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BEDFORD BYPASS
ARCHAEOLOGICAL EVALUATION:
THE NORSE ROAD LINK.

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BEDFORD BYPASS ARCHAEOLOGICAL EVALUATION: THE NORSE ROAD LINK.

INTRODUCTION

This report presents the results of recent archaeological fieldwork conducted on the Norse Road link of the Bedford Bypass. During the past 3 years archaeological evaluation has been conducted in response to the proposed route of the bypass, and the results reported here provide the archaeological information for the Norse Road link.

In April 1990 a Public Inquiry considered the proposed route of the Bedford Bypass (East) and an archaeological evaluation was conducted in order to provide material evidence for the Inquiry. Attention was, however, focused on the area around the Castle Mill airstrip and the need for an alternative route avoiding the airstrip was successfully argued. This would result in a revised route that would take traffic for the Norse Road Industrial Estate. The fieldwork reported here assesses the archaeological dimension of the Norse Road link.

Archaeological Background

The Norse Road link together with the main route of the Bedford Bypass threaten an area of national archaeological importance, and the evidence collected for the 1990 Public Inquiry forms the basis of our knowledge of this area. This work confirmed the presence of a series of neolithic and Bronze Age (c. 2500 BC) sites initially recorded from aerial photographs. These consist of large rectangular enclosures with one or more entrance ways (often termed long mortuary enclosures), a possible cursus monument (a similar, though more elongated form of mortuary enclosure) and numerous ring-ditches, with single, double and triple rings. This complex of sites is generally known as the Cardington cursus complex as it is located in the Cardington parish. The area of Bedfordshire has long been noted for its prehistoric ceremonial sites; the Cardington causewayed enclosure (SMBR 78) is situated less than a mile away. Similar complexes of prehistoric monuments are known in England and include Dorchester on Thames (Oxfordshire) and Barford (Warwickshire).

The large rectangular enclosures have been interpreted as long mortuary enclosures or pillow mounds and were used for ritual purposes that included the celebration of death. Their funerary function is supported by the numerous ring ditches close by. One important aspect of this particular group of long mortuary enclosures is that the three surviving enclosures are all different in shape and size, and this could relate to chronological variation. The complex of enclosures and the adjacent ring ditches therefore offer important archaeological potential for answering questions relating to the long term use of funerary monuments in the region during second and third millennium BC.

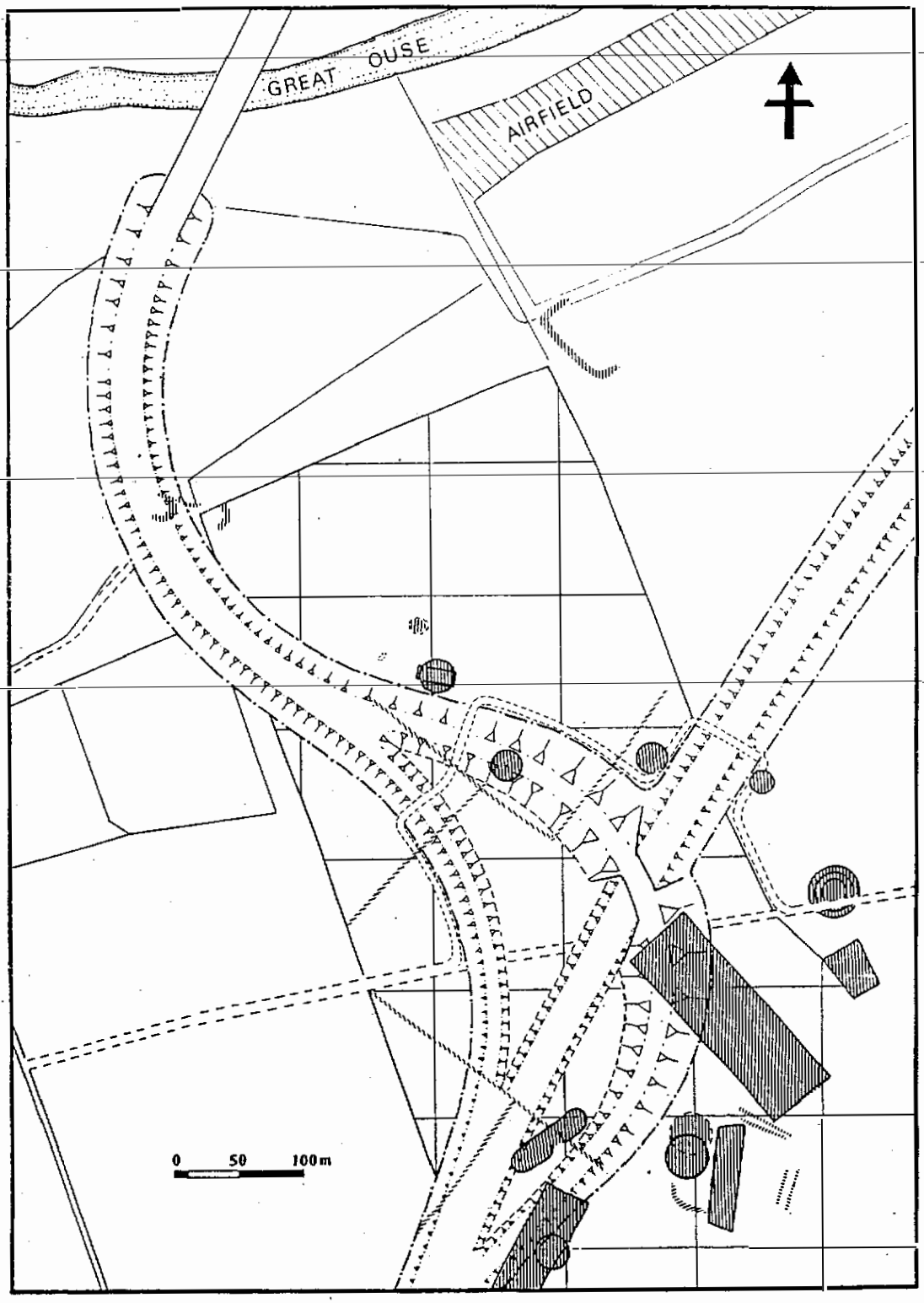


Figure 1. Area of field survey showing archaeological sites and the proposed route of the bypass.

The 1990 fieldwork confirmed that these cropmarks survive as archaeological features cut into the gravel sub-soils. A triple ring ditch surviving as a nearby earthwork was also recorded.

During the archaeological evaluation for the Public Inquiry it was not possible to conduct a geophysical survey as the field had been cultivated for potatoes and any magnetic readings would have been distorted by the potato furrows. As a result the geophysical survey was not conducted until February 1991. The survey covered a large part of the long mortuary enclosures area and indicated that other, less well preserved features also belonged to this complex of sites. These included the possibility of internal features within one of the enclosures and further ring ditches and possible boundary ditches on the same alignment as the enclosures. The project design for the Norse Road link aimed to determine the nature of some of these internal features through small scale excavation, as they are potentially affected by the Norse Road interchange with the main through road of the bypass.

The evaluation fieldwork would confirm the nature of these deposits and whether any of the deposits would be vulnerable to road construction methods (ie being sealed by a terram membrane and the road built on top of the exisiting topsoil). Also the alignment of the Norse Road link meant that further archaeological investigation was required in the area north of the main complex of monuments, this was particularly so because aerial photographs taken in the summer of 1990 revealed the possibility of further ring ditches.

The Norse Road link stage of fieldwork involved the following work :

- a geophysical survey in the field north of the disused railway line
- fieldwalking the above area
- further excavation in the long mortuary enclosure area in order to confirm possible archaeological features located during the 1991 geophysical survey
- transect excavations in the fields north of the disused railway line and south of the river Ouse. It was not possible to conduct a geophysical survey in this area due to the dense ground cover.

When refering to the different prehistoric enclosures and ring ditches in the main mortuary complex, a SMBR reference number 1480 together with a suffix number will be given (eg 1480.03)

THE GEOPHYSICAL SURVEY

The geophysical survey was conducted by Geophysical Surveys of Bradford in two stages and their two reports appear as an appendix to this report. The main results are summarised here. Two ring ditches which were thought to have been visible on the 1990 photographs were not located. The original cropmarks could have been due to irrigation methods leaving semi-circular marks of un-watered ground (the farmer, A Findlay pers comm). The other ring ditches were found and the geophysical survey also located central pits within two of the ring ditches. These could contain human burials. The

presence of a third ring ditch associated with a small rectangular enclosure were also confirmed. Initial geophysical interpretations suggested that this enclosure pre-dated the ring ditch and was therefore of considerable significance to the entire complex. A similar pattern where a ring ditch was super-imposed on top of one of the mortuary enclosures (1480.03) was recorded in 1990. In addition, further components of a field-system aligned approximately north-west / south-east, and recorded in the 1990 excavation were also located. The possibility of further ring ditches is also discussed in the full report.

THE FIELDWALKING

An area of approximately 20 hectares was fieldwalked using a 20 m^2 gridded collection system orientated on the national grid. Each grid had five people collecting. As each person covered a strip approximately one metre wide, a sample of c.25% of the ground surface was collected. At the time of walking the field had just been planted with onions, although this did not significantly affect ground visibility.

The most important information collected from the fieldwalking was the flint material. These finds relate directly to the prehistoric enclosures discussed above and can identify areas of prehistoric activity as well as help interpret the types of activity being practiced in the area. Fieldwalking conducted in 1990 showed that flint distributions were very low in the vicinity of the prehistoric enclosures and gradually increased in quantity further away from the monuments. Figure 1 shows the area fieldwalked in 1992 and Figures 2 - 8 show the distribution of a range of artefact types.

Artefacts collected in the field were bagged and labelled according to hectare, square and line number. After being washed, quantified, weighed and recorded on assemblage sheets, the artefacts were separated into three main categories: flint, ceramic and miscellaneous (glass, slag, *etc*). An index was prepared to assist data retrieval. To aid advanced analysis, diagnostic flint artefacts were separated and assigned small find numbers.

Pottery, tile, glass, metal and slag *etc.* were all spot-dated. Flint was catalogued into cores, blades, arrowheads, other tools, waste flakes and burnt flint. Frequency charts were prepared and distributions of artefact were plotted. A summary of the finds is presented below. Distributions for various artefact groups were plotted (initially at 1:2500) using concentric circles, to indicate density of finds per 20m^2 collection unit.

There were few obvious concentrations of flint material apparent. The clearest was found in the north-western corner of the field (see Figure 2) and relates to a cropmark complex that is Roman and Iron Age in date. Most of the material recovered consisted of un-retouched flakes characteristic of flint knapping activity. Further, though less dense flint concentrations occurred in the vicinity of the ring ditches and could relate to activities associated with their construction or use. A barbed and tanged flint arrowhead of Bronze Age date was located adjacent to the northern-most ring ditch. (A second was recovered from this area during subsequent surveying).

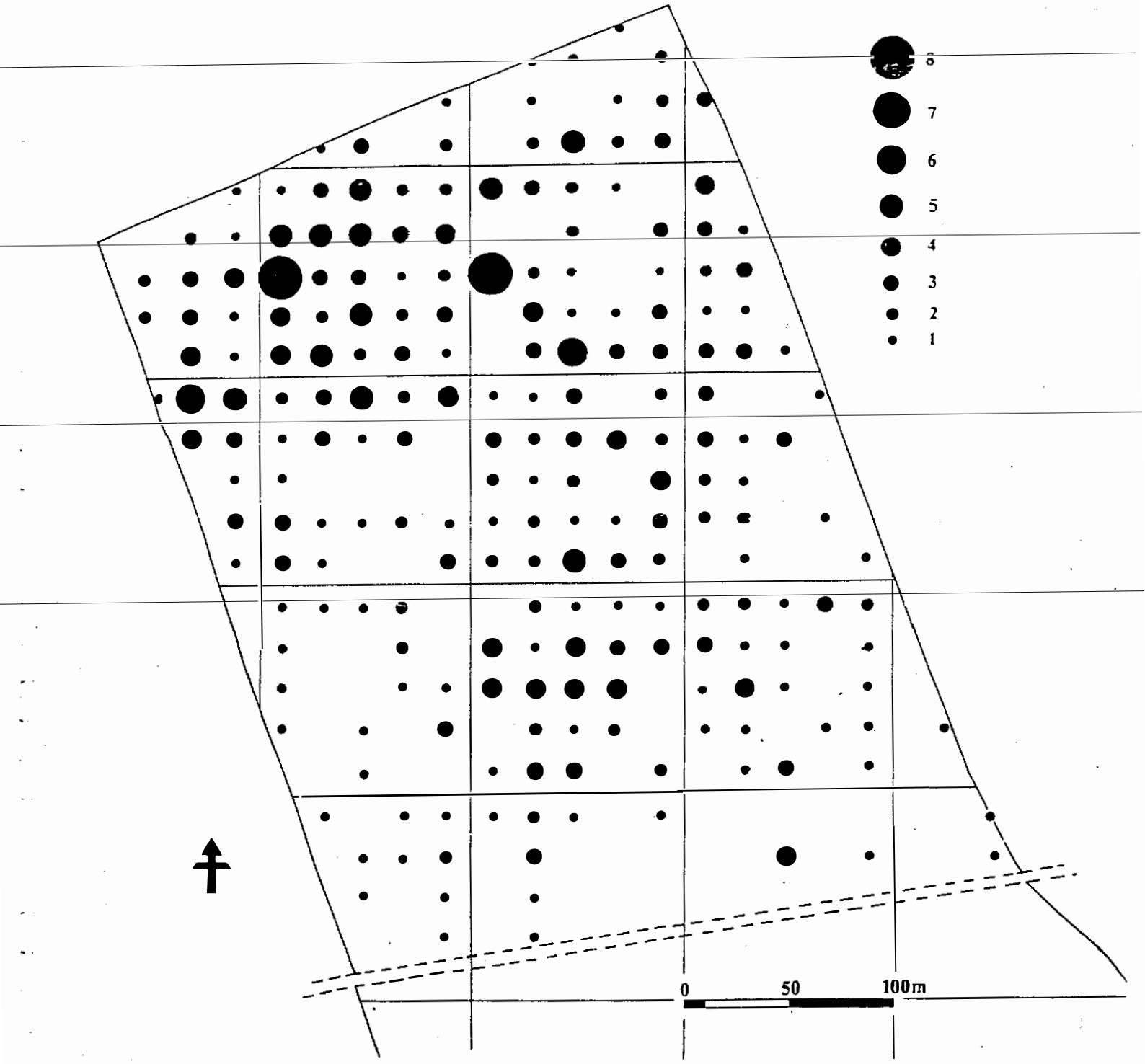


Figure 2. Distribution of unretouched flint flakes north of the disused railway. Key represents artefacts recovered per 20m²

