

**RECTORY LANE, FRINGFORD  
OXFORDSHIRE**

**Report on Archaeogeophysical Survey  
1997**

**A.D.H. Bartlett**

**Surveyed by:**

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**for**

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Janus House, Osney Mead  
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## **The Paddock, Rectory Lane, Fringford, Oxfordshire**

### **Report on Archaeogeophysical Survey, 1997**

#### **Introduction**

This survey was commissioned by the Oxford Archaeological Unit in consultation with the Oxfordshire County Archaeologist, and carried out in April 1997 as part of an evaluation of a paddock in Rectory lane, Fringford (NGR SP 604289).

The site is rough pasture with an uneven ground surface which has not been recently cultivated. A previous excavation by OAU in the adjoining field to the east (Areas 1 and 2 on plan 1) revealed a dense multi-period site with ditches, enclosures and occupation features from dates between the Iron Age and medieval periods.

The site lies in an area of Boulder Clay drift deposits. These can be of variable composition, and here may include silts and gravels, which were seen in the excavation. Such materials are not necessarily highly responsive to magnetic surveying, which would usually be the preferred technique for investigating a possible ancient settlement site. A resistivity survey, which in suitable conditions may also detect earthwork features or ditches, was therefore also carried out in addition to a magnetometer survey.

#### **Survey Procedure**

The survey was located by means of a 30m site grid, as indicated by red crosses on the plans. Marker pegs were left in place at the grid intersections, and details of the measurements to the field boundaries which would be needed to relocate these points on the ground can be provided on request.

The magnetometer survey readings, represented by x-y graphical charts and grey scale plots, are shown at 1:500 scale on plans 2 and 3. The plots show the survey data after standard processing operations which include truncation of high readings (usually caused by buried iron) and correction for irregularities in line spacing caused by instrument drift. Linear smoothing has been applied to the graphical plot, and 2D low-pass filtering to the grey-scale plot to reduce background noise levels. Readings were collected at 0.25m intervals along traverses 1m apart using a Geoscan fluxgate magnetometer. Some of the magnetic anomalies detected by the survey are indicated schematically by green outlines on plan 2.

The resistivity readings, recorded at 1m intervals using the twin probe configuration and 0.5m probe spacing, are similarly displayed on plans 4 and 5. The readings have been smoothed slightly, and the grey scale version has been treated with a high pass filter to remove large scale background variations and emphasise localised features. A shaded contour plot based on the grey-scale resistivity data is shown superimposed on plan 4 to indicate the locations of the positive anomalies. This plot has been combined with the magnetometer interpretation to provide a summary of the findings on the 1:1000 scale location plan (plan 1).

## **Results**

### Magnetometer Survey

The magnetometer plots (plans 2 and 3) show areas of strong disturbance caused by buried iron and other debris close to the field boundaries. Elsewhere there are individual high readings caused by buried iron, but most of the field (except for the SW corner) appears to be relatively undisturbed, and free of large-scale modern interference.

The magnetometer survey was supplemented by a number of soil magnetic susceptibility readings taken with a Bartington meter and field coil. Readings were relatively high in areas of recent disturbance, but elsewhere were in the range 7-13 ( $\times 10^{-5}$  SI). These low values confirm the site is unlikely to be highly responsive to the magnetometer. Features containing magnetically enhanced fill associated with past occupation or industrial activity should still be detectable in these conditions, but it is likely that the magnetometer response will be incomplete and provide only a partial indication of any archaeological features which may be present.

The survey has, even so, detected a number of features of potential significance. They include linear anomalies likely to represent silted ditches, the strongest of which is labelled a on plan 1. There may be a similar feature at b, as suggested particularly by the grey scale plot. This is weaker than a, but relates well to a resistivity anomaly, and may also continue the line of an enclosure ditch indicated at c in area 1 of the excavation plan. A few other more localised anomalies are outlined on plan 2. These could represent silted pits, but such features are difficult to identify with any confidence in the presence of non-archaeological disturbances.

