

REPORT OF THE RESISTIVITY SURVEY
AT WALTHAMSTOW AVENUE, CHINGFORD
LONDON BOROUGH OF WALTHAM FOREST

WS-SH 93

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INTRODUCTION

A resistivity survey was carried out by members of the Passmore Edwards Museum between 19th and 23rd April 1993 at Salisbury Hall playing fields, Walthamstow Avenue, Waltham Forest (Figure 1). The playing fields are situated between the River Ching at the north, a dual carriageway to the south and various factories to the east and west. The majority of the area was grassed and apparently well drained, although it became considerably water-logged at the extreme north-eastern corner and a school's games pitch obstructed the central area of the survey.

The object of the survey was to determine the extent of archaeological remains below the ground surface and establish a controlled basis for the location of excavation trenches.

The survey and excavation are part of an archaeological assessment which the London Borough of Waltham Forest requires before the redevelopment of the site as a retail complex. The work was paid for by J. Sainsbury and negotiated and directed by Peter Moore for the Museum.

THE SURVEY

A Geoscan RM15 Basic resistivity meter with 0.5m separation twin array was used in the survey. There were a total of thirty-two grids surveyed, each spanning an area of 20m by 20m. Readings were taken at 1m sample intervals with a 1m zig-zag traverse and any obstructions were dummy-logged.

The meter was set at a current of 1mA with a gain of x10 and written information, such as location and conditions, was recorded for each grid on Museum pro-forma sheets. A base line was established running east-west, parallel to the dual carriageway. It was then tied in to nearby buildings.

RESULTS

The completed plot shows very strong positive readings of both high and low resistance features (Figure 2). The existing games pitch emerges clearly in the centre of the resistivity print-out, its boundary running from south to north through the centres of Grids E1, C5 and C3 and from west to east through Grid D5. Patches of low resistance, along with occasional groups of dummy logs, can be discounted, since the games area comprises areas of compressed clay over demolition rubble, extending to a depth below that reached by the current of the resistivity meter.

The most concentrated area of high and low readings can be found towards the north-east section of the area under survey. Particularly noticeable, are the parallel linear features of low resistance beginning in Grid F7 which can be traced across the entire surveyed area from east to west. The most well defined line shows up in Grid E7 and is also visible above the ground as a raised bank. All three linear features extend into Grid E6 and disappear into the northern edge of the games pitch, with the exception of the most northerly, which carries onto rejoin the others, albeit less solidly, and can be traced through Grids C3, B3, B2, A3, A1 and A2. These may be interpreted as a double ditch and bank, although any presence of the features above ground disappears altogether to the west of the games pitch.

The north-east corner of Grid F7 shows a sub-circular pattern of low resistance, most likely to be traces of tree roots. By contrast, a circular area of high resistance appears in the western corner of Grid E7. This, too, resembles a tree bowl in shape, although is possibly back-filled with a harder substance to give the higher reading. A linear feature of low resistance running north to south between the two, also in Grid E7, is parallel to another line of high resistance further east in Grid D7; the former can be seen on the surface of the ground as a gravel path, while the latter appears to meet the aforementioned bank in Grid E6 and runs south along the side of the pitch. These may relate to a previous field system, especially as there appears to be a network of less well defined lines of low resistance running north to south and east to west right across the surveyed area.

A spread of low resistance readings emerge in Grids B7, C6, C7, D6 and D7, and visible amongst them appears a square sided feature, with a small network of criss-crossing lines within. The pattern situated predominantly in Grid C7 may form the outline of some kind of structure or dwelling.

Another group of low resistance readings can be seen to the south of the surveyed area in Grids E1, D1 and D2. Within it, any specific features are difficult to discern, although there appears to be a darker mass of readings running south to north in a linear movement, parallel to the western edge of the games pitch. This band may indicate the presence of a ditch. Further north-west, in Grid A5, several groupings of low resistance readings appear, suggesting the presence of pits or possibly

postholes, although none of these appear as visible features above the ground.

The majority of Grid G3 is obscured by the games pitch, which also continues across the south-west tip of Grid H3 and the north-west corner of Grid H2. The linear feature of low resistance which runs east to west across Grid H2 is visible above ground as a tarmac path. An area of dummy-logs across the south-eastern half of Grid I2 represents the border between the playing fields and St. Ivel's dairy. A large spread of high resistance readings is visible immediately in front of this fence, although it is likely that these are linked to concrete foundations of the plant itself.

Several grids demonstrated little or no change from the constant background reading; Grids C5, B5 and A6 in particular, all of which are situated in the north-west corner of the surveyed area, showed little activity. Along with Grid H3 in the south-east, these could be attributed to the spatial patterns associated with natural clay or gravel.

The remaining grids in the survey were not surveyed; this was due to extreme water-logging in the north-eastern corner and the obstruction incurred by the rest of the games pitch.

CONCLUSIONS

Examination of the topsoil revealed that conditions were ideal for use of the resistivity meter, which reads at between 0.5m and 1m below ground surface. Features under consideration for excavation are therefore more likely to be archaeological, rather than geological.

The network of criss-crossing linear features, which appears across the entire surveyed area suggests the presence of a field system involving ridge and furrow plough marks. It must be noted, however, that the majority of the linear anomalies appear to be related to the layout of the existing games pitch, suggesting a modern context or possibly a modern context adhering to an established system. The linear feature of high resistance in Grid D7, on further inspection on site, appears to be a modern land drain; its conclusion can be seen at the southern bank of the river. The two sub-circular features in Grids F7 and E7 are likely to be tree bowls, not simply due to their size and shape, but also because of their proximity to the river and to the rows of existing trees which line it on either side.

It is possible that the double ditch and bank running from east to west across the site formed the foundations of a greenway or trackway, leading to an former bridge across the River Ching.

Although it is impossible to establish the dating and the depth of features which have emerged as a result of the survey, it is possible that some of them may relate to a previous field system. It must be stressed, however, that excavation work may change any proposed interpretations.

In conclusion, it is suggested that test pits be positioned across the linear features, preferably at a suitable junction between two or more, in order to determine the nature of the deposits. This may provide a more controlled basis for detailed dating and interpretation.

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