

PROPOSED WEST BURTON GAS PIPELINE: RESULTS OF FIELDWALKING SURVEY AT KNAITH PARK, LINCOLNSHIRE

Prepared by **AC archaeology**
On behalf of EDF Energy

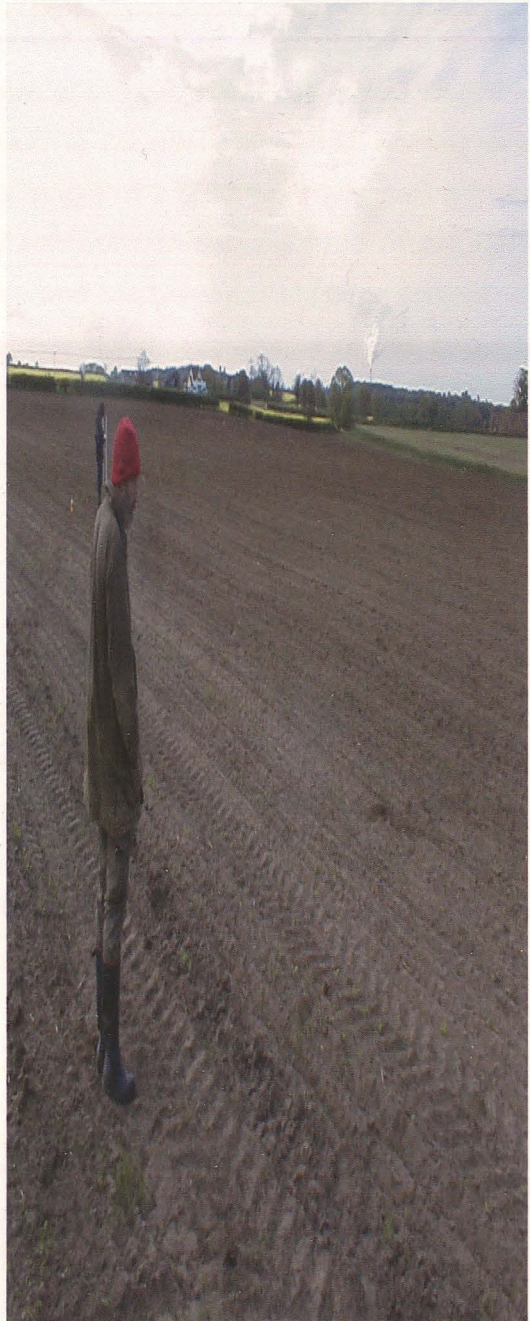
May 2007

Document no 4206/3/0

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PROPOSED WEST BURTON GAS PIPELINE: RESULTS OF FIELDWALKING SURVEY AT KNAITH PARK, LINCOLNSHIRE (SK847858)

SK 8479 8587

SUMMARY

A fieldwalking survey of the proposed West Burton Gas Pipeline route at Knaith Park was undertaken in April 2007 principally to assess the likely presence of archaeological deposits associated with the Heynings Priory site to the south of the route. Aerial photographs show the presence of various cropmarks in the area. A geophysical survey, by gradiometer was also undertaken in parallel with the fieldwalking. A localised area of magnetic anomalies was identified by the geophysical survey and included features believed to be associated with burning and possibly the site of kilns. Fieldwalking was restricted to a length of c. 380m of the pipeline route due to the presence of dense ground vegetation elsewhere, but included the area of magnetic anomalies. Small quantities of worked flint, Romano-British and Medieval pottery were recovered, along with later material, but of such low densities that it has not been possible at this stage to provide any firm assessment of any archaeological activity in the area. All may have been derived from manuring. It was not possible to ascertain whether the cropmark features were of Medieval origin or associated with the Priory.

1. INTRODUCTION

1.1 This report sets out the results of a fieldwalking survey of land at Knaith Park that forms part of the route of a proposed gas pipeline (Fig. 1). The survey had been undertaken by AC archaeology on behalf of EDF Energy who propose to construct the pipeline to carry gas from the existing National Transmission System near Grayingham, Lincolnshire (SK 93459525), to a new Combined Cycle Gas Turbine power station to the west of the River Trent at West Burton, in Nottinghamshire (SK80288610). The pipeline will be approximately 18.9 km in length and be constructed within a generally standard working width of c. 30m.