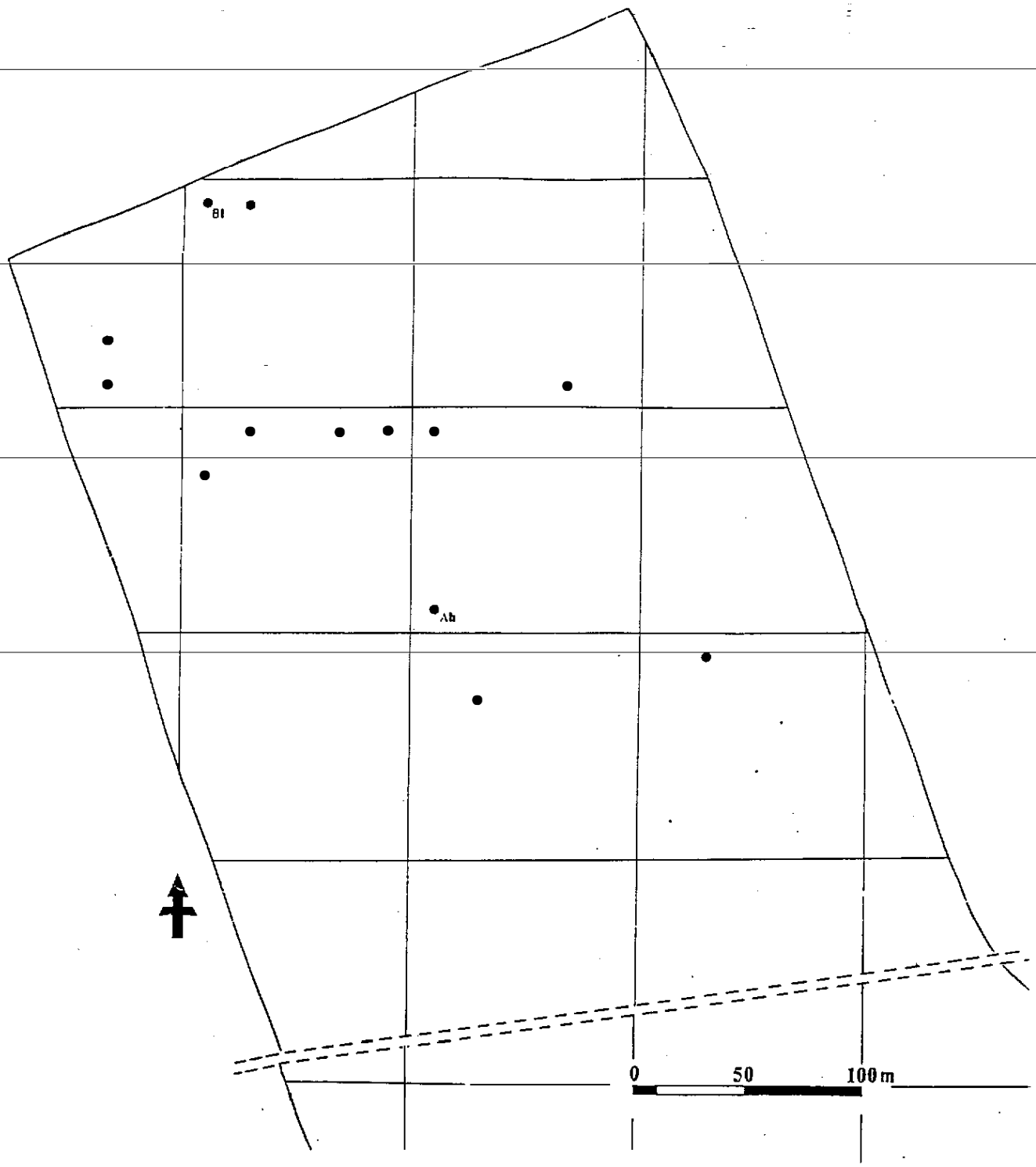


Figure 3. Distribution of diagnostic flint tools. All are scrapers except for Bl-blade and Ah-barbed and tanged arrowhead.

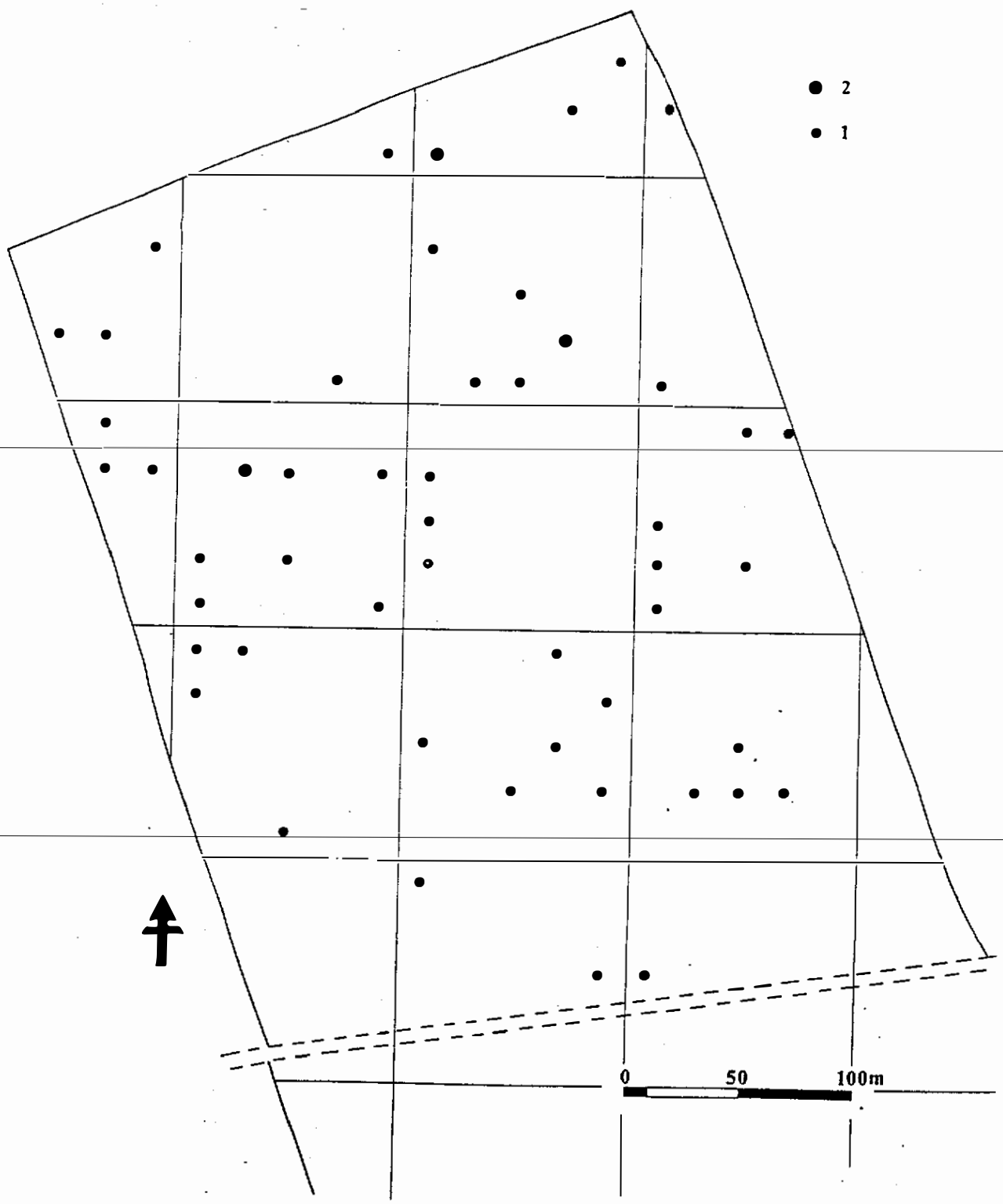


Figure 4. Distribution of retouched flint flakes. Scale represents artefacts recovered per 20m²

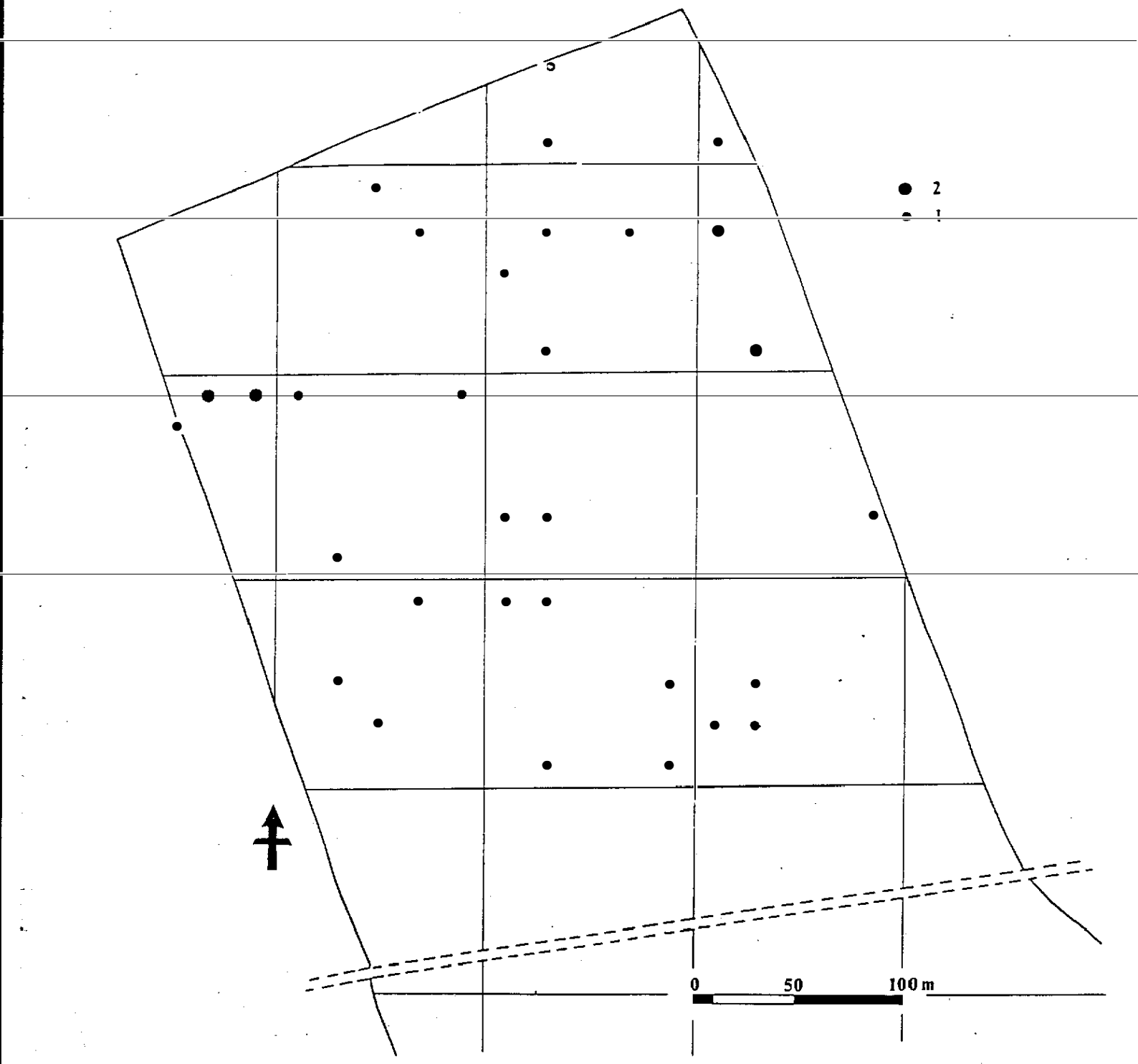


Figure 5. Distribution of flint cores. Scale represents artefacts recovered per 20m^2

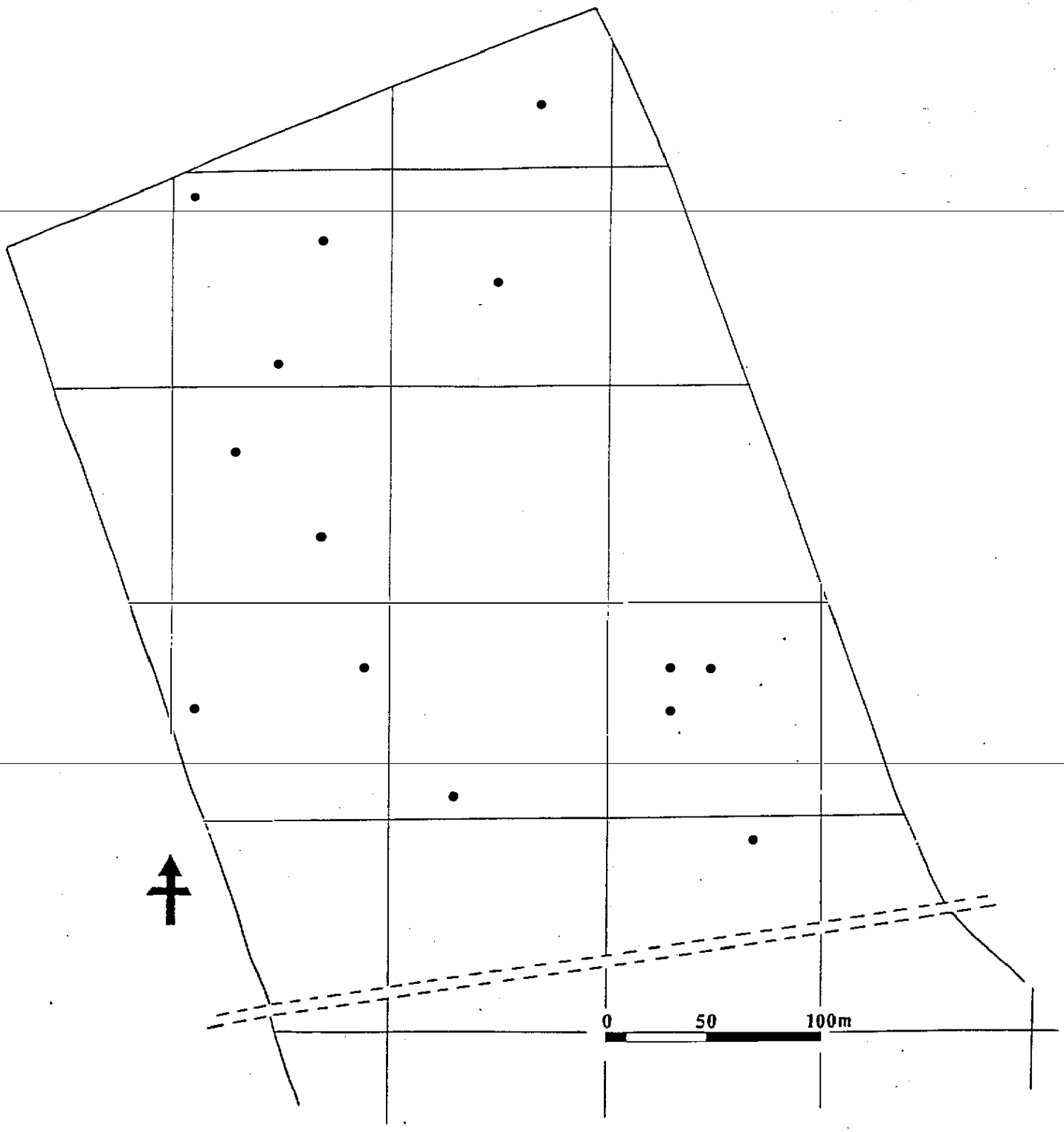


Figure 6. Distribution of burnt flint.

