

Block Fen, Chatteris, Cambridgeshire

An Archaeological Evaluation



Langwood Fen Farm (South)

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UNIVERSITY OF CAMBRIDGE



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CONTENTS

<i>Summary</i>		1
INTRODUCTION		1
Geology, Topography & Environment		1
Archaeological Background - Surface & Sub-surface Investigations		2
Methodology		8
EXCAVATION RESULTS		8
Field 1		9
Field 2		11
DISCUSSION - A Patch of Fenland Prehistory Laid Bare		12
SPECIALIST REPORTS		14
Flint	<i>Lawrence Billington</i>	14
Prehistoric Pottery		16
Fauna	<i>Vida Rajkovača</i>	16
Plant Remains	<i>Anne de Vareilles</i>	17
Buried Soil	<i>Charly French</i>	20
Pollen	<i>Steve Boreham</i>	20
<i>Acknowledgements</i>		24
References		24
Appendix		28
Geophysical Survey	<i>A.D.H. Bartlett</i>	28

Summary

On behalf of Hanson, a trench-based evaluation of two fields at Block Fen, Chatteris (TL 434 846), articulated a widely dispersed pattern of two large watering holes associated with an Early Bronze Age sub-fen landscape. In addition, it identified a narrow strip of buried soil together with a discrete midden-like deposit replete with sherds of Early Bronze Age pottery, and all preserved beneath a thin horizon of desiccated peat. Otherwise the evaluation described a somewhat denuded patch of land which owing to intensive drainage had experienced severe peat wastage and comprehensive plough damage. Consequently, all but three of the sixty-two trenches recorded a thin cover of ploughsoil above an archaeologically sterile natural.

INTRODUCTION

An archaeological evaluation was carried out between 15th and 26th October 2012 on behalf of Hanson following a Project Design Specification produced by the Cambridge Archaeological Unit (Evans 2012) and approved by Andy Thomas (Senior Development Control Archaeologist, Cambridgeshire Historic Environment Team). Phase 1 of the Proposed Development Area (PDA) comprised a small area of arable farmland centred on Langwood Fen Farm (TL 434 846), and located at the junction of Langwood Fen and Block Fen, approximately 2km north of the village of Mepal and 3.5km to the east of Chatteris. The evaluation involved 62 machine excavated trenches divided between two adjoining fields situated immediately north of the now flooded Block Fen quarry works (Fields 1 & 2; total area: 31ha; Figure 1).

Geology, Topography & Environment

Hall documented the underlying geology of Chatteris as being Ampthill Clay (Hall 1992) and its surface formation as being later terrace gravels including those along the elevated Langwood Ridge and adjacent low lying Langwood Fen. Extensive aggregate extraction at Block Fen demonstrates a southerly continuation of the same gravels.

The site was located within a large flat expanse southeast of Chatteris 'Island' and directly below the ridge that conjoins the 'island' at Langwood Hill and extends north-west to Honey Hill. The main course of the Ouse ran to the west of Chatteris but a tributary of the same river flanked the eastern margins of the Langwood Fen/Block Fen area forming a small in-fen valley immediately below the 0m contour. As a result of its low altitude the valley acted as an early point of ingress for fen-related sediments in this section of Fenland and its margins have been interpreted as delineating the Neolithic/Early Bronze Age fen-edge.

The current surface at Langwood Farm lies somewhere close to 1m OD, although the ground rises up to 2m 0.5km to the northwest, and down to 0m 0.5km to the southeast. Concerted drainage along with intensified agricultural practices have led to exaggerated peat wastage throughout the Langwood Fen/Block Fen area and as a result the Nordelph peat beds now only survive to the east of the site. Rather uniquely for Fenland, the Langwood Fen/Block Fen landscape represents a low altitude zone

minus the usual deep fen cover; despite its overall ‘depth’, the site remains remarkably close to the surface. In many ways it is this attribute of the landscape that has determined how it has been interpreted in the past.

In the original desktop study, Evans divided the investigation area into three concentric parts or zones. Zone I delineated the proposed quarry area, Zone II, a 500m ‘de-watering’ berm, and Zone III, a 1km wide all-encompassing ‘box’ designed to elucidate the larger landscape context (Evans 1991). In terms of the environmental sequence, Evans concluded that the peat fen had encroached over the low lying Zones I & II towards the end of the Bronze Age and therefore, in all likelihood, precluded post-Bronze Age occupation.

Archaeological Background

Block Fen’s archaeological background or history of investigation can be split into two principal or overriding methodological approaches: non-intrusive (*surface*) and intrusive (*sub-surface*). Whereas the first surveys concentrated primarily on the former, more recent investigations have focused on the latter (Table 1; Figure 2). As outlined below, the initial surveys quickly determined a landscape dotted with small groups of prehistoric funerary monuments (composed predominantly of round barrows/ring-ditches) together with a series of linear cropmarks belonging to an extensive enclosure system also thought to be prehistoric in date. In addition, accompanying fieldwalking campaigns demonstrated a ‘low-density’ landscape yielding remarkably few artefacts (mainly flints) in comparison with other prehistoric cropmark complexes located elsewhere around the fens. Large scale geophysical survey duplicated elements of the monument/fieldsystem configurations established by aerial photography whilst at the same time revealing unseen but nevertheless intensive patterns of closely-spaced parallel agricultural ‘claying’ trenches of nineteenth/twentieth century origin.

For the most part the initial sub-surface investigations targeted known cropmarks and included trench-based evaluations of the enclosure system (Hunn 1992 & 1994; Evans 1995) and the adjacent monuments (Coxah & Lisboa 1994). Straight away, these early intrusive projects established Block Fen as a severely truncated landscape with only a minimal ploughsoil cover (*c.* 0.30m). Simultaneously, they also demonstrated that elements of the surface evidence had been over-interpreted and not everything that had been plotted was real. The investigations did identify a small number of unannounced features, including a small diameter ring-ditch (Hunn 1992 & 1994), but overall there was little difference between what was identified on the surface with what was found below. Similarly, the extraordinarily low artefact counts recovered during fieldwalking were matched by equally low artefact numbers retrieved during excavation.

Subsequent evaluations as well as occasional small scale open-area excavations have, by and large, avoided the principal cropmark sites and instead focused on the ‘blank’ area northeast of the Block Fen fieldsystem. Beyond the odd small pit and rare watering hole, the investigations have continued to articulate an archaeologically ‘quiet zone’ bereft of obvious settlement foci and crucially, exclusive of artefacts post-dating the Early Bronze Age. Together, the numerous desktop surveys, trench-

based evaluations and area excavations, can be used to reconstruct a low-lying flat expanse that was lost to the encroaching fen sometime towards the end of the first half of the 2nd millennium BC.

Surface Investigations

The original desktop study presented an early summary of the Fenland Project survey of the Chatteris area alongside an updated appraisal of the aerial photographic evidence by Rog Palmer (Evans 1991). The same study created a gazetteer of potential sites both within the vicinity of the quarry itself (Evans' Zone I) as well as the surrounding landscape (Zones II & III). The desktop concluded that the area of Block Fen affected by the proposed quarry represented an ostensibly 'empty-quarter' or site-free zone situated betwixt more conspicuous settlement/site-related foci.

The Fenland Project recorded a dispersed barrow-field (Chatteris 17, 18, 19, 20, 21 & 30) located to the south and east of a broad strip of linear cropmarks belonging to an early fieldsystem (Chatteris 22 & 23) which was thought to be prehistoric in date due to its reduced altitude position (Hall 1992, 90). Somewhat surprisingly, fieldwalking generated very little material and consequently occupation contemporary with the burial areas or fieldsystem was believed to have resided on the higher ground to the west. Small numbers of flint were recovered from close to the proposed site and Hall recorded 0.57 flints per hectare at or about the Block Fen vicinity (*ibid*).

