LLawhaden - Report on geophysical surveys at Woodside and Dan-y-Coed, 1983. No. G 18/

NGR : SN 077187 - 078189

Dates : 4-6/5/83
5-8/7/83

Fields : 7575, 6800, 0004

Geology : Ordovician shales and mudstones, overlain in places by boulder clay.

Topsoil magnetic susceptibility : 234×10^{-8} SI Units/Kg. (Woodside)
435×10^{-8} SI Units/Kg. (Dan-y-Coed)

Plans: 1 - Grid location, 1 : 2500
2 - Magnetometer traces, 1 : 1000
3 - Magnetometer traces, with interpretation, 1 : 1000
4 - Magnetic anomalies, 1980, 1983 surveys, 1 : 1000

Following the positive results from the magnetometer coverage of several sites in the Llawhaden area in 1980 (AML Report No. G 11 - 16/80), further survey work was carried out in 1983 at Woodside and Dan-y-Coed in conjunction with the Dyfed Archaeological Trust's continuing excavation there. The intention was to cover the ground surrounding and between the two sites in the hope of elucidating ditch systems outside the main enclosures. Plan 1 shows the location of the survey grids, and plan 2 shows the 1983 magnetometer traces reduced in scale and superimposed on these. On plan 3 anomalies of probable archaeological significance have been outlined in red, and these are shown on plan 4 along with those from the earlier 1980 survey.

RESULTS

Squares 1 - 10:

This area overlaps with parts of that covered in 1980. Squares 4 and 5 include the eastern part of the main enclosure ditch. Another approximately concentric ditch runs through sqs. 1 and 2, terminating abruptly near the centre of the latter. No other ditches have been detected in sqs. 1 - 10, but there are isolated anomalies outside the enclosure (eg in sqs. 1, 2 and 5) which may be caused by pits or hearths. There is slight disturbance in sqs. 3 and 4, but this is not definitive enough to be confidently related to archaeological activity.

Sqs. 6 - 10 are disturbed throughout by an erratic and noisy background soil magnetism which would obscure any small archaeological features present. Background magnetic interference increases very considerably across the site progressively from sqs. 1 to 10. The very high magnetic susceptibility values that give rise to such an extreme response are probably of natural rather than artificial origin and may well relate to variations in the distribution and consistency of locally occurring boulder clay. Igneous erratics amongst the latter may also be responsible for some of the stronger anomalies.

Squares 11 - 26:

Background magnetic interference here is also extreme: the irregular surface texture of the field contributes to this noise as do recent cultivation activities, drains and former hedges. Gaps in the survey are due to excavation trenches and spoil heaps. The two parallel anomalies running obliquely along the eastern edge of sqs. 12, 16 and 20 may mark the position of a former hedge-line. Parallel to this, a linear anomaly in sqs 15 and 19 marks the position of a recent drainage trench.

cont/

Amongst all this misleading magnetic activity only the more massive archaeological features are sufficiently obtrusive to be recognizable. Crucial areas, in sq. 13 for instance, cannot be interpreted satisfactorily.

A ditch has been detected in sqs. 14 and 18, and it is probably a continuation of this that can be seen in sq. 12, turning southwards in sq. 11 to terminate in sq. 19. Further archaeological activity to the west of this feature is indicated by the presence of additional linear anomalies and disturbance in sqs. 19 and 11. Within the field a few other anomalies can be singled out as probably representing archaeological features - ditches, pits or hearths - but much else of significance may well be obscured.

Squares 27 - 44:

This area covers the two fields, divided by a trackway, downslope of Dan-y-Coed. Ditches are visible in sqs. 27 and 28 and probably represent part of the entrance way to the Dan-y-Coed enclosure. The eastern of these two ditches can be traced rather intermittently southwards to sq. 35, and from there westwards to sq. 38. The distribution and shape of anomalies elsewhere in this area is patchy and uninformative. The N - S linear patterns in sqs. 32 and 37 are best explained as features of more recent agricultural origin.

