Report on the Results of Resistivity Survey at Chingford Hospital, Chingford Mount London Borough of Waltham Forest.

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Introduction

A resistivity survey was carried out by members of the Passmore Edwards Museum between 22nd. February and 2nd.March 1993 in the grounds of Chingford Hospital (fig 1a). The area surveyed was, by necessity, divided into eight separate areas between and around the hospital buildings (fig 1b). Although the areas were all grassed and apparently well drained, the frequency of surface features such as roads, paths and flower beds considerably reduced the size of the areas under survey. The object of the survey was to determine the extent of archaeological remains below the ground surface and therefore establish a controlled basis for excavation.

The Survey

A Geoscan RM15 Basic resistivity meter with 0.5m. separation twin array was used in the survey. There were a total of twenty-two grids surveyed, located in separate areas of between one and six grids. Readings were taken at 1m. sample intervals with a 1m. traverse and any obstructions were dummy logged. The meter was set at a current of 0.1mA with a gain of x10 and written information, such as location and conditions, was recorded for each grid on Museum pro-forma sheets.

Distances between grids meant that eight separate base lines had to be established to maximise the number of complete grids surveyed. These base lines were then tied into either existing survey points or to hospital buildings.

The survey and excavation are part of an archaeological assessment which the London Borough of Waltham Forest requires before the redevelopment of the site for housing and community buildings. The work was paid for by John Laing Construction Limited on behalf of ASRA Greater London Housing Association Limited, Family Housing Association, London and Quadrant Housing Trust and Tower Housing Association in association with Forest Healthcare NHS Trust.

Results

The strongest patterns to emerge from the completed survey appear to relate directly to modern hospital re-building. Grid 17 in Area E, (fig 1.) for example, shows a linear feature which follows the line of the present road (shown by the area of dummy logs in the north-west corner). The present turfs were almost certainly laid over a depression presumably where rubble and tarmac had been removed, hence giving a reading of low resistance. Similarly, in Grid 6 (Area A), there appears to be two parallel linear features, running north to south. The broader of the two appears to extend into the area to the east of the grid which also runs towards the existing road. A trial trench positioned across both features would be needed to clarify any possible connection.

More notable, however,are four linear features situated in various gridded areas, all seemingly incongruous with regard to the current layout of the hospital. The first of these runs from east to west across the northern end of Grid 3, in Area A, and is approximately 3m. to 4m. in width, the extent of it being obscured by the road system of the hospital. Another 20m. further north in Grid 5 (Area A) and running parallel, is a narrower linear feature, or line of features, possibly postholes or the line of a hedged field boundary.

Another area of low resistance readings (as shown by dense groupings of dots on the graph) appears at the southern end of Grid 20, in Area D. It's alignment is east to west and is approximately 3m. in width, but shrubbery at the western side and a hospital building at the east again limits the survey.

In Grid 22 (Area G), situated near the north-west boundary all of the hospital, there appears to be another linear feature, obscured by scrub-land to the north, but which does not relate to any existing trees or shrubs. In the same grid, to the east, there appears to be another line of low resistance readings, in this case showing up as a feature of less than 2m. in width. If these two features are continued northwards, it is feasible that they would intersect, although, again, the scrub-land in the northern half of the grid prevented the survey from defining any such relationship.

The remainder of the grids consistently showed either root disturbance from existing trees and shrubs, or else the spatial patterns associated with natural clay or gravel.

Interpretation

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. Existing trees and flower-beds can pose a problem in interpretation, especially if they do not directly obstruct the path of the surveyor, who can then pick up changes in resistance readings associated with root disturbance. Reference to sketch plans from the entire gridded area, however, can eliminate such anomalies, allowing a precise location of trial trenches and test pits.

Plans and maps from the grounds of Chingford Hospital, dating from 1738, show the existence of a field boundary system before the hospital was built around the turn of the last century. 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 this previous field system. It must be stressed, however, that the reduction in the size of the survey, due to its location and subsequent spatial divisions, limits conclusions, while excavation work may change any proposed interpretations.

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