TITLE Geophysical survey of the site of a Roman silver hoard at Water Newton (Durobrivae).

AUTHOR D Haddon-Reece

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ABSTRACTS The report of the findings of a geophysical survey on the site of the find of a Roman silver hoard. The analysis suggests the slight possibility of heavily eroded building footings.

KEYWORDS Roman, geophysics, silver, hoard, resistivity.

WATER NEWTON (DUROBRIVAE)

Geophysical Survey 1975

Following the discovering of a Roman silver hoard at Durobrivae a site examination and a geophysical survey were undertaken by the Ancient Monuments Laboratory at the request of the Inspectorate of Ancient Monuments.

Objectives

(a) To locate (i) the find area, recording its position and any additional information, and (ii) any metallic objects buried in the region.

(b) To locate and define any buried building foundations in the vicinity.

Site investigation and metal detector survey

The probable find spot, distinguished as an oval area of bare ground, c. 3 metres x 2 metres, surrounded by young wheat, was discovered on a preliminary site visit in the company of Mr D Sherlock, I.A.M. on 14 May 1975. A scan of the immediate region with a Plessey metal detector found four corroded ferrous objects - three nails and an amorphous mass of the same size, whose locations are marked on Plan 2. No other buried metallic objects were detected in the vicinity.

Suspicions that a discarded ploughshare lying on the surface of the bare area had only been a spurious and misleading metal detector find were removed by the finder of the hoard who confirmed the position as correct at an informal site meeting on 20 May 1975. The position was accordingly surveyed in from the best available fiducial points, an elm and willow in the hedge behind and parallel to the southern east-west rampart, as shown on plan 3. A square of side 30 metres was laid out concentric with the position with its sides aligned to the quarters of the compass, Plan 3, for further investigation.

A surface scatter of debris - stone, potsherd, broken brick tile, etc, extended over the square, but thinly; nowhere did the concentration, which increased slightly towards the western side, suggest the presence of substantial building remains. Borings with a 1 in coring anger indicated a blurred change from topsoil to gravel at 50-55 cms with fair uniformity across the area. The adulteration of topsoil by particles of occupation debris - charcoal, etc., was consistently slighter than expected of the possible environs of a decayed building.

Soil samples, taken at three points, see plan 2, were collected for the British Museum as requested.

Resistivity Survey

To detect any buildings the 30 m square was covered by a resistivity survey (which depends on the detection of contrasts in moisture retentiveness between, say, wall footings and surrounding subsoil.) Readings were taken at 1 metre intervals along traverses 1 metre apart, using the Twin Electrode configuration with 1 metre probe spacing. (The depth to which anomalies may be detected approximates to the probe spacing).

The readings were plotted by computer in dot density form (density of dots proportioned to numerical value), both unfiltered and after treatment with numerical spatial fitters to enhance any patterns present. The plans 4-10 show these plots.

Conclusions

The slight evidence of buildings shown by the surface debris is partly corroborated by the resistivity plots. It appears that there may be two highly abraded and heavily robbed buildings lying orthogonally, possibly meeting at the find spot to form a single structure and lying roughly at 45 degrees to the survey square, therefore consistent with a town grid based on Ermine Street. Tentative alignments are marked on Plan 4. The discontinuity of these alignments suggest both wall footings and robber trenches. Very conjecturally, this may be reinforced by the absence of domestic evidence in the topsoil such as flecks of charcoal, etc, possibly indicative of a public building, although it seems improbable that heavy robbing would have left the hoard undetected.

Two other possible interpretations exist, firstly that the striations are due to ploughing, which would be unlikely to show, however, unless it had been deep enough to score the subsoil and had also been carried out at right angles. The second possibility, that one of the diagonal features is a street with buildings lying to the sides, is somewhat weakened by the presence of short features lying across the diagonal features at right angles towards the corners of the square. The overall evidence therefore appears to favour heavily eroded building remains.

