



INDEX DATA	RPS INFORMATION
Scheme Title Little Brickhill Bypass.	Details Archaeological Evaluation.
Road Number	Date January 1990
Contractor Buckinghamshire County Museum	
County Buckinghamshire	
OS Reference SP93.	
Single sided ✓ Double sided A3 3 Colour 0	



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**AN ARCHAEOLOGICAL EVALUATION OF THE PROPOSED
ROUTE OF THE LITTLE BRICKHILL BY-PASS**

Buckinghamshire County Museum 1990

**For Departments of the Environment & Transport,
Eastern Regional Office**

LITTLE BRICKHILL

INTRODUCTION

Commissioned by the Departments of the Environment and Transport, Buckinghamshire County Museum carried out an archaeological survey of the route of the proposed Little Brickhill by-pass between December 1989 and January 1990. The route was studied by considering available documentation including aerial photographs, by fieldwalking, by survey, and by augering and electronic survey where appropriate.

The report concludes with recommendations.

PREVIOUS DISCOVERIES AND DOCUMENTARY RESEARCH

The village of Little Brickhill lies on the present A5 road which follows the line of the Roman road called Watling Street which ran from London via St. Albans to Towcester and beyond. A section of Watling Street from a point near Glebe Farm and the village to the south was re-routed in a northwards curve by Telford in 1824 in order to minimise the gradient. (Wyness 1933, 10, 67). The original route of Watling Street in this section can be seen in the field below Model Farm. (Fig. 1¹). There is apparently a well-defined 'agger', the typically cambered profile of a Roman road, running parallel to a series of ridge and furrow to pass south of the farm buildings. The structure of the Roman road was revealed when the Watling Street in Fenny Stratford was cut by a sewer trench, as reported in a local newspaper in August 1923. (Bucks County Museum, CAS file, 1878). The road at this point was laid on a foundation of faggots, covered by a thick layer of 'concrete', and surfaced with stones.

Below Little Brickhill, either side of the A5 before it crosses the River Ouzel, lay the Roman posting station and town Magiovinium. The southern line of the town's defences are apparent on an aerial photograph which shows part of a curved ditch enclosure south of Dropshort Farm (Cambridge University 1957, ref. neg. no. VC78). Browne Willis in c. 1740 had identified the area of Fenny Stratford as the site of the town on evidence of around 100 Roman coins and other Roman remains found there, and by assessing the distances between posting stations recounted in the second century Antonine Itinerary. (Browne Willis c. 1740, fo. 35v, 100, fo 133v). The antiquarian W. Stukeley challenged this interpretation believing

Magiovinium to have been near Dunstable. (Stukeley 1776, *Itinerarium Curiosum*). In the nineteenth century Lysons recorded that besides coins and personal ornaments, foundations had been dug up in Auld fields near Fenny Stratford. (Lysons 1813, 483, 485). Auld fields was south of the White Hart Inn, the site of the present Dropshort Farm. (Fig. 1²). The debate continued but in the Victoria County History published in 1908 it was recognised that Magiovinium had occupied the area around Dropshort Farm. (Smith 1908, 3-5).

Various excavations have been undertaken in this century to try to determine the extent, dating, and function of Magiovinium. W. Bradford and J. Berry organised an excavation in Auld field early in the century and found painted wall plaster, tesserae and tiles, indicating that a Roman house of some quality had stood there. (Haverfield 1911-1912, 35-37). Since then road and other improvements have prompted programmes of further archaeological excavations and watches on trenches dug. In 1971 the laying of sewer drains in the area was watched and wall footings were observed. In 1974 during the laying of field drains, building material and pottery was recorded. Occupation debris indicated a high level of activity in the first century and second century and less activity in the fourth century. (Bertram 1974, 1-4). In 1975 an excavation was undertaken in advance of the proposed A5 diversion when more Roman building remains and ditches were found. (Hudson, Tapper and Farrant 1977). In 1969 Bletchley Archaeology and History Society had undertaken excavations at Galley Lane cross roads where building remains, pottery and ornaments dating from first century to fourth century were found. (Anon 1966, 439). In 1977-1978 rescue excavations in advance of the A5 diversion were carried out by the DoE Central Excavation Unit. Trial trenches for the excavation covered the area of the roundabout development and extended to the area now to be developed by the by-pass on the extreme west (fig. 4, field 20). From these excavations it was found that a series of pre-conquest field divisions had been re-aligned circa 70 AD to respect the line of Watling

FIG. 1 Little Brickhill area; sites finds and features referred to in text.

Street, and that with the growth of the vicus at Magiovinium an industrial suburb with circular huts and other buildings, and smithying furnaces, had extended development along Watling Street during the Antonine period (138 AD - 161 AD). The whole area had apparently been systematically levelled in the late second century and later re-developed, evidence for occupation continuing into the fourth century. Some plots to the north-west (fig. 6, middle of roundabout) were later used for a cemetery. Neal 1987, 1-30).

Coin hoards have been found in the area of Magiovinium. In 1962, 251 fourth century coins were found with evidence of a fourth century building. (Griffiths 1967, 27-28). In 1967 when a gas pipe was being laid, 296 denarii were found. (Anon 1966, 166). Coins from both hoards are in the Bucks County Museum, Aylesbury. Metal detector users have also found coins. Between 1979 and 1981 about 600 Roman coins had been found dating from the early first century to late fourth century. (Woodfield 1981). A further 627 denarii dating from the first to second centuries were found with metal detectors in 1987 in about the same place as the 1967 hoard had been found. (Carradice and Farley 1987).

Other excavations have taken place on the site of the Bathing Station south of the A5 bridge on the north bank of the River Ouzel. (Fig. 1³). A series of excavations undertaken by the Bletchley Archaeology and History Society between 1955 and 1964 revealed building remains, ditches, inhumations, coins, pottery and animal bones, which provide evidence for Roman occupation, a burial site, and possible rubbish tip in that area. (Kettle 1957, 7; Pengelly 1964, 1-6; Bletchley and District Archaeology Society, Bulletin No. 1, 1955). In the south-west angle of the Galley Lane cross roads evidence for a Roman fort of the Neronian period (54 AD - 68 AD) has been found.

These various investigations established the south-eastern limits of the town, which may have encompassed an area of about 8 hectares, including occupation and several cemeteries outside the walls, also industrial suburbs lying along Watling Street reaching past Galley Lane cross roads. How far occupation extended eastwards is not certainly known. (Woodfield 1977, 384-399). The town is a scheduled ancient monument.

