

Birmingham University Field Archaeology Unit

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**An Archaeological Evaluation at  
Tucklesholme Farm,  
Barton-under-Needwood, Staffordshire**

by  
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## Introduction

In November 1991 Birmingham University Field Archaeology Unit was commissioned by Douglas Concrete and Aggregates Limited to carry out an archaeological evaluation at Tucklesholme Farm, near Barton-under-Needwood, Staffordshire (NGR 210188) ahead of the proposed extension of sand and gravel quarrying into this area (Fig 1). This follows on from earlier archaeological work at Tucklesholme (Jones 1990; Hughes 1990; Hughes 1991) and at nearby Newbold (Cane and Jones 1989; Hughes forthcoming).

## The Site

The objectives of the evaluation were twofold; firstly to investigate a linear zone adjacent to the area of a 19th-century ballast pit, during whose digging in 1851 human bones, pottery urns, and metalwork were uncovered (VCH 1908,204), indicating the presence here of a possible Anglo Saxon cemetery of an unknown extent, to see if the postulated cemetery extended into this zone; secondly, to ascertain the nature, origins and date of a series of cropmark features, including a small circular mark, in a second field to the east.

## The Evaluation

### The Possible Cemetery Extension

This zone, under grass, was evaluated by the digging of a series of trenches (Fig 1), excavated by machine under direct archaeological supervision, along the field boundaries close to the ballast pit (now probably represented by a large pond). No archaeological finds, either of artefacts or features, were noted in any of the trenches. Towards the centre of the zone was recorded part of the infilled channel of a former stream, its backfill rich in waterlogged wood.

All the trenches displayed signs of alluviation, the depth of alluvium, lying under the topsoil and over the natural gravels, varying from 0.30-0.70m.

## The Cropmarks

The cropmarks (Fig 1) were noted in 1969 in an arable field to the east and consisted of a series of linear marks, perhaps field boundaries, a possible enclosure (with entrance) set up against the main, north-south aligned, linear cropmark, and a horseshoe-shaped mark linked to the main boundary by a short stretch of linear ditch.

## The Geophysical Survey

The first stage of the evaluation comprised a geophysical survey, undertaken after the field had been ploughed; no formal fieldwalking campaign was undertaken, though random surface inspection in the area of the cropmarks revealed no finds earlier than the 17th/18th century with the exception of a prehistoric flint scraper. The geophysical survey covered an area of 6000 square metres encompassing the zone of the major cropmark activity.

Previous geophysical surveys carried out on adjacent sites, particularly at nearby Newbold suggest that the soil response to geophysical survey in the area is generally poor with, however, a rather better response to resistivity methods in comparison to magnetic survey. For this reason the resistivity technique was chosen for the present survey, with the option of further survey using magnetometry should the results of the resistivity work suggest that it would be worthwhile.

In essence, resistivity survey involves passing a small current through the earth and measuring sub-surface variation in electrical resistance. Resistivity is closely linked to moisture content and features such as backfilled pits and ditches, which retain moisture, normally give a relatively low resistivity response in comparison with the surrounding soil, while features such as stone wall-foundations will generally give a relatively high response. When resistance is measured

systematically over a survey area and the results are displayed in the form of a dot-density plot, it is possible to present a plan of below-ground anomalies of probable archaeological origin. However, variations in soil conditions or geology will often produce large variations in resistivity which may obscure the more subtle variations caused by archaeological features.

The resistivity survey at Tucklesholme was carried out using a Geoscan RM4 Resistance Meter. A total area of 6000 square metres was covered, comprising 15 survey grids each of 20m by 20m, located over the central area of the cropmark complex. Readings were taken at 1m intervals along 1m-wide traverses, the readings being logged manually and subsequently transferred to computer for analysis and presentation using the Geoplot programme.

The dominant feature in the resultant plot was a steep increase in resistivity from west to east across the site, interpreted as the product of moisture retentive, and therefore low resistance, alluvium, thinning out from west to east and giving way to more freely-draining, and therefore higher resistance, sands and gravels. A programme was run to eliminate, as far as possible, this 'slope' in the readings, but only at some cost to the resolution of the data.

