A Sample Gradiometer Survey

at

Abbotstone Quarry,

Stanway, Colchester, Essex

November 1998

on behalf of
Tarmac Quarries Products Ltd

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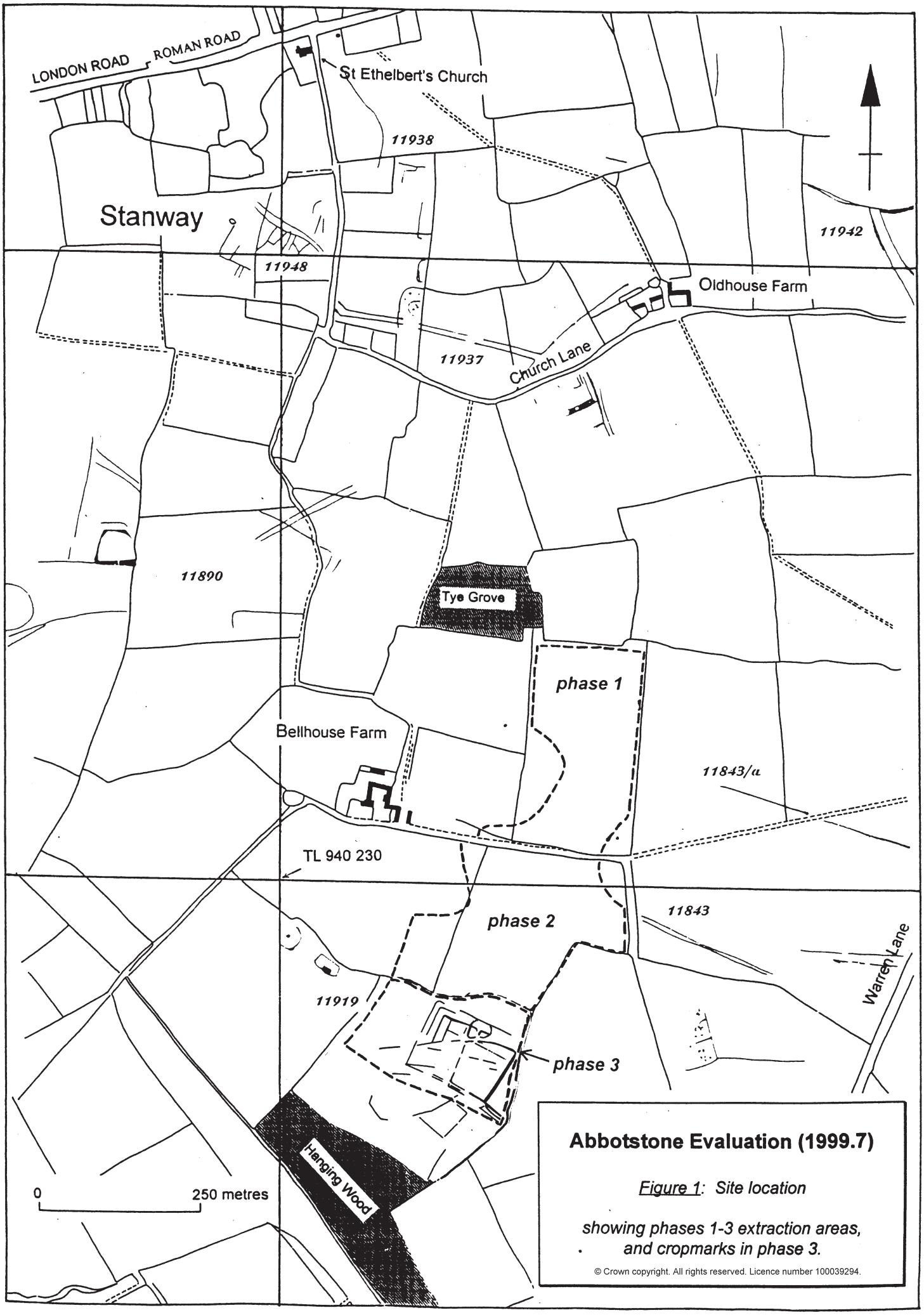


Abbotstone Evaluation (1999.7)

Figure 1: Site location

showing phases 1-3 extraction areas, and cropmarks in phase 3.

