ARCHAEOLOGICAL
SERVICES
WYAS

Land at Beck Lane
Wigglesworth
North Yorkshire

Gradiometer Survey

June 1998

Report No. 603

CLIENT

Northern Archaeological Associates

1. Introduction

1.1 Archaeological Services (WYAS) was commissioned by Mr P. Abramson of Northern Archaeological Associates to carry out a 1 hectare magnetometer survey on pasture land to the east of Beck Lane on the northern outskirts of Wigglesworth, North Yorkshire (see Figs 1 & 2).

1.2 The site for survey formed a rectangular area 120m long by 80m wide (20m west and 60m east of the centre of the pipe corridor) along the projected route of the Settle and Ingleton Increased Supplies Pipeline. It was bounded by Wigglesworth Beck to the north-west and Beck Lane to the south-west. To the east is a small hillock known as Tofts Hill, a name which suggests there to have been a homestead in the immediate vicinity. Within the site itself are numerous earthworks which include a three sided enclosure that utilises the beck as its northern edge as well as smaller, less coherent earthworks. There was also considerable visible evidence of ridge and furrow ploughing having taken place.

1.3 The main aim of the survey was thus to establish whether there are any sub-surface archaeological features associated with the enclosure and if so to define their extent and character and to assess whether there is any evidence for domestic occupation within the site.