The survey results are presented in the form of an inverted dot-density plot (Fig 2) with the major effects of the 'slope' of the data eliminated, and low resistance readings appearing as darker areas and high resistance readings as lighter areas. The plot shows no anomalies which are unequivocally of an archaeological origin and although a few possible archaeological features are indicated on the figure these are most tentative and, furthermore, in general correlate poorly with the cropmark plot. It is indeed probable that the majority of the variation visible on the plot arises from variation in the underlying drift geology. A further complication resulted from the fact that the field had been ploughed shortly before the survey was undertaken, the plough furrows producing a series of faint diagonal stripes across the survey plot.

In view of the inconclusive results of the resistivity survey, further survey using magnetometry was not deemed worthwhile.

## The Excavation

The excavation consisted of five trenches or areas (Fig 3), located to examine features revealed either on the cropmark plot, aware of the limitations of the plotting methodology and the oblique nature of the original photographs, and, less conclusively, by the geophysical survey results. The results from each excavated trench will first be presented below and the overall significance of the results from the whole evaluation will then be considered. All trenches were opened by machine and then cleaned by hand. Unless otherwise stated trenches were 1.80m wide and had a 0.20-0.30m deep topsoil cover. All features revealed were cut into the natural gravels.

### Trench 1

Aligned north-south and c18m in length. At the south end of the trench was an east-west aligned, very shallow, gully (F1), only 0.08m deep and 1.35m wide, backfilled with a clean yellow-brown silt clay (1002); this may simply be an infilled natural dip in the gravel. Towards the north end of the trench was another east-west aligned gully (F2), 0.95m wide and 0.16m deep and with an irregular profile, backfilled with a single deposit of yellow-brown silt clay with cobbles (1003). No finds were recovered.

### Trench 2

Aligned east-west and c35m in length. Towards the eastern end of the trench was a roughly northwest-southeast aligned gully or ditch (F3), 1.0-1.10m wide, with gently sloping sides and a flat though shelving base. It was backfilled with a lower deposit of yellow-brown silt clay with cobbles and manganese flecking (1005), overlain by a dirty, mixed gravel (1004). Deposit 1004 contained two highly abraded sherds of Romano-British pottery, one an undiagnostic grey ware and the other a rim-sherd of a Mancetter/ Hartshill or Derbyshire kiln mortarium, and a struck flint flake. To the west of F3, at right angles and lying only partially within the area of excavation, was a possibly related shallow gully (F4) backfilled with a similar deposit to 1005 (1006).

Towards the centre of the trench was a roughly north-south-aligned gully (F5), 0.85m wide and 0.06m deep, terminating in a rounded butt end;

its backfill being a distinctive grey-brown silt clay with pebbles and manganese flecking (1007). No finds were recovered from gullies F4 and F5.

### **Trench 3**

Aligned east-west and 16m in length, no features were recorded in this trench.

### **Trench 4/5**

This was initially laid out as an east-west aligned trench 34m in length, but subsequently a further area 12m (east-west) by 10m was opened to the south of, and interconnected to, this trench. The main feature encountered was a portion of a circular ditch or gully (F6), 0.54m wide and 0.17m deep with an inner minimum diameter of 4m, to the south of which, but not interconnected or with any form of physical relationship, was a northwest-southeast-aligned gully (F7), 0.40m wide and 0.10-0.20m in depth. Circular gully F6 was regular in profile with gently sloping sides and a flat base, and was backfilled with a grey yellow-brown silty clay with pebbles and manganese flecking (1008). Gully F7 had a more rounded profile and a different type of fill, a mixed grey yellow-red brown silt clay with pebbles, pea-grits and manganese flecking (1009).

Further to the east was another gully (F11), aligned northeast-southwest and backfilled with grey-brown loose gravel (1003). Its profile was irregular but its 0.66m width and 0.24m depth suggested that it was an archaeological, rather than a natural, feature. No finds were recovered from the trench.