A Sample Gradiometer Survey at Abbotstone Quarry, Stanway, Colchester, Essex: October-November 1998

1 Introduction

1.1 This is the report on a fluxgate gradiometer survey carried out at Abbotstone Quarry on behalf of Tarmac Quarries Products Limited by Colchester Archaeological Trust (CAT) during October and November 1998.

1.2 The proposed mineral extraction areas at Abbotstone include a known cropmark complex centred on TL 943 227 (see figure 1). This has not been excavated or surveyed in any way before, but the general configuration of the cropmarks suggests a settlement or farmstead of Iron Age or Romano-British date.

1.3 The survey was carried out to test the suitability of fluxgate gradiometer survey for defining and elucidating the cropmarks. A positive result from the gradiometer survey would enable a better understanding of the cropmark complex, and better targeting of archaeological features during evaluation or excavation.

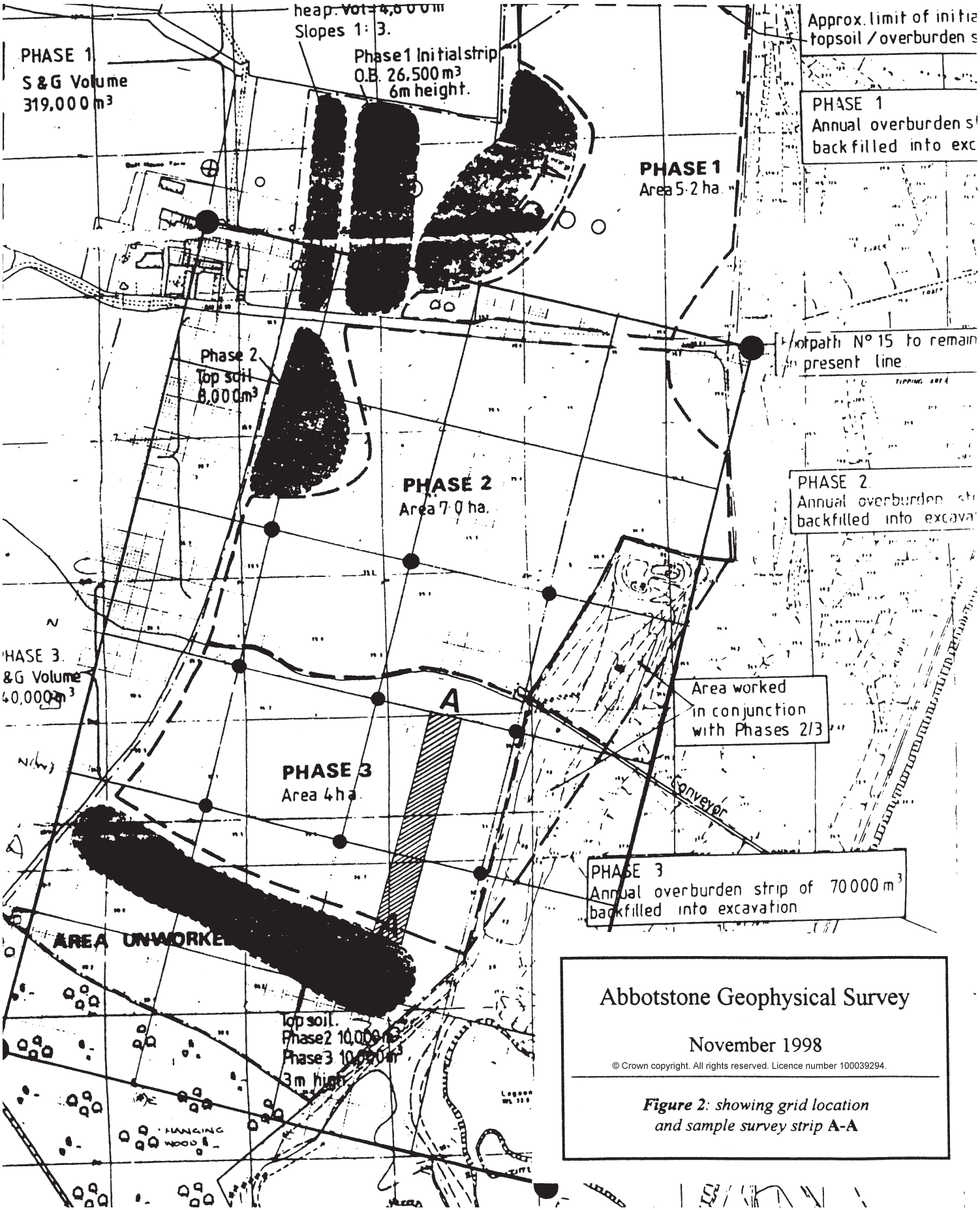
2 Method

2.1 The survey was carried out using a Geoscan Research (GR) Fluxgate Gradiometer, model FM 18, hired from Colchester Museums Services.

2.2 A survey grid was established over the *phase 2* and *3* extraction areas (figure 2, large dots), focusing for the purposes of this survey on the north edge of *phase 3* and the south edge of *phase 2* areas (figure 2, small dots) in such a way as to cover the principal known cropmark complex and the field to the north (where archaeological features might reasonably be expected because of the proximity of the cropmark complex to the south). Principal points on the grid and several north-south grid lines were surveyed in by Electronic Distance Measurer (EDM) at strategic points. Working from the pegs, a 20-metre grid was laid out, and the survey was carried out within those 20-metre boxes.

