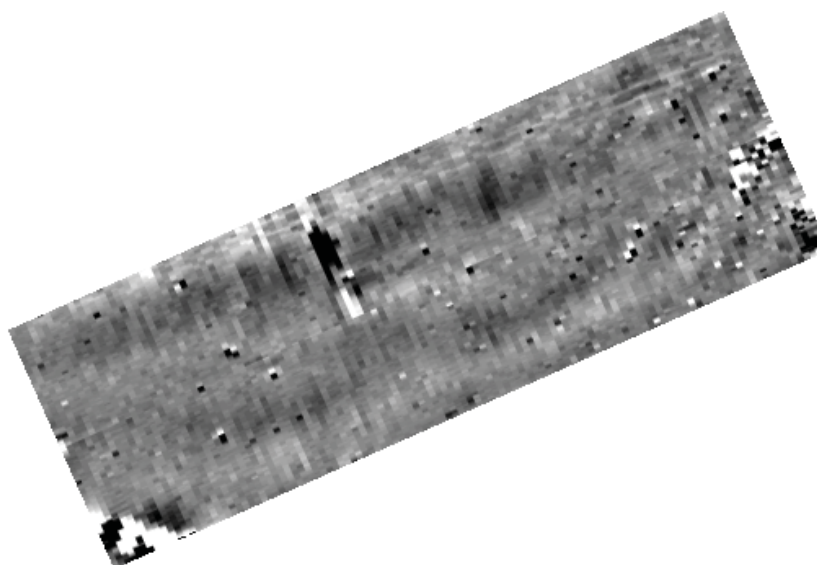


Northamptonshire Archaeology

Geophysical surveys on
land at Nar-Ouse, Boal Quay,
King's Lynn, Norfolk
August 2006



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Report 06/134

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GEOPHYSICAL SURVEYS ON LAND
AT NAR-OUSE, BOAL QUAY,
KING'S LYNN, NORFOLK
AUGUST 2006

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ABSTRACT

Northamptonshire Archaeology, commissioned by Oxford Archaeology on behalf of Scott Wilson, conducted geophysical surveys as part of the Nar-Ouse, Boal Quay 'Puny Drain' flood relief scheme. Eight areas of land were surveyed with a combined area of 3.4ha. Magnetic anomalies were detected, indicative of complex geomorphology, but not of archaeological features.

1 INTRODUCTION

Northamptonshire Archaeology conducted geophysical surveys on behalf of Scott Wilson as part of the Nar-Ouse, Boal Quay 'Puny Drain' flood relief scheme near King's Lynn, Norfolk (Centre: NGR TF 611 156, Fig 1).

The surveys were carried out on the 15-16th August 2006. Survey objectives were to identify and characterise the presence or absence of archaeologically based anomalies within the proposed development area.

2 ARCHAEOLOGICAL BACKGROUND

The proposed development is in an area of known archaeological activity, dating from the prehistoric period onwards (Boismier pers comm).

3 TOPOGRAPHY AND GEOLOGY

The site is located approximately 1.5km south of King's Lynn, midway between the villages of Saddle Bow to the west and West Winch to the east. The survey areas were arranged along an east-west orientated line approximately 1.4km long that crossed the River Nar and King's Lynn railway line. The topography was relatively flat, with a relief of between 2.0-2.5m AOD.

The survey had been divided into eleven separate sections (Areas A to K, from west to east) by Scott Wilson. These sections followed the development line and generally were aligned with the narrow drainage ditches at field boundaries. Several areas proved unsurveyable for the following

reasons: Area A was covered in a dump of modern material; and Areas D and E were under a bean crop. All other fields were arable but harvested.

The geology of the site is believed to be complex with a drift of marine alluvium, Torrington Beds, lying on Kimmeridge Clays. Deposits of peat may exist at shallow depth (English Partnerships 2004, 5).

4 METHODOLOGY

All fieldwork was carried out in accordance with both English Heritage and the Institute of Field Archaeologists Guidelines (EH 1995 & Gaffney, Gater and Ovendon 2002), and to a specification produced by Scott Wilson (2006).

Gradiometer Survey

All detailed magnetometer survey was undertaken using Bartington Grad601-2 fluxgate gradiometers. The Grad601-2 is constructed as a dual-sensor instrument with two vertical gradiometers separated on a yoke to enable two lines of survey to be recorded in tandem. The Bartington gradiometer has the advantage of greater depth sensitivity than other fluxgate instruments.

A total of 76 20m x 20m grid-squares in eight separate blocks, totalling c3.4ha, were intensively surveyed at the proposed Puny Drain. The grids were set out to the Scott Wilson specification to a precision of >100mm. Each grid square was traversed with gradiometer at rapid walking pace in zigzag traverses spaced at 1m intervals with data recorded every 0.25m along these.

The data was analysed using Geoplot 3.00s software. Low (negative) magnetism is shown as white and high (positive) magnetism as black in the resultant greyscale plots. To avoid the introduction of bias, minimal processing was carried out on the data.