### **Trench 6**

Laid out as a rectangular area, 11m (east-west) by 5m (north-south). At the west side of the area was an indistinct gully (F8), best seen in a sondage alongside the southern section where there was a possible post-setting, backfilled with a mixed yellow-brown silt clay with cobbles and manganese flecking (1010), cut into the otherwise 0.05-0.10m deep feature. To the east there was caught the junction of two gullies, one aligned north-south (F9) and the other aligned northeast-southwest (F10). F9 was 0.80m wide and 0.10m deep with gently sloping sides and a flat base, and was backfilled with a single deposit of grey-brown silt clay with pebbles and manganese flecking (1011). F10 was 0.88m wide and up to 0.09m deep with an irregular profile and an

identical backfill (1012) to 1011 in F9. No finds were recovered from the trench.

## **Conclusions and Discussion**

The first stage of the evaluation located no archaeological features in the area of the possible cemetery extension; the very question of the cemetery's existence and extent are therefore still shrouded in doubt and have received no answers from the present phase of field observation.

The evaluation of the cropmark complex highlighted the difficulties of sometimes reconciling evidence from three different types of archaeological investigation. The air photographic evidence, from 22 years ago, presents a picture of well-defined and distinct features, spatially distributed as to suggest a multi-functional and perhaps multi-period complex. The geophysical survey was somewhat inconclusive, perhaps due to soil conditions, particularly the alluvial deposits towards the west of the field, and geological anomalies in the gravels, suggesting no coherent patterning of features that could be adequately related to either the air photographic evidence or that from the recording of the excavation trenches. The trenches revealed a number of possible archaeological features, only the circular feature in Trench 4/5 and the bifurcating gully in Trench 6 perhaps being relatable to the cropmark plot. Other features were excavated which did not register as cropmarks and it was ironic that the only finds from the whole excavation, that is a possible struck flint flake and two sherds of Romano-British pottery, came from one such feature (F3) in Trench 2; it might be imprudent, therefore, to use these finds to date other features by association, though it is tempting to do so in the absence of any other evidence. And while most of the excavated features were undoubtedly archaeological in origin, their general depth, 0.05-0.30m representing the depth range, showed that they had been severely truncated by the plough; indeed, ploughmarks in the surface of the natural gravel were noted in a number of the trenches. This shallowness would account, along with soil and geological problems, for the non-registering of many of these features during the geophysical survey.

The evaluation has not changed the initial functional interpretation of the cropmark complex as representing field boundaries and associated enclosures of a type common along the Trent Valley gravels during the Iron Age and Romano-British periods, the latter era perhaps being the time when the Tucklesholme features were dug and in use.

### Recommendations

In view of the negative results from the evaluation of the possible cemetery extension no further archaeological work is recommended here, though a commitment to a policy of notification of any finds being made in this area during gravel extraction would be valuable. In the area of the cropmarks, denudation by the plough has been so great in the period since this complex was recorded from the air, and the potential information yield may be expected to be very low here consequently, that no further excavation is recommended here either, though a watching brief during the stripping of topsoil

from the rest of the area around the now accurately located circular/horseshoe-shaped feature could be considered.

### Acknowledgements

The geophysical survey was carried out by Chris Wardle of Staffordshire County Council and Simon Buteux of B.U.F.A.U., the latter of whom processed the data and prepared an interpretative report. Laurence Jones and David Redhouse surveyed the area and set out the survey grid. The excavation was supervised by Iain Ferris, assisted by Steve Litherland, Ed Newton and David Redhouse. Jane Evans commented on the pottery and Lynne Bevan confirmed the identification of the flint scraper.

We would like to thank Douglas Concrete and Aggregates Limited for making all necessary arrangements for the work to take place and for arranging provision of a machine, and to thank the quarry manager for his help and interest.

### References

- Cane, J. and Jones, A.E. 1989 *An Archaeological Evaluation of Cropmarks at Newbold Farm*. B.U.F.A.U. Report No. 70.
- Hughes, G. 1990 *An Archaeological Evaluation of a Ring Ditch at Tucklesholme Farm*. B.U.F.A.U. Report No. 127.
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- Jones, A.E. 1990 *A Geophysical Survey at Tucklesholme*. B.U.F.A.U. Report No. 121.
- V.C.H. 1908 *The Victoria County History of Staffordshire Volume I*.