2.3 The sample consisted of a row of eight boxes in a north-south strip (figure 2).

2.4 The results were downloaded into a laptop computer running *Geoplot* software. This was used to process the data and print off the results given here (figure 3).



Abbotstone Geophysical Survey

November 1998

***Figure 2**: showing grid location and sample survey strip* **A-A**

Site : abb Mesh : abbd		Gradiometer Survey		Scale	1:738
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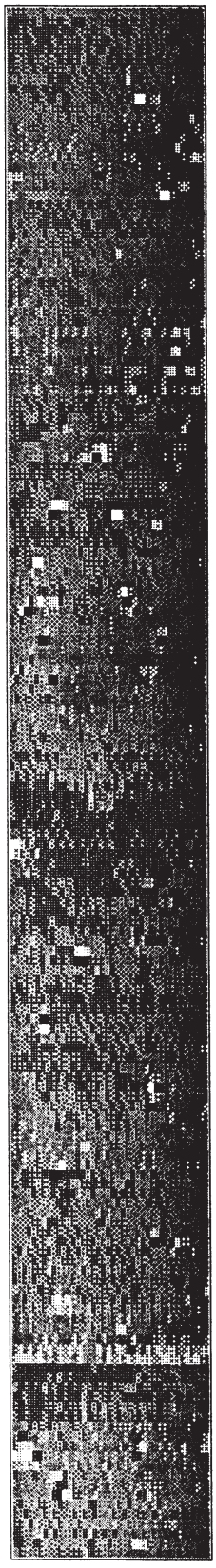
				Black White	Positive Negative



Abbotstone Geophysical Survey

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***Figure 3**: Sample strip plot*

3 Results

3.1 Although it is possible to distinguish several marks and blotches on the survey strip, of the type one might expect on an archaeological site, the fact that none of the known cropmark ditches showed up must indicate that gradiometer survey is not an appropriate survey technique on this site. This may be due to the unsuitability of the gravel subsoil. A similar problem was encountered on the Stanway burial site (1500m to the east of this site) where cropmark ditches were also invisible to gradiometer survey.

3.2 As a result of the sample survey, it is not considered worthwhile to carry out any more gradiometer survey at Abbotstone, although other techniques such as resistivity survey may be more helpful.

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