CONCLUSIONS

High soil magnetic susceptibility is usually a great advantage in the location and definition of archaeological features with the magnetometer, but on these sites susceptibility values are unusually extreme and their greatest effect has in fact been to work against clear detection. Spurious anomalies and a very noisy background have obscured or confused all but the most obvious archaeological anomalies so that little more than the major ditches adjoining the two enclosures in the fields to the north and south of Dan-y-Coed have been detected. Much information has also been lost owing to the necessary discontinuity between the various survey grids caused by hedges, fences and other obstacles. Despite these drawbacks, however, the ditch anomalies and the few smaller features that can be isolated, complement excavation and aerial photographic evidence, and help confirm some of the pattern of features outlying the main enclosures. The magnetic evidence suggests a subsidiary enclosure ditch to the south of Dan-y-Coed, and that the system of ditches could also well extend westward at least into the field (5579) adjoining the survey grid.

Surveyed and reported by A. David. 9th. March 1984

for Dyfed Archaeological Trust

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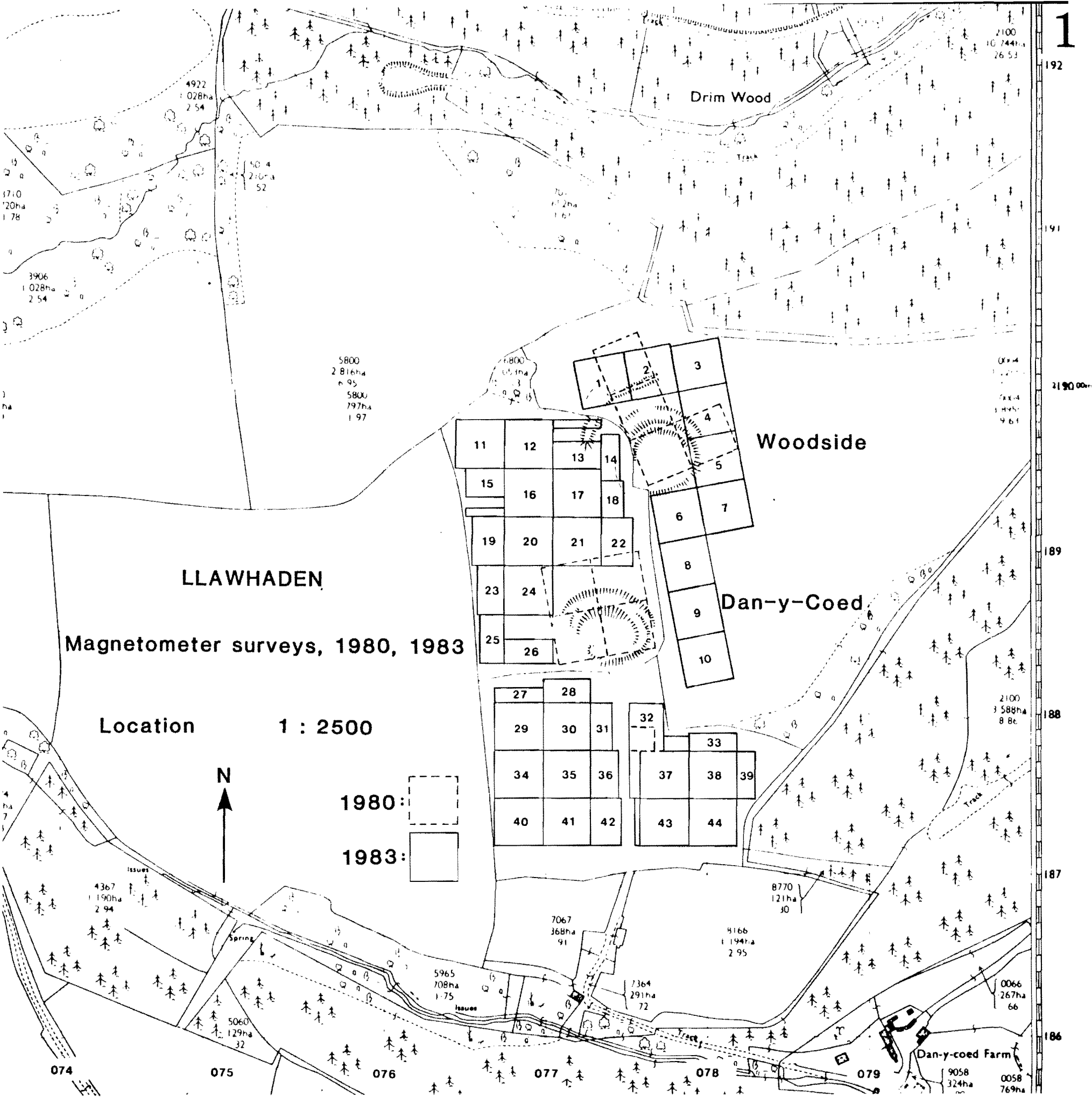
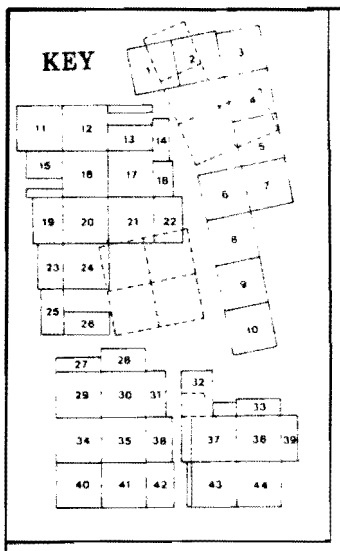
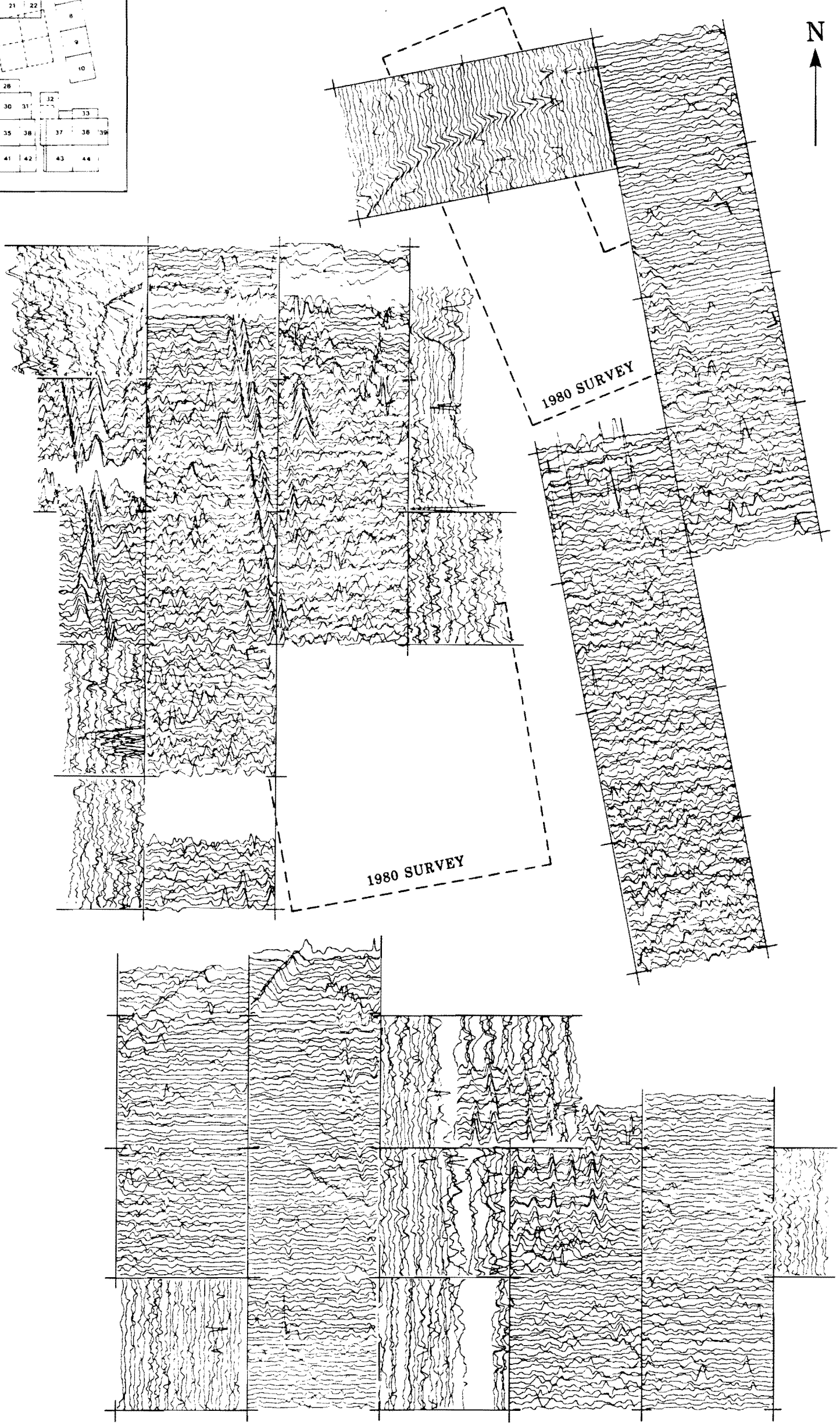