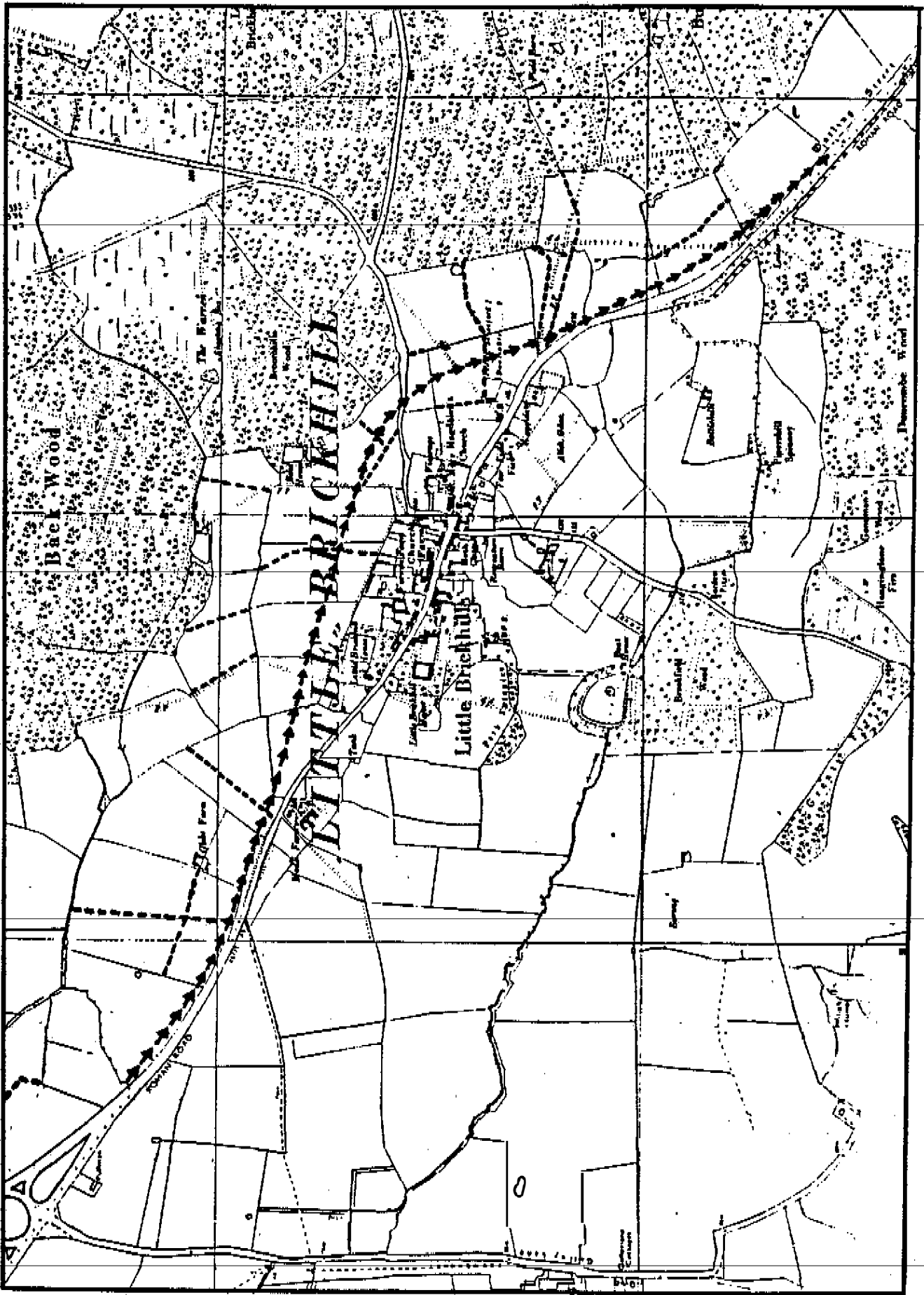
FIG. 2 **The 1792 Inclosure map with field or owner names added.**

Evidence for Roman occupation in Little Brickhill was provided in 1987 by a find of a quantity of sherds of second century shelly-ware pottery found in a garden. (Fig. 1⁴). The deposit was probably the infill of a rubbish pit and therefore infers nearby occupation. (Neal 1987).

Anglo-Saxon occupation in Little Brickhill has not been proven by any archaeological finds but in 1086 two manors were recorded (Calthrop 1908, 300). No manor house is now known. The earliest building in the village, dating from the twelve century, is the parish church of St. Mary Magdalene but probably built on the site of an earlier church. A 'cuttedemulne' mentioned in the early fourteenth century was probably the village water mill. (Cal. Inq. P.M. Vol. 5, Edward II, 329). On the Inclosure map of 1792 two fields are named as Upper and Lower Cutmills which is possible evidence for the traditional position of the mill. (Fig. 1⁵ & 6) (Inclosure map. BRO ref: IR/29(i). R). A study of aerial photographs revealed no evidence for possible leat, dam or pond so the position of the mill is still conjectural. (BKS Survey Ltd 1988, photographs: 88 27 042 and 88 27 043).

The discovery of a medieval tile kiln in the garden of "The Grange" in c. 1915 gave evidence for medieval industrial activity. Fig. 1, 7). The site was first excavated by the Duke of Rutland and A. Bullard in 1922/30 and re-excavated in 1968 by D.C. Mynard and S. Moorhouse. The latter excavation found three superimposed kilns which had produced glazed floor tiles decorated and plain, roofing tiles, and possibly bricks, at a period around 1500 AD (Mynard 1975, 55-74). The finding of some bricks in these kilns is the only firm evidence to date of brick production in Little Brickhill although brick production was referred to in the Victoria County Histories (Calthrop 1908, 299). Decorated tiles of the type found at the kilns have been found over a wide area, occurring at Hillesden, Stewkley, Dunstable, Totternhoe and Blakely, in north-east Bucks, Northants and Beds (Hohler 1941-1946, 15 and 127). Mynard found Little Brickhill tiles in other local churches in 1975.

FIG. 3 Little Brickhill area showing the route of the bypass and field boundaries no longer extant.



Back Wood

LITTLE BRICKHILLS

Little Brickhills

A

0

1914

The several hollows in the village, and the apparent signs of disturbance in two adjacent fields (fig. 1, 5 & 8) may be the result of clay or sand digging for the industry. The Inclosure map of 1792 shows two fields well away from the village on the eastern side both named Clay Pit Close, further evidence for clay digging (fig. 1, ⁹).

Field names used in the 1792 Inclosure map give other clues to the history of the village. Two fields named are Stone Pits (fig. 1, ¹⁰ & ¹¹). The Vestry minute book for Little Brickhill, 1827-1857, records that in 1829 a poor man seeking parish relief was given work digging stones for the road presumably from one of these fields. Three fields are called Park Field (fig. 1, ¹²) but no evidence was found for a park pale adjoining them either on aerial photographs or by exploring the area. There had been a medieval park attached to the manor. The possessions of Gilbert de Clare recorded c.1296 among other dues, "and to Nicholas Frembaud for a piece of wood in the park 5s" (Cal. Inq. P.M., vol III, 24 Edw. I, 234). In c.1315 "pastures in the park" were part of the Clare possessions in Little Brickhill (Cal. Inq. P.M., vol V, 8, Edw. II). This park is still to be identified.

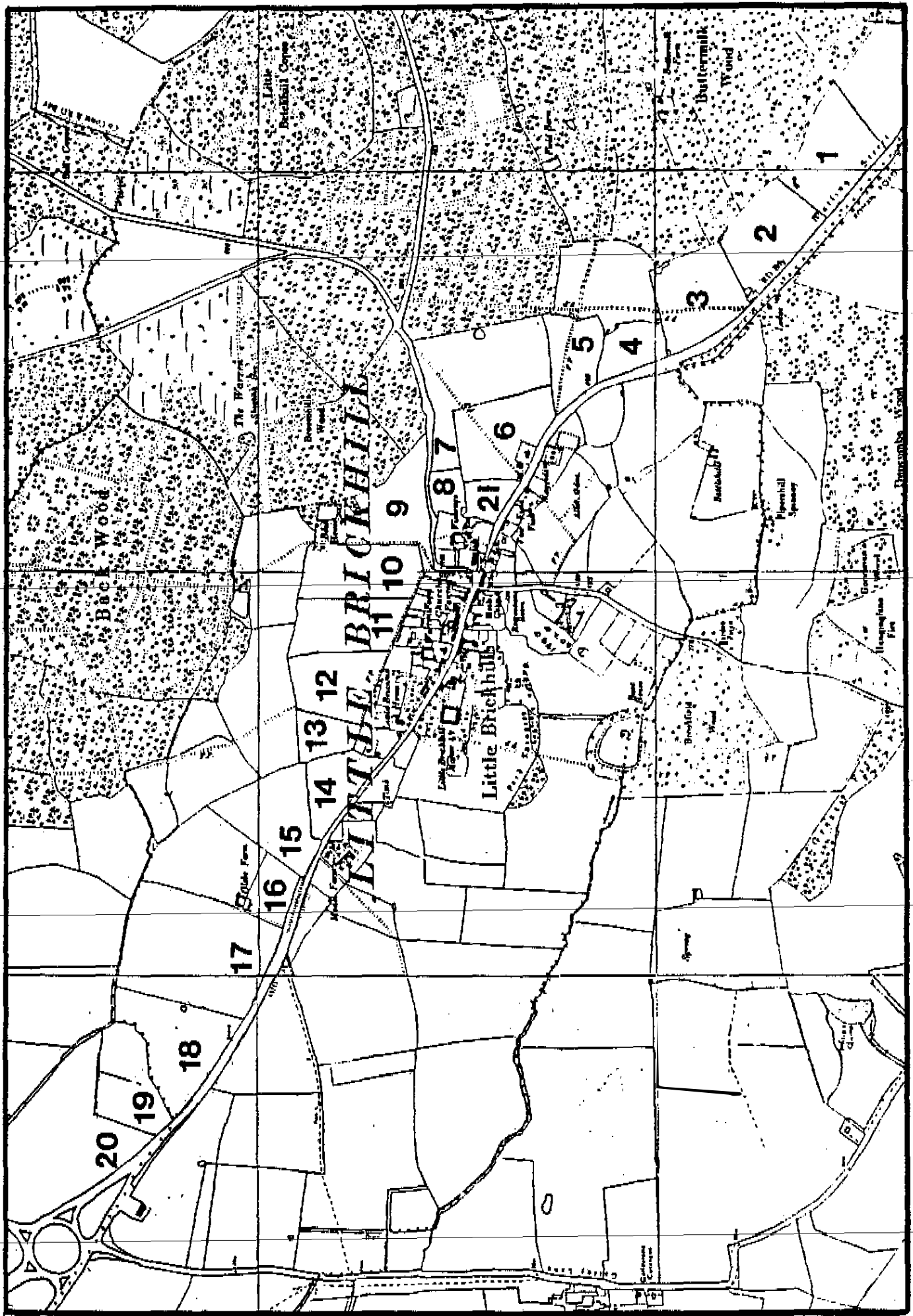
There were apparently two pest houses in the parish, one in a field by the River Ouzel, the other between the A5 and Woburn Lane close to the line of the present footpath (fig. 1, ¹³) (Wyness 1933, 55). Again no evidence was found for the latter building although thick bramble cover in the woods may mask any evidence there.

