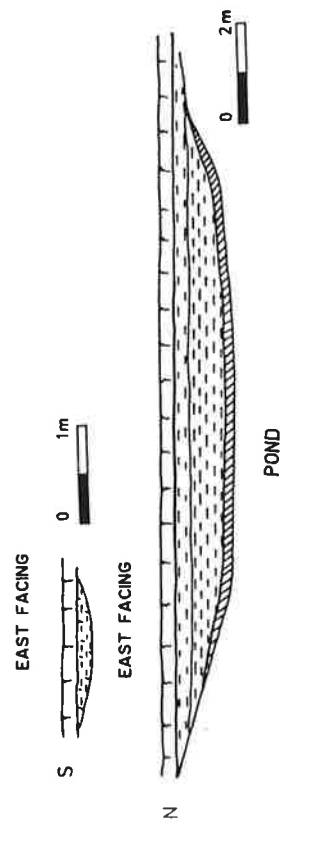
MEASURED SKETCH SECTIONS FROM PIPE TRENCH MONITORING (SEE FIELDWALKING MAPS FOR LOCATIONS)

FIG. 6

ROMANO-BRITISH PITS AND DITCHES



ROMANO-BRITISH PITS AND DITCHES



WHITELAND SPRINGS SITE
 MEASURED SKETCH SECTIONS FROM PIPE TRENCH
 MONITORING

N.R.A. agreed to compensate the contractor for the extra time taken to dig the easement.

When faced with an extensive area of archaeological potential it was important to at once assess the extent and quality of the site. A single bucket width (2 m) was stripped of ploughsoil along one edge of the easement across the area of potential. Areas of interest could then be expanded to the full 8 m width available as required. In this way the unnecessary stripping of 'blank' areas were largely avoided.

**6.1 POST-MEDIEVAL CART TRACKS ADJACENT TO DEVIL'S
DITCH, SWAFFHAM PRIOR & BURWELL. TL 580 / 648.
(SWAFDD-PL 92 & BURDD-PL 92)**

6.1.1 INTRODUCTION

Excavations were carried out adjacent to the B1102, Burwell road (Fig. 8) immediately to the west (Swaffham Prior parish) and to the east (Burwell parish) of Devil's Ditch (S.M.R. 07801, Scheduled Ancient Monument Camb 5).

Devil's Ditch is a large earthwork consisting of a single bank and ditch. It runs from Reach south-easterly to Ditton Green; a distance of 7.5 miles. It is not quite straight but deviates slightly and deliberately in opposite directions at either end. The entire structure is over 30 m wide and there is a difference in height between the top of the bank and the bottom of the ditch of over 10 m. Excavations in 1924 (Fox 1925) established a late or post-Romano-British date for the earthwork, based on artefacts recovered from the buried soil beneath the bank. Excavation of the monument undertaken in 1973 (Hope-Taylor 1976) confirmed a post 350 A.D. date and indicated that its first phase of construction was a marker bank. The existence of original gaps in the earthwork remains uncertain, many gaps have been dug subsequently. Pollen analysis of the buried soil indicated a very open herb-rich grassland in the vicinity prior to construction (Dimbleby 1985). More recently excavation has suggested that the earthwork's present profile mirrors its original profile, the ditch perhaps being regularly cleaned out (Wait 1991).

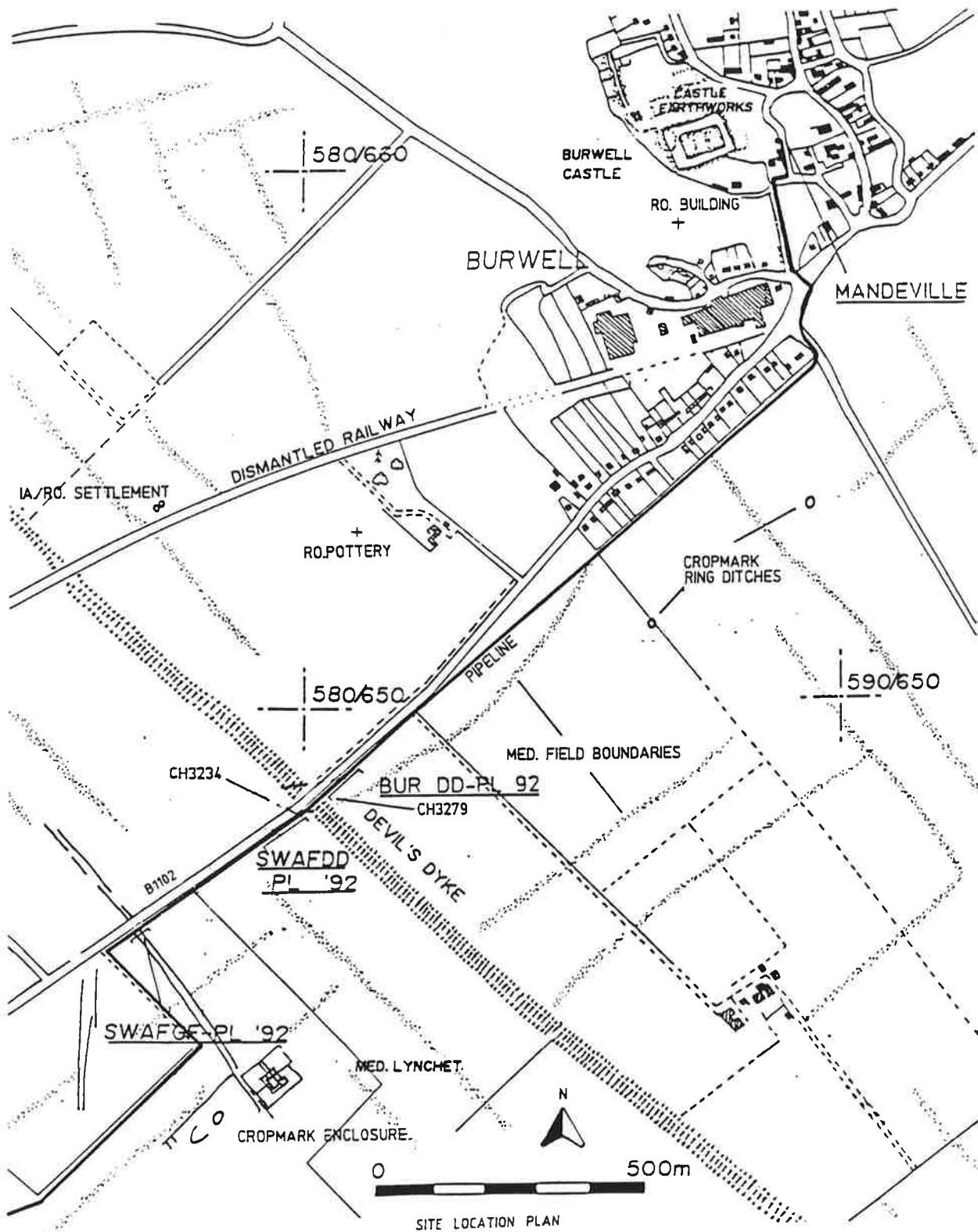
Reference to the earthwork in the Anglo-Saxon Chronicles demonstrates that it existed in the first years of the 10th century. The traditional view is that it was constructed during the early 7th century as a response to Penda's aggressive campaigns in East Anglia. The military merits of the earthwork have long been debated. The north-west end terminates in fen which would have presented a fairly effective barrier but the south-east end terminates abruptly on gentle boulder clay hills. It is suggested that this area was densely wooded, though this remains unproven. The most effective military use would have been as a permanently garrisoned frontier, though no structures suggestive of this function have ever been discovered. Unmanned, it still would have presented a considerable obstacle, hindering movement along the Icknield Way zone and preventing cattle rustling. The delay it would have caused to an army approaching East Anglia from the south-west would give the defending forces precious time to muster.

The excavation described below took place on the interface between chalk marl and middle chalk adjacent to the Burwell Road crossing. It is not known whether the line of the road is based on an original causeway. To the south of Burwell Road the bank has been partly quarried so that it does not occur at its full height or width for some 100 m from the road.

6.1.2 METHODS

In order to avoid pipe-trenching in the ditch silts and across the remnants of the bank (which would have required Scheduled Monument consent) the N.R.A. decided to trench in a lay-by, alongside the road, just outside the scheduled area. This meant that the trench had to be dug and back-filled very quickly with no opportunity for archaeological excavation. We were able, however, to strip portions of the easement leading up to the edge of the monument, on both sides of the ditch. It was thought worthwhile to examine the hinterland of the ditch to test for structures relating to it.

Archaeological features encountered were planned, photographed and excavated according to their perceived importance and contribution to interpretation and phasing.



SITE LOCATION PLAN

FIG. 8

6.1.3 RESULTS (SWAFFHAM PRIOR)

A section of the easement 36 m long abutting the ditch and running parallel to the Burwell Road was examined (Fig. 9). Several linear and irregular features became apparent after the removal of a colluvial deposit 10 - 15 cm thick. Seven of the features were excavated. Each was found to have a similar homogeneous light yellowish brown, slightly clayey fill (this was very similar to the overlying colluvial deposit). Features [5], [6], [8], [9] and [10] were all found to be shallow with linear 'u' shaped grooves at their bases. These grooves are more rounded in profile than mole drains or plough-score marks and are not aligned with the field boundaries. They instead appear to be wheel-ruts.

Sections across features [1] and [2] revealed that they were deeper, though again of similar fill. A single wheel-rut was apparent at the base of [1]. These features intersected at the edge of Devil's Ditch, feature [1] possibly cut [2] though the relationship was indistinct. Feature [1] approached the ditch at right-angles; we were only able to half-section it since the remainder of it lay outside the area available for investigation. Where sectioned it was just under 1 m deep, however, it was noted during pipe trench monitoring that its depth decreased with distance from the ditch. Post-medieval glazed pottery and claypipe stems were found within the fills of [1] and [2] whilst the remaining features were sterile.

6.1.4 DISCUSSION

It would seem that these features were formed as a result of carts approaching Gallows Hill from Burwell Road; the slightly differing orientations suggest that they were not confined to a single trackway. Feature [1] was deliberately cut to lessen the incline from the base of the earthwork's ditch. As this does not correspond to with a gap in the bank opposite it may not have been an early crossing but may have instead served as an access to the base of the ditch. In this way the ditch itself could have been used as a cart track.

6.1.5 RESULTS (BURWELL)

A 34 m long segment of easement was stripped adjacent to the Burwell Road to the north-east of the bank of the Devil's Ditch (Fig. 10). Again an overburden of 15 - 20 cm of homogeneous colluvial silt was removed to expose the archaeological features. The pattern of features was similar to that displayed in excavations adjacent to the ditch side of the monument (see above). Linear and irregular features were noted, each with a very light brown fine silt fill. Feature [1] was excavated and found to be an irregular roughly circular-shaped depression (1.5 m in diameter and 14 cm deep). At its base a hard-pan of brittle greyish brown silt (0.4 cm thick) had formed. No finds were recovered and no charcoal was noted, it is suggested that this feature formed as a result of tree root action. A section was cut across one of the linear features. This was found to be comprised of two shallow (15 cm deep) parallel gullies, [2] & [4], overlain by a thin layer which may have been a remnant of the colluvial deposit, filling a slight depression. These features differ slightly from those encountered at the other side of Devil's Ditch (see above). The upper fills of each are a light greyish brown, each has a lower fill (primary) with moderate small chalk lump inclusions. Their bases are flat with no wheel-ruts. A fragment of a cow metapodial (very weathered) was found in the upper fill of [2]. The gullies, which run north-south at a slight angle to Devil's Ditch could not be dated, and their purpose remains unknown.

PLAN OF PIPE TRENCH EASEMENT ADJACENT TO DEVIL'S DYKE SHOWING CART TRACKS

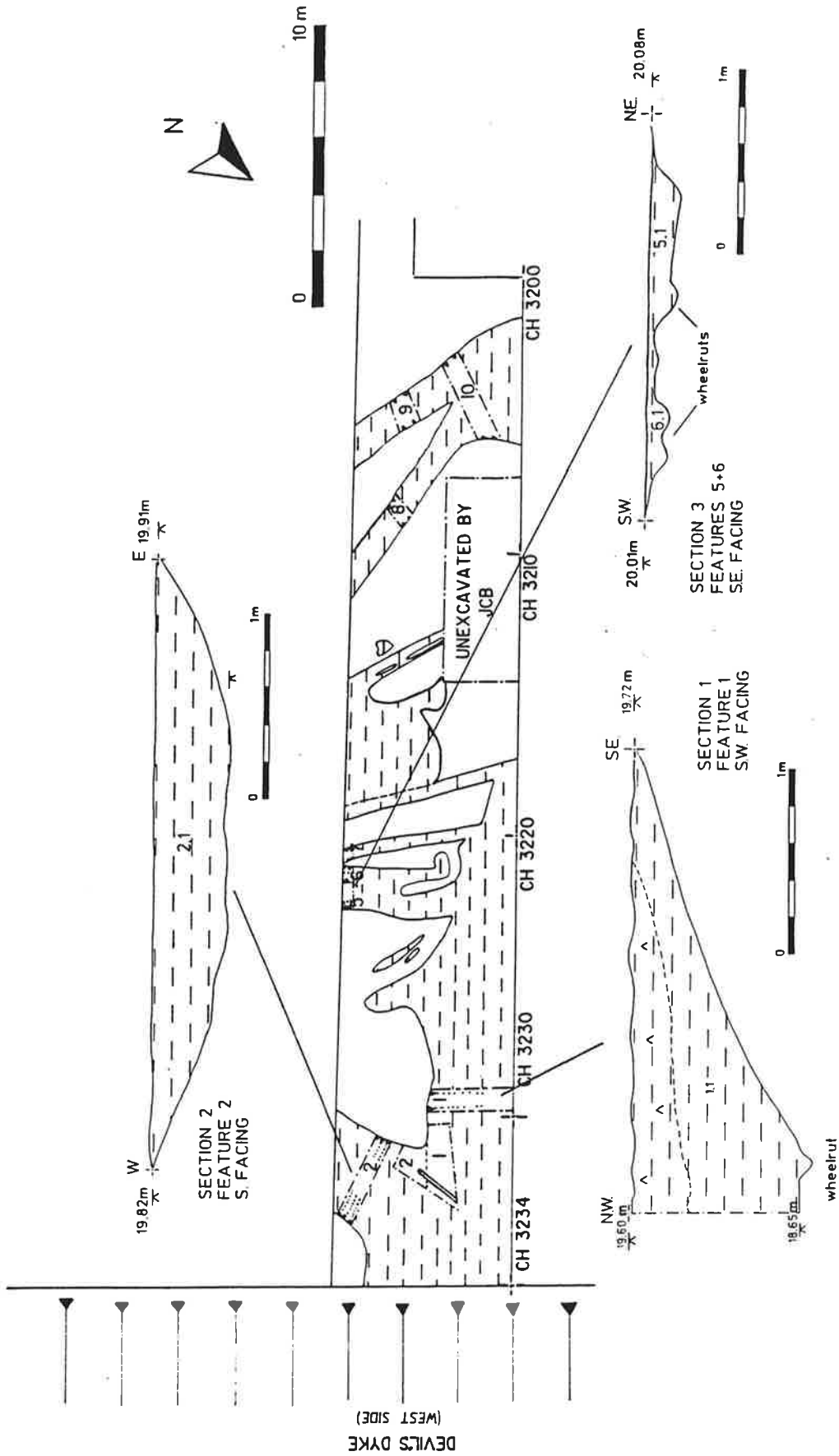
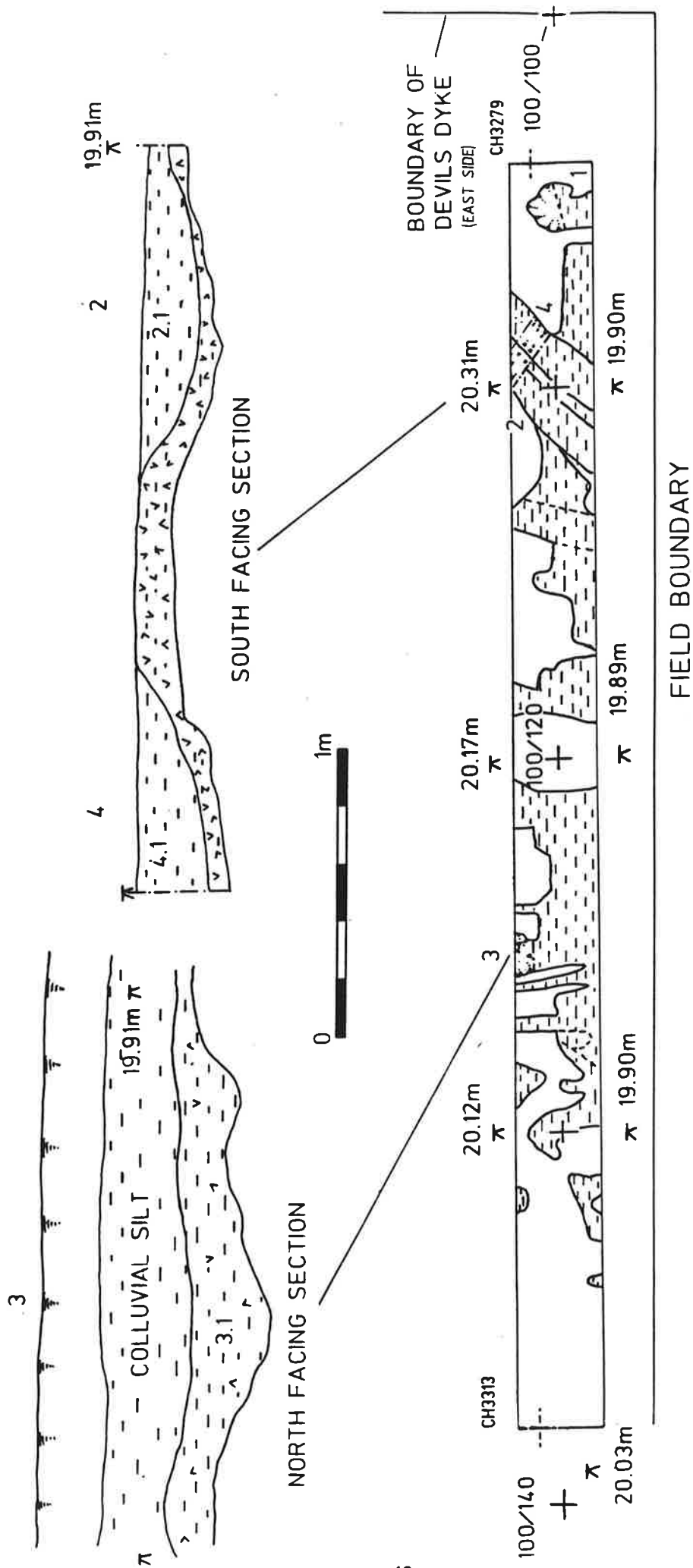


FIG. 9



BURDD-PL 92
 PLAN OF PIPE TRENCH EASEMENT ADJACENT TO DEVILS DYKE
 SHOWING GULLIES AND IRREGULAR FEATURES

FIG. 10

6.2 ROMANO-BRITISH TRACKWAY AT GOODWIN FARM, SWAFFHAM PRIOR . TL 578/644 &TL 577/646 (SWAFGF-PL 92).

6.2.1 INTRODUCTION

The pipe route crosses fields to the east of Swaffham Prior (Fig. 8) passing within 70 m of a cropmark complex at the top of the middle chalk rise known as Gallows Hill (Fig. 3). The square-shaped enclosure (100 m wide) has internal divisions and a linear cropmark with two associated enclosures (one circular, one horseshoe shaped) projecting from it to the south-west. Two parallel linear cropmarks project from the enclosure to the north-west. They are cut by the Burwell Road and reappear to the north leading toward the site of a Romano-British villa at Reach Bridge (S.M.R. 06809, S.A.M. Camb 32).

