

LINCOLN RESISTIVITY SURVEY

INTRODUCTION

The area surveyed lies on the N side of Saltergate along the line of the Roman city wall. At the time of the survey a section of the wall was exposed to a depth of $3\frac{1}{2}$ -4m in an excavation trench. Resistivity readings were taken along a series of traverses across the demolition site to the W and the car park to the E of the trench.

The intention was to investigate whether, in such disturbed urban conditions, the readings would be of any value in testing for the presence of an interval tower adjacent to the wall.

SURVEY FROCEDURE

Resistivity readings using Wenner and double dipole probe configurations at 1m probe spacing were taken along the 15 traverses marked on the plan. Two metre probe spacing was also used for all traverses except 7 and 9, and readings at 3 and 4m spacing were taken in certain cases where the length of the traverse permitted. Probes penetrating 50cm instead of the usual 15cm had to be used to the E of the trench to make contact through the surfacing of the car park.

The readings are plotted (as resistances) on the accompanying 4 sheets of graphs.

RESULTS

1. TRAVERSES 1-9

At 4-5m, close to the expected position of the wall, traverse 8 shows high readings for all probe spacings. Traverses 7 and 9 also show response to the w 11. The anomaly extends N to 7-8m but any feature N of the wall here is likely to be superficial because the wider spaced readings of traverses 1 and 2 give little indication of any deep feature.

In the results from traverses 1-6 only the shallow 1m readings of traverses 1 and 2 close to the wall are significantly disturbed, which suggests the absence of any considerable remains in this area. Some of the small irregularities in these traverses may be due to uneven ground level. High Wenner readings at the ends of traverses are caused by the nearness of the trench to the E and, presumably, the foundations of the Falcon Hotel to the W.

2. TRAVERSES 10-15

There are again high readings S of the baseline showing that the wall probably continues through traverses 12-15 and is likely to be centred at about 1-2n.



Traverses 10 and 11 which lie parallel to and behind the wall also show various an called. At the W end of traverse 11 at 1m spacing the two Wenner peaks coinciding with the one double dipole peak indicate a feature of high resistance at 4-5m. It is not likely to be extensive because traverse 10 and the deeper readings of traverse 11 are little affected. Traverse 12 confirms that the anomaly lies at the N side of the site.

There are more widespread anomalies at the E end of the site. The positions of the maximum readings in this area indicate that the points of highest resistance lie near $15\frac{1}{2}$ and 19m in traverse 11 and $13\frac{1}{2}$ and 18m in traverse 10. This could mean that there is a feature crossing the site diagonally or it could be a random effect caused by irregular disturbance. The 1, 2 and 3m readings are all affected with reasonable consistency and so the cause of the anomalies must reach a cepth of 3-4m.

A response of this kind would be expected from substantial Roman remains but unfortunately the 1905 25" OS map shows on the corner of this site a building which coincides exactly with the area of the anomalies. It must therefore be a strong possibility that a filled in cellar is the cause. Traverses 14 and 15 confirm that the disturbance extends to the Bank St. end of the site.

The similar shapes of the peaks at the S ends of traverses 12 and 14 do suggest that, whatever may be the nature of the fill behind it, the wall itself extends the length of the site.

CONCLUSIONS

The difficulties of the site appear to have affected the results less than might have been expected. The readings indicate the probable continuation of the wall for the full length of the survey area. The high readings at the Bank St. end could be caused by the remains of a tower but could equally be the result of recent interference.

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Lincoln Resistivity Survey



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