The 1705 Toll Road Trust between Fornhill, Beds, and Stony Stratford, erected a toll gate at the Gailey Lane cross road. (Wyness 1933, 60). The Toll cottage is marked on Bryant's Map of Bucks, 1825, but development of that area would have destroyed all trace of this.

RESULTS OF FIELDWALKING

Beginning from the south-eastern or Dunstable side of Little Brickhill, the route of the proposed by-pass was field-walked taking note of surface finds and features and general suitability for search.

FIG. 4 Little Brickhill area showing fields affected by the route of the bypass. The numbers are referred to in the fieldwalking section of the text.



The fields are numbered 1 to 20 in sequence ON FIGURE 4. Field 21 is the field which will form the slip-road for the by-pass.

FIELD 1

Ploughed with a young crop of turnips. Ironstone is present. A thick spread of slag, pieces measuring up to 50cm x 40cm, with clusters and some concrete rubble is apparent. This covers a 4 metre-wide strip along the roadside edge. Further lumps of concrete lie along the hedgerow. The field has access onto the A5 road and the rubble is apparently modern industrial slag and hard core spread to form a firm access along that edge of the field to a gateway into Field 2. No features were observed.

FIELD 2

Ploughed with a crop of turnips. Ironstone is present. A thin scatter of field-drain fragments was observed along the roadside edge of the field which extended above 40 metres into the field. A modern farm track built up with brick, tile and other rubble runs from a gate onto the A5 road across the field to the wood. The pond in the south-west corner is considerably smaller than that shown in the 6" OS 1960 map and appears to have been partially filled. Scrub willow has colonised an uneven area of ground on the north side of the pond and modern brick was visible on the surface. The ploughing and height of the crop made it difficult to see any possible features on the surface of the field.

FIELD 3

Ploughed with a crop of turnips. Ironstone is present. Some tile fragments were observed but observations of possible features was made difficult by ploughing and the height of the crop.

FIELD 4

The field is a new ley and grazed by sheep. There is a gully fenced off in the south-east corner. The bank on the east side of the gully is about

a metre high, 3 to 5 metres wide. There is no bank on the west side. The gully is about a metre deep and about 45 metres long. Tyres and other rubbish have been dumped in it and there is a concrete wall built across it at the end abutting the road hedge. The gully is of some age as an oak tree of about a metre diameter is growing in the bottom. It is possibly an old clay pit, the exaggerated bank to the east formed of waste soil. ~~It was not possible to detect any surface features due to the recent ploughing of the field.~~

FIELD 5

The field is bisected by a sunken trackway a metre deep by about 12 metres wide at its most pronounced form, and branching into two small sunken pathways half way across the field. This trackway is marked on the 1792 Inclosure map and its outline as drawn then is still visible now on the surface of the field. It was apparent that some soil and rubble had been dumped into the main trench, its exaggerated form may be the result of sand or clay digging.

The field is pasture with pronounced ridge and furrow on the southern side and possibly the traces of ploughed out ridge and furrow in a small area in the north-eastern quadrant. Part of the surface here is obscured by a dump of carbon waste (used for filtering the molasses of beer, from Valentine, Ord & Nagle's factory formerly in Fenny Stratford) and a manure heap by the road entrance obscures an area of ground there. The rest of the ground surface has numerous low mounds and shallow hollows. A detailed earthwork survey of this field was carried out (fig. 5). Auger holes sunk across an area of the field found no evidence of occupation or building so the uneven surface may simply be the result of further digging for clay or sand and dumping of waste soil. Mole hills were examined and fragments of tile and one piece of medieval? pottery found.

A pond at the eastern end of the field is marked on the 1885 6" OS map, but the other two ponds have apparently been made since then.

FIELD 6

The field was ploughed and sown with a grain crop last year. The soil is clay with ironstone. No evidence of ground features was seen. A close examination was made of an area in the north-east corner where a thick

spread of ironstone occurs. It was thought that the quantity and the relatively large size of the ironstone here may have been the ploughed-out foundations of a building, but no pottery fragments, dark soil or other clues were found so the deposit is probably a natural outcropping of the underlying rock.

FIELD 7

The field had been ploughed and re-seeded in the last few years to form a new ley. No surface features were visible and no artificial soil horizon or occupation debris was found in the eroded hedge bank on the west side. The turf overlaid a layer of sand with ironstone.

FIELD 8

The small field is an overgrown pasture/hay meadow. The height of vegetation masked any ground features. Small hollows on the eastern slope and on the northern slope may be old sand pits. A nettle clump on the top of the meadow seems to grow in a slight depression. There is a small pond which has been used for dumping in the south-west corner of the field. No evidence of occupation was found.