In 1993, and also under the auspice of the Fenland Project, Evans carried out an assessment of the Langwood Fen Environs. The bulk of this work concentrated on an Iron Age and Roman settlement complex situated on the elevated Langwood Ridge (Chatteris 26) but included a fieldwalking transect of the adjacent low-lying fieldsystem (Chatteris 23), as well as a series of trenches positioned across the line of a large curvi-linear ditch associated with the same system (Evans 1994, 14). Again, very low numbers of flints were retrieved. In fact the Block Fen artefact densities were so 'poor' that Evans' commented on the difficulty of coming to terms with such low density scatter sites (15).

Sub-surface Investigations (Figure 2)

In 1992 parts of the Block Fen fieldsystem (Chatteris 22) were trenched by Tempus Reparatum Field Services Department. The excavation, also known as Block Fen A, demonstrated a series of parallel and perpendicular naturally silted ditches lacking either upcast banks or associated buried soils (Hunn 1992 & 1994). Finds were all but non-existent (3 flints and a pot sherd), although a small diameter ring-ditch (11.1m) was found overlying part of the system. Importantly, the excavator noted that the exposed ditch alignments were for the most part limited to the area of the enclosure system located by aerial photographic reconnaissance. Despite the dearth of material, the fieldsystem was dated to the Bronze Age on the basis of its minimal altitude and its stratigraphical relationship to the diminutive ring-ditch.

As mentioned above, sections of the neighbouring Chatteris 23 cropmark site were tested in 1993 by the CAU (Evans 1994). Excavation identified the return of a large

NE-SW oriented boundary ditch which included a few pieces of Bronze Age pottery. The ditch had been targeted because of its Stonea Camp-like proportions but upon excavation was found to be part of the greater fieldsystem.

1994 saw the next major phase of investigation, again carried out by Tempus Reparatum. An area known as Block B or Pearson's Land was evaluated via a small number of trenches specifically positioned to intercept a series of cropmarks and geophysical anomalies delineating probable round barrows/ring-ditches and discrete linear boundaries (Coxah and Lisboa 1994). Again, the investigation produced remarkably little material, but the limited openings confirmed the presence of at least six ring-ditches/barrows, as well as a single linear ditch belonging to the Block Fen fieldsystem (Chatteris 22). A 1400m long x 10m wide fieldwalking transect recovered eight worked flints and the accompanying trenches generated a further three pieces.

Evaluations subsequent to the Cambridge Archaeological Unit and Tempus Reparatum Block Fen investigations involved extensive trench-based interventions located ostensibly to the east of the old Block Fen quarry workings and within an area known as Meadlands. These projects were much more comprehensive in their coverage and instead of targeting known cropmarks/features, they also incorporated the 'blank' expanses in between. Work carried out principally by Archaeological Solutions Ltd (previously Hertfordshire Archaeological Trust), but also by Archaeological Projects Services and Birmingham University Archaeological Field Unit, revealed a largely truncated landscape characterised by its denuded cover as well as its dearth of archaeological features/finds. Successive evaluations presented row upon row of empty trenches except for a single known monument (Murray 1999), some rare pits or tree-throws (Weston & Williams 2005) and an all-pervasive pattern of regularly spaced, parallel claying trenches dug in the nineteenth/early twentieth centuries in an attempt to prevent further soil wastage. Noticeable by its absence was any trace of the Block Fen Bronze Age fieldsystem.

Small open area excavations within parts of Pearson's Land, as well as Meadlands, added a small number of new features including some 'isolated' Early Bronze Age cremations (O'Brien et al. 2003) and a single large watering hole replete with Beaker pottery in its uppermost fills (Scholfield 2006; Pole & Doyle 2008). To date, no pottery later than Collared Urn has been found.

Year	Site Name/Title	Author/Organisation	Surface	Sub-surface	Artefact Density	Archaeology
1988	An Archaeological Survey of the Cambridgeshire River Gravels, Cambridge	French, C. & Wait, G. (CCC/FAT)	Desktop Study	-	-	Round Barrows and Fieldsystem
1991	The Archaeology of Langwood Fen	Evans, C (CAU)	Desktop Study – Aerial Photography & Fieldwalking	-	Very Low (flint)	Round Barrows, Fieldsystem & Bronze Age Metalwork
1992	Fenland Project No.6: South-western Cambridgeshire Fens – Chatteris	Hall, D	Parish Survey – Fieldwalking & Aerial Photography	-	Very Low (flint)	Round Barrows, Fieldsystem & Bronze Age Metalwork
1992	An Archaeological Evaluation at Block Fen (A) Mepal, Cambridgeshire	Hunn, J. R (Temp. Rep.)	-	Extensive Trial Trenching & small open area excavation	Very Low (flint)	Fieldsystem & Ring-ditch
1992	Aerial Photographic Evidence (TL 42 84)	Palmer, R.	Aerial Photography	-	-	Fieldsystem & Ring-ditch
1993	The Langwood Farm Environs	Evans, C. (CAU)	Fieldwalking	Targeted Trial Trenching	Very Low (flint)	Fieldsystem
1993	Archaeological Field Evaluation, Phase 1, Block Fen B, Pearson's Land, Mepal, Cambridgeshire	Davidson, D.P. (Temp. Rep.)	Desktop Study - Aerial Photography & Geophysical Survey	-	-	Round Barrows, Fieldsystem & Ring-ditches
1994	Archaeological Field Evaluation, Phase 2, Block Fen B, Pearson's Land, Mepal, Cambridgeshire	Coxah, M & Lisboa I.M.G (Temp. Rep.)	Geophysical Survey & Fieldwalking	Targeted Trial Trenching	Very Low (flint)	Round Barrows, Fieldsystem & Ring-ditches
1996	'Claying' at King's Farm, Chatteris (TL456857): An Archaeological Evaluation	Kemp, S. (CCC AFU)	-	Trial Trenching	Zero	Buried Soil
1998	Geophysical Survey carried out at Block Fen, Mepal, Cambridgeshire II	Barker, P.P & Mercer, E.J.F (Stratascan/HAT)	Geophysical survey	-	-	
1998	Block Fen, Mepal, Cambridgeshire; An archaeological desk-based assessment	Murray, J (HAT)	Desk-top Study	-	-	