1.2 An application for Pipeline Construction Authorisation (PCA) was been submitted by Penspen in 2006, on behalf of EDF Energy, to the Department of Trade and Industry accompanied by an Environmental Statement (*West Burton Gas Pipeline Environmental Statement- Written Statement*). Chapter 7 of the Environmental Statement (ES) relates to Archaeology and Cultural Heritage and identifies the baseline archaeological conditions and makes proposals for further survey and mitigation of adverse effects.

1.3 Following consultation with the Principal Archaeologist, Lincolnshire County Council (LCC), non-intrusive, site investigations have been undertaken in the principal zones of interest along the

route in order to more fully define the archaeological resources that may be affected by the pipeline's construction. This has been required in order that LCC may advise the Secretary of State in respect of the determination of the PCA.

1.4 The three areas comprised:

- **Area 1 - Heynings/Knaith Park:** The surveys comprised both a recorded geophysical survey by gradiometer and fieldwalking. The geophysical survey report has been presented separately (GSB 2007);
- **Area 2 - Springthorne:** The survey comprised a recorded geophysical survey by gradiometer. The geophysical survey report has been presented separately (GSB 2007);
- **Area 3 – Blyborough:** The survey comprised a recorded geophysical survey by gradiometer. The geophysical survey report has been presented separately (GSB 2007).

2. ARCHAEOLOGICAL BACKGROUND

2.1 Area 1- Heynings/Knaith Park

Heynings Priory is a Cistercian nunnery founded after AD1135 and includes a precinct moat, fishponds, leats, buildings and a hollow way. Linear and curvilinear cropmark features, that are possibly associated with the Priory, have been recorded across a broad zone to the west and northwest of the site and will be crossed by the pipeline route (see Fig. 2). Heynings Priory is a Scheduled Monument.

3. FIELDWALKING METHODOLOGY

3.1 Of the c. 1100m length of pipeline corridor that was identified for fieldwalking, only a distance of approximately 380m was in suitable condition for the recovery of surface artefacts from gridded collection. Fields to the west of Kexby Lane were wholly under pasture (see Plate 1) and the first field north of Kexby Lane was under set aside (Plate 2). This latter field was intensively walked (without gridding) but the vegetation cover found to be too dense to identify the presence of any artefacts. The extreme north end of the proposed survey area was under winter sown cereal and was too dense to allow any reasonable degree of surface visibility.

3.2 The survey was undertaken by Peter Cox MIFA and Stephen Sherlock MIFA on 26 April 2007. Field conditions were very good within the gridded survey area. The soils are very sandy and visibility of artefacts very good. The weather was dry and bright.

3.3 The survey was undertaken within a 40m-wide corridor centred on the approximate pipeline centre line. The centre line was established on the ground and three 20m-spaced transects walked, one along and two parallel to the centre line (i.e. at 0, 20, and 40m across the corridor). All artifacts present were collected from a single 20m long traverse within each transect. Each traverse scanned a 2m wide area, thus providing a 10% collection sample of the survey corridor.

3.4 Modern finds (i.e. post c1850) were generally not collected, but a sample of tile was collected. All artefacts were washed and scanned by the AC *archaeology* Finds Officer,