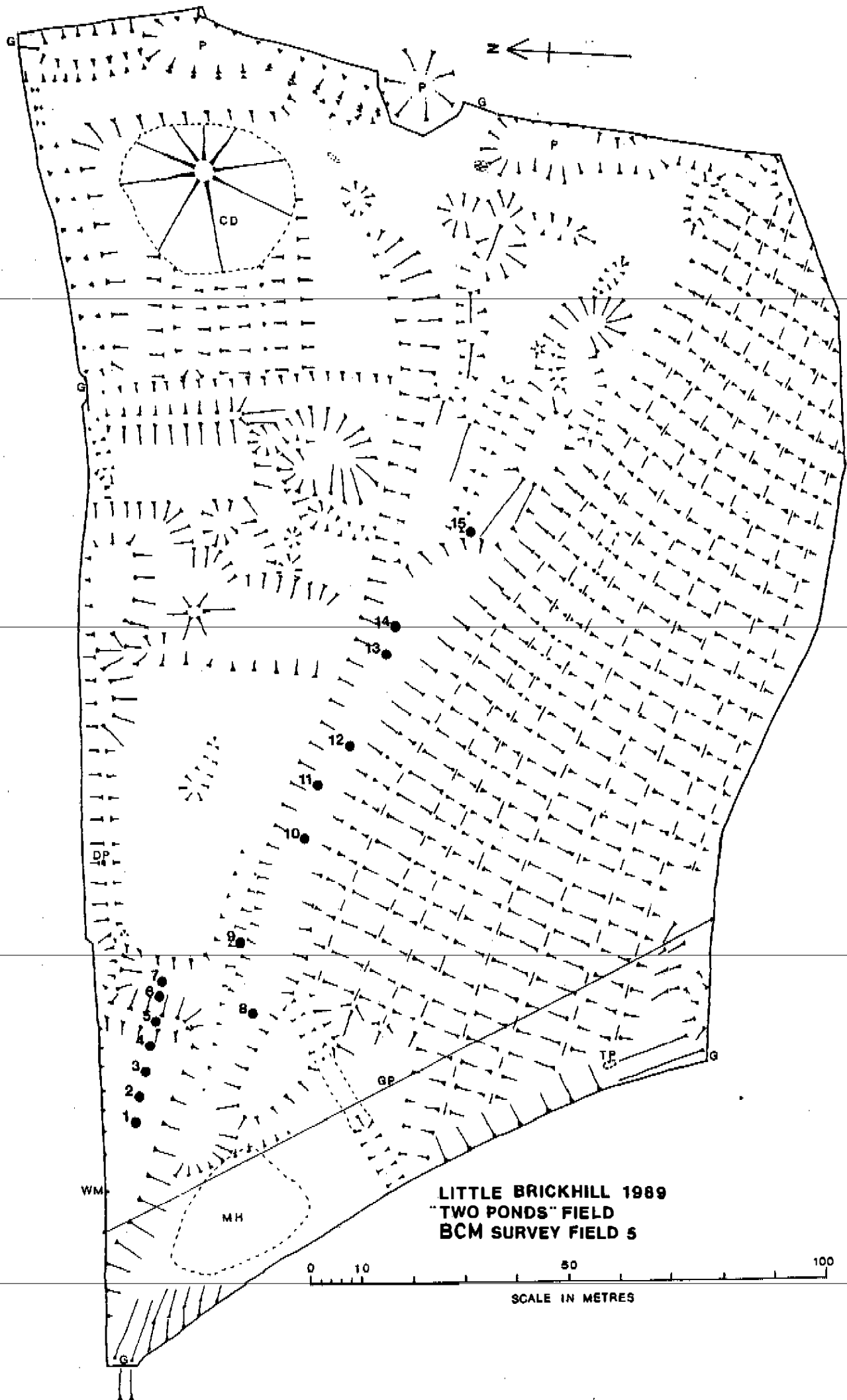
FIELD 9

The field is grassland and slopes from the farm on the south-west to two ponds in a deep dell in the north east. Molehills revealed an area of undisturbed dark soil at the north end of the field but the majority of the field had been dumped on. Brick and concrete rubble was apparent outcropping through the turf over most of the field. It was learnt that this area had been used for dumping over several years. No features are visible on the upper slopes and no tile fragments were found in molehills outside the dumping area. The eroded field banks to the north-east and west showed no signs of stratified soils or occupation debris.

FIG. 5 Field 5, survey of earthworks.

KEY: 1-15 = Auger holes; TP = Trial Pit; GP = Gas Pipe;
DP = Datum Point; WM = Water Main; MH = Manure Heap;
CD = Carbon Dump; P = Pond; G = Gate.

[Hedge omitted on north side of field]



LITTLE BRICKHILL 1989
 "TWO PONDS" FIELD
 BCM SURVEY FIELD 5

0 10 50 100
 SCALE IN METRES

FIELD 10

The field is ploughed and a crop of turnips partially obscures visual survey of the ground. Small fragments of tile were observed over most of the field. Two auger holes were sunk, one 3 metres either side of the engineer's Test Pit 16, to establish whether or not any archaeological features were present. These revealed sandy silt and a fragment of tile at a depth of .40m but no obviously archaeological deposit. No features were observed within this field.

FIELD 11

The field is ploughed and under a crop of turnips. A scatter of broken tile was observed over most of the field. Rabbit burrows along the western hedgerow revealed more tile and brick fragments, also a lump of tarmac and concrete. There were few pieces of tile found in the northern quarter of the field. No surface features were observed.

FIELD 12

An eastern strip of the field was ploughed last year. A dividing fence marked on the map but not now standing divided this portion from the rest of the field which is old ley. In the plough surface a thin scatter of broken tile was observed. No ground features were observed in this portion. Two linear features were apparent in the old ley running south-east to north-west in the northern half of the field. These are roughly 14 metres apart, one probably a gas pipe trench, the other, a regular linear depress, could be on old path or another trench line. A wide, shallow depression running north-south in the centre of the field could mark the limit of an old field division seen on earlier maps. Two depressions in the south-western quadrant are likely to have been tree-root holes, a depression between them the result of animals treading the area under shelter of the trees. The soil was very dark in this area.

A rapid magnetometer survey was carried out of this field and a detailed survey of one area, in view of the proximity of the known kilns.

FIELD 13

The field is under pasture and the surface uneven. A small mound in the south east corner was found to be of clay with a lump of granite and one of limestone in it. The other irregularities over the surface seem to be

the result of dumping. There is a very wet hollow in the south-west corner and water from the spring line rises in a depression in the north-west quadrant. The edge of the latter spring is much eroded by cattle and shows the clay layer approximately 0.80m below the field level. Some dumping has taken place here as broken brick and concrete is visible.

The ground was found to be unsuitable for magnetometer survey.

FIELD 14

This field is improved pasture with a spring in a depression in the northern half. The upper half of the field is scattered with slight hollows and mounds possibly old clay pits. A slight depression 1 metre wide, runs diagonally from the eastern fence to the road hedge. The field slopes to the west in a series of wide shallow 'steps'. These may be the remains of ridge and furrow or possibly natural land slip. Above the spring the land surface forms a natural spur. There is a dump of chalk in the south-west corner of the field.

A rapid magnetometer survey was carried out of this field.

FIELD 15

The field is improved pasture on clay soil. No surface features were observed apart from a shallow depression in the western half. This may be natural or the remains of an old clay pit.

FIELD 16

The only feature apparent on this old ley is a raised track or possible headland 5 metres wide along the eastern hedgerow.

FIELD 17

The field was previously ploughed and a thin tile scatter observed across the whole surface. Some fragments of old brick and modern glazed pottery were found. Rank grass obscured a strip 30 metres wide on the south and west sides. A possible flint flake was picked up 6 metres from the eastern hedge. No surface features were observed.

FIELD 18

The field is old ridge and furrow improved pasture. A pond is by the eastern hedge. There are two sets of ridge and furrow one in the south-eastern half running north-west/south-east, the other in the north-eastern quadrant running approximately north-south. The ridges have reversed 'S' outlines, are seven metres apart on average, and there is a pronounced headland between the two sets. The north-west/south-east ridge and furrow is curtailed at its south-western extremity by a low 'L' shaped bank with a wide shallow depression beyond. This area was tested with augering as the headland seemed atypical (fig 6). The western quadrant of the field is flat and has no ridge and furrow but is cut by several shallow linear features, possibly drainage channels running to the brook which runs along the bottom of this field. A broad raised linear feature, seven metres wide runs diagonally across the western corner of the field. This feature aligns with a hedge in the adjacent field to the north but no hedge line is shown on the maps referred to during this survey. As the parish boundary follows the line of the stream here it seems unlikely that this should be a continuation of a hedge in an adjacent parish or that there was a practical reason for forming such a small triangular field against the stream which would be the case if it were a hedge line. A rapid magnetometer survey was carried out in this field.

FIELD 19

This field is ploughed out ridge and furrow improved pasture. A wide shallow depression runs north-south the length of the field. This may be the remains of a field division, or track. No other features were observed. A detailed magnetometer survey was carried out in this field to determine the extent of Roman occupation along Watling Street (fig. 6) and a test pit dug. An adjacent roadside ditch revealed Romano-British occupation.

FIELD 20

This is a ploughed field. A considerable scatter of Romano-British pottery and tile fragments was found on the surface extending at least 30 metres into the field from its southern margin. Any surface features are likely to have been destroyed by the ploughing. A detailed magnetometer survey was carried out in this field. (Fig. 6).

FIELD 21

The playing field has recently been entirely levelled apart from a small area in the north-east corner. No features were observed. This field will be mainly taken up by a slip-road for the by-pass.

AUGERING AND TEST PIT RESULTS

FIELD 5

Auger holes 0.15m in diameter were made at 5 metre intervals in a flat area which had the appearance of a potential habitation platform on the north side of Field 5.

The material derived from borings 1-4 gave no evidence of occupation on this area. The turf and topsoil was a mere 0.06m in depth. Under this was a pale coarse silt subsoil 0.20m thick of very low humic content containing fragments of eroded ferruginous sandstone. Below this was undisturbed natural coarse yellow silt or fine sand. The same sequence was observed in auger hole 5, the only difference being in the thickness of the subsoil which had been mounded into a bank and was 0.40m thick.

Auger holes 6 & 7 were made in the bottom of a clearly defined linear depression running approximately north-south which may have been an entrance way into the adjoining field, Field 6. The material from these holes revealed recent dumping within the entrance way. The first 0.10m consisted of topsoil; the next 0.15m were composed of mixed grey and brown clays; below this was buried topsoil of 0.15m thickness; below this were more mixed clays of 0.25m thickness, giving way finally to natural orange clayey silt loam. The "bank" at the northern end of the entrance way proved to be composed also of recently dumped materials including lumps of concrete.

Auger holes 8 to 14 inclusive were all made within the major linear depression which runs approximately east-west through the middle of the field. Auger hole 8 produced black highly organic fine silt consistent with the seasonal ponding of the feature which Mr. Watson, the present farmer, had mentioned.

