

## SURVEY RESULTS

### 2003/88 Ripple Quarry

#### 1. Survey Area

- 1.1 Three predefined areas, totalling 9ha were investigated with gradiometers in scanning mode. Detailed survey, totalling 3ha was carried out in 5 sample blocks (Areas 1 to 5). The location of the survey areas is shown in Figure 1 at a scale of 1:5000
- 1.2 The survey grid was set out by *GSB Prospection* and tied in to existing boundaries with an EDM and tapes.

#### 2. Display

- 2.1 Figures 2 to 9 present summary greyscale images and interpretations of the results superimposed on the basemap, at a scale of 1:1000
- 2.2 The results for each area are displayed as X-Y traces, dot density plots and digitised interpretations all at a scale of 1:500 (Figures 10-21). For display at this scale Area 5 has been subdivided (5A and 5B).
- 2.3 The display formats and the interpretation categories used are discussed in the *Technical Information* section at the end of the text.
- 2.4 Letters in parentheses in the text below refer to individual anomalies highlighted on the interpretations.

#### 3. General Considerations - Complicating factors

- 3.1 Ground conditions were generally reasonable, the land being flat, under stubble or recently ploughed and rolled and free from obstructions.
- 3.2 The alluvial soils which predominate across the site are not favourable to the magnetic detection of archaeological deposits. Two factors are pertinent: the depth of overburden and the inherent lack of natural magnetism in the soils. The archaeological features and finds noted in the antiquarian evidence lie several feet beneath the current ground surface, while the presence of cropmarks in the northern half of the site would suggest a reduced amount of overburden at this location and thus a varying level of alluvium across the site. While deeply buried archaeological deposits which have a very strong magnetic enhancement (for example, those associated with industrial activity) should produce a magnetic signal detectable at the surface, smaller and / or peripheral features (pits and agricultural divisions/enclosures) might remain undetected.

#### 4. Results of Scanning

- 4.1 With gradiometers in scanning mode, the selected areas were examined along traverses spaced at intervals of approximately 10m. During this operation, fluctuations in magnetic signal were observed on the instruments display panel. Any significant variations were investigated more closely to determine their likely origin and those anomalies considered to have archaeological potential were marked with canes for detailed recorded survey.
- 4.2 All the scanned areas were found to be very magnetically quiet, with the exception of a few isolated ferrous type responses. Very few targets of possible interest were observed. Detailed survey was positioned to cover these and provide good spatial coverage of the areas of interest.

#### 5. Results of Detailed Survey

- 5.1 All of the detailed survey blocks contain small scale ferrous responses, or "iron spikes". These are characteristic of small pieces of ferrous debris (for example, horseshoe/ploughshare/tin can) scattered in the topsoil and are usually assigned a modern origin.

##### Area 1

*This area investigates the location of a possible archaeological site noted in antiquarian records.*

- 5.2 Possibly the most promising of all the anomalies recorded by the survey is a sub-circular anomaly (A), approximately 8m diameter, in the centre of the survey area. A group of relatively strong amorphous responses in the southwestern corner of the grid may also be of interest, though given their position next to a stream/drain, a natural origin seems more probable.
- 5.3 Elsewhere in this block a number of small weak pit type responses and faint trends have been highlighted. A group such responses at (B) appear to form a rectilinear pattern and this could strengthen an archaeological interpretation. Natural or modern origins for the remainder seem equally likely.
- 5.4 A broad amorphous linear (C), with both positive and negative elements has been recorded in the southwestern half of the grid. The form of the response would suggest a natural origin such as a former stream channel. However its linear nature would favour an anthropogenic origin. It coincides with a feature noted on LiDAR data that is clearly linear, as opposed to curving or meandering (R Jackson *pers. comm.*). It also runs parallel to an existing field boundary to the east. It seems likely that the geophysical and LiDAR data represent the same feature, which could be a former channel that has been straightened and canalised or the remains of a former boundary.

##### Area 2

*This small sample was placed to investigate a scanned anomaly.*

- 5.5 The scanned target appears as a relatively strong pit type anomaly in the centre of the grid. Its precise origin remains uncertain and, while an archaeological interpretation is offered, a modern one (more deeply buried ferrous debris) seems equally likely. A few other indistinct pit type responses and trends have been highlighted, but an archaeological origin for them is tentative.

**Area 3**

*This sample was positioned to investigate the possible continuation of cropmarks noted in the adjacent field.*

- 5.6 A number of pit type responses have been recorded in this block. They vary in strength and definition and some are barely visible above background levels. Of particular note are several which are relatively large and well defined, in the southern half of the grid. However, there are no obvious patterns to the anomalies and while an archaeological interpretation is offered, they could equally represent natural soil variations (possibly pockets of magnetic gravels deposited in the alluvium) or more deeply buried ferrous debris.
- 5.7 A few faint linear trends have been highlighted, but their indistinct nature makes it impossible to formulate any interpretation.

