

SURVEY RESULTS

2000 / 56b Tyler Hill, Canterbury

1. Survey Area

- 1.1 Approximately 1.5ha of fluxgate gradiometry was carried out at Tyler Hill. The site of the first kiln detected was also investigated by resistance survey and ground penetrating radar (gpr). The location of the respective survey areas is shown in Figure 1.
- 1.2 The survey grids were set out by **GSB Propection** and tied in by Bernard Thomason on behalf of **Time Team**.

2. Display

- 2.1 The results of the magnetic and resistance surveys are displayed as XY traces, dot density plots and greyscale images (Figures 2-4 and M.1-M.4). These display formats are discussed in the *Technical Information* section at the end of the text.
- 2.2 In Figure 5 data from three of the GPR traverses are displayed as *radargrams*. These are vertical sections through the ground and are composed from west to east. One vertical axis is in nanoseconds (ns) and indicates the length of time required for the transmitted pulse to travel down to an interface and return to the receiver. This is referred to as a two-way-time. The other vertical axis displays the approximate depth of these reflectors below the surface.

3. General Considerations - Complicating factors

- 3.1 Ground conditions were generally good for survey, the rough pasture having being mown prior to work commencing.
- 3.2 The presence of numerous vehicles and the live outside broadcast vehicles prevented survey in a broad corridor parallel the existing road at the western edge of the field.
- 3.3 Numerous isolated ferrous responses are noted in the data which probably reflect ferrous debris within the soil. However, given their context they may reflect objects of archaeological interest, although a modern origin is more likely. The most prominent of these are noted on the interpretation diagrams, but are not discussed in the report unless they are felt to be particularly relevant.

4. Results of Scanning

- 4.1 With the gradiometers in scanning mode, the western half of the field was examined along traverses spaced at intervals of approximately 10m. During this operation, fluctuations in magnetic signal were observed on the instruments' display panel.
- 4.2 One particularly strong response was noted that coincided with a marked topographic mound. This was targeted for investigation by recorded magnetic survey.

5. Results of Detailed Survey

- 5.1 The presence of a strong, 300+ nT anomaly, was confirmed by the survey and the form is characteristic of a highly fired structure such as a kiln (see Figure M.3). The lack of a strong negative anomaly suggests that a ferrous object was unlikely to be the origin, though it was theoretically possible that a large ferrous object at depth, such as unexploded ordnance, could result in such a response.
- 5.2 However, given the context of the survey (a known ceramic production site) and the presence of other archaeological type responses, these factors suggested that the kiln interpretation was the most likely. Excavation confirmed this to be the case.
- 5.3 The anomalies surrounding the main kiln indicate a complex of shallow ditches and beam slots that have become backfilled with concentrations of tile; the latter being responsible for the observed magnetic responses. Some of the stronger anomalies were interpreted as being dumps of waste material and excavation again confirmed that this was true.
- 5.4 The survey was extended across the field in an easterly direction, in order to investigate other anomalies identified during scanning.
- 5.5 A second kiln-like anomaly was identified (see Figure M.4) approximately 60 metres to the east of Kiln 1. Although there are a few anomalies suggesting waste dumps around this additional kiln, the concentration is far less. This might suggest a different usage, perhaps as a floor tile kiln where there might be less wastage than at a more industrial-scale of operation associated with roof tiles (as excavation proved to be the main function of Kiln 1). However, such interpretation is speculative. Strong anomalies to the south-east of this second kiln are associated with modern ferrous debris.
- 5.6 When the wider landscape is examined (Figures 2 and 3) the magnetic survey provides a clear view of a small zone of the industrial complex: the location of the kilns, the workshops and the waster dumps, together with a suggestion of a trackway connecting the two complexes.

6. Resistance Survey

- 6.1 Survey was restricted to a 40m square block surrounding Kiln 1. This identified a broad range in resistance responses with very high readings being recorded where tile, brick and pottery are present. Elsewhere, where clay predominates, low resistance readings are logged.
- 6.2 High resistance readings to the south of the kiln were originally interpreted as being associated with stone foundations but then re-interpreted as reflecting large concentrations of dumped waste tiles. Discussions with Dr Mark Horton indicated that the ceramic workshops were always of a temporary nature (beam slots and post holes, *not* stone or brick foundations); hence the poorly defined rectilinear anomalies to the north of the kiln were far more likely to represent these short-lived workshops. Once again excavation confirmed this interpretation.