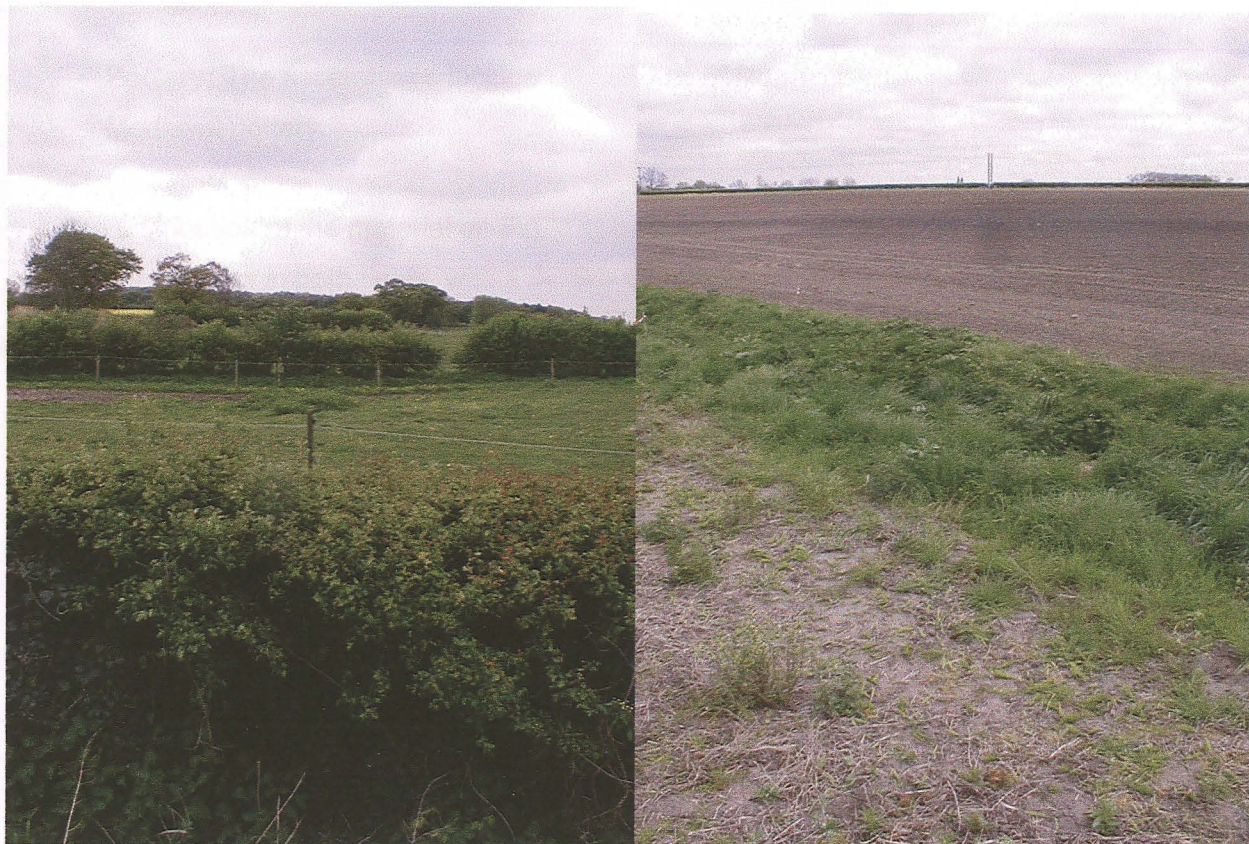


Plate 1: View along pipeline route west of Kexby Lane

Plate 2: View of ploughed field east of Kexby Lane towards area of magnetic anomalies (set-aside field in foreground)

4. RESULTS

4.1 A summary of finds recovered and the collection units is included in Appendix 1. The material collected has been plotted by individual occurrence per grid square on Fig. 3. No statistical manipulation of the data has been undertaken due to the low density of finds present.

4.2 The principal categories of material present comprise:

Ceramic Building Material (cbm): Most is considered to be of post-Medieval date and probably machine-made roof tile or land drain. None is considered likely to be Romano-British or Medieval in date.

Flint: Four pieces of worked flint were recovered: the material is not strongly diagnostic, but probably of Bronze Age date.

Pottery: The assemblage includes six sherds of Romano-British pottery and two sherds of Medieval pottery.

4.3 The distribution of the material on Fig. 3 shows no strong evidence for concentrations. There are clusters of cbm in both fields, with a denser distribution in the northernmost field. There is a higher density of pottery in the south field.

4.4 The pottery has been plotted by period on Fig. 4, along with the principal magnetic anomalies recorded by geophysical survey. Pottery of all periods represented has been found close to these anomalies, although the presence of a low density of Romano-British pottery here may be of note. None of the pottery, however, has attributes that would indicate it being wasters resulting from manufacture (i.e. overfiring, distortion or spalling) and it is not possible to determine from the surface finds what date any subsoil features may be. This area of the field also contained noticeably darker soil (visible on Plate 2), but is also on a SW facing slope down to the stream at the west end of the field. Any finds to the east therefore lie uphill from the possible archaeological features. A single piece of (undatable) slag was recovered from close to the anomalies (Fig. 3).

5. COMMENT

5.1 The fieldwalking results have been limited due to field conditions and restricted to a corridor at the northern end of the proposed survey zone. This coincides with the principal area of geophysical survey anomalies considered to be archaeological in origin and an area of magnetic enhancement.

5.2 The geophysicist's interpretation of possible kilns being present in the survey area is of note, but their possible presence date or function cannot be confirmed from surface finds. Generally the density of finds is too low to allow positive attribution to specific archaeological activity in the area. All may have been derived from manuring. There is no evidence to suggest that any of the magnetic anomalies are of Medieval date and associated with the scheduled Heynings Priory site.