### Figures

- Fig. 1 Location maps with air photograph plot shown in red.
- Fig. 2 The geophysical survey; plot and interpretation (in red).
- Fig. 3 The excavation trenches; located features.

# TUCKLESHOLME

1991

Archaeological  
Features

Edge  
of Alluvium

Modern  
Ploughing

0 20m

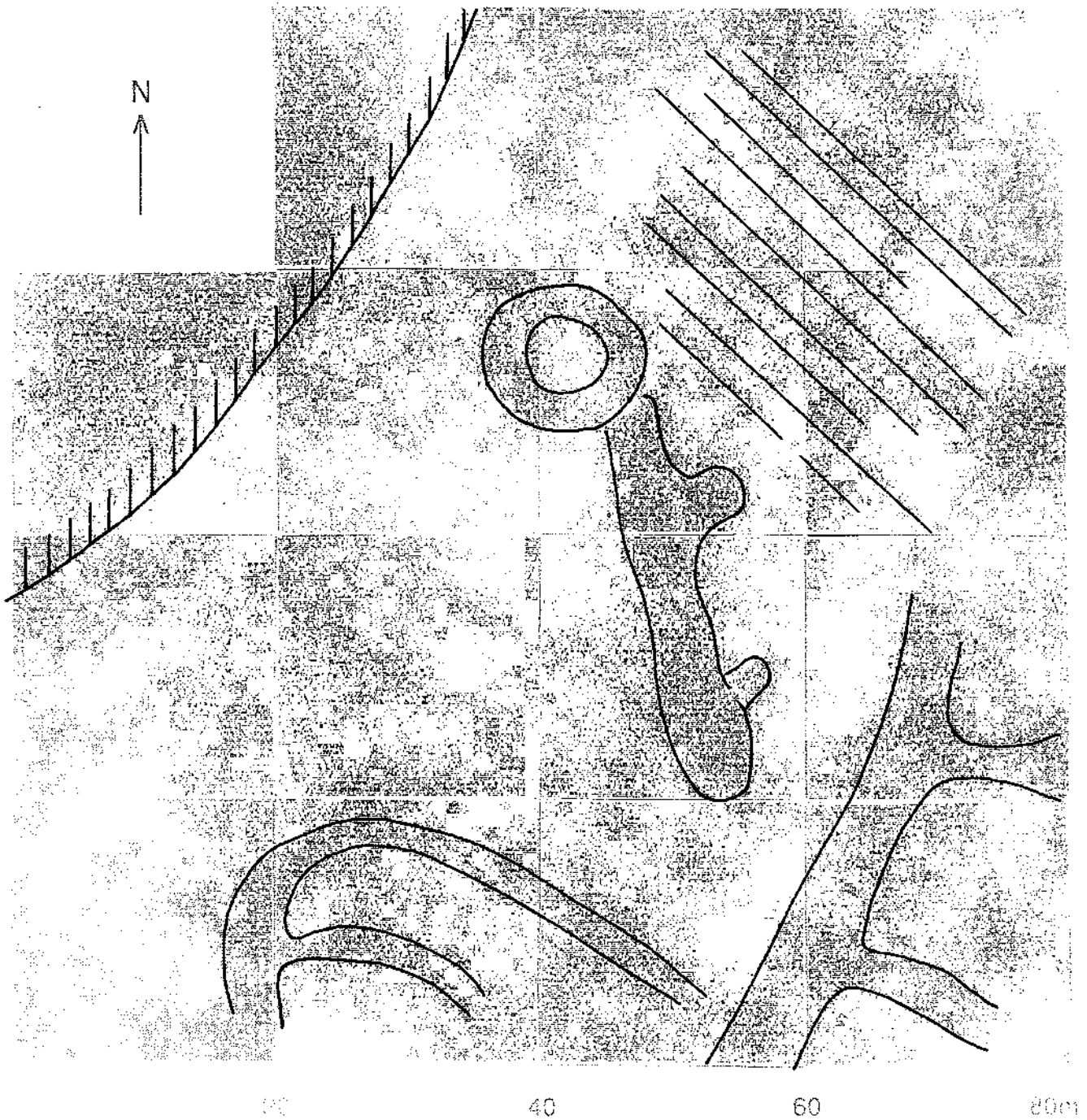