The processed data is presented here in the form of greytone graphics highlighting the magnetic anomalies (-2nT / +2nT scale Areas B-C, Fig 2; -5nT/+5nT Areas F-K, Figs 2 & 3). Interpretive plots have not been included as they would add little to the discussion of results.

5 SURVEY RESULTS

Magnetic anomalies were detected in all areas, and can be generally characterised as poorly magnetised and ill defined. These are thought likely to reflect deep seated features such as geological strata.

Areas B and C were characterised by broad, weak positive and negative anomalies aligned lengthways to the north-east in both blocks (Fig 2). These anomalies may represent the silt and sand strata of Torrington Beds encountered in ground investigation (English Partnerships 2004, KL03). Intense positive-negative anomalies appearing in both blocks and orientated north-west, are likely to represent a steel high pressure gas pipeline known to exist in the area. The eastern corner of Area C contains a number of intense dipolar anomalies reflecting ferrous or burnt debris likely to be near-surface and modern. A parallel pair of linear negative anomalies aligned east-west across the north of the area represent a modern trackway.

The anomalies detected in Areas F-H were found to be more greatly magnetised than those in B and C, west of the River Nar. Also, the anomalies were more amorphous. Borehole KL06 (English Partnerships 2004), west of Area F, indicates the appearance of a thick peat layer deep in the Torrington Beds whereas by KL08 to the east of Area H, Kimmeridge Clay has been discovered below c6m of sand.

The results from survey Areas I-K possibly reflect the decreasing depth below the surface of the interleaved silt, sand and clay beds (Figs 3 & 4). The anomalies themselves are complex and undoubtedly indicate the nature of the drift bedding. As in Areas A and B, the intense positive/negative anomalies along the southern sides of the survey areas indicate a buried iron pipeline.

6 CONCLUSION

Survey of Boal Quay site has revealed a landscape of great geomorphological complexity. No archaeological anomalies were identified.