The site of the cropmark enclosure had been examined during 1989 as part of the archaeological survey of the Cambridgeshire County Farms Estate (Malim 1990) though no datable material was noted. The results of fieldwalking connected with this project have already been discussed (see above). The ploughed out medieval field boundaries evident as low earthworks to the east of the Swaffhams are also evident here.

6.2.2 RESULTS

A portion of the pipe-trench easement was examined alongside the cropmark complex. At the south - east corner of the field, adjacent to the cropmark site, a small gully (feature [5]) was encountered (Fig. 6). This projected from the field boundary, on the same line as the existing boundary, toward the south-east. A small piece of glazed pottery was found in its fill demonstrating that it is no earlier than the 18th century. The gully was probably intended as a marker for a field created during the Parliamentary Enclosure of this parish. A corresponding boundary appears on the Enclosure map of 1812 but this was removed by 1887 to create a large L-shaped field.

The easement was stripped under guidance of an archaeologist for a considerable distance alongside Burwell Road. The purpose was to examine the linear cropmarks. Here, features and the chalk subsoil were revealed after removing up to 20 cm of colluvial silt. The area was riddled with sterile-filled irregular features. Those that were sampled were suggestive of the result of tree root action. A tree line, short lengths of which still exist, used to run adjacent to the road in this area. The fills of these tree root features were very similar to the colluvial silt and also to the upper fills of the two ditches which had caused the cropmarks.

Sections were cut through each of the ditches encountered. The ditches were of similar size but had slightly differing profiles (Fig. 11). Very little material was recovered from them. Ditch 1 (fill 1.1) contained a small abraded fragment of Romano - British greyware which could not be closely dated. A small iron nail was encountered in Ditch 4 (fill 4.1). The ditches were 6.5 m apart, a distance which does not seem to vary much along their length (as suggested by the cropmark plot). The area between the ditches was examined and two of the irregular features previously described were investigated. There was no trace of metallurgy or of wheel-ruts in this area.

6.2.3 DISCUSSION

The absence of any trace of a metallized surface or of wheel ruts between the ditches is curious, especially since the covering of colluvium should have prevented severe recent plough truncation. Their situation, nevertheless, suggests that they define a trackway, intended to give the occupants of the villa at Reach Bridge access to the enclosure at the

top of Gallows Hill. The form of the enclosure and its prominent situation may suggest that it had a non-domestic function, for example, a temple. The lack of pottery collected from the surface over it and the lack of field boundaries radiating from it add further support to this argument.

SWAFGF PL 92

ROMAN TRACKWAY

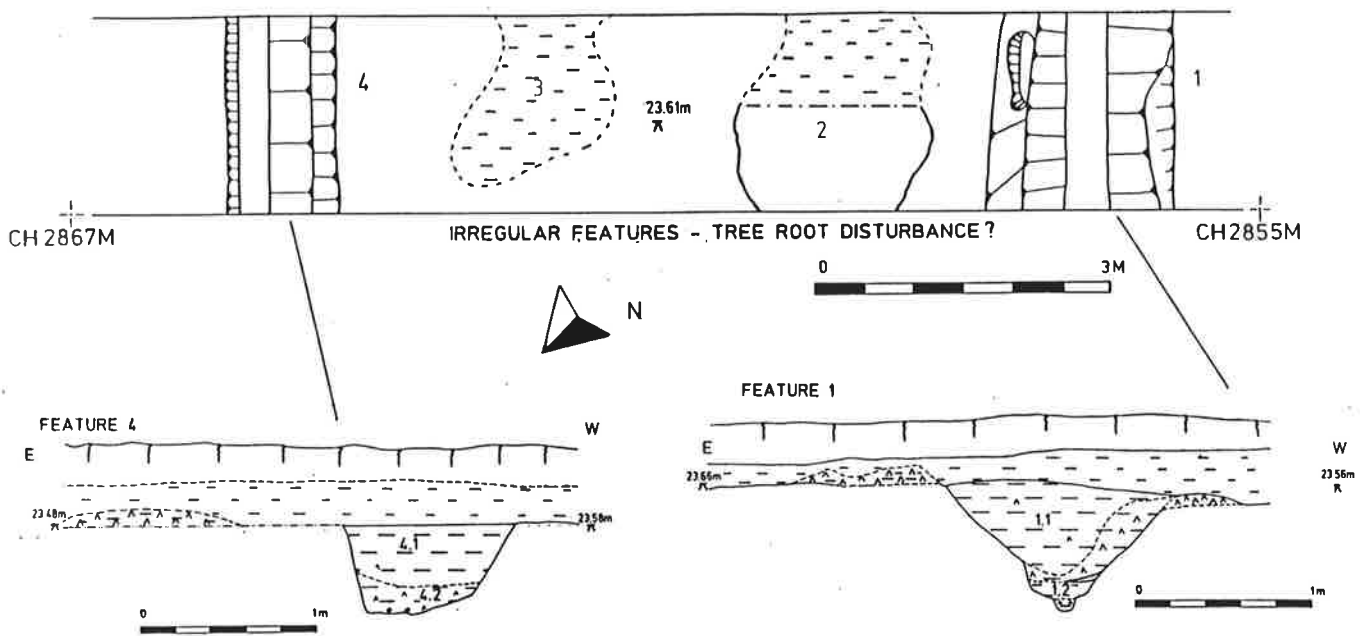


FIG. 11

**6.3 MEDIEVAL LYNCHET AT CADENHAM PLANTATION,
SWAFFHAM PRIOR TL 569/627
(SWAFCP-PL 92)**

6.3.1 INTRODUCTION

The fields to the south of the Swaffhams are traversed by the low earthworks of former field boundaries (Fig. 5). The pipe trench easement cut across several of these as well as an intact field boundary which also marks the parish boundary between Swaffham Bulbeck and Swaffham Prior. A section of this boundary, exposed by easement digging, was recorded as it was hoped that the original form of the boundary would be discovered along with material to help date its foundation.

6.3.2 RESULTS

It was noted that the ploughed-out field boundaries are now very broad, rounded banks (40 m wide) up to 1m high (Fig. 6). They were formed of fine mid-brown silt, and there were no traces of originating structures (e.g. banks, ditches, hedgelines, lines of stones or rubble). Their original form may have been narrow uncultivated strips against which displaced ploughsoil has accumulated. They have been spread considerably by modern cultivation and probably much reduced in height. No datable material was extracted from beneath them.

There was a considerable height difference (approximately 0.7m) between the ground surfaces on either side of the sectioned boundary (Fig. 12). Roots from a former hedge were observed in the topsoil. One small fragment of abraded late medieval/ early post-medieval glazed ware was recovered from layer [5] (position marked on section). There was no apparent reason for the build up of soil on the up-slope side. There were no traces of an original bank and the hedge obviously post-dated the soil accumulation.

6.3.3 DISCUSSION

Ploughing on a hill slope sometimes causes an effect whereby contour following scarps, or lynchets, are formed (Taylor 1987). The only explanation for the difference in ground levels on either side of this boundary is that the processes involved in lynchet formation have been at work. The single fragment of pottery recovered does not help us date the foundation of the lynchet, but does show that it was under cultivation in the late medieval/early post-medieval period. The boundary is equidistant with the ploughed-out field boundaries observed in the area. It is suggested, therefore, that they are contemporary with this feature, originating some time in the medieval period.

SWAF CP-PL 92

N.W FACING SECTION OF LYNCHET

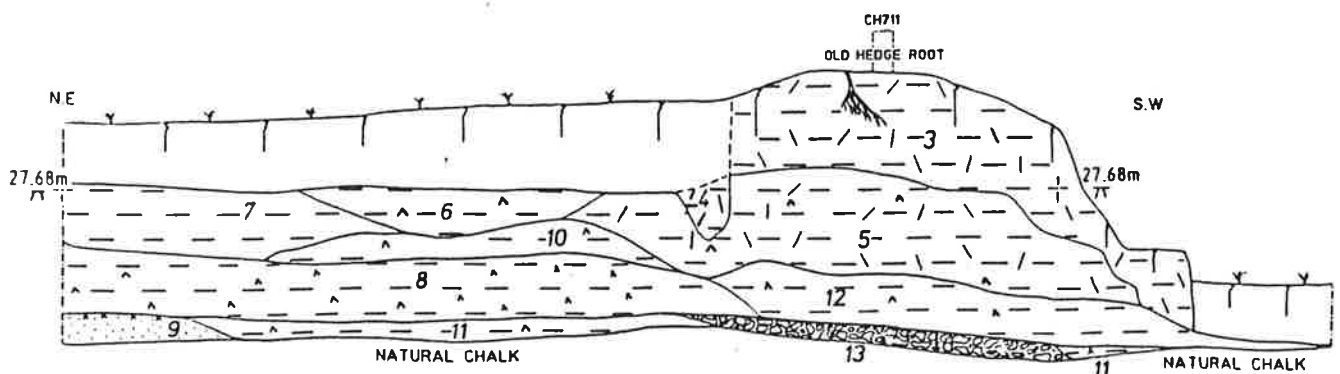


FIG. 12

6.4 IRON AGE/ROMANO-BRITISH STORAGE PITS AT THE MILL STREAM, SWAFFHAM BULBECK TL 560/610 (SWAFB-PL 92)

6.4.1 INTRODUCTION

The area investigated is situated adjacent to a cropmark complex and close to scatters of Romano-British material (Fig. 4). Three ring ditches and a complex of field boundaries have been plotted from aerial photographs (Fig. 13), although the accompanying S.M.R. entries cast some doubt over their nature. The cropmarks are said to be 'rendered uncertain by geological marks, and are 'probably extremely dubious'. They do not continue to the east of the Mill Stream. The Mill Stream originates at Whiteland Springs and here has obviously been artificially diverted. It was intended to supply the mill and medieval moats and ponds of the medieval settlement, now within the grounds of Bottisham Hall. Ultimately it feeds the 17th or 18th century water meadows at Gutter Bridge. In some places it has been widened and deepened considerably in recent years for use as fish ponds. The stretch alongside the pipe trench is now being in-filled with rubble. Trees have been planted on a segment adjacent to the farm track. As the name suggests the stream was obviously intended as a leet or head pool feeder for a watermill. The site and date of the mill, however, is unknown.

A single bucket width (1.7m) was stripped of topsoil within the easement to reveal underlying deposits.

6.4.2 RESULTS

To the north of the area examined a portion of the recently back-filled Mill Stream was located. Modern brick rubble and scrap iron could be seen in a dark silt corresponding to the site of a former pond. A concrete farm track has been built over most of the back-filled watercourse, although traces of the eastern portion were encountered during pipe trenching (Fig. 13).

In the southern portion of the examined area several features cut into a small chalk marl spur were revealed by topsoil stripping (fig. 14). Features [6], [7], [8], [9] and [12] are roughly circular in plan, with diameters varying between 1.1m and 1.5m. Feature [6] is the most regularly circular (1.55m diameter), a half-section revealed the fill sequence reproduced in figure 14. The pit is cylindrical in shape, straight-sided and flat-bottomed (depth 40 cm). There was no hint of a weathered-in primary fill suggesting that the pit was not left open for long before being brought into use. The first fill [6.3] is instead very dark and humic (12 cm thick) containing small fragments of burnt bone and pottery. Fill [6.2] is of sterile chalk marl and seems to represent slumping from the pit's side. Fills [6.1] and [6.4] are similar in character, representing the gradual silting-up of the remainder of the pit. Chalk marl 'tip' lines are visible throughout fill [6.1], their angles of repose lessening towards the top of the pit.

Pits [8], [9], and [12] were also excavated and were found to be less regular and less deep than [6]. [9] and [12] have a similar fill sequence to [6], but [8] has no hint of the dark humic fill. Modern plough truncation has been severe here and an unknown part of the upper portions of these features has been lost. Features [4], [5] and [7] were not excavated, although [7] exhibits in plan the same slumping pattern encountered in [6]. Pit [6] was the only one which contained pottery and this could not be dated closer than to the late Iron Age or early Romano-British periods. Nevertheless it can be safely stated, due to their similar form, that all of the features are of this date.

A 50 litre soil sample was taken and floated for macro-botanical remains. Much less charcoal was recovered than that promised by excavation. Charred wheat and barley grains were noted.

