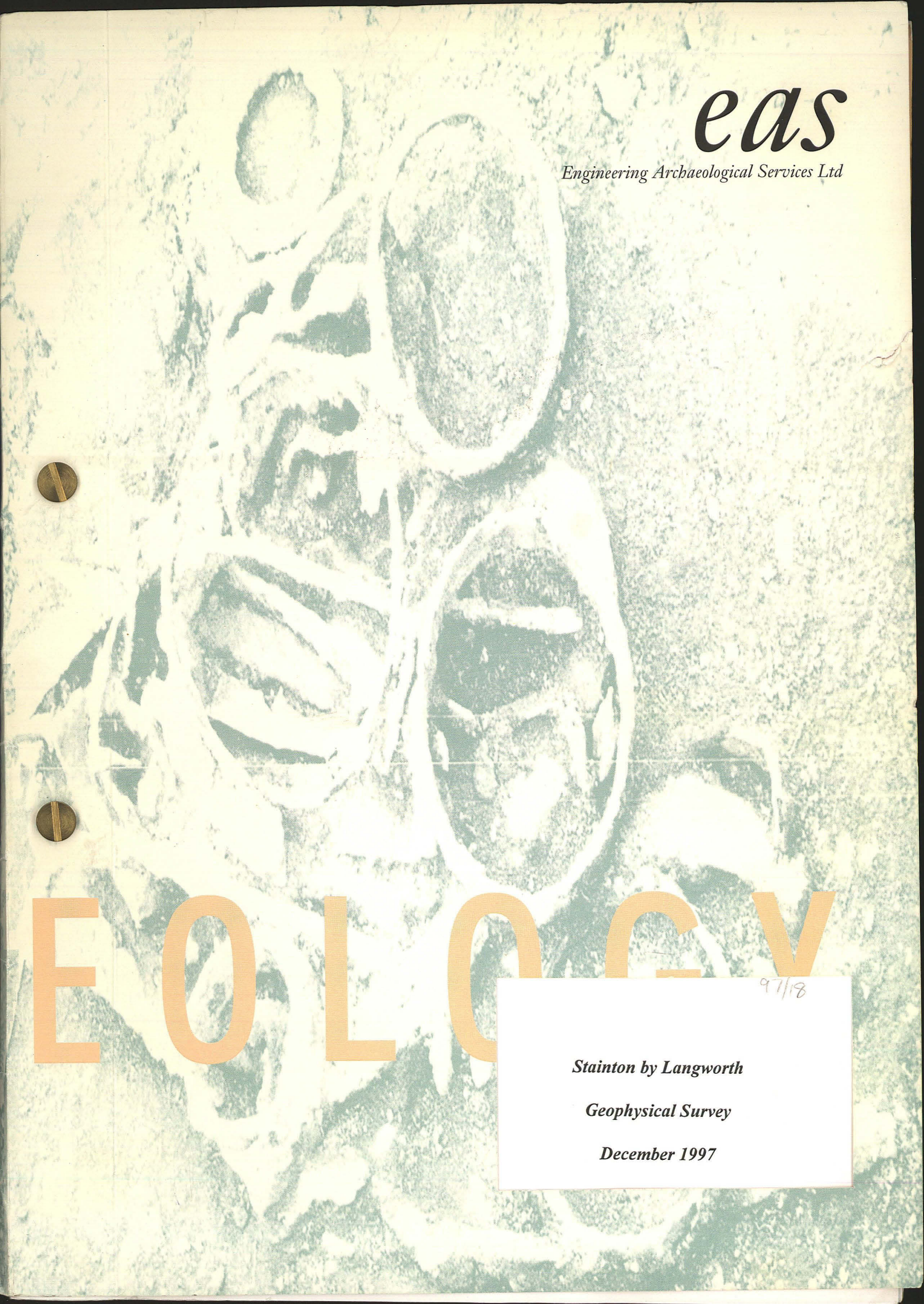

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Engineering Archaeological Services Ltd

97/18

Stainton by Langworth

Geophysical Survey

December 1997

EGNTS 43722 43723
SOURCE 43512
54264 Undated

Survey Commissioned
by
Archaeological Project Services

Surveyed
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Ian Brooks
Engineering Archaeological Services Ltd.

registered in England
N° 2869678

97/18

Stainton by Langworth

Geophysical Survey

December 1997

Contents

Stainton By Langworth Geophysical Survey - Introduction:

NGR

Centred On TF 0627 7781

Location And Topography

The area surveyed lies within Stainton by Langworth village, Lincolnshire. It is bounded on its north and eastern sides by roads. The survey area was relatively flat with a marked hollow, running east to west, through the centre of the survey area.