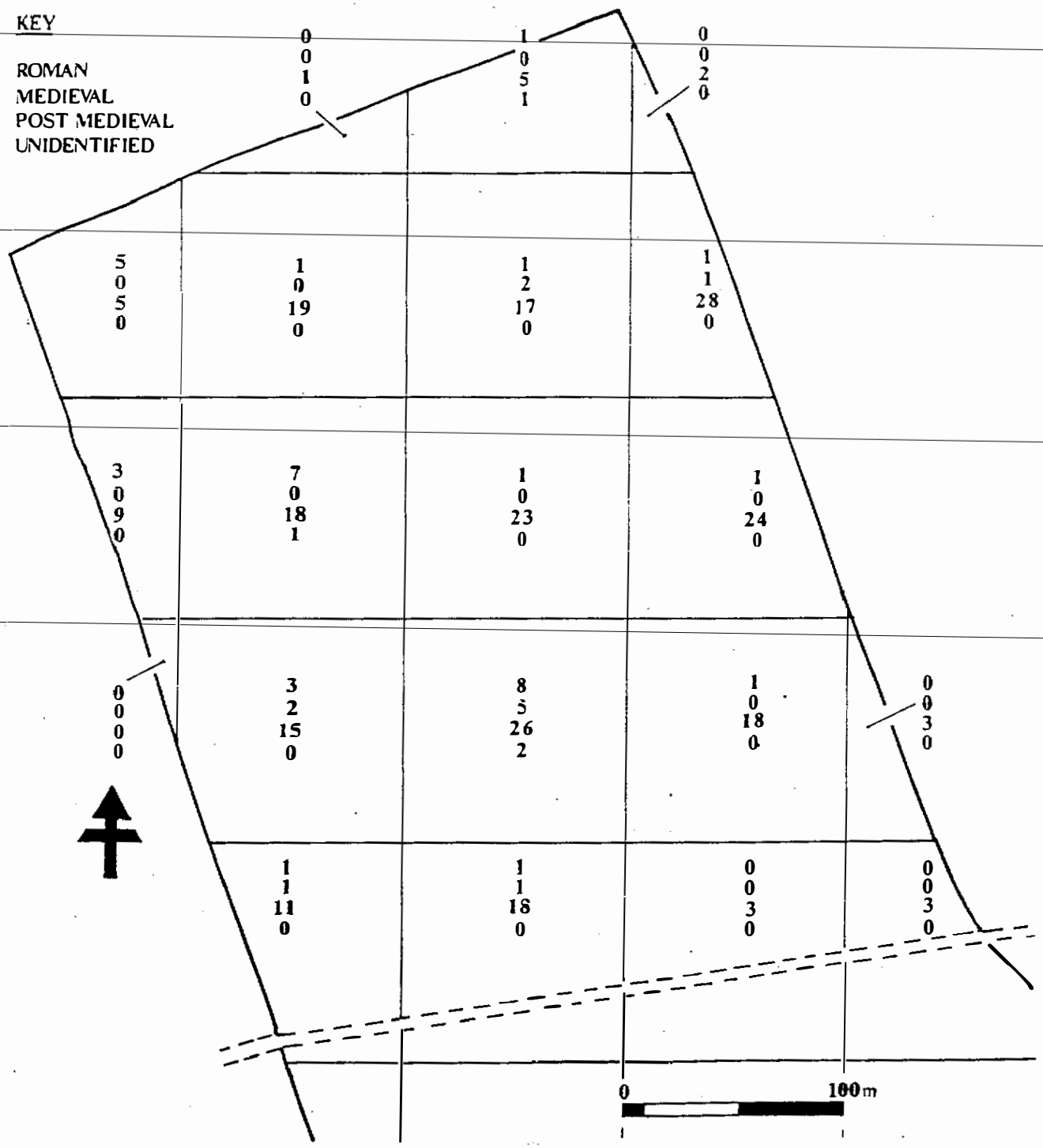


Figure 7. Distribution of pottery. Figures represent totals of each category per hectare.

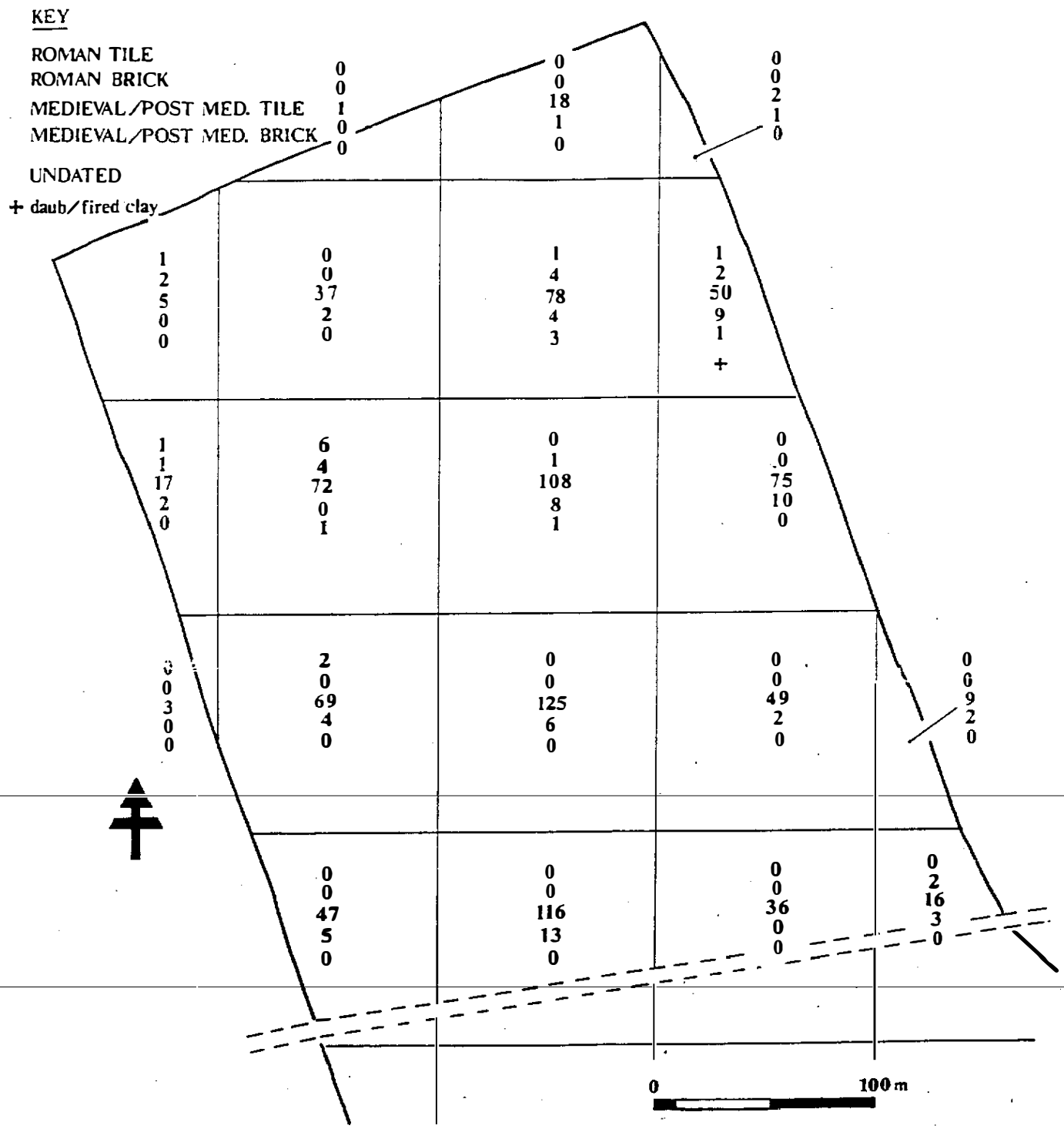


Figure 8. Distribution of brick and tile. Figures represent total of each category per hectare.

No further concentrations of flint material were located and none of the other classes of finds showed any clear spatial patterning.

Flint:		**Glass:**	
Unretouched flakes	483	Post-Medieval vessel	131
Retouched flakes	54	Post-Medieval Window	23
Cores (including frags)	35	**Total**	**154**
Other burnt flint	11		
Scrapers	9	**Stone:**	
Endscrapers	2	Slate	18
Blades	1	Burnt stone	1
Barbed & tanged point	1	Possible Whetstone	1
Total	**596**	**Total**	**20**
Pottery		**Clay pipe:**	**16**
Prehistoric	0		
Roman	35	**Miscellaneous metal:**	
Medieval	12	Fe horseshoe	1
Post-Medieval/Modern	257	Fe square headed nail	1
Undated	4	C19th button	1
Total	**308**	C18th-19th button	1
		Smithing slag	2
Brick & Tile		Smelting slag	2
Roman tile	12	**Total**	**8**
Roman Brick	16		
Med/post -Med tile	933		
Med/post-Med brick	72		
Undated items	6		
Daub/Fired clay	1		
Total	**1040**	**Total Artefacts Recovered**	**2142**

Table 1: Summary of all the finds collected during fieldwalking.

TRENCH EXCAVATIONS

Trench excavations were conducted in two stages. During late February 1992, three evaluation trenches were excavated (by a JCB machine) in the field immediately south of the disused Bedford to Cambridge railway line. The second stage of transect excavation were conducted in July and early August and concentrated on deposits north of the disused railway line once the onion crop had been harvested. A total of thirteen trenches were excavated (see Figs 9 and 10).

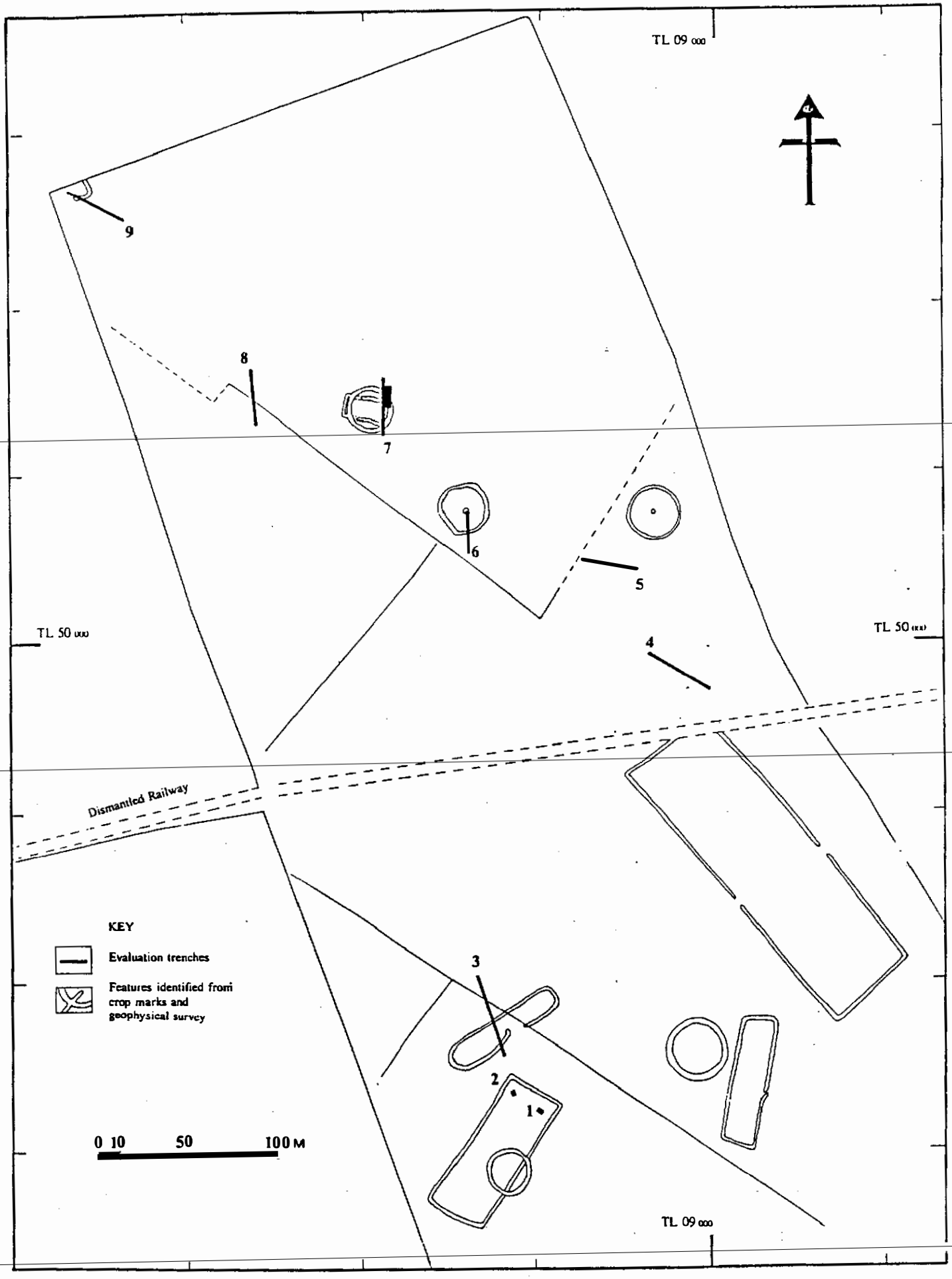


Figure 9. Location map for evaluation trenches 1-9.

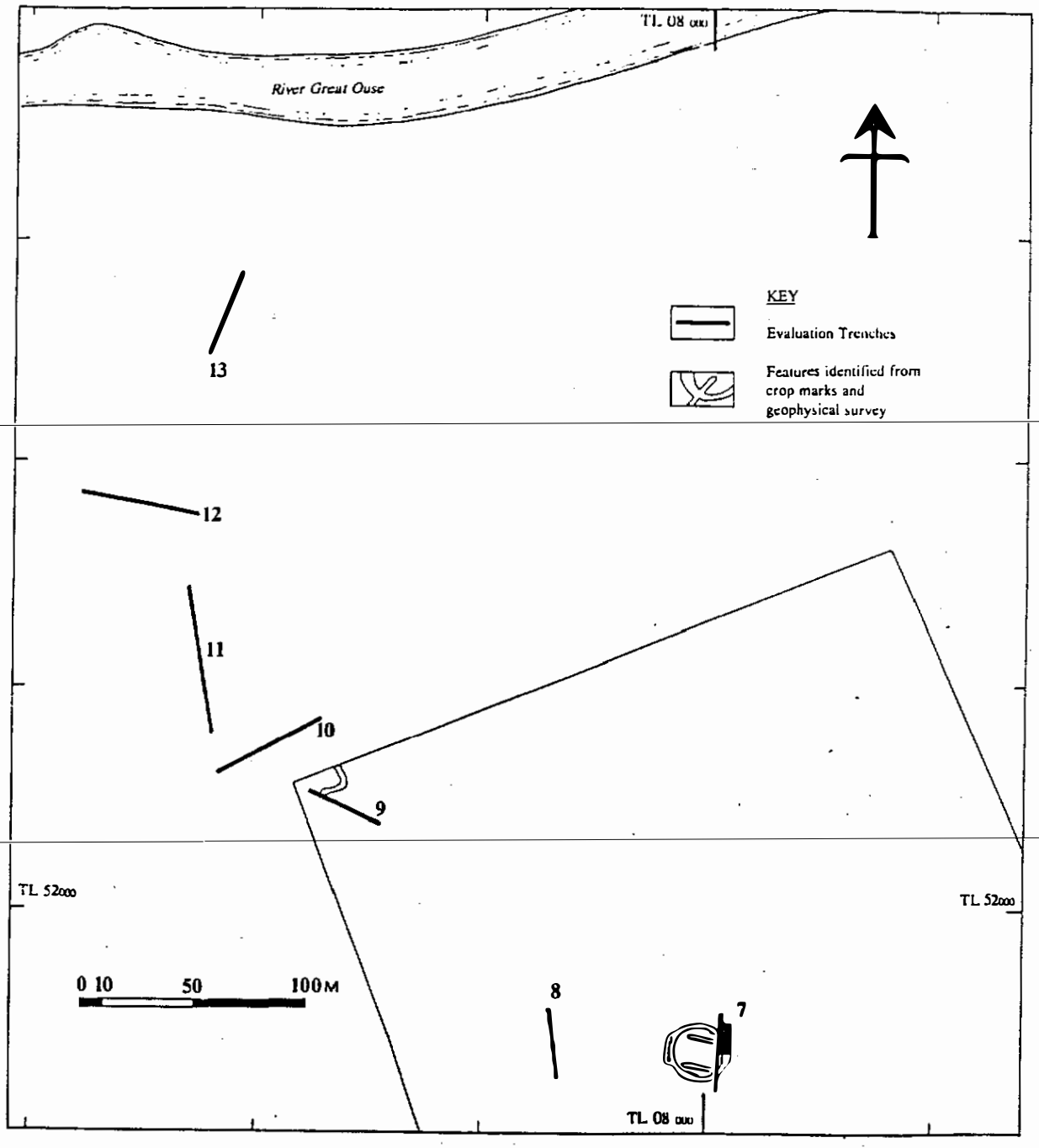


Figure 10. Location map for evaluation trenches 9-13.