7. GPR Survey

- 7.1 An area of 20m by 20m centred over Kiln 1 was investigated by GPR along parallel traverses 1m apart. The GPR responses over the majority of the area were quiet suggesting a high clay content which will have attenuated the signal. However striking responses were recorded over the suspected kiln structure.
- 7.2 Three of the traverses (Lines 1-3 across the kiln) are displayed in Figure 5. Although data were collected along 20m traverses only the relevant sections, i.e. 8m to 16m, are displayed here. Within these radargrams clear sets of significant responses are visible from about 10m to 14m.
- 7.3 The responses are coherent and suggest a substantial feature to a depth of approximately 1.4m. However, the nature of the responses is complex indicating that it is made up of several components. For example within Line 2 there is a ringing type response (A) which is characteristic of a void. Some of the more confused reflections on the side, for example (B), are the interaction from responses over walls and internal features.
- 7.4 Excavation confirmed the existence of an intact kiln thereby explaining the complex responses caused by the side walls, internal void and arched roof.

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Project Assistants: L Harvey, F Robertson, A Shields and A Wilson

Date of Survey: 25th –29th August
Date of Report: 12th September

References:

Butterworth, J., and Clark P., 2000
Evaluation at Greyfriars Monastery, Blue Boy Yard and Tyler Hill, all in the City of Canterbury:
Project Design, unpublished.

SITE SUMMARY SHEET

2000 / 56b Tyler Hill, Canterbury

NGR: TR 145 602 (Approximate)

Location, topography and geology

Tyler hill lies approximately 1.5 miles north of Canterbury and north-east of Canterbury University. The site occupies a south facing hillside that has commanding views over the cathedral and city. The field under investigation has several earthworks and the remnants of an old stream channel. The vegetation cover comprised rough pasture that had been cut prior to the survey. Occasional small trees and bushes are present, including remnants of old field boundaries dating to a period when the present field had been subdivided into smaller units. The geology comprises locally outcropping deposits of London clay and brickearth.

Archaeology

Evidence for pottery production dates from c.1150 AD; at its peak, c. 1250-1350, Tyler Hill was the most important ceramics industry in Kent and one of the largest in south-east England. Pottery production died out c. 1525 or 1550 but the production of brick and peg-tile continued as late as c. 1900. A more detailed summary is provided in the project design for the evaluation (Butterworth and Clark, 2000).

Aims of Survey

The aims were to locate kilns and ancillary structures associated with the ceramics industry at Tyler Hill. The work forms part of a 'Live' **Time Team** investigation carried out for the popular archaeology television series on **Channel 4** television.

Summary of Results *

Magnetic survey successfully identified a strong (300+ nT) anomaly that was interpreted as being a kiln (Kiln 1); expansion of the survey located a complex of linear and pit-like anomalies that were presumed to be associated with waste dumps and former workshops. The survey was then extended further to investigate a wider area of the field and a second kiln was identified. In this instance there were fewer anomalies surrounding the kiln.

Resistance survey over Kiln 1 confirmed the presence of the kiln, the waste dumps and the associated structures. The latter were identified as ephemeral high resistance anomalies that corresponded with narrow beam slots that had become filled with waste tiles.

Given the clayey soils that dominate the site, the GPR survey proved to be surprisingly successful. The structure of the kiln was clearly visible in the results. Even the estimate of depth, 1.4m, proved to be very accurate.

