Report on Resistivity Survey at Central Park, Dagenham. London Borough of Barking and Dagenham.

DA - PK 96.

TQ 4976 8672

M. Beasley.
13.03.1996.

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Introduction.

A resistivity survey was conducted by a field team from the Newham Museum Service, on the 12th. March 1996. The survey was conducted in Central Park, Dagenham *(Figs. 1,2)* in an area of known cropmarks, provisionally identified as a building or building complex of Roman date. The survey was undertaken for London Borough of Barking and Dagenham by the Newham Museum Service, negotiated by Ken MacGowan for Newham Museum Service, and conducted by the author.

Resistivity is a non-intrusive remote sensing technique relying on the resistance to an electric current. The method works on the principal that wetter deposits, for example ditches and pits, will have a lower resistance than drier or more compact deposits such as walls and banks. By passing a small current through the ground at regular intervals on a grid, the relative resistance is measured and mapped to form a plot of sub-surface resistance. This essentially gives a plan at about 0.75m. depth of the survey area.

The survey area *(Fig.3)* consisted of an area to the west of the park measuring 60m. x 60m., located over the area of the cropmarks. The area consisted of relatively flat ground covered with short grass. A medium sized tree and a service inspection cover were located to the north of the survey area, and two obvious subsided drains ran through the area. After recent rainfall the ground was wet, but appeared well drained.

The underlying geology of the area is Taplow Gravel (British Geological Survey of Great Britain (England and Wales), sheet 257, 1976).

The Survey.

The survey was conducted using a Geoscan RM15 Basic resistance meter, with 0.5m. separation twin probe array. The machine was set to a current of 1 mA, with x10 gain. Samples were taken on 20m. x 20m. grids, at 1m. sample and traverse intervals, on a zigzag traverse.

A localised survey base-line was established north to south over the survey area, and grids surveyed from this base-line. This base line was tied into the local 1:1250 survey plan. Nine complete grids were surveyed, oriented north. Obstructions were dummy logged, and grid information was recorded on Museum pro-forma sheets, these sheets forming part of the site archive. Results were processed using Geoplot v1.2 and 2.0 software.

Processed Results.

The processed results show strong anomalies extending of both high and low resistance over the survey area *(Fig. 4)*. The two major features show as large linear high resistance anomalies running east to west and north-east to south-west over the plot. These correspond to the two service runs identified on the ground, and can be discounted as archaeological features. A smaller low resistance feature passes north-west to south-east through the northern half of Grid 1. This corresponds to the position of the gully cover observed on the ground, and can also be discounted as an archaeological feature.

Further to the south of the plot in grids 5, 7, 8, and 9, a diffuse set of linear high resistance anomalies are apparent. The strongest of these runs roughly north to south through grids 5 and 8. A second, less well defined anomaly runs east to west from its southern end. Two further ill-defined linear anomalies run south from this feature. These features form a series of right angles in the south of the area. It is thought these may represent a series of walls.

Through this arrangement a curving linear low resistance anomaly is shown. This may be either a ditch or a natural drainage feature.

To the west of the plot the area of lower resistance probably represents the underlying subsoil. With the exception of the modern service cut to the north, there appears to be only one anomaly in this area. This is a wide possibly linear area of low resistance. There is no interpretation of this anomaly, and it is probably natural. To the east, there appear to be diffuse areas of high resistance readings, bounded by the western wall line. These anomalies may be readings from demolition material.

Interpretation and Conclusions.

The obvious service runs apart, there appears to be rectilinear structure shown in the plot, running north to south in the east of the survey area. This appears to be a structure consisting of a north-south wall line with a right angled return to the east, with two other walls, possibly a smaller annex, to the south. This is probably the structure shown in the cropmark.

The walls themselves are shown as fairly diffuse patterns. This may be the result of demolition debris lying on either side of the walls, and spread either during demolition or as the result of later planning.

There is a marked split between the eastern and western sides of the plot; with no anomalies showing to the west of the longest edge of the probable structure, and confused high resistance within the structure itself. This may be the result of demolition debris lying within the limits of the structure.