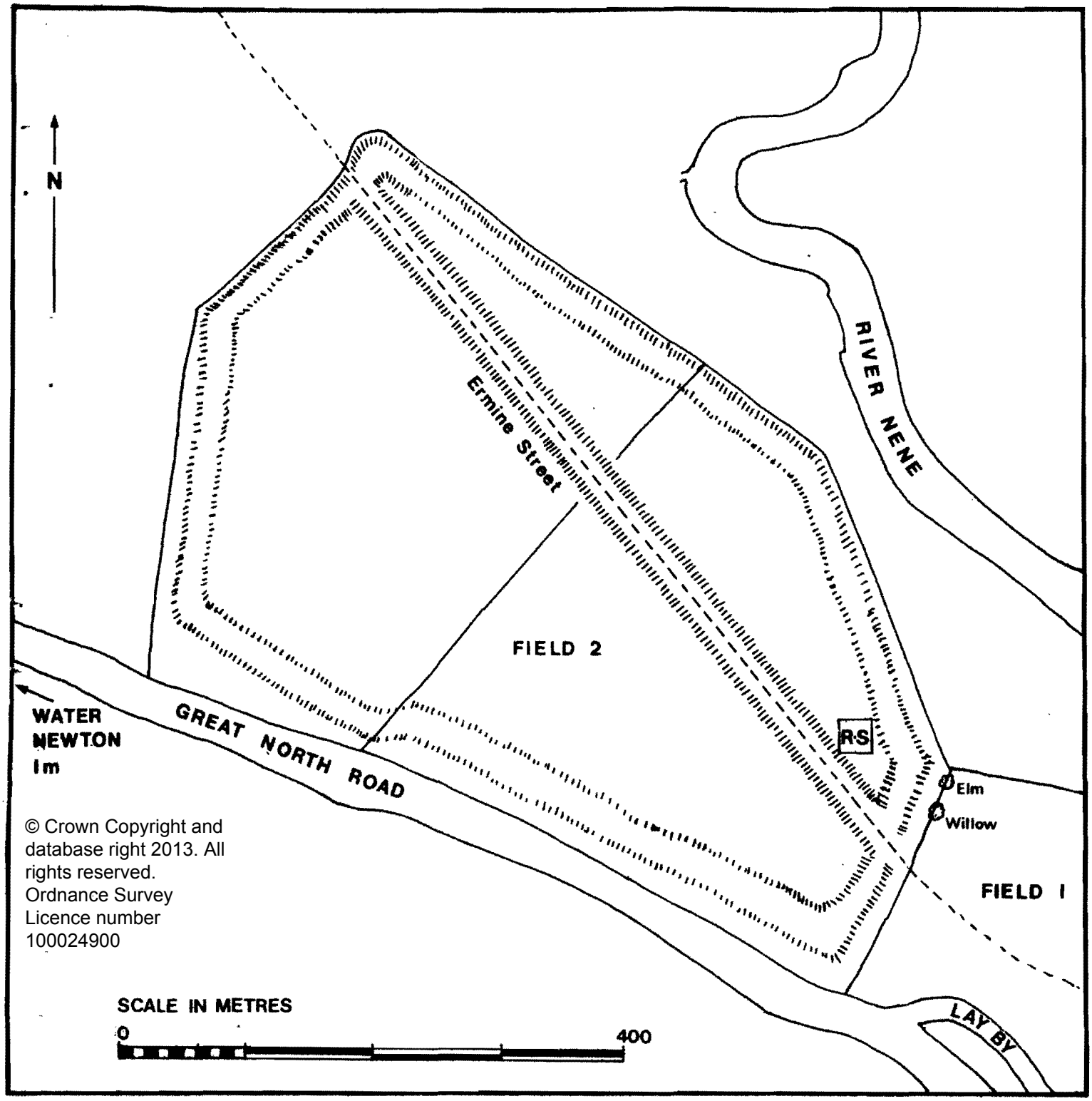
D. Haddon-Reece

P. J. Crawshaw

A. J. Clark

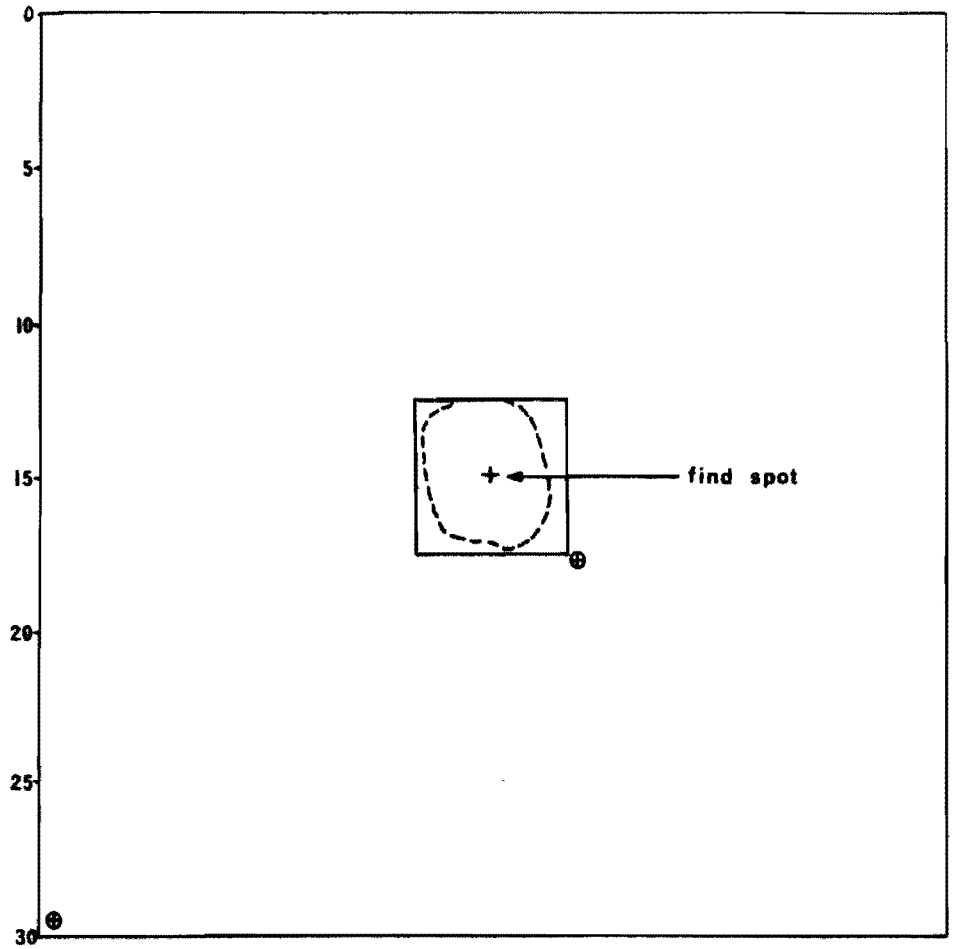
Ancient Monuments Laboratory

July 1975

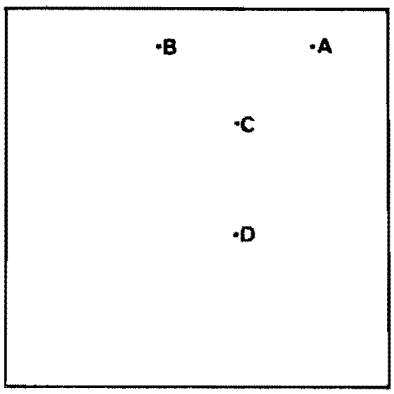


WATER NEWTON (DUROBRIVAE) 1975 **PLAN 1**

