FH2 AMA1(7SP)1185

Ancient Monuments Laboratory

Magnetometer Survey at Castle Canyke, Bodmin, 1985

Survey no. G26/85 Date of fieldwork 17-18 September 1985

NQ: SX 085 668

The object of this survey was to test for evidence of archaeological activity in field 3875, the western half of which has been the subject of a planning application, but the opportunity was also taken to make limited tests of the magnetic response from the fields within the earthwork. Little is known about this hillfort, which has not been excavated and the findings from the interior serve both to clarify the interpretation of the results from field 3875, and to indicate the potential value of magnetic surveying in any future investigation of the site.

The site was assessed by means of an initial free-ranging scan with the magnetometer, followed by detailed plotting of selected areas as shown on the plan enclosed. The magnetic susceptibility values of a number of soil samples were also measured, and found to vary consistently with the magnetometer results.

Magnetometer Scan

Scanning within the hillfort rapidly confirmed that the soil conditions at the site (which is on Lower Devonian Sandstone) are favourable for magnetic surveying. The most conspicuous feature detected by scanning was the inner ditch behind the rampart. This is visible on the ground as a slight depression and is marked on the OS map, but it also gave a strong magnetic anomaly (10-20nT).

Three of the four quadrants of the interior were traversed at 10-20m intervals with the magnetometer to test for areas of settlement activity. (Field 6577 was newly ploughed at the time and was not scanned). There was an increase in the general noise level towards the E of field 5290 and this was investigated further by plotting squares 1 and 2. Some areas of the interior however appeared to be relatively undisturbed, especially in field 5177 where the response, at least to the W of the field, varied only by $\pm$ 2-3nT.

Field 3875 appeared to be very quiet when scanned, producing a response in the range of only ± 2nT, which is no more than would be expected from natural soil noise.

Recorded Survey

A scan is not necessarily effective in finding weak or isolated features and so a series of 30m test squares was plotted using the magnetometer and chart recorder. The plots (representing traverses recorded at 1m intervals) are reproduced on the plan enclosed at 1:500 scale with magnetic anomalies of possible archaeological interest outlined.

In the absence of findings from the scan the three test squares in field 3875 were centred approximately in the area affected by the planning proposal, but the plots again provide no indication of archaeological features. It has been suggested that a cropmark in the field could indicate an outer ditch around the hillfort. If this exists it might cross square 7, but nothing can be seen there except some localized interference from the corrugated iron sheds nearby. No detailed investigation was made of the eastern half of this field, which lies close to a gap in the earthwork which has been proposed as the main entrance to the hillfort.

Squares 3, 5 and 6 within the hillfort each clearly show the inner ditch. There is a narrow gap in the ditch in square 3. The remaining areas within these squares are relatively quiet, but there are a number of anomalies which appear to represent pits (outlined).

The response from squares 1 and 2 which are close to the centre of the hillfort is much more disturbed. Individual anomalies are difficult to identify except for some pit and ditch-like features, but the general level of activity and the contrast with the other areas surveyed both suggest this area has been intensively occupied.

Soil Susceptibility Tests

The magnetic susceptibility of the soil is usually enhanced in areas which have been subject to past occupation, and the variation in the readings (based on measurement of topsoil samples) as shown on the plan provides further evidence for the distribution of activities within the site. The highest readings were from the samples taken from square 1 and from field 6590, but all the interior values are considerably enhanced (except perhaps at the W of field 5177) relative to field 3875.

Conclusions

The site responds satisfactorily to the magnetometer and the survey was successful in locating some of the inner ditch and demonstrating the presence of a settlement within the hillfort. On the evidence of the susceptibility readings and the scan the focus of the settlement might be between fields 5290 and 6590, but there could well be some activity elsewhere within the hillfort and further work would be needed to establish its extent.

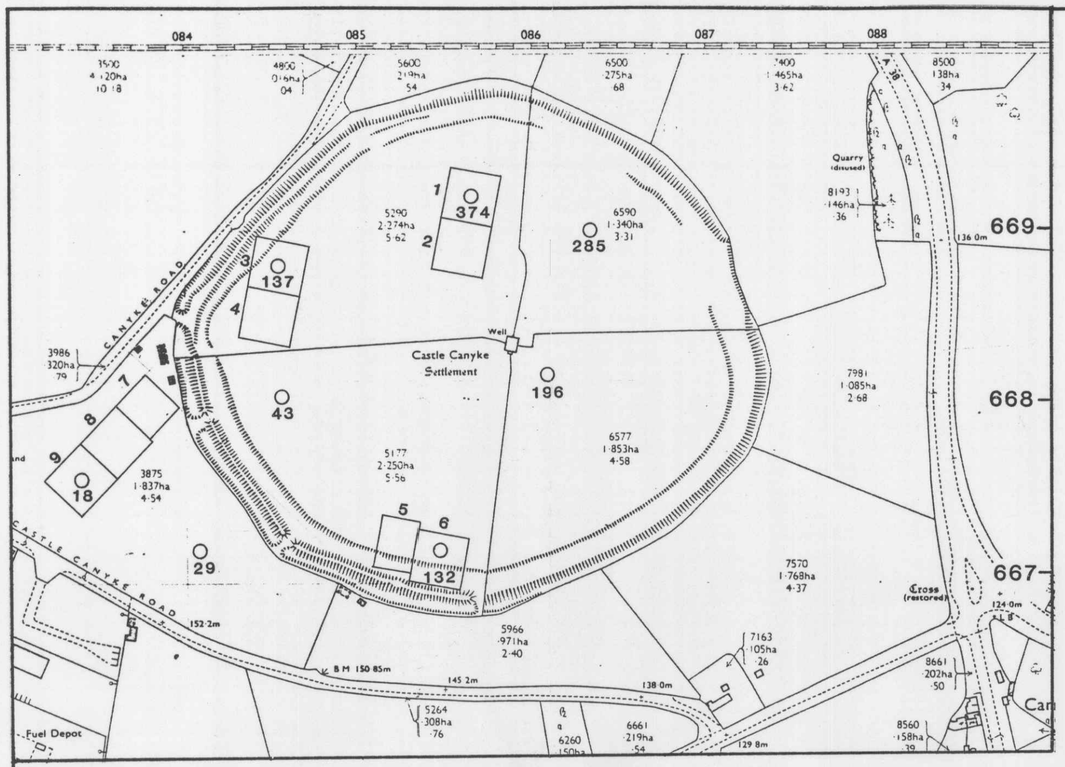
No evidence for archaeological features was obtained from field 3875. The low susceptibility values from this field confirm that it is unlikely to have been the site of a settlement, but might also mean that any other features which could be present, such as the suspected outer ditch, could be difficult to detect.