	T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8	T 9	T 10	T 11	T 12	T 13
Topsoil Depth (Metres)											0.30	0.25	0.25
Subsoil Depth (Metres)	0.50	0.50	0.60 (ave)	0.65	0.50	0.30	0.40	0.30	0.28	0.60	0.60	0.45	0.30
Depth to top of Archaeological deposits* (Metres)	0.50	0.50	0.60 (ave)	0.65	0.50	0.30	0.40	0.30	0.28	0.60	0.90	0.70	0.55
Maximum depth of Archaeological deposits (Metres)	0.95	0.90	1.35	0.85 +	0.86	1.20	1.55	0.68	1.16	2.05	1.70 +	1.55	1.00 +

Table 2. Summary of the depth below topsoil/subsoil of archaeological features in Trenches 1 - 13. (* from ground surface)

In presenting information regarding depths of archaeological deposits below ground surface, the details are given in Table 2. This table provides a clear outline of the vulnerability of deposits during the construction programme of the bypass.

EXCAVATIONS SOUTH OF THE DISUSED RAILWAY LINE

There were two reason for excavating the three trenches in the area of the Neolithic / Bronze Age enclosures south of the disused railway. The exact position of the "paperclip" enclosure (1480.04) was in some doubt as the geophysical survey had located it somewhat off the position recorded on the plans transcribed from the SMR information. An accurate location for this enclosure is necessary in order to design the drainage scheme to avoid damage to the enclosure.

The geophysical survey conducted in 1991 located a series of anomalies that were interpreted as possible archaeological features. They occurred as three "pits" spaced at regular intervals in the northern end of enclosure 1408.03 and appeared to lie parallel with the north-eastern end ditch. With the help of Geophysical Surveys of Bradford two of the pits were re-located and subject to excavation.

Trench 1

Trench 1 was located in the northern interior of enclosure 1480.03 (see Fig 11). The depth of topsoil/sub-soil for Trench 1 (and all the other trenches) is given in Table 2. Several pits and gullies were found to be cutting through a dirty natural gravel horizon. This area was difficult to understand within the parameters of such a small area excavation, but it would appear that hollows or irregular shaped pits were cut into areas

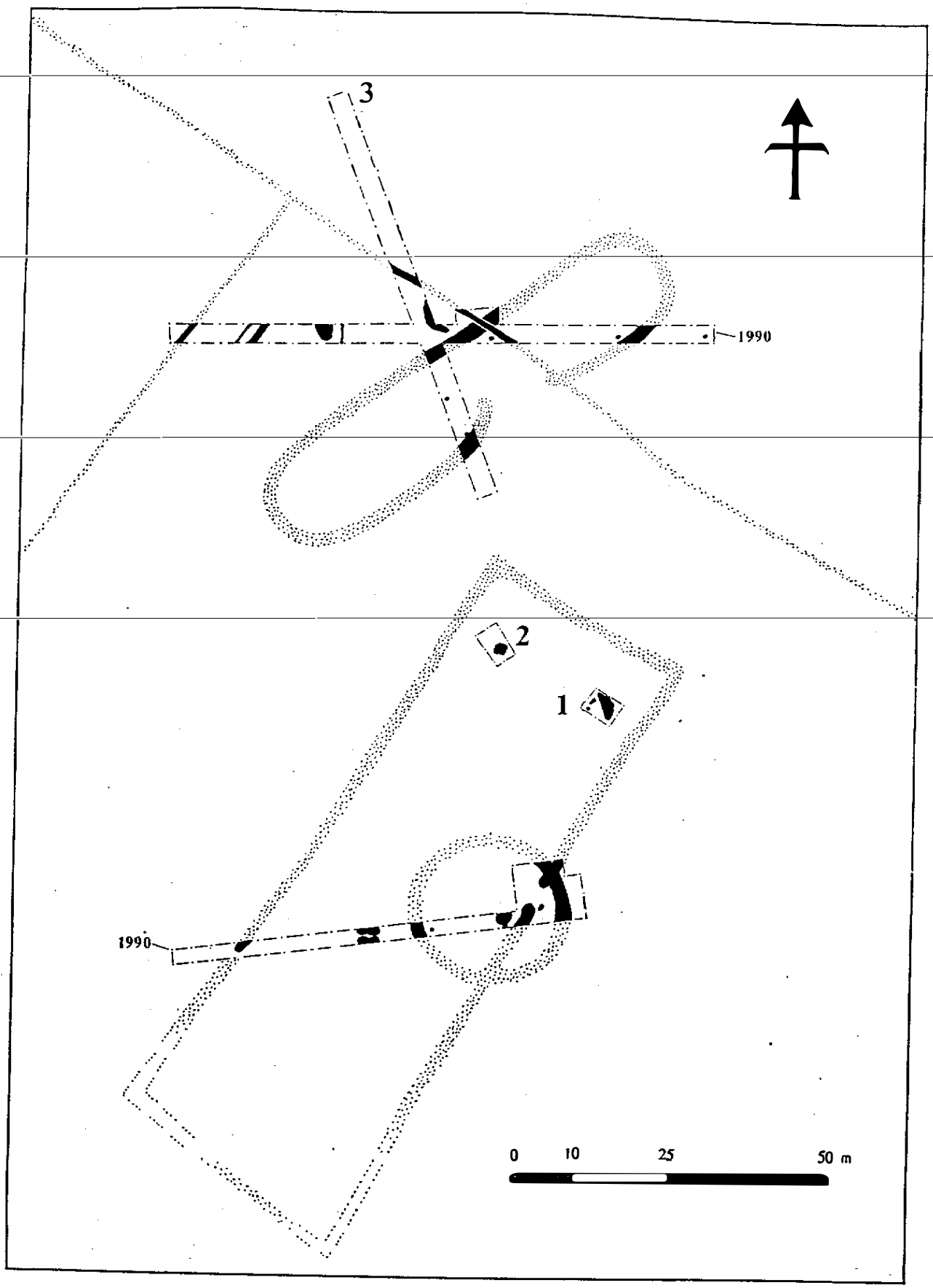


Figure 11. All features plan of trenches 1,2 and 3 in relation to 1990 transects.

containing earlier more elongated features, which are interpreted as tree hollows. Two of the pits (F27, F48) were oval in plan, fairly steep sided with rounded bottoms and ranging from 25-55cm in depth. A third pit (F40) was elongated in shape with a maximum depth of 45cm. All of the fills were similar in colour composition, ranging from a light orange silt to a dark brown silt. The upper fill of pit F48 contained two small fragments of pottery, one of which was identified as Neolithic / Bronze Age with flint tempering and no surface decoration. In the lower fill four flint flakes were found. F27 and F48 were stratigraphically the final features in a complex sequence of inter-related features. In plan these appear as two irregular gullies converging on each other (see Fig 12). In addition to F27 and F48, the gullies were made up of an intercutting of the following earlier features: F13, F34, F36, F38, F56. All the features shared similar profiles which were relatively steep sides with near vertical layers (Fig 12 sections). It is suggested here that the whole complex of features consists of tree hollows, and that amidst the tree felling (either by human or natural means) other human activity was being practiced.

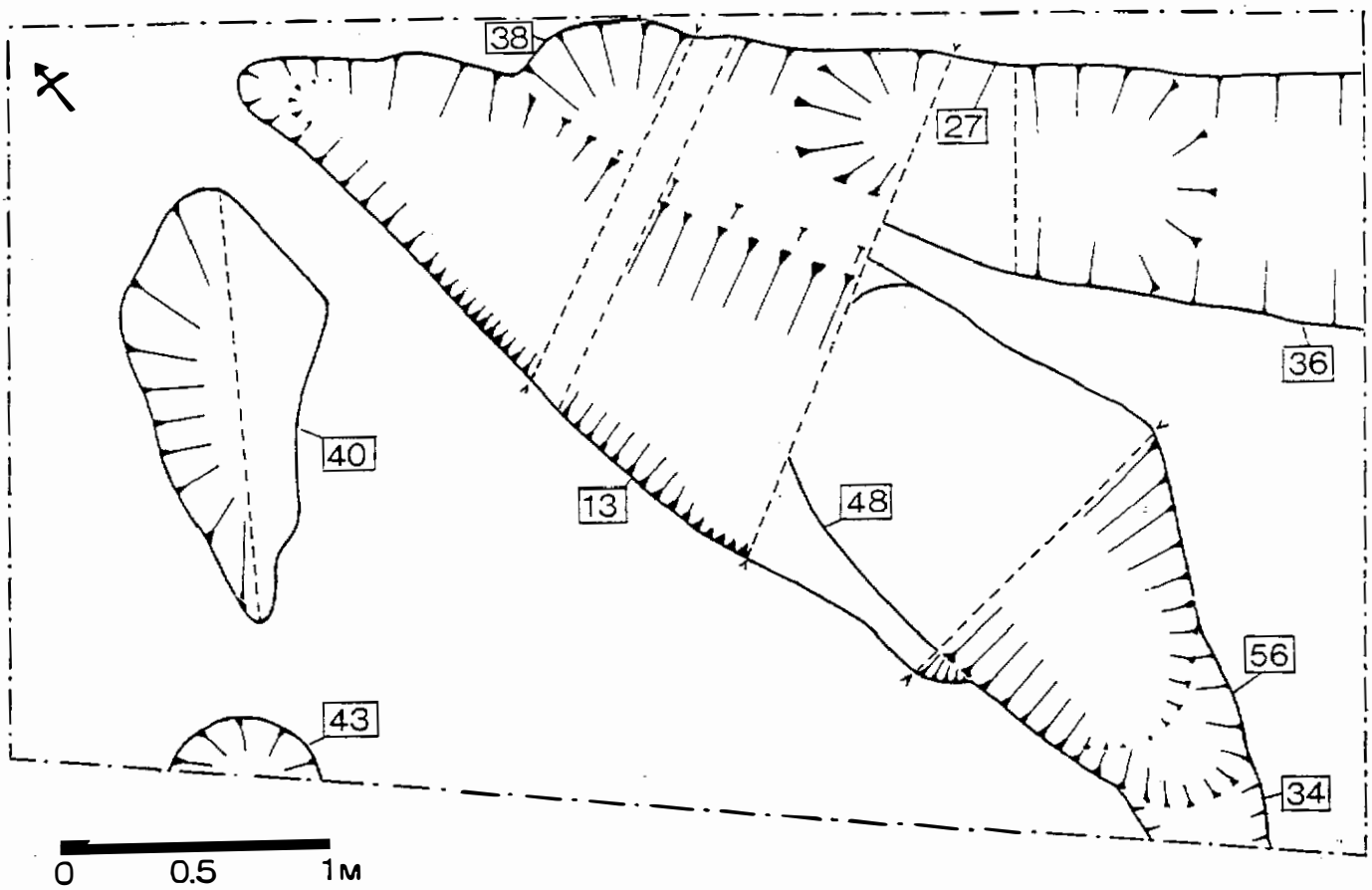
Trench 2

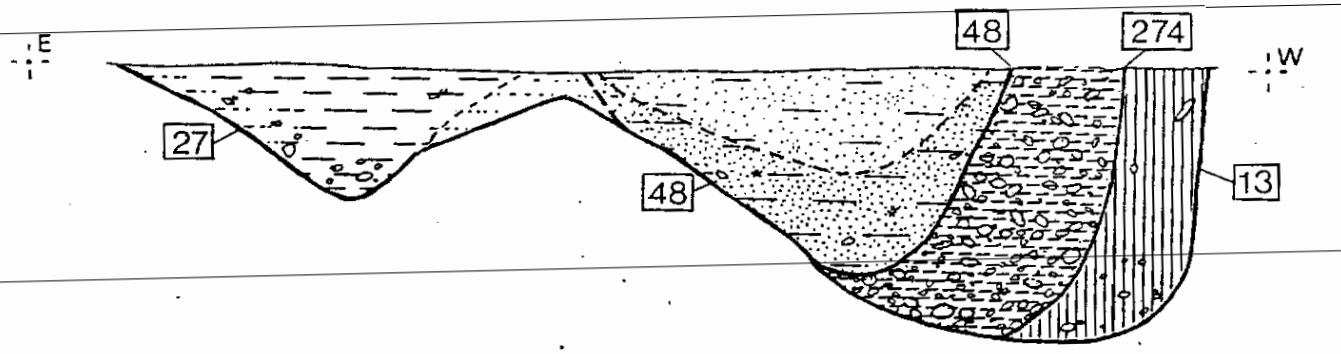
Trench 2 was positioned in order to locate the anomaly closest to the north-west corner of the enclosure 1480.03 (see Fig 11). Below 50cm of topsoil and sub-soils a dirty gravel horizon was cut by a single, irregular shaped feature. This feature (F7) had shallow sloping sides and a flat bottom and is also interpreted as a tree hollow. It was filled by a brown/black silty clay and light brown silty clay with very few inclusions and no finds. There is no archaeological evidence to suggest that the hollow was used in any way once the tree had been felled.

It is difficult to assess whether the trees (or the tree hollows themselves) were an integral part of the enclosure. There is little evidence in the archaeological record regarding the placement of trees within monuments, however, in the enclosure discussed here, there appears a clear row of three tree hollows aligned with the north-eastern ditch of the enclosure. Evidence from a broadly similar enclosure at Barford in Warwickshire shows a tree hollow placed within a gap or causeway of the east facing ditch (Loveday 1989). In this example it is clear that the tree was either an obstacle to the ditch construction, (in which case why was the ditch constructed in this location?) or the tree was an integral past of the enclosure. Although very little of the interior of the enclosure was excavated, the features excavated were all interpreted as tree holes, although not enough area was excavated to get a clear plan of the interior. There is growing evidence from similar forms of sites that trees formed part of the overall structure of such monuments (eg a possible tree avenue at West Cotton- J Humble pers comm).

Trench 3

Trench 3 was excavated in order to locate the precise position of the "paperclip" enclosure 1480.04 (see Fig 11and 14). There had been some discrepancy between its location based on aerial photographic transcriptions and the results of the geophysical





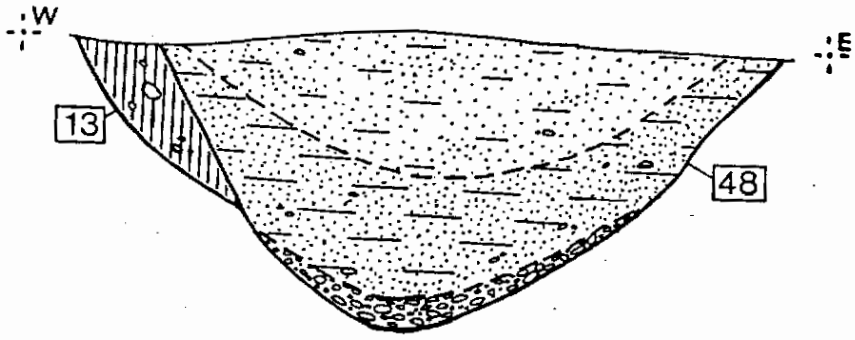


Figure 12. Trench 1. Plan and sections showing irregular pits and gullies.

