

## SURVEY RESULTS

98 / 71 Bawsey St James, Norfolk

### 1. Survey Area

- 1.1 Five areas (A-E) were surveyed at the site. Four lie to the north and west of a track that crosses the site, while the other is to the south and east (see Figure 1).
- 1.2 GSB Prospection set out the survey grid to the south, while the main grid, to the north, was established by the **RCHME**. Both grids were tied into the National Grid by **RCHME**.

### 2. Display

- 2.1 Figure 1 is a location plan showing the survey areas at a scale of 1:2500.
- 2.2 Figure 2 is a greyscale image of the gradiometer data at a scale of 1:2500.
- 2.3 Figure 3 is a summary interpretation diagram of all the survey areas in their relative locations at a scale of 1:2500.
- 2.4 Gradiometer results and interpretations are also displayed by area at a scale of 1:1000 (Figure 4 - 16), while the limited resistance survey data is displayed in Figures 17 – 18 at 1:625.

### 3. General Considerations - Complicating factors

- 3.1 Generally, conditions for survey were good with most of the areas consisting of either short grass, stubble or ploughed land.
- 3.2 The coarse soils at the site are generally regarded as producing only weak magnetic responses, especially in areas subjected to extensive waterlogging.

### 4. Results of Gradiometer survey

*The gradiometer data set reveals a considerable density of features. For ease of reference the results will be described by area (see Figure 1).*

#### 4.1 Area A

*This survey block was positioned over the presumed location of the large enclosure ditch to the west of the church. In particular it was hoped that the north-west corner of the enclosure could be identified.*

- 4.1.1 The putative enclosure ditch has been clearly located aligned north–south. Although a possible eastern return was noted, the ‘enclosure’ ditch appears to continue to the north of this.
- 4.1.2 While the ‘enclosure’ ditch was relatively weak along the majority of its length, it was at its strongest at its northern limit. The ditch anomaly soon peters away and it is believed that this may be due to either an increase in topsoil or a change in the local environment to an increasingly waterlogged zone.
- 4.1.3 Few other anomalies were found, although a single strong anomaly was noted within the main ditch and adjacent to the putative turn.

#### **4.2 Area B**

*The aerial photograph apparently showed elements of a small enclosure appended onto the main enclosure ditch. It was thought that this might indicate some form of entrance into the main enclosure from the lower land to the north.*

- 4.2.1 The survey clearly identifies the position of the small enclosure noted on the cropmark. It is approximately 60 x 60m in size. The exact shape is difficult to ascertain, as a result of the encroachment of the modern track and the relationship with other features.
- 4.2.2 While there is no definite entrance to the small enclosure, a couple of possible breaks in the ditch have been found. A number of significant anomalies are situated within the enclosed area and they may be interpreted as rubbish pits or even potential structures.
- 4.2.3 In general, this survey area contains the greatest evidence for recent plough action. This fact makes interpretation of weak anomalies very difficult. To the west of the small enclosure the main enclosure ditch appears to continue although with much reduced signal strength.
- 4.2.4 A few anomalies have been found to the south of the main enclosure ditch, although their significance cannot be estimated from this small survey area.

#### **4.3 Area C**

*Area C covers a region of putative cropmarks on a ridge of high land stretching west from the church. In previous years metal detectorists have found, among other items, fragments of gold torc wire within this region.*

- 4.3.1 Area C is, in some ways, the least productive data set collected during this exercise. Although many anomalies have been found within the survey, there are few that are archaeologically coherent.
- 4.3.2 A few lengths of potential ditch have been found, along with some discrete, strongly magnetic anomalies. It is not certain how these anomalies relate to the cropmark evidence, as the aerial photograph has not been rectified. Despite this uncertainty, excavation confirmed the presence of features buried beneath a considerable depth of topsoil.
- 4.3.3 Two zones of increased magnetic response have been noted at the eastern end of this sample. While it is not possible to identify many individual anomalies within these zones, they are certainly areas of archaeological potential.

#### **4.4 Area D**

*This small survey area (20 x 60m) was placed over the postulated route of the northern boundary of the main enclosure ditch.*

- 4.4.1 The data set collected in Area D has provided no clues as to the existence of the postulated boundary of the large enclosure. It is not clear if this is due to a genuine absence of the feature or poorly enhanced ditch fills.

#### 4.5 Area E

*The land to the east of the church was initially considered an area of secondary importance, with only a few tentative cropmarks noted in this field.*

- 4.5.1 The magnetic data has provided an extraordinarily clear response, with a variety of potential features.
- 4.5.2 The survey around the church has proved to be instructive for a number of reasons. There is evidence for an enclosure surrounding the church that is well beyond the present day pasture knoll upon which the ruins are situated. The enclosure is rounded at the northern end. Subsequent to the survey a tithe map has been found that shows that this boundary was extant about 150 years ago. Curiously, it is noteworthy that the tithe map indicates that the enclosure's western edge was well to the east of the track, whereas it appears that the track now covers, and possibly lies to the east, of the boundary. Within this boundary are few coherent responses: there is an increase in noise adjacent to the ruins which is probably the result of recent activity, while general intermediate background levels are likely to be the result of burials and agricultural use of the land.
- 4.5.3 To the south of the church boundary was found a series of linear anomalies. Although only a small area has been surveyed these anomalies appear to represent a regular subdivision of the land. It is likely that these divisions continue well beyond the limits of the survey.
- 4.5.4 The results to the east of the church are the clearest on the site. While they are notable for strong, industrial type responses, the data are spatially complex with zones of activity being apparent. Ditches filled with heavily burnt material and the presence of *in situ* fired remains identify much of this zone as industrial in nature. There is an extension of the presumed main enclosure ditch that cuts through this area: in places it evidently contains highly magnetised material. A second ditch, also partially filled with highly magnetised material crosses the 'enclosure' ditch and joins the regular field divisions noted to the south of the church. The zone to the east of this ditch appears to be largely industrial in nature. To the west, the results are more intriguing. A small area, some 20 x 30m in size, contains many strong responses: the ditches and pits are likely to contain significant amounts of industrial material. The zone between this area and the eastern boundary ditch also reveals increased background levels. It is anticipated that this is the result of industrial debris. Although there is no suggestion of a formal boundary to this activity to the south, there is a clear zone of minimal disturbance near to the church boundary.