Year	Site Name/Title	Author/Organisation	Surface	Sub-surface	Artefact Density	Archaeology
1998	Block Fen, TL443 840, Mepal-Chatteris, Cambridgeshire: Aerial photographic Assessment.	Palmer, R (Air Photo Services/HAT)	Aerial Photography	-	-	
1999	Block Fen, Mepal, Cambridgeshire; An archaeological evaluation (Phase 1a: TR 1-20)	Murray, J (HAT)	-	Trial Trenching	Low (flint, pottery, human bone)	Round Barrow, urned cremation. Sparse non-descript features
2002	Block Fen, Meadlands, Cambridgeshire. An Archaeological Evaluation (Phase 1b: 21-90)	Sutherland, M. & Hounsell, D (HAT)	-	Trial Trenching	Zero	Two unidentified linear ditches (Trenches 52 & 54)
2002	A Supplementary Archaeological Evaluation of Land at Block Fen 'B' (Pearson's Land) Mepal, Cambridgeshire	Jones, L (BUFU)	-	Trial Trenching	Very Low (flint)	Fieldsystem & BA 'structures'
2003	Block Fen, Meadlands, Cambridgeshire: An Archaeological Excavation	Sutherland, M. & Roberts B. (HAT)	-	Small Open Area	Low	Posthole & irregular features
2003	Block Fen B (Areas 2 & 4), Chatteris, Cambridgeshire; An Archaeological Excavation, Interim Site Narrative	O'Brien et al. (AS)	-	Open Area Excavation	Very low (flint)	Early Bronze Age cremations
2003	Block Fen B (Southern Part of Area 5), Chatteris, Cambridgeshire. An Archaeological Excavation, Interim	Roberts, B. & Turner I. (AS)	-	Open Area Excavation	Low (flint, pottery & animal bone)	Small pits
2004	Block Fen, Meadlands; An Archaeological Evaluation - Phase II (TR 91-108)	Rennell, R. & Williams, J. (AS)	-	Extensive Trial Trenching	Zero	Sparse undated features
2005	Block Fen, Meadlands, Phase II (Trenches 109-186): An Archaeological Evaluation	Weston, P. & Williams, J. (AS)	-	Extensive Trial Trenching	Very low (pottery & flint)	Sparse Late Neolithic/Early Bronze Age pits
2006	Block Fen B (Area 5), Chatteris, Cambridgeshire; An Archaeological Excavation, Interim Site Narrative.	Roberts et al. (AS)	-	Open Area Excavation	Low (pottery & flint)	Curvi-linear ditch, undated pits
2006	Block Fen B (Area 5), Chatteris, Cambridgeshire; An Archaeological Excavation, Interim Site Narrative.	Roberts, B & McConnell, D. (AS)	-	Open Area Excavation	Low (pottery & flint)	Ring-ditch & silt-filled hollow

Year	Site Name/Title	Author/Organisation	Surface	Sub-surface	Artefact Density	Archaeology
2006	Block Fen, Meadlands, Cambridgeshire, Phase II (Trenches 187-201): An Archaeological Eval.	Scholfield, T. (AS)	-	Extensive Trial Trenching	Low (flint & pottery)	Waterhole and stakeholes
2006	Block Fen, Meadlands, Cambridgeshire, Phase II (TR 202-205): An Archaeological Evaluation	Scholfield, T. Munding, A. & Hallybone, C. (AS)	-	Trial Trenching	Zero	Zero
2008	Block Fen, Meadlands, Cambridgeshire, Phase II: An Archaeological Excavation – Interim Report	Pole, C. & Doyle, K. (AS)	-	Small Open Area Excavation	Low (pottery, flint & animal bone)	A large watering hole, small pits & stakeholes
2008	Block Fen, Meadlands, Cambridgeshire, Phase II – Research Archive Report	Stone, P. (AS)	-			
2008	Block Fen, Meadlands, Cambridgeshire, Phase II – An Interim Site Narrative	Unger, S. & Stone, P. (AS)	-			
2008	Archaeological Note: A Neolithic Watering-hole and Pits at Block Fen, Meadlands, Mepal TL 4440 8400	Stone, P. (AS)	-			
2009	Proposed Extension to Mepal Quarry, Cambridgeshire: Archaeological Site Investigations: Report of Fieldwalking	Kinsley, G. & Garton, D. (SLR Consulting)	Fieldwalking	-	Very low	17 flints in two groups
2009	Proposed Extension to Mepal Quarry, Cambridgeshire: Archaeological Site Investigations: Geophysical Survey	Kinsley, G. (SLR/ArchaeoPhysica)	Geophysical Survey	-	-	Two possible barrows
2011	Archaeological Evaluation at Mepal Quarry Extension, Cambridgeshire	Failes, A & Malone, S. (APS)	-	Extensive Trial Trenching	Very Low	Hollow, pits & Palaeolithic Palaeochannel

Table 1: Block Fen Gazetteer – History of surface & sub-surface investigation

Methodology

The trench based evaluation (Figure 3) was preceded by a comprehensive geophysical investigation of both fields (Figure 4 & Appendix 1). This included a magnetometry survey as well as a magnetic susceptibility survey which was carried out when both fields were ‘ridged’ with crops of potatoes (Field 2) and carrots (Field 1). The results of the geophysical investigations indicated no obvious archaeological features and as such were consistent with the cropmark plan which also recorded a blank area. The main evaluation involved 62 trenches. The trenches varied in length (4.0m to 116.0m) and orientation (NE-SW, NW-SE or N-S), and were laid out using a standard alternate grid pattern. The overall trench configuration was augmented by additional trenches targeting specific cropmark/geophysical anomalies as well as potential earthworks recognised in the field. Similarly, potential linear features or feature extents were tested using judgemental trenches. The machine bucket was 2m wide and the total length of trenches was 3460m (Area total: 6920 sq metres). All archaeological features were tested and base planned at 1:50; sections were drawn at 1:10. The Unit-modified version of the M.o.L.A.S. recording system was employed throughout. Excavated stratigraphic entities (e.g. a cut, a fill) were recorded as individual contexts ([001] – [029]), with interrelated stratigraphic events (e.g. a ditch cut and its fill) assigned feature numbers (**F.’s 1 – 5**; bolded upon introduction within the text). Trench spoil was closely scanned for artefacts.

EXCAVATION RESULTS

The vast majority of the trenches were completely devoid of archaeological features or artefacts and nearly all exposed a straightforward deposit sequence of ploughsoil overlying natural (Table 2). A total of 58 trenches revealed a shallow ploughsoil cover of between 0.30 and 0.40m directly over silt-rich, sandy gravel natural. The soil comprised a very dark brown peaty-loam with frequent gravel inclusions. Its contact with the underlying natural was sharp and the soils lower profile was characterised by small lumps and flecks of re-deposited natural that had been dragged-up into the deposit by intensive ploughing. Trench 54 (Field 1) reproduced an equivalent profile, only its ploughsoil measured 0.45m deep at the north-western end. The deepest cover and most complicated deposit sequence occurred along the top of the far north-western edge of Field 1 (Trenches 51A, 51B, 53A). As well as containing an enhanced ploughsoil (c. 0.70m) these trenches also included the remains of an old land surface beneath a thin layer of desiccated peat. Between the two fields, the actual height of natural ranged from a maximum of 0.7m OD beside the ‘protected’ north-western edge of Field 1 to a minimum of 0.1m OD at the far south-eastern end of Field 2; for the most part, the height of truncated natural equalled 0.2m OD.

	No. of Trenches	Total Length	Features	Buried Soil
Field 1	37	2007m	2	3
Field 2	25	1453m	1	0
<i>Total:</i>	<i>62</i>	<i>3460m</i>	<i>3</i>	<i>3</i>

Table 2: Evaluation Breakdown

Three out of a total of 62 trenches contained unambiguous archaeological features and three had buried soil (Figure 5). A deep shaft-like feature, **F.1**, was located within Trench 4 (Field 2), whilst Trench 43 (Field 1) contained a large watering hole, **F.4**.

An expansive hollow, **F.5**, infilled with a charcoal-rich re-deposited buried soil was identified within Trench 51B (Field 1). A thin remnant buried soil was recorded in Trenches 51A, 51B and 53A.

Field 1

Aside from a watering hole in Trench 43 (F.4), buried soil in Trench 51A and a hollow in Trench 51B (F.5), the Field 1 trenches were devoid of archaeological features or deposits (Table 3). The sharp contact between the underlying silt-rich sand and gravel natural and the overlying peaty loam ploughsoil was symptomatic of ongoing truncation, as was the abundance of gravel throughout the overburden.