Drim Wood
Woodside
LLAWHADEN
Dan-y-Coed
Magnetometer surveys, 1980, 1983
Location 1 : 2500
N
1980:
1983:
Dan-y-coed Farm
074
075
076
077
078
079
1
192
191
189
188
187
186

LLAWHADEN, 1983

Magnetometer survey





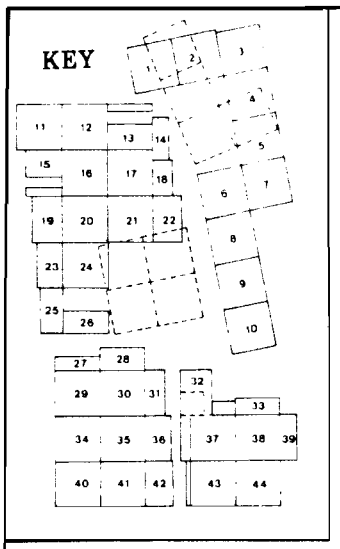
0 30 m.

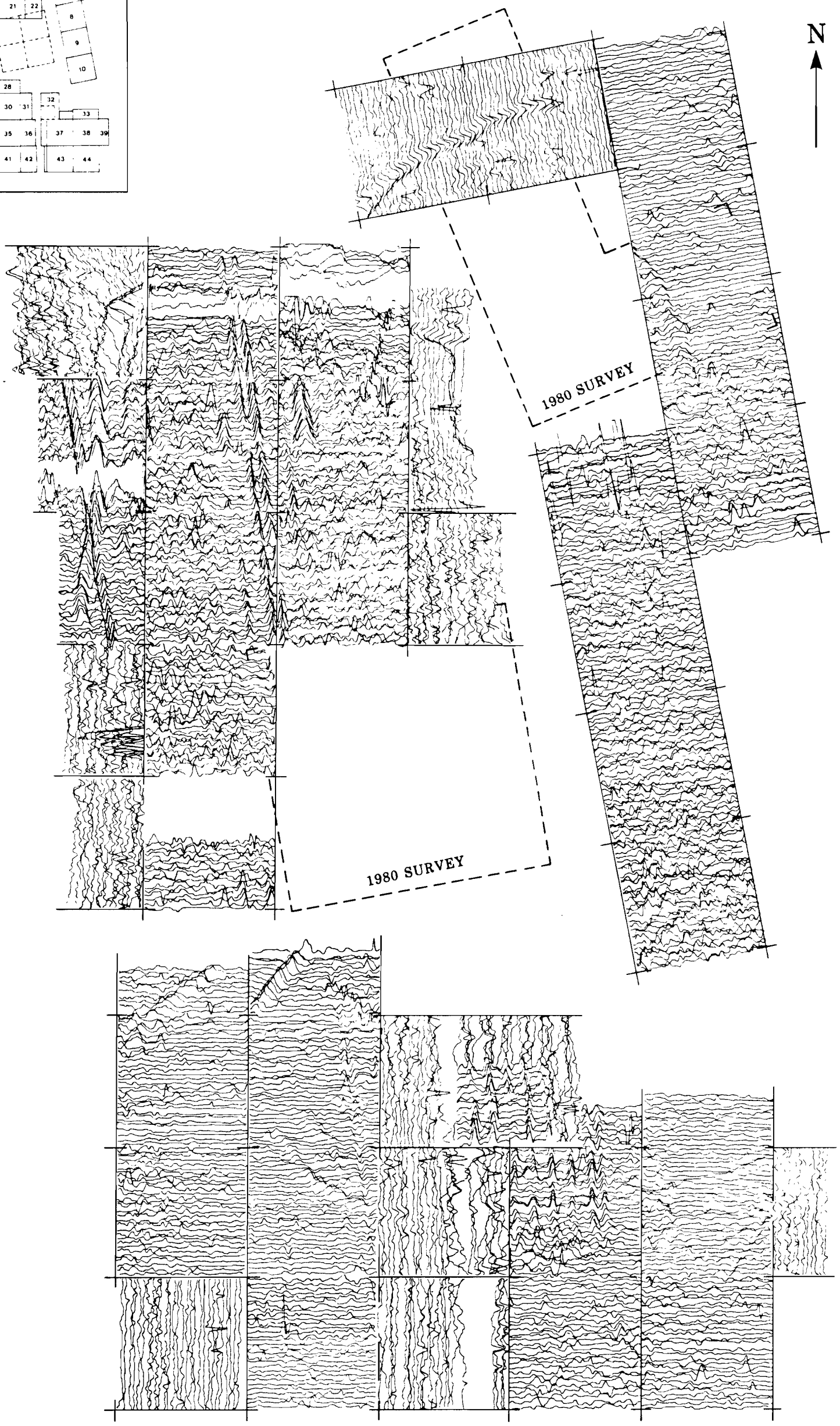
Vertical scale : 75 nT/cm.

A. M. LAB.

LLAWHADEN, 1983

Magnetometer survey





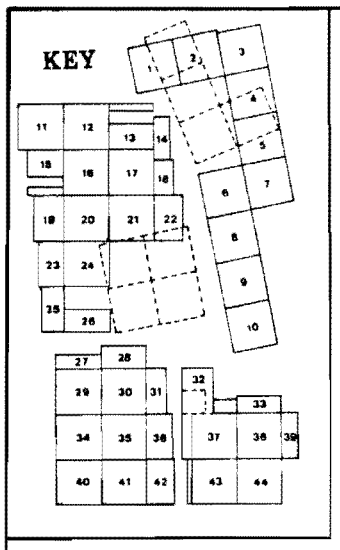
0 30 m.

