

A30 Temple to Carblake Road Improvements



Archaeological Investigation Report: Interpretation of Geophysical Survey



Oxford Archaeology

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**A30 TEMPLE TO
HIGHER CARBLAKE IMPROVEMENT
CORNWALL**

**Report on Archaeogeophysical Surveys
2004**

A.D.H. Bartlett

**Interpretation of Results
2005
T. Allen**

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A30 TEMPLE TO HIGHER CARBLAKE IMPROVEMENT SCHEME, CORNWALL

Report on Archaeogeophysical Survey 2004

1 Introduction

- 1.1 This survey was commissioned by Oxford Archaeology as part of an archaeological evaluation for a proposed widening scheme on the A30 near Higher Carblake, some 5km north east of Bodmin (NG SX 115710).
- 1.2 The fieldwork for this survey was done in December 2004 at the same time as surveys on the Chiverton Cross to Carland Cross A30 improvement scheme.
- 1.3 The locations of the two areas of magnetometer coverage are shown on figure 1. Other sections of the route were not accessible. The areas surveyed cover a total of 1.56 ha.

2 Survey Procedure

- 2.1 The survey was carried out following standard magnetometer surveying procedures in which readings are recorded at 25 cm intervals along lines 1m apart using fluxgate magnetometers. The x-y (graphical) plots represent the initial data after correction for irregularities in line spacing caused by variations in the instrument zero setting (figure 3). Additional 2D low pass filtering has been applied to the grey scale plots (figure 2) to reduce background noise levels.
- 2.2 Background magnetic susceptibility readings were taken using a Bartington MS2 meter and field sensor loop. Susceptibility measurements can provide a broad indication of areas in which archaeological debris, and particularly burnt material associated with past human activity, has become dispersed in the soil. They can provide useful supplementary evidence when interpreting a magnetometer survey, but are also affected by non-archaeological factors, including geology, past and present land use, and modern disturbances.
- 2.3 The survey grid was set out and located at the required national grid co-ordinates by means of a sub-1m accuracy GPS system.
- 2.4 Outlines indicating potentially significant magnetic anomalies are shown superimposed on the x-y magnetometer plots. The same interpretation is reproduced to provide a summary of findings on the location plan (figure 1). Magnetic susceptibility readings are displayed as plots of shaded squares of density proportional to the readings alongside the magnetometer plots on figure 3.

3 Results

- 3.1 Area 1 produced some distinct magnetic anomalies, including strongly defined linear features probably indicating former ditches or boundaries. There are also linear cultivation markings (as indicated on figure 1 in green). Some of the (red) linear magnetic anomalies align with existing field boundaries, and so could be relatively recent.
- 3.2 The magnetic anomalies outlined at A (on figure 1) are weak and irregular in plan, and are not strongly indicative of potential archaeological features.
- 3.3 Area 2 gave high magnetic susceptibility readings, which are probably of geological origin, and there is a corresponding increase in the background noise level in the magnetometer survey.
- 3.4 A few linear markings may be visible in area 2, particularly in the grey scale plot. These are probably caused by ploughing except perhaps for the curving linear feature detected at the edge of the survey area at B. A more extensive survey could show whether this forms part of an enclosure, which could be of archaeological interest.

4 Conclusions

- 4.1 Conditions at the site appear to be favourable for magnetometer surveying, but most of the findings from the survey seem likely to be of recent origin. One feature of possible interest is a linear magnetic anomaly at B in area 2, which could be part of a former enclosure.

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P. Cottrell and W. Davies carried out the fieldwork for this project.

24 January 2005

5 Interpretation of results

5.1 Introduction

The geophysical survey was intended to cover the whole of the offline section of the route. In practice the geophysical survey was limited, as a number of landowners refused permission to carry out the survey, and as a result, survey was undertaken only of one stretch of the route proper (area 2) and one area immediately adjacent to the route (area 1).

5.2 Results

5.2.1 Survey in area 1 picked up several buried ditches on a parallel north-north-west alignment. These are former field boundaries that were present on the 1840 Tithe Map (see OA 2004a, Figure 2). Other possible buried ditches were found parallel to the existing A30 and to the curving line of the old A30; these are probably recent, associated with the existing boundaries.