Survey and report by: A Bartlett
with: D Shiel

Date of report: 18 November 1985.

Ancient Monuments Laboratory
HBMC
23 Savile Row
London W1X 2HE

01-734 6010 Ext 527

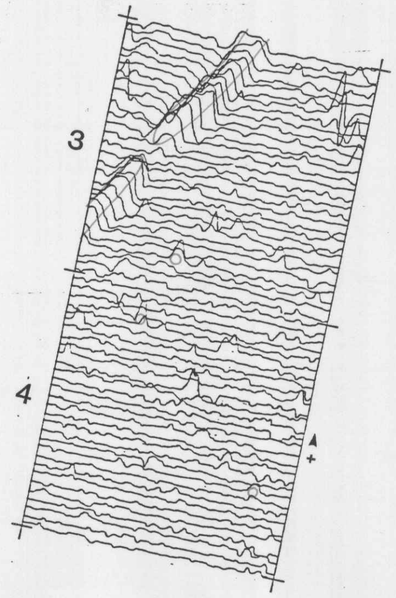


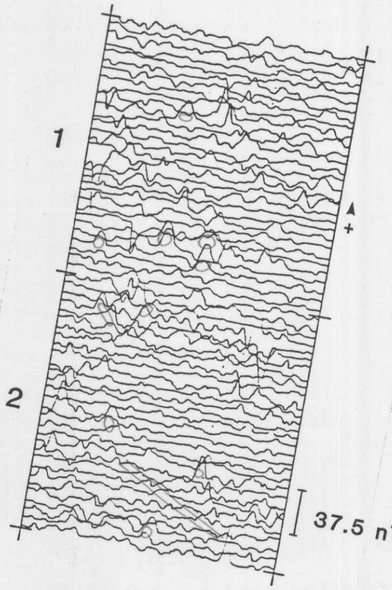
SURVEY LOCATION (1 : 2500)

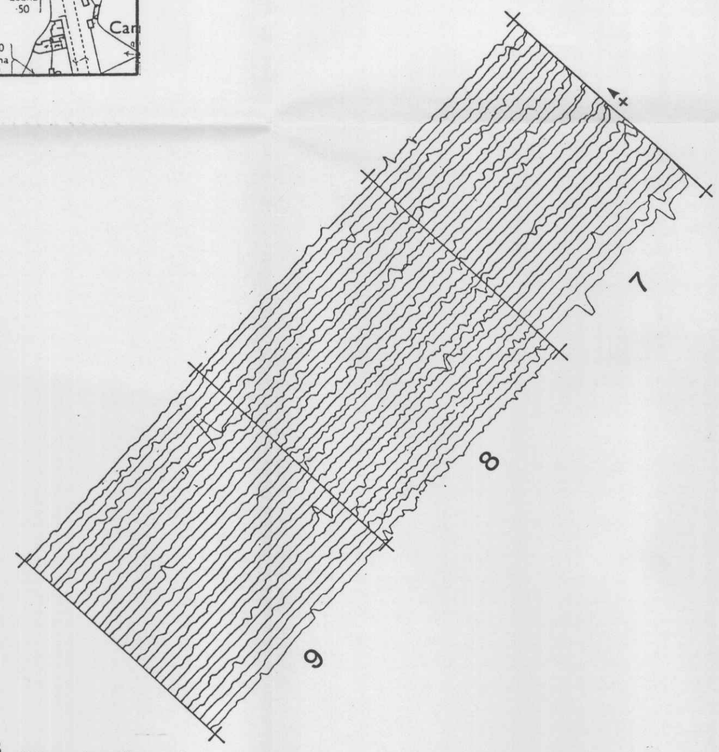
CASTLE CANYKE, BODMIN

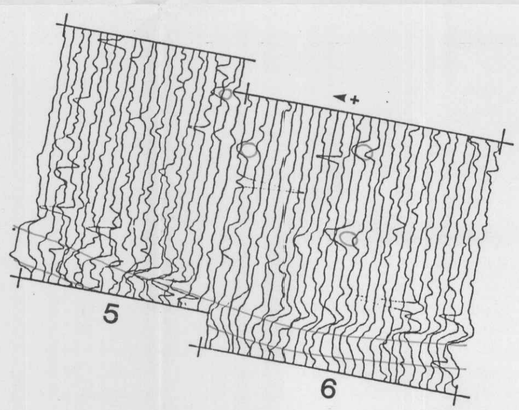
Magnetometer survey, 1985

1 : 500









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1 ☐ 30 m grid squares

○ 99 soil samples (magnetic susceptibility readings x 10^{-8} SI units/kg

magnetic anomalies

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