

REPORT ON GEOPHYSICAL SURVEY

HEARSON MOUNTAIN, PEMBROKE, DYFED

OCTOBER 1988

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Site: Hearson Mountain, Pembroke, Dyfed

Date: October 1988

NGR: SM 9757 0837

Location & Topography:

Hearson Mountain lies within the village of Hill Mountain, which is situated between the towns of Haverfordwest and Pembroke (Figure 1). The site under investigation was partly under grass and partly under potatoes. Modern debris was scattered throughout the site.

Archaeology:

The site consists of a roughly circular enclosure with a single bank and outer ditch. The north-western half of the enclosure is assumed to follow the line of the present day hedgeline (Figure 2). The earthwork may be Iron Age in date.

Aim of Survey:

A planning application has been submitted to develop houses on part of the site. It was hoped that geophysical survey techniques would be of assistance in assessing the archaeological potential of the site.

Instrumentation:

Magnetometer: Geoscan FM38 with ST1 Trigger

Survey Method:

Readings are logged at 1.0m intervals over the survey grid and the data are then transferred to an Amstrad PPC1640 field computer. Data is stored on 3.5" floppy discs and also on Epson HX20 micro-cassettes for security. Field plots are produced as required and further processing is carried out back at base.

The location of the survey grid is shown in Figure 2.

[This report is prepared and submitted on the basis that whilst it is based on a thorough survey of the site, no responsibility is accepted for any errors or omissions, whether now or to become apparent.]

Initial examination of the site at Hearson Mountain concentrated on the area within the enclosure that is directly threatened by the proposed development. The area south of the main site was then scanned with the magnetometer and because the results were clearly of a different nature, the detailed grid was expanded to cover grids 5 to 8.

The data are reproduced as dot-density presentations, details of which are outlined in Appendix 1.

Results

The area within the enclosure proved to be magnetically very noisy, a result of recent disturbances on the site. The bungalow, iron fence and driveway, all affected the eastern edge of the survey. The remainder of the area contained an abundance of ferrous debris, some from demolished greenhouses, and this accounts for the isolated high readings.

Within the enclosure there is only one feature of potential archaeological interest, indicated by the anomalies at (1). This may mark the line of a ditch inside the known earthen bank, or alternatively, the high readings are associated with the accumulation of soil within the bank. Unfortunately, the line of this feature could not be traced because of an old trailer half buried in the undergrowth.

By contrast, the area outside of the enclosure proved to be very different magnetically speaking. There are two very broad anomalies, (2) and (3), which could be associated with large ditches. It must be stressed, however, that the strength and nature of the anomalies is somewhat confusing: a modern origin is quite possible. Such an interpretation could be supported by the peculiar narrow anomalies (4) which might be the result of drainage features.

The area to the south was scanned with the magnetometer and a similar confusing picture was recorded. Broad anomalies, up to 40 gamma in strength, are present throughout a 100 metres stretch beyond the survey grid.

Conclusions

The area within the enclosure proved to be too disturbed for the magnetometer to trace any likely pits or hearths. A possible length of ditch associated with the enclosure was pinpointed at (1).