### Resistivity Survey

The half tone plot (plan 5) shows both positive and negative displacements from the mean of the data. Variations in either direction may be significant in resistivity surveying, but in this case where there is a fine-textured soil giving low background values, it is likely that disturbances of the ground will create an increase in the response. The positive anomalies (black shading) on plan 5 appear to form a more coherent pattern than the negative anomalies (white areas), and so their location is indicated by coloured shading on plans 1 and 4. Some of the anomalies included within the range of values represented by the shading on plan 4 are likely to be insignificant, but others are very distinct. They include linear features which could represent ditches or parts of enclosures at the west of the field

at d and e, (as labelled on plan 1) and areas of strong anomalies in the NW quarter of the survey centred around f. The anomaly at g follows the line of a hollow visible on the ground surface. There are strong localised features at h and j. The anomalies d - j, and others, show some regularity or linearity of plan, or are of a size which would be consistent with a man-made origin. One difficulty in interpreting resistivity findings is that natural variations in the composition of the subsoil can create effects which are difficult to distinguish from such features. This may be the case here, particularly in the SE of the field where a band of high readings at k is rather more broad and irregular than would be expected for an archaeological feature. Variations in the proportions of gravel and silt in the soil could produce such an effect.

### **Conclusions**

The survey has produced findings which would be consistent with the presence of archaeological remains similar to those excavated in the adjoining field, although not all the detected features can be confirmed to be of archaeological origin on the survey evidence alone. Both the magnetometer and resistivity surveys have detected a variety of features, but it is likely that neither has provided a full picture of the archaeological potential of the site.

The magnetometer survey appears to have located ditches which could represent a continuation of the pattern of enclosures and other features seen in the nearby excavation, and the resistivity findings may indicate the presence of clusters of pits, ditches or other features. It is, however, possible that other natural or man-made non-archaeological disturbances may also be included among the resistivity anomalies indicated on the plans.