Trench	Orientation	Length (m)	Average Depth	Features	Buried Soil
25	NW-SE	25	0.4	No	No
26	NE-SW	91.5	0.3	No	No
27	NW-SE	30	0.4	No	No
28	NE-SW	75	0.3	No	No
29	NW-SE	40	0.32	No	No
30	NE-SW	75	0.37	No	No
31	NW-SE	45	0.37	No	No
32	NE-SW	116	0.3	No	No
33	NW-SE	38	0.35	No	No
34	NE-SW	90	0.37	No	No
35	NW-SE	40	0.31	No	No
36	NE-SW	90	0.3	No	No
37	NE-SW	90	0.3	No	No
38	NE-SW	75	0.33	No	No
39	NW-SE	25	0.3	No	No
40	NW-SE	41	0.3	No	No
41	NE-SW	75	0.35	No	No
42	NW-SE	41	0.38	No	No
43	NE-SW	90	0.39	F.4	No
44	NW-SE	40	0.4	No	No
45	NW-SE	40	0.4	No	No
46	NE-SW	90	0.33	No	No
47	NW-SE	40	0.3	No	No
48	NE-SW	90	0.3	No	No
49	NW-SE	40	0.3	No	No
49A	NW-SE	25	0.36	No	No
50	NE-SW	90	0.3	No	No
51	NW-SE	14.5	0.3	No	No
51A	NW-SE	50	0.52	No	Yes
51B	NE-SW	4	0.75	F.5	Yes
52	NW-SE	41	0.3	No	No
53	NE-SW	76	0.3	No	No
53A	NW-SE	30	0.46	No	Yes
54	NW-SE	25	0.45	No	No
55	NE-SW	40	0.3	No	No
56	NE-SW	41	0.3	No	No
58	N-S	38	0.3	No	No
<i>Total:</i>		<i>2007m</i>	-	-	-

Table 3: Trench details – Field 1

Trench 43 – Watering-hole F.4 (Figures 6 & 8)

The watering hole F.4 was a very large oval-shaped pit capped with peat, measuring 3.40 x 1.70m and 1.16m deep. The top of the feature included a weathered ledge around its north-eastern and south-western edges. Otherwise, its profile was steep-sided with a broad rounded base. Its fills incorporated six separate deposits, including a gravel-rich, heavily iron-panned basal layer below a discrete accumulation or lens of organic silt in between slumps of gravel-rich silts. The middle fills were characterised by pale-grey sandy silts interspersed with additional gravel-rich slumps indicative of episodes of edge erosion. As with the watering hole located within Trench 4 (Field 2), the fills of F.4 were almost entirely devoid of artefacts beyond a single piece of worked flint. Fragments of desiccated wood survived amongst the basal deposits. The pit's thin capping of peat showed the feature had been operational some time before this part of the site became fully inundated.

Pollen analysis of the fill sequence showed little variation and indicated a surrounding landscape made-up of meadow/grassland with local wet woodland, as well as remnants of mixed-oak woodland containing lime. Outlying arable activity was identified from close to the top of the same sequence but not before. DeVarielles' archaeobotany report for the same feature lists disturbed and damp ground indicators, as well as a single Flax seed.

Trench 51A

Trench 51A was positioned in order to evaluate a possible barrow or distinct earthwork situated towards the extreme north-western edge of Field 1. In reality, the 'mound' related to a protected deposit sequence which had been partially preserved by its close proximity to a large modern ditch that bounded the field's north-western edge. A thin buried soil and even thinner peat horizon survived beneath an enhanced ploughsoil (*c.* 0.45m thick), which had been exaggerated by the addition of material thrown up by the digging of the boundary ditch. The relationship between the ditch and the deposit sequence was further demonstrated by the fact that the buried soil was present along the entire western or ditch side of the trench, but was all but absent from the opposing eastern side. During machining the upcast buried soil was hand sorted for artefacts and a total of three worked flints were recovered.

Trench 51B – Hollow F.5 (Figures 6 & 9)

Trench 51B was cut to investigate a possible ditch/hollow observed protruding out of the western edge of Trench 51A. At the time, this feature was thought to be integral to a possible barrow/earthwork identified from the surface. In actual fact the possible barrow/earthwork turned out to be nothing more than a patch of enhanced ploughsoil situated above a small patch of buried soil and peat (see above). Excavation of the hollow (F.5) demonstrated a large, 0.45m deep oval-shaped scoop (*c.* 8.00m x 3.00m) infilled with a threefold deposit sequence: a charcoal and artefact-rich sandy silt ([24]) sandwiched between a re-deposited buried soil ([25]) and a grey silty sand ([23]). The hollow had a worn appearance as if it had been eroded as opposed to cut. The base of the feature was compacted. In comparison to all the other features/deposits the hollow

contained an abundance of artefacts including 48 flints, 23 pieces of pottery and nine fragments of animal bone. Equally, the heavy residues of bulk samples from the same contexts produced a further 40 flints (including 22 burnt flints), 12 small pieces of pottery and eight tiny fragments of calcined animal bone. All the pottery was Collared Urn and the worked flint was characteristic of Early Bronze Age lithic assemblages. No plant remains other than small pieces of charcoal were recovered from its fills. Pollen analysis of F.5's fills indicated grassland, alder carr and mixed oak-woodland with lime and hazel scrub and was similar to the pollen spectra recorded from the watering hole F.4 in Trench 43 (c. 50m to the east).

Field 2

With the exception of a single shaft-like pit in Trench 4 (F.1), the Field 2 trenches were bereft of archaeological features or deposits (Table 4). The sharp contact between the underlying silt-rich sand and gravel natural and the overlying peaty loam ploughsoil was symptomatic of ongoing truncation, as was the abundance of gravel throughout the overburden. The majority of the lower southern quarter of Field 2 had been affected by extensive gravel extraction and backfilled quarry pits were located along the entire length of Trench 13. Trench 23 was situated centrally within the quarry-affected quarter and revealed a deeply reduced zone with little or no topsoil cover.

Trench	Orientation	Length (m)	Average Depth	Features	Buried Soil
1	NW-SE	36	0.3	No	No
2	NE-SW	91	0.32	No	No
3	NW-SE	40	0.3	No	No
4	NE-SW	75	0.3	F.1	No
5	NW-SE	57	0.3	No	No
6	NE-SW	93	0.35	No	No
6A	NW-SE	30	0.35	No	No
7	NW-SE	29	0.35	No	No
8	NE-SW	75	0.3	No	No
9	NW-SE	40.5	0.3	No	No
10	NE-SW	91	0.3	No	No
11	NW-SE	25	0.3	No	No
12	NE-SW	85.5	0.3	No	No
13	NW-SE	20	0.32	No	No
14	NE-SW	90	0.3	No	No
15	NW-SE	40	0.32	No	No
16	NE-SW	45	0.3	No	No
17	NW-SE	45	0.3	No	No
18	NE-SW	40	0.3	No	No
19	NW-SE	90	0.31	No	No
19A	NW-SE	75	0.3	No	No
20	NE-SW	49	0.3	No	No
21	NW-SE	91	0.3	No	No
23	NW-SE	75	0.15	No	No
57	NW-SE	25	0.3	No	No
<i>Total:</i>		<i>1453m</i>	-	-	-

Table 4: Trench details – Field 2

Trench 4 – Watering Hole F.1 (Figures 6 & 7)

Trench 4 uncovered a large oval shaped pit capped with peat, F.1. The pit was 2.10m in diameter and 1.30m deep. The lower part of the pit had a stepped, shaft-like profile with a slight bulbous base (diameter: 0.65m) whereas the upper part incorporated an exaggerated weathering cone. The pit contained nine different fills including three dumps of charcoal-rich sandy silt deposited from the feature's north-eastern side (Contexts [3], [5] + [7]). 'Alternate' gravel-rich slumps (Contexts [4], [6] + [8]) interleaved the charcoal-rich contexts. Finds were all but absent and comprised two pieces of animal bone (including part of a well-preserved pig femur) from one of the gravel slumps [4]. Small flecks of bright orange burnt clay were common within the charcoal dumps [3], [5] and [7]. The pit's peat capping demonstrated that the pit had long ceased to be 'operational' when this part of the site became saturated. The exaggerated weathering cone showed that F.1 had been kept open for some time, whilst its bulbous undercutting base was suggestive of a feature being partially undermined via water extraction. Plant remains recovered from the various fills are interpreted as indicative of disturbed damp ground indicators.