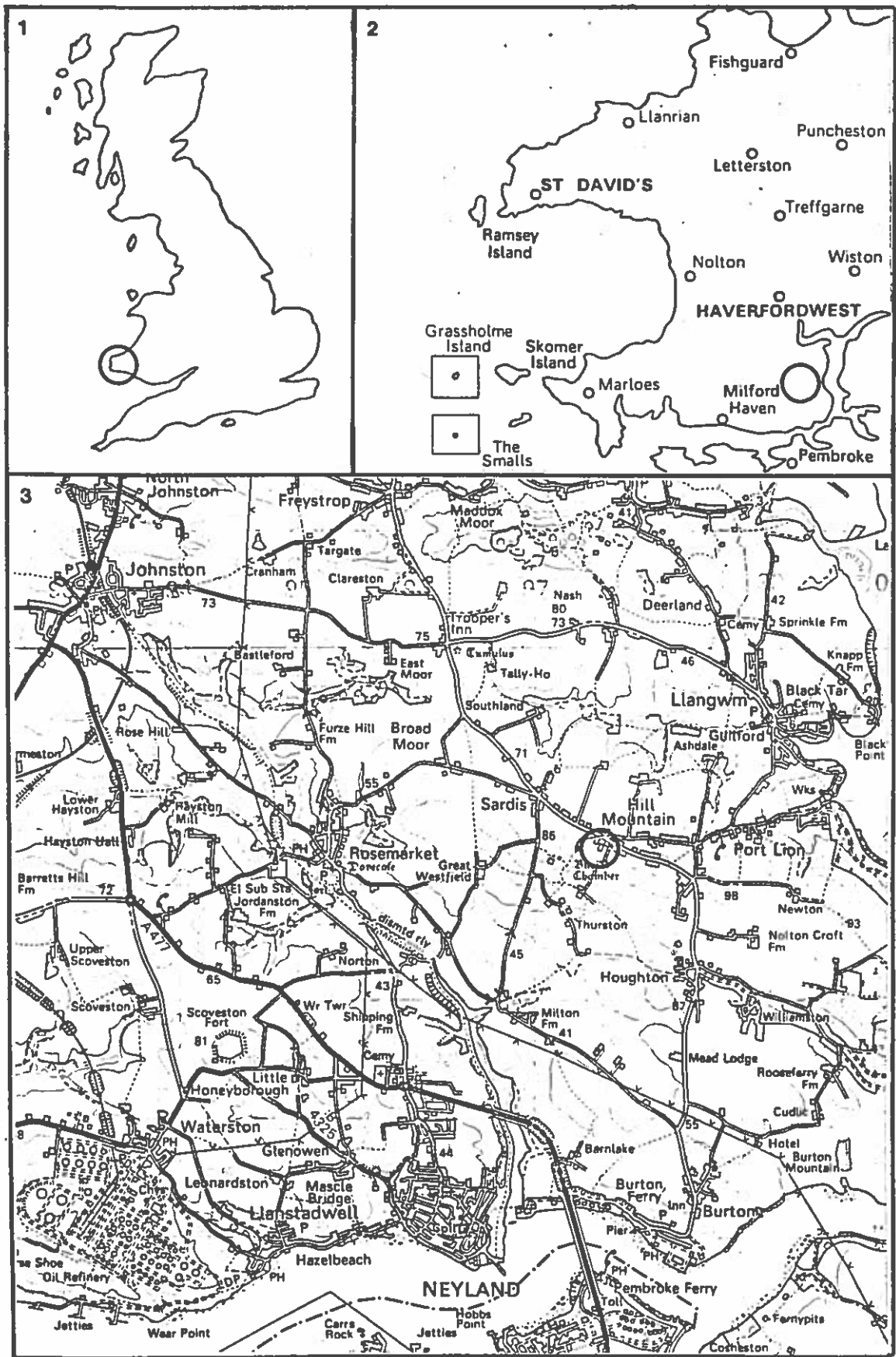
The area south of the enclosure proved more perplexing.

Igneous rock outcrops could result in the observed anomalies, but, unless records can show that there has been recent activity on the site (war-time establishments for example), an archaeological origin would seem likely. If this proves to be the case, the evidence suggests a major complex of features.