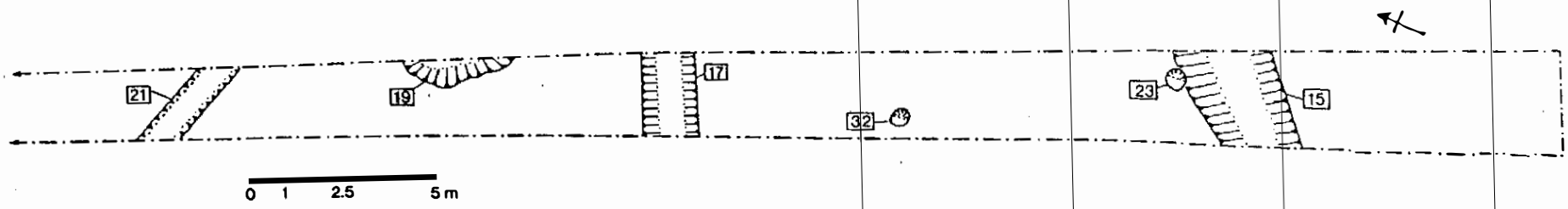


Figure 13. Trench 3. All features plan.

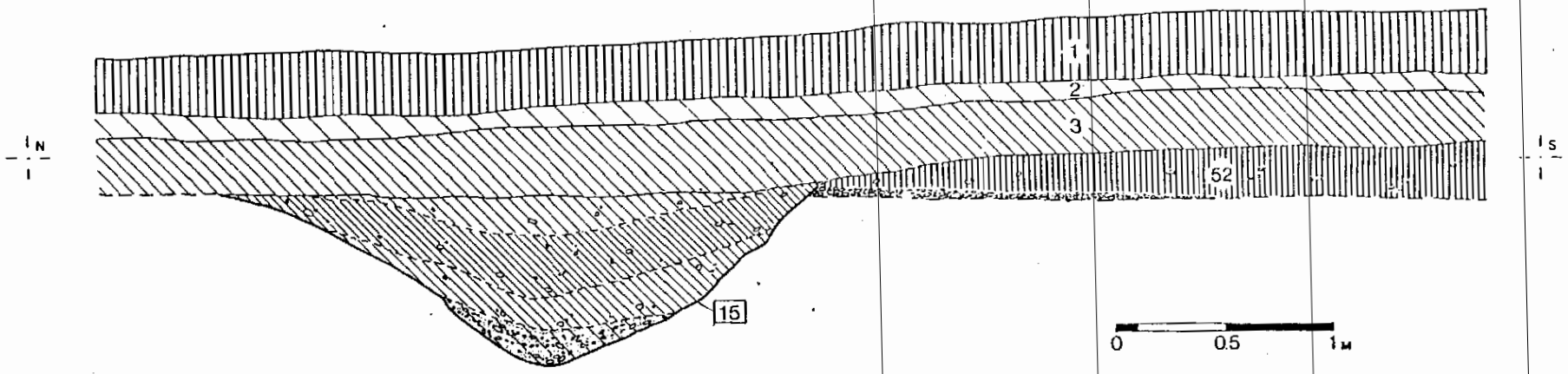


Figure 14. Trench 3. Section through ditch 15 also showing increasing thickness of deposit 52.

survey. The transect located part of the inverted entrance-way to the enclosure together with a section through the northern part of the enclosure ditch itself. Both ditches had steep sides and rounded bases. The northern ditch (F 17) was 1.5m wide and 65cm deep, while the southern ditch (F15) close to the entrance was 2.7m wide and 72cm deep. Both fills were consistent and ranged from an upper fill of light-mid brown silty clay to a darker brown silty lower fill. The primary fill was a lighter orange silty clay.

The reason why the southern ditch was wider than the northern one is that an additional deposit of soil (52) had accumulated in the area between enclosure 1480.03 and 1480.04, and the enclosure ditch cuts through this material as well. Initial interpretations suggested an old land surface. An alternative suggestion is that this deposit might represent a sediment deposited at some stage prior to the construction of the enclosures, and relates to an old river course immediately north of enclosure 1480.04. The reason why it did not extend southwards into the area of enclosure 1480.03 is likely to be due to topographic factors. Within this area of the first terrace of the river Ouse there are raised areas of gravel which form small "islands" that were frequently used as locations for prehistoric monuments such as ring ditches and other forms of enclosures (eg Pinder 1986). Similar locations for prehistoric sites have been recorded elsewhere in the Great Ouse (eg Prior and French 1985). Enclosure 1480.03 appears to lie on such an "island" and as a result seasonal flooding or eddying of river borne materials would probably not have washed onto this higher ground. Such deposits would have been limited to the margins of the island, although the dirty natural gravels recorded in Trenches 1 and 2 might have been the result of flooding. Most of this river activity predates the construction of the monuments and is likely to date to the early post-glacial (c10,000 BC). Although the landscape is now completely altered by intensive agriculture, faint traces of these alluvial processes and old river courses are still visible. The area around enclosure 1480.03 occupies slightly higher ground than the surrounding areas and the remains of the old river course stretches across the field in an east-west direction to link in with a further river course investigated in Trench 4 (see Fig 15 and16).

Only open area excavation combined with a soil micromorphology study would confirm the true nature of this deposit.

The "paperclip" enclosure did produce small quantities of pottery in both the 1990 and the 1992 seasons. The upper fills of the 1990 area contained tiny fragments of flint gritted plain-ware, together with a larger fragment of a similar fabric covered with a wash buff brown in colour. Similar pottery was found at the neolithic enclosure at Godmanchester (Humble pers comm). The 1992 season produced minute fragments of pottery from the upper fill of the northern part of the enclosure ditch. This material contained small pieces of flint tempering within a red coloured fabric. The fragments appear as small body sherds and contain no surface decoration. The material is regarded as broadly Neolithic / Bronze Age in date. One unretouched flint flake was retrieved from the dry sieving of the ditch fills.

In addition to the "paperclip" enclosure itself, further deposits were located. These included a shallow sided pit (F19) with a depth of 55cm and measuring approximately 3m in diameter. The feature had a flat base and contained two fills, a light / dark brown

silty clay and grey brown silty clay both with occasional charcoal flecks. It is unclear whether this pit represents an archaeological feature or a tree hole. No finds were found during excavation. A second feature consisted of a post hole (F32) measuring 50cm in width and 30cm in depth. Its sides were vertical and a post-pipe could be seen in section. A second post hole (F23) cut into the upper fill of the "paperclip" enclosure (16). This measured 50cm in width and had a round base with a depth of 25cm.

The final feature recorded in Trench 3 was a linear ditch, north of pit F19 and aligned NW/SE. The ditch (F21) is clearly visible on both the cropmark photographs and in the geophysical survey plots. It was approximately 1.5 metres wide, had steep sided edges and a depth of 48cm. The ditch contained a single fill of grey/purple silty clay, within which a lump of organic material was found whilst dry sieving. In the 1990 excavations this ditch was found to post-date the "paperclip" enclosure ditch. Both pit F19 and ditch F21 cut through the lower deposits of sub-soil, which in turn had sealed the "paperclip" enclosure ditches. A further part of this ditch system was recorded in Trench 8, north of the disused railway line.

EXCAVATIONS NORTH OF THE DISUSED RAILWAY LINE

Trench excavations north of the disused railway are divided into two groups. The first group contains archaeological deposits associated with the mortuary complex previously discussed (Trenches 4 - 8). The second group consists of further archaeological deposits in the field immediately south of the river Great Ouse (Trenches 9 -13). The archaeological deposits in this field are later in date and relate mainly to Roman occupation.

Trenches 4 - 9

As discussed in a previous section Geophysical survey was conducted over a large area of the field north of the disused railway line. It confirmed the presence of three ring ditches and revealed the presence of further magnetic anomalies.

Trench 4

Trench 4 was positioned in the south-east corner of the field, 20m north of the railway line. Apart from locating features picked up by the magnetometer, the transect was very close to the north-west corner of the largest rectangular enclosure (1480.07) recorded in this group of cropmarks, and most clearly visible in the field to the south of the disused railway. Cropmarks also showed the presence of an old river course north of the enclosure and orientated approximately east-west (see Fig 15 and 16).

Trench 4 cut across the old river course at an oblique angle, and was designed to locate some possible magnetic anomalies recorded during the geophysical survey. These were not located, although they could have related to material within the river silts. A high water table made it impossible to measure the depth and width of the river deposit. The

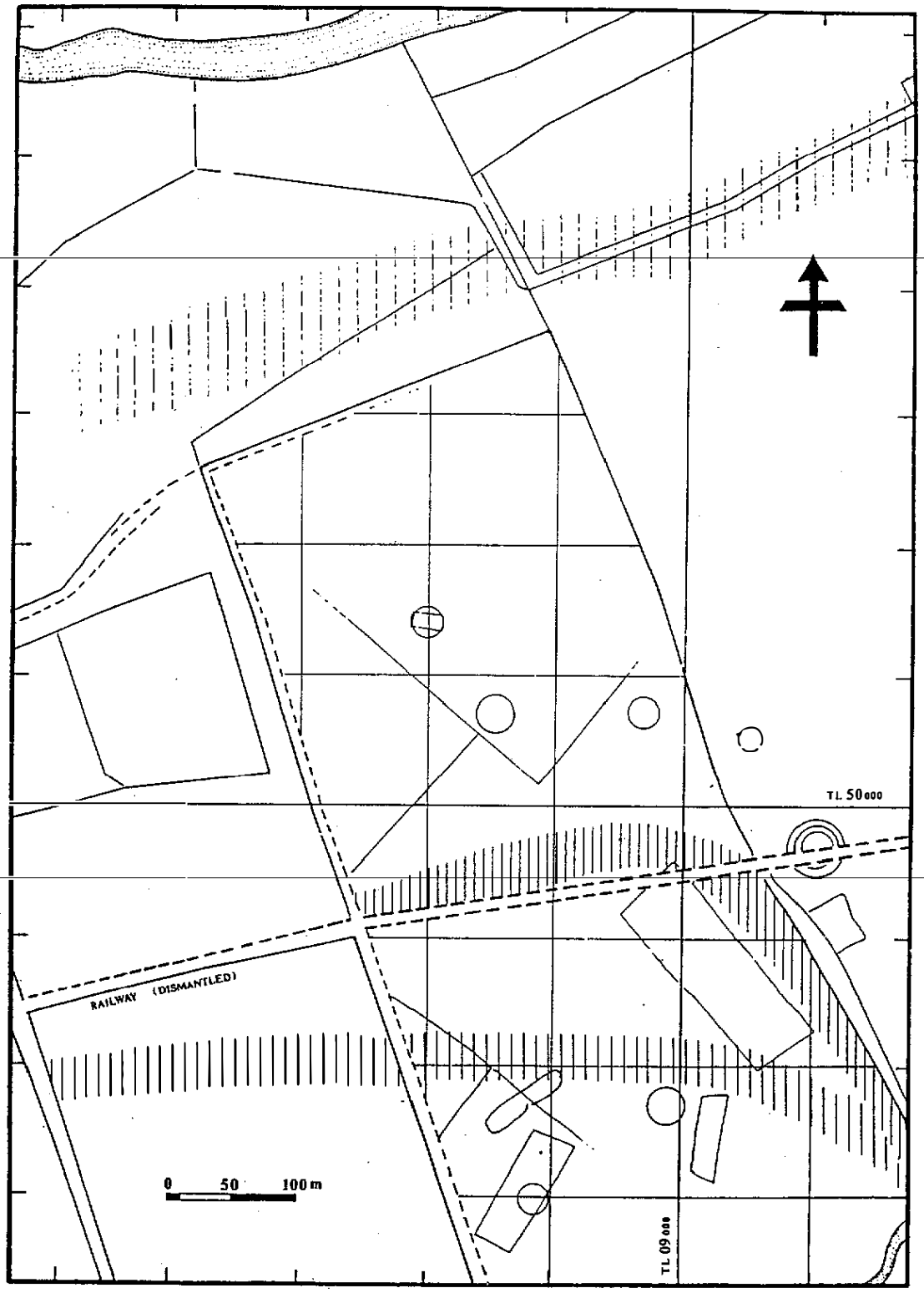


Figure 15. Location map of survey area indicating ancient river courses which are visible as surface features or cropmarks.

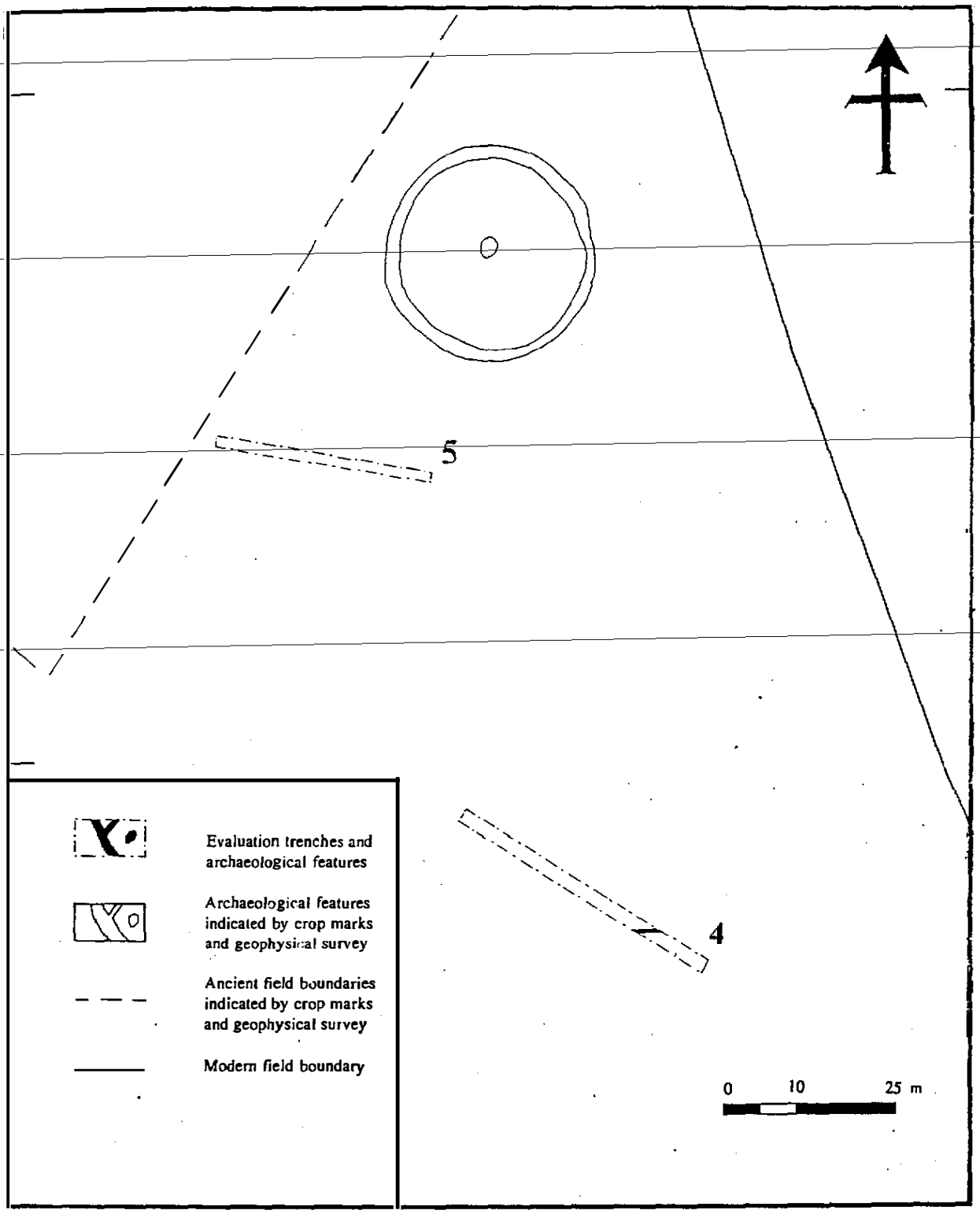


Figure 16. All features plan of trenches 4 and 5.

river cut through the natural sands and gravels and was filled by at least three layers of clay, ranging in colour from a pale yellow to a mid grey, and contained coarse components of angular/sub angular stones and pebbles, pea grit. Occasional small animal bone fragments of indeterminate species were also recorded.