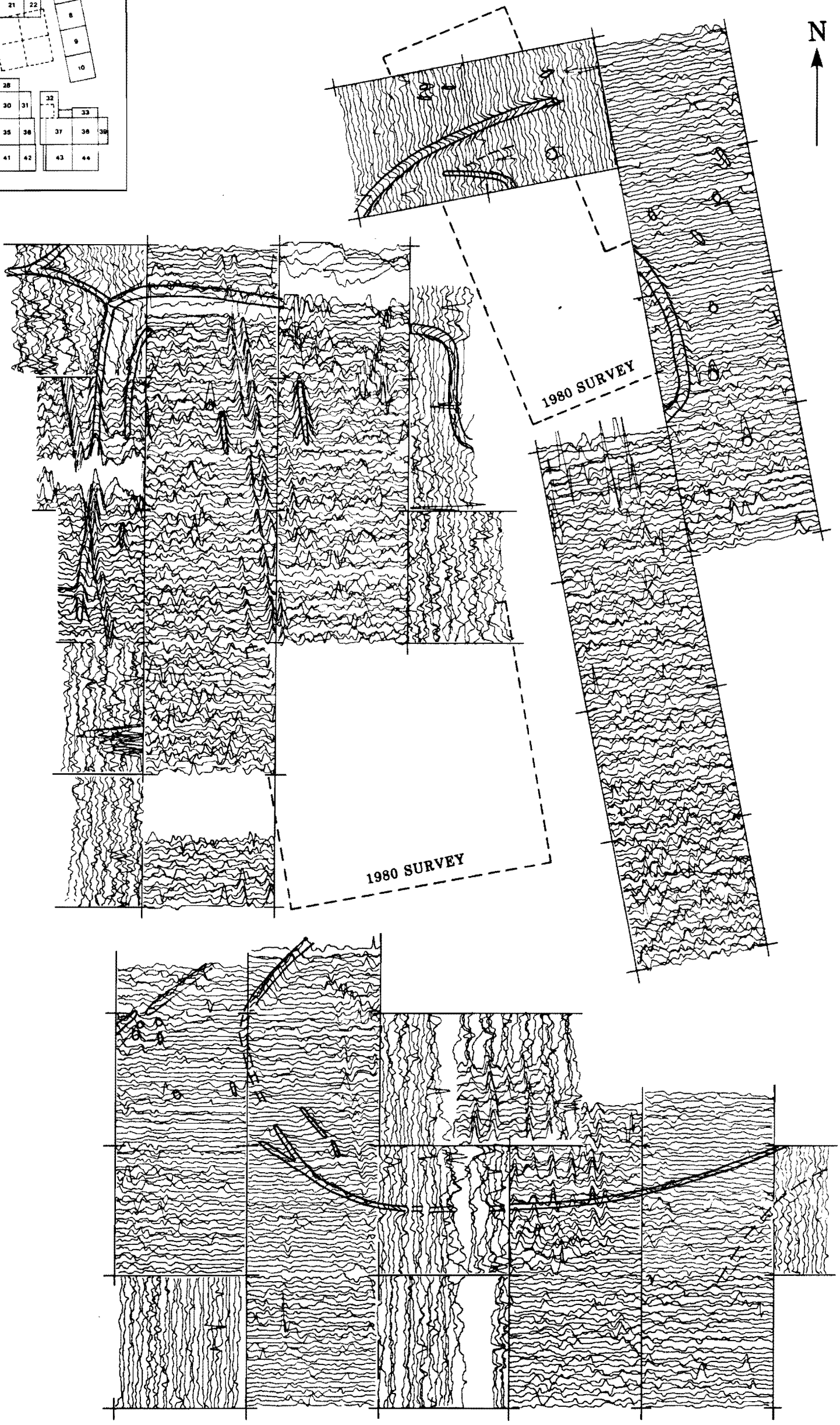
Vertical scale : 75 nT/cm.

A. M. LAB.

LLAWHADEN, 1983

Magnetometer survey





Anomalies outlined in red

Vertical scale : 75 nT/cm.