Holes 9 to 14 inclusive all revealed recent dumping within the feature. Dumped materials included tarmac, concrete and brick.

Auger hole 15 revealed the same sequence of soils as in holes 1 to 4.

Coarse silt or fine sand was visible in parts of the sides of the feature where animals had burrowed or sheep had worn tracks and it is possible that this material was quarried on the line of the old trackway when the latter presumably went out of use. It is difficult otherwise to explain the strange shape of this feature and the abrupt change in levels at its eastern end where it then splits into two trackways. The difference in level between the points of auger holes 14 and 15 is 1.70m.

FIELD 10

See Field Walk note on Field 10.

FIELD 18

The eastern two-thirds of Field 18 consist of ridge and furrow running on two different alignments. Those running approximately north-west/south-east are curtailed in the middle and southern side of the field by a broad low "L" shaped bank, the southernmost part of which was on a north-south alignment, while its northern part was approximately north-north-west/south-south-east. Auger holes 3 and 5 were made in this bank feature. Both revealed very thin turf and topsoil depth of 0.05m. Under this was a pale yellow-brown sandy silt. In auger hole 3 this material went to a depth of about 0.70m gradually becoming clayier. At 0.90m the ground became noticeably damper.

In auger hole 5, bright yellow-orange sandy silt appeared at a depth of 0.65m. Immediately to the west of the "L" shaped feature was a depression, approximately 20m across, in which auger holes 1 and 2 were made. Hole 1 was made at the lowest point in the depression. This revealed thin topsoil of 0.05m thickness. The ground was very wet and the 0.35m deep auger holes filled with water to within 0.05m of the surface.

Auger hole 2 was on the edge of the depression. The topsoil was 0.08 deep; brown silt loam beneath this was 0.17m thick; beneath this was an orange-yellow silt.

Fields 18, 19 and 20 were examined in an attempt to establish the easterly limits of Romano-British occupation along Watling Street from Magiovinium.

For the results of the survey, see Appendix I.

EVIDENCE FROM ENGINEERS' TRIAL PITS AND BORE HOLES

Kennedy Henderson Ltd kindly loaned the County Museum copies of their reports on the trial pits and bore holes they had excavated during their survey on the Little Brickhill by-pass; work undertaken for the Departments of Environment and Transport. These reports contained information on several interesting soil formations.

In Field 9 (fig. 4) T.P (trial pit) 22 was sunk through 2.6m of topsoil containing a small layer of man-made ground. The average depth of topsoil over the whole area was seen to be around 0.4m. This area is exceptional in the depth of its topsoil. Field 9 has evidently been used for dumping and B.H (bore hole) 49 provided a maximum depth of 4m of man-made soil in this area.

In Field 13 (fig. 6) the test pit and bore holes revealed the extent of past disturbance. In B.H.6, below a mixed layer of sand, clay and gravel and at a depth of 1m, was found a 1.4m deep deposit of peat mixed with clay and gravel. In B.H.7 below a 2.6m layer of silt and clay a deposit 1.4m deep of peat mixed with sand, gravel and clay was found. In T.P.8 below a thin layer of topsoil was 1.8m of made ground and below this 0.4m of sand, clay and silt, and below this again a layer of peat mixed with sand, clay and silt which extended to a depth of 1.8m to the limit of the excavation. In B.H.10 was found a 0.2m layer of peat at ground level and

FIG. 6 Showing 1977-87 excavations.

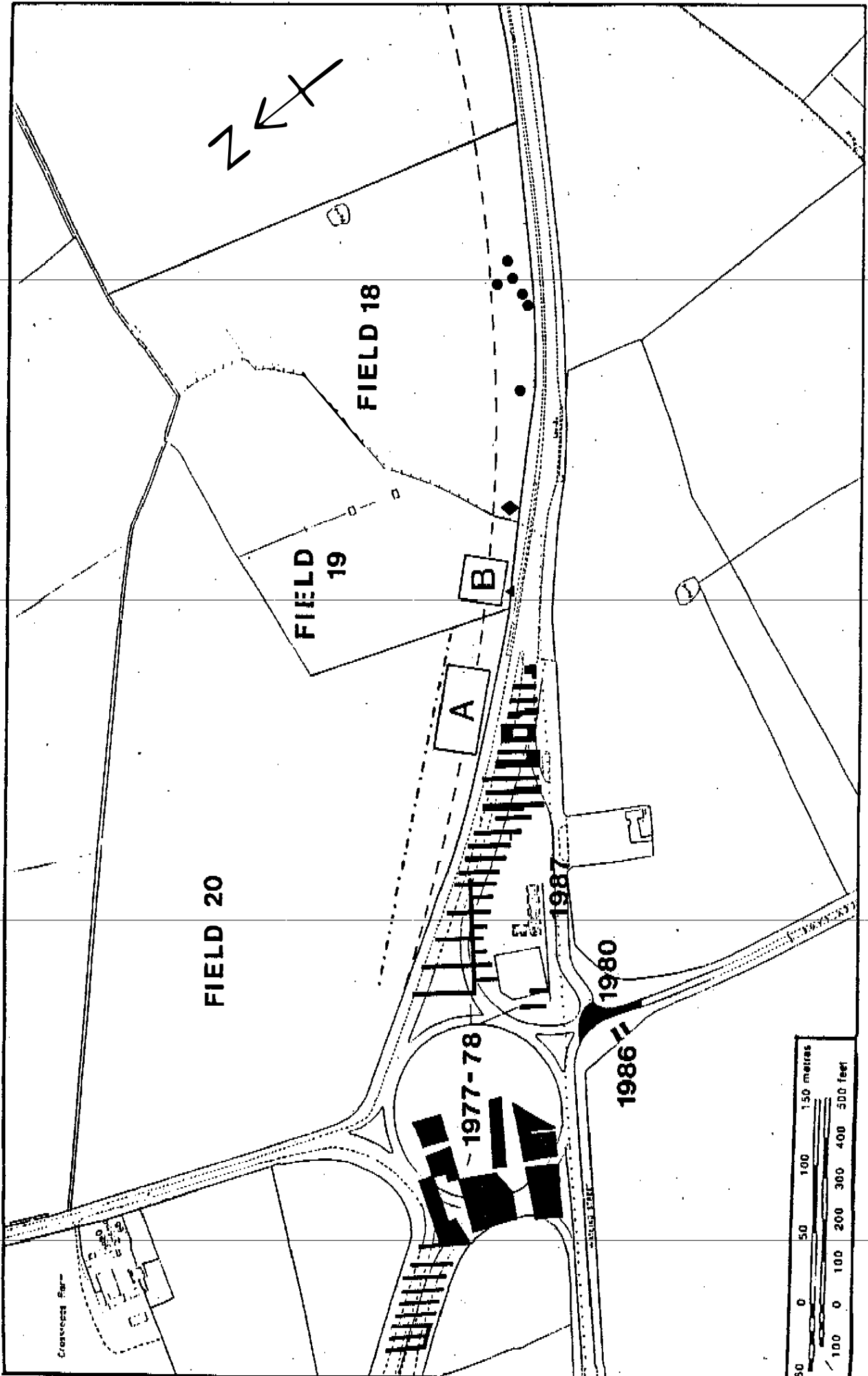
A and B indicates magnetometer survey areas;

-- indicates northern limit of pottery scatter;

... indicates northern limit of bypass. ● indicates auger holes;

▲ indicates site of road-ditch finds of Roman coin and Romano-British pottery; ◆ indicates position of engineers' Trial Pit

I.



a 1m layer of peat and sand was found at a depth of 3.4m. In T.P.50 beneath a thin layer of topsoil was found 1.8m of man-made ground.