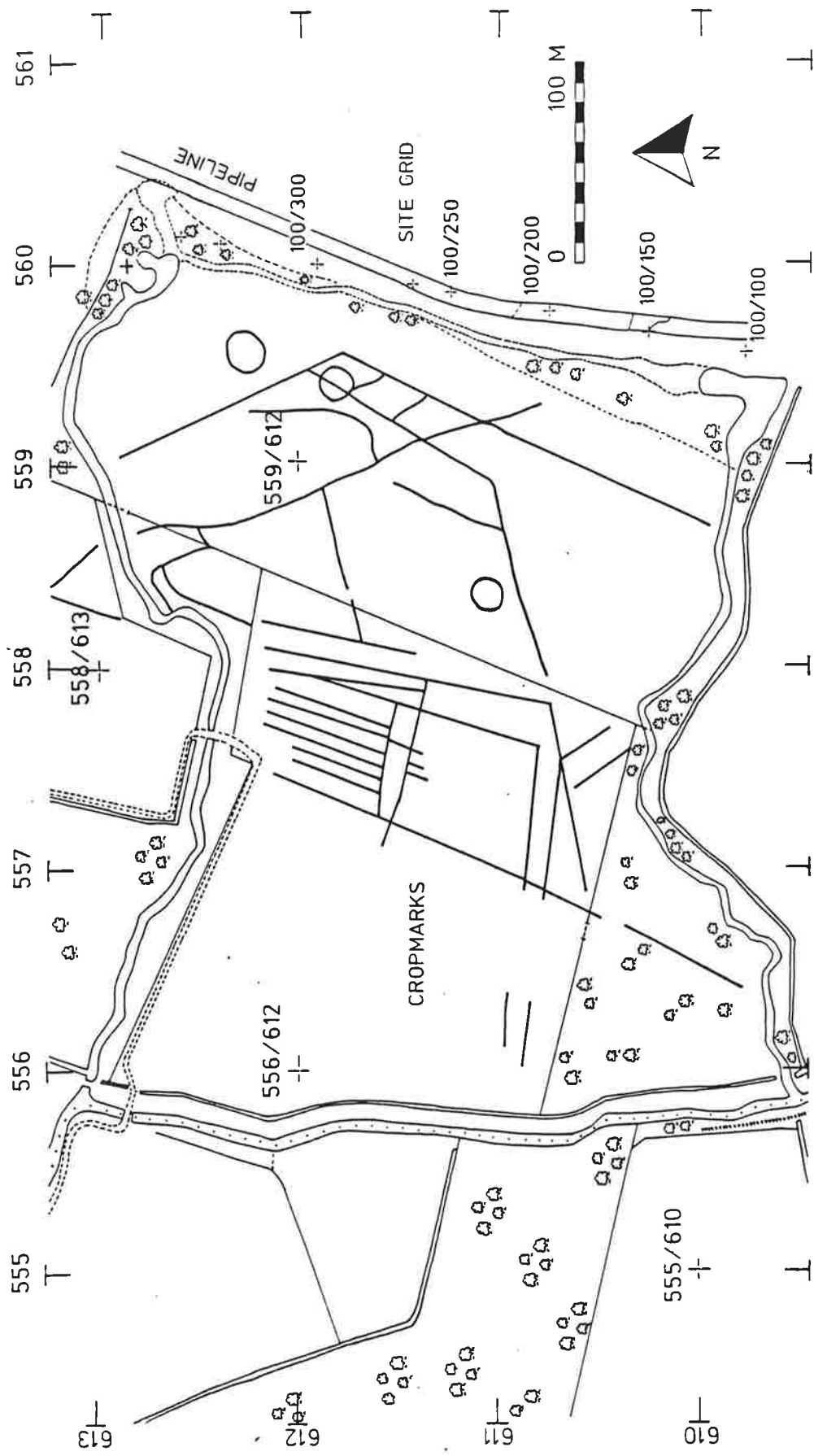


FIG. 13

SWAFB-PL 92
 PLAN OF PIPE TRENCH ADJACENT TO THE MILL STREAM

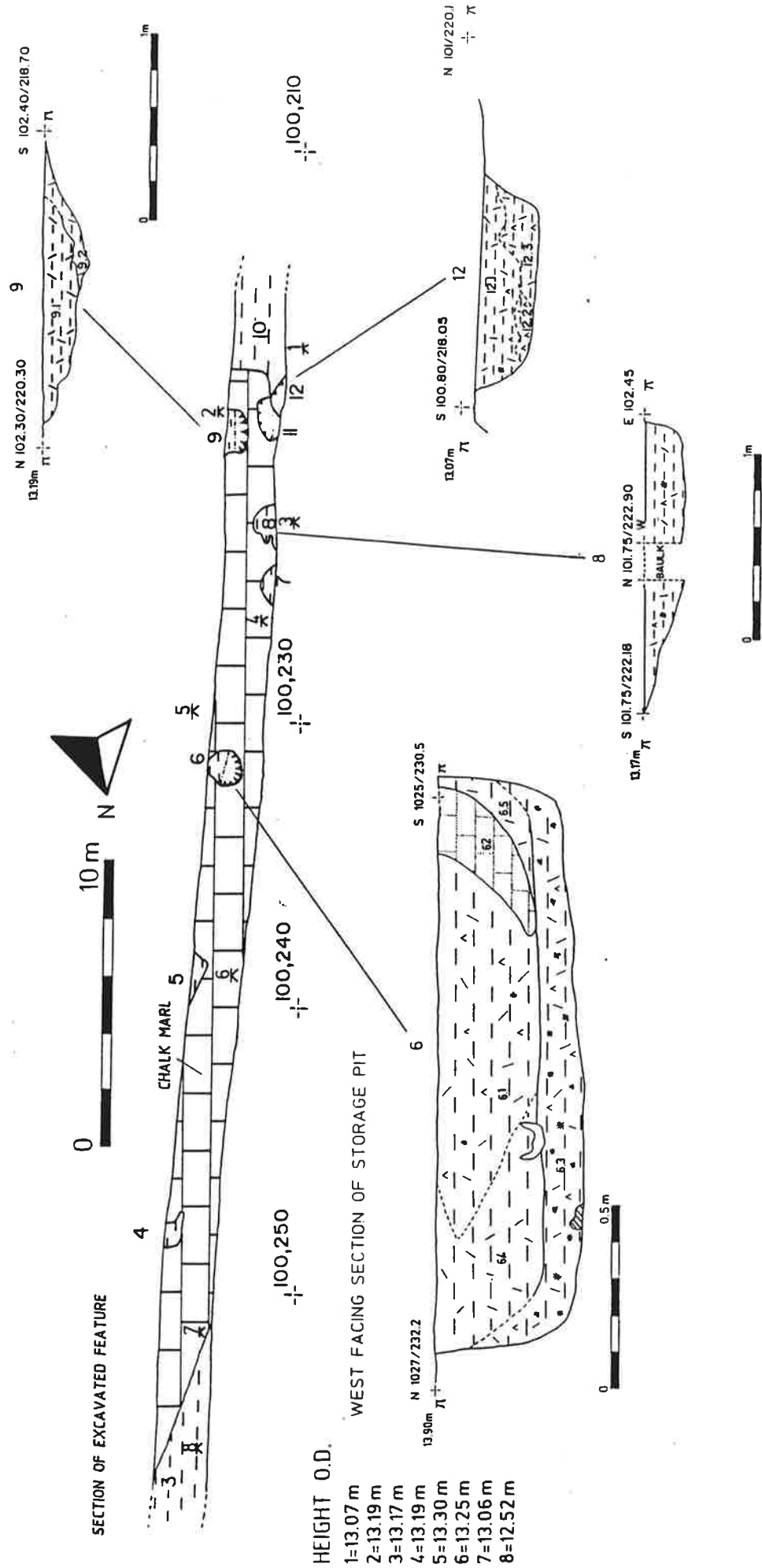


FIG. 14

6.4.3 DISCUSSION

The excavated pits were undoubtedly intended for produce storage. Similar pits (commonly associated with Iron Age settlements) have been subject to feasibility trials for grain storage at Butser experimental farm (Reynolds 1974). It was suggested that periodic parching of the pit would be necessary to kill off parasites. Such a pit would be plugged (perhaps with clay) and remain sufficiently watertight to perform its function.

The situation of the pits described here was obviously chosen to ensure good drainage. No traces of plugs were noted, and only a small amount of charred cereals recovered from fill [6]. This dark fill, seems to have resulted from parching as indicated by the small burnt fragments of animal bone and pottery, although it is not known whether this occurred in the pit or elsewhere. It is not surprising that there are no traces indicative of parching on the walls of the pit, since the fire need not have been of high temperature. Scant burn marks would be easily erased from the chalk during the pit's further use.

The dubious nature of the ring ditches and field boundaries in the adjacent field has already been discussed. It is possible however, that they represent the eavesdrip gullies of roundhouses and small fields of the Iron Age or early Romano-British settlement that these storage pits served. Only further excavation will be able to determine whether or not this is the case.

6.5 ROMANO-BRITISH SITE AT WHITELAND SPRING, BOTTISHAM

TL 557/605
(BOTWS-PL 92)

6.5.1 INTRODUCTION

The site is situated on lower chalk, at 12 m O.D (Fig. 4). It overlooks the edge of a narrow band of peat which runs from the Grange at Bottisham, to Swaffham Prior Fen (Fig. 29). The area (Whitelands Field) was formerly one of the medieval open fields of Bottisham, though its name is post-medieval in origin (Reaney 1943). Springs occur at the interface of the lower chalk and chalk marl. Trapped water emanating from them is a likely reason for local peat formation, as this area is 6 kilometres to the south of the main peat fen and much higher.

Two S.M.R. entries previously existed for the field traversed by the pipe trench. The stray find of an Anglo-Saxon strap end (10th century) is recorded, as is the site of a 'Roman building'. The latter record contained no information as to the origin or nature of the evidence for a building. However, a site visit soon confirmed its location. A scatter of clunch rubble, tile and pottery was clearly visible on a slight spur, projecting from a chalk slope into low-lying land.

The original pipe route ran very close to this finds scatter. We anticipated that less substantial remains would be encountered at some distance from this focus, and so, in consultation with the engineer the pipeline was diverted 50 m to the south. The easement was stripped of topsoil for a single bucket width over 230 m. Three areas with a high concentration of features were then expanded across the entire available easement width of 7 m.

6.5.2 METHODS

Only the area within the pipe trench easement was available for excavation. The limitations imposed by examining an archaeological site with one 7m x 230m trench are obvious. However, a geophysical survey of the area surrounding the trench enabled us to relate the features encountered to a wider area (Fig. 15). In this way the interpretive value of our work was greatly increased and the destruction of those archaeological deposits which were not going to be affected by pipe trenching was largely avoided.

All exposed features were planned and those expected to make a significant contribution to interpretation were sample excavated by hand. Fills were sorted by eye and all excavated animal bone and pottery was retained. Whilst bulk sieving would have ensured a greater recovery rate (particularly of small bones and macro-botanical remains) it was judged that our sample would not represent a statistically valid portion of the refuse connected with the building. Indeed, in many cases the association between feature and building was tentative or completely unknown. Molluscan analysis was ruled out for the same reasons. Soil conditions ensured that there was no potential for paleontological or entomological analysis of the features encountered.

Two site grids were used, their relationship to the O.S. grid is shown in Figure 15. The first grid (origin 0,0) was used for the geophysical survey but was originally intended to serve the excavation within the pipe trench easement. The pipe route was diverted, however, and the grid became inconveniently placed. A second grid (origin 1000,1000) was then placed alongside the easement to tie-in excavated features.

6.5.3 GEOPHYSICAL SURVEY

The magnetometer and resistivity survey was undertaken by Geophysical Surveys of Bradford. The following is a summary of results based on their report (Bottisham 92/07), copies of which are included in the site archive. The magnetometer survey was carried out using a Fluxgate Gradiometer (Geoscan FM36) with readings logged at 0.5

BOTWS-PL 92 SITE LOCATION PLAN.

WHITELAND SPRINGS

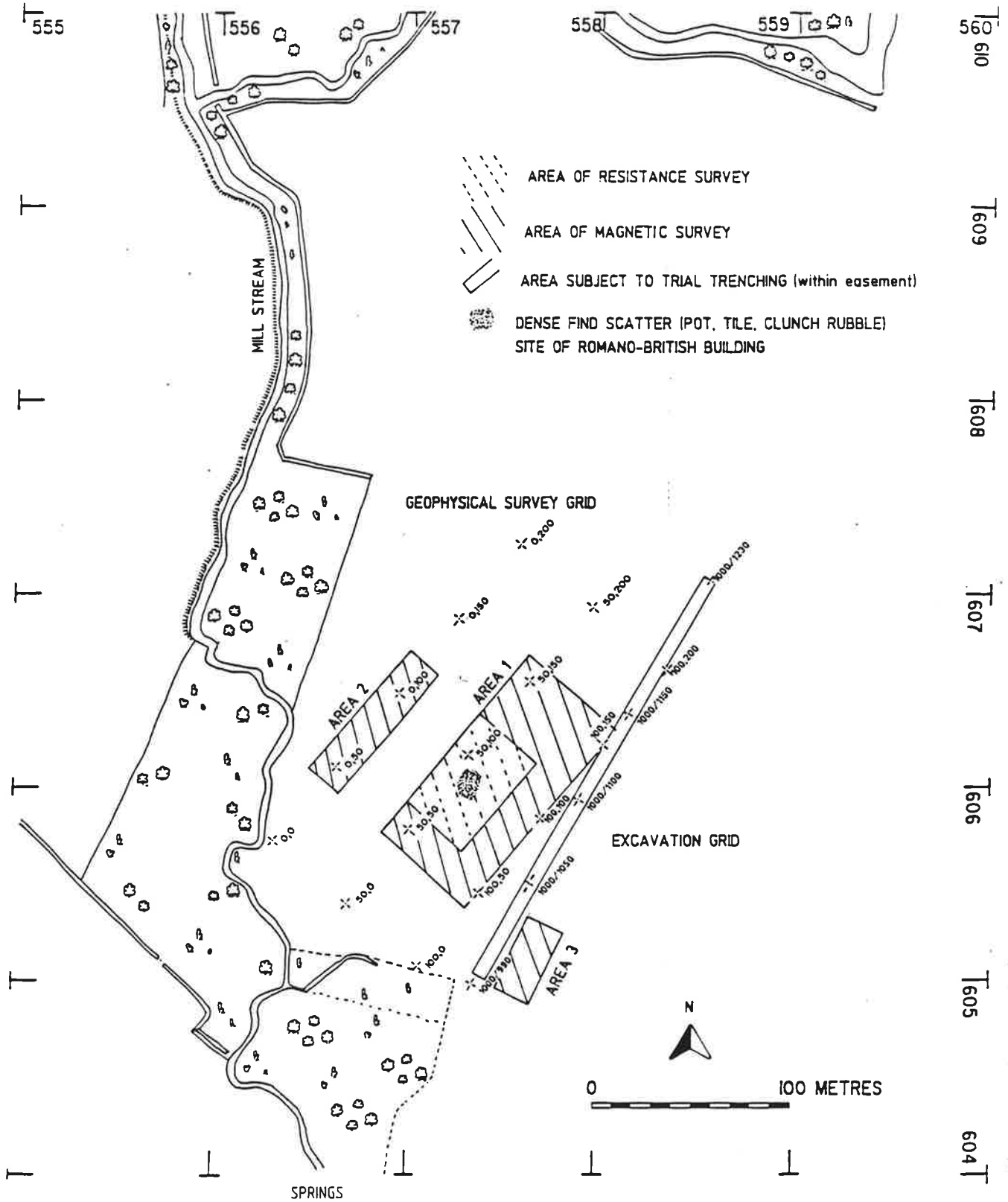


FIG. 15

m intervals along one axis in 1m traverses. The resistance survey was carried out with a Resistance Meter (Geoscan RM15) with readings logged at one metre intervals. The conditions were generally good for magnetometry, though anomalies were weak. The resistance survey was hindered by frozen ground.

The aims of the survey were to confirm the existence of the Romano-British building, to locate the continuation of ditches identified by excavation and to identify any other features of archaeological interest. Three areas were examined by magnetometer and a single area subject to a resistivity survey (Fig. 15). Figures 16 & 17 give interpretations based on the collected data.

Magnetometer Survey Area 1 (Fig. 16). The strongest anomalies are those which coincide with the building. A number of other strong anomalies lay to the north and east of this group; two are short and linear and the remainder are suggestive of fired/burnt deposits. If they are associated with the building they may be interpreted as parts of a furnace or hypocaust system (this interpretation is based on the artefactual evidence for possible pillae - floor supporting tiles).

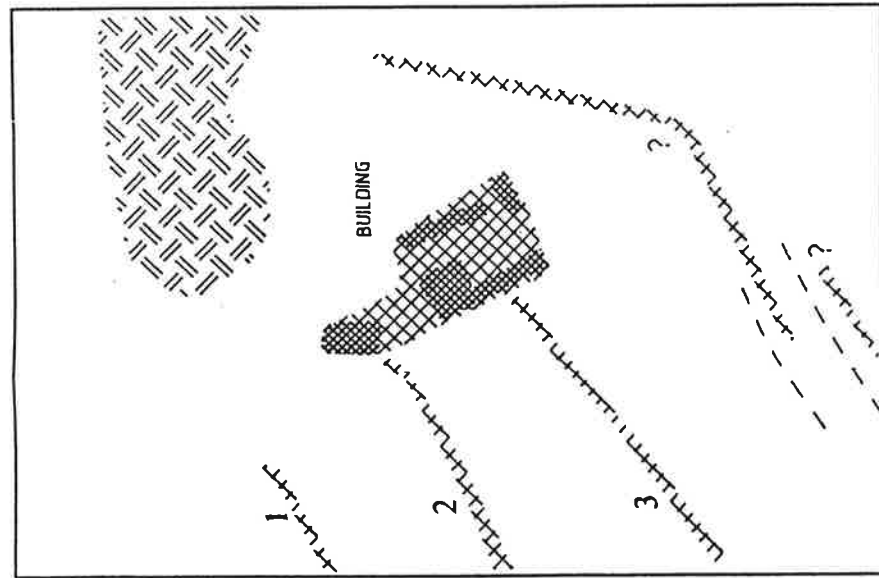
A large rectilinear anomaly with its long axis running roughly north-south, and a break in its eastern length, is possibly an enclosure ditch. The suspected building lies midway along the western ditch of this enclosure, but the relationship between the two is not clear. Several weaker linear anomalies, suggestive of ditches (labelled A, B and C), run parallel to each other. A horseshoe-shaped anomaly (of uncertain relationship to the enclosure) can be seen to the north of the building. Negative anomalies, which may be associated with features such as banks, are labelled D and E.

Magnetometer Survey Area 2 (Fig. 17). These anomalies are generally weaker than those of Area 1. Three anomalies (labelled F, G and H) are similarly aligned to A-E in Area 1, but are poorly defined, making interpretation difficult. The southern end of this area has other linear anomalies of unknown purpose. Anomalies B and C do not continue into Area 2.

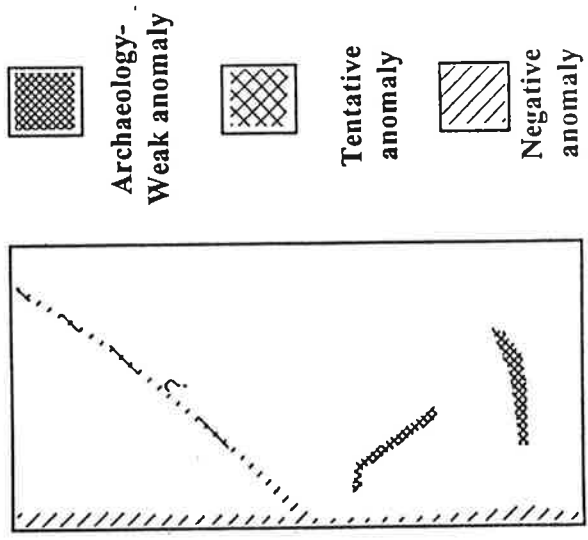
Magnetometer Survey Area 3 (Fig. 17). This area was chosen to locate the eastern half of a possible rectangular foundation slot found by excavation. Three poorly defined linear anomalies were located but nothing suggestive of a continuation of the foundation slot. The negative anomaly running down the western edge of the area was due to the proximity of the easement spoil heap.

Resistance Survey Area 1 (Fig. 17). Poor electrical contact between the probes and the ground (due to frost) resulted in disturbance to readings. This was especially severe in the north-eastern corner of the area. The site of the suspected building appears as a sub-rectangular area of high resistance. It was not possible to locate individual walls, though several stronger high resistance anomalies have been tentatively identified. Three linear high resistance anomalies (labelled 1-3) are parallel to magnetic anomalies B and C (see Area 1, above). Anomalies 1 and B occupy the same position and may represent the same feature.

The results of the combined surveys are shown by Figure 27. Major excavated features within the easement are also shown. The Geophysical survey showed that there is clearly multi-phase and possibly multi-period activity on the site. The enclosure surrounding the building seems to have undergone two phases of development whilst the near circular enclosure may be indicative of a prehistoric activity. The building seems to be roughly rectangular in plan (8 m x 10 m), with an outlying block to the north. Surface material suggests that it has chalk clunch foundations or walls. The area determined by geophysical survey may not represent its full extent, since there must be a possibility of connected wooden structures and these may not have left enough of a trace to register as anomalies. Four linear features projecting from the house block to

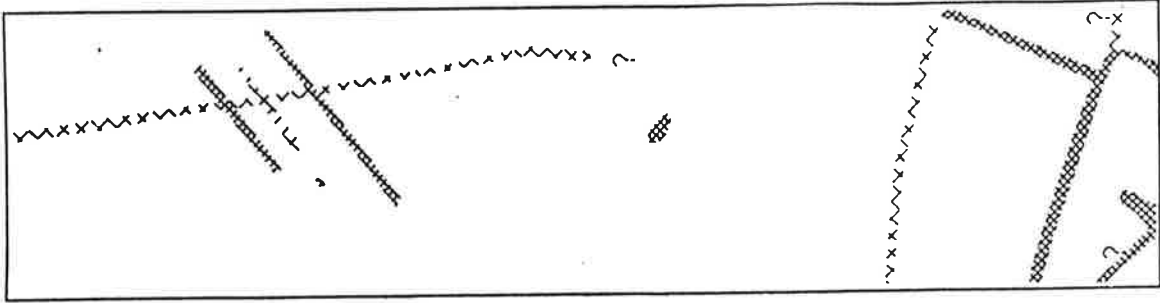
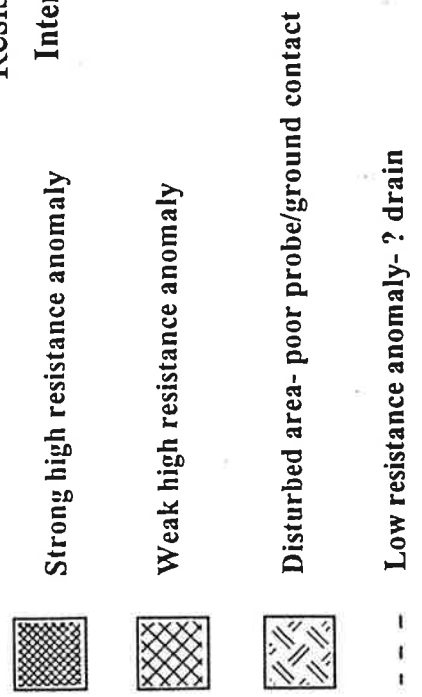


Magnetic Data Interpretation



Area 3

Resistance Data Interpretation



Area 2

FIG. 17

the east run from the chalk spur into the lower basin of peat deposits; these may be drains.