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

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GSB PROSPECTION
PROJECT: 2000/56b TYLER HILL
TITLE: Location Diagram
Based on a plan supplied by Time Team



-  Gradiometer Survey
-  Resistance Survey
-  Radar Traverses 1 to 3

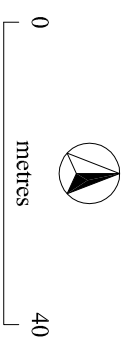


Figure 1

GSB PROSPECTION
PROJECT: 2000/56b TYLER HILL
TITLE: Colourscale - Magnetic Data
Based on a plan supplied by Time Team

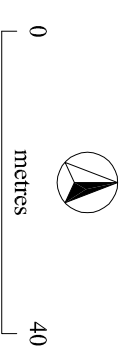
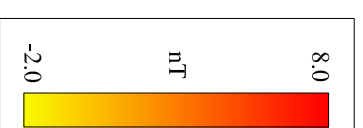







Figure 2

GSB PROSPECTION
 PROJECT: 2000/56b TYLER HILL
 TITLE: Interpretation - Magnetic Data
 Based on a plan supplied by
 Time Team



-  Industrial - Kiln
-  Archaeology
-  ?Archaeology
-  ?Trackway
-  Ferroous

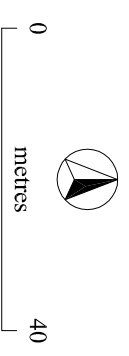
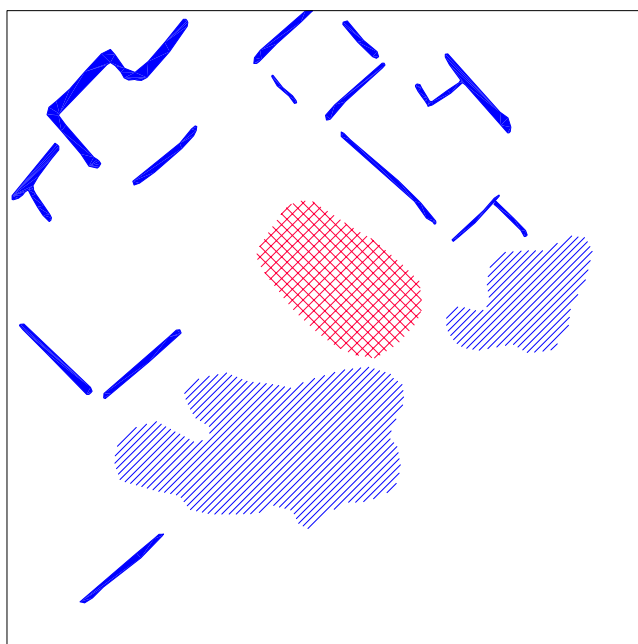
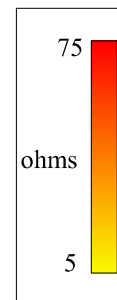
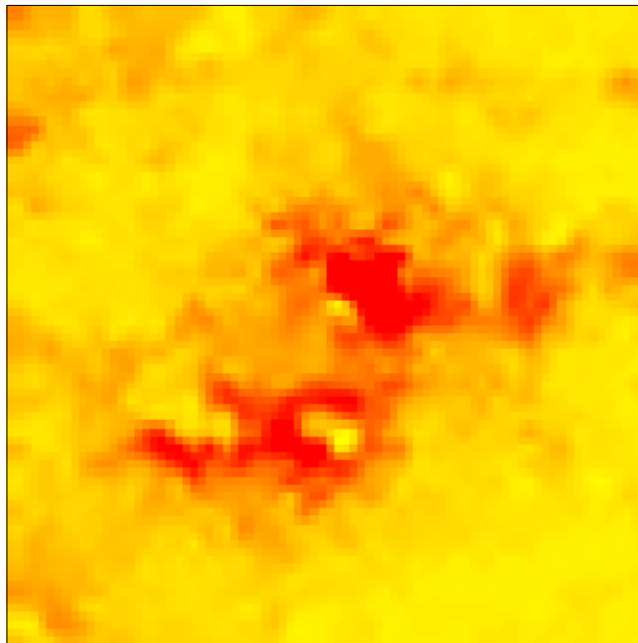
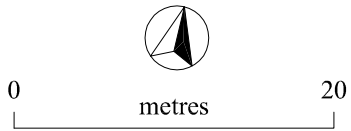