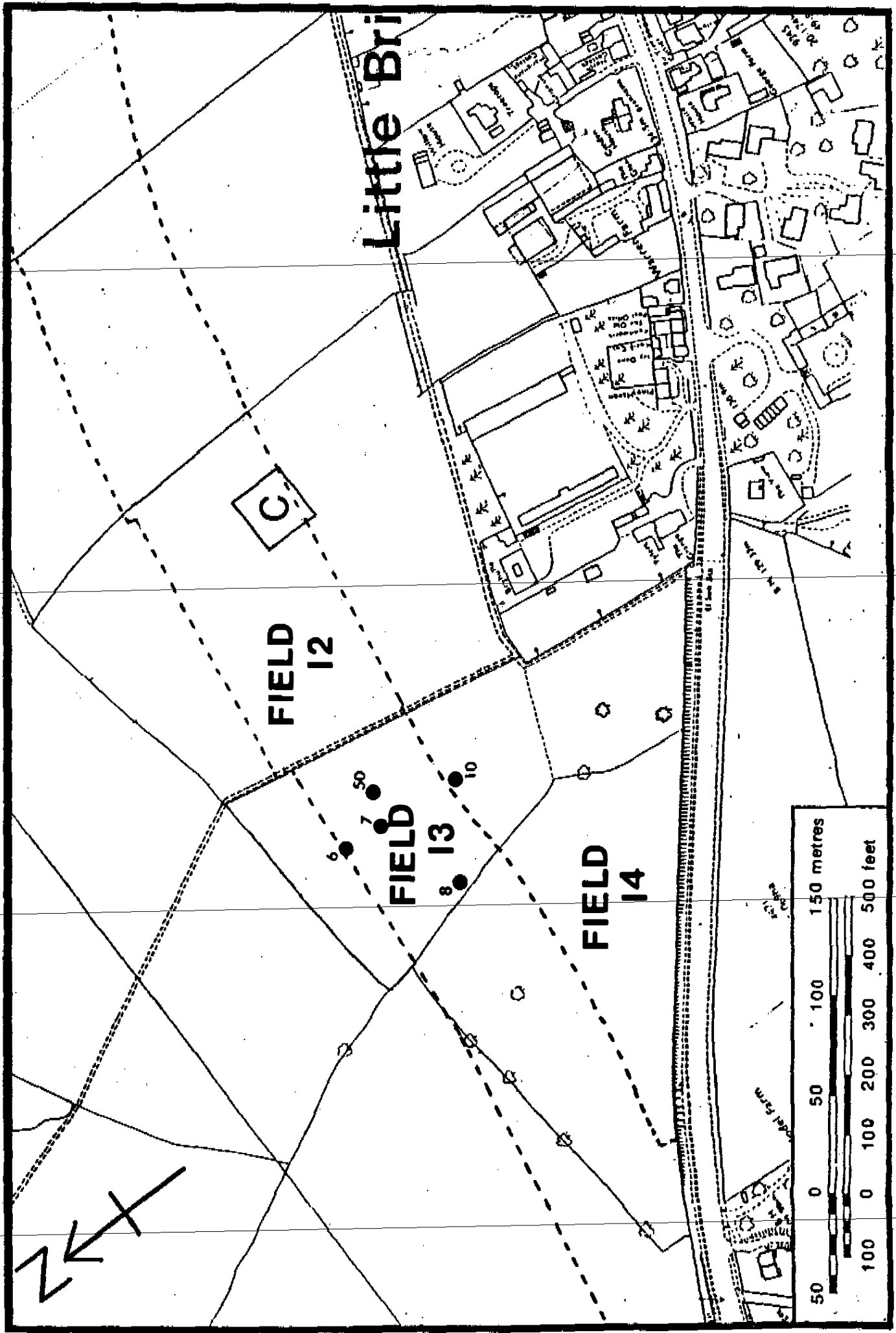
The peat in Borehole 10 and Trial Pit 8 reached a depth of 4.4m below the present land surface. The hollows which the peat has filled may be the result of the erosive action of natural springs which are still apparent in Field 13 or they may be the result of clay and sand extraction in antiquity. The wide occurrence of peat in Field 13 is of some interest. Peat only forms in waterlogged conditions which preserve macroscopic and microscopic remains. Such remains could inform the archaeologist about the nature of the immediate environment in times of antiquity. The proximity of the peat deposits to the medieval tile kilns lends further interest to the results of any study of the bog remains.

In field 18 (fig. 6) a 0.5m layer of peat mixed with sand, clay and gravel was found in T.P.1 at a depth of 1.4m below ground surface. This corner of the field lies next to a stream and is still very wet. It is unclear why peat should have formed here at that depth but it is possibly the remains of a pond once attached to the stream.

AERIAL PHOTOGRAPHS

Photographs of the route taken for the Departments of the Environment and Transport were checked but did not reveal any archaeological features, also those held by Buckinghamshire County Museum.

FIG. 7 Fields 12, 13 & 14 surveyed by magnetometer.
--- indicates route of bypass; ●⁷ indicate positions of trial pits and boreholes; C indicates area of in-depth magnetometer survey.



RECOMMENDATIONS

1. The most significant archaeological features encountered were the presence of Romano-British occupation in Fields 18-20. These should be further investigated before their destruction by roadworks.
2. The earthworks in Field 5 do not appear to form part of medieval occupation. Although their formation is not completely understood, it would appear that the earthworks arise largely from a combination of agricultural processes, trackways and some quarrying.
3. Field 13 as the engineering boreholes shows, contains deposits of peat. Some of these may have been formed in antiquity and further environmental investigations should be carried out at this point in view of the absence of early environmental data for this area.
4. It is unlikely that the survey will have revealed all archaeological features lying on the route, particularly as crop growth was well advanced by the commencement of the survey. Arrangements should be made for archaeological cover when roadworks commence.

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ACKNOWLEDGEMENTS

Kennedy Henderson Ltd., Consulting Engineers and Economists for kindly lending aerial photographs and test-pit and borehole data. Alister Bartlett of Archaeogeophysics. Mr. D.A. Watson, Mr. John Murphy, Mr. Franklin, Mr. R. Smith, Mr. R. Eversden and the Woburn Estate Company Ltd for permission to survey on their land.

LITTLE BRICKHILL, BUCKINGHAMSHIRE

Report on Geophysical Survey of By-Pass Route, January 1990

NG: SP 9033

Introduction

This survey was carried out on 11 January 1990 at the request of the Buckinghamshire County Museum, who are making an archaeological assessment of the route of the proposed A5 Little Brickhill by-pass. Two sites requiring investigation were identified by the Museum. One is at the western end of the route where a scatter of Romano-British pottery has been found by field walking, and a stratified layer of material has been identified in ditch sections alongside the existing A5, and the other includes fields in the vicinity of a medieval tile kiln which was found previously in the grounds of Little Brickhill House.

The survey took the form of a rapid initial assessment of these areas. This was done in part by scanning with the magnetometer in the fields labelled on plan 1. (ie F12 - F14 at Little Brickhill, and F18 - F20 next to the A5. The numbering corresponds to the scheme used by the Museum.) A detailed recorded survey was also made of limited test areas, and soil samples were collected for magnetic susceptibility testing. Findings from these investigations were as follows:

Fields F18 to F20

Magnetometer Scan

The RB pottery scatter was found at the side of the fields nearest the A5, which next to field F20 has been shifted slightly to the north of Watling street by the construction of the approach road to the new roundabout. The scan was concentrated on a strip approximately 30m wide at the side of fields F19 and F20 nearest the road, where the ground was traversed at roughly 10m intervals. The remainder of the three fields, within approximately the region as shaded on plan 1, was scanned more sparsely.

In the intensively scanned areas there was a fairly high level of general magnetic disturbance (with widespread activity in the range $\pm 3-4$ nT, and occasional anomalies > 10 nT). A trial borehole was made with a hand auger at the approximate position as noted on plan 1. This showed red and black discolouration within the upper half metre of subsoil, and so provided further evidence that the magnetic disturbance is likely to be archaeologically significant. The magnetic activity appeared to diminish away from the road and over the brow of the slope in field F20, where high ground alongside the road falls away to the NE. (A pipe was detected running W across F20 from the NW corner of F19, which interfered with the magnetic response in places.)

No definite N or E limit to the magnetic activity could be identified in field F19, but there was a definite contrast to the S on entering field F18, where the background noise level fell to perhaps ± 2 nT, and very few distinct anomalies could be found. There may be some slight activity near the road, but more intensive coverage would be needed to establish its extent.

Recorded Survey

The magnetic anomalies found in fields F19 and 20 could not be satisfactorily interpreted on the evidence of the scan alone, and so a recorded survey was made of limited test areas at the positions indicated approximately on plan 1. The measurements taken to tie the 30m survey squares to the field boundaries are shown on plan 2. Readings were recorded along traverses 1m apart in each square, and the results subsequently processed to give the graphical and half-tone plots as reproduced on plan 2. These two alternative forms of presentation allow the anomalies to be seen in profile and plan respectively, and so are both useful in reaching an interpretation.