APPROXIMATE LOCATION OF SURVEY (RS)



Area of Resistivity Survey area, showing position of Metal Detector survey area and soil sample points.



Metal Detector Survey area

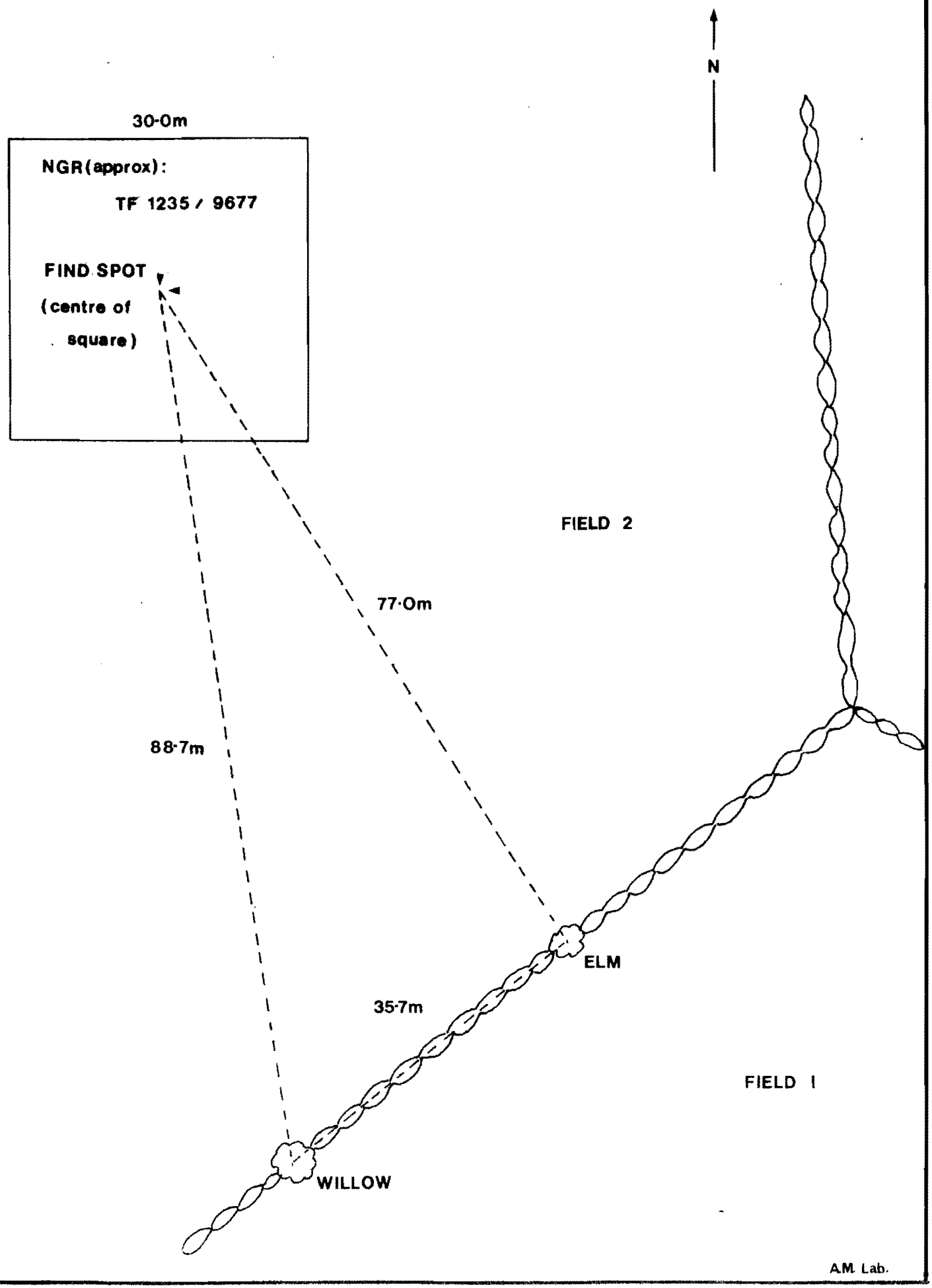
WATER NEWTON (DUROBRIVAE) PLAN 2

A.M.Lab.