### **Report by:**

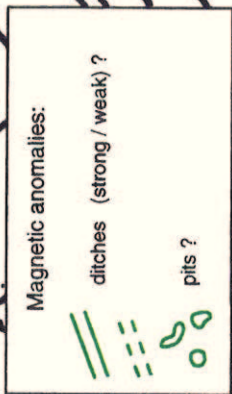
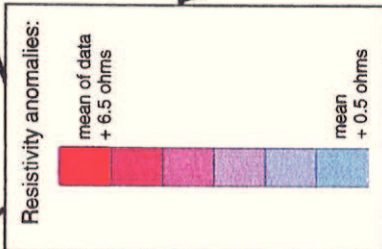
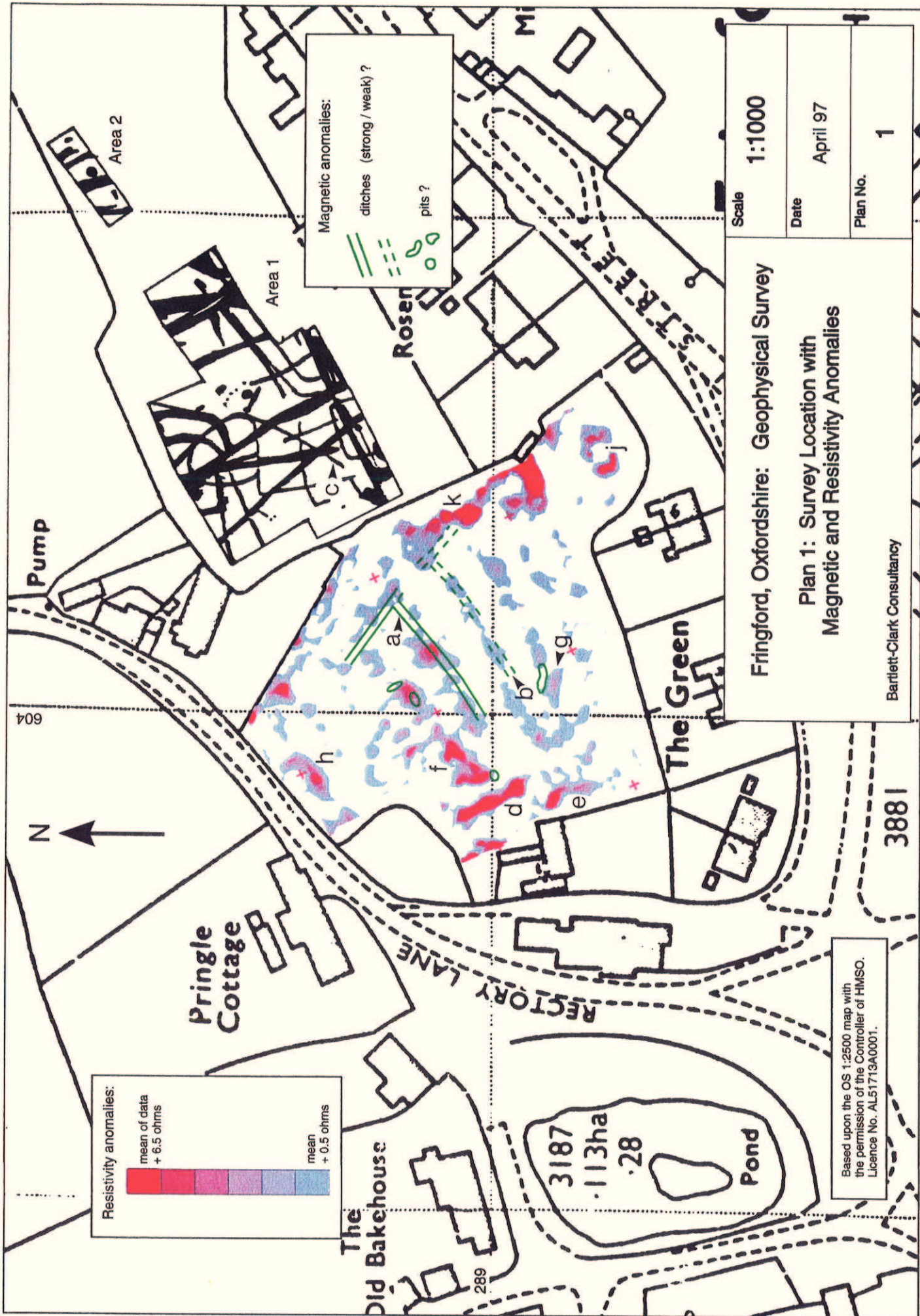
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8 April 1997

Dr A.J. Clark FSA has advised on the interpretation of the findings from this survey.



Scale	1:1000
Date	April 97
Plan No.	1

Fringford, Oxfordshire: Geophysical Survey  
 Plan 1: Survey Location with  
 Magnetic and Resistivity Anomalies