Fig. 2

# TUCKLESHOLME 1991 Site Location

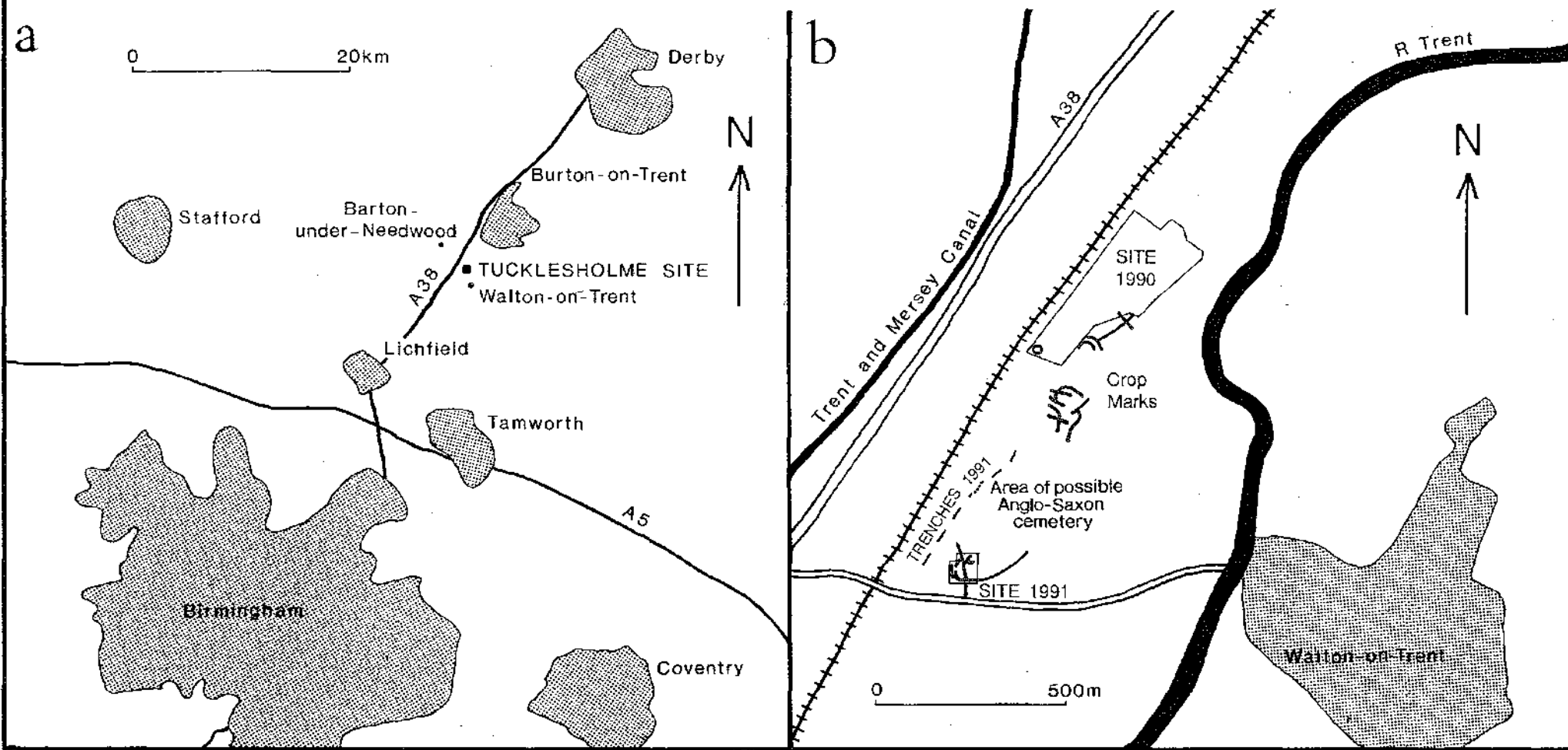


Fig. 1

# TUCKLESHOLME 1991 Site Location

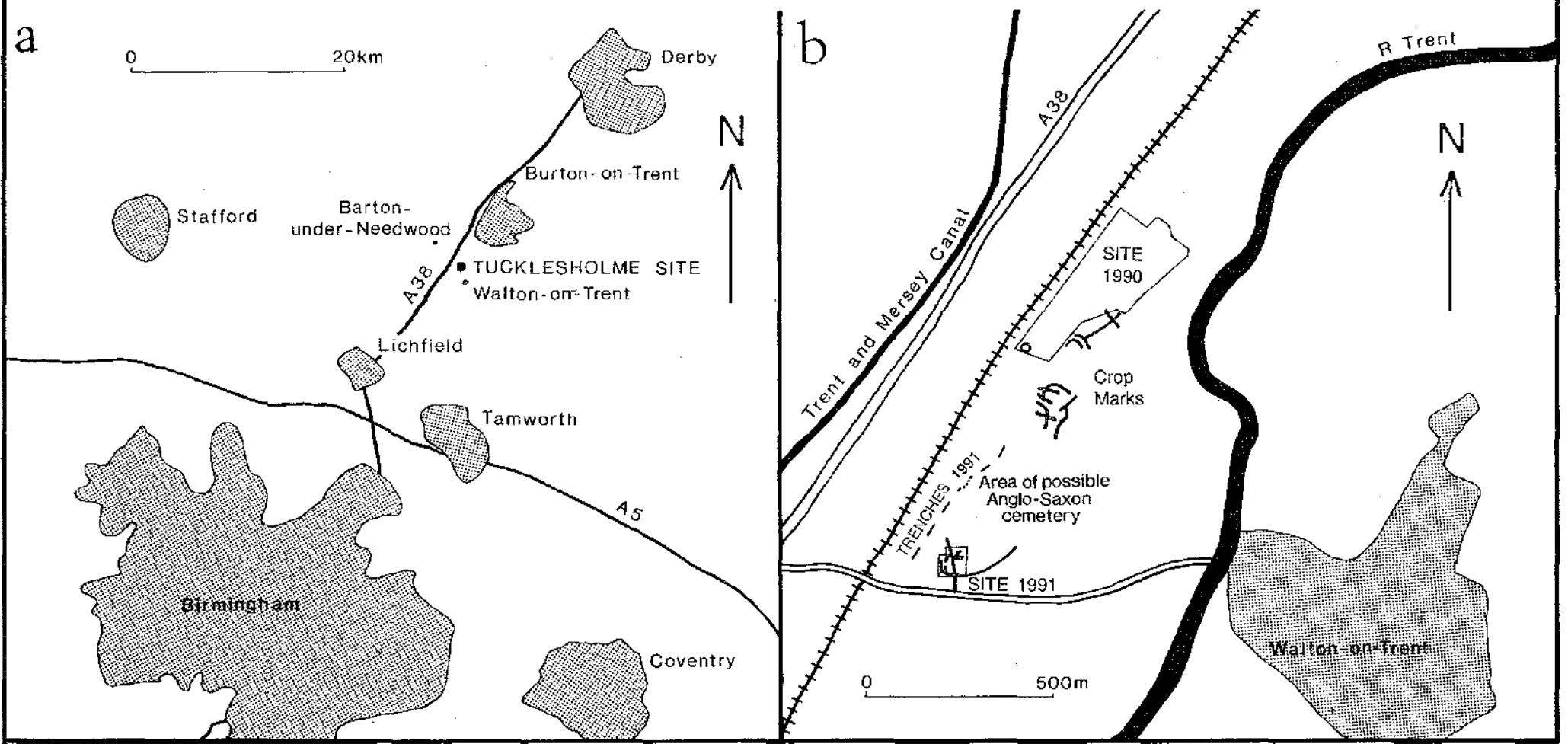