Plots 2(i) and 2(ii) both show the presence of magnetic anomalies representing substantial ditches, which appear to form part of a system of rectangular enclosures. The main ditches are arrowed at A, B, C in field F20, and at D and E in F19. There are also some more localised pit-like anomalies, as shown by the examples marked at F and G in F20, and the stronger anomalies at H and I in F19. Other

such features are also present, but weaker anomalies are difficult to identify in F20 because of the increased background noise caused by the uneven newly ploughed ground surface. A clearer plot could probably be obtained by surveying after the field has been cultivated and sown. In F19 there are two substantial anomalies J and K which are stronger than would be expected for pits, unless they have an unusually magnetic fill. They do not have the characteristic narrow appearance of anomalies caused by pieces of modern iron, and so could perhaps be hearths or small kilns.

Susceptibility Tests

Samples of topsoil were collected at roughly 100m intervals from the fields investigated, and magnetic susceptibility measurements subsequently taken. (The separation of the samples was 50m in one direction in field F19.) The results are shown qualitatively by shading on plan 1. Spot tests of this kind can be affected by small-scale local variations, but the readings can provide an indication of the overall magnetic activity of a site, and in this case a pattern does appear to emerge. The highest reading (black shading on plan 1) was obtained from the apparently most active part of the site as noted in the scan. The values then diminish gradually to the NW and unevenly to the N, but drop to a low background level in field F18, which is consistent with the lack of response obtained there in the scan.

Fields F12 - F14

Magnetometer Scan

Field F14 was scanned with traverse lines at 15-20m intervals, but was everywhere at least as quiet as F18, and no significant magnetic activity was observed. F13 was similarly scanned and was found to be heavily magnetically disturbed throughout, but probably from non-archaeological causes. The ground surface is uneven and ill-drained, and appears to have been filled and levelled in part with builders' rubble or other modern debris. Brick and concrete are visible in places. Magnetic activity of archaeological interest would be difficult to identify against this background.

The boundary between F12 and F13 is no longer at the position marked on the 1:10000 map, and is therefore shown approximately by a dotted line on plan 1. The proposed road line as indicated by markers in F12 was scanned with traverses at 10-15m intervals, with only limited coverage of the remainder of the field. There was some magnetic disturbance associated with the gas pipe which crosses the field, but for the most part F12 was magnetically quiet. The few anomalies noted in the scan were strong and localised, and could therefore represent buried iron or other modern disturbance.

Recorded Survey

A trial 30m square was positioned to include a scanned magnetic anomaly which was well removed from the disturbances of field F13. An auger boring close to the anomaly showed only clean sandy subsoil. The square was located by measurement from a baseline offset from the centre line of the hedge at the E boundary of the field as shown on plan 3. The scanned anomaly was found to be part of an iron pipe as arrowed on the plan. Other disturbances are visible in the plots, for example as labelled at A and B, but they are small and not necessarily archaeologically significant.

Susceptibility Tests

The variation in the readings at this site is not as great as seen in fields F18 - 20, but some of the readings are sufficiently strong not to exclude the possibility that there could be an archaeological contribution to the susceptibility. The readings do not however correlate with the other findings as they did at the previous site, and so their interpretation remains uncertain. Soil conditions appear to vary between the sites, and so the natural background susceptibility here could be higher than for the lower lying ground in fields F18 - 20.

Conclusions

A picture emerges from the scanned and recorded surveys in fields F19 and 20 which is consistent with the archaeological fieldwork evidence, and suggests the presence of Romano-British occupation alongside Watling Street. The site is defined by ditched enclosures, and shows evidence of domestic and perhaps industrial activity. The NW and NE limits of the site are not easily defined by a

preliminary survey of this kind, but the susceptibility readings suggest that not all the activity is confined to the areas surveyed in detail. Both the scan and the susceptibility results suggest that any archaeological activity in field F18 must be much less intensive than in F19 and 20.

It was hoped in fields F12 - 14 to test for evidence of additional medieval tile kilns or associated activity, but the survey was less productive than at the Romano-British site. Field F14 appears to be magnetically undisturbed, and is therefore unlikely to be associated with a pottery industry, and F13 suffers from strong magnetic interference of probably modern origin. Only a few anomalies were noted in F12, and they appeared to be non-archaeological. A more detailed survey might produce plausible kiln-like anomalies from among the magnetic noise in F13, or from the scattered extraneous features in F12, but no evidence for significant archaeological features has so far been obtained.

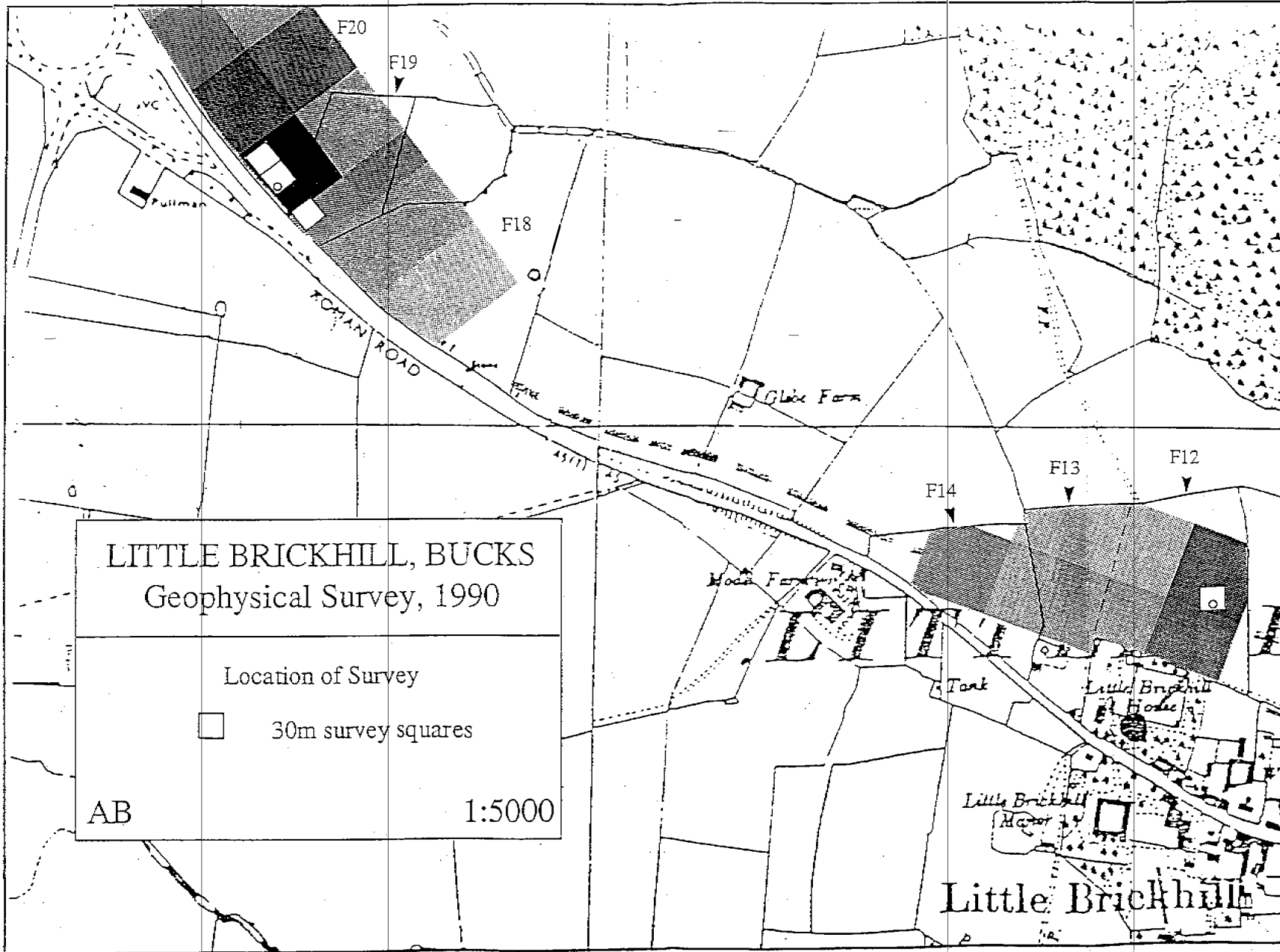
Surveyed by:

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56 Bridge Street,
Osney,
Oxford OX2 0BB (0865 240034)

Date of report: 24 January 1990

I should like to acknowledge the help of Andrew Hunn of Buckinghamshire County Museum in carrying out the fieldwork for this survey.