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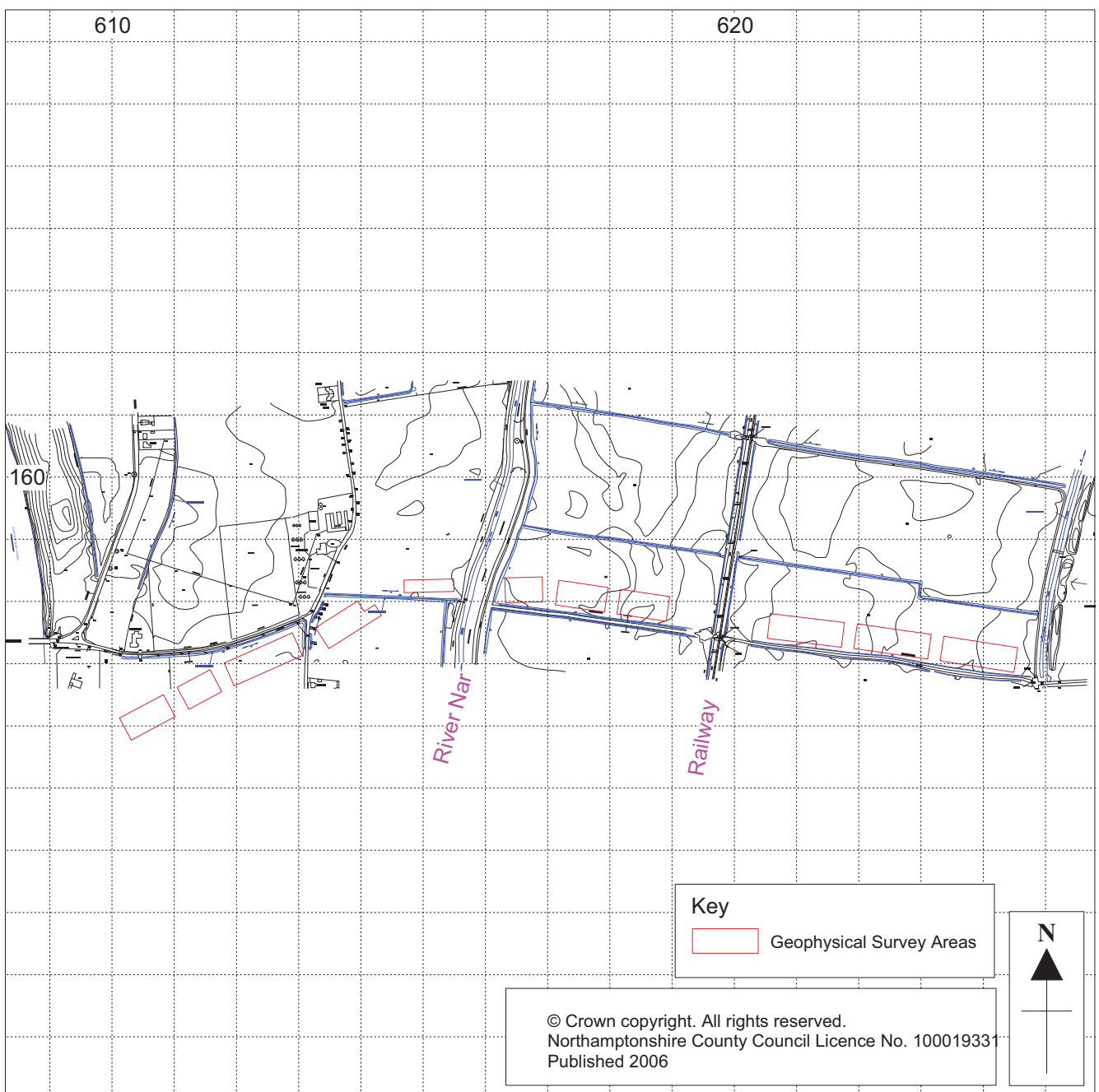
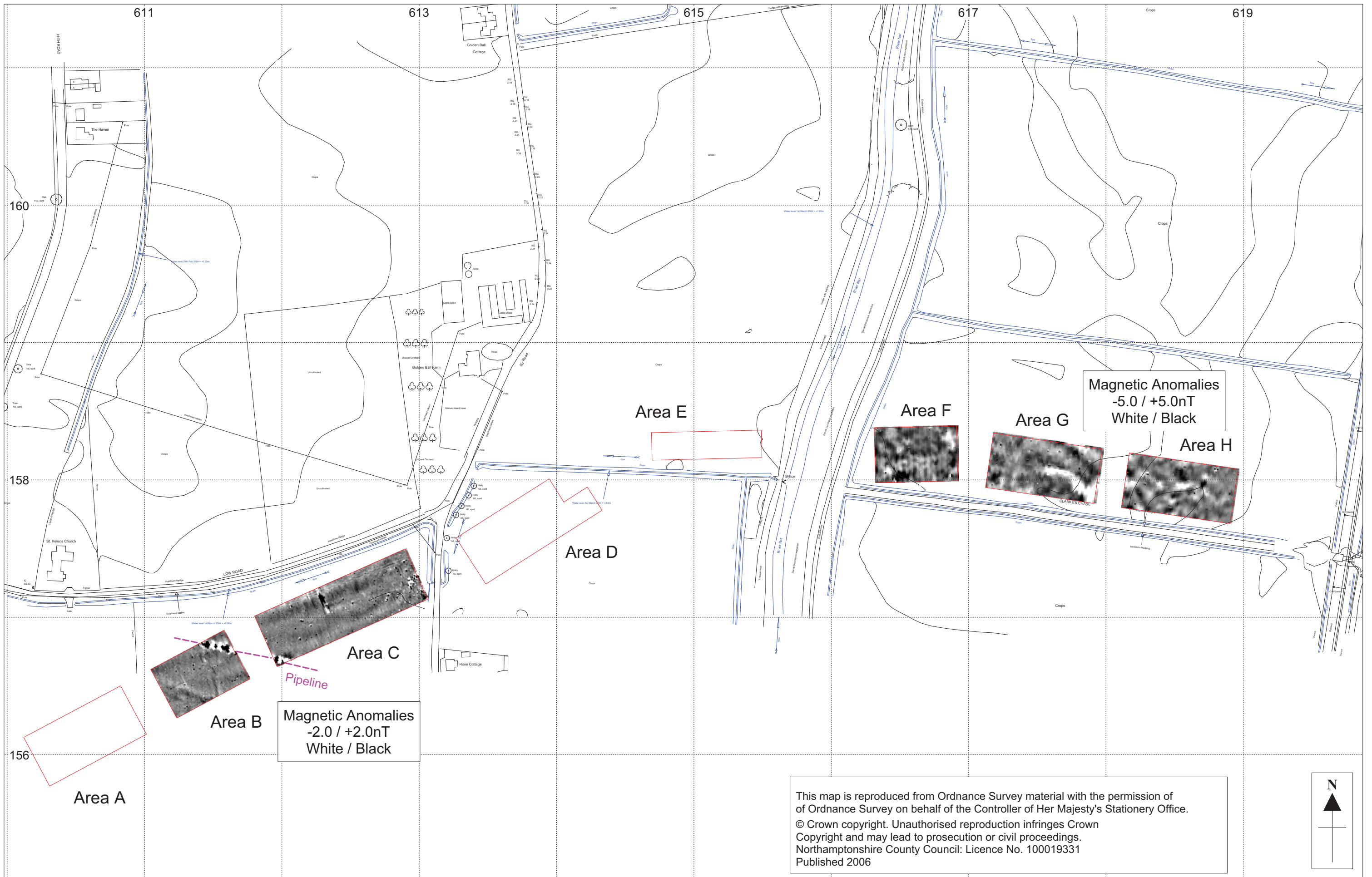


Fig 1



Scale 1:2500

Fig 2 Detailed Survey Results Areas A-H



Scale 1:2500

Fig 3 Detailed Survey Results Areas I-K