The only other feature uncovered was a linear gully/ditch (F66) aligned on an NE-SW axis. This was found to cut through the river course deposits. No finds were recorded from this feature and it therefore remains undated. A series of drainage pipes cut across the line of the trench, indicating that this area was always prone to waterlogging.

Trench 5

Trench 5 was located approximately 60m NW of Trench 4 (see Fig 16. It was excavated in order to confirm features located by the geophysical survey. A large broad shallow deposit (146) approximately 9m wide and 50cm in depth was recorded and interpreted as a natural wet area where silts had accumulated (Scaife pers comm). This adds further to the interpretation that the area was originally very wet. Mid purple/black and dark grey silty clays filled the deposit which also contained small pebbles and pea grit. No archaeological deposits were located.

Trench 6

Trench 6 was positioned approximately 60m west of Trench 5 and was aligned approximately NS (see Fig 17). It was placed in order to locate a ring ditch that was visible both from cropmarks and from the geophysical survey. The geophysical survey also located a central pit within the ring.

The ring ditch (F135) measured 1.8m wide, 90cm in depth and had a rounded base. It was filled by four layers. The lower fill consisted of a dark brown clay containing a large quantity of loose sand and gravel. The upper fills were all similar in composition, being silty sands of a orange-brown colour containing small to medium sized stones, pebbles and charcoal flecks. No finds were found from any of the features.

The central pit was not located probably because the transect was slightly misplaced. There is no doubt that it exists and from the geophysical survey results the pit is likely to be almost as deep as the ring ditch itself. It is unclear, however, whether the pit contains a human burial or not.

Trench 7

Trench 7 was positioned approximately 60m NW of Trench 6 and was aligned NS (see Fig 17 and 18). It was located within the area of a small rectangular enclosure that appeared to be sealed by a ring ditch. The geophysical survey confirmed the presence of this inter-related complex and Geophysical Surveys of Bradford interpreted the rectangular enclosure as pre-dating the ring ditch.

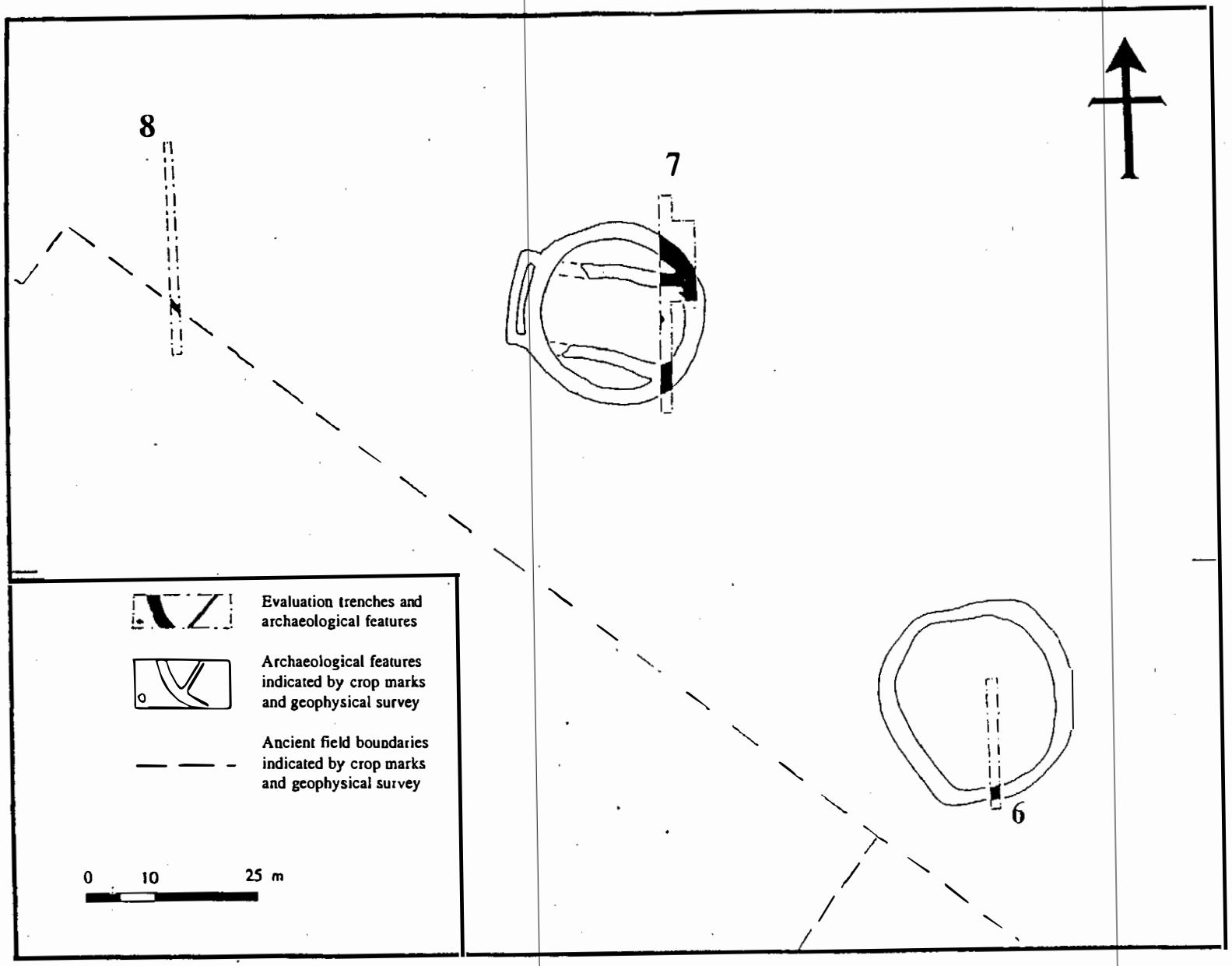


Figure 17. All features plan of trenches 6, 7 and 8.

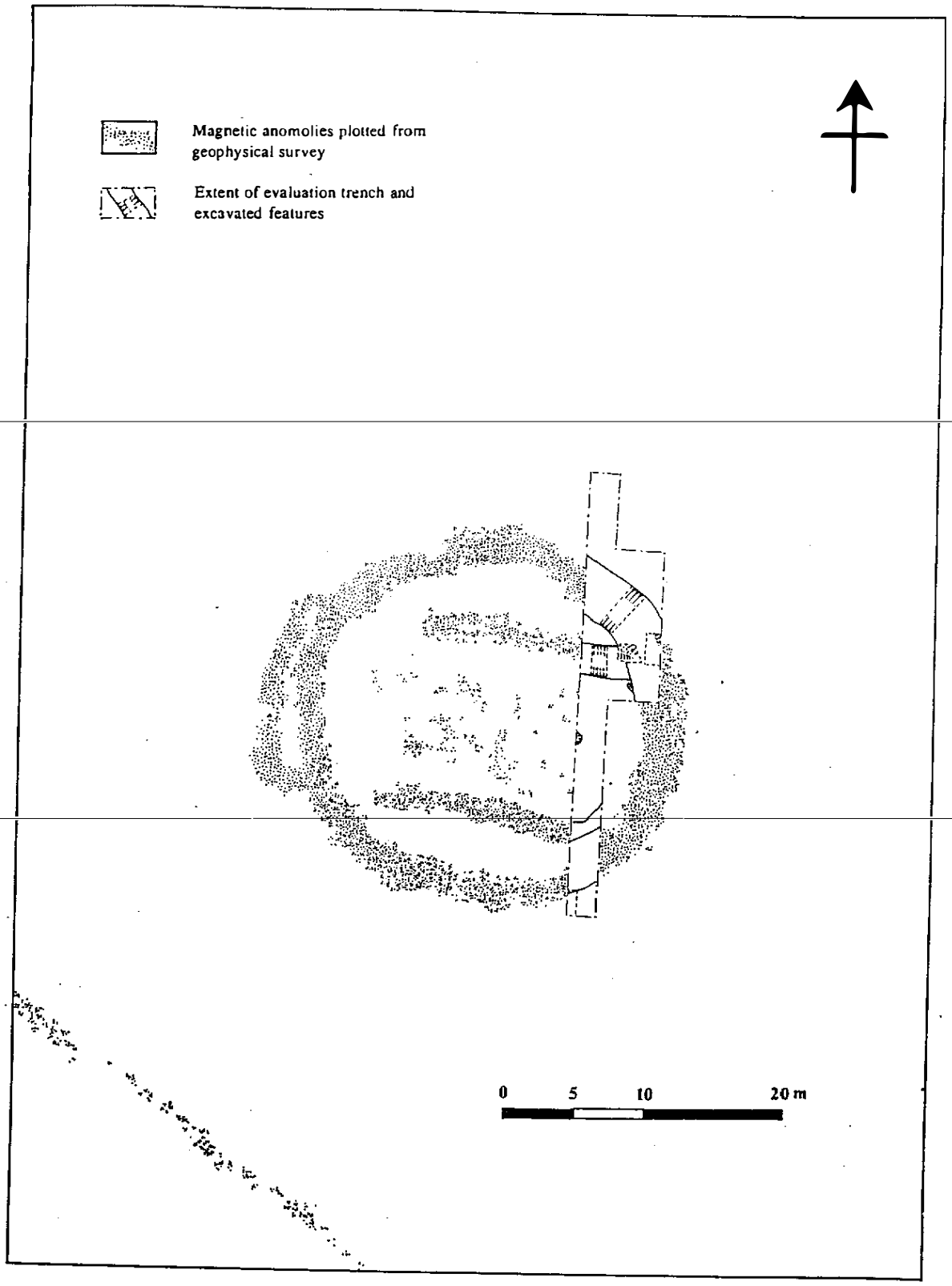
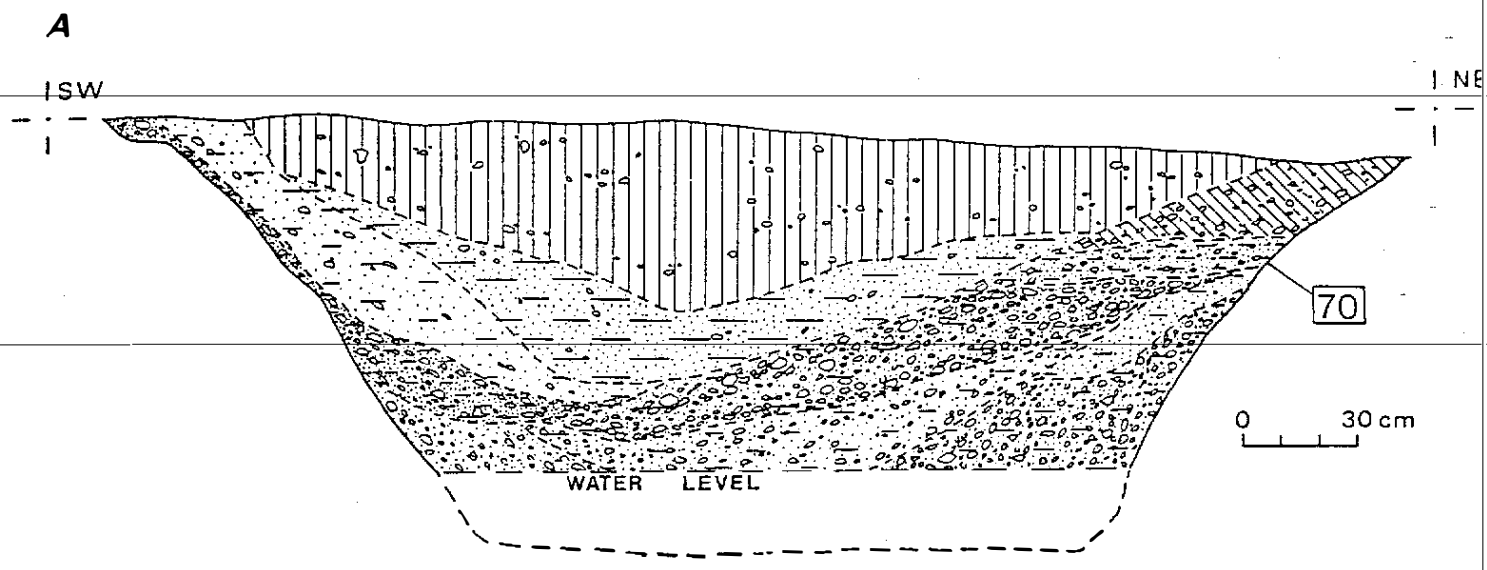


Figure 18. Trench 7. All features plan.



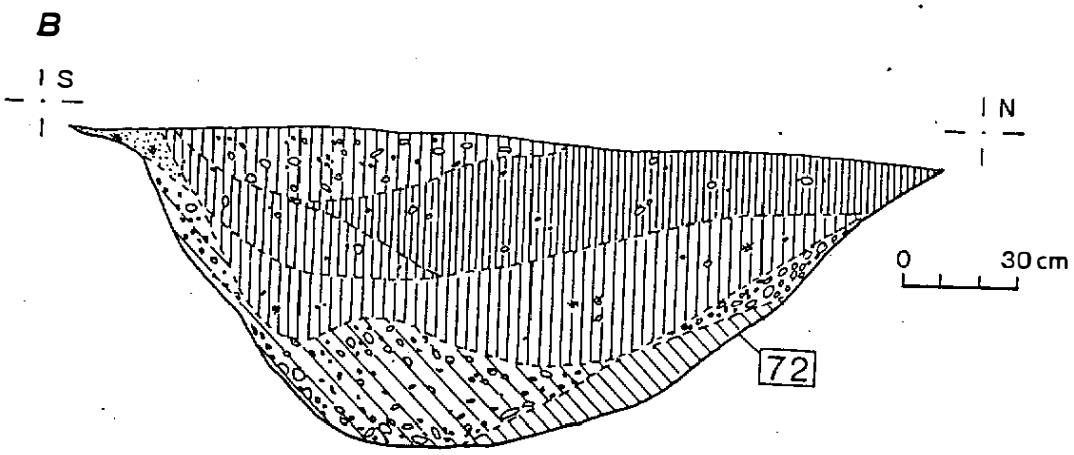


Figure 19. Trench 7. Sections of: a) ring ditch, and b) rectangular enclosure.

Trench 7 measured 30.5m in length with a larger area 10m x 3.5m opened at the northern end (Fig 18). Once the overburden of top soil and sub soil was removed it was clear that the ring ditch complex was located on a natural rise in the gravels. The transect cut through the ground plan of both the rectangular enclosure (F72) and the ring ditch (F70). Excavation confirmed that the enclosure predated the ring ditch. A section excavated through its northern side revealed a relatively steep sided ditch, with a rounded base 2.3m wide, with a depth of 1m. It contained nine fills, ranging in composition from a buff coloured sand to a dark brown silty clay loam. Several of the fills had coarse components of angular stones, pebbles and gravel inclusions (see Fig 19).

Only one internal feature relating to the rectangular enclosure was recorded, this consisted of a post hole (F75) which was located in the eastern part of the enclosure and almost exactly mid way between the two main lengths of ditch. The post hole measured 73 cm in width and 32cm in depth, it contained one fill (76) which consisted of an orange brown slightly silty sand.