WATER NEWTON (DUROBRIVAE) 1975 PLAN 3

PRECISE LOCATION OF SURVEY (NOT ALL NATURAL FEATURES SHOWN)

SCALE 1:500



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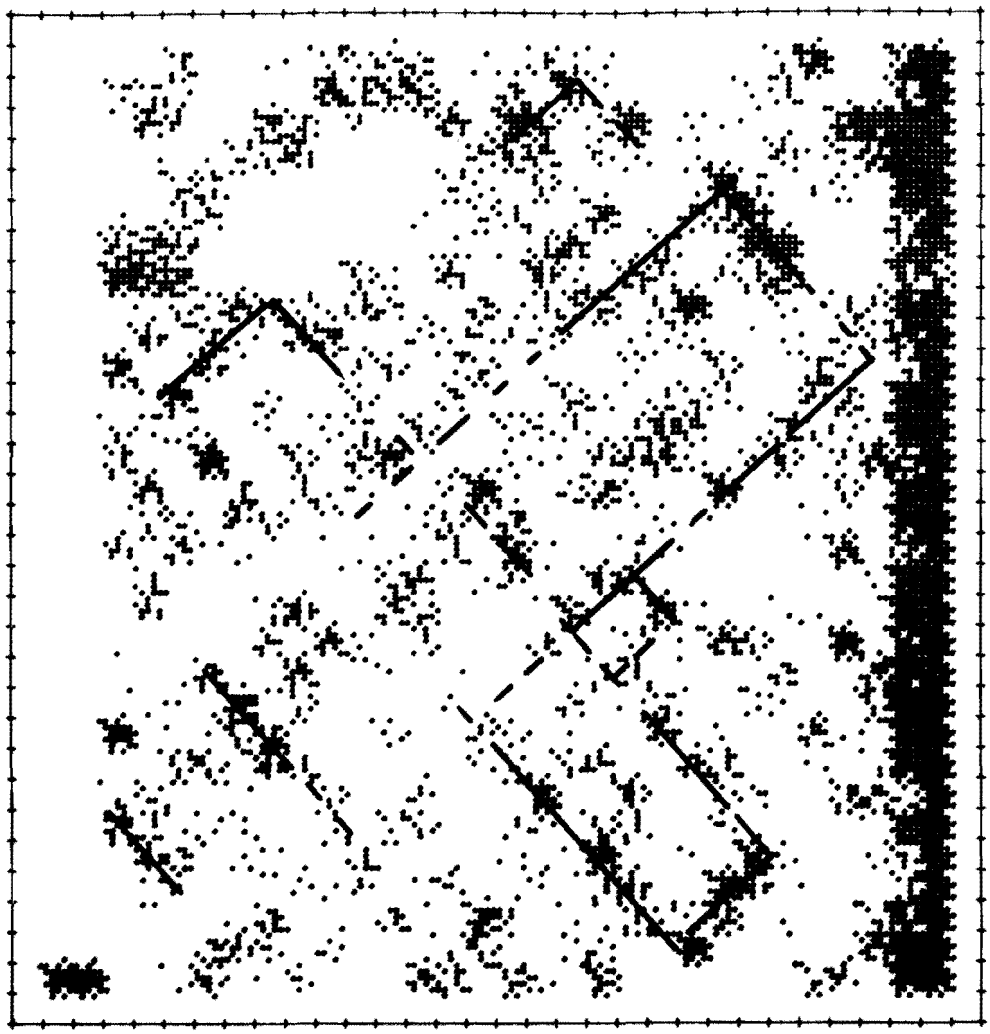
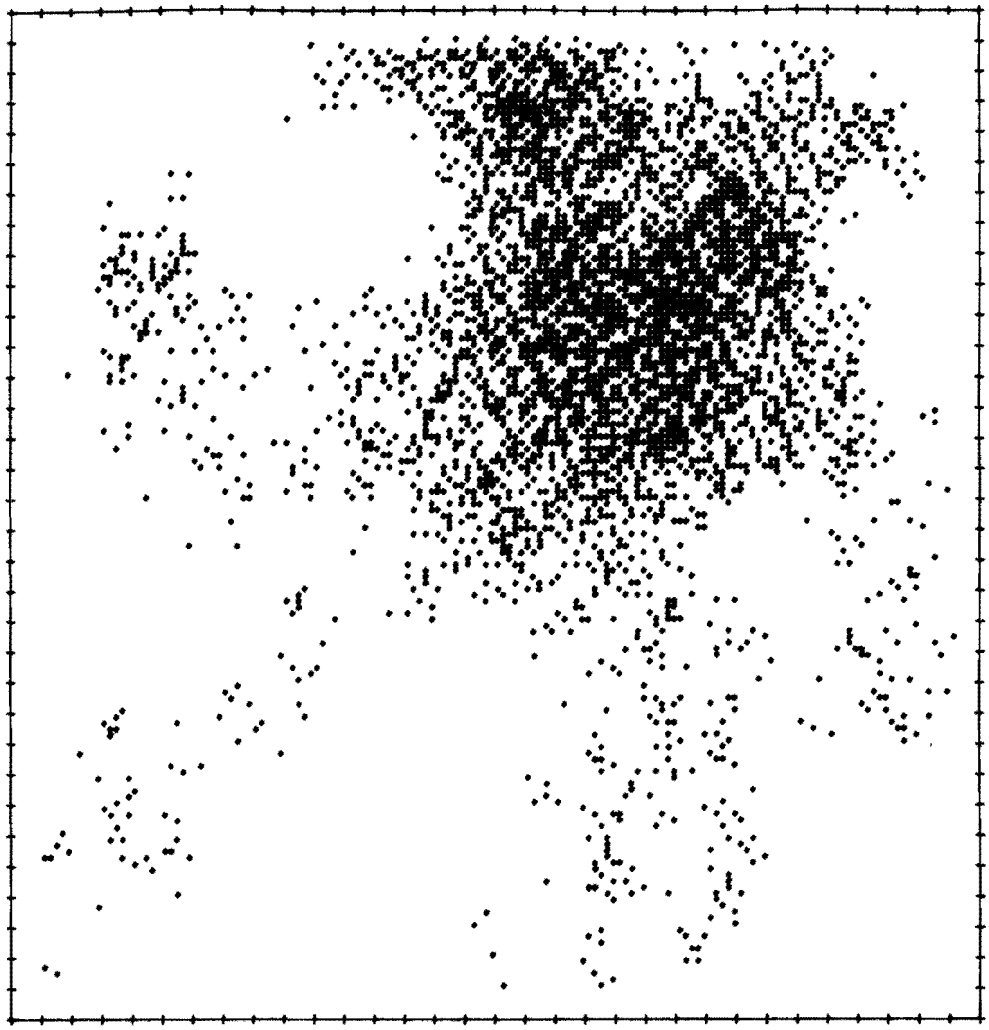