DISCUSSION – *A Patch of Fenland Prehistory Laid Bare*

In terms of Fenland prehistory the Block Fen landscape is unusual in that, despite its low lying situation or reduced altitude (*c.* 0.50m OD), it has lost almost all of its original overburden or soil cover. As a rule, Fenland's sub-1m OD landscapes are obscured beneath several layers of sediment, making such spaces all but impossible to evaluate from the surface, but at the same time especially protective of buried deposits (Evans & Knight 1997, Evans et al. 2005, Gibson & Knight 2006, Tabor 2010, Knight & Murrell 2011). At Block Fen, concerted drainage along with long term intensive farming have progressively denuded its protective cover so that the overburden now survives as a diminished ploughsoil lying immediately above a truncated natural. The process of denudation was made apparent in the gravel-rich peaty loam ploughsoil, as its texture, consistency and inclusions represented a conflated amalgam of the former sediment sequence (natural gravels + buried soil + peat). At Block Fen, what had been 'deeply' buried is now situated close to the surface. In stark contrast to other low lying prehistoric landscapes, the shallowness or absence of cover at Block Fen has made it the ideal Fenland site to investigate from above, so to speak. Consequently, its numerous aerial photographic and geophysical surveys have generated remarkably reliable representations of distributions of major prehistoric features and in particular, its early monuments and land divisions. At the same time, and just as importantly, the intervening blank zones indicated by the same surveys have time and again been shown to be empty of archaeological features. Thus far, there have been few surprises and only a small number of significant 'unannounced' features.

The almost total absence of surface finds (Hall 1992, Evans 1994, Coxah & Lisboa 1994, Kinsley & Garton 2009) points towards a different type of landscape dynamic, one peculiar to Block Fen and suggestive of low level occupation on a very broad scale. For example Hall's early fieldwalking survey of the Chatteris Parish demonstrated a 'pick-up' of 0.57 flints per hectare for the Langwood Fen/Block Fen area (Hall 1992, 90) whilst a transect across Pearson's Land generated an equivalent density (Coxah & Lisboa 1994, 14). The most up-to-date fieldwalking survey carried

out over 34ha of arable land at Meadlands yielded just 17 flints in total (0.50 flints per hectare; Kinsley & Garton 2009). Crucially, the low finds counts show that in spite of this landscape's accelerated erosion, the apparent absence of discernable sites is not a consequence of things being erased. If anything, it seems the opposite is true. Early on in later prehistory, Block Fen represented a kind of in-between space or middle ground where comparatively little happened beyond the construction of burial monuments and occasional watering holes; the material residue of sustained settlement was conspicuous by its absence.

Block Fen's lack of finds was matched by its lack of topography. In prehistory, it seems, this was a place bereft of any obvious focus and as a result it attracted little in the way of concerted occupation. The landscape's development into meadow/grassland situated betwixt river/fen away to the east (wet woodland?) and higher ground away to the west (dry woodland?) tallies nicely with the evidence of intermittent watering holes amongst patches of disturbed ground. Equally, Boreham's and DeVarielles' analysis of the pollen and plant remains can be employed to reconstruct a space especially suitable for sustained pasture. Comparable spaces, such as the similarly low lying flat expanses of Bradley Fen and Must Farm have revealed an equivalent range of features (watering holes and burial monuments) as well as swathes of preserved hoof-prints, metalled surfaces, temporary fence-lines, hearths and occasional hollows infilled with midden-like deposits replete with Early Bronze Age pottery (Gibson & Knight 2006, Knight & Murrell 2010). What distinguishes these spaces is that they have not suffered the same levels of drainage and soil wastage as the Block Fen/Langwood Fen zone and for that reason they have remained deeply buried and retained key facets of their former pastureland 'superstructure'.

Environment analysis carried out in evaluations immediately to the east of site within the Meadlands area recorded equivalent meadow/grassland and disturbed ground indicators from another deep watering hole (Stone 2008), whilst further to the east the onset of fen conditions have been dated to 2210-1970 cal BC at or about -1.50m OD (Failes & Malone 2011). The peat capping of the Langwood Fen watering holes and the Early Bronze Age hollow clearly shows increased saturation occurred across the higher contours *post* the chronological currency of Collared Urn pottery (i.e. *c.* 1500 cal BC).

On the whole, the investigation corroborated Evans' description of the site as an ostensibly 'empty quarter' situated between sustained settlement zones (Evans 1991). The watering holes occurred at a similar frequency to the Block Fen barrows and as such added to an overriding impression of extensive, rather than intensive, levels of occupation prior to the onset of fen conditions. Crucially, its reduced altitude also placed this area of Block Fen beyond the range of the adjacent mid-2nd millennium BC fieldsystem. The site, it seems, sat within an open, comparatively low lying flat expanse positioned midway between a small river valley to the south-east and an elevated ridge to the north-west. Its environmental detail describes damp conditions but not fen and, whilst grassland dominated, there was also space for wet woodland as well as mixed oak woodland with lime. The presence of Collared Urn together with the absence of Bronze Age field boundaries would suggest that this quarter of Block Fen was lost to the encroaching peat sometime towards the end of the Early Bronze Age.

SPECIALIST REPORTS

The Flint *Lawrence Billington*

Quantification

The flint assemblage comprises a total of 53 worked flints and 21 fragments of unworked burnt flint weighing 6.5g (Table 5). The vast majority of the worked flint (51 pieces) was recovered from buried soil deposits encountered in Trench 51a, and is dominated by evidence for Early Bronze Age flint working. The remaining two worked pieces comprise a probable earlier Neolithic blade recovered from the ploughsoil and a single undiagnostic waste flake from pit F. 4.

Trench	Feature	Context	Sample	Type	chip	irregular waste	flake	blade	side and end scraper	core fragment	total worked	burnt unworked flint no.	burnt unworked flint weight (g)
1		ploughsoil		ploughsoil				1			1		
43	4	17		Pit			1				1		
51a	5	23		buried soil	3		13	1			17		
51a	5	24		buried soil	2		11		1		14		
51a	5	24	5	buried soil	11	1	5				17	20	5.5
51a		buried soil		buried soil			2			1	3	1	1
totals					16	1	32	2	1	1	53	21	6.5

Table 5: Basic quantification of the flint assemblage.

Condition and Raw Material

The condition of the assemblage is generally good, reflecting its recovery from protected, sealed contexts. Recortication (patination) is present on just one piece, a core fragment from the buried soil deposit in Trench 51a. Although no diagnostic technological traits survive on this piece it is possible, on the basis of its recortication, that it predates the bulk of the assemblage.