### 5. Results of Resistance survey

*This sample, 40 x 60m in extent, largely covers the pasture mound on which the ruined church stands. The survey was undertaken in an effort to reveal traces of postulated earlier churches and to find evidence of a previous excavation that allegedly revealed an apsidal eastern end to the building.*

- 5.1.1 The resistance survey was completed using the RM15 Twin-Probe with the multiplexer method to investigate six different depths. The separation was increased from 0.25m to 1.5m at intervals of 0.25m.
- 5.1.2 A summary of the results from each level is shown on Figure 17. Unusually for this method, there is very little variation between the shallow (0.25m) and deep (1.5m) data sets. While there are clearly anomalies within the resistance data, it is virtually impossible to ascribe any archaeological significance to them. Zones of both high and low resistance have been found but few definite edges have been ascertained.
- 5.1.3 The interpretation diagram highlights some of the anomalies (Figure 18). It is felt that most of the high resistance values are likely to be natural, mapping variations within the subsoil.
- 5.1.4 There are two areas of readings that may be of greater interest. Firstly, at the eastern end of the church can be seen some faint high resistance linear anomalies. It is believed that they may represent buried walls, possibly associated with an earlier structure. Secondly, a broad zone of increased background noise exists to the east and south of the church. Cautiously one may suggest that the increase in noise is a result of burials in this area.
- 5.1.5 No evidence can be found for the former apsidal end of the church, although this is probably due to the problem of disturbed land within and around the ruin.

## 6. Conclusions

- 6.1.1 The gradiometer survey at Bawsey St James covered approximately six and a half hectares of land around the now ruined church. The resistance survey was limited to a small area around the church ruin and provided only sparse information as to the potential archaeology at the site.
- 6.1.2 The gradiometer technique provided a good map of the main elements at the site, locating pits, ditches, industrial activity, hearths, kilns/furnaces and enclosures. Spatially, the results from the eastern part of the survey area contained stronger and more coherent anomalies than from other sample areas. This is likely to be due to the nature of the archaeology i.e. industrial, rather than the preferential preservation of remains in this area.
- 6.1.3 Despite the clarity of the results, there are still a number of questions that can be addressed geophysically at this site. Firstly, there is still a problem arising from the position of the northern ditch of the main enclosure. Secondly, there is still scope for the definition of activity within the main enclosure. Thirdly, the limits and nature of the archaeology to the east and south of the church could easily be defined by gradiometry.
- 6.1.4 Further work at the site may also consider a soil strategy to establish the nature of the industrial activities at the site as well as attempting to define possible burial areas.

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## SITE SUMMARY SHEET

98 / 71 Bawsey St James, Norfolk

NGR: TF 663 208

### Location, topography and geology

The site covers part of the land surrounding St James Church, Bawsey, Norfolk. The church stands on a prominent hill, with the land sloping gently in all directions. The site soils, which can be grouped as typical brown sands, comprise deep sands and coarse loams formed from a parent of coarse glaciofluvial drift. In the absence of domestic or industrial magnetic enhancement, such homogeneous soils can often provide insufficient magnetic contrast for features to be detectable by gradiometry.

### Archaeology

Near the centre of the survey area lies St James Church which is a Scheduled Ancient Monument (SAM 3328). The church is largely Norman in date, although re-used material is apparent within the fabric of the structure. While it is known that the graveyard was used as late as 1773 there is no evidence for the presence of burials. A large cropmark is known from aerial photographs and is believed to be potentially Saxon in date. Many metal detector finds have been made in the adjacent fields, with significant finds coming from all periods from the Bronze Age onwards.

### Aims of Survey

The aims of the survey included the location of the cropmark and an evaluation of the remaining area. A small part of the ruined church was surveyed after a Section 42 Licence was obtained from English Heritage. The survey was undertaken as part of the investigation into the environs of the site by **Time Team** for the Channel 4 Television Company.

### Summary of Results \*

The limited resistance survey appears to have responded largely to the natural variation in the topsoil and only a few anomalies of potential were noted. By way of contrast, the gradiometer survey responded very closely to anthropogenic activity. The survey, over an area of approximately 6.5ha, has located pits, ditches, industrial activity, hearths, kilns/furnaces and enclosures. Many of the key elements of the interpretation were tested by excavation during the three days of the Time Team programme and were proved to be correct. The area to the east and south of the church was found to be particularly rich in anomalies, perhaps suggesting areas of industrial activity next to a former shoreline.

\* It is essential that this summary is read in conjunction with the detailed results of the survey