Tentative wall alignments (cf Plan 9)

WATER NEWTON (DUROBRIVAE) PLAN 4

scale 1 : 250

A M LAB



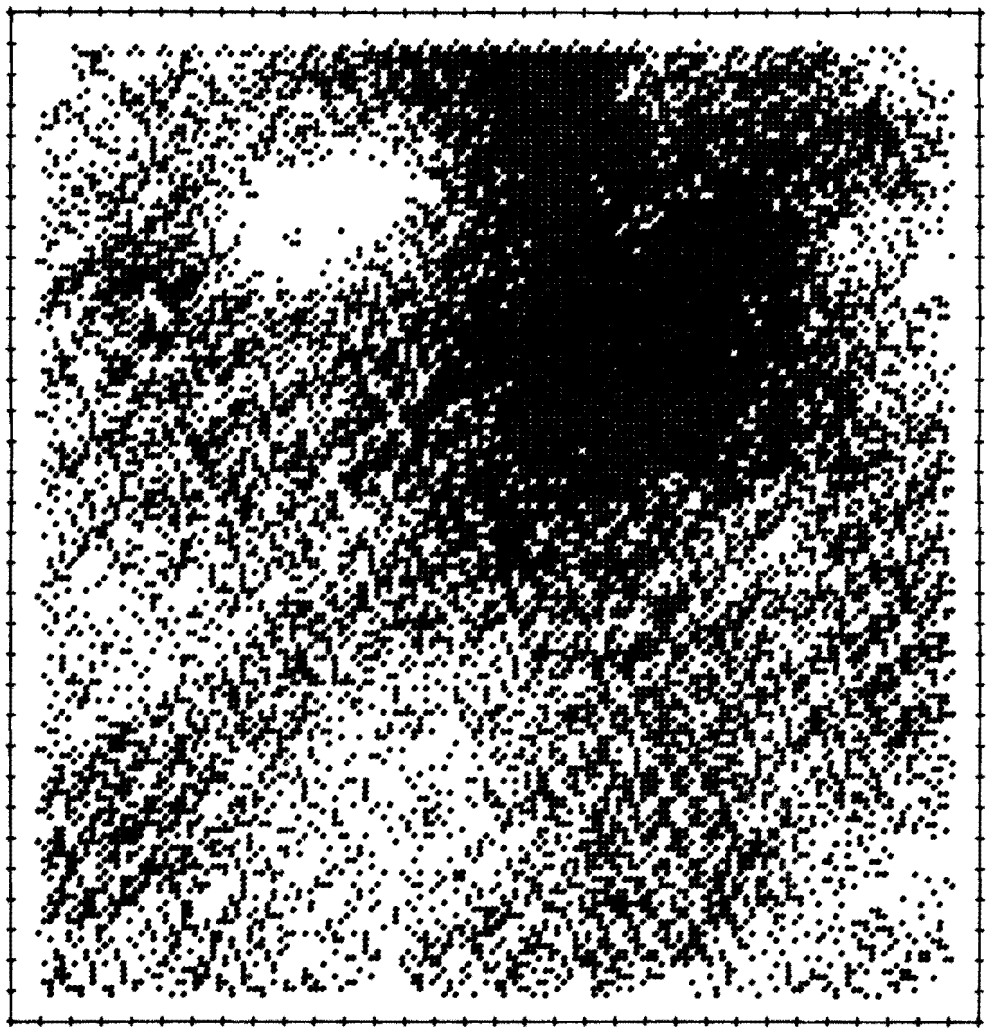
N

unfiltered 22 – 26 ohms

WATER NEWTON (DUROBRIVAE) PLAN 5