6.5.4 EXCAVATED FEATURES

Across the site archaeological features cut into the chalk marl are covered only by the ploughsoil (25 cm-30 cm thick). Depth is measured from the surface of the subsoil. Fill and cut descriptions can be found in Appendix C, while pottery and lithic reports can be found in Appendices A and B respectively.

6.5.4.1 AREA A (Fig. 18)

This was the first area opened and the furthest from the site of the building. An area 34m x 4m was stripped of ploughsoil to reveal a white chalk marl subsoil, which was mottled by root and worm action. Features contrasted as greyish brown smudges against this background, a pattern repeated in the other opened areas.

An irregular feature with a linear projection and a ditch were sectioned (discussed below). Four post holes ([16], [17], [18] & [19]), which did not define a recognisable structure were not excavated. Two irregular features, possibly caused by root or animal action were also observed, as were several plough score lines.

Feature [14] was excavated due to its mysterious appearance. Its edges are well defined, though very irregular, as is its base. A narrow linear gully projects from it toward the north, becoming progressively less deep. Contained within the upper fill were some small, abraded local Romano-British greyware sherds and a single samian sherd. These may be residual.

A section through feature [25] revealed a wide shallow ditch (40 cm deep, 1.6 m wide). This ditch may cut the larger feature [23] which runs north-south, obliquely across the easement. Where sectioned, two shallow opposing depressions (Feature 26) were apparent on the side of the ditch. It is suggested that they were cut to accommodate a bridging plank. Pottery from the lower fills suggests a late 2nd or early 3rd century date. Ditches [23] and [25] were both aligned with the rectangular enclosure disclosed by geophysical survey (Fig. 16).

6.5.4.2 AREA B (Fig. 19)

This area was 56m long but only a single bucket width wide (1.7 m). The continuation of ditch [25] was demonstrated, as was the presence of three other possible ditches.

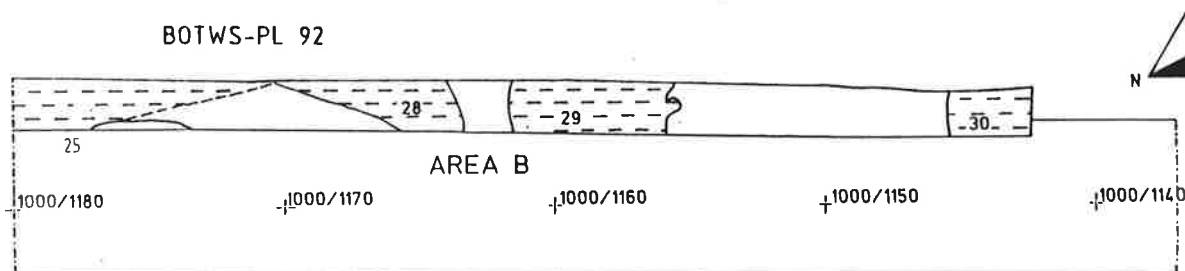


FIG. 19

BOTWS-PL 92

PLANS OF TRENCH AREA A
WITH SECTIONS OF EXCAVATED FEATURES

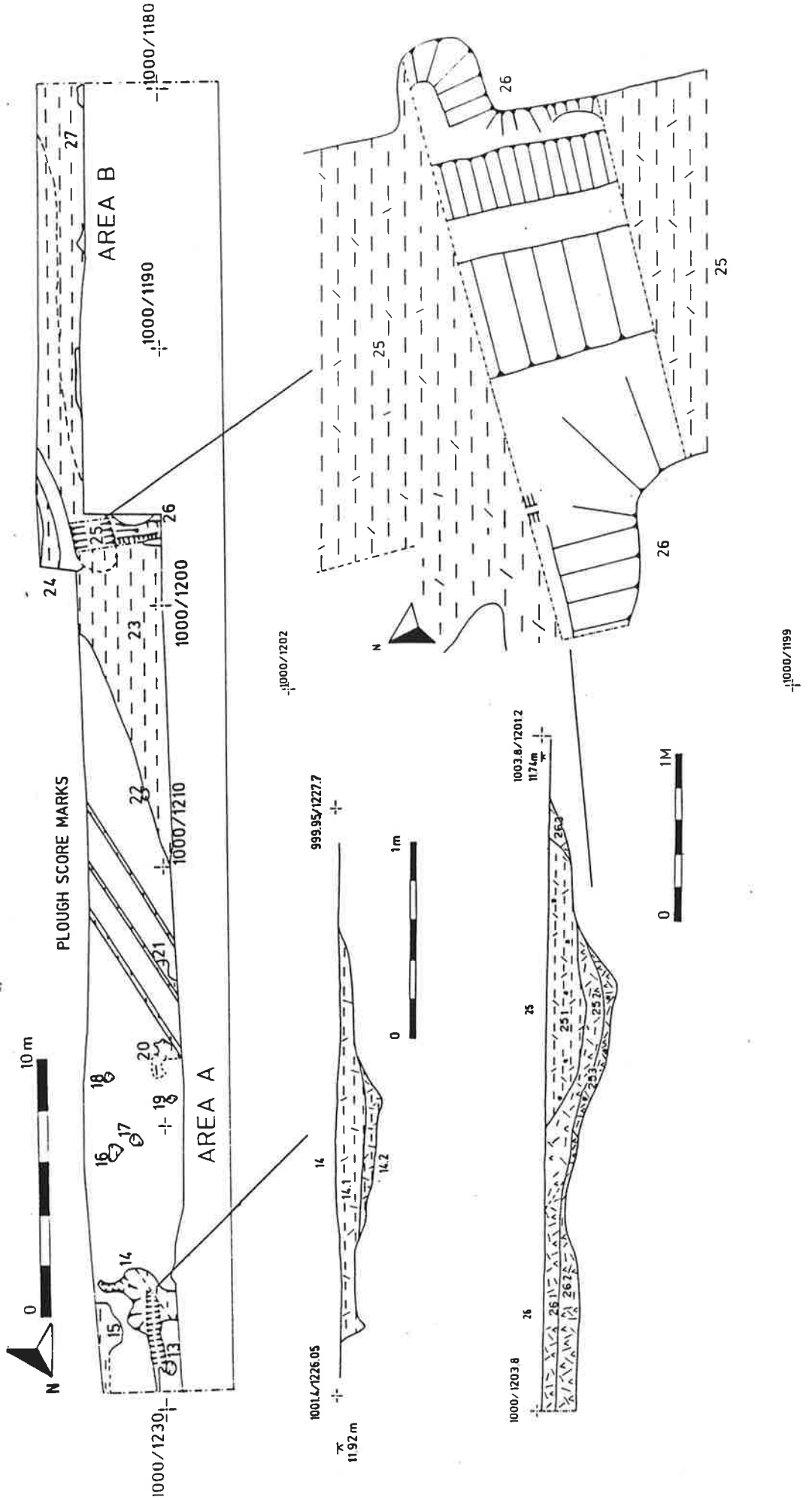


FIG. 18

6.5.4.3 AREA C (Fig. 20)

An area 72 m x 6 m was cleared of topsoil and cleaned by hoe and trowel. Two large linear ditches were located (features [32] and [38]). They are aligned with one another but separated by a causeway of natural chalk marl. A butting ditch [32] is a circular feature [33], 1.45 m in diameter. A half-section revealed that it was very shallow and contains a single homogeneous fill with small sherds of local late Iron Age/early Romano-British pottery. Its purpose remains unknown. One of the irregular features toward the southern end of this area was also examined ([44]). It was found to be extremely shallow (maximum depth 20cm), with sides that slope gradually towards its centre. Its full extent, or relationship to the similar neighbouring feature [43] is unknown. No datable material was extracted from it.

Sections were cut at the butt ends of the two large ditches [32] and [38] (Fig. 21). The upper fills of [32] contain small abraded potsherds of mixed date (all Romano-British), while the lower fills contain much larger and less abraded sherds. These could be dated to the late 3rd or early 4th century. Two post holes were found cut into the chalk marl at the base of the ditch, near the butt end. They were cut very soon after the ditch was dug, but the posts did not survive long beyond the earliest silting phase. Ditch [38] has a similar width, depth and profile to ditch [32] though the shape of its terminal was quite different (Figs. 20 & 21). The narrow sub-rectangular extension at the terminal is caused by three post holes. Two were excavated ([66] and [67]). They were cut into natural with [67] possibly representing a re-cut of [66]. Small abraded potsherds within the fills suggest a early rather than later Romano-British date, though they are all probably residual. The position and size of the post holes (30 cm diameter) corresponded with those noted within ditch [32]. A notable difference was that [66] lay outside the ditch cut as opposed to being cut into the base of the ditch. The considerable depth (76 cm +) of post hole [67], may suggest that they were intended to support a fairly substantial structure. Pottery from the lower fills of ditch [38] could not be closely dated within the Romano-British period.

A long, narrow, shallow gully ran between and slightly to the west of the two ditch terminals (Fig. 21). Its flat base and squared off ends imply that it is a beam slot. The post holes and beam slot indicated that this causeway was probably gated, a wooden beam perhaps served as a threshold for a swinging or sliding gate. There were no traces of the metalling or wheel ruts which we may expect near an entrance, but, these may well have been removed by ploughing. Possible trampled deposits fill a shallow irregular depression near ditch [32]. The two ditches were aligned with the enclosure ditches disclosed by magnetometry (Fig. 16) and the causeway between them corresponded to a causeway indicated in the enclosure ditch nearer the building (Fig. 27). The presence of a gate suggests that this outer barrier was originally more substantial than the single ditch which now remains. Presumably the spoil from the ditch was used to create a bank on which a fence or hedge was placed. No traces of a bank were apparent within the excavated area, (these would have not survived truncation by the plough) though a negative magnetic anomaly (Fig. 16) may indicate that some trace of a bank survives where protected by soil accumulation in a lower lying area.

A small, sub-rectangular, suspiciously grave-like, feature projected from beneath a topsoil baulk into the cleaned area. The baulk was removed in order to expose the full extent of the feature, which turned out to be 'L' shaped and comprised of two elements (Fig. 22). Excavation revealed that feature [39] was a shallow, flat bottomed sub-rectangular pit, which contained many fragments of iron (some of which were part of a large ladle) and riveted bronze plate (Fig. 23). Fill [39.1], comprising the most part of the feature's fill, sealed a sub-square pit, feature [72]. No bronze plate fragments were found within the fills of [72] though an iron knife ([72.1]:55) lay in the upper fill on a patch of charcoal (Fig. 22). Two abraded sherds of Romano-British pottery (not