Fig. 1



# TUCKLESHOLME

1991

Possible  
Archaeological  
Features

? Edge  
of Alluvium

Modern  
Ploughing

0 20m

N  
↑

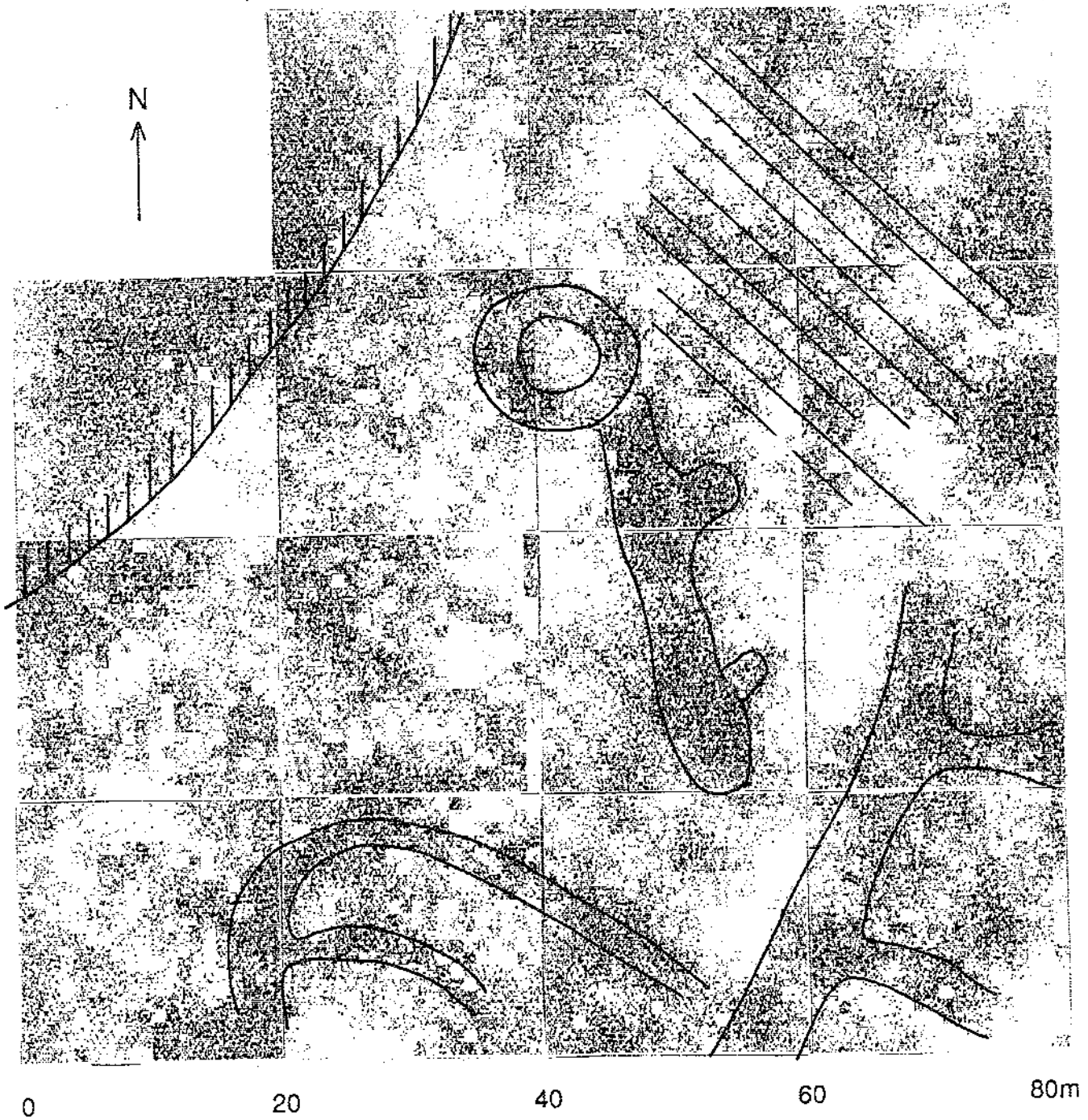