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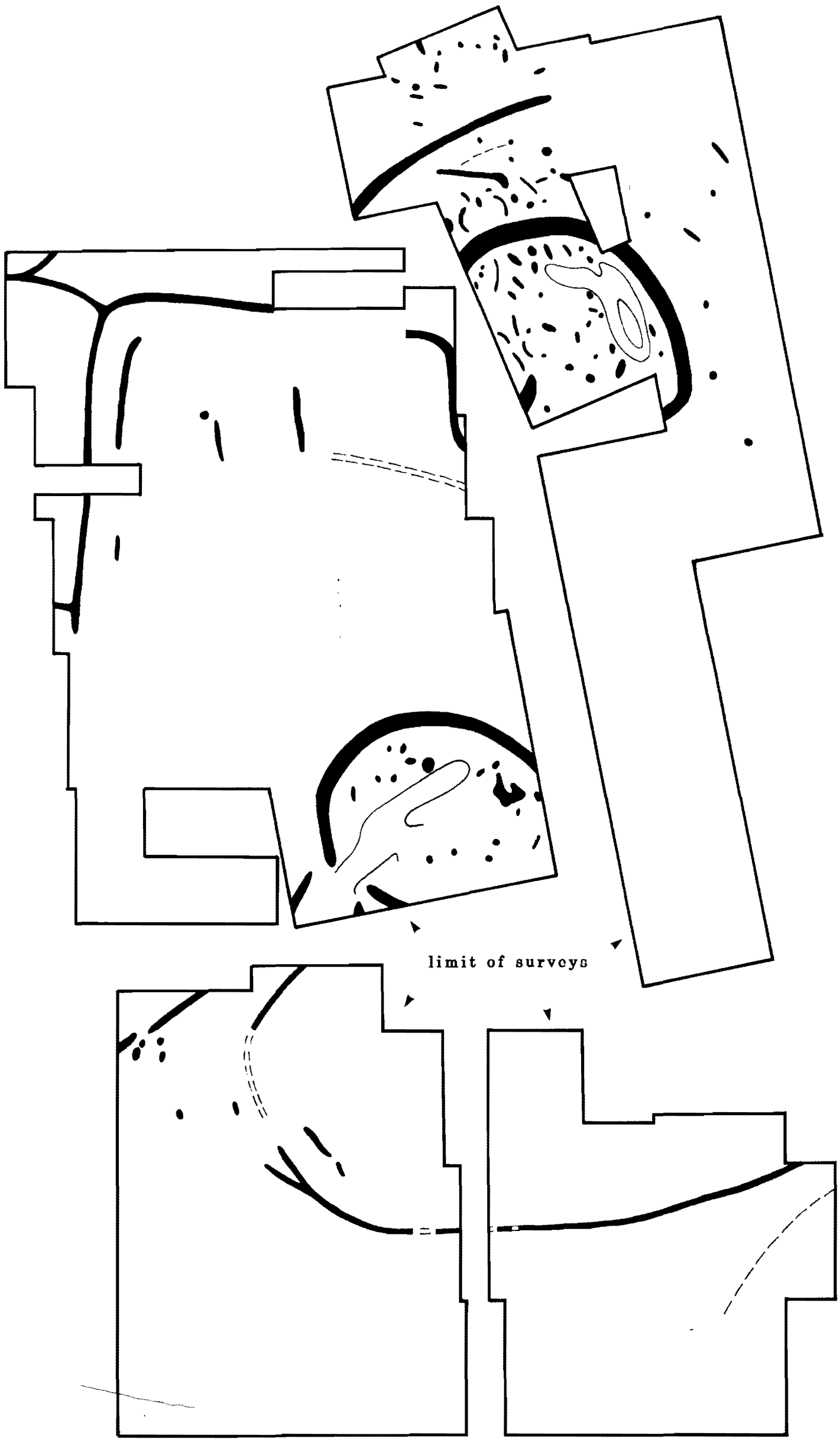
Woodside and Dan-y-Coed

1 : 1000

N

Magnetic anomalies, 1980 and 1983



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