BOTWS-PL 92 AREA C

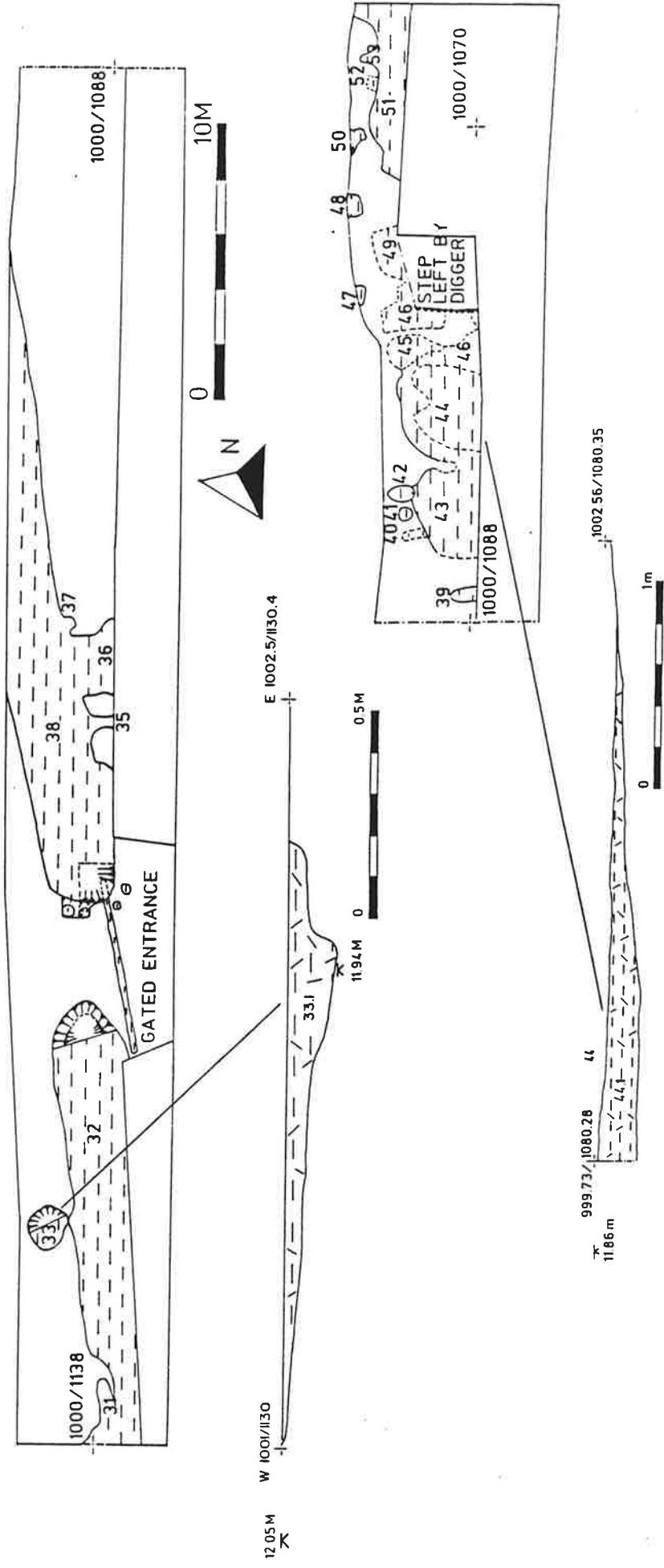


FIG. 20

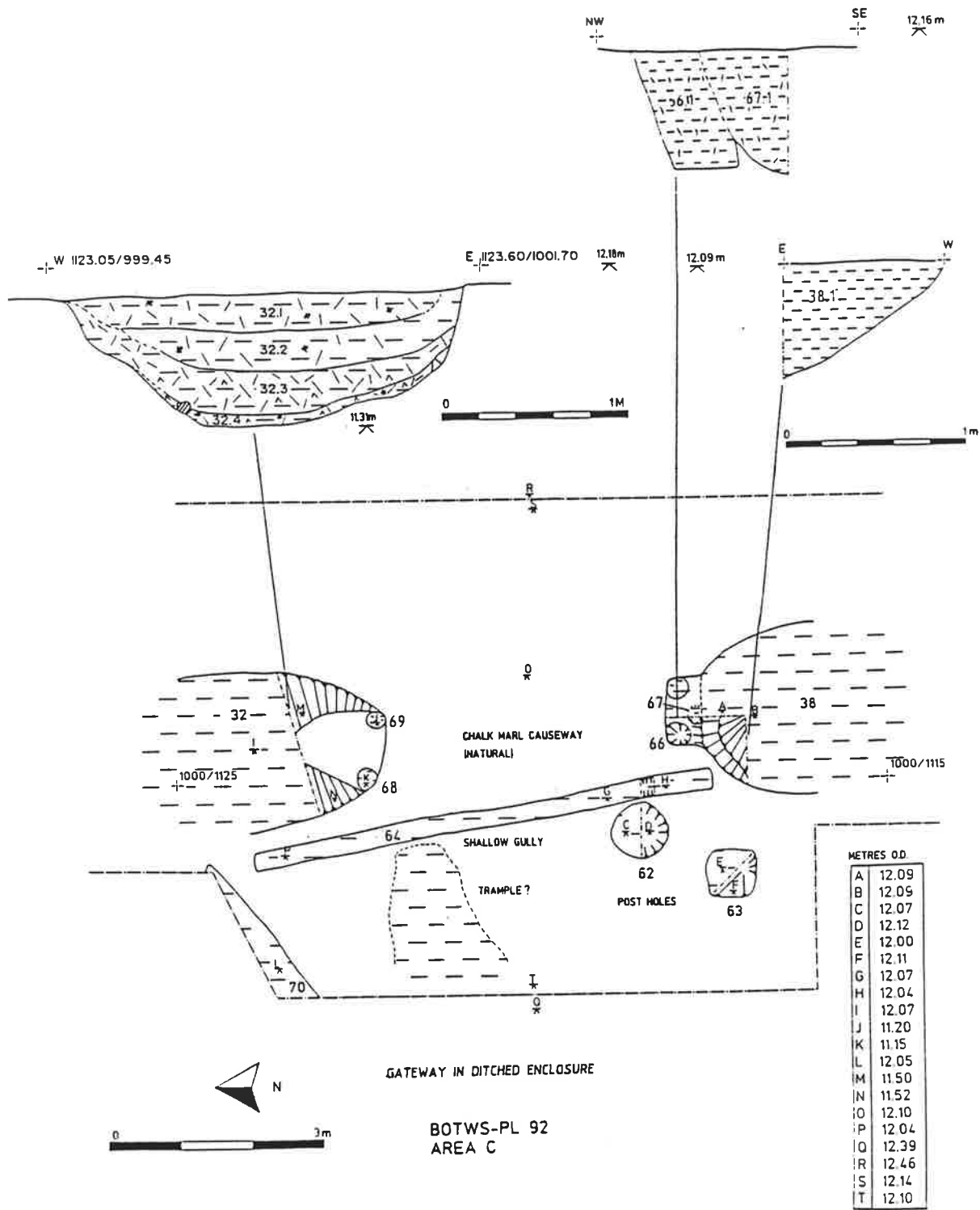


FIG. 21

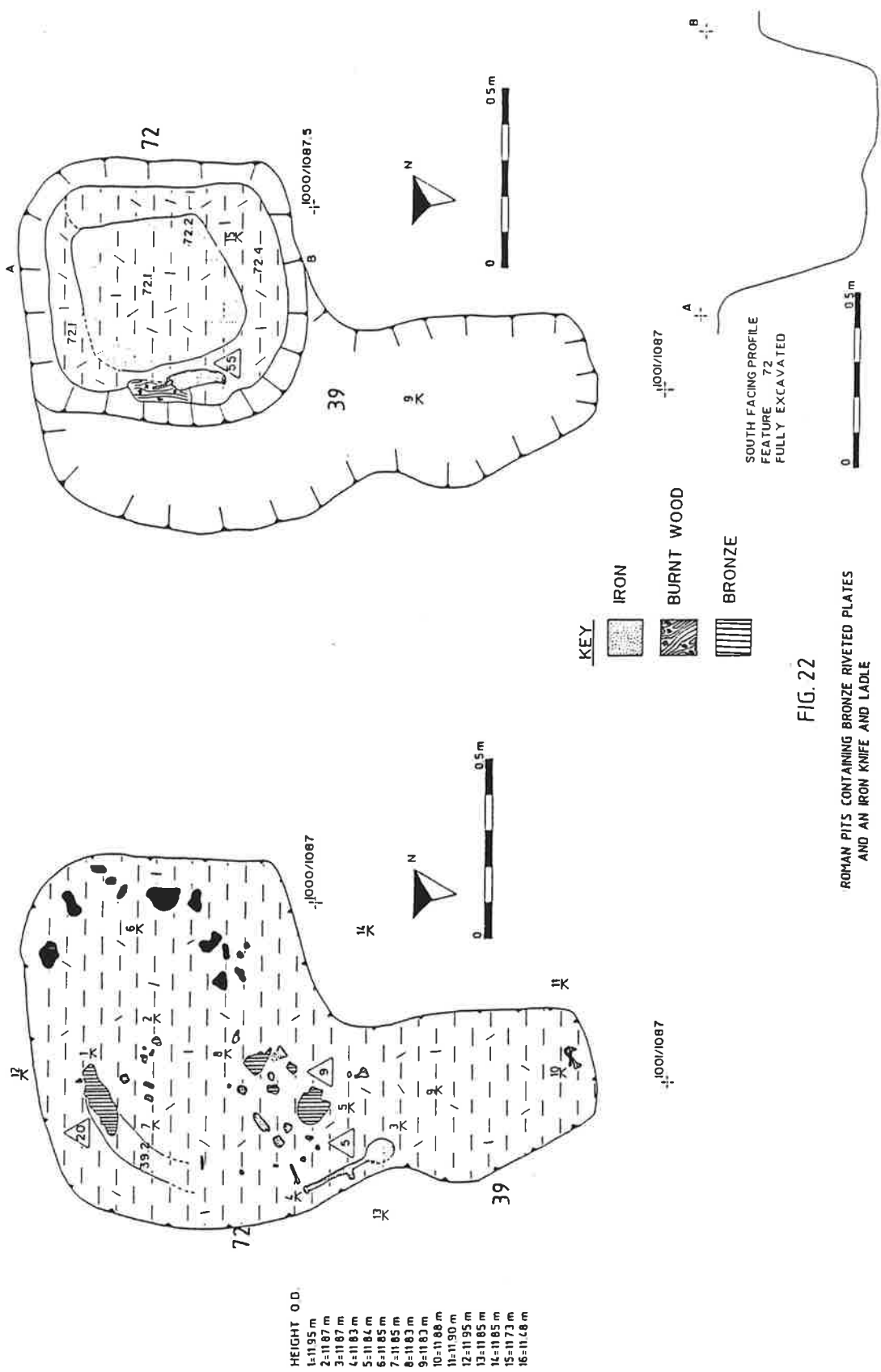
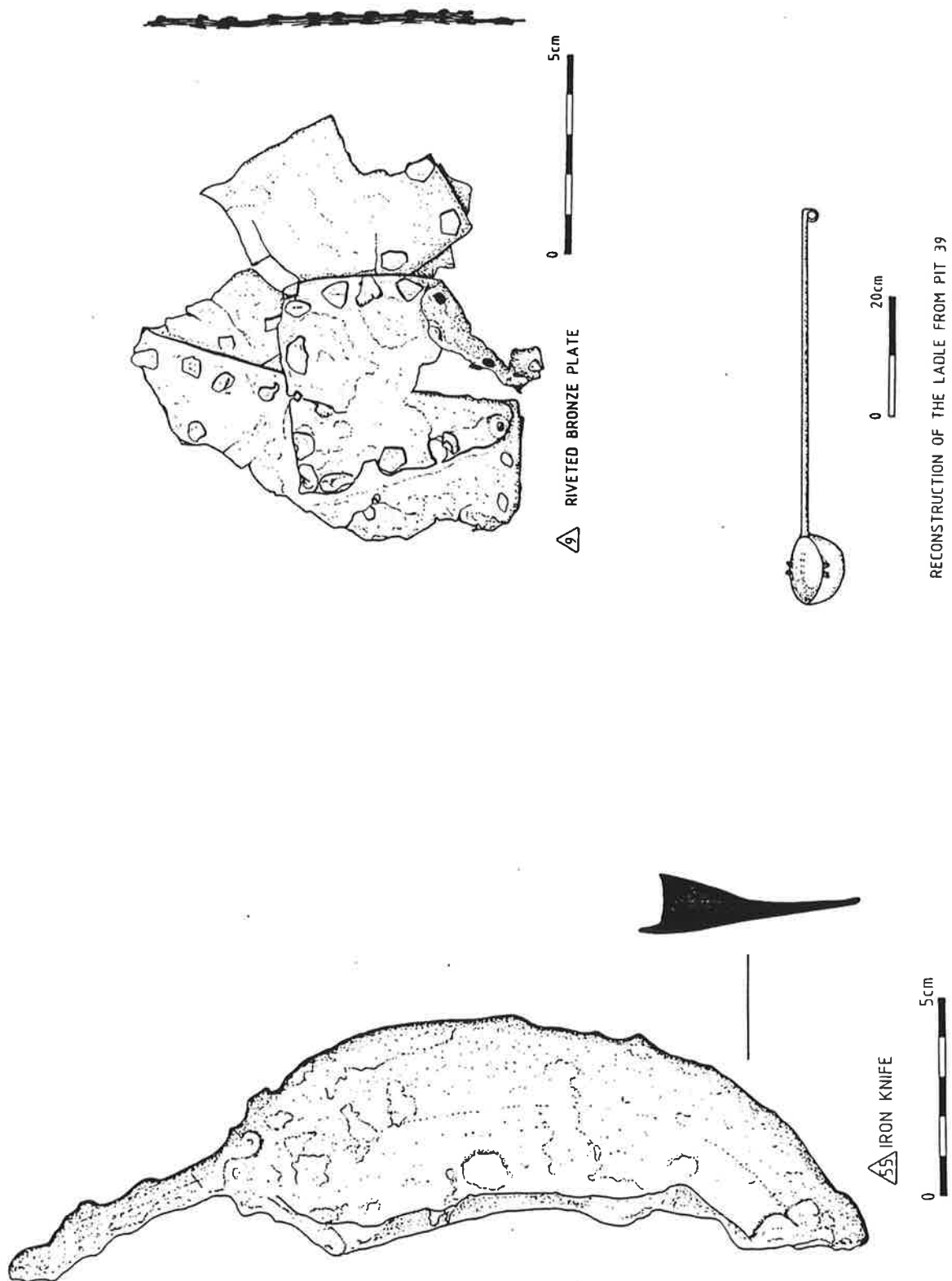


FIG. 22
ROMAN PITS CONTAINING BRONZE RIVETED PLATES
AND AN IRON KNIFE AND LADLE



ROMAN ARTEFACTS FROM PITS

FIG. 23

closely datable) were found in the lower fill of this feature, which turned out to be a circular pit (40cm deep, 75cm in diameter) with steep straight sides and a flat bottom.

6.5.4.4 AREA D (Fig. 24)

Machine cut test pits between areas C and D determined that feature [71], just visible in the northern end of this trench, continues to the north. It is simply a shallow scoop into the natural chalk marl, possibly a result of quarrying. This feature was cut by [55], a narrow curvilinear gully. Features, [58] and [57], were also cut by [55], excavation suggested that they result from root activity. A possible post-pipe, [59], was not excavated. A section through [55] revealed that its original cut was shallow (30cm), with one side less steeply shelving than the other, with a flat base. Section 2 revealed a re-cut ([65]) of similar fill sequence and profile. Two flint blades were recovered from within an upper fill.

To the south of the above features a linear feature, [60], with a right-angled return at either end was observed (Fig. 25). Excavated sections demonstrated that this feature has a similar profile to that seen in Section 2 of feature [55]. Feature [61] runs parallel to [60], it is again flat bottomed, though much wider than [55] and [60] (1.36m at the surface). Only a single homogeneous fill was noted, from which two worked flints and a single fragment of bone was recovered.

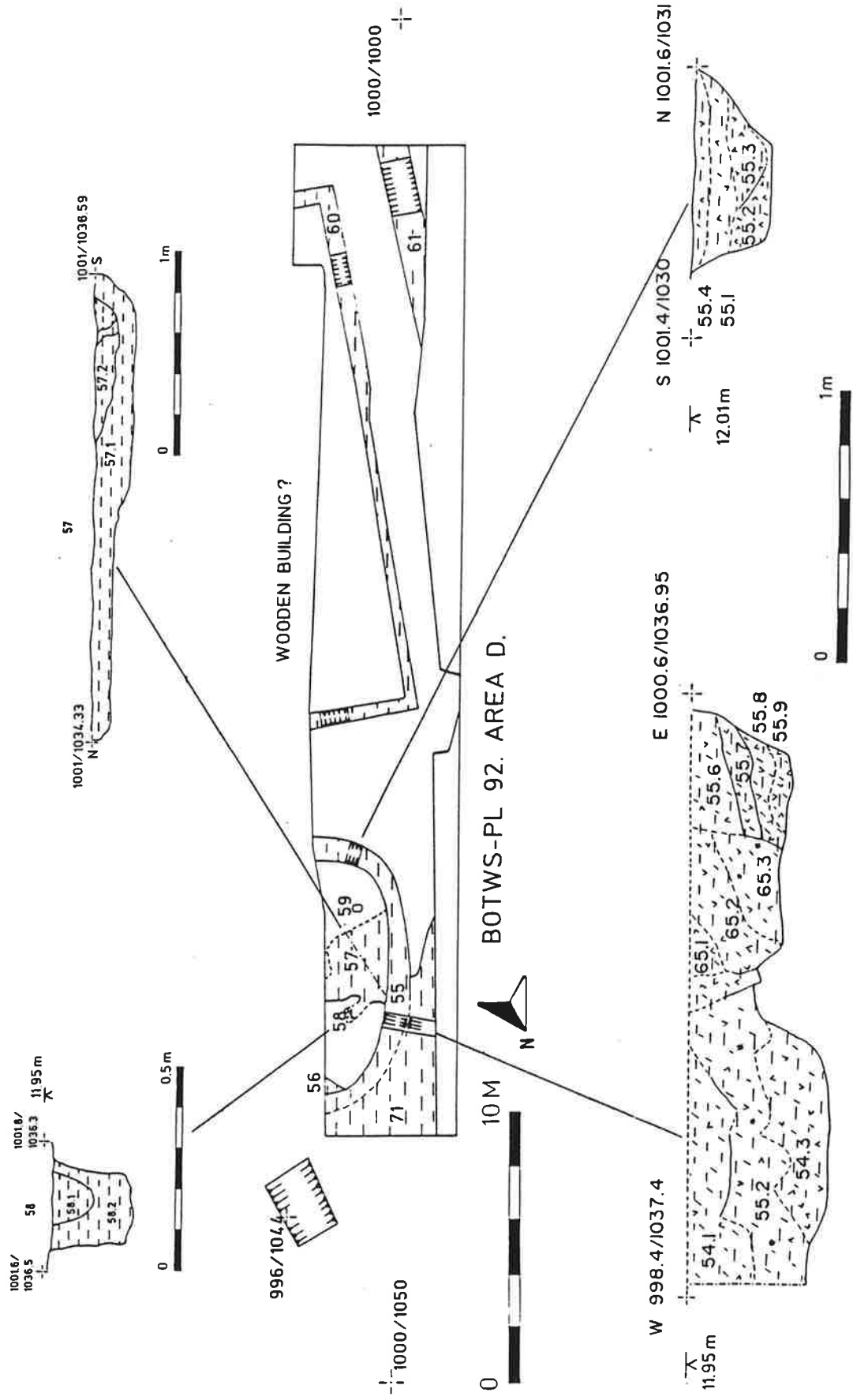
These features differ from the other ditches and pits across the site in their precise layout and very flat bases. The surveying standard was obviously much higher than that permitted for field boundaries and enclosure ditches (Cover photograph). It is suggested that they are foundation trenches for a substantial square or rectangular structure. There are no signs of foundation material, packing or post holes, which suggests that wooden sleeper beams were employed. The lack of artefacts within the fill and its dark colour and humic nature (contrasting with the clayey fills of other features) may suggest that such wooden beams decayed in situ.

Although the worked flints collected from the fills of features [55] and [61] indicate a prehistoric date, it should be noted that several worked flints were collected from Romano-British deposits elsewhere on the site. Those recovered here may be similarly residual. The alignment of [60] and [61] is exactly the same as the enclosure ditch encountered in Area C and those determined by geophysical survey (Fig. 27). In the absence of artefactual and stratigraphic evidence to the contrary it is suggested that this structure was part of the planned layout of the Romano-British settlement.

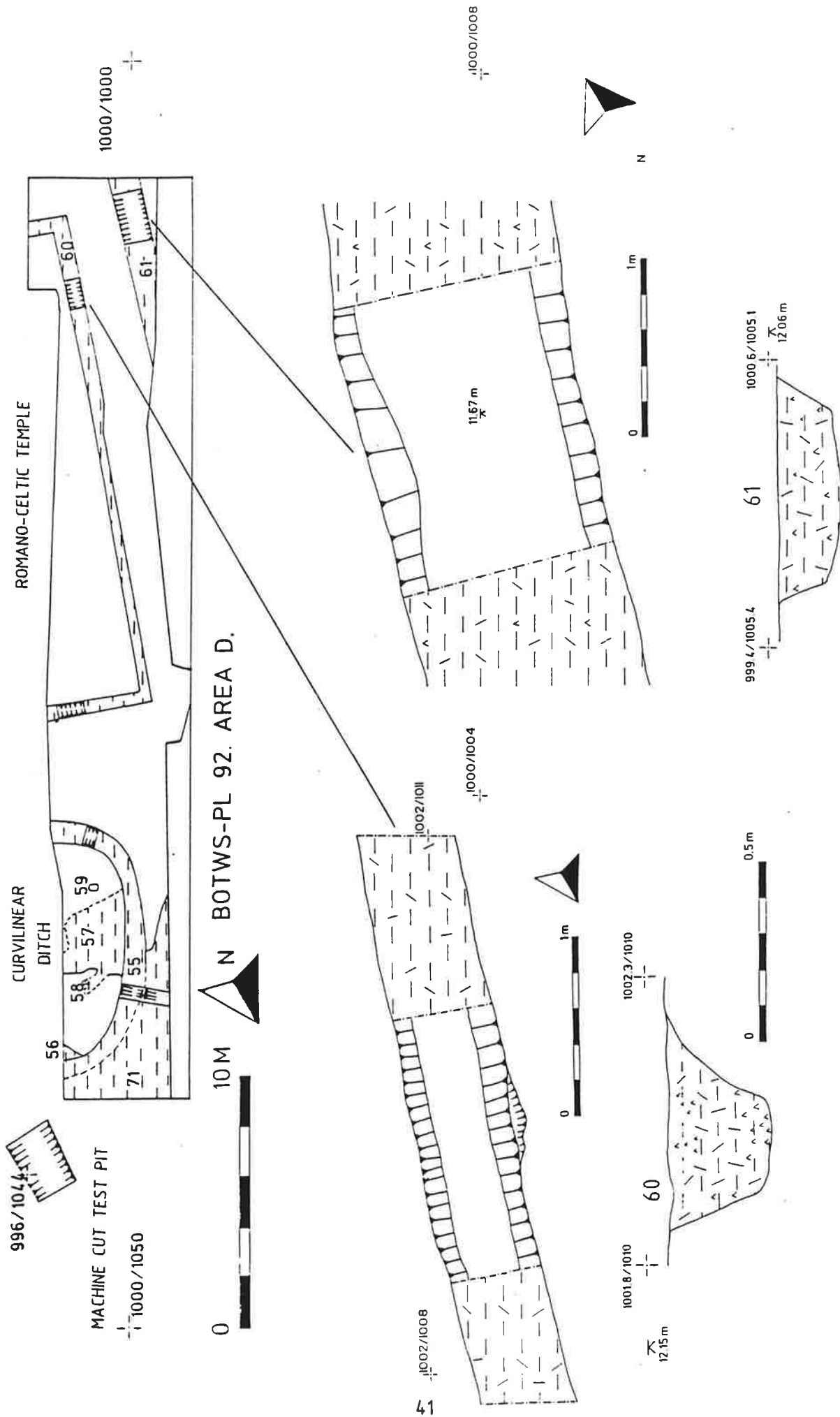
6.5.4.5 LITHIC MATERIAL AND UNSTRATIFIED SMALL FINDS

Several worked flints were found within stratified deposits. With the exception of those from [44.1],[55.1] and [61.1], all were demonstrably residual and found in association with Romano-British pottery. Five worked flints were noted in the ploughsoil in the vicinity of the building, where a late Neolithic polished axe was also collected (Fig. 26). With the exception of this piece, none of the flints were closely datable. A lack of cortex on most flakes suggests that tool production was occurring nearby rather than simply the preparation of cores. The lack of signs of damage on the collected material may suggest fairly recent disturbance to early prehistoric features, however, no features demonstrably of this date were encountered within the pipe trench easement.