scale 1 : 250

A M LAB



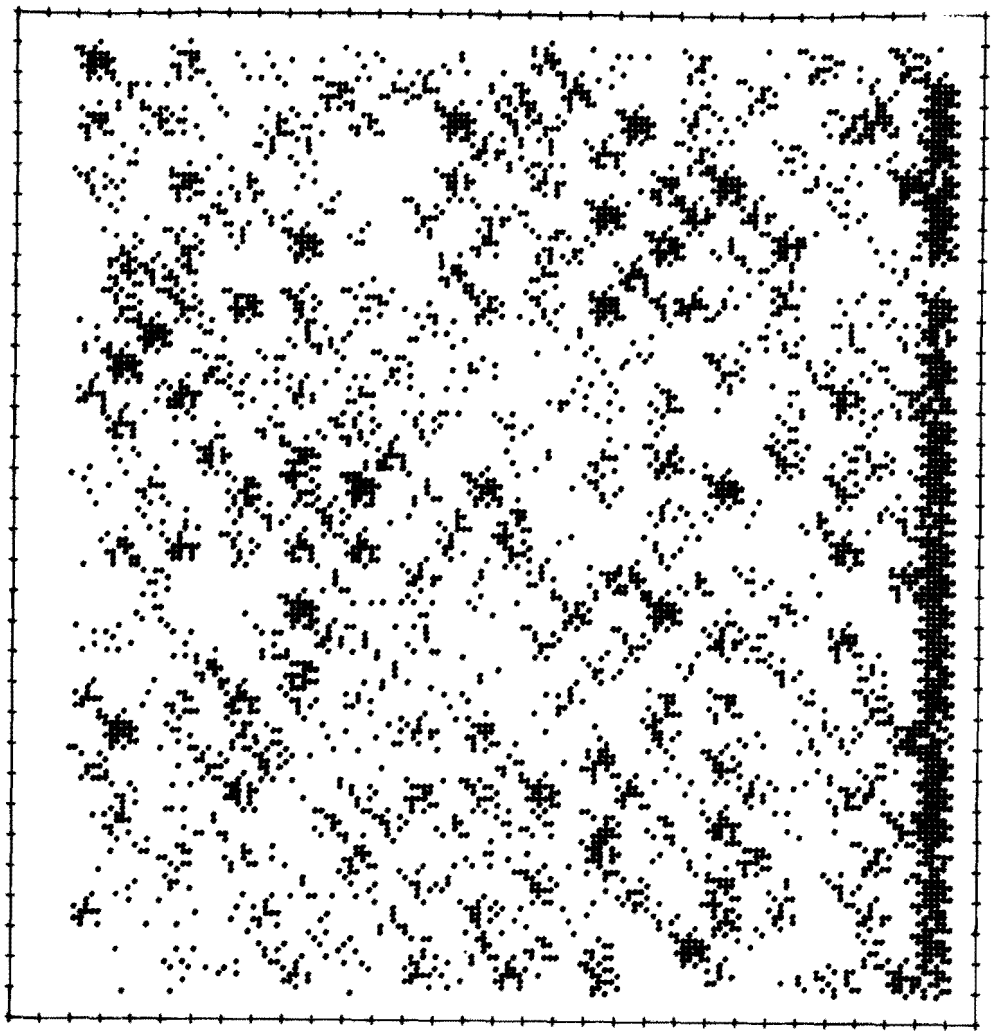
N

unfiltered 20 – 24 ohms

WATER NEWTON (DUROBRIVAE) PLAN 6

scale 1 : 250

A M LAB



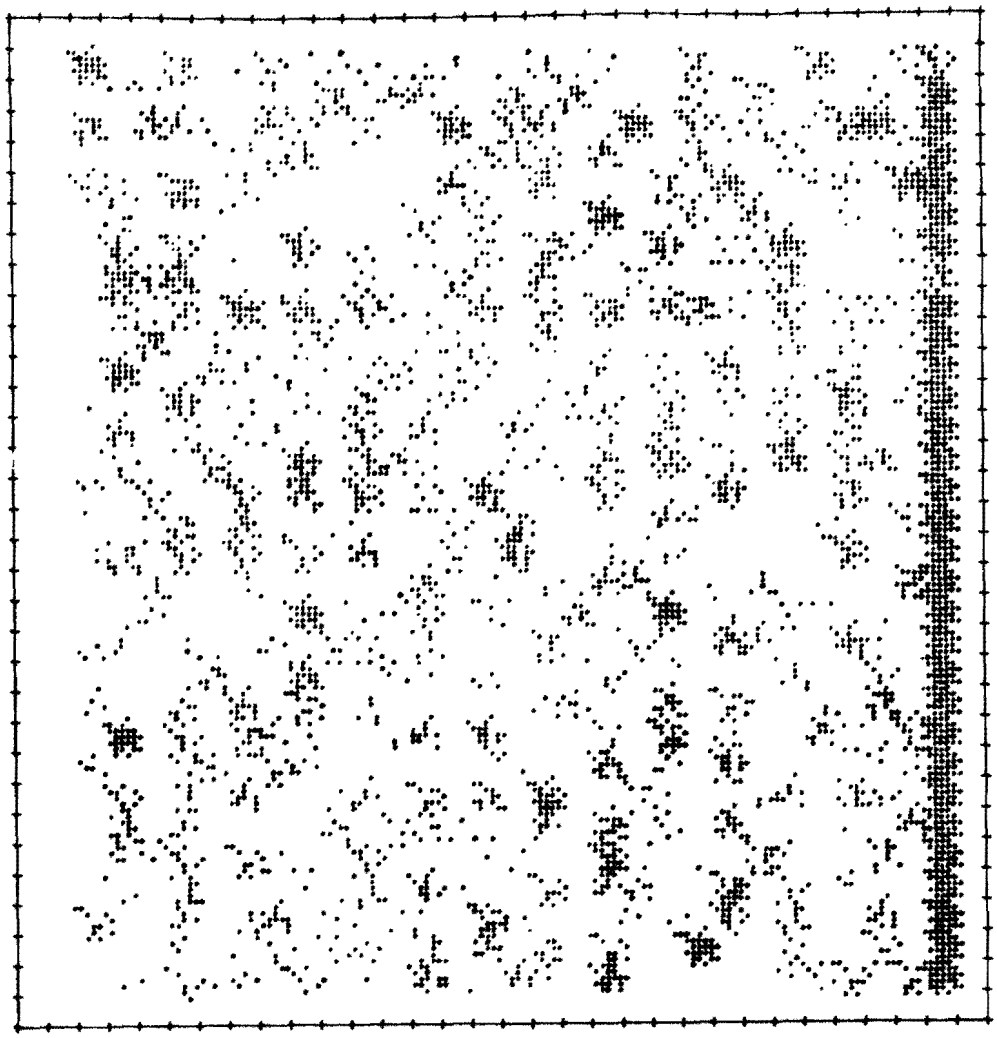