5.3 None of the cropmark features identified during the desk-based assessment could be included in the fieldwalking areas so no assessment of their date or function can be offered at this stage. Several appear to coincide with weak magnetic trends in the geophysical survey data.

6. REFERENCES

GSB 2007 '*West Burton Gas Pipeline*' Geophysical survey report no. 2007/25. Unpublished report by GSB Prospection for EDF Energy May 2007

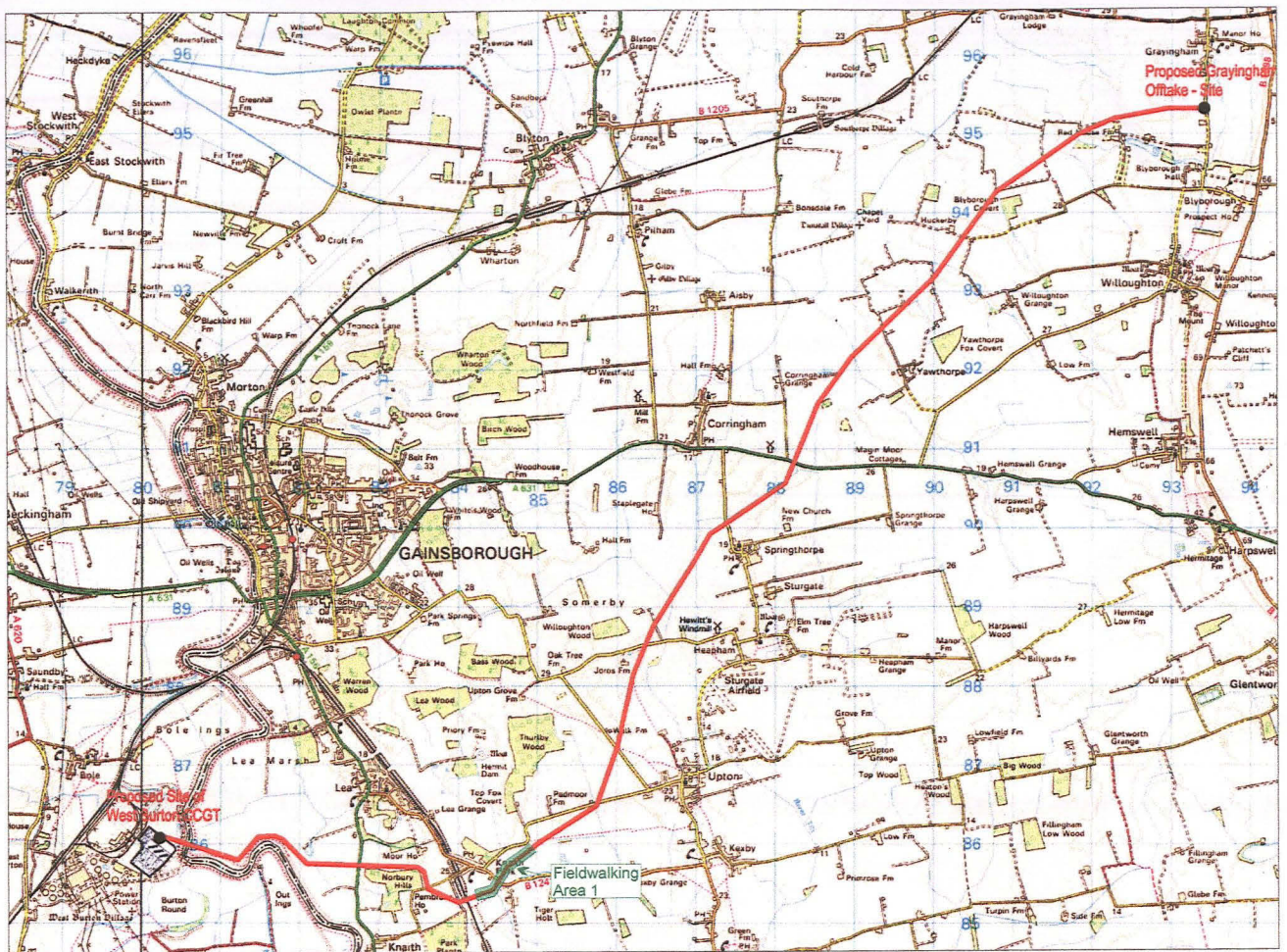


Fig. 1: Location of pipeline and fieldwalking Area 1

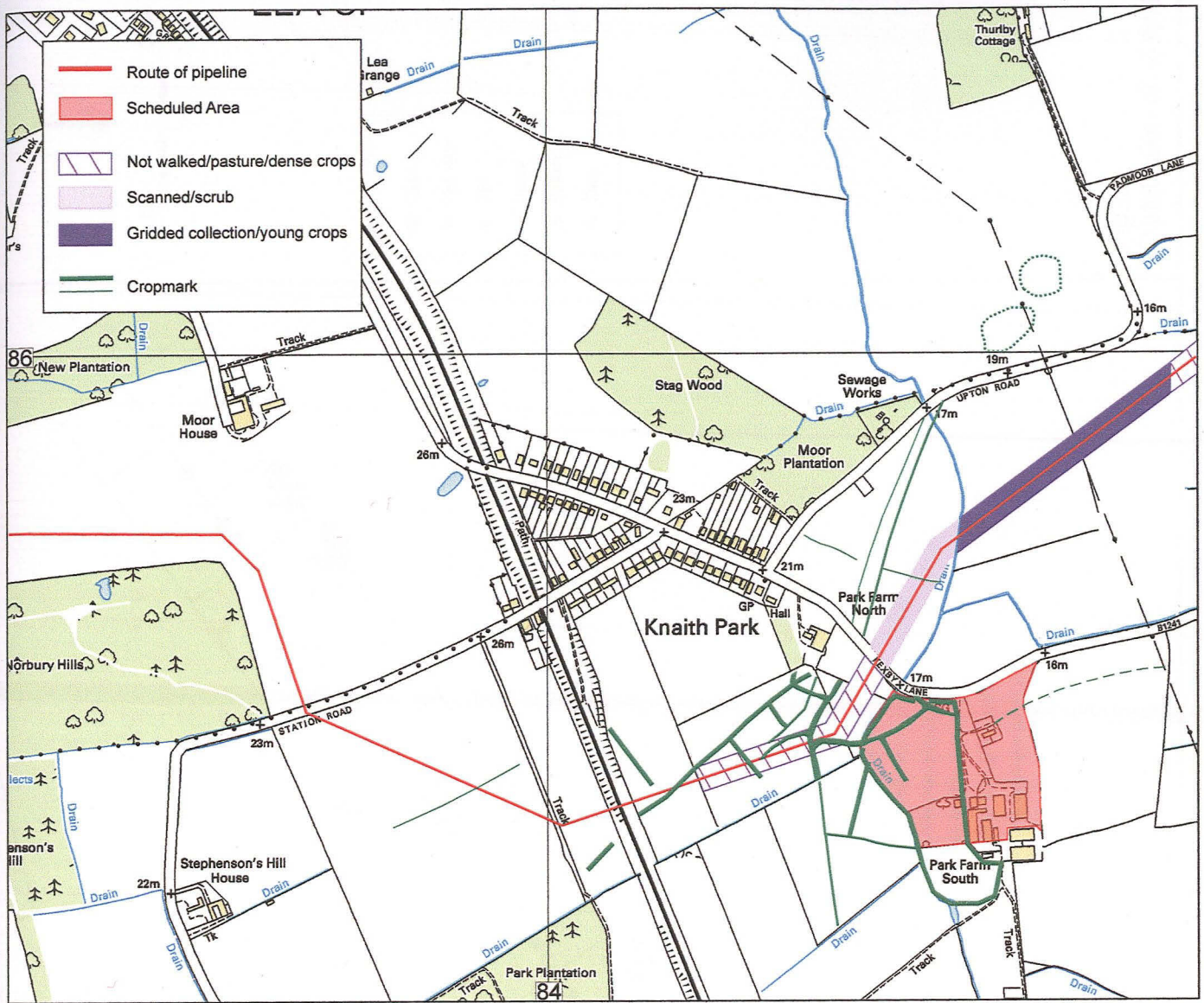


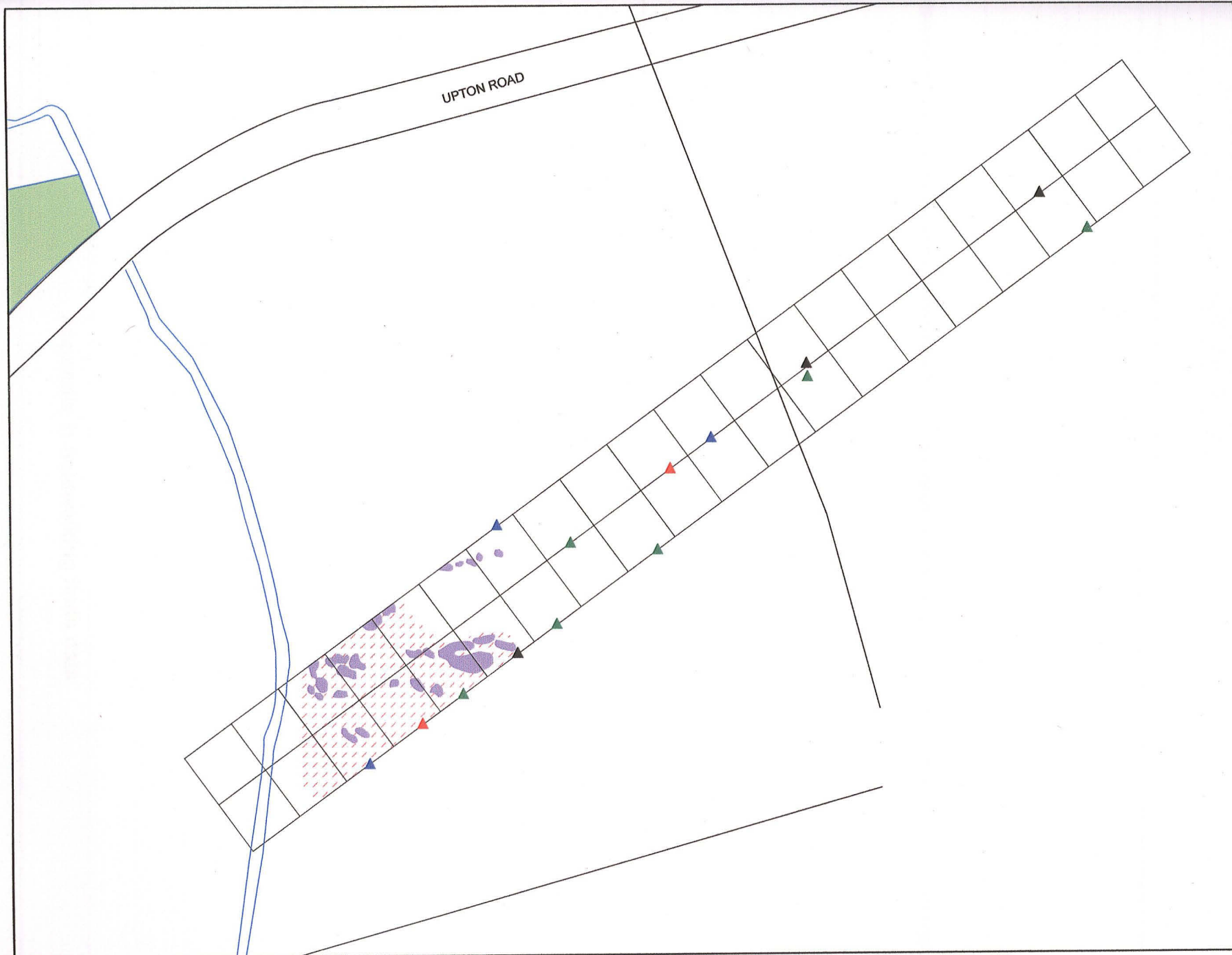
Fig. 2: Survey Area 1: Fieldwalking conditions and previously recorded cropmarks



Key

■	CBM
*	Clay pipe
●	Flint
+	Glass
▲	Pottery
⬠	Slag

Fig. 3:
Distribution of all finds



Key

- ▲ Romano-British
- ▲ Medieval
- ▲ Post medieval
- ▲ Modern
- Possible archaeological feature recorded by geophysical survey
- ▨ Magnetic disturbance recorded by geophysical survey