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Based upon the OS 1:2500 map with  
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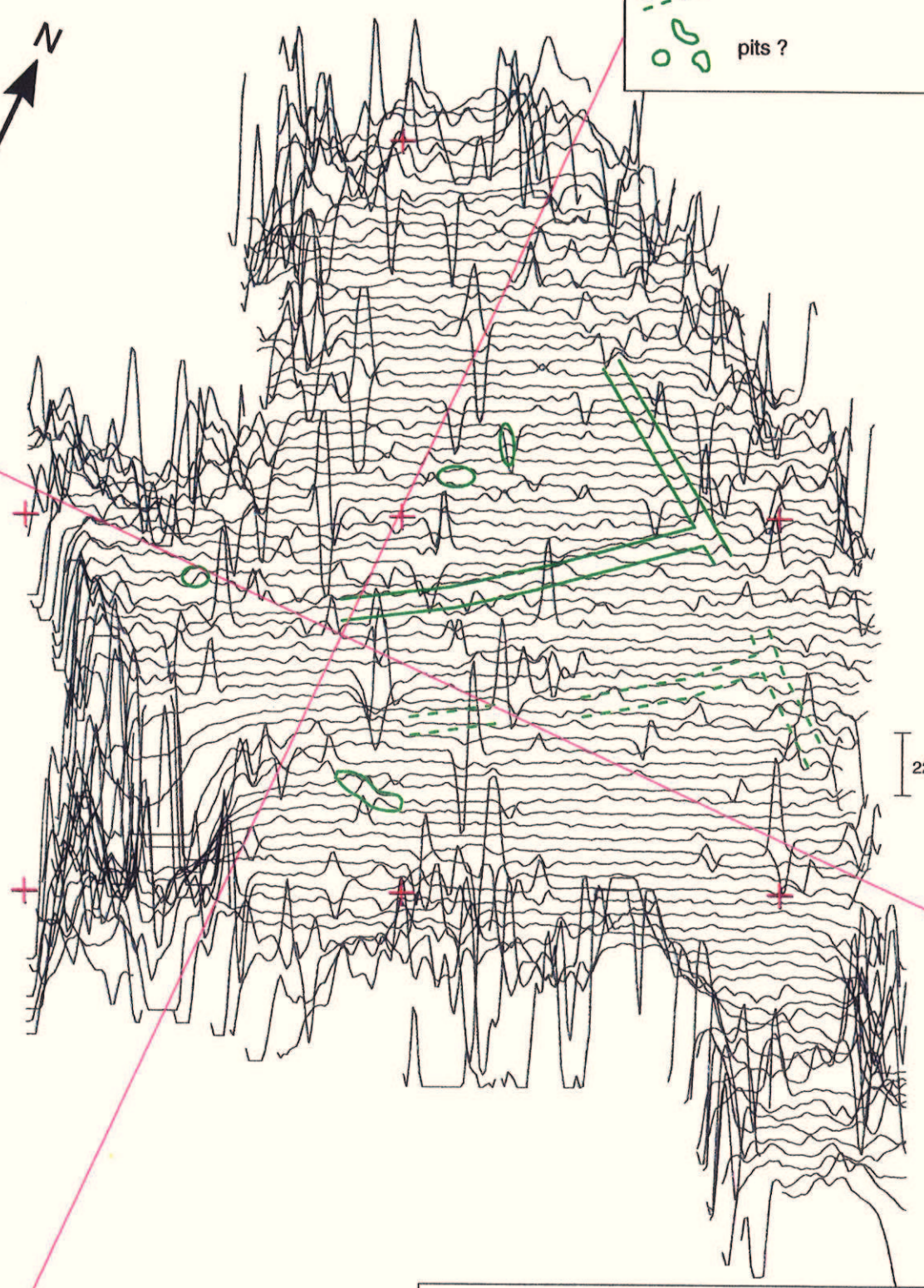
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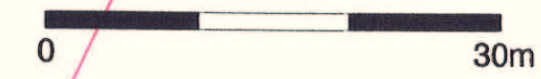
Magnetic anomalies:

- ==== ditches (strong / weak) ?
- - - - pits ?