Three plans are enclosed with this report.



LITTLE BRICKHILL, BUCKS
 Geophysical Survey, 1990

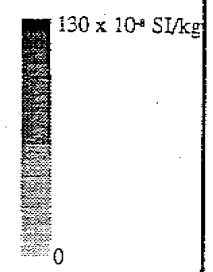
Location of Survey

□ 30m survey squares

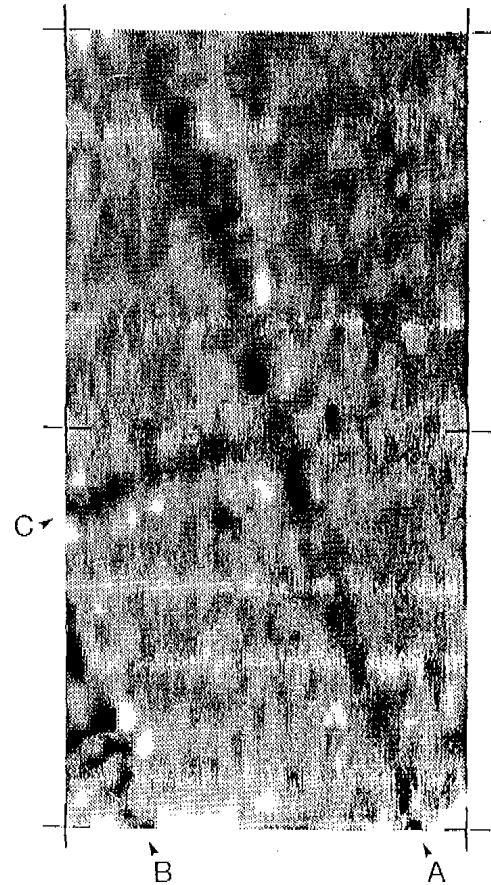
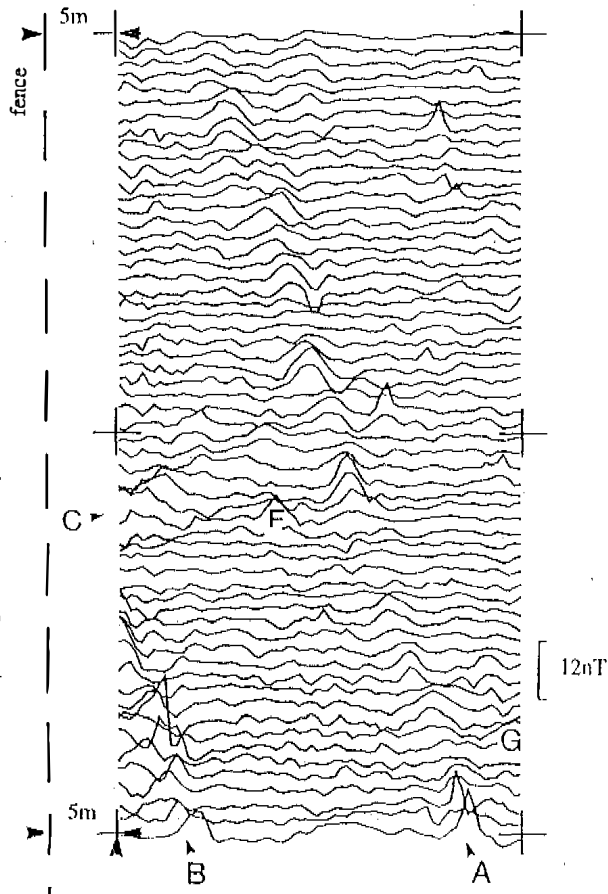
AB 1:5000

○ auger holes

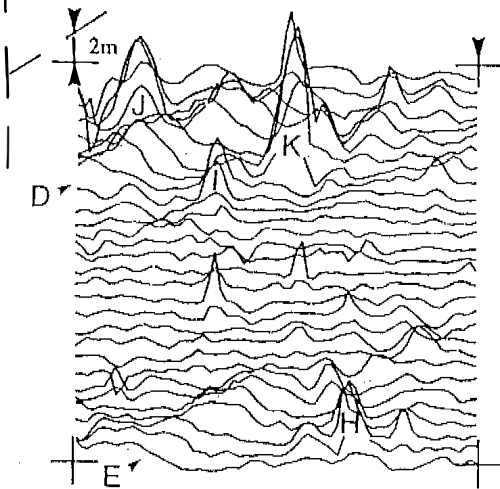
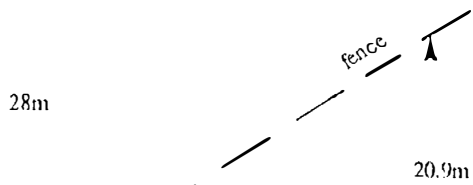
Magnetic susceptibility readings:



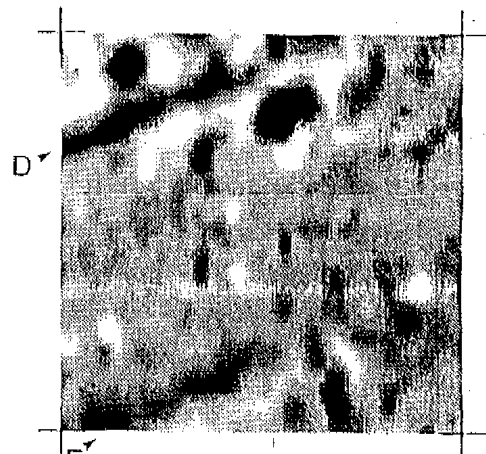
LITTLE BRICKHILL, BUCKS; Magnetometer Survey 1990



Display range -3nT to +3nT



F19

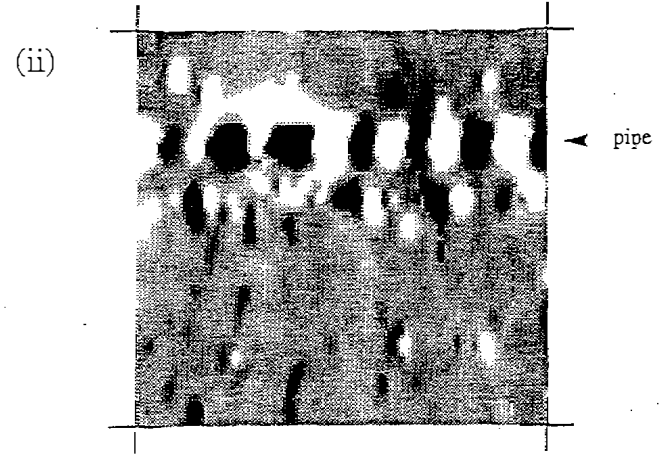
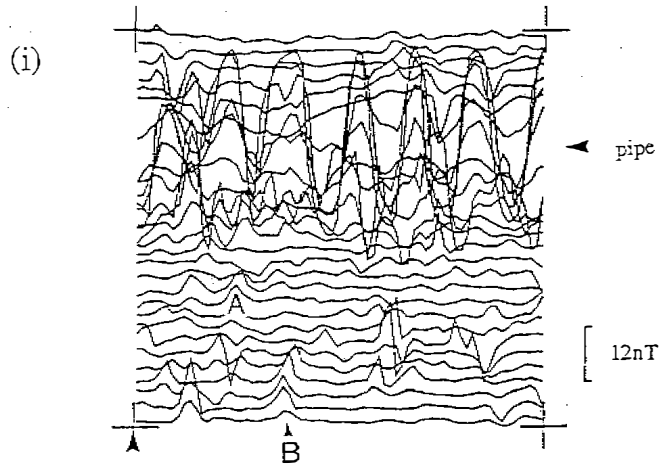


(i)

(i)

Fields 19 and 20

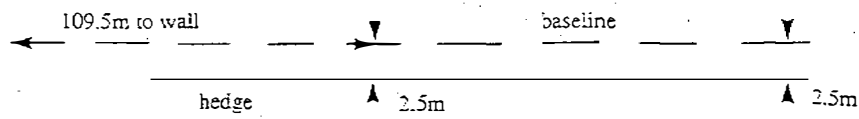
LITTLE BRICKHILL, BUCKS; Magnetometer Survey 1990



Display range -3nT to +3nT

30m

Field 12



AB

1:400