Four Romano-British coins were found. Only one came from a secure context and this is too worn for proper identification. The others were discovered by metal detector sweeps over the easement spoil heaps (ploughsoil), two are 4th century in date.



PLAN OF AREA D WITH SECTIONS OF EXCAVATED FEATURES
 FIG. 24



PLAN OF AREA D WITH SECTIONS OF EXCAVATED FEATURES
FIG. 25

FINDS FROM THE PLOUGHSOIL

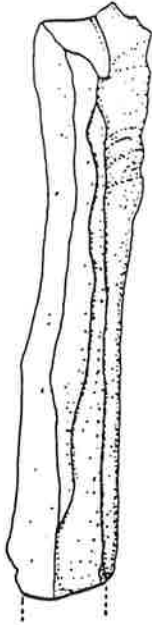


58

AS. OF VALENS (364-78 AD)

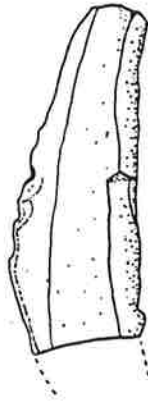
72

AS. OF CONSTANTINE II (317-37AD)



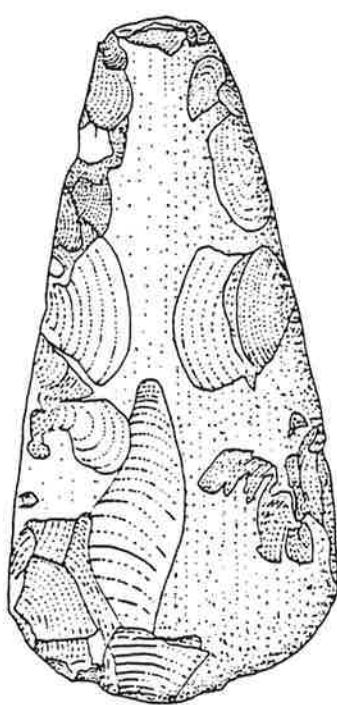
75

INCOMPLETE BLADE



62

INCOMPLETE BLADE



59

LATE NEOLITHIC POLISHED AXEHEAD

0 5cm

FIG. 26

6.5.5 DISCUSSION

The excavations at Whiteland Spring, though limited to the width of the pipe trench easement, have nevertheless provided a significant amount of new information concerning this site. The presence of archaeological features over a wider area than indicated by surface finds alone, has been demonstrated by geophysical survey (Fig. 27). More than one period of activity is likely. Stray finds of worked flint suggest early prehistoric settlement as well as the Romano-British settlement already known. The horseshoe-shaped enclosure detected by the magnetometer survey could possibly represent the eavesdrip gully of a prehistoric roundhouse. The main structures in this area, however, remain the Romano-British building and associated ditched enclosures.

The remains indicated by geophysical survey suggest a building of modest proportions with clunch foundations. The size of this building may well be under-represented, however, since the post holes and slight foundations required for wooden extensions will not have been picked up by a survey of this kind. The existence of a hypocaust system is hinted at by the possible flues and the recovery of two pilae. Linear features projecting from the building down-slope may well be drains.

6.5.5.1 A Romano-Celtic Temple ?

The beam slots uncovered in Area D, though only partially disclosed, are very suggestive of the concentric square or rectangular foundations associated with Romano-Celtic temples. These buildings are thought to be a fusion of the classical architectural styles with celtic forms (Lewis 1966) and are not uncommon in Romano-British urban or rural settings. Those with more substantial inner foundations (as in this case) were obviously not designed to take a large central load. The central tower, which is normally suggested for such a building, is unlikely to have been a feature of the Whiteland Springs temple. It may be that the central portion was uncovered (Fig. 28). Some temples of this kind have central pits or evidence for large trees (Lewis 1966), though no evidence of such features were apparent in this case. The lack of internal surfaces or associated features is frustrating and the absence of tile fragments from the area of this building must indicate the use of another roofing material. No definite votive objects such as coins, bronze objects, pottery or skeletal material were found in the excavated area. In fact, only four coins were recovered from the entire length of the stripped easement, despite thorough metal detector sweeps over the excavation spoil. The nearby pit ([39]) containing bronze plate, an iron knife and a ladle may not be entirely coincidental. These items could conceivably have formed part of some religious regalia (Green 1976). However, they might just as easily be discarded kitchen utensils. The closest recorded Romano-British votive find is that of a miniature bronze axe, found by metal detector 600 metres to the northwest (Taylor 1985). The position of the Whiteland Springs structure might well be significant. The association between Iron Age shrines and watery places such as pools, lakes and springs is well known and this tradition appears to have continued into the Roman period (Woodward 1992). It may well be that the springs and watery hollows here were the focus of some attention.

The presence or absence of a Romano-British temple at Whiteland Springs could be more conclusively demonstrated by a small scale excavation. It is imperative, however, that further work is carried out before the slight features remaining succumb to the plough. An assessment of the state of preservation of the main building might well be incorporated into a further programme of works. Here too, a site of high potential is in danger of destruction.

6.5.5.2 The Romano-British Settlement of the Lodes Area

This Romano-British settlement site is one of a number of sites between Fulbourn and Burwell situated on the interface between upper and lower beds (chalk marl) of the cretaceous lower chalk (Fig. 29). Here, a number of springs emerge and a high

BOTWS-PL 92
 LOCAL CONTOURS AND GEOPHYSICAL SURVEY RESULTS

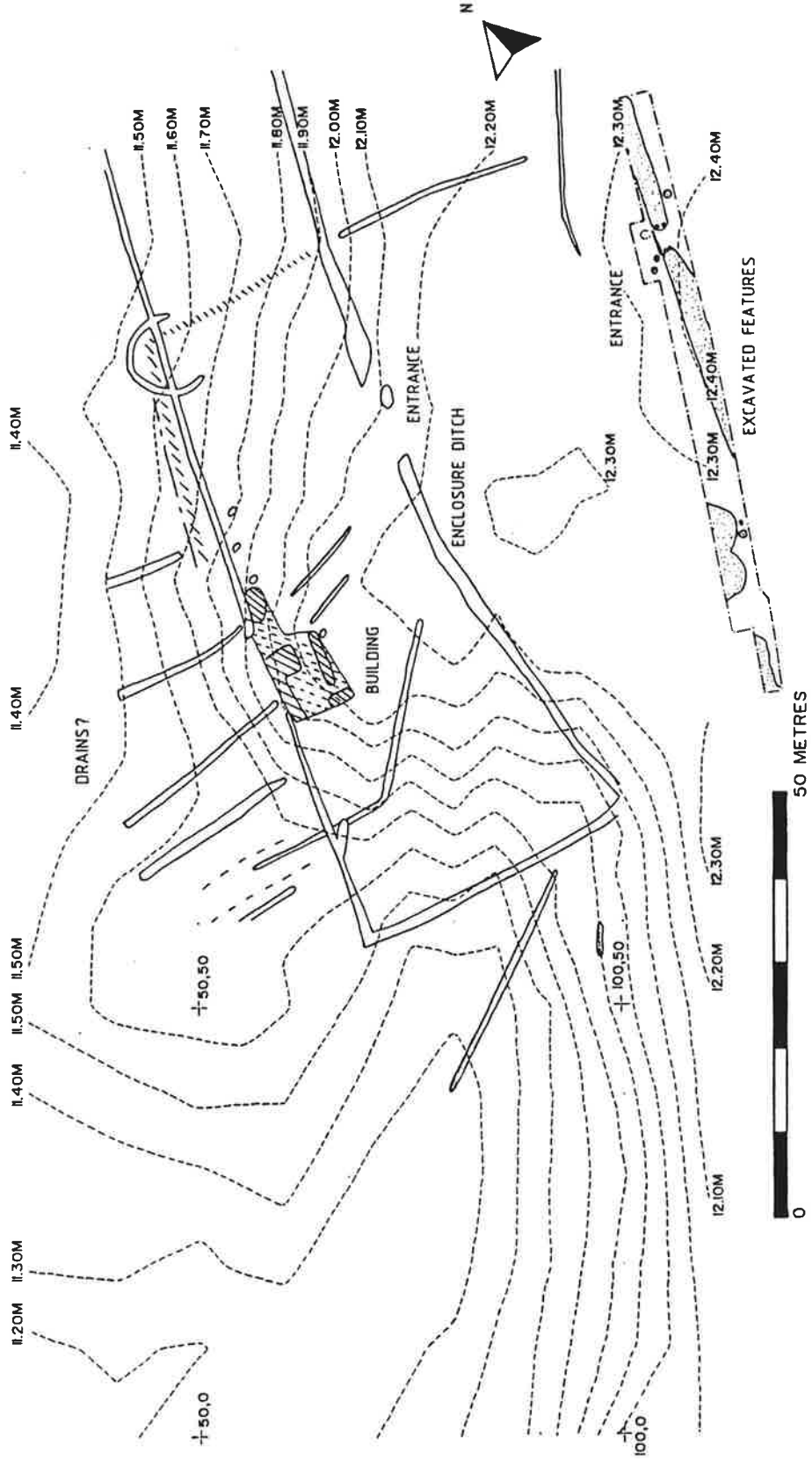
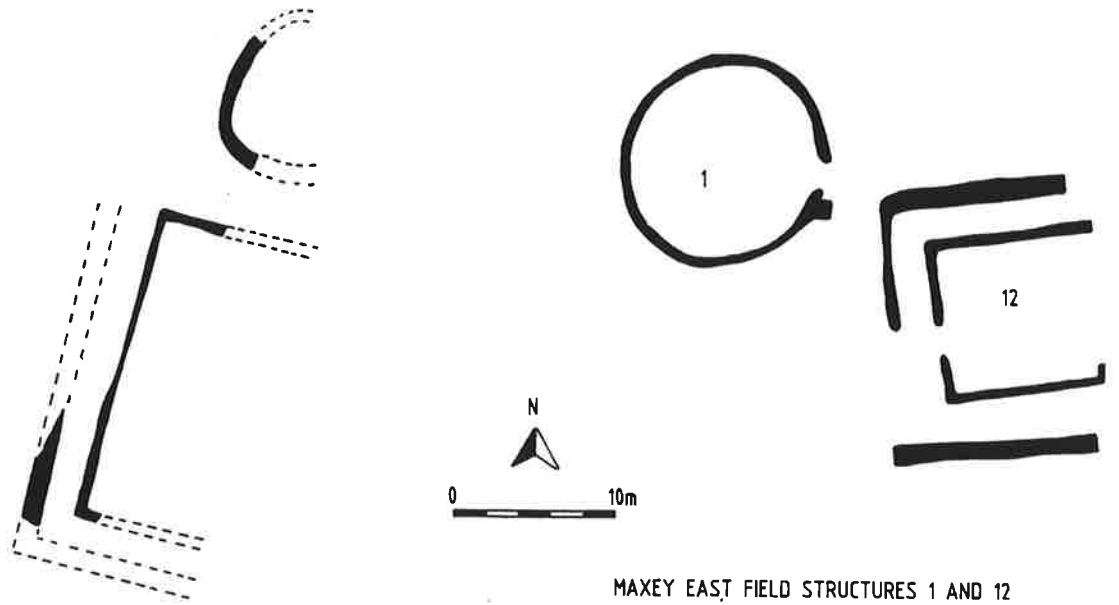
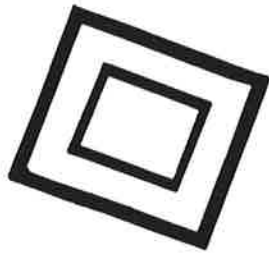


FIG.27

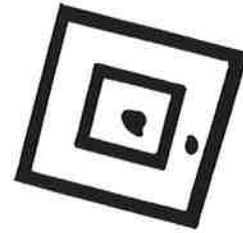


MAXEY EAST FIELD STRUCTURES 1 AND 12

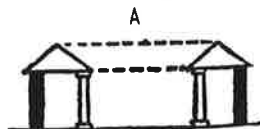
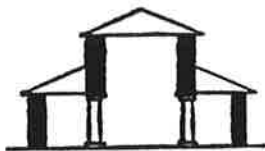
BOTTISHAM WHITELAND SPRINGS FEATURES 55,60 AND 61



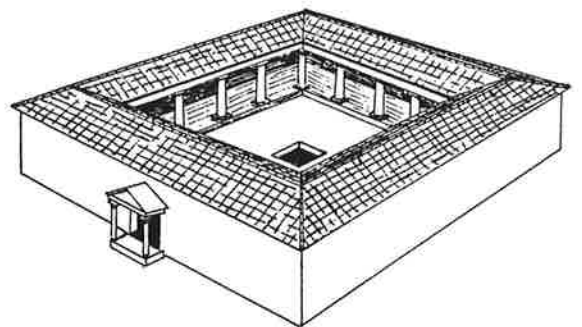
COLCHESTER 3



WOODEATON



SUGGESTED STRUCTURES BASED ON ABOVE PLANS
(AFTER LEWIS)



A. SUGGESTED APPEARANCE
(AFTER LEWIS)

FIG. 28

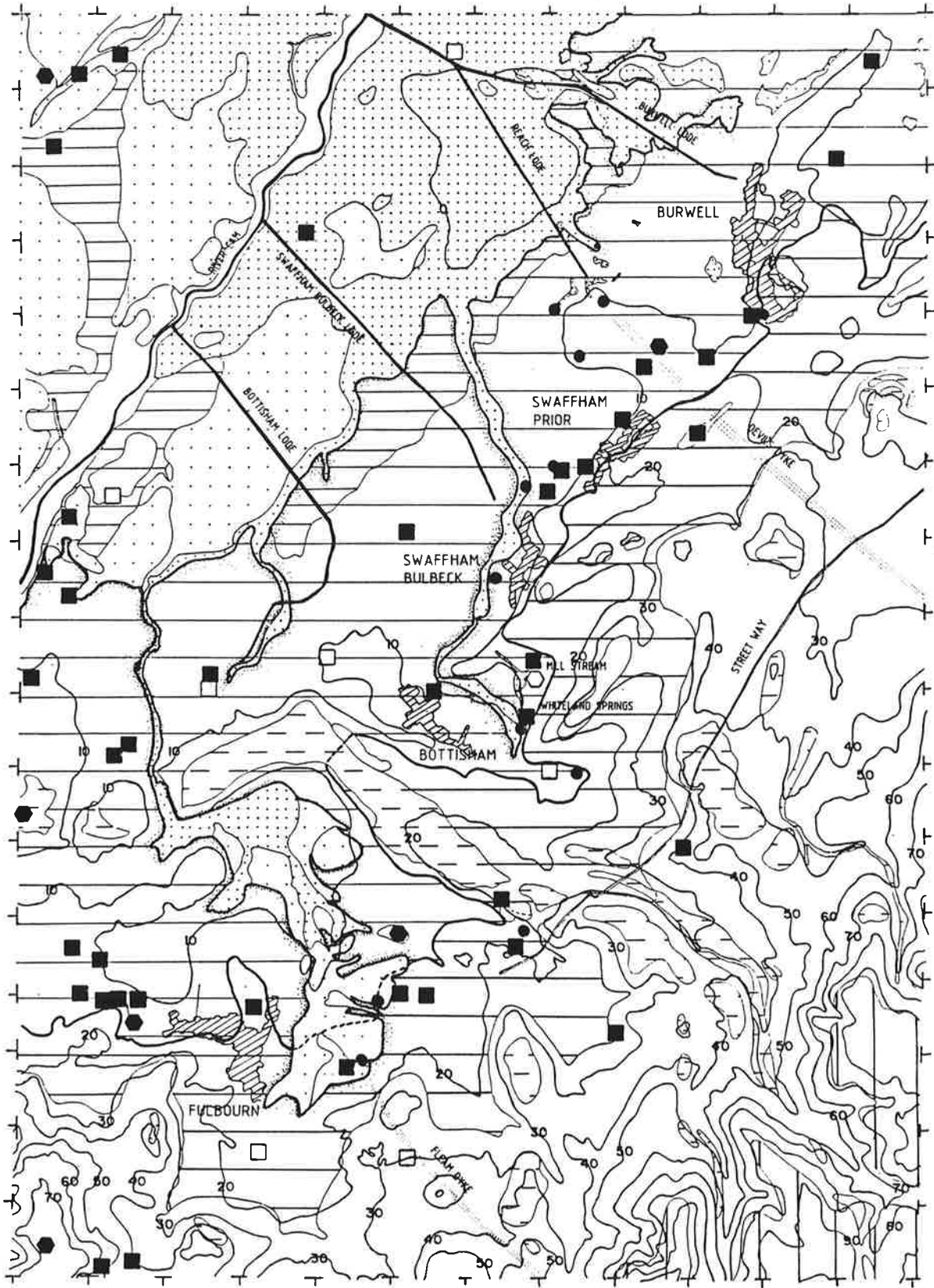
ROMANO-CELTIC TEMPLE STRUCTURES

correlation can be seen between these and sites of Romano-British settlement. A similar pattern can be seen for Iron Age settlements, though in this case, even allowing for greater recognition difficulties and site overlap, their distribution is much more sparse. The siting of the modern villages, presumably based on the Anglo-Saxon settlements to which they owe their names (Reaney 1943), has been similarly influenced by the spring line.