The assemblage is made up entirely of fine grained flint of various colours from very dark grey/black to translucent orange. The quality of the flint is generally good but incipient thermal flaws and coarser cherty inclusions are present on a number of pieces. Surviving cortical surfaces are invariably thin and heavily abraded and are typical of material derived from secondary glacial or fluvial sources, in this case probably local river terrace gravels. There is no evidence of the use of the primary chalk flint that is a characteristic component of Late Neolithic flint assemblages in the region (e.g. Brown 1996).

Technology and Dating

The assemblage is dominated by hard hammer struck flake based waste that would traditionally be dated to the later Neolithic and Early Bronze Age. The only exceptions to this are the recorticated core fragment discussed above and two probable Early Neolithic blades, one recovered from the ploughsoil and one from buried soil deposit [23]. The remainder of the assemblage is made up almost entirely of flake based working waste recovered from the buried soil deposits in Trench 51a. Although no refitting pieces are present the assemblage from these deposits is coherent in terms of condition, raw materials and technology and may represent a relatively discrete episode of activity. There are no significant differences in the composition or character of the flintwork from the individual buried soil deposits identified within the trench. Small flakes and fragments under 10mm in size (chips) are well represented, making up 30% of the assemblage, these provide good evidence for *in situ* or nearby flint working. The technological traits of the unretouched flake reflect the expedient production of relatively thick and broad flakes from small nodules of gravel flint. There is no evidence for the deliberate preparation of striking platforms and removals appear to have been made exclusively with hard, stone, hammers. The only retouched tool in the entire assemblage is a small, somewhat irregular side and end scraper which appears to have seen extensive re-sharpening.

None of the flake based flint work in the assemblage is strongly diagnostic and would conventionally be dated to the Late Neolithic or Early Bronze Age. However, local Late Neolithic (Grooved Ware-associated) assemblages exemplified by those at Over, (Pollard 1998, Evans and Knight 2004) and Sutton Gault (Tabor 2011) have a number of very distinctive features including the use of primary chalk flint and levallois-like core reduction technology (*sensu* Ballin 2012) whose absence from the Block Fen assemblage strongly suggest this assemblage post dates the Late Neolithic. Notwithstanding the small size of the assemblage, the technological traits of the worked flint are closely comparable to the few published Beaker and Collared Urn associated flint assemblages from the wider region (e.g. Beadsmoore 2009).

Previous investigations at Block Fen have generally recovered very small assemblages of undiagnostic worked flint (e.g. Tingle in Pole & Doyle 2008). A larger assemblage of 81 worked flints was recovered from the excavation of a ring ditch in Area 5, Block Fen B (Weston in Roberts & McConnell 2006). The flintwork recovered from this work is closely comparable to the smaller assemblage considered here, with a very few possibly Mesolithic/earlier Neolithic pieces and a predominance of flake based material attributed to the Late Neolithic or Early Bronze Age. The assemblage is also devoid of primary chalk flint or distinctive Late Neolithic forms and the only diagnostic retouched pieces are classically Early Bronze Age, including a thumbnail scraper and a triangular arrowhead.

Discussion

The worked flint assemblage from the buried soil deposits within Trench 51a provides good evidence for Early Bronze Age activity, including both flint working and tool use. Earlier activity is poorly represented but includes two probable earlier Neolithic blade based pieces. The composition and dating of the assemblage appears to be

closely comparable with the, admittedly rather meagre, worked flint assemblages recovered in earlier phases of work in the immediate landscape, which appear to indicate relatively low levels of Mesolithic and Neolithic activity with a pronounced increase in activity, probably including episodes of settlement, in the Early Bronze Age. The recovery of the assemblage of worked flint from trench 51a highlights the potential for substantial and coherent assemblages of worked flint to be recovered where buried soil deposits survive intact.

Prehistoric Pottery

A small assemblage of 23 sherds weighing 222g came from [23] of F.5. The majority of the sherds were small and slightly abraded (the largest sherd measured 8 x 8 cm whereas the remainder equalled less than 4 x 4 cm). Two different fabric types were identified, both of which were medium hard and grog-rich. Feature sherds included three rims, two base angles and one decorated collar.

Feature	Context	Qty	Weight	Fabric
5	23	23	222g	1 & 2

Table 6: Assemblage Breakdown

The small collection of sherds belonged to at least five different medium-large sized Early Bronze Age urns. All three rims were of the internally bevelled variety whereas the collar was impressed with horizontal lines of comb-point decoration. The fabric types, rim profiles and collar are all attributes of Collared Urn.

Collectively the assemblage represents the fragmented remains of several different vessels broken down into mostly small pieces. The abraded appearance added to the fragmented character of the material. Similarly fragmented ‘domestic’ Early Bronze Age assemblages have been found within midden-like spreads as well as associated with Early Bronze Age structures in and around the Flag Fen Basin (Gibson & Knight 2006; Evans 2009), and most recently at Must Farm in association with individual hearths (Murrell 2011).

Previous investigations within the Block Fen area have generated small assemblages of prehistoric pottery including sherds of Collared Urn from a large pit/watering hole and associated postholes (Pole & Doyle 2008). An evaluation of a possible round barrow at Meadlands yielded secondary urned cremations contained within Collared Urns (Murray 1999). A ring-ditch excavation at Pearson’s Land located a discrete ‘domestic’ assemblage of Beaker pottery from within a hollow situated within its confines (Roberts & McConnell 2006). To date the various evaluations and excavations situated across the Block Fen and in particular the Pearson’s Land, Meadlands and Langwood Fen areas have yet to produce prehistoric pottery assemblages that post-date Collared Urn.

Fauna *Vida Rajkovača*

Two features contained animal bone with a total weight of 142g. A well preserved distal femur of a pig came from F.1 ([4]). Loose teeth of three different species were

identified from F.5 ([23] and [24]): horse, cow and sheep. In addition to the loose teeth, small and eroded fragments of a cattle mandible and a sheep skull were also recorded as were eight pieces of unidentifiable sheep-sized calcined bone (1g).

Taxon	NISP
Cow	2
Sheep/ goat	2
Pig	1
Horse	1
Sub-total to species	6
Cattle-sized	2
Sheep-sized	2
Mammal n.f.i.	1
Total	11

Table 7: Number of Identified Specimens for all species from Block Fen; the abbreviation n.f.i. denotes that the specimen could not be further identified.

Assessment of Plant Remains *Anne de Vareilles*

Six bulk soil samples from three prehistoric features were processed using an Ankara-type flotation machine. The flots were collected in 300µm aperture meshes and the remaining heavy residues washed over a 1mm mesh. The flots and heavy residues were dried indoors prior to analysis. Jacqui Hutton sorted the >4mm fractions of the heavy residues by eye. Dry flots were separated through a stack of sieves; fractions were sorted and macro remains identified under a low power binocular microscope (6x-40x magnification) by the author. Nomenclature follows Zohary and Hopf (2000) for cereals and Stace (1997) for all other flora. All environmental remains are listed in Table 8.

Results

Charcoal was found throughout the samples, but the only other charred plant remains recovered were two wild plant seeds. Cereal grains and chaff were completely absent. During excavations it was thought that context [7] of F.1 and F.4 might be waterlogged. On closer examination it was found that, although these layers do appear to have once (or seasonally) been waterlogged, most seeds had decayed in an oxygenated environment. Numbers of waterlogged seeds are low and most are lignin-rich and therefore they survive better.

Pit F.1

The three contexts sampled from the pit were described as burnt or charcoal rich. Charcoal was indeed prolific in [3], [5] and [7]. A single charred red bartsia seed (*Odontites verna*) from [5] was the only other carbonised plant material. Seeds from a waterlogged sedge (*Carex* sp.) and two waterlogged buds indicate a shrub or tree grew in soggy ground around F.1.