22 nT

289



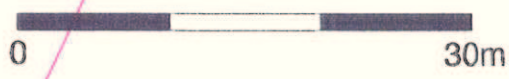
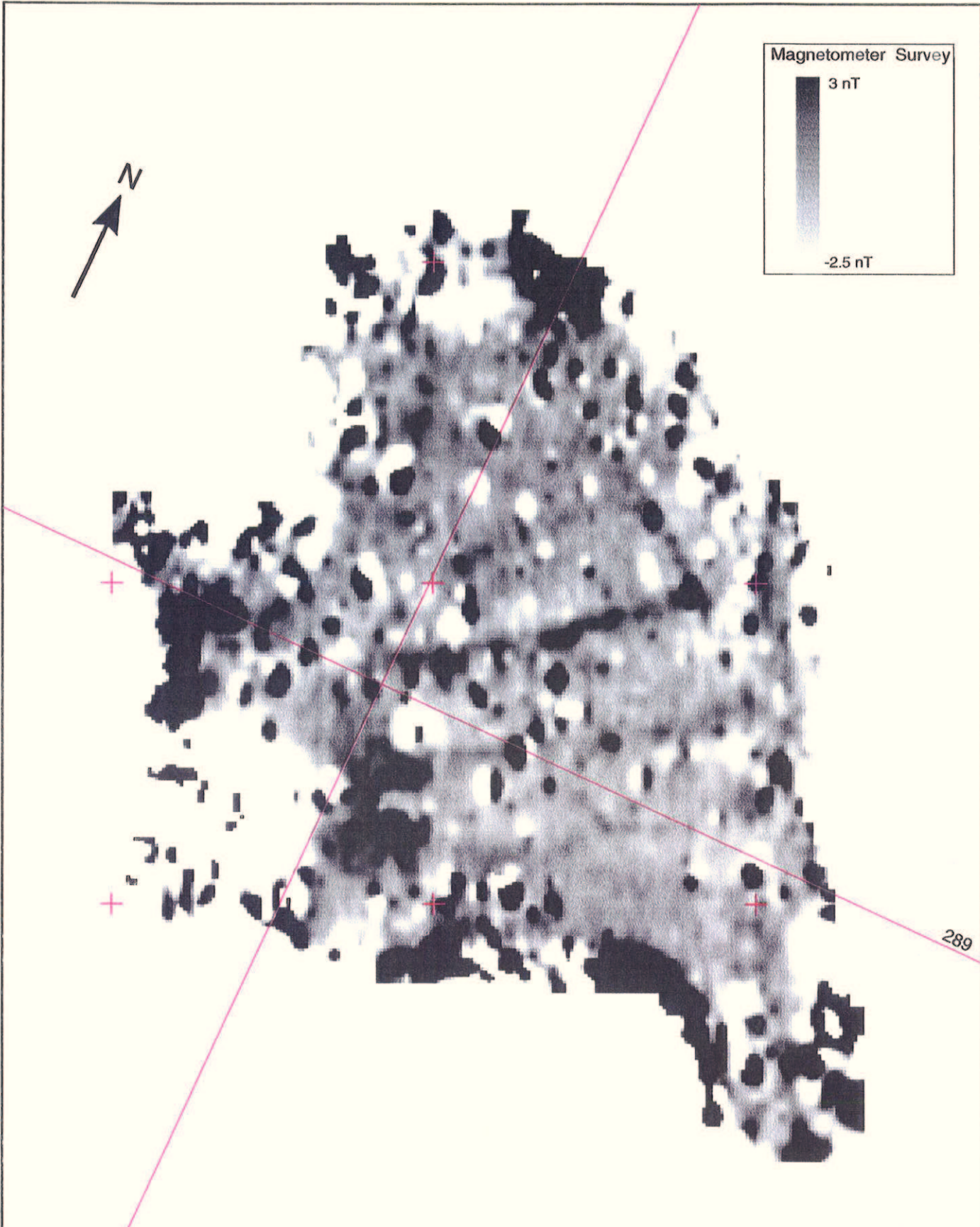
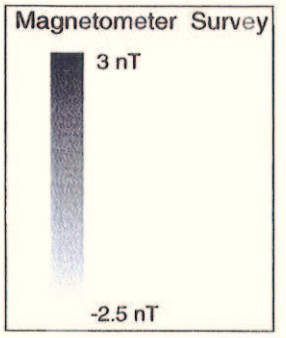
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Fringford, Oxfordshire  
Geophysical Survey 1997