The Romano-British preference for the springs and avoidance of the fen contrasts with the settlement patterns in other parts of the Cambridgeshire Fens. Many sites nestle very close to the fen peats or on gravel islands protruding from them, at heights as low as 3 m O.D. Settlements such as Flaggrass, March and Bullocks Haste, Cottenham are situated alongside canals. Large villages developed at these places and at Stonea and Grandford. It has been suggested that the foundation of the canals and much of the village-like fen settlement was due to imperial impetus (Phillips 1970). If this is so, similar signs of imperial development are absent from the Bottisham-Burwell area. Burwell Old Lode (not illustrated) Reach Lode, Swaffham Bulbeck Lode and Bottisham Lode, despite undoubted post-medieval alteration, are suggested by C.C. Taylor to be Roman in origin. The evidence rests on medieval references to both Burwell and Reach Lode and the idea that the line of the Anglo-Saxon Devil's Dyke was chosen in order to form a continuous barrier with the earlier Reach Lode (the relationship has not been demonstrated stratigraphically). The find of pottery and rough masonry blocks suggestive of a barge cargo at the junction of Swaffham Bulbeck Lode and the Cam does not necessarily prove that the Lode itself was used by Roman barges. Indeed, none of the Lodes seem to have provided a transport system sufficient enough to warrant nearby industry or a supporting road system. Neither do they seem to have contributed significantly enough to the drainage of the area to allow for permanent settlement close to, or on, the fen.

The chalk uplands above 15-20 m O.D. to the south seem to have been entirely unattractive for Romano-British settlement or arable agriculture, perhaps having become deforested and the soils exhausted before the Iron Age. Only two sites have been discovered on the higher middle chalk outcrops. One of these may have a religious function (see 6.2.3 above), the other may have had a role connected with Street Way, a green way based on the line of the prehistoric Icknield Way. The uplands may have been used, therefore, as pasture for sheep. This function, with the exception of an occasional drove or field boundary, will have left few archaeological traces. Dimbleby's work on fossil pollen from a buried soil beneath Devil's Dyke and more recently molluscan analysis of buried soils at Fleam Dyke (Murphy in Wait 1991) certainly indicate a very open environment during the later Roman period.

Very few of the Romano-British sites in the area have been excavated and consequently little is known of the status and economy of settlement here. Aerial survey and fieldwalking, however, has not produced evidence of villas as grand as that excavated at Reach Bridge, Swaffham Prior in 1893. This building was based on a corridor plan 150 ft in length with apsidal projections at each end (Cambs. S.M.R.). Unfortunately the excavation provided little information other than recovering the plan of stone built foundations. Nevertheless, this is enough to show that this building represents the exception rather than the rule and contrasts greatly with the overall impression of Romano-British settlement in the area; a collection of well dispersed, small farm estates.



49/53

61/53



ROMANO-BRITISH AND IRON AGE SETTLEMENTS
IN THE LODES AREA

FIG.29.

7.0 ACKNOWLEDGEMENTS

The author wishes to acknowledge the National Rivers Authority (Anglian Region), who funded the above programme of work, and who continue to display a responsible attitude toward the archaeology of the region.

Mr B. Barton (National Rivers Authority), Mr B. Hayes (Resident Engineer) and Mr R. Bylet (Roadworks Ltd) kept me informed of the work schedule and provided assistance throughout.

Thanks are also due to Mr Rayner of Burgh Hall, Swaffham Bulbeck, who allowed us to extend our geophysical survey beyond the bounds of the land disturbed by the pipe trench easement.

In addition, the team from Cambridgeshire Archaeology who undertook the fieldwork (in sub-zero temperatures) and post-excavation tasks. Useful comments on the text of this report were made by Tim Malim and Alison Taylor.

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APPENDIX A

POTTERY FROM THE DULLINGHAM-SWAFFHAMS PIPELINE , CAMBRIDGESHIRE 1992 by G. Lucas BA

A small collection of Roman pottery from excavated features along the route of the pipeline was studied, most of it coming from the Whiteland Springs site at Bottisham. The sherds were divided into fabric types using a x10 magnification hand lens.

Bottisham, Whiteland Springs (BOTWS-PL 92)

1. Coarse sandy grey ware (1) - fairly hard orange-brown fabric with grey core and surfaces; frequent ill-sorted sub-angular quartzite, occasional medium sized grog, chalk, and sub-angular flint. Local Romano-British ware. 20 sherds in total.

2. Coarse sandy grey ware (2) - as fabric 1, but grey throughout. 4 sherds.

3. Nene Valley ware - hard, white/buff fabric with occasional/moderate fine quartzite, brown/red colour coat. 5 sherds.

4. Fine sandy grey ware - hard, brown/orange-brown fabric with grey surfaces; moderate/frequent fine quartzite, occasional medium-sized sub-angular quartzite. Finer version of fabric 1 ? 9 sherds.

5. Shell-tempered ware - soft fabric , grey/black core with orange/brown margins and surfaces , and abundant medium-coarse crushed shell. 6 sherds.

6. Sandy black ware - hard , orange-brown fabric with black surfaces , partly burnished; abundant ill-sorted , sub-angular quartzite. Local coarse ware , perhaps imitating BB1 - similar fabric to 1 and 2. 13 sherds.

7. Sandy cream ware - soft , cream-pink/orange fabric , with frequent medium/coarse sub-angular quartzite; occasional coarse grog and flint. Only 4 sherds.

8. Hadham red ware - hard , orange sandy fabric with abundant very fine sand and moderate ironstone particles; slightly micaceous. Burnished surfaces. 14 sherds.

9. Oxfordshire red ware - slightly hard , reddish-orange fabric with moderate fine sand and ironstone; micaceous; red-slipped. 2 sherds.

10. Late Iron Age ware - soft-hard dark grey fabric with moderate ill-sorted sub-angular quartzite; moderate coarse angular/sub-angular whitish quartzite and flint. Smooth/ burnished exterior. Local late iron age/early Romano-British ware. 15 sherds.

11. Early grey ware - soft , very fine sandy buff fabric with pale grey surfaces; slightly micaceous. No identifiable form - only 2 sherds. Local terra Nigra ? - 1st. century A.D.

12. Early buff ware - soft , fine pink-buff fabric , with moderate medium-sized sub-angular quartzite. Probably 1st. century A.D. local Romano-British or Gallo-Belgic ware. 1 sherd.

13. Samian - only 2 sherds , possibly central Gaulish.

Tiles/bricks

- A hard , sandy orange fabric with abundant fine/medium sub-angular quartzite.
Hadham ?
- B shell-tempered fabric , as type 5.
- C soft , soapy buff-yellow/orange fabric with moderate medium-sized sub-angular quartzite , occasional flint and chalk.
- D hard , pinkish-orange fabric with abundant medium/coarse sub-angular/angular quartzite , occasional larger flint.

Contexts

- [14.2] small , very abraded sherds :
fabric 1 - 6 sherds
fabric 13 - 1 sherd
- [25.1] small , very abraded sherds :
fabric 1 - 2 sherds
tile A - 1 spall
- [25.2] fabric 1 - 2 sherds , including rim :

1. Large jar with narrow neck and sharply everted rim; three cordons on shoulder. Later 2nd./early 3rd. century A.D. ?
- [25.3] tile C - 5 fragments , 9 spalls - flat , hatched combing
tile D - 1 large fragment , curved.
- [26.1] fabric 1 - 3 sherds , including rim :

2. Large jar with squared , everted rim and narrow neck , grooved.
Later 2nd. century A.D. ?
- [32.1] medium sized sherds , fairly abraded :
fabric 2 - 2 sherds
fabric 4 - 2 sherds
tile A - 3 small fragments
tile B - 1 fragment
(also 2 abraded lumps of mortar , and burnt sandstone)
- [32.2] medium-sized sherds , slightly-heavily abraded :
fabric 1 - 1 sherd
fabric 2 - 4 sherds , including jar rim
fabric 3 - 2 sherds , including bowl :

3. Small incipient flanged bowl with brown colour-coat outside and reddish colour-coat inside. Very worn/abraded. Early 3rd. century A.D.

fabric 4 - 3 sherds
fabric 5 - 3 sherds
fabric 6 - 5 sherds , including shouldered jar - see [32.3]
fabric 7 - 2 sherds , including foot-ring ? Abraded
fabric 8 - 4 sherds , including mortarium rim :
4. Mortarium with upright bead and angular , grooved flange; multi-coloured quartzite trituration. Late 3rd./4th. century A.D.

tile A - 4 fragments , including 2 large burnt pieces
tile B - 2 fragments - imbrex
tile D - 1 fragment

[32.3]

variously sized and abraded :

fabric 1 - 2 sherds , including flattened rim of jar

fabric 3 - 3 sherds , 1 self-coloured - foot -ring of small jar

fabric 4 - 2 sherds , including body sherd of jar with spaced , horizontally burnished lines

fabric 6 - 6 sherds , from shouldered jar - see[32.2]

5. Small jar with flared neck , grooved at shoulder , and simple bead rim. Very worn/abraded rim. Late 3rd. century A.D. ?

fabric 5 - rim :

6.shouldered jar with medium , concave neck and squared rim. Later 3rd. century A.D. ?

fabric 8 - 3 sherds : 2 joining rim sherds from small jar or flagon , 1 from base of mortarium - probably same as in [32.2].

fabric 9 - 2 sherds , both from necked bowls :

7. Necked bowl , young type C75 variant - A.D.325+

fabric 13 - possibly from Drag.18/31

tile A - 1 large piece , burnt and hatched combing

tile B - 10 fragments , 4 spalls - 8 from imbrices , 2 from tegulae

tile C - 1 fragment

[32.4]

generally large , unabraded sherds :

fabric 8 or 9 :

8. Mortarium rim - flange broken , bead upright and grooved. Late 3rd./4th. century A.D.

fabric 4 - 1 sherd of bowl

9. Flanged bowl with upright bead and slightly angular flange; burnished all over inside , and outside just below flange , with four intersecting burnished wavy lines. BB2 type bowl. Late 3rd./early 4th. century A.D.

fabric 5 - 1 sherd

fabric 6 - base sherd , carefully trimmed to form disc , c.10 cm in diameter

fabric 8 - 5 sherds , including :

10. Base of flagon with hole drilled in centre (after firing); late 3rd. century A.D. +.

tile A - 2 fragments , including tegula (also large lump of v.soft baked/dried clay)

[33.1]

12 small broken sherds of fabric 10; 1 tiny sherd of the same at the interface with ploughsoil

- [33] tile A - imbrex fragment
- [38.1] 3 tile B fragments , including 2 tegulae with longitudinal combing on underside
- [38.2] abraded sherds :
fabric 1 - 1 base sherd
tile B - 2 fragments
- [54.2] 2 small , abraded sherds of fabric 1
- [54.3] 1 small , abraded sherd of fabric 1
- [62.1] fabric 8 - 2 sherds with slightly fumed/reduced surfaces
tile b - 1 fragment - imbrex ?
- [65.1] fabric 10 - 2 small sherds , including plain rim :

11. Rim of jar/bowl (scale 1:2).
- [65.3] tiny spall , either fabric 5 or 10
- [66.1] small , abraded sherds :
fabric 11 - 2 sherds
fabric 12 - 1 sherd
- [67.1] small , abraded sherds of fabric 7

Discussion

Overall , the dates of the pottery range from the 1st. to 4th. century A.D. , but these can be defined according to context; the earliest pottery , dated to the 1st. century A.D. , is represented by the local "Gallo-Belgic" fabrics in [66.1] , and also probably by fabric 10 , present in features [33.1] and [65.1]; all these were fairly broken up and may be residual. Most of the pottery probably falls into the 3rd. and 4th. centuries , the bulk of it from [32] , though in this context , particularly the upper fills where the sherds are smaller and more abraded , there is a more mixed range , from later 2nd. to 4th. century. The bottom layer , [32.4] is probably the closest to the date of the ditch , which from the pottery , can be dated to the later 3rd./early 4th. century A.D. The later 2nd./early 3rd. century is represented in the top layers (with 4th. century material) , and also in features [25] and [26]. It is difficult to assign any more dates to other contexts with any confidence , but in general , the pottery is later rather than early (i.e.: 3rd./4th. century)

The only other interesting aspect is the trimmed base (forming a disc) at the bottom of [32] , along with the perforated base of a Hadham flagon; this , in a feature with an abundance of building material , i.e.: tiles , clay lump , mortar , may be significant - such an association was also found at Brampton (Lucas 1991 , in Robinson forthcoming).

SWAFB PL 92

- [6.1] small , abraded sherds - 7 sherds in sandy black burnished ware; 3 sherds in sandy grey ware.
- [6.3] 2 abraded sherds in black fabric with dense fine whitish grit.
- [12.1] 1 very small and abraded sherd in sandy grey ware.

[14.1] 3 very small , abraded sherds in sandy grey ware.

No date - Romano-British sherds , all probably "residual".

SWAFCP PL 92

[5] 1 small sherd of post -medieval glazed earthenware.

[6] 1 tiny oxidised sherd - post-medieval ?

SWAFDD PL 92

[1.1] 1 sherd of post-medieval glazed earthenware.
3 clay-pipe stems - bore c.2.5 mm.

[2.1] 11 clay-pipe stems - bore : 9 - c.2.5 mm.
 2 - c.2.0 mm.

[2/5] large , abraded sherd in oxidised fabric

[3/5] 2 large sherds , oxidised; 1 combed - Romano-British storage jar ?

[7] small , thin sherd , in oxidised fabric with traces of red slip (?) Roman?

[8] abraded base in grey ware - probably Romano-British.

[12] tile/brick fragment in oxidised fabric - Roman ?

A mixture of probably 18th. century pottery and pipe-stems , and Romano-British sherds. All quite abraded - "residual"

SWAFGF PL 92 (surface material from cropmark site)

12 post-medieval sherds , including glazed pieces and a handle.

17 Romano-British sherds , all probably dating to the 2nd. century A.D. :

3 sherds in sandy buff fabric

3 sherds in shell-tempered fabric , including rim of 2nd. century jar.

5 sherds in sandy coarse ware

6 sherds in sandy grey ware , including possible platter base.

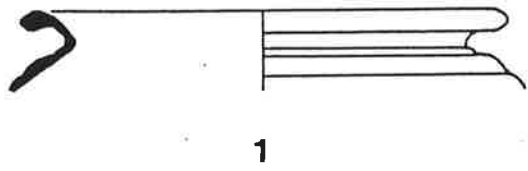
SWAFGF PL 92

[1.1] 1 small , abraded greyware sherd

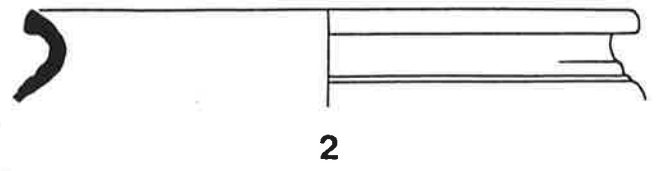
[5.1] abraded post-medieval glazed earthenware

SWAF PL 92 (Cadenham road)

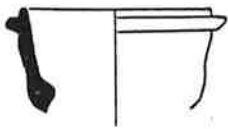
4 sherds and 5 crumbs in a Late Iron Age fabric - dark grey core , brown surfaces , calcite-gritted. All probably from the same vessel - includes rim of small jar with T-shaped rim and short oblique incisions on outer rim surface (see fig.1 , no.12). Similar to sherd found at Harston (Lucas 1992, in Malim "An Investigation of Multi-Period Cropmarks at Manor Farm, Harston", Cambridgeshire County Council, Report 54; fig.1.7). Possibly 1st. century A.D. , or certainly earlier.



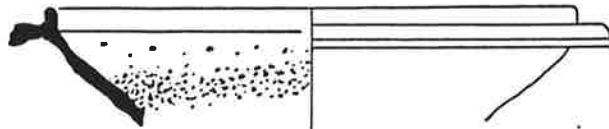
1



2



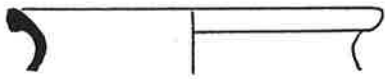
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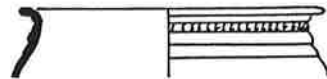
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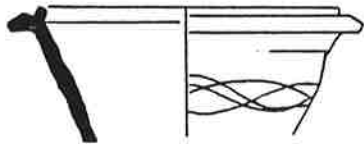
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7



8



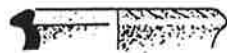
9



10



11



12

APPENDIX B

A report on the lithic material from : Whiteland Spring (BOTWS PL 92) TL 557 / 605 Mill Stream (SWAFB PL 92) TL 560 / 610

Gary Haley BSc PIFA

Introduction

This collection of lithic material consists of 31 pieces; eight come from the Mill Stream site in the parish of Swaffham, the rest from the Whiteland Spring site in the parish of Bottisham. Of these flints, three from Mill Stream and two from Whiteland Spring have proved, on further investigation, to be non-human products (ie. machine / natural products).

All finds, except for a Late Neolithic polished flint axe, recovered as a surface find at grid co-ordinate 55/130 and the fragment of igneous rock from context 6.3, represent the debitage from flint knapping.

Raw Material

Most of the artefacts are produced from a fine grained grey / black flint with only a few exploiting a brown / fawn coloured flint. Context 6.3, the lower fill of a possible grain pit at the Mill Stream site, produced a fragment of a fine grained igneous rock showing signs of being subjected to heat and may represent a fragment of an artifact such as a pot boiler.

Finds By Context

This collection contains both finds from stratified contexts and unstratified surface finds from Whiteland Spring. The following is a summary of these finds related to context and, for surface material, to their location within the site grid.

SWAFB PL 92 :

Context 6.1 Chalk marl fill of grain pit. 1 complete knapped flake. 1 incomplete knapped flake with hinge termination.

Context 6.3 Lower fill of grain pit. 1 burnt piece of flint weighing 5 g. 1 fragment of a fine grained igneous rock showing signs of heating. Possibly part of a pot boiler.

Context 12.1 Fill of feature 12. 3 machine produced flakes.
1 incomplete knapped flake.

BOTWS PL 92 (Stratified finds) :

Context 14.2 Clayey silt; lower fill of shallow, irregular shaped pit. 1 burnt piece of flint weighing 6 g

Context 25.1 Clayey silt, upper fill of ditch. 2 burnt pieces of flint weighing 14 g and 40 g. 1 natural flake.

Context 32.1 Upper fill of ditch. 1 burnt piece of flint weighing 18 g.

Context 44.1 Fill of hollow. 1 burnt piece of flint weighing 15 g.
2 complete knapped flakes, one with a

- hinge termination.
- Context 55.1* Fill of ditch. 1 incomplete knapped blade.
1 complete knapped flake / blade with diffuse bulb of percussion and two blade removal scars. Flake off blade core
- Context 61.1* Fill of shallow, flat based ditch. 1 probable knapped flake / blade.
1 possible core fragment weighing 47 g.
- Context 72.4* Fill of pit. 1 incomplete knapped flake with crazed surfaces due to heating.
1 burnt piece of flint weighing 5 g.
1 machine produced flake.