Fig. 4:
Distribution of pottery
by period

APPENDIX 1: FIELDWALKING FINDS DATA

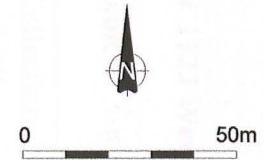
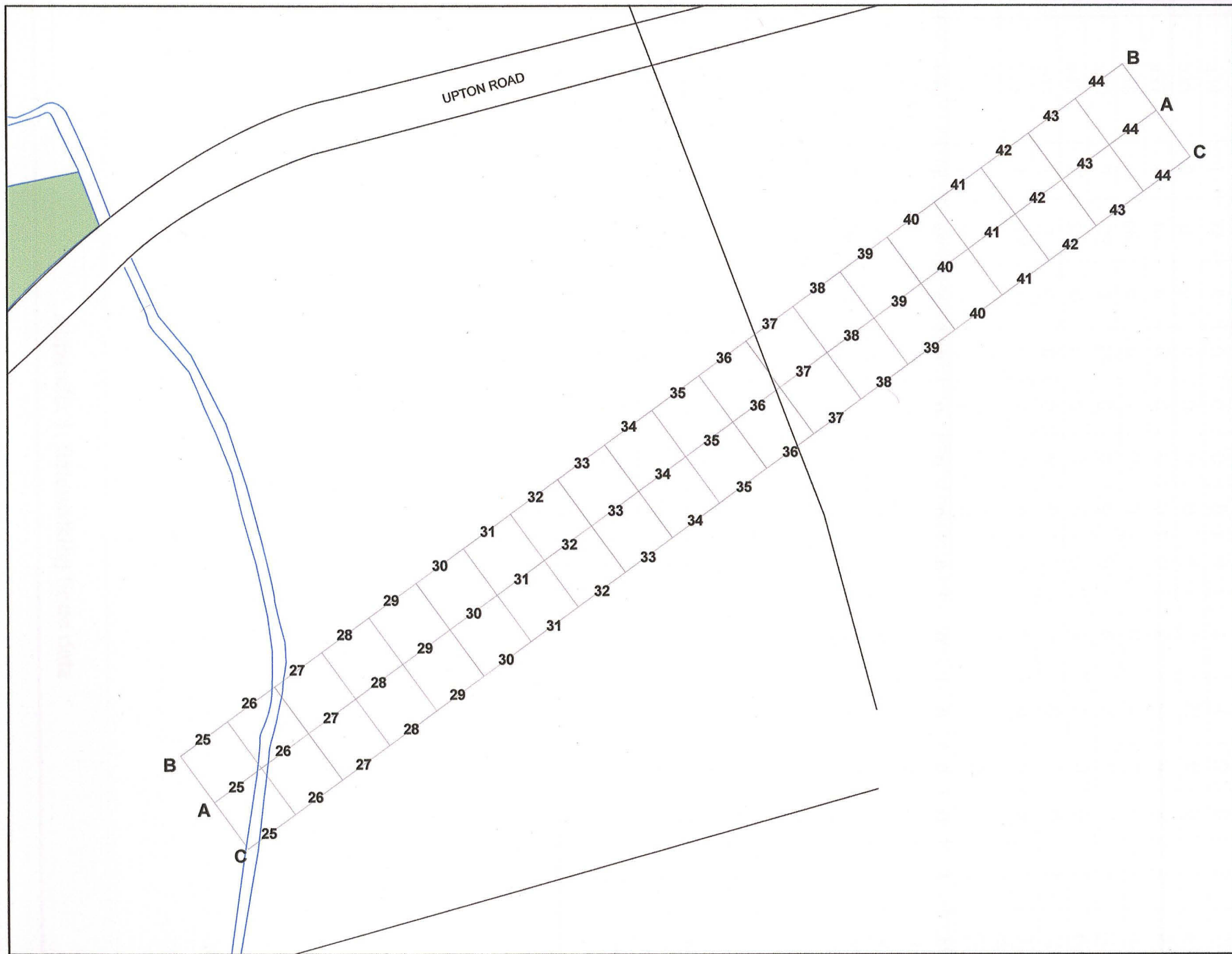