The absence of walls to the north and east of the service cuts may be the result of the groundworks relating to the service cuts. These may be masking readings from any further walls, or the spoil from their construction cuts may be spread to the north-east, and be obscuring or confusing further walls. This is especially true of the north end of grid 2, where random high and low resistance readings indicate the presence of rubble in the subsoil.

In conclusion, it appears that the outline at least of the cropmark has been picked up by the survey. Other interior divisions may be masked by demolition debris. Although the detail is not apparent, the alignment is certainly consistent. There may be a slight disparity between the results of the survey and the location and size of the cropmark shown on the aerial photograph. This is likely to be a transposition error from the oblique view of the aerial photograph.

No interpretation is given of the form, function or date of the structure. The exact nature of the structure, and its dating can only be established by archaeological evaluation.

Acknowledgements.

The Museum and the author would like to thank Jim Hopper of the Chief Executives Department of London Borough of Barking and Dagenham; Chris Galleyhawk of the Parks department for allowing access; Mark Watson, Assistant Curator, Valance House Museum; Graham Reed for the illustrations; Ken MacGowan and Paul Thrale.

APPENDIX A

GLSMR/RCHME NMR ARCHAEOLOGICAL REPORT FORM

1. TYPE OF RECORDING.

~~Evaluation~~ ~~Excavation~~ ~~Watching brief~~

Other (please specify) RESISTIVITY SURVEY

2. LOCATION.

Borough: LONDON BOROUGH OF BARKING AND DAGENHAM

Site address: CENTRAL PARK, DAGENHAM

Site name: CENTRAL PARK, DAGENHAM Site code: DA - PK 96

Nat. Grid Refs: **Centre** of site: TQ 4976 8672

Limits of site: a) N/A b)

c) d)

3. ORGANISATION.

Name of archaeological unit/ company/ society:

Address: NEWHAM MUSEUM SERVICE
31, STOCK STREET
PLAISTOW
LONDON
E13 OBX

Site director/ supervisor: M. BEASLEY
Project manager: K. MacGOWAN

Funded by: LONDON BOROUGH OF BRAKING AND DAGENHAM

4. DURATION.

Date fieldwork started: 12.03.1996 Date finished: 12.03.1996

Field work previously notified? ~~YES/~~ NO

Fieldwork will continue? ~~YES/ NO/~~ NOT KNOWN

5. PERIODS REPRESENTED.

Palaeolithic	Roman
Mesolithic	Saxon (pre-AD 1066)
Neolithic	Medieval (AD 1066 -1485)
Bronze Age	Post-Medieval
Iron Age	Unknown ✓

6. PERIOD SUMMARIES. Use headings for each period (Roman; Medieval; etc.), and continue on
additional sheets as necessary.

N/A

7. NATURAL. (state if not observed; please DO NOT LEAVE BLANK)

Type: NOT OBSERVED

Height above Ordnance Datum: A.O.D N/A.

8. LOCATION OF ARCHIVES.

a) Please indicate those categories still in your possession:

~~Notes~~ ~~Plans~~ ~~Photos~~ ~~Negatives~~

~~Slides~~ ~~Correspondence~~ ~~Manuscripts (unpub. reports etc.)~~

b) All/ some records have been/ will be deposited in the following museum/ records office etc. :

NEWHAM MUSEUM SERVICE,
31, STOCK STREET,
PLAISTOW,
LONDON E13 OBX.

c) Approximate year of transfer: 1996

d) Location of any copies: AS ABOVE

e) Has a security copy of the archive been made? ~~YES/~~ NO

If not, do you wish RCHME to consider microfilming? YES~~/ NO~~

9. LOCATION OF FINDS.

a) In your possession? ~~ALL/ SOME/~~ NONE

b) All/ some finds have been/ will be deposited with the following museum/ other body:

NEWHAM MUSEUM SERVICE,
31, STOCK STREET,
PLAISTOW,
LONDON.
E13 OBX.

c) Approximate year of transfer: 1996

10. BIBLIOGRAPHY

British Geological Survey of Great Britain (England and Wales), sheet 257, 1976.

SIGNED:  **DATE:** 13.03.1996

NAME (Block capitals): M. BEASLEY

Please return completed form to The Greater London Sites and Monuments Record, English Heritage London Region, 30 Warwick St., London W1R 5RD. Tel. 0171 973 3731/ 3779 (direct dial).