Pit F.4

Contexts [19] and [20] contained more waterlogged remains than F.1, but not enough have survived to be sure of the landscape they represent. The species recovered suggest the ground was damp enough to support sedges, buttercups (*Ranunculus* sp.), blinks (*Montia fontana*) and woundworts (*Stachys* sp.), and even wet enough in places for species such as gispsywort (*Lycopus europeus*). The land appears to have been disturbed, either through arable or settlement occupation. A single charred seed was found: flax (*Linum usitatissimum*). Flax is known to have been used for both its fibres and oil in the Bronze Age (*cf.* Greig 1991).

Hollow F.5

Charcoal was recovered from this sample. Pieces >4mm were more abundant than smaller fragments, suggesting that the charcoal deposit was *in situ* and suffered few disturbances after its deposition.

Conclusions

Evidence for human occupation or settlement around the features sampled is scant, only present in the form of charcoal and a single flax seed. That the area was used, as opposed to settled upon, is suggested by further evidence from waterlogged seeds. Equivalent archaeobotanical finds were recovered from a nearby large Early Bronze Age pit during a previous excavation (Pelling 2008). A few charred cereal grains were recovered, providing stronger evidence for nearby occupation, along with a range of waterlogged seeds indicative of the same damp, disturbed environment with some shrubs/trees (hedgerow species) such as wild cherry (*Prunus* sp.), hazelnut (*Corylus avellana*) and elder (*Sambucus nigra*) (*ibid.*).

Pelling (2008) chose not to interpret the assemblage, deciding that the remains were likely to be intrusive. Apart from her find of a fig seed (*Ficus carica*) however, she fails to demonstrate why seeds recovered from a 1.2m deep pit replete with stratified deposits and artefacts should be disregarded. Indeed, the fact that they compliment the seeds from F.4 in describing a damp, disturbed environment suggests the plant remains were *in situ*.

Despite incomplete preservation, enough archaeobotanic evidence survived to show that the landscape contemporary with the three identified features was damp, even wet in places, and disturbed by humans and/or domesticates.

Sample number		1	2	6	3	4	5
Context		[3]	[5]	[7]	[19]	[20]	[24]
Feature		1	1	1	4	4	5
Phase		? Early Bronze Age pits/wells					CU
Sample volume – litres		14	14	6	14	10	14
Flot fraction examined -%		100 %	100 %	100 %	100 %	100 %	100%
large charcoal (>4mm)		++	++	++	-		+++
med. charcoal (2-4mm)		+++	+++	+++	+	++	++
small charcoal (<2mm)		+++	+++	+++	++	++	++
estimated charcoal volume – millilitres		8	10	5	1	1	12
Wild plant seeds and other plant parts							
<i>Ranunculus</i> cf. <i>acris/repens/bulbosus</i> L.	Meadow / Creeping / Bulbous Buttercup				1 wl	6 wl	
<i>Urtica dioica</i> L.	Common Nettle				1 wl		
<i>Alnus glutinosa</i> (L.) Gaertner	Alder seeds cone				1 wl		
<i>Corylus avellana</i> L.	Hazel-nut shell fragment				7 wl		
<i>Chenopodium album</i> L.	Fat-hen					3 wl	
<i>Chenopodium</i> sp.	Goosefoots				8 wl	1 wl	
<i>Montia fontana</i> ssp. <i>minor</i> Hayw.	Blinks				1wl		
<i>Polygonum aviculare</i> L.	Knotgrass					2 wl	
<i>R. conglomeratus/ obtusifolius/ sanguineus</i> - small seeded Dock					9 wl		
<i>Viola</i> sp.	Violets					1 wl	
<i>Rubus</i> spp.	Bramble				17 wl	19 wl	
<i>Linum usitatissimum</i> L.	Flax				1		
<i>Solanum dulcamara</i> L.	Bittersweet					2 wl	
<i>Stachys</i> sp.	small Woundwort				2 wl		
<i>Lycopus europaeus</i> L.	Gipsywort					1 wl	
<i>Odontites verna</i> (Bellardi) Dumort. - red bartsia			1				
<i>small trilete Carex</i> sp.	small, triangular sedge			5wl			
Indet species sp.	indeterminate seeds from single species					3 wl	
Indet. Bud				2 wl			
Fresh water snails							
<i>Lymnaea truncatula</i>					6		
Land snails of cool, shady habitats							
<i>Clausilia</i> sp.						1	
<i>Carychium minimum/tridentatum</i>					4		
<i>Cochlicopa lubrica/lubricella</i>					1		
Catholic species							
<i>Trichia</i> sp.					1		
Key: '-' 1 or 2, '+' ≤10, '++' 11-50, '+++>50 items. Wl = waterlogged							

Table 8: Plant Remains by context

Buried Soils – Assessment of potential *Charly French*

Excavations in the Mepal area over the past two decades have rarely exhibited a reasonable depth of good preservation of buried soils associated with the prehistoric record. The CAU excavations have, unusually, revealed a linear zone of buried soil survival beneath thin peat deposits which is associated with Collared Urn and anthropogenic/midden deposits. This affords a rare opportunity to investigate the land-use and soil development record for this part of the Cambridgeshire Fens using soil micromorphological techniques, and to compare the results with those from the lower Great Ouse/Over/Haddenham areas, previously examined (see French 2003).

Pollen Analysis of Sediments *Steve Boreham*

Introduction

This report presents the results of assessment pollen analyses of sediment from a watering hole – F.4 (Samples 6, 7 & 8) and a buried soil sequence (Sample 9).

The sequence from F.4 was sampled with a basal 50cm monolith, Sample 8, a middle 30cm monolith, Sample 7, and an upper 30cm monolith, Sample 6. Pollen sub-samples were taken from Sample 8 at 10cm ([19] – grey/black sandy organic silt), 25cm ([18] – grey/black sandy organic silt) and 36cm ([18] – grey/buff sandy silty clay). A single pollen sample was taken from Sample 7 at 27cm (equivalent to 72cm from the base of the sequence) ([17] – grey sandy silt with organic material), and a further pollen sub-sample was taken from Sample 6 at 22cm (equivalent to 87cm from the base of the sequence) ([16] – black organic peat). The sequence from the buried soil was sampled with a single 30cm monolith, Sample 9 from which pollen sub-samples were taken at 11cm ([25] – light grey sandy silt), 19cm ([24] – dark grey organic sandy silt) and at 25cm ([23] – brown/black crumbly peat).

The eight sub-samples were prepared using the standard hydrofluoric acid technique, and counted for pollen using a high-power stereo microscope at x400 magnification. The percentage pollen data from these 8 samples is presented in Table 9.

Results

The four pollen sub-samples from Sample 8 25cm, Sample 8 36cm, Sample 9 11cm & Sample 9 25cm proved to be barren with pollen concentrations <1052 grains per ml. The four remaining pollen sub-samples had pollen concentrations that ranged between 31,551 and 61,933 grains per ml. Pollen preservation was rather variable in these sub-samples, and charcoal and finely divided organic material often hampered pollen counting to some degree. Assessment pollen counts were made from single slides for these sub-samples. The pollen sums achieved for these slides were all above 50 grains. However, none exceeded the statistically desirable total of 300 pollen grains main sum. As a consequence caution must be employed during the interpretation of these results.