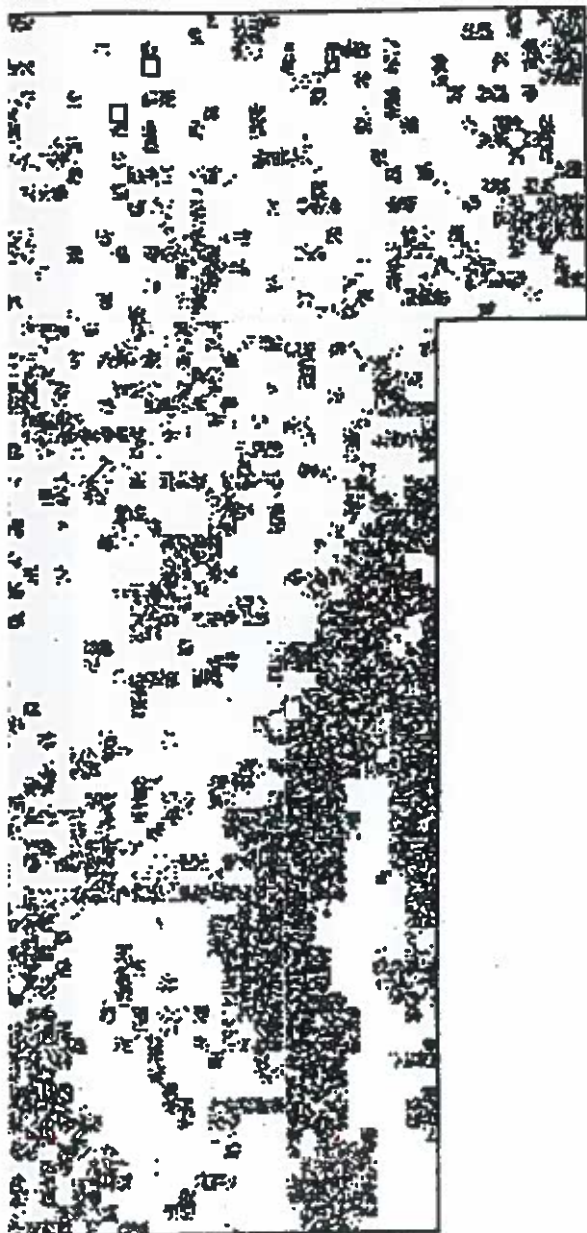
Appendix 1: Presentation of Results

In the dot-density presentation, each survey station is allotted a fixed area within which a number of dots proportional to the magnitude of the instrument reading is plotted at random. In this way a pictorial image is created of the variation in reading over the survey area and anomalies can be recognised more easily. Strong magnetic / high resistance readings are displayed as dense concentrations of dots, whereas low readings are shown as blank areas.

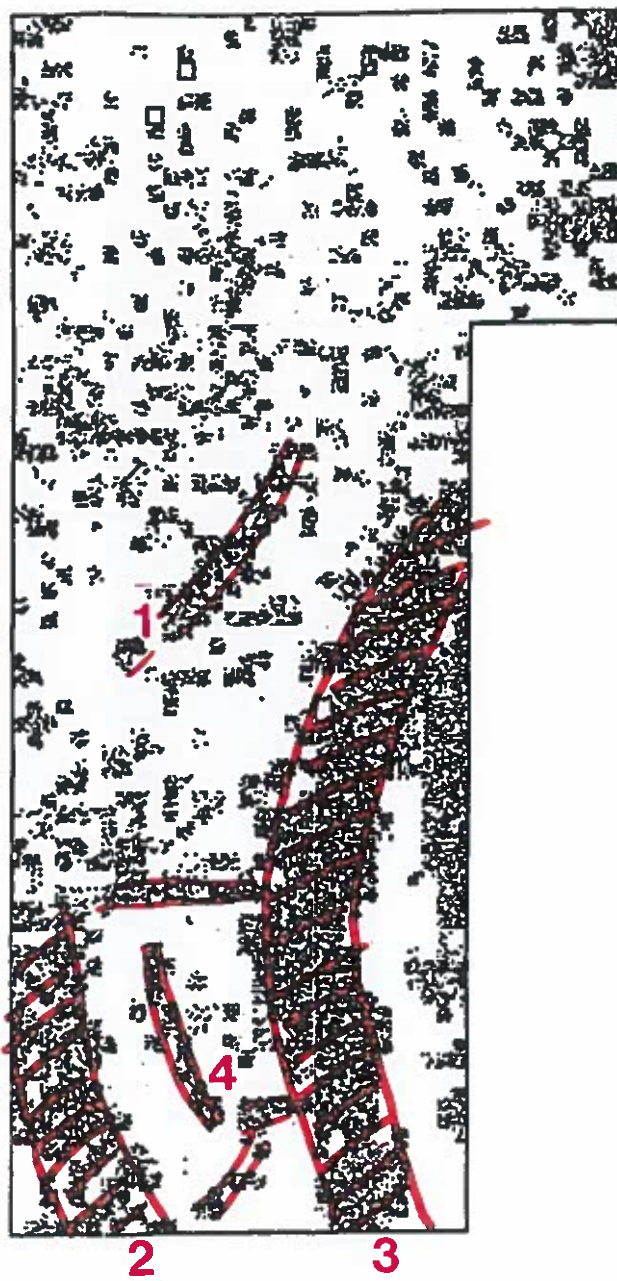
With reference to the plots, the minimum cut-off level is the reading corresponding to zero dots and the maximum cut-off level is the reading corresponding to the maximum number of dots.



Site Location



Magnetometer Data 0 to 10nT



Simplified Interpretation