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LINDSEY ARCHAEOLOGICAL SERVICES

Grange Farm, Kirkby on Bain Quarry Extension Phase 2 Archaeological Evaluation (Fieldwalking)

Report for

Woodhall Spa Sand and Gravel Co.

LAS Report No.: 419

June 2000

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Contents

1

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1

1

1

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Introduction

Site Location

Archaeological Background

1

1

1

1

3

3

4

5

5

Phase 2

Method

Results

Discussion

Acknowledgements

References

The Figures

The Plate

Grange Farm, Kirkby on Bain Quarry Extension Phase 2 Further Archaeological Evaluation (Fieldwalking Survey) NGR: TF235 618 Site Code: GFS 00 LCNCC Accession No. : 2000.37

Introduction

Lindsey Archaeological Services was commissioned by Woodhall Spa Sand and Gravel Co. to undertake evaluation of the proposed Phase 2 extension to sand and gravel workings at Grange Farm, Kirkby on Bain. This was in accordance with the requirements of the Archaeology Section, Lincolnshire County Council. Woodhall Spa Sand and Gravel Company has applied for planning permission to extend their sand and gravel working westwards of the Phases 1A and 1B extension. Planning Permission was granted by Lincolnshire County Council in 1995 for the Phase 1A extension and in 1999 for Phase 1B.

Site Location

The quarry is located in the Bain valley at the southern end of the Lincolnshire Wolds. The proposed Phase 2 quarry extension comprises 2 arable fields, 7.65ha in area, on the southern boundary of Kirkby on Bain parish, west of Kirkby Lane and west of the Phase 1 part of the quarry extension (Figs. 1 and 2).

Archaeological Background

A desktop study and geophysical survey covered both Phases 1 and 2 of the proposed quarry extension. Later phases of assessment were confined to the two easternmost fields (c.8.5ha) which comprise Phases 1A and 1B of the extraction programme. Quarrying has already commenced in the Phase 1 area and this part of the site has been the subject of a continued programme of archaeological evaluation, excavation and recording.

A watching brief was kept during topsoil stripping in the Phase 1A part of the site but ground conditions and the machinery used were such that it would have been impossible to detect any archaeological features even if they had been present. After discussion with the County Archaeological Officer it was agreed to abandon the watching Brief on the Phase 1A area and the condition for the Phase 1B area was removed.

Phase 2

During his fieldwalking survey of the Bain valley between 1983 and 1986 Peter Chowne walked over fields which are now part of the guarry extension. A scatter of worked flints was found in the

easternmost field, which proved to be evidence for a far more extensive area of Neolithic occupation. He also found a flint core and two flint flakes in the western half of the site (within the Part 2 extension area).

A magnetic susceptibility survey was carried out by Stratascan over the whole site in 1995 (Fig. 3) (see Field 1995 for full report on results). The results were inconclusive but the survey pinpointed an enhanced zone of magnetism which coincided with the area containing the scatter of worked flints in NE corner of the application area. Another zone of enhanced magnetic activity was recorded along the western boundary of the site in the Phase 2 quarry area (Fig. 3). At the time of survey this was a grass field and no fieldwalking was carried out.

Three areas were selected for magnetometry (covering approximately 20% of the site), two of which were located within the Phase 2 quarry extension area.

Area 1 of the magnetometer survey was in Field 4 and covered 100m x 80m. It coincided with an area of enhanced magnetism revealed during the magnetic susceptibility survey and showed a weak linear anomaly crossing the survey area aligned approximately west-east. It is parallel with the modern field boundary to the south and may be of recent date (Fig. 4).

Area 2 of the magnetometer survey was in Field 3 and covered 100m x 60m. It contained a cropmark seen on an aerial photograph which also coincides with a small area of magnetic enhancement (Fig. 5). At the time these were interpreted as modern features.

Fields 3 and 4 have not been fieldwalked since Peter Chowne's survey because ground conditions in 1995 were unsuitable. However, a number of provisional conclusions may be drawn from the available data.

- 1. Magnetometer survey did not apparently identify archaeological features of Neolithic date on these soils because the variation in magnetic enhancement was too small.
- 2. Magnetic susceptibility patterns in the 4 fields surveyed showed increased enhancement in Field 1 but given the poor correlation of the more precise magnetometer survey and Neolithic features it is suggested that this is a reflection of modern agricultural activity. Similar magnetic enhancement has been recorded in Field 4 which is also interpreted as modern.
- 3. There was a genuine absence of worked flint in Field 2 and no archaeological features were recorded during evaluation trenching in that area of the site.

- 4. The presence of Neolithic flints on the ploughed surface of Field 1 coincided with below ground archaeological features which were especially well preserved along the eastern hedge boundary where a deeper subsoil had enhanced their survival, and in spite of that greater depth of subsoil.
- 5. The presence of three flints in Field 4 is not in any way comparable to the number originally found in Field 1 but once the field has been ploughed for the first time in some years there will be an opportunity to walk over the land to determine whether there are more flints.

Method

Fieldwalking is normally carried out on land which has been recently ploughed or sown, to retrieve artifacts such as worked flint or pottery whose spatial distribution can indicate zones of occupation beneath the ground surface.