Sample 8 - 10cm [19]

This basal pollen sub-sample was dominated by grass (Poaceae) pollen (31.4%), and had a limited range of herbs including members of the cabbage family (Brassicaceae) (3.9%), members of the lettuce and thistle families (Asteraceae) (together 4.0%) and sedges (Cyperaceae) (2.0%). No cereal pollen was detected. Arboreal taxa were represented by alder (*Alnus*) (15.7%) and hazel (*Corylus*) (15.7%), with oak (*Quercus*) and lime (*Tilia*) (both 2.0%). Spores of polypody fern (*Polypodium*) were present at 2.0%, and undifferentiated fern spores together accounted for 15.7%. Obligate aquatics were represented by bur-reed (*Sparganium*) (9.8%).

Sample 7 - 27cm [17]

This pollen sub-sample was dominated by grass (Poaceae) pollen (30.9%), and had a limited range of herbs including members of the lettuce family (Asteraceae(Lactuceae)) (3.6%), members of the lily family (Liliaceae) (3.6%) and sedges (Cyperaceae) (3.6%). As before, no cereal pollen was detected. Arboreal taxa were represented by alder (*Alnus*) (14.5%) and hazel (*Corylus*) (7.3%), with oak (*Quercus*) (3.6%) and lime (*Tilia*) (5.5%). Spores of *Sphagnum* moss were present at 1.8%. Spores of polypody fern (*Polypodium*) were present at 3.6%, and undifferentiated fern spores together accounted for 18.2%. Obligate aquatics were represented by bur-reed (*Sparganium*) (10.9%).

Sample 6 - 22cm [16]

This upper pollen sub-sample was dominated by grass (Poaceae) pollen (26.3%), and had a limited range of herbs including members of the lettuce family (Asteraceae(Lactuceae)) (1.8%), members of the lily family (Liliaceae) (7.0%) and sedges (Cyperaceae) (3.5%). Cereal pollen was present at 1.8%, although the associated disturbed ground indicator *Plantago lanceolata* was not encountered. Arboreal taxa were represented by alder (*Alnus*) (15.8%) and hazel (*Corylus*) (5.3%), with oak (*Quercus*) (1.8%) and lime (*Tilia*) (3.5%). Spores of *Sphagnum* moss were present at 3.5%. Spores of polypody fern (*Polypodium*) were present at 3.5%, and undifferentiated fern spores together accounted for 21.1%. Obligate aquatics were represented by bur-reed (*Sparganium*) (15.8%).

Sample 9 - 19cm [24]

This pollen sub-sample was dominated by grass (Poaceae) pollen (32.1%), and had a limited range of herbs including members of the lettuce family (Asteraceae(Lactuceae)) (3.8%), and members of the fat-hen family (Chenopodiaceae) (3.8%). No cereal pollen was detected. Arboreal taxa were represented by alder (*Alnus*) (20.8%) and hazel (*Corylus*) (5.7%), with oak (*Quercus*) (3.8%) and lime (*Tilia*) (1.9%). Spores of polypody fern (*Polypodium*) were present at 1.9%, and undifferentiated fern spores together accounted for 18.8%. Obligate aquatics were represented by bur-reed (*Sparganium*) (9.4%).

Discussion and Conclusions

The four pollen sub-samples from Block Fen all have rather similar assemblages, although the proportions of the main taxa vary somewhat. The basal pollen sub-sample (Sample 8 10cm) from F.4 appears to show a mixture of meadow/grassland with local alder carr (wet woodland), hazel scrub and remnants of mixed-oak woodland containing lime. The presence of mature woodland is reinforced by the occurrence of the epiphytic polypody fern, and there is clearly a signal of marginal aquatic vegetation. The sub-sample from Sample 7 27cm gives a very similar picture, but with *Sphagnum* moss indicating damper conditions, and the sub-sample from Sample 6 22cm has an almost identical pollen spectrum except that it shows evidence for some arable activity, perhaps some distance from the site. The pollen sub-sample from the buried soil section Sample 9 19cm also suggests grassland, alder carr and mixed-oak woodland with lime and hazel scrub. The proportion of undifferentiated fern spores is somewhat elevated in all the pollen sub-samples and this is often taken to represent post-depositional oxidation of the sediment leading to enrichment by resistant types. However, the proportion of Asteraceae pollen invariably also increases as a result of this process, and the modest levels counted from these sub-samples seem to suggest that the elevated proportions of fern spores are probably the result of damp soil conditions.

Taken together, these rather similar pollen spectra all seem to indicate deposition in damp conditions at a time when mixed-oak woodland with lime was still present in the landscape and arable agriculture was not widespread. This appears to correspond well with the early Bronze Age period.

Although it is important not to over-interpret from assessment pollen counts, the pollen spectra from these sequences has provided an intriguing glimpse of Bronze Age vegetation from this part of Cambridgeshire located between the River Nene at Must Farm and the River Great Ouse at Over.

Context Sample Depth	F4					Buried Soil		
	19	18	18	17	16	25	24	23
	8	8	8	7	6	9	9	9
	10cm	25cm	36cm	27cm	22cm	11cm	19cm	25cm
<i>Trees & Shrubs</i>								
<i>Quercus</i>	2.0			3.6	1.8		3.8	
<i>Tilia</i>	2.0			5.5	3.5		1.9	
<i>Alnus</i>	15.7			14.5	15.8		20.8	
<i>Corylus</i>	15.7			7.3	5.3		5.7	
<i>Herbs</i>								
Poaceae	31.4			30.9	26.3		32.1	
Cereals	0.0			0.0	1.8		0.0	
Cyperaceae	2.0			3.6	3.5		0.0	
Asteraceae (Asteroidea/Cardueae) undif.	2.0			0.0	0.0		0.0	
Asteraceae (Lactuceae) undif.	2.0			3.6	1.8		3.8	
<i>Centaurea nigra</i> type	2.0			0.0	0.0		0.0	
Chenopodiaceae	0.0			1.8	1.8		3.8	
Brassicaceae	3.9			0.0	1.8		1.9	
Fabaceae	0.0			0.0	1.8		0.0	
<i>Helianthemum</i>	0.0	<i>Barren</i>	<i>barren</i>	0.0	1.8	<i>barren</i>	0.0	<i>barren</i>
<i>Ranunculus</i> type	2.0			1.8	1.8		1.9	
<i>Rumex</i>	2.0			0.0	0.0		0.0	
Apiaceae	0.0			1.8	0.0		0.0	
Liliaceae	0.0			3.6	7.0		1.9	
<i>Veronica</i> type	0.0			0.0	0.0		1.9	
<i>Lower plants</i>								
<i>Polypodium</i>	2.0			3.6	3.5		1.9	
Pteropsida (monolete) undif.	9.8			10.9	12.3		11.3	
Pteropsida (trilete) undif.	5.9			7.3	8.8		7.5	
<i>Sphagnum</i>	0.0			1.8	3.5		0.0	
<i>Aquatics</i>								
<i>Sparganium</i> type	9.8			10.9	15.8		9.4	
Sum trees	19.6			23.6	21.1		26.4	
Sum shrubs	15.7			7.3	5.3		5.7	
Sum herbs	47.1			47.3	49.1		47.2	
Sum spores	17.6			21.8	24.6		20.8	
Main Sum	51			55	57		53	
Concentration (grains per ml)	33523	<1052	<1052	32135	31551	<1052	61933	<1052

Table 9: Pollen Analysis

Acknowledgements

The project was managed by Emma Beadsmoore. The Cambridge Archaeological Unit site team were Tony Baker, Katie Hutton, Emma Rees, Christopher Wakefield and Alasdair Wright. On site survey was carried out by Donald Horne and the report graphics were created by Bryan Crossan.

Andy Thomas, Senior Development Control Archaeologist of Cambridgeshire Historic Environment Team monitored the investigations. Brian Chapman of Hanson Aggregates initiated the project and Christopher Evans of CAU designed its specification.

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