N

filter I

WATER NEWTON (DUROBRIVAE) PLAN 7

scale 1 : 250

A M LAB



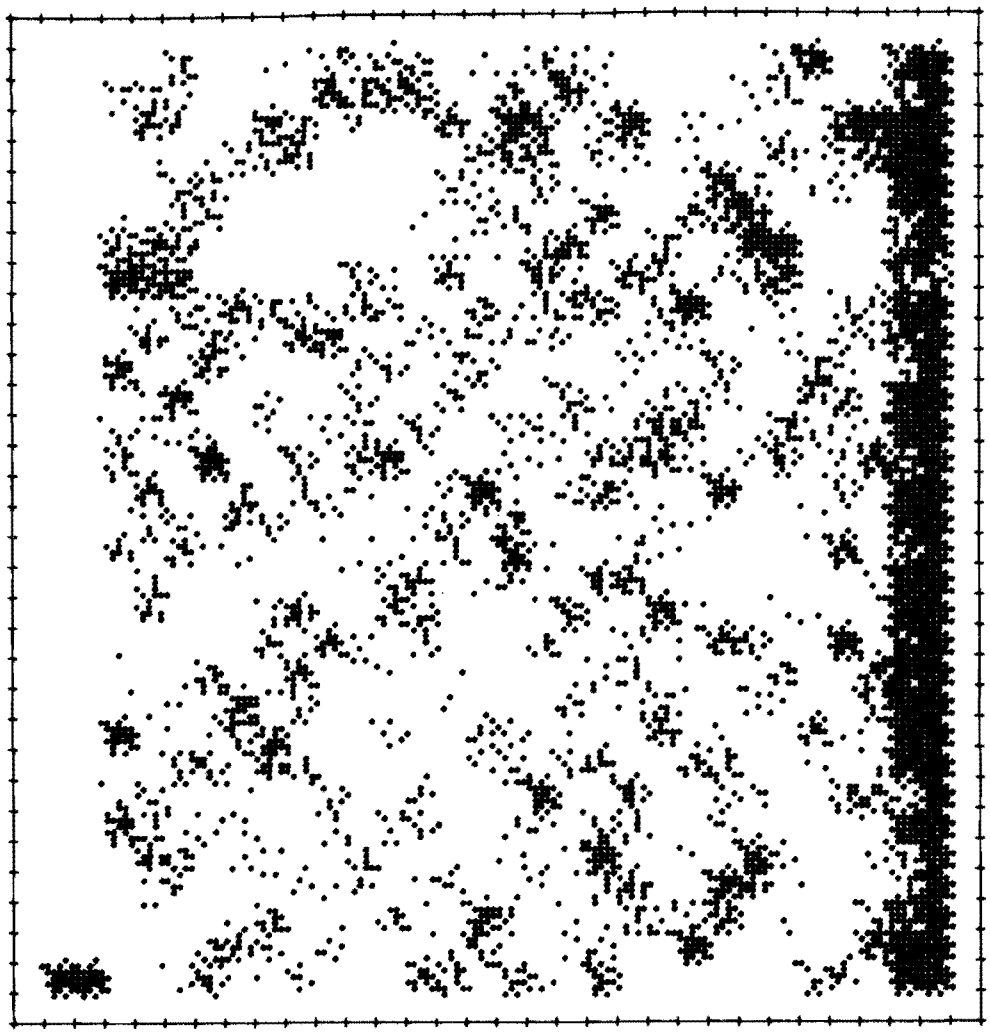
N

filter IA

WATER NEWTON (DUROBRIVAE) PLAN 8

scale 1 : 250