(Surface Finds) :

Grid co-ordinate

- 50 / 400 1 incomplete knapped flake.
- 55 / 175 1 Late Neolithic, polished flint axe. Dense yellow-brown patination on both surfaces with only one small flake scar near butt end representing recent damage. Lateral edges turned and faceted with squared butt end and convex cutting edge.
Dimensions: weight = 124 g
max length = 102 mm
max thickness = 24 mm
max width, cutting edge = 48 mm
max width across butt = 15 mm
- 56 / 200 1 incomplete knapped flake.
- 60 / 200 1 incomplete knapped flake / blade displaying hinge termination and ~20% cortex retention.
- 66 / 136 1 incomplete knapped blade.
- 76 / 88 2 incomplete blades, one with an existing length of 61 mm, the other displaying a faceted striking platform.

1 incomplete knapped flake.

Debitage Characteristics

The debitage consists of incomplete flakes, blades and irregular pieces of burnt flint varying in weight from 5 to 40 g. All these burnt pieces come from stratified contexts, and all, except one, come from the Whiteland Spring site in Bottisham. Generally speaking, these flakes and blades are quite substantial pieces, with flakes tending to be quite squat and blades broad. In terms of weight the three knapped flakes recovered from the Mill Stream site, weighing 2,3 and 6 g are quite small in comparison with most of those found at the Whiteland Spring site. The knapped flakes from stratified contexts at Whiteland Spring have a weight range of 4 to 20 g, with an average weight of 11g, equal to its medial value. A similar weight range of 7 to 16 g is seen among the surface flake debitage whose average equals 12 g and its medial value 14 g.

The majority of pieces display a dense whitish patination on their surfaces; the two flakes from context 6.1 being notable exceptions, and overall exhibit very little evidence of recent damage. The retention of some cortex is only found on four flakes, three of which are surface finds from Whiteland Spring, the remainder, one of the flakes from context 6.1 at Mill Stream. None of these flakes retain large quantities of cortex; the most, ~20%, occurring on the flake recovered from the surface at 60 / 200.

Technological Details

Striking platforms and bulbs of percussion on those artifacts where these features survived were, except in a few cases, all plain and salient in character. This would seem to indicate that knapping was carried out using a hard hammer, probably by means of direct percussion. Some evidence may exist for the use of a soft hammer and the use of indirect percussion by means of a punch, within context 55.1, in the form of a diffuse bulb of percussion on a flake exhibiting two blade removal scars on its dorsal surface. This flake occurs in association with a small blade and probably represents a flake trimmed off a blade core.

Contexts 14.2, 25.1, 32.1, 44.1, 72.4 and context 6.1 at the Mill Stream site, all produced pieces of flint heavily crazed due to being subjected to heat. Context 72.4 also produced a knapped flake with heat crazed surfaces. Whether this is evidence of intentional heating to aid knapping or simply pieces of flint, including the knapped flake, being burnt unintentionally cannot be said with certainty, however their occurrence within a number of different contexts would seem to suggest that heating to aid knapping is likely.

Conclusion

In the absence of characteristic tools (excluding the Neolithic axe, which can only be treated as an isolated find) and on such scant material evidence, very little can be said with any certainty, either with regards to age or the cultural / functional activities associated with the production of these artifacts. Generally, the large size of the debitage and the occurrence of broad blades among this would seem to suggest a Neolithic date is probable but by no means provable on the strength of the evidence here, and indeed, as suggested by the finds from context 55.1, material from more than one period is likely to be present.

The lack of cortex on most flakes in this collection suggests that 'good' flakes and blades (ie. for tool manufacture) were being produced within the Whiteland Spring area, as opposed to primary trimming of cores.

Overall, only tentative conclusions can be drawn from the study of this material, however the small amount of recent damage apparently sustained by most of these artifacts would suggest that further work within the Whiteland Spring area could prove rewarding.

Bibliography

- Pierpoint, S. 1981, *Prehistoric Flintwork In Britain*. Vorda Publications, Highworth
- Pitts, P W. 1980, *Later Stone Implements*. Shire Archaeology, Aylesbury

APPENDIX C

FILL DESCRIPTION CATALOGUE

SWAFDD-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
1	light yellowish brown	friable, granular, homogenous slightly clayey silt	occ chalk lumps, approx 1.5cm	soft, becoming more compact		topsoil		Differs little from overlying topsoil
2	light yellowish brown	friable, granular, homogenous slightly clayey silt	occ chalk flecks, approx 1.5cm	soft, becoming more compact		topsoil		Differs little from overlying topsoil and is similar to 1.
4	light yellowish brown	friable, granular, homogenous slightly clayey silt	occ flint stones	fairly compact				Similar in colour and characteristics to 2
5	light brown	friable sub-angular blocks of clayey silt. Mottled in appearance	occ chalk flecks	compact				
9	slightly orange brown	friable clayey silt	none	loose		topsoil		No finds

BURDD-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
1.1	very light brown	friable, slightly clayey, very fine silt	occ chalk lumps of <4cm chalk flecks	fairly loose				
2	light brown	friable, slightly clayey, fine silt	occ chalk lumps occ flint pebbles	medium		plough soil		
3	light brown	friable, slightly clayey, very fine silt	occ chalk flecks occ flint pebbles					
4	light grey brown	friable, slightly clayey, fine silt	occ small stones occ flint pebbles	medium		plough soil		

SWAFGF-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
1.1	10YR 5.3 brown	clayey fine silt	occ chalk flecks of <0.5cm occ small flint pebbles occ large flint stones	loose			1	One small abraided potsherd found in this fill.
1.2	10YR 5.3 brown	clayey silt	occ chalk flecks of <0.5cm occ very small flint pebbles	compact			1	
4.1	10YR 5.3 brown	friable, granular clayey silt. A homogenous fill	occ chalk flecks 2 charcoal pieces at 1.5cm down	compact at base	4.2	subsoil	4	Similar in colour to the subsoil above it
4.2	10YR 5.3 brown	clayey silt	occ chalk flecks of <0.5cm occ very small flint pebbles	compact		4.1	4	
5.1	10YR 5.3 brown	slightly clayey fine silt	moderate chalk lumps	fairly compact		plough soil	5	

SWAFCP-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
1	grey	clayey silt	occ chalk occ flint pebbles	loose				Ploughsoil
2.1	10 YR 4.2	course clayey silt	charcoal chalk specs few stones	loose				Bark present, from hedging plant roots?
3	10YR 4.3 dark brown	med clayey silt (much less clayey than ploughsoil)						Topsoil lynchet Large roots evident from former hedge - unploughed
4	10YR 5.2 greyish brown	clayey silt	occ small pebbles					Gully / root hole
5	10YR 4.3 dark brown	fine clayey silt	occ small chalk flecks occ flint pebbles	quite compact - more than 3 or 4				1 piece of (early?) P med pot
6	10YR 5.2 greyish brown	crumbly silt	chalk flecks occ flint pebbles					Small ditch / root hole
7	10YR 4.3 dark brown	crumbly silt	occ small chalk flecks occ flint pebbles					
8	10YR 4.4 dark yellowish brown	fine silt	mod chalk flecks (more than 11 otherwise similar) occ rounded flint pebbles					
9	10YR 6.4 light yellowish brown	fine sand	occ chalk flecks where 8 has been mixed into this layer by worms	quite compact				Natural? Worm / root penetration between clunch pebbles of mixed layer
10	10YR 4.4 dark yellowish brown	fine silt	occ chalk flecks occ rounded flint pebbles					As 8 but less chalk flecked
11	10YR 5.3 brown	fine silt	occ chalk lumps					Mixed layer between silts and chalk. Same level as ?
12	10YR 4.4 dark yellowish brown	coarse silt	occ chalk flecks - much less than 8					More compact than 8
13		chalky silt	chalk lumps, approx 80%					Mixed natural / silts from above
14		hard chalk		compact				Natural

SWAFB-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
1	2.5Y 5.2 greyish brown	silty clay		none	2			Ploughsoil
2	10YR 5.2 greyish brown	very silty clay			3	1		Subsoil
3	10YR 5.2 greyish brown	slightly clayey friable silt		fairly loose on surface		2		This fill was unexcavated below approx 10cm. It is therefore not possible to say more about it. It is the fill of possible mill stream.
6.1	2.5Y 5.2 greyish brown	clayey silt	white chalk mottles, up to 50% occ charcoal flecks of <1cm occ flint stones of <3cm	firm	6.2 and 6.3		6	Occ bone and burnt bone fragments. Also occ abraded pot sherds, including 1 large Roman or Iron age body sherd. Occ waste flint flakes
6.2	white with occ yellow staining	powdery chalk marl mottled with greyish brown clayey silt which is the same as 1 and 4		firm	6.3	6.1	6	Mixes with 1 at its base
4	2.5Y 5.2 greyish brown	clayey silt	white chalk mottles occ charcoal flecks of <1cm occ flint stones of <3cm	firm				Fill 4 is essentially the same as 6.1 although it has a much higher chalk inclusion
6.3	10YR 4.1 dark grey	clayey silt	mod charcoal flecks of <0.5cm occ chalk flecks	firm		6.1 and 6.2	6	Occ small abraded pottery, possibly burnt. Also contains animal and burnt animal bone. Small root penetration
8.1	10YR 5.2 greyish brown	friable clayey silt	occ charcoal occ chalk	very firm			8	22cm in depth
9.1	10YR 3.1 very dark grey	very friable silt loam	occ chalk occ flint	firm	9.2		9	No finds
9.2	10YR 4.1 dark grey	friable silty clay	mod chalk fragments 1 large flint stone, approx 15cm	firm		9.1	9	No finds
11.1	10YR 4.2 dark greyish brown	clayey silt	occ flint	very firm	11.2		11	

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
11.2	10YR 3.2 very dark greyish brown	friable silty clay	mod chalk flecks	very firm		11.1	11	
12.1	10YR 4.2 dark greyish brown	friable clay silt	very occ charcoal occ chalk flecks occ flint	very firm	12.2		12	
12.2	10YR 4.2 dark greyish brown	friable clay silt (less friable than 12.1)	mod chalk mottles	very firm	12.3	12.1	12	
12.3	10YR 4.1 dark grey	clay	mod chalk occ pebbles	firm		12.2	12	

BOTWS-PL92 FILL CATALOGUE

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
14.1	10YR 4.2 dark greyish brown			firm	14.2	plough soil	14	Few pieces of abraided pot
14.2	2.5Y 5.2 greyish brown	clayey silt	none	heavy		14.1	14	Low proportion of abraided pot
25.1	10YR 5.3 brown	slightly clayey silt	few specks of charcoal	fairly firm	25.2	plough soil	25	Abraided pottery and fire cracked flints recovered from this fill
25.2	10YR 4.2 dark greyish brown	sticky chalky clay	none	firm	25.3	25.1	25	Large number of horse teeth. Also, one large piece of rimmed pot
25.3	10YR 5.2 greyish brown	chalky clay	few specks of charcoal and combed flu	firm		25.2	25	Depth of 8cm
26.1	10YR 6.2 light brownish grey	chalky clay	chalk lumps	firm	26.2	plough soil	26	12cm in depth. Abraided pot and some brick found.
26.2	2.5Y 6.2 light brownish grey	sticky chalky clay	none	firm		26.1	26	
32.1	2.5Y 5.2 greyish brown	crumbly clayey silt	occ charcoal flecks <1cm occ small chalk lumps	medium to firm	32.2	plough soil	32	Occ abraided RB pot sherds, tile and mortar. 1 firecracked flint. Worm and root action has caused this layer to be partially mixed with 32.2
32.2	10YR 4.2 mid-dark grey	slightly clayey silt (less clayey than 32.1)	occ charcoal flecks of <0.5cm occ chalk lumps of <4cm	fairly loose	32.3	32.1	32	Occ RB pot and animal bones. Abraided nature of pottery suggests that it was on the surface for some time before being deposited in ditch. Some worm and root penetration.
32.3	5Y 4.1 dark grey	silty clay	chalk flecks occ to mod charcoal flecks of <0.5cm occ chalk lumps of <4cm	compact	32.4	32.2	32	Some RB pot. Unabraided sherds. Animal bone. More bone and pottery than in 32.1 or 32.2. The pottery was also larger and less abraided than in these other layers.
32.4	5Y 5.2 grey	silty clay	occ charcoal flecks of <1cm chalk mottling mod chalk lumps	compact		32.3	32	Occ animal bone, RB pottery and burnt clunch stone found.
38.1	10YR 6.2 light brownish grey	silty homogenous clay	occ snail shell fragments, 1% orange brown mottling in small patches	compact	67.1	1	38	RB pot, approx 5%. Ditch 38 is possibly contemporary with 32
39.1	10YR 5.2 greyish brown	sandy clay	very occ stones	extremely compact	39.2		39	
39.2	10YR 3.2	silty clay	mod chalk lumps	compact		39.1	39	

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
44.1	very dark brown	granular, friable clayey silt	approx 5% chalk mottles occ flint	loose			44	Although 20cm in depth, it fades out towards the edge of the hollow 44.
54.1	10YR 4.2 dark greyish brown	clayey silt	occ chalk fragments	fairly loose	54.2		54	
54.2	10YR 5.2 greyish brown	silty clay	occ charcoal mod chalk	compact	54.3	54.1	54	
54.3	10YR 4.2 dark greyish brown	very silty clay	chalk flecks, more frequent than 54.2	compact		54.2	54	
55.1	10YR 5.2 greyish brown	clayey silt	occ chalk mottles and fragments occ flint	firm	55.2		55	
55.2	10YR 5.2 greyish brown	silty clay	frequent chalk fragments occ flint	firm	55.3	55.1	55	
55.3	10YR 5.2 greyish brown	clayey silt	chalk mottles and fragments occ flint	firm	55.4	55.2	55	As 55.1 but more frequent chalk inclusions
55.4	10YR 5.2 greyish brown	clayey silt	occ chalk mottles and fragments	firm	55.5	55.3	55	Fewer inclusions than other fills in this ditch
55.5	10YR 5.2 greyish brown	clayey silt	chalk mottles and fragments occ flint	firm	55.6	55.4	55	As 55.3 but more frequent chalk inclusions
55.6	10YR 4.2 dark greyish brown	clayey silt	very occ charcoal occ chalk fragments		55.7	55.5	55	
55.7	10YR 4.2 dark greyish brown	clayey silt	frequent chalk	fairly compact	55.8	55.6	55	
55.8	10YR 4.1	silty chalky clay	frequent chalk		55.9	55.7	55	
55.9	10YR 4.1	silty chalky clay	frequent yellow chalk, approx 80%		55.10	55.8	55	
55.10	10YR dark greyish brown	silty clay	occ chalk, much less than in 55.8 or 55.9			55.9	55	
57.1	light yellowish brown	granular friable silt				plough soil	57	

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
58.1	brown	granular friable silt			58.2	plough soil	58	
58.2	light yellowish brown	granular friable silt				58.1	58	The cut 58 is possibly the same as 57
60.1	10YR 3.2 very dark greyish brown	friable silty loam	occ charcoal frequent chalky clay lumps snail shells occ flint stones of <1cm	compact	60.4	60.2 and 60.3	60	Much worm and root penetration. Burnt flint found within this layer
60.2	10YR 5.2 greyish brown	chalky clay silt	chalk, makes up approx 85-90%		60.1	plough soil	60	This layer was frozen hard at the time of excavation, and it is therefore difficult to say more.
60.3	10YR 5.2 greyish brown	clayey silt	occ chalk, but much cleaner than the other fills having very few inclusions	loose	60.1	plough soil	60	This layer was also frozen. It is possibly friable when thawed.
60.4	10YR 5.2 greyish brown	friable chalky silty clay	approx 80% chalk	fairly loose		60.1	60	
61.1	10YR 3.2 very dark greyish brown	friable silty loam	chalky clay lumps	loose		plough soil	61	30cm in depth. Various lithics and 1 small piece of bone were found in this layer
62.1	10YR 6.2 light brownish grey	plastic silty clay	occ small stones, approx 2% occ fine roots			1	62	Approx 3% RB pot. High probability of contamination from plough soil
63.1	10YR 6.2 light brownish grey	plastic silty clay	occ small stones, approx 2% occ fine roots, approx 5%	compact		1	63	Directly beneath plough soil, so risk of contamination is high
64.1	10YR 6.2 light brownish grey	plastic silty clay	occ fine roots, approx 4%	compact		1	64	High probability of contamination from plough soil
65.1	10YR 5.2 greyish brown	clayey silt	mod chalk mottles and fragments, (less than in 65.2)	compact	65.2	1	65	Similar to the fills in ditches 54 and 55, although 65.1 has a higher clay content and is also slightly more compact
65.2	10YR 5.2 greyish brown	clayey silt	mod chalk mottles and fragments	compact	65.3	65.1	65	Similar to the fills in ditches 54 and 55
65.3	10YR 4.2 dark greyish brown	silty clay	mod small chalk fragments very occ charcoal	compact		65.2	65	
66.1	10YR 6.2 light brownish grey	plastic homogenous silty clay	large snail shells occ fine roots, approx 5%	compact		1	66	Approx 2% RB pottery
67.1	10YR 6.2 light brownish grey	plastic homogenous silty clay	frequent chalk mottling large snail shells occ fine roots, approx 5%	compact		1	67	Approx 1% RB pottery. High probability of contamination from plough soil

<u>Context</u>	<u>Colour</u>	<u>Consistency</u>	<u>Inclusions</u>	<u>Compaction</u>	<u>Above</u>	<u>Below</u>	<u>Cont by</u>	<u>Comments</u>
72.2	10YR 5.2 greyish brown	chalky clayey silt	approx 80% chalk	firm	72.3	72.1	72	
72.1	10YR 5.2 greyish brown	clayey silt	occ chalk	firm	72.2		72	
72.3	10YR 4.2 dark greyish brown	silty clay			72.4	72.2	72	charred wood along S side of fill. Iron objects found. Also, decayed organic material in make up
72.4	10YR 4.2 dark greyish brown	silty clay				72.3	72	