Plan 2: Magnetometer Survey with Interpretation

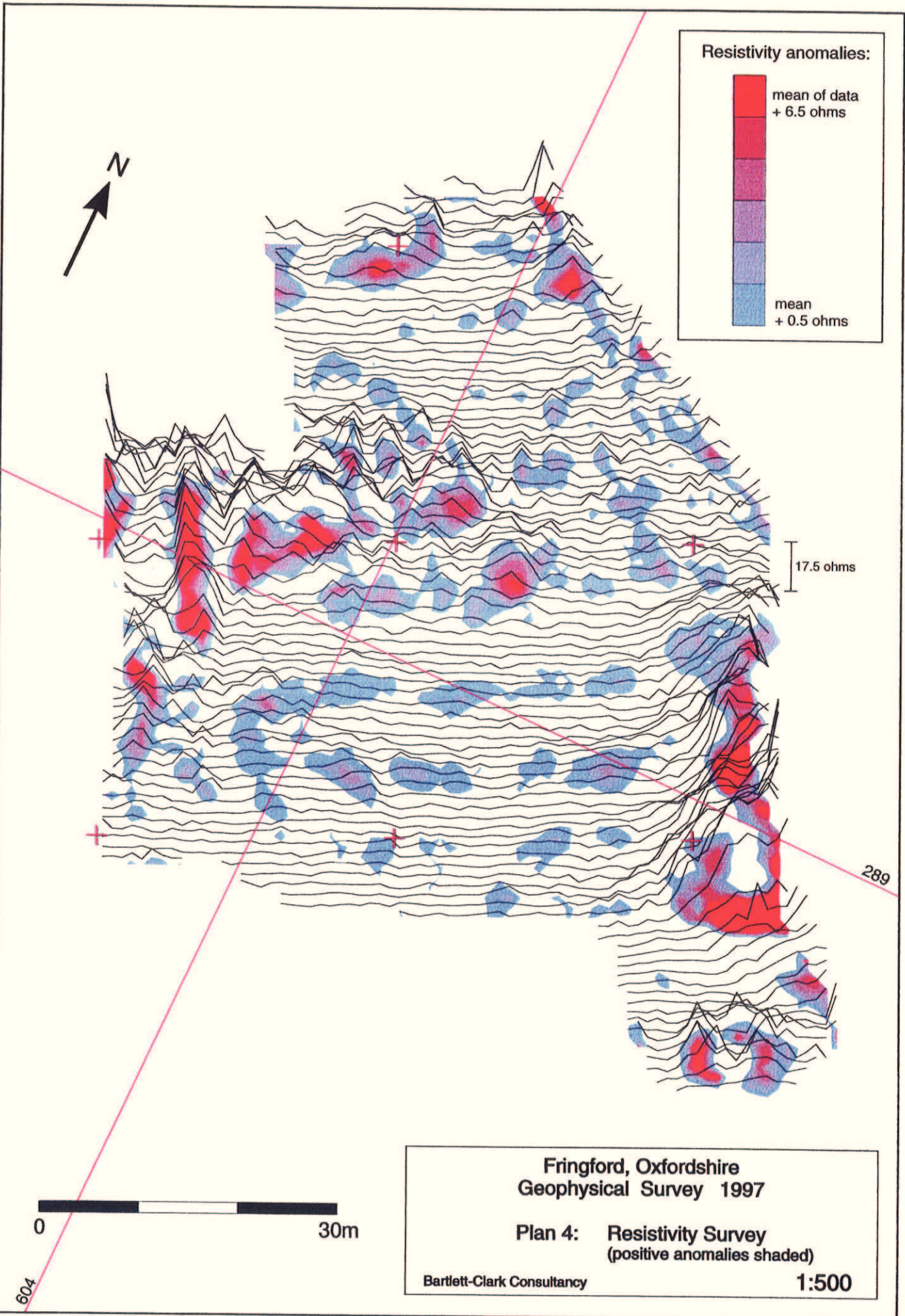
Bartlett-Clark Consultancy

1:500



Fringford, Oxfordshire  
Geophysical Survey 1997  
Plan 3: Magnetometer Survey (grey scale plot)  
Bartlett-Clark Consultancy 1:500