Figure 3

GSB PROSPECTION

PROJECT: 2000/56b TYLER HILL

TITLE: Colourscale + Interpretation - Resistance Data






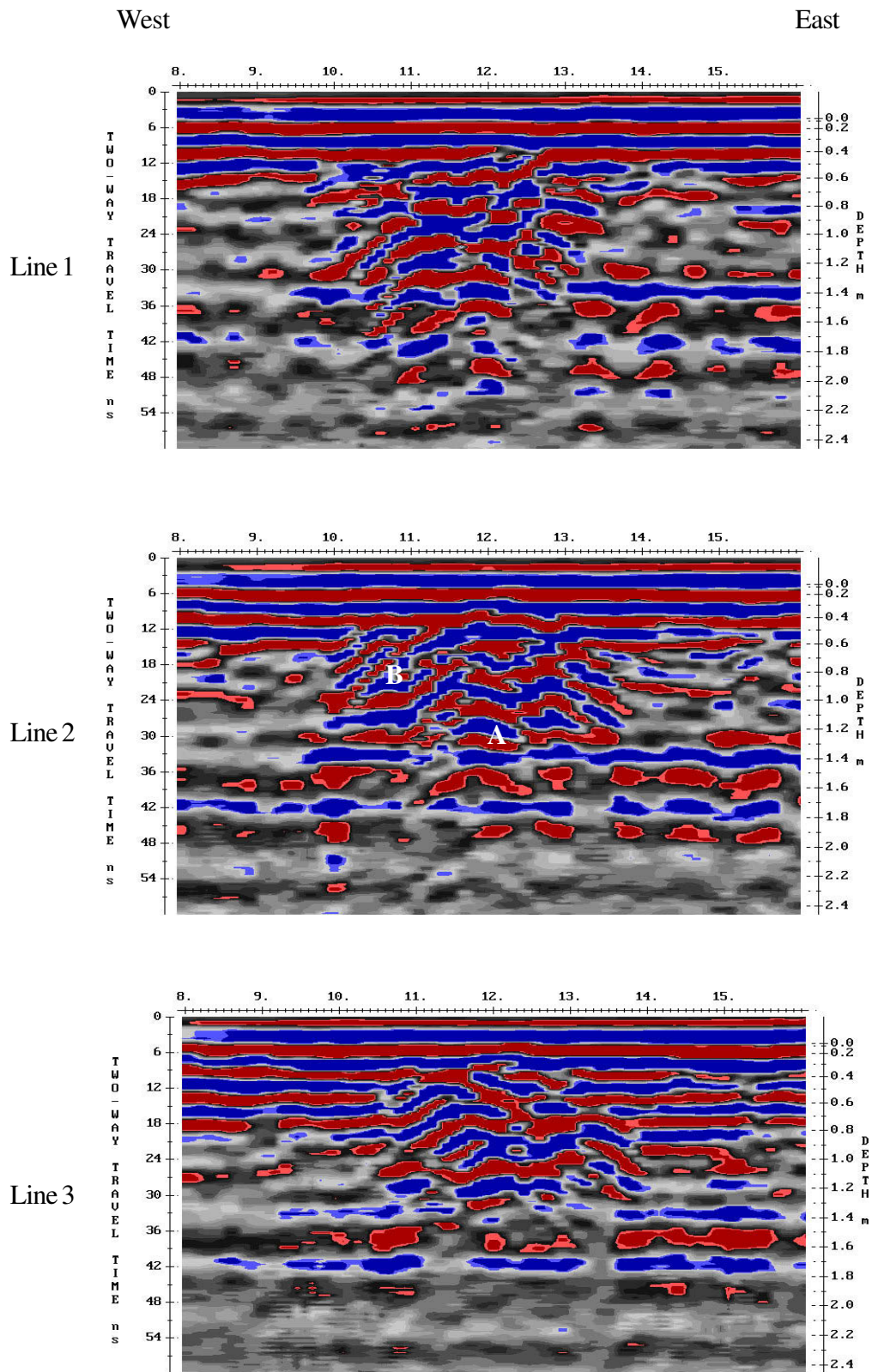
-  Kiln
-  Waste Tiles
-  ?Structures - Workshops etc

Figure 4

TYLER HILL GPR Survey - Kiln 1



TYLER HILL GPR Survey - Kiln 1