The field was walked in transects 20m apart (giving a 5% coverage of the land) with finds individually recorded using a geodimeter 640 total station 1' machine and geodimeter super prisms, providing a three-dimensional co-ordinate for each find.

Contact between the fieldwalkers and the surveyors was maintained using two-way radios. Each walker carried their own prism and reported directly to the surveyor when recording of a find was required. Pre-numbered bags were used to ensure that there was no duplication in the field.

Animal bones were not retrieved because bone found on the ground surface cannot be assigned to a specific archaeological period.

Results

The fieldwalking survey yielded very little in the way of archaeological material, with a total of 11 finds recovered from the entire area, which comprised 6 worked flints, a further three pieces of burnt flint unworked and a hammerstone. A single piece of medieval tile was also retrieved (Table1 (below) and Fig. 6).

Find No.	Material	Description
1	Flint	Burnt, unworked
2	Flint	
3	Stone	Hammer Stone
4	Flint	
5	Ceramic	Tile
6	Flint	
61	Flint	
62	Flint	
63	Flint	
64	Flint	Burnt, unworked
65	Flint	Burnt, unworked

Table 1. Fieldwalking Finds by type.

The low numbers of finds collected were undoubtedly a product of a lack of archaeological material in the area generally. This may have been compounded by the bright, low winter sun which made visibility very poor, particularly in the transects walked from north-to-south.

It is also apparent from Table 2 (below) that one member of the fieldwalking team failed to find any artefacts (the retrieved flints 31-33 proved, on further inspection, to be unworked and were discarded). This may have been detrimental to both the overall amount of material collected and the spatial distribution pattern associated with said material.

T	ab	le	2.	Finds	recovered	by	indiv	idual	fieldwalkers	i
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Fieldwalker	No. of Finds	Material Recovered
Fieldwalker 1	6	3 x Worked Flint, 1 x flint hammer, 1 x Burnt Flint, 1 x Tile
Fieldwalker 2	5	3 x Worked Flint, 2 x Burnt Flint
Fieldwalker 3	3	3 x natural flints (discarded)

Although the numbers of finds was very small, a vaguely discernible distribution pattern was evident during collection. A marked dip was noted along the southern edge of the field which contained a much darker, loamier soil. This soil was also noted to contain visibly less gravel than the soil above it and to the north, suggesting the possible presence of an old water course or other linear depression. Finds of worked flint were recovered from the interfacial area between the dark soil and the lighter, more gravelly material present across the rest of the field. The location of this dip and darker soil is shown in Fig. 6 and in the foreground of Plate 1.

Discussion

The fieldwalking evidence, coupled with the results of the geophysical survey, indicate a low level of human activity in this area. The apparent concentration of worked flints close to the filled-in

modern field drain must be treated with caution. Only two (finds 4, 63) possibly three (find 2), of the flints were close enough to the area which might have been disturbed by the drain, a number too small to draw any definite conclusions.

There is no evidence to suggest the presence of archaeological remains on the scale found in the Phase 1A area of the quarry. Hundreds of flints were picked up from the ploughed surface of the Phase 1A area of the quarry, (c. 2.7ha in area) which places some perspective on the discovery of only 6 worked flints in the Phase 2 area, which covers nearly three times the area (7.65ha). It is very likely that the material recovered from Phase 2 represents little more than 'background noise' associated with the activity in the area of Phase 1A.

Acknowledgements

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This fieldwork was carried out by Robert Armour-Chelu, Sue Farr and Wendy Booth. This report was edited by Naomi Field and collated and produced by Jane Frost.

Rob Armour-Chelu June 8th 2000

References

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Lincolnshire County Council 1998 Lincolnshire Archaeological Handbook.

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5



Fig. 1 Site location also showing excavation sites at Kirkby on Bain and Tattershall Thorpe. (Reproduced from the OS 1:25,000 map with the permission of the Controller of HMSO © Crown copyright .LAS licence AL50424A.



Fig. 2 Grange Farm, Kirkby on Bain quarry extension, showing areas of geophysical survey (magnetic susceptibility = total area), magnetometer survey = Areas 1-3), archaeological evaluation trenches 1-26. Not shown are the excavation areas extending along the boundary with Kirkby Lane.



Fig. 3 Results of magnetic susceptibility survey showing Phases of quarry extension and Areas 1-3 of the magnetometer survey.







Fig. 5 Results of the Area 2 magnetometer survey



	Reference
inere randou de Frank	 Find location with number Burnt Flint Worked Flint
	S™ Grange Farm Pit Kirkby-on-Bain
	Project Phase 2 Archaeological Investigation
	Location of Finds From Field Walking
	Scale : 1/1250 Date : 10/6/00
	Plan Ref : WS/MSE/1465-2
	Woodhall Spa Sand & Gravel Ltd. Tattershall Road Kirkby-on-Bain Woodhall Spa Lincs LN10 6YN Tel:01526 342360 Fax: 01526 344451



Grange Farm Kirkby on Bain. Phase 2 area, general view looking west.