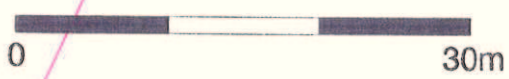
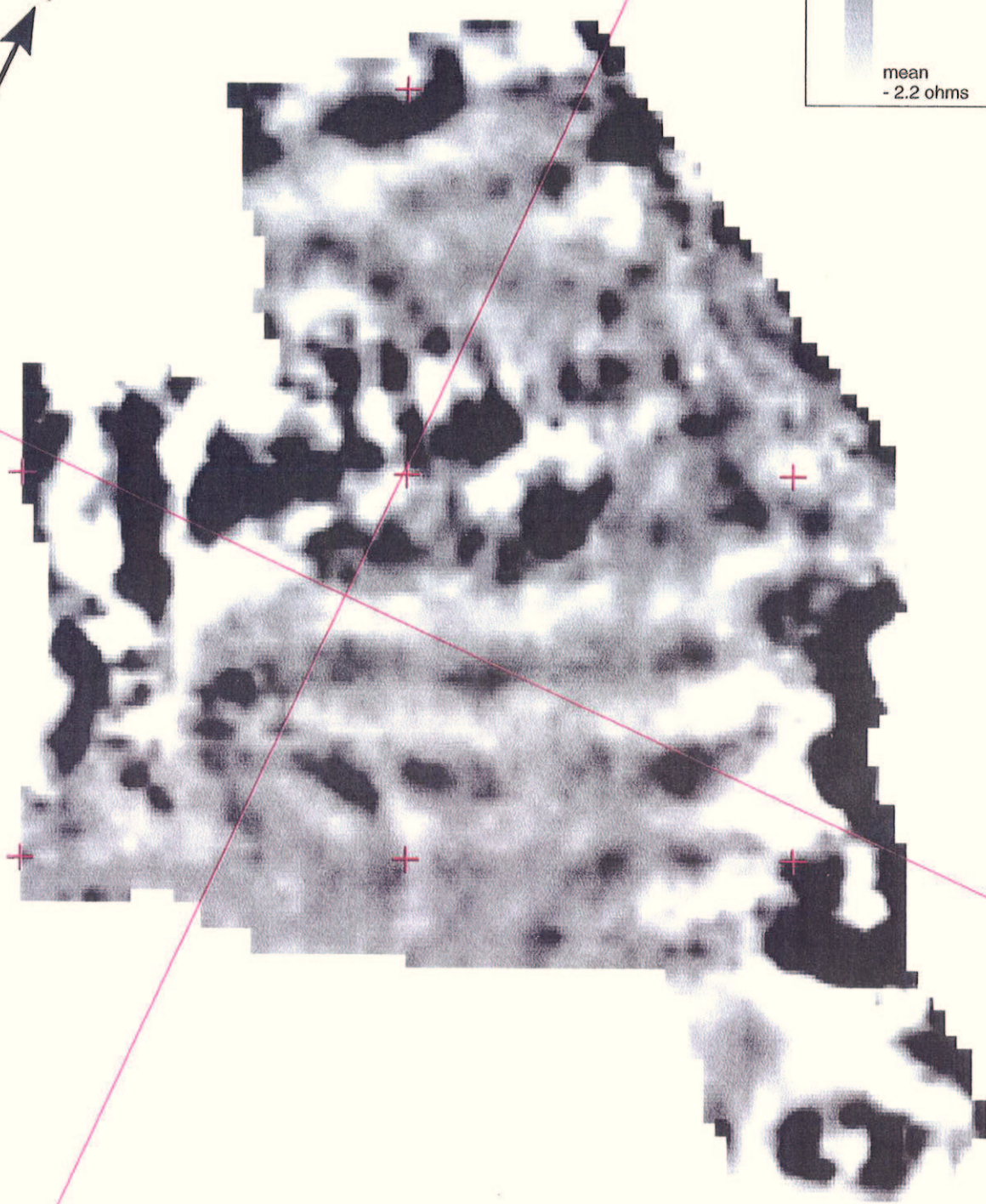
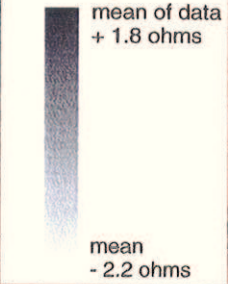
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Resistivity Survey



Fringford, Oxfordshire  
Geophysical Survey 1997  
Plan 5: Resistivity Survey (grey scale plot)  
Bartlett-Clark Consultancy 1:500