**Area 4**

*This strip was surveyed to investigate a possible continuation of a double ditch and pit alignment noted on aerial photographs in the adjacent field.*

- 5.8 No evidence for a continuation of the cropmark features is evident in the magnetic data. A few isolated weak pit type responses have been highlighted, for which an archaeological interpretation is tentative at best.
- 5.9 An area of magnetic disturbance in the northwestern corner of the grid is thought to relate to ferrous material in the adjacent boundary.

**Area 5**

*This sample was positioned to cover scanned anomalies and provide good spatial coverage of the field which contains a number of cropmarks.*

- 5.10 Slightly elevated levels of background fluctuation were noted both during the scan and the detailed survey; these are attributed in part to recent ploughing activity.
- 5.11 As with the other areas, all the anomalies of possible interest in this block are pit like in nature and vary in strength and definition. An archaeological interpretation is assigned largely on the basis of the supporting evidence, namely the cropmarks, but in the absence of any clear ditch type anomalies in the *geophysical* data, it is difficult to fully interpret the results.
- 5.12 Perhaps of particular interest are a group of pit type responses (D), which appear to follow a linear alignment and a curving anomaly (E). Anomaly (F) is curious: it is strong, with a negative shadow, but not specifically ferrous in nature. It may be archaeological, but a natural origin is equally probable.
- 5.13 An area of increased magnetic response has been recorded in the southwestern corner of Area 5B. It lies close to an old boundary/drainage ditch shown on the maps but no longer visible in the field. The anomalies could reflect material from this former ditch.
- 5.14 Several trends have been highlighted on the interpretation. Those that are parallel most probably reflect the current plough line, while the origin of the remainder is unclear.

## 6. Conclusions

- 6.1 No clear well defined linear anomalies suggestive of archaeological ditches have been detected by the survey. Although there are hints of a circular ditched feature in Area 1 (anomaly A) the response is indistinct. All the remaining anomalies of possible interest comprise very faint trends and pit type responses which vary in strength and definition, with many being barely discernible above background levels. Given the soils of the site (see paragraph 3.2) a low level of response for buried archaeological features is perhaps to be expected and thus even the weakest of anomalies may be significant. However the absence of obvious patterns in the results makes any archaeological interpretation tentative at best.
- 6.2 While the survey has provided a few possible targets for excavation it has not added significantly to the existing archaeological record. Given the nature of the site soils and in particular, the presence of alluvial overburden of varying depths, it is possible that archaeological deposits, suggested by other sources, have remained undetected.

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**Date of Survey:** 4th & 5th November 2003  
**Date of Report:** 27th November 2003

### References:

SSEW 1983. *Soils of England and Wales. Sheet 3, Midland and Western England.* Soil Survey of England and Wales.

## SITE SUMMARY SHEET

### 2003/88 Ripple Quarry

**NGR:** SO 869 368 (approx. centre)

#### **Location, topography and geology**

The village of Ripple is situated approximately 2km WNW of Junction 1 of the M50 motorway in Worcestershire. The study area occupies a number of generally flat arable fields to the southwest of the village and adjacent to the River Severn. At the time of survey some of the fields were under stubble while others had been ploughed and/or seeded. The site soils are of the Hollington association (811c) and comprise alluvial deposits locally subjected to flooding (SSEW 1983).

#### **Archaeology**

Several cropmarks indicating enclosures have been identified in the northeastern part of the study area and other cropmarks are recorded in fields immediately east of the site. Of the latter, three in particular - a double ditch and a pit alignment - may well extend into the evaluation area. Additionally, there is antiquarian documentary evidence for a possible Romano-British site in the southwestern corner of the study area.

#### **Aims of Survey**

A combination of scanning and detailed survey with the gradiometer was carried out in those parts of the study area considered to have high archaeological potential. The aim of the survey was to locate and identify any anomalies of possible archaeological interest within these predefined areas, with particular emphasis on any anomalies that might confirm the aerial photographic (AP) and documentary evidence. The work forms part of a wider research programme undertaken by *Worcestershire Historic Environment and Archaeology Service (WHEAS)* prior to quarrying of the site.

#### **Summary of Results \***

The geophysical survey has had limited success in providing additional information on the archaeological potential of the study area. Perhaps the most promising anomaly highlighted in the data is a small circular feature in the southwestern corner, but the response is indistinct. All the remaining anomalies of possible interest comprise pit type responses, most of which are weak and ill defined, and very faint trends. No clear linear anomalies, suggestive of archaeological ditches have been identified. The low level of magnetic response is perhaps to be expected, given the nature of the site soils. However, the lack of patterns evident in the geophysical data makes an archaeological interpretation inconclusive.

A broad linear band of positive and negative responses in the southwestern corner of the site has the appearance of a natural feature but may reflect part of a canalised stream or former boundary.

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

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