Fig. 2

# TUCKLESHOLME

## 1991

Archaeological Features

Excavated   
Un-excavated 

0 20m

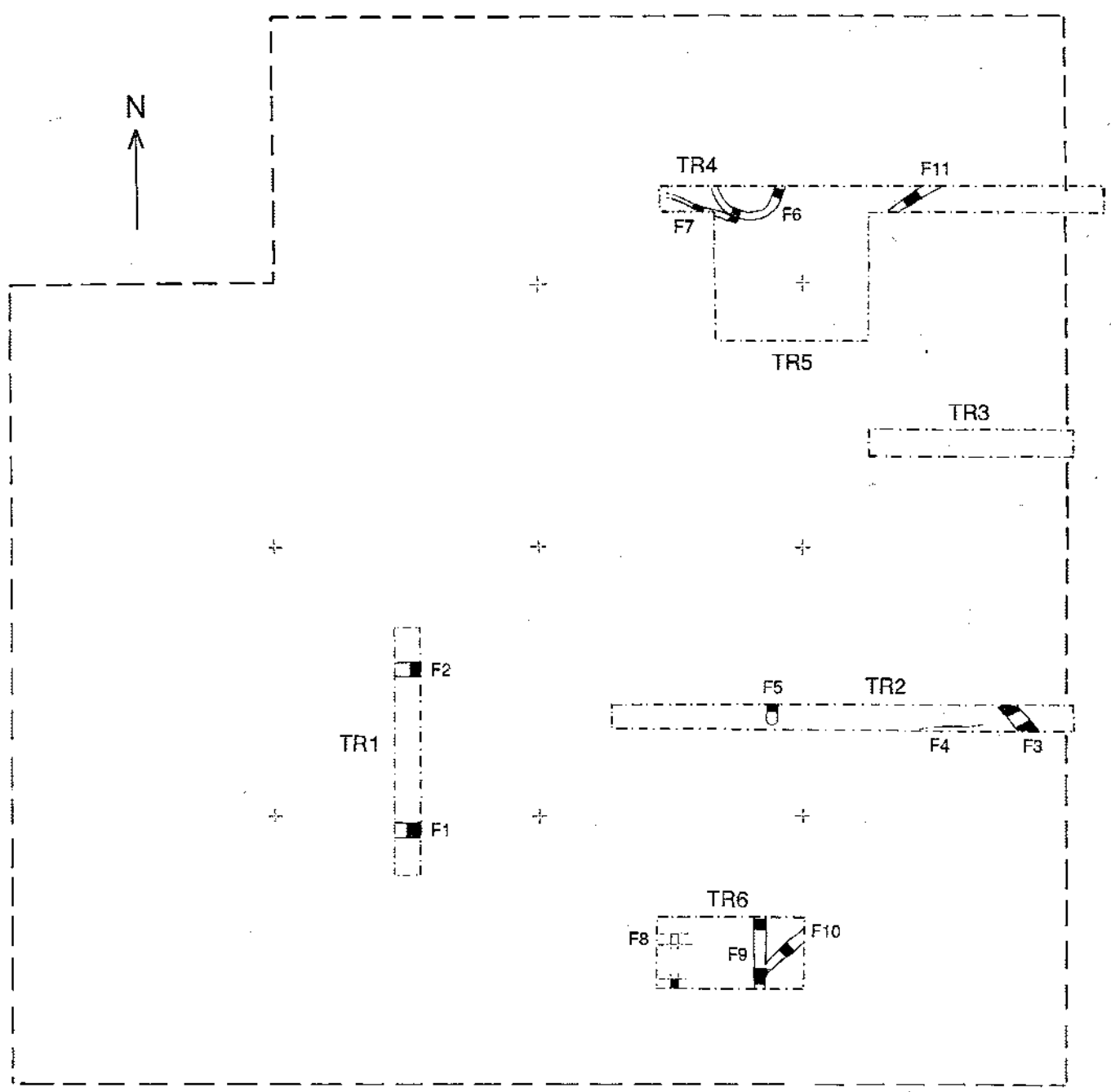


Fig. 3