Fig. 5:
Grid collection numbers

AC1123 West Burton Pipeline

Table 1: Total Finds from Fieldwalking, by collection unit and find type

Collection Unit	Cbm		clay pipe		flint		glass		pottery		Slag		Total No.	Total Wt.
	No	Wt	no	wt	no	wt	no	wt	no	wt	no	Wt		
a32	0	0	0	0	0	0	0	0	1	2	0	0	1	2
a34	1	74	0	0	0	0	0	0	1	4	0	0	2	78
a35	0	0	0	0	0	0	0	0	1	21	0	0	1	21
a37	1	10	0	0	0	0	0	0	2	23	0	0	3	33
a38	1	66	0	0	1	16	0	0	0	0	0	0	2	82
a40	2	108	1	10	0	0	0	0	0	0	0	0	3	118
a42	2	57	0	0	0	0	0	0	1	5	0	0	3	62
a43	1	2	0	0	0	0	0	0	0	0	0	0	1	2
b28	1	33	0	0	0	0	0	0	0	0	0	0	1	33
b31	1	31	0	0	0	0	0	0	1	39	0	0	2	70
b35	1	54	0	0	1	350	0	0	0	0	0	0	2	404
b38	1	11	0	0	0	0	0	0	0	0	0	0	1	11
b41	0	0	3	6	0	0	0	0	0	0	0	0	3	6
c25	0	0	0	0	1	4	0	0	0	0	0	0	1	4
c26	2	39	0	0	0	0	0	0	0	0	0	0	2	39
c27	0	0	0	0	0	0	0	0	1	10	0	0	1	10
c28	1	34	0	0	0	0	0	0	1	7	0	0	2	41
c29	0	0	0	0	0	0	0	0	1	12	0	0	1	12
c30	0	0	0	0	1	1	0	0	1	4	1	73	3	78
c31	0	0	0	0	0	0	0	0	1	3	0	0	1	3
c33	2	83	0	0	0	0	0	0	1	13	0	0	3	96
c34	5	195	0	0	0	0	0	0	0	0	0	0	5	195
c35	1	125	0	0	0	0	0	0	0	0	0	0	1	125
c37	1	10	0	0	0	0	1	80	0	0	0	0	2	90
c41	5	129	1	2	0	0	0	0	0	0	0	0	6	131
c42	5	160	2	5	0	0	0	0	1	4	0	0	8	169
c43	4	115	0	0	0	0	0	0	0	0	0	0	4	115
Total	38	1279	7	23	4	371	1	80	14	147	1	73	65	2030

Table 2: Catalogue of Finds from Field Walking, By Collection Unit

Collection Unit	Material Type	no	Wt (g)	Comments
a32	pottery	1	2	?RB pottery
a34	cbm	1	74	undiagnostic roof tile, poss med
a34	pottery	1	4	possibly medieval
a35	pottery	1	21	Post medieval tin glazed rim
a37	cbm	1	10	Post medieval
a37	pottery	2	23	one piece of 19th century blue transfer ware and one possible roman undiagnostic sherd
a38	cbm	1	66	Post medieval field drain
a38	flint	1	16	?retouched flake
a40	Cbm	2	108	curved fragments ?ridge
a40	clay pipe	1	10	Stem fragment
a42	pottery	1	5	19 th century brown glazed pottery
a42	Cbm	2	57	Post medieval roof tile
a43	Cbm	1	2	Very small undiagnostic fragment
b28	Cbm	1	33	undiagnostic roof tile
b31	Cbm	1	31	Post med ?field drain
b31	pottery	1	39	16 th /17th glazed fragment
b35	Cbm	1	54	Post medieval field drain
b35	flint	1	350	medieval pottery, possibly glazed, abraded
b38	cbm	1	11	Post med roof tile
b41	clay pipe	3	6	Stem fragments
c25	flint	1	4	Flint waste flake
c26	cbm	2	39	one fragment of field drain, one roof tile of uncertain date
c27	pottery	1	10	brown glaze, post medieval
c28	cbm	1	34	Post med roof tile
c28	pottery	1	7	medieval pottery, possibly glazed, abraded
c29	pottery	1	12	Romano-British greyware rim sherd from jar
c30	flint	1	1	Possibly worked flint flake
c30	pottery	1	4	19 th century brown glazed pottery

Appendix 1: fieldwalking finds data

c30	slag	1	73	
c31	pottery	1	3	Possible Romano-British pottery
c33	cbm	2	83	Post medieval field drain, one piece stamped with a "D"
c33	pottery	1	13	Base of Romano-British vessel
c34	cbm	5	195	two curved fragments (ridge), three abraded undiagnostic fragments ?med/post medieval
c35	cbm	1	125	?med/post med ridge tile
c37	cbm	1	10	Post med roof tile
c37	glass	1	80	large lump of glass, waste
c41	cbm	5	129	one curved fragment (?ridge), one undiagnostic, flat post medieval tile
c41	clay pipe	1	2	Stem fragment
c42	cbm	5	160	two curved fragments (ridge), three flat undiagnostic fragments
c42	clay pipe	2	5	Stem
c42	pottery	1	4	roman undiagnostic sherd
c47	cbm	3	105	Post medieval field drain
c47	cbm	1	10	Post medieval tin glazed sherd

Appendix 1: fieldwalking finds data