1.4 At the time of the survey, May 20th 1998, the site was under permanent pasture.

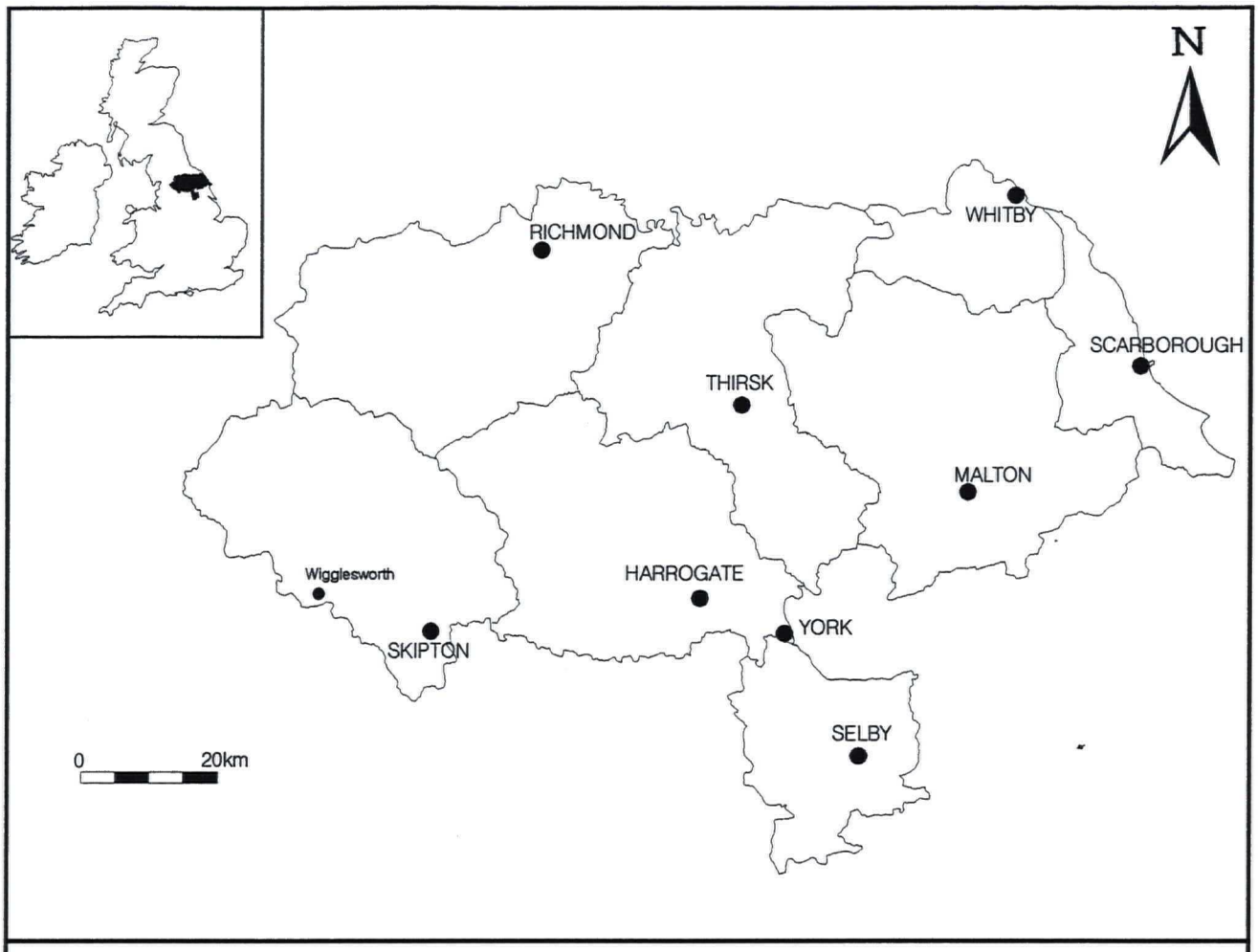
2. Results & Discussion

2.1 The gradiometer data is presented as a greyscale plot at a scale of 1:1250 in Figure 2 and at the same scale with an interpretative overlay in Figures 3 and 4. It is also presented as dot density and X - Y trace plot formats at a scale of 1:500 in Appendix 3.

2.2 The most apparent anomaly is the strong dipolar, linear response aligned parallel with Beck Lane which is caused by a modern ferrous water? pipe.

2.3 Over the remainder of the site the data is very 'quiet' with little variation in the background soil magnetic susceptibility. There are even exceptionally few dipolar responses ('iron spikes'), caused by ferrous material in the topsoil, which are ubiquitous across most sites. This is indicative of the land being under pasture for a considerable length of time with little or no manuring to introduce ferrous material into the soil.

2.4 Positive/negative, linear striations can be seen across the majority of the site on a general north-west to south-east orientation, although the anomalies do appear to diverge slightly between the western and eastern halves of the site. These anomalies were evident in the field as distinct ridges and furrows