The geophysical survey indicated that the enclosure had opposing entrance-ways at the western end of the enclosure which formed causeways through both the north and south ditches . No evidence is available to indicate whether the rectangular enclosure had a mound, the rapid back filling of the ditch has obscured any tip or sedimentation lines in the excavated section. The closest parallel to this enclosure is at Barrow Hills, Radley in Oxfordshire (Bradley and Holgate 1984). Although the enclosure is classified as an oval barrow, the layout of the entrance-way / causeways is very similar and excavations revealed evidence for a mound in most phases of its life.

From the main section through F72 it is difficult to determine whether the rectangular enclosure had a central mound or bank of any kind. The tip lines in the section suggest that material was deposited from both sides of the ditch in equal quantities. It is also necessary to discuss whether the construction of ring ditch F70 resulted in the rapid back back-filling of enclosure F72. The tip lines recorded in Fig 20 (b) offer some indication that deposition of ditch fills might have been a relatively rapid event compared to normal sedimentation processes in other ditch fills. The profile of all the fills broadly could indicate a rapid deposition of material, and one fill in particular (84) consisted of a silty sand loam containing mottles of clay mixed in. This could have resulted from backfilling processes mixing material as it was being incorporated into the ditch fill. It is however very difficult to make a firm conclusion with such a small amount of evidence.

The ring ditch that sealed the rectangular enclosure measured approximately 25m in diameter. One section was excavated through the main ditch (F70). This measured 3.3m wide at the top of the feature and reached a depth of 1.15m. It contained a total of 13 fills ranging from a primary layer of yellow brown sandy silt to gravels containing angular stones and flint fragments. The middle and upper consisted of reddish brown to dark brown silty loams containing rounded and angular stones, flint fragments and charcoal flecks.

No other features were associated with the ring ditch.

Trench 8

Trench 8 was located 70m west of trench 7 and was positioned to locate a linear feature discovered during the geophysical survey. This was interpreted as part of the complex of field boundaries seen south of the disused railway line and orientated on a NW-SE axis and recently investigated in Trench 3. The ditch (F88) ran across the width of the trench and measured 60cm in width. It measured approximately 37cm in depth. The ditch had a single fill of sandy silt, purple-brown in colour and containing very small quantities of small rounded pebbles fragments.

Approximately 12m north of ditch F88 there was a further deposit of silty material similar to that found in Trench 5 and interpreted as the result of a wet environment. Sections excavated through it showed that its depth was undulating and the fill was a purple brown silty clay with pebbles, similar in composition to ditch F88.

Although no finds were discovered during excavations, the ditch complex is interpreted as prehistoric in date. This is because the fill was very similar to the fills of the prehistoric enclosures and ring ditches in this area, while the later field ditches from the Roman and medieval periods are very different in nature. They always contain higher quantities of river pebbles and finds are relatively common. It is difficult to determine the precise date of the ditch system, it could either be Bronze Age (it post-dated the construction of the paperclip enclosure 1480.04), or possibly Iron Age. There is a relatively extensive area of Iron Age settlement to the east in the Willington Quarry and the field system recorded here could be part of this settlement system.

Trench 9

Trench 9 was positioned in the NW corner of the field north of the disused railway line (see Fig 20). It was excavated in order to locate two features discovered during the geophysical survey.

Once topsoil and sub-soil had been removed a single linear ditch of Roman date was excavated (F166). The ditch had a V shaped profile 120cm wide and 88cm in depth and contained three fills. The upper fill consisted of reddish dark brown silt containing a high proportion of gravel material and small fragments of limestone. The lower fill consisted of a dark brown silt similar to the upper fill but with fewer pieces of gravel. Small fragments of charcoal and animal bone were recorded. The primary fill consisted of a mid brown silty sand with gravel inclusions.

This ditch occupies the southernmost area of a relatively extensive complex of Roman ditches and other features occupying land adjacent to the southern bank of the River Great Ouse. The second feature picked up in the geophysical survey, a possible pit, was not located; this could have related to a general magnetic anomaly in the river gravels.

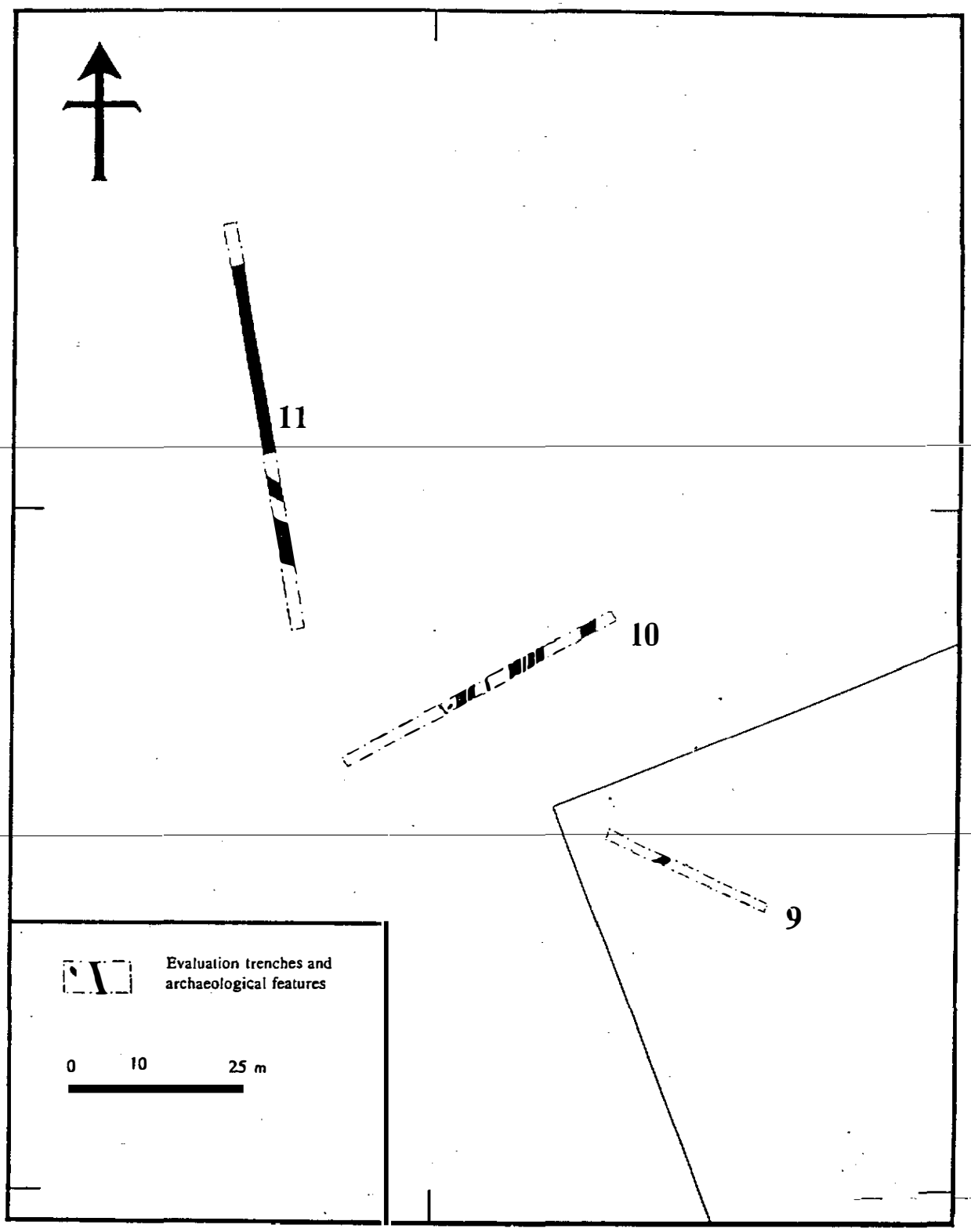


Figure 20. All features plan of trenches 9, 10 and 11.

FIELD SOUTH OF THE RIVER GREAT OUSE

Trenches 10 to 13 were located in the field immediately south of the river. The land in this field was lower than in the field to the south and could represent part of the flood plain for the river Great Ouse. Prior to the evaluation excavations, the only evidence for archaeological activity within this area was a cropmark photograph immediately north of Trench 9. Trench 10 was positioned in order to locate any surviving archaeological features within this area. It was not possible to conduct a geophysical survey in this field as the vegetation was too dense.

Trench 10

Trench 10 was located approximately 20m north of Trench 9 and was aligned NE-SE (see Fig 20). It measured 44.2m in length and had a topsoil and subsoil overburden of 60cm. Below this a series of 10 intercutting ditches aligned approximately NS were found (see Fig 21). These ranged between 1 -3.6m in width and between 0.5 - 1.45m in depth. The ditch profiles were mainly V shaped and one was U shaped.

The fills were all very similar ranging from light yellow brown silty loams to mid grey/dark brown clay silts and contained gravel stones and pebbles, limestone fragments and some charcoal flecks. The ditches all date to the Roman period. Later disturbance was observed at the NE end of the trench, where a large post medieval pit/post hole was found to cut through the latest subsoil deposit.

Trench 11

Trench 11 was located 15m north of Trench 10 in an area with no previously known traces of archaeological deposits (see Fig 20). Trench 11 was aligned NNW-SSE and measured 60m in length. As the trench was closer to the river there was a greater deposit of material sealing the archaeological material. This consisted of 30cm of topsoil and silty clay alluvial soils 60cm in depth.

Below this material archaeological deposits consisted of a ditch (F196) cutting across the trench measuring 170cm wide and 30cm in depth. The ditch was filled by a dark black-grey peaty clay with gravel pebbles and flint fragments. Finds comprised mainly of Roman pottery. The ditch truncated an earlier archaeological feature that consisted of an oval post hole (F198) measuring 20 x 15 cm and 14cm in depth. This was filled by a grey brown clay and contained a flint flake.

The presence of flint artefacts in these contexts indicates that prehistoric activity occurred close to the river. These flint artefacts are however likely to represent residual material in otherwise later Roman deposits. Adjacent to these features, an old river course measuring over 20m in width was investigated. Due to the high water table it was not possible to determine its full depth. The river deposit was filled with a dark brown

silty clay containing small water rolled stones and pebbles. The river bed itself cut through two layers of orange brown silty clays which were also result of earlier river / flooding action of presumably early-post glacial date (c.10 000 BP).

Traces of ridge and furrow ploughing were also recorded in Trench 11.

Trench 12

Trench 12 was positioned 35m NW of trench 12 and was aligned approximately E-W. The trench measured 51m in length and once the topsoil and subsoils had been removed a series of Roman ditches were found (Fig 22 and 23). At least ten ditches were recorded of which most were linear and U shaped in section. The ditches cut though a yellow brown silty clay and the underlying gravels. The ditch fills were all very similar and consisted of yellow brown and dark red brown silty clays and contained small to medium sized stones and pebbles, flint nodules with occasional charcoal flecks.

The ditches ranged in width from 1 - 2.3m and their depths between 20 and 85cm. One ditch (F207) was curvilinear in plan but not enough was exposed in the trench to determine whether it related to an enclosure ditch. The other ditches would appear to have been boundary/drainage ditches and all contained large quantities of Roman pottery and quantities of animal bones. One ditch (F181) showed evidence for re-use as a possible wall. The upper fill contained blocks of limestone, flint nodules and sandstone blocks, together with fragments of a quern stone. These were found in a matrix of dark red brown sandy silt with flecks of charcoal. As with all the features discussed in this text, the surviving ditch represents the truncated remains of a much bigger feature with only the lower levels surviving. It is therefore possible that the surviving layer of stones represents the lower course of a wall foundation.

Traces of ridge and furrow ploughing were also recorded in Trench 12.

Trench 13

Trench 13 was positioned 70m NE of Trench 12 and was aligned NE-SW (see Fig 22). It measured 37m in length and once the topsoil and sub-soil had been removed it revealed more of the ditch system recorded in Trenches 11 and 12. The ditches were cut through an earlier deposit of yellow brown silty loam containing decayed plant matter, pebbles and pea grit and represents earlier alluvial material.

These again consisted of U and V shaped ditches with widths ranging from 90 - 220 cm. Six ditches or gullies were recorded in Trench 13. These were mainly U shaped in profile and some show evidence of recuttings. The ditch fills were all very similar ranging from a light yellow brown silt clay to a mottled purple grey brown silty clay, with flecks of charcoal and manganese. Coarse components consisted of small stones, gravel, limestone fragments and pea grit.

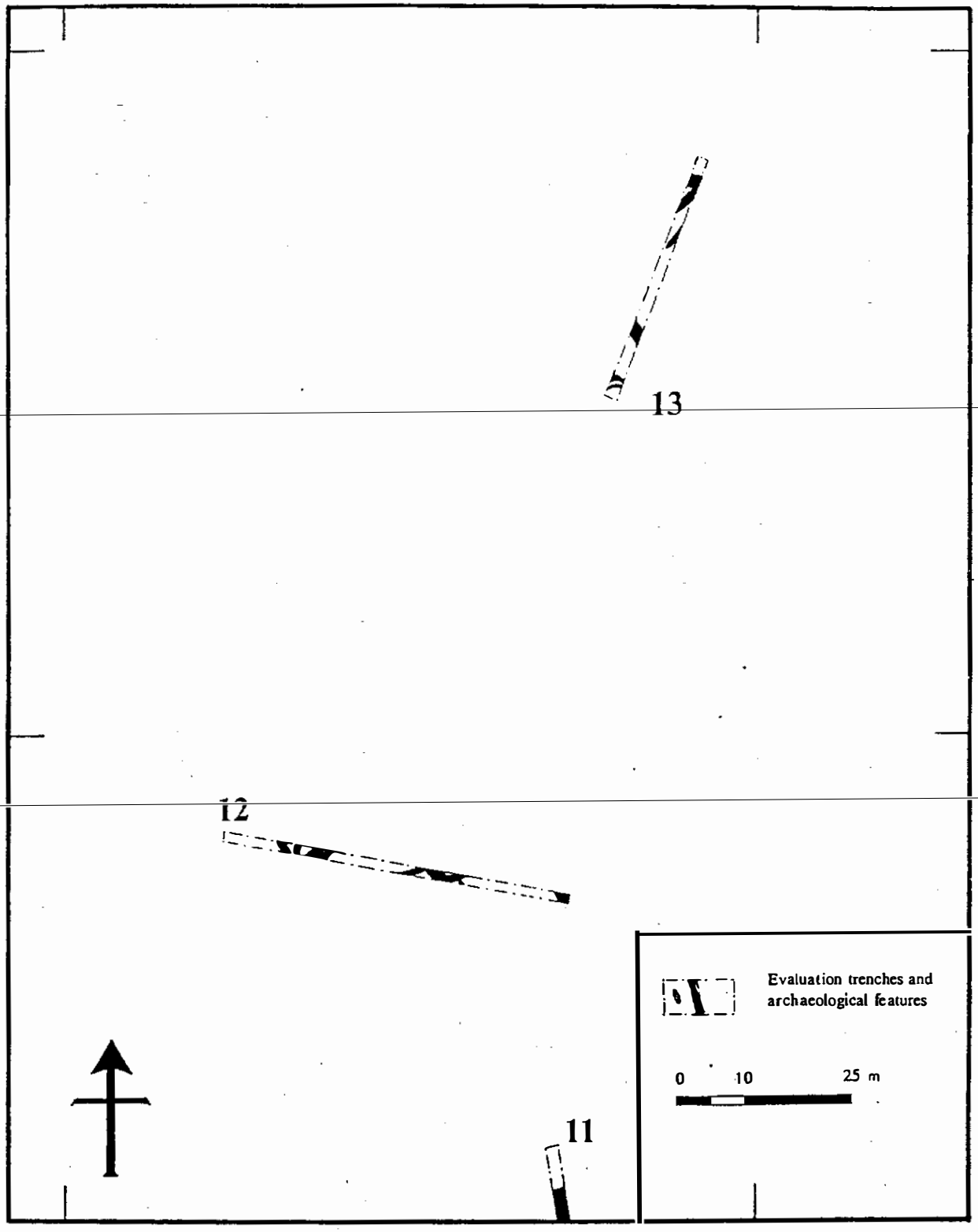


Figure 22. All features plan of trenches 12 and 13.