A M LAB



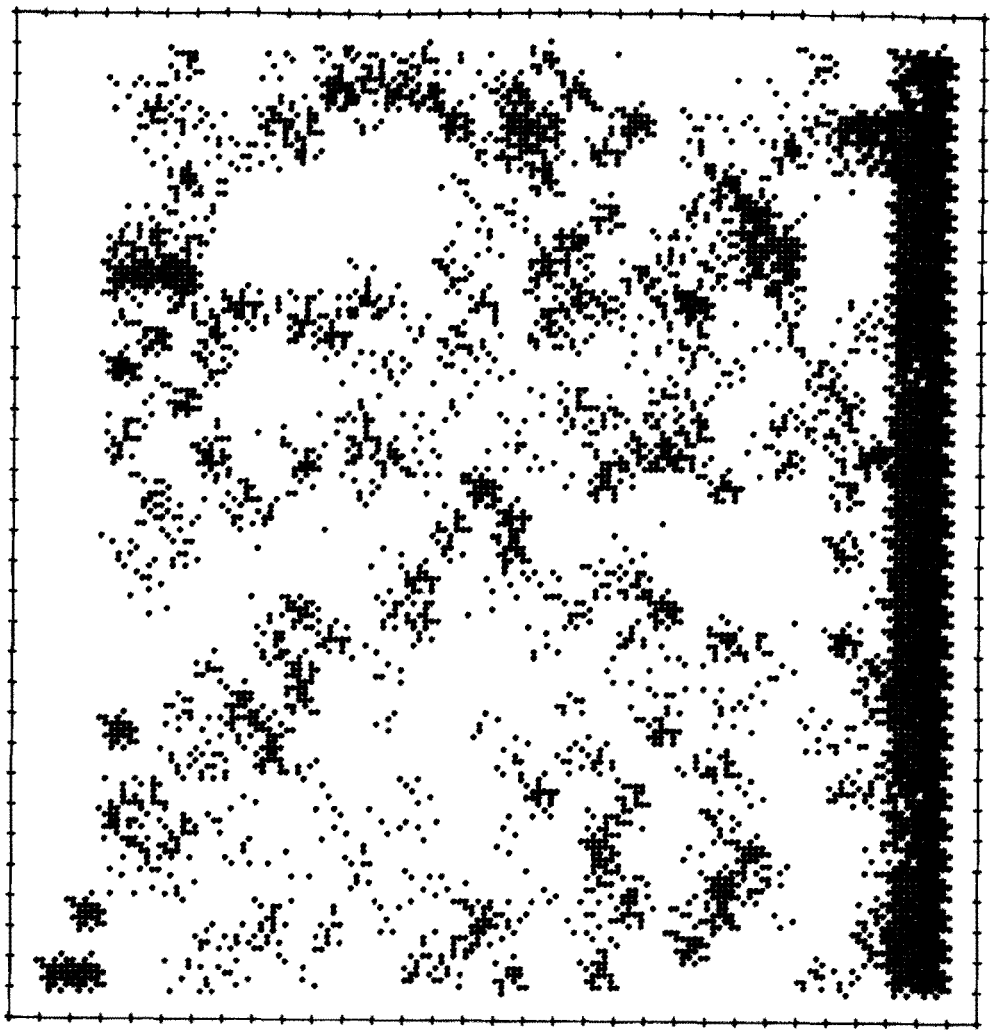
N

filter 2

WATER NEWTON (DUROBRIVAE) PLAN 9

scale 1 : 250

A M LAB



N

filter 3

WATER NEWTON (DUROBRIVAE) PLAN 10

scale 1 : 250

A M LAB