Aims Of Survey

It was hoped that a magnetometer survey would detect and locate any possible features and activity areas and thus clarify the archaeological significance of the site.

Summary Of Results

No consistent features were located within the magnetometer survey, however areas of disturbance and a visible ditch was noted.

Stainton By Langworth Geophysical Survey -Results:

Survey Results:

Area

An area of approximately 0.2 Ha was surveyed in detail using magnetometry.

Display

The results are displayed as a Grey Scale Image.

Results:

Complicating Factors

A number of trees and shrubs, both standing and fallen, were within the survey area.

The area had been used to dump modern rubbish. The tended to concentrate around the trees and shrubs and along the boundaries of the plot.

Detailed Survey

No archaeological features were located within the survey area., however several areas of magnetic disturbance were located. These are assumed to be related to the modern dumping of rubbish.

Magnetic Susceptibility

A soil sample was obtained from the survey area.

Sample	Volume susceptibility χ_v	Mass susceptibility χ_m
Grid 1	13	17.1

Conclusions

No archaeological features were located.

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

Stainton By Langworth Geophysical Survey -Technical Information:

Techniques Of Geophysical Survey:

Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remenance which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

Resistivity:

This relies on variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than Magnetometry this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

The depth at which features are detected is dependant on the probe spacing. A probe separation of 0.5m will detect features between 0.5 and 1m while a probe separation of 1.0m will detect features between 1 and 2m.

Magnetic Susceptibility:

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

Instrumentation:

1. Fluxgate Gradiometer - Geoscan Fm36

2. Resistance Meter - Geoscan Rm15A

3. Magnetic Susceptibility Meter - Bartington Ms2

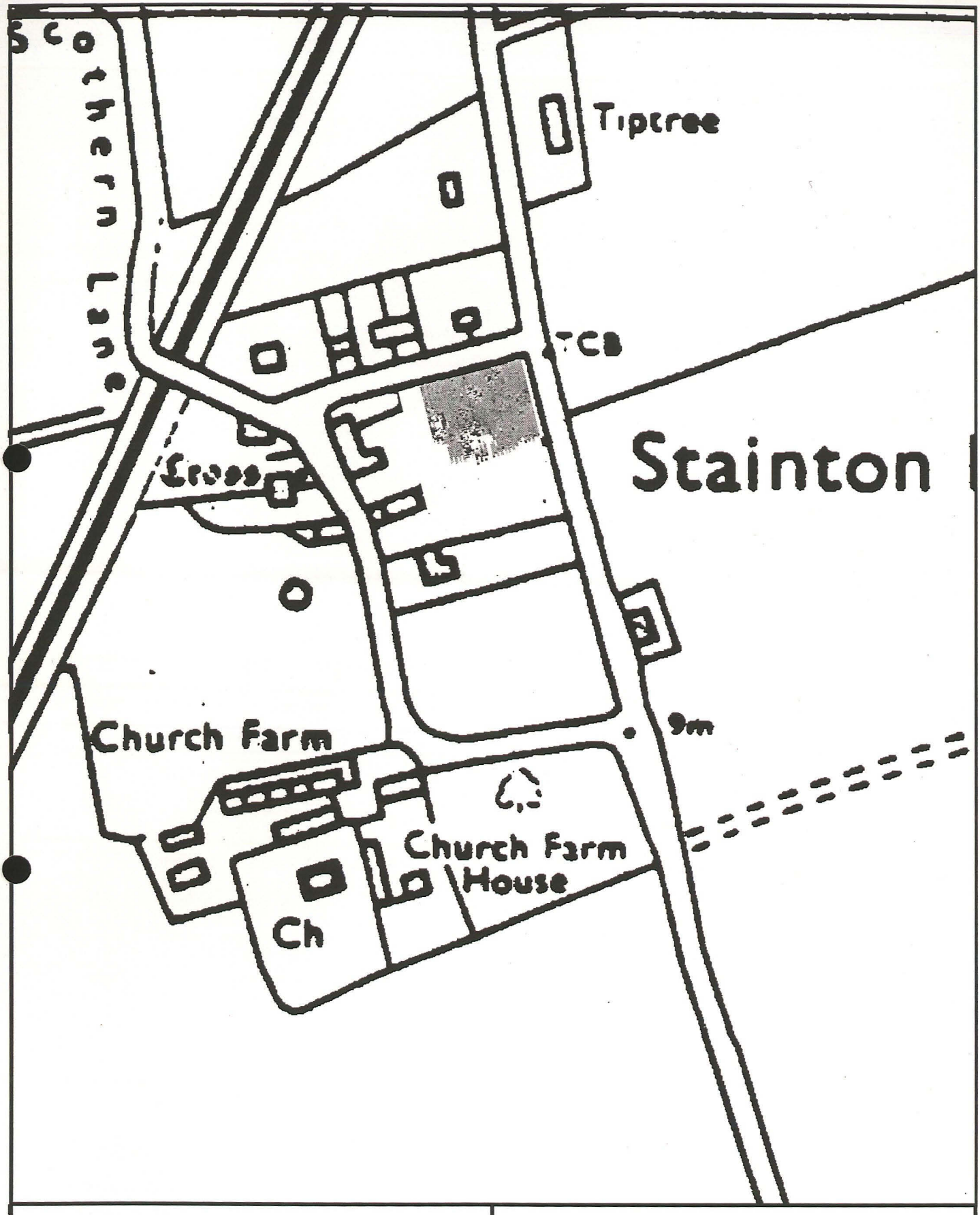
Methodology:

For Gradiometer and Resistivity Survey 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at either 0.5m or 1m intervals along traverses 1m apart. Resistance meter readings are logged at 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. FINAL analysis is carried out back at base.

For scanning transects are laid out at 10m intervals. Any anomalies noticed are where possible traced and recorded on the location plan.

For Magnetic Susceptibility Survey a large grid is laid out and readings logged at 10m intervals along traverses 10m apart, data is again configured and analysed on a laptop computer.

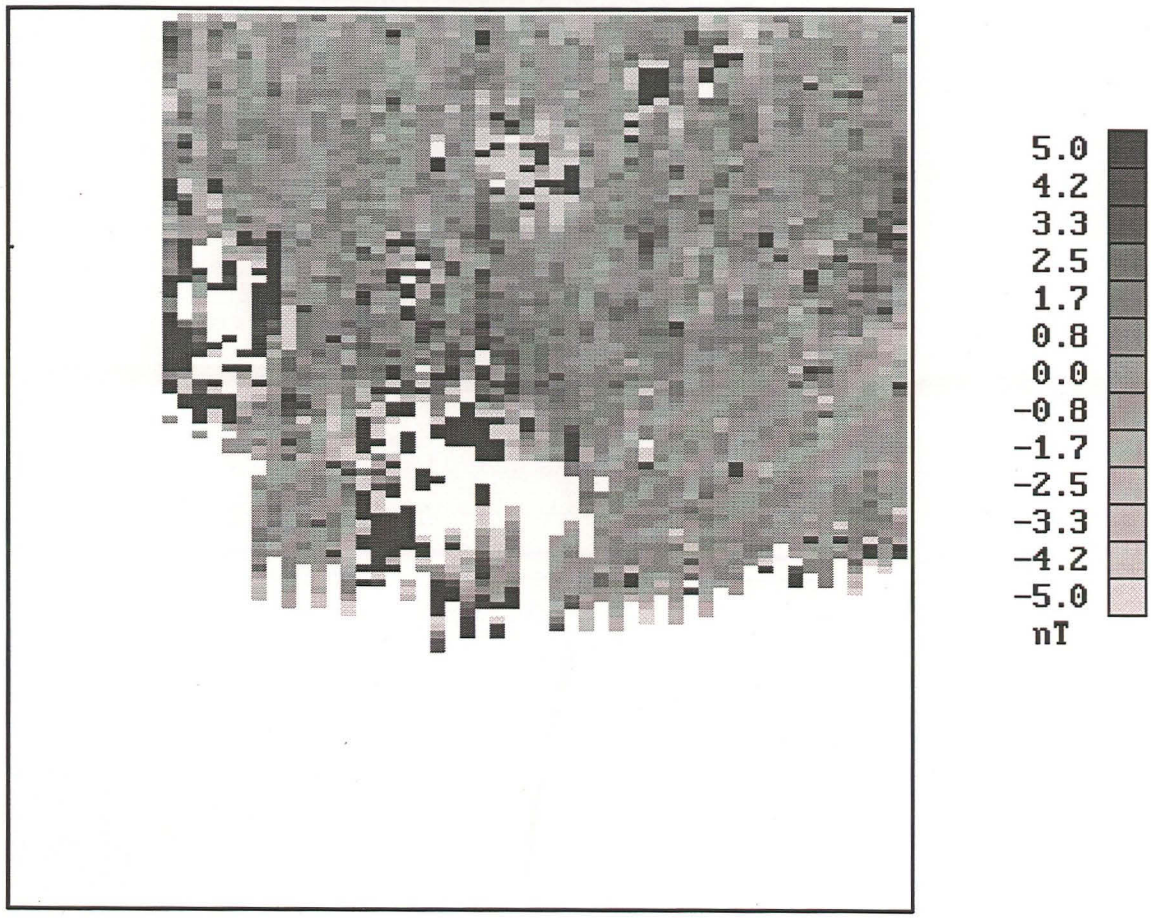
Copyright:



Stainton By Langworth

Scale 1:2500

Figure 1: Location of Survey



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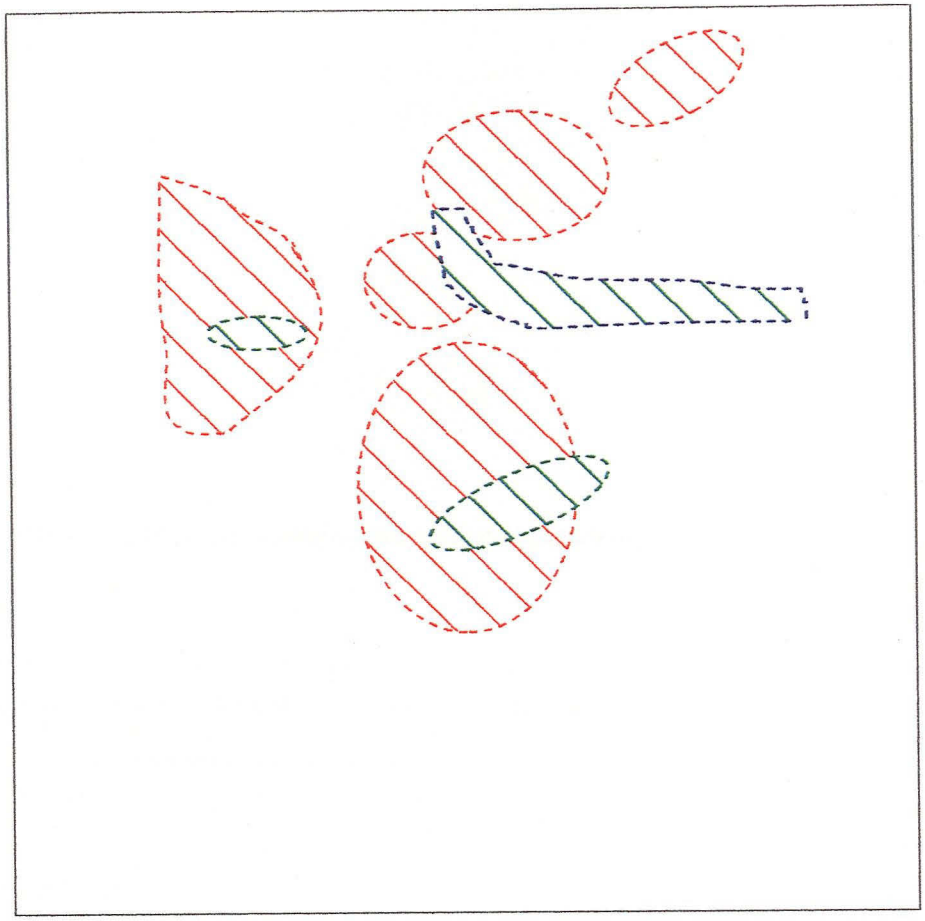
Scale 1:500

Figure 2: Grey Scale Plot



Trees

Areas of disturbance

Approximate position of visible feature

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Scale 1:500

Figure 3: Interpretation