5.2.2 Survey in area 2 located a curving buried ditch that might form part of an enclosure. No historic boundaries are known within this field, but the field immediately to the south was called Round Park on the 1839 Tithe survey, and it was speculated that this might mark the site of a former 'round' enclosure (OA 2004b, Figure 3, OA 27). There is therefore a distinct possibility that the geophysical survey has located the edge of a prehistoric or Roman enclosure. A number of discrete anomalies that lie north and west of the enclosure ditch may be associated features.

5.3 Conclusions

5.3.1 The survey has identified one possible buried archaeological site linked to documentary evidence. This has demonstrated the value of geophysical survey for this scheme, and has reinforced the need for further survey along the remainder of the offline section once access is possible. There is a documentary reference to another such site further north-east along the offline section (OA 2004b, Figure 3, OA 38), and survey should certainly be carried out in this area as soon as possible.

Appendix 1

Bibliography

Oxford Archaeology 2004a *A30 Temple to Carblake Improvement: Historic Landscape Character Assessment*, unpublished DMRB Stage 2 assessment prepared for the Highways Agency on behalf of Hyder Consulting.

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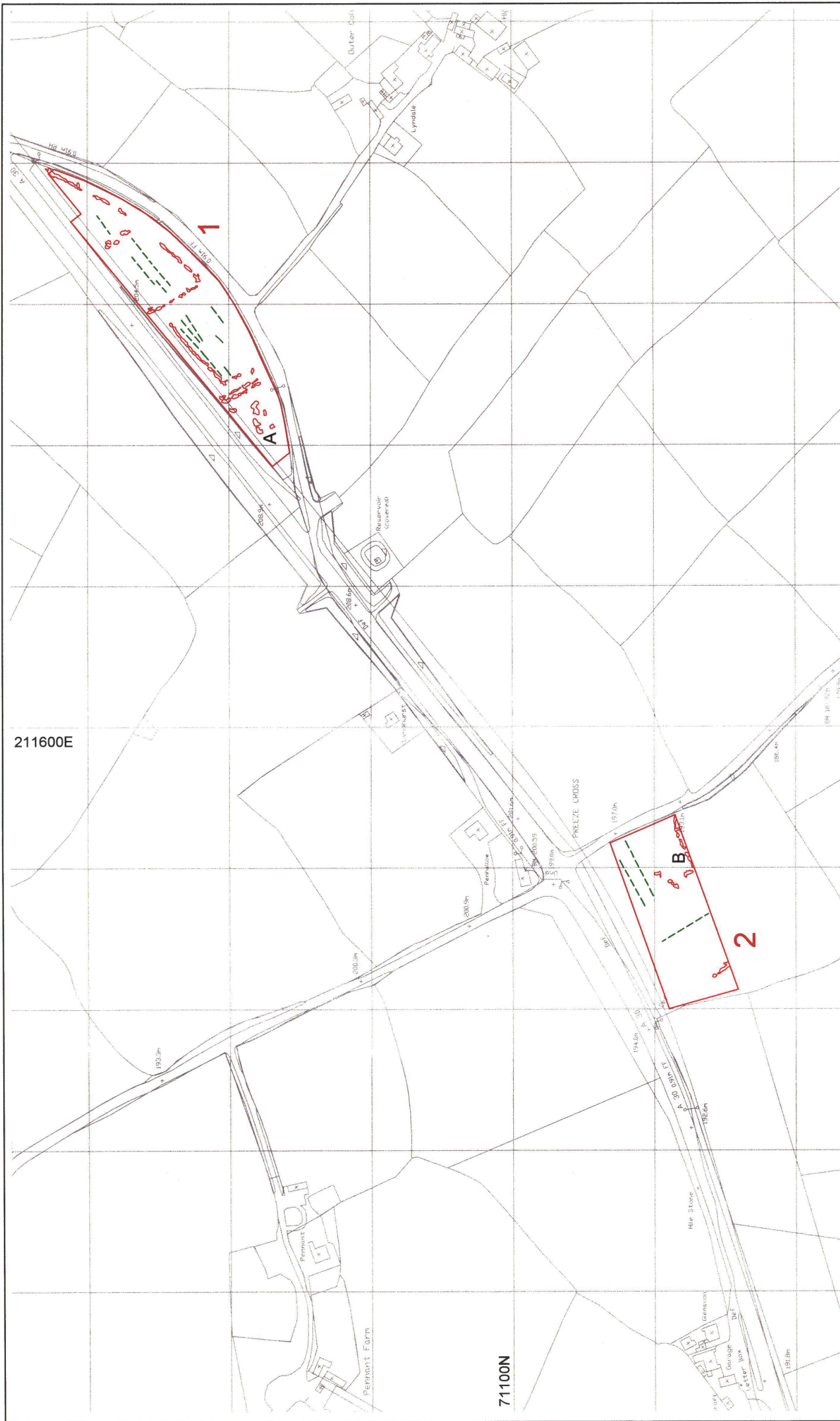
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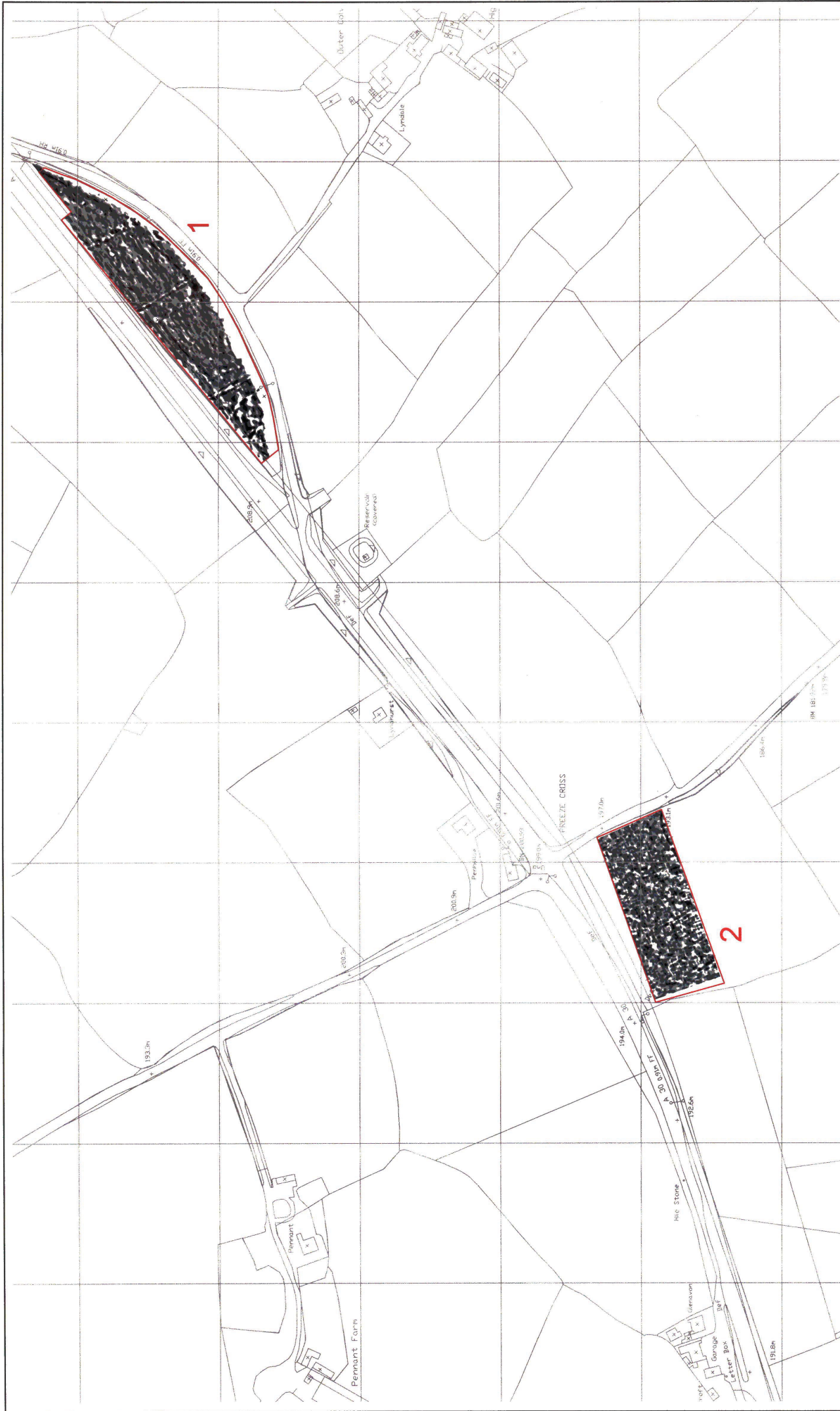
Oxford Archaeology 2004b *A30 Temple to Carblake Improvement: Cultural Heritage Resource Assessment*, unpublished DMRB Stage 2 assessment prepared for the Highways Agency on behalf of Hyder Consulting.



**Location of Magnetometer Survey
 (with interpretation)**

<ul style="list-style-type: none"> magnetic anomalies magnetic anomalies (cultivation ?) pipe ? magnetically disturbed area 	<ul style="list-style-type: none"> Area proposed for magnetometer survey Areas not surveyed
---	---

1:2500
 0 100m



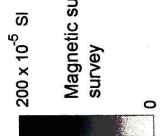
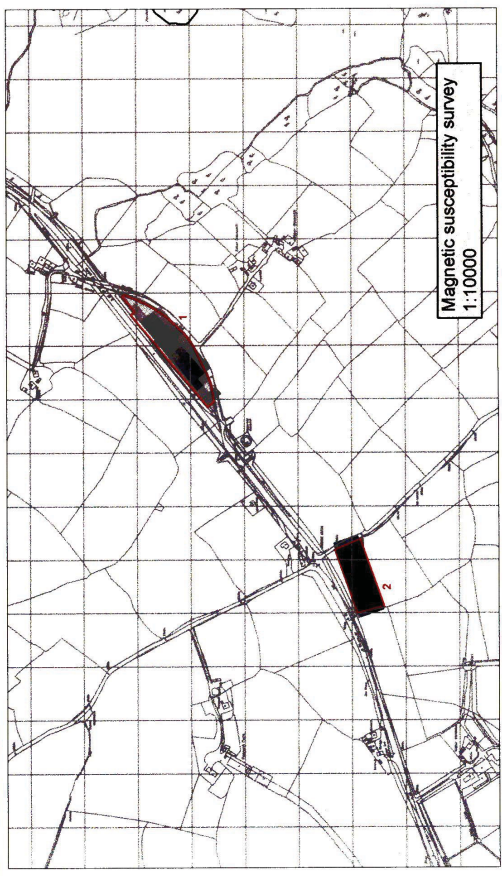
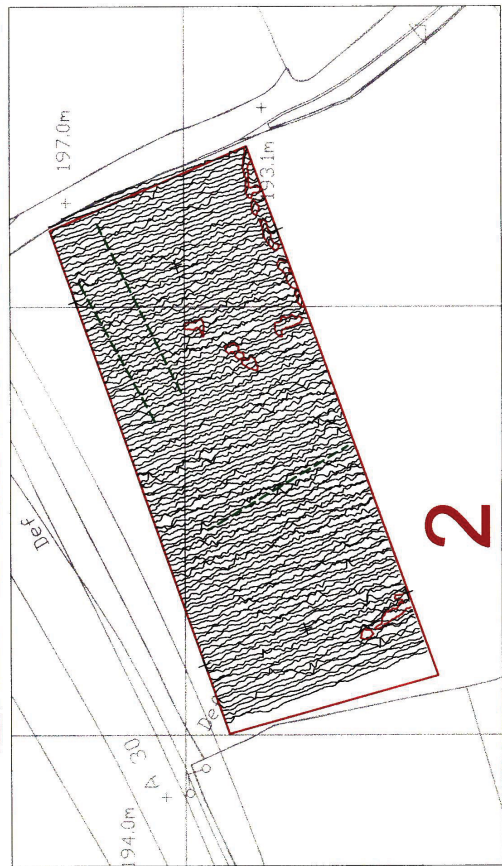
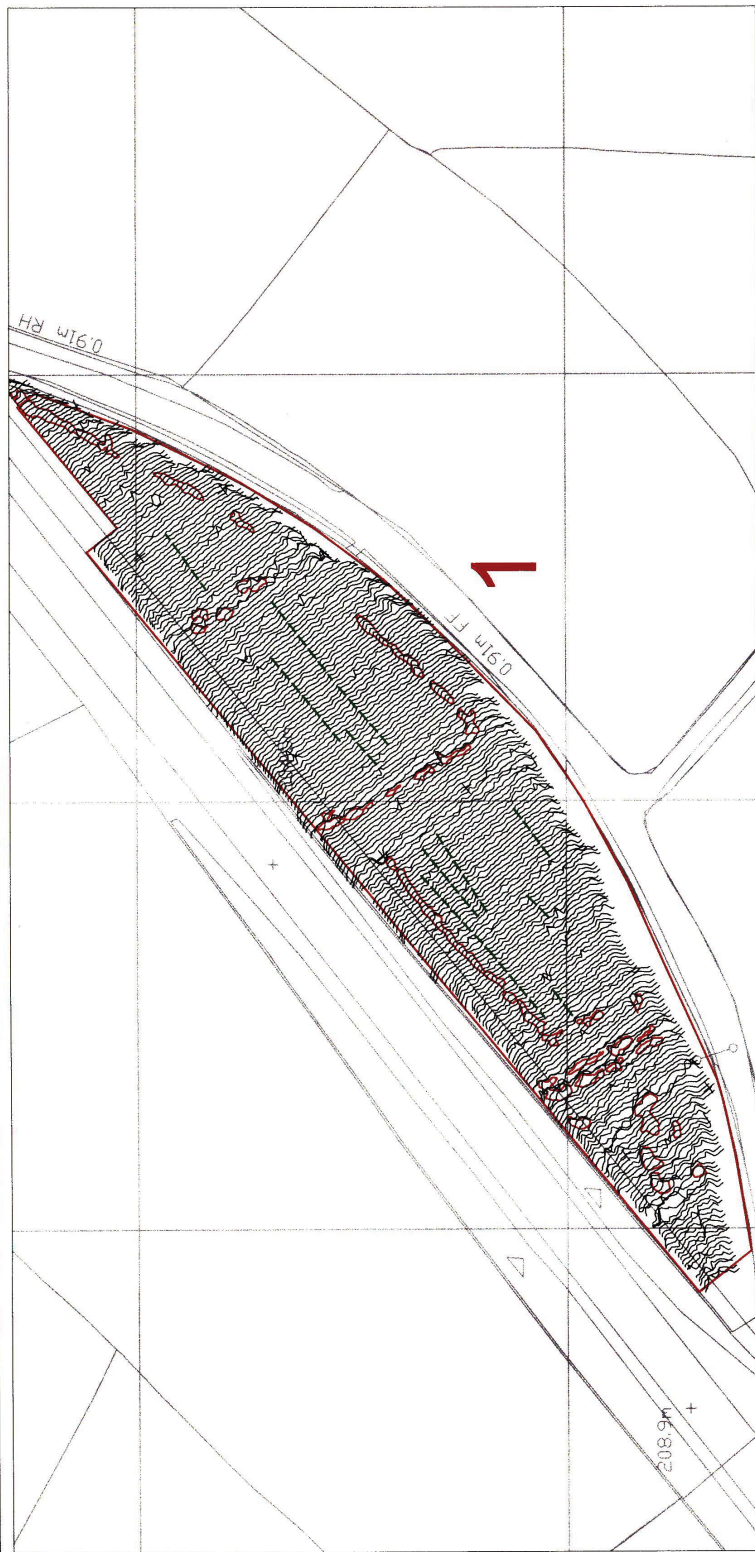
**Magnetometer Survey
 (grey scale plot)**

Area proposed for magnetometer survey
 Areas not surveyed

0 50 100m
 1:2500

+6.0 nT
 -5.5 nT

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 for: Oxford Archaeology



- magnetic anomalies
- magnetic anomalies (cultivation ?)
- pipe ?
- magnetically disturbed area

Magnetometer and Magnetic Susceptibility Surveys

- Area proposed for magnetometer survey
- Areas not surveyed