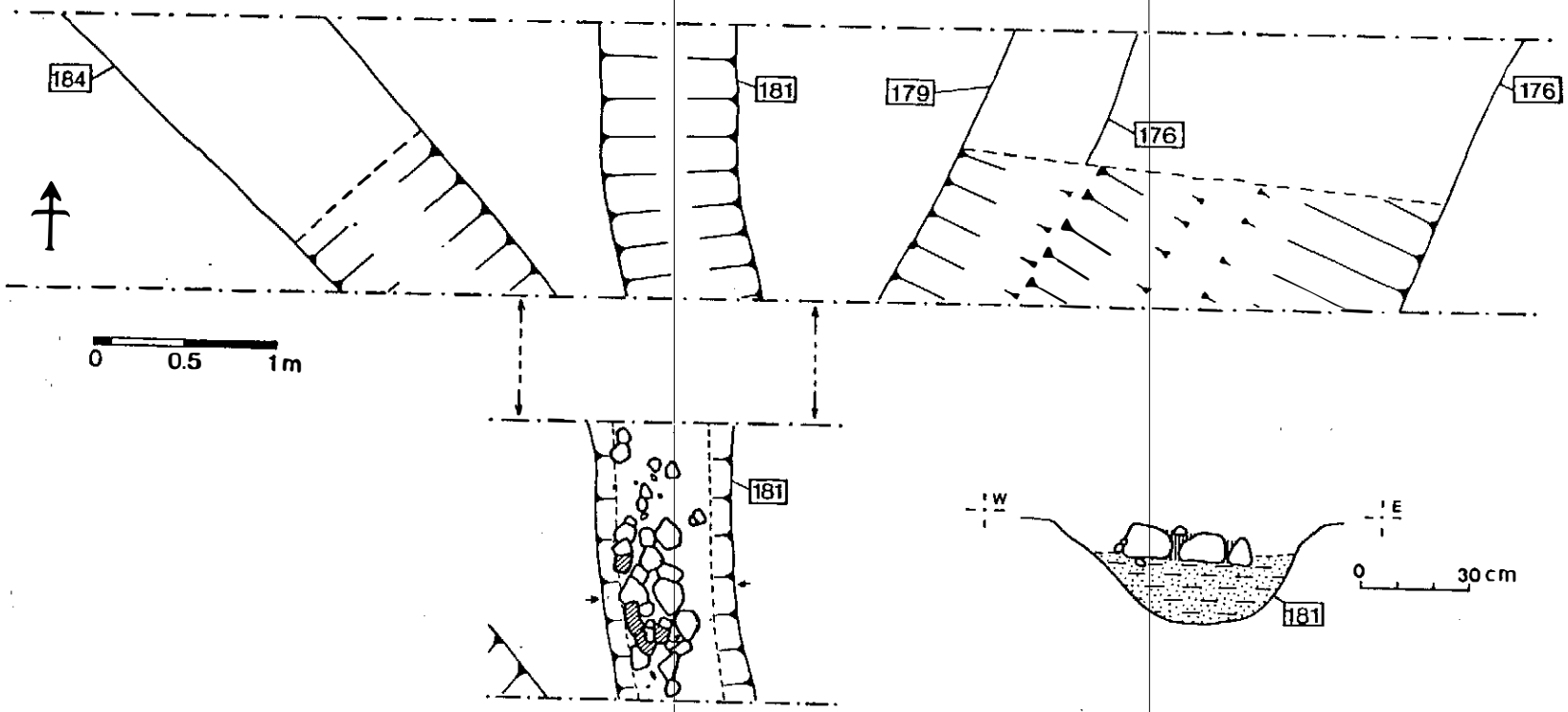


Figure 23. Trench 12. Sample of Roman period ditches in plan. Ditch 181 is shown fully excavated (above) and partially excavat d (below) revealing possible wall footings in the upper fill.

Finds consisted of Roman pottery and animal bone.

Ridge and furrow ploughing was much clearer in Trench 13 compared to Trenches 11 and 12, but it was apparent that all the ploughing was on the same alignment in all the trenches.

SUMMARY AND RECOMMENDATIONS

The three stages of archaeological evaluation reported here (geophysical survey, fieldwalking and trial trenches) have added to our understanding of the archaeological deposits potentially threatened by the construction of the Norse Road link of the Bedford bypass. The principle aim of the evaluation was to assess the vulnerability of archaeological deposits from the effects of being sealed by a terram membrame and the weight of the road constructed on top of it. Certain areas of the development would also be effected by the road drainage scheme, and it was necessary to gain further information about these areas. This information will help to design mitigation procedures to protect nationally important archaeological features affected by the route of the bypass.

Fieldwalking and geophysical survey were used to clarify areas of archaeological interest within the broad area of the bypass route. Although a limited range of information was obtained from these methods, no new archaeological sites were located and it is safe to conclude that the main areas of occupation are now clearly identified. The geophysical survey proved that two of the ring ditches thought to have been in the field north of the disused railway line were non-existent, and therefore there is less threat to the archaeological deposits in this area than had hitherto been supposed.

The prehistoric mortuary enclosure and ring ditch area would have functioned partly as a cemetery complex, and one point of concern was that human burial remains could be affected by the weight of the road. It was therefore necessary to investigate features that were most likely to contain burials. These consisted of some of the larger geophysical anomalies that were excavated in Trenches 1 and 2, and as the results show, no traces of human remains were found. Examples from other long mortuary enclosures and similar monuments was, that although human burials were an important part of these complexes, they were often deposited in loose, disarticulated form and not as complete inhumations or cremations. For example loose cranial and jaw bones are often found in isolation. Soil conditions were relatively poor and bone material would not survive well. This would contribute to reasons for the lack of human bone found. The ring ditches that contain central pits, and which might hold human burials, are sufficiently outside the area of planned road construction and are therefore in no danger. Furthermore, it is likely that burials in shallow pits or in the mound material of ring ditches might have been destroyed by intensive agricultural activity which is likely to have continued for over 3500 years. The rectangular enclosure with the ring ditch overlaying it (in Trench 7) is sufficiently outside the corridor of the road and will not to be affected by the construction.

There is now sufficient information to be used as the basis for designing any mitigation procedures that relate specifically to the drainage operation. Precise archaeological recommendations must await the revised plans for the drainage system. At this stage it is worth recommending that the drain areas are excavated under close archaeological supervision, with the top and subsoils being removed by the archaeological organisation and any features fully excavated. Nevertheless, provision should be made for any unexpected discoveries.

The area to the north of the prehistoric enclosures and south of the river contains a large number of Roman ditches, and possibly associated settlement evidence. In many respects this area does not have the same level of national archaeological importance as the prehistoric enclosures. It is however located in an area of the river Great Ouse that is less well known during the Roman period and therefore represents an important archaeological resource for understanding Roman riverside rural economy. The fact that this area is sealed by alluvial deposits will add further to the level of archaeological preservation. All three trenches in this area produced significant quantities of archaeological deposits and it is likely that the whole area is covered with Roman (and possibly earlier and later depoists) As a result it will be impossible to plan drainage or bridge construction without the need to incorporate further archaeological excavation. Once the drainage plans are submitted it should be relatively straight forward to design an archaeological clearance programme.

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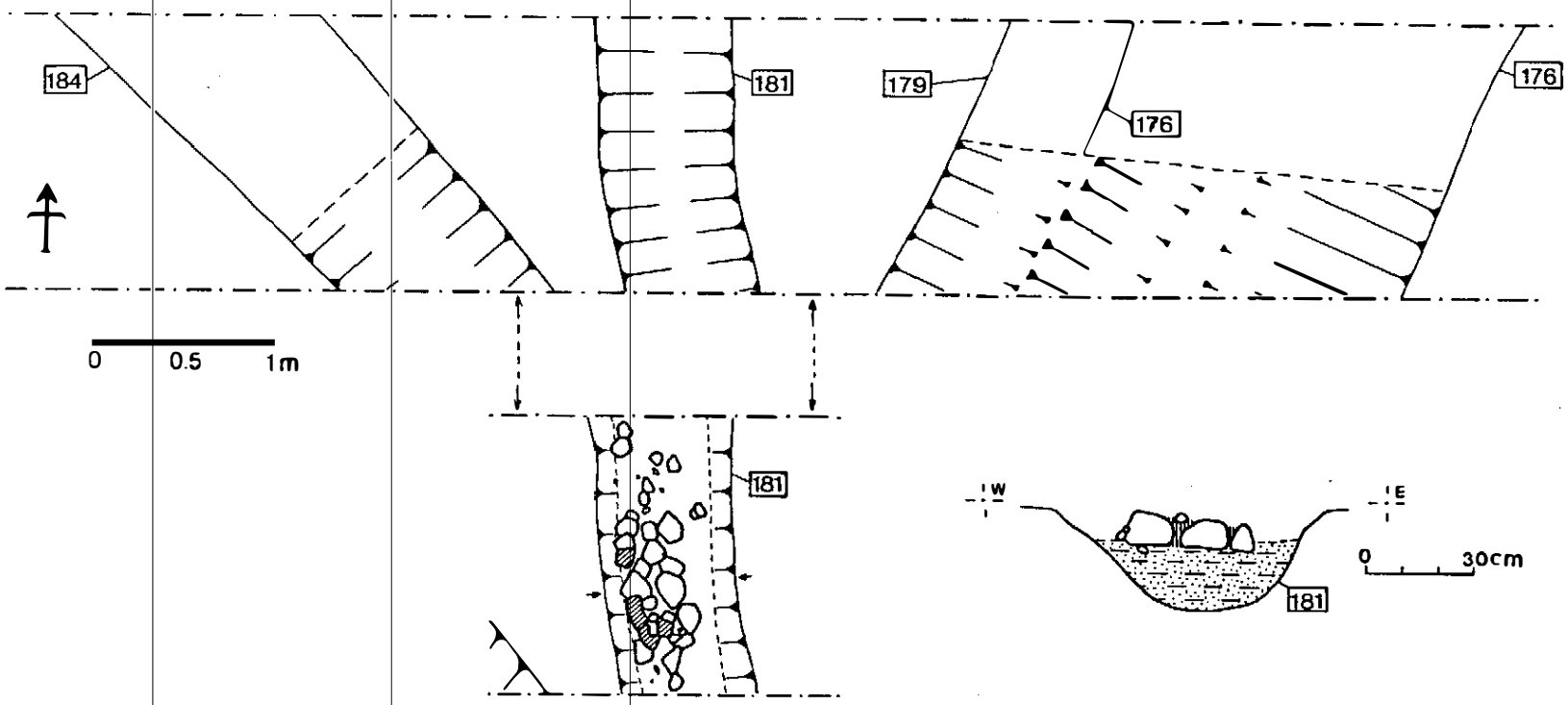

Figure 23. Trench 12. Sample of Roman period ditches in plan. Ditch 181 is shown fully excavated (above) and partially excavated (below) revealing possible wall footings in the upper fill.

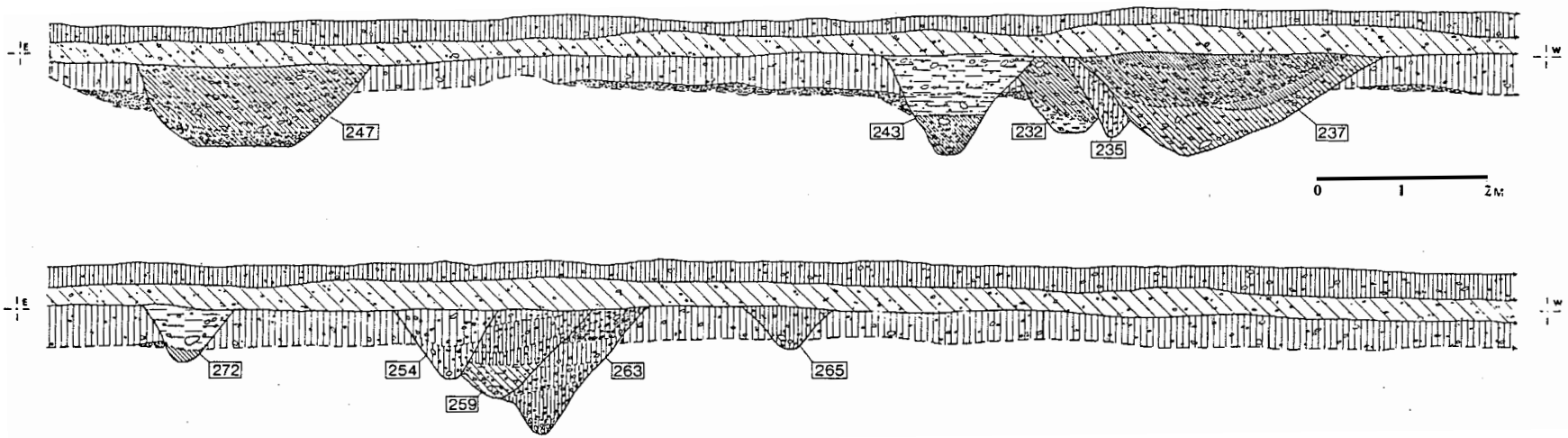

Figure 21. Trench 10. Section showing Roman period ditches.

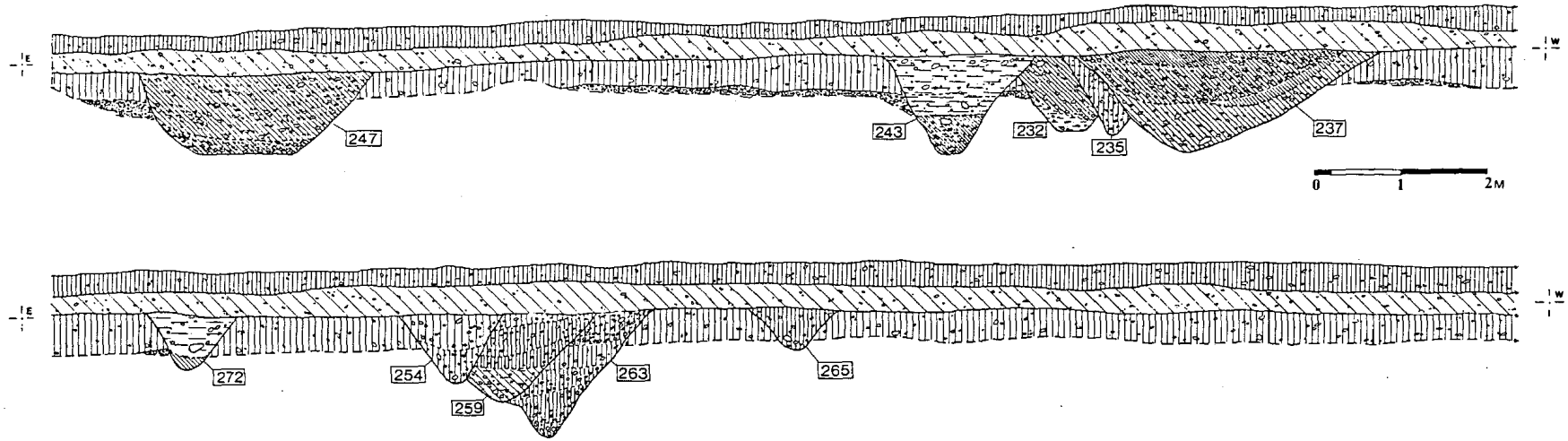

Figure 22. Trench 10. Section showing Roman period ditches.