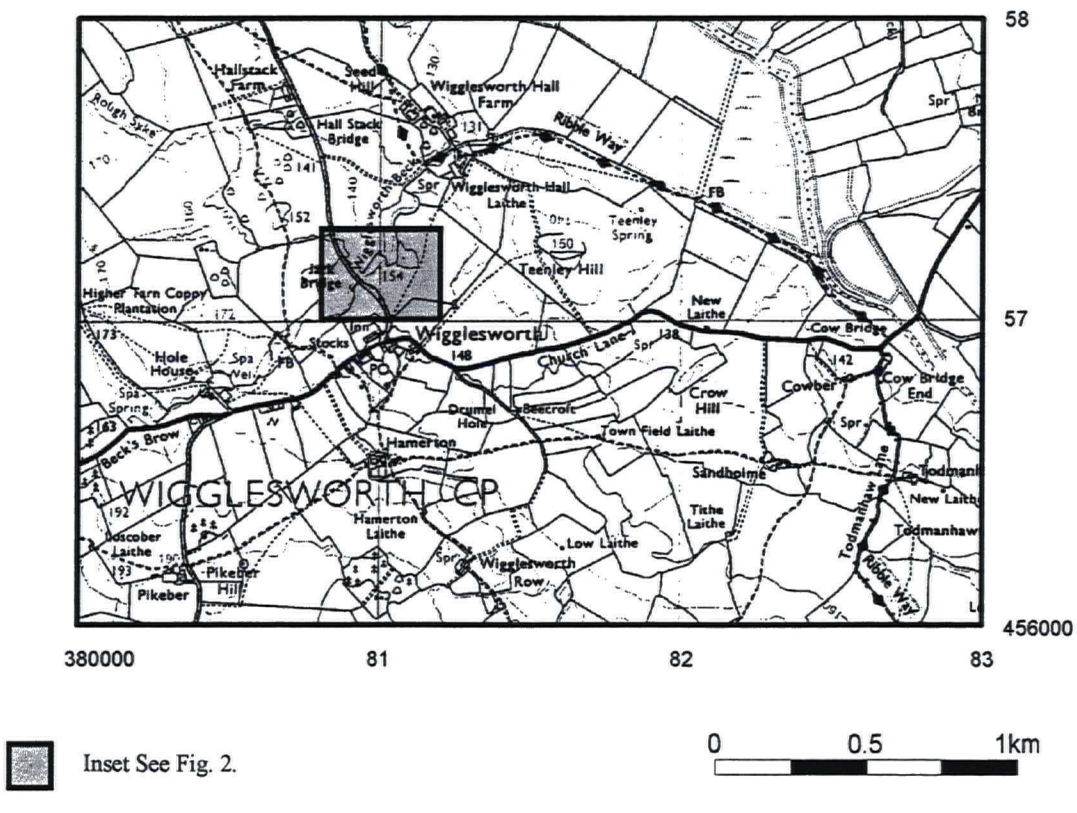
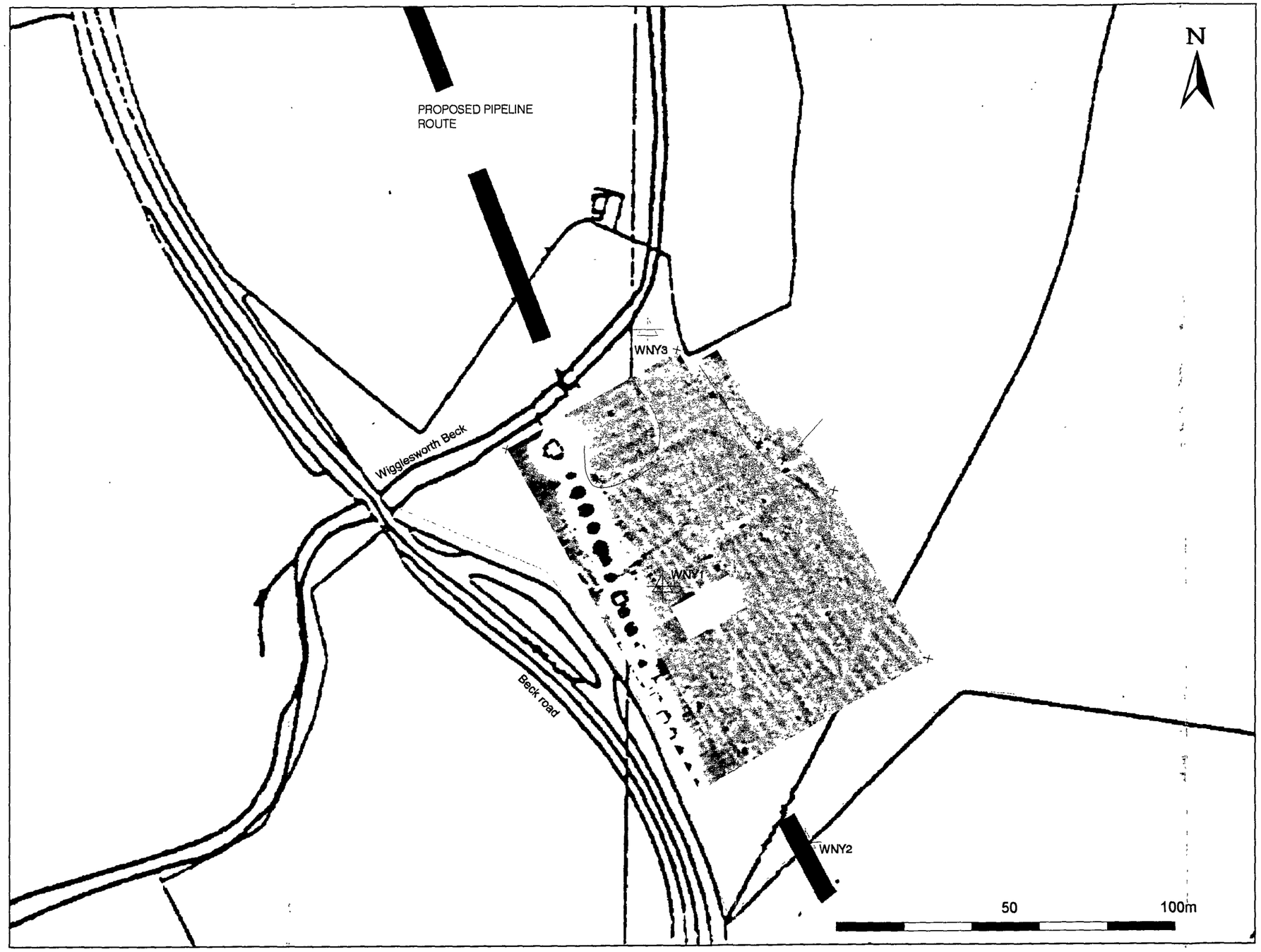


Fig. 1. Site Location



KEY

+	GRID PEG
	GEODIMETER STATION POSITION
	TEMPORARY MARKER PEG
- -	FIELD BOUNDARY
——	TOP OF BANK

LOCAL GRID CO-ORDINATES
WNY1 1000.00E 2000.00N
WNY2 1000.02E 1910.04N
WNY3 1034.18E 2070.40N

Fig. 2. Site location showing gradiometer data (greyscale) and survey location information

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which are created by the practice, begun in the Medieval period, of ploughing the fields in a series of relatively narrow strips using a plough capable of turning over the sod. Over many years, if the exact form of the original strip is maintained, the characteristic ridged topography will result. If, as in this case, the land is subsequently returned to permanent pasture these undulations may survive as visible earthworks. In some cases even when later modern ploughing has destroyed any visible record of this former practice magnetic vestiges can still be detected in the soil. In the south-east corner of the survey area the ridge and furrow responses have been interrupted. From Figure 2 it can be seen that this is due to use of a path that leads from Beck Lane to Wigglesworth Hall.

2.5 Interestingly there is no magnetic evidence for the ridge and furrow ploughing having continued beyond the edges of the earthwork banks immediately south of the beck that are thought to indicate an enclosure. This suggests that the enclosure was already in existence at the time the land was brought into cultivation. Only two sides of the enclosure are visible as very faint positive/negative linear anomalies although all three sides were visible as earthworks. This is because the response from the bank/ditch on the western side of the enclosure is masked by the extremely strong response from the service pipe. The complete absence of any isolated, positive responses from within the enclosure, anomalies which are typically interpreted as being caused by pits or areas of burning and which by inference are taken as signs of human occupation, or indeed by more than a solitary 'iron spike' which might also infer occupation, strongly suggests that the enclosure was used solely for the corraling of livestock.

2.6 The most prominent of the earthworks were mapped and are shown together with the survey tie-in information in Figure 2. This shows that there was a short visible continuation of the earthwork bank forming the southern edge of the enclosure to the east but that it appeared to peter out after a couple of metres. The geophysical data shows this feature to continue in an easterly direction for about 15m before running away south-eastwards to merge with the ditch, which is also identified as a curvi-linear anomaly, that encircles the bottom of Tofts Hill. Again there is no geophysical or visible evidence for ridge and furrow ploughing having taken place north or east of this anomaly suggesting that this land was also enclosed prior to the field being ploughed. As with the main enclosure there are no discrete anomalies to suggest human occupation.

2.7 To the south of the extant enclosure, and partially masked by the response from the service pipe, are two faint positive, linear anomalies that might possibly join to form another enclosure. However, the responses are very weak and in this case the ridge and furrow ploughing does not respect the possible feature.

2.8 Two isolated, positive responses have been identified in the centre of the site. These might be caused by archaeological pits but it is thought more likely that they are localised areas of burning.

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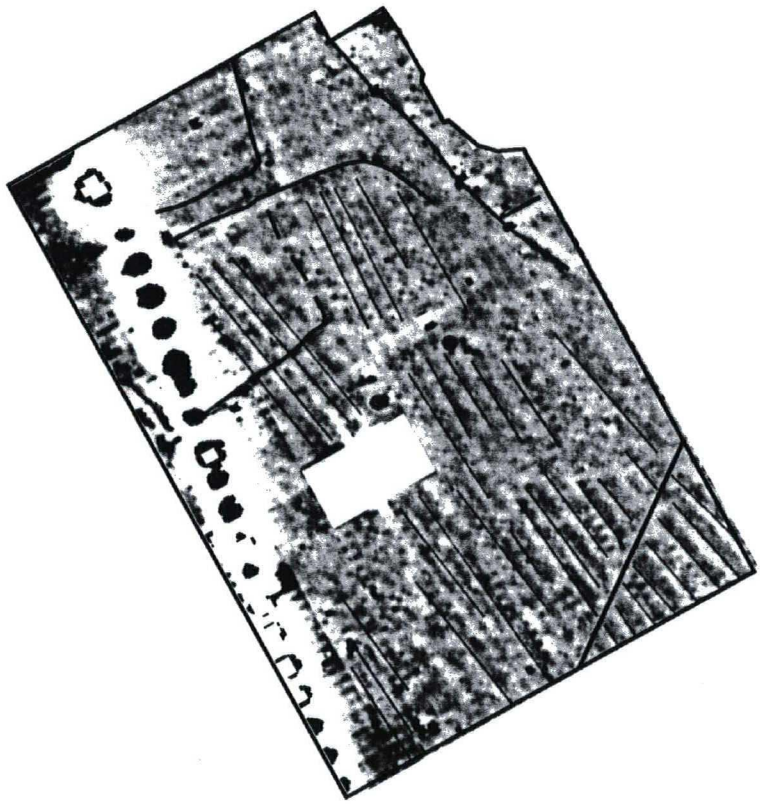

KEY

TYPE OF ANOMALY	INTERPRETATION
DIPOLAR, ISOLATED	FERROUS MATERIAL IN TOPSOIL
DIPOLAR, LINEAR	FERROUS PIPE
— POSITIVE, LINEAR	RIDGE AND FURROW
— NEGATIVE, LINEAR	PATH
• POSITIVE, ISOLATED	PIT/AREA OF BURNING?
— POSITIVE, LINEAR	ARCHAEOLOGICAL DITCH/BANK?

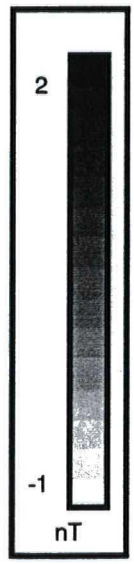

Fig. 3. Interpretation of gradiometer data overlay
Fig. 4. Gradiometer data, greyscale, 1:1250

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3. Conclusions

3.1 The gradiometer survey has identified several anomalies some of which were already visible as slight earthworks. However, it has also identified further anomalies not immediately obvious as upstanding features.

3.2 The geophysical evidence combined with the evidence from the earthworks suggests that there were probably two adjoining enclosures abutting Wigglesworth Beck with the easternmost utilising the bottom of Tofts Hill as a boundary. However, there is no geophysical evidence to suggest that these enclosures were used for human occupation or were part of the homestead suggested by the place name evidence **i.e** *Tofts Hill*. There is a possibility of a third enclosure to the south of the other two.

3.3 There is considerable evidence for ridge and furrow cultivation across most of the site. Except in the case of the possible third enclosure this ploughing respects the enclosures thereby implying that the enclosures pre-date, or were contemporary with, the land being brought into cultivation.

The results and subsequent interpretation of geophysical surveys should not be treated as an absolute representation of the underlying archaeology. It is normally only possible to prove the archaeological nature of anomalies through intrusive means such as by trial excavation.

Acknowledgements

Project Management
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Appendices

Appendix 1 Gradiometer survey: technical information and methods
Appendix 2 Survey location information
Appendix 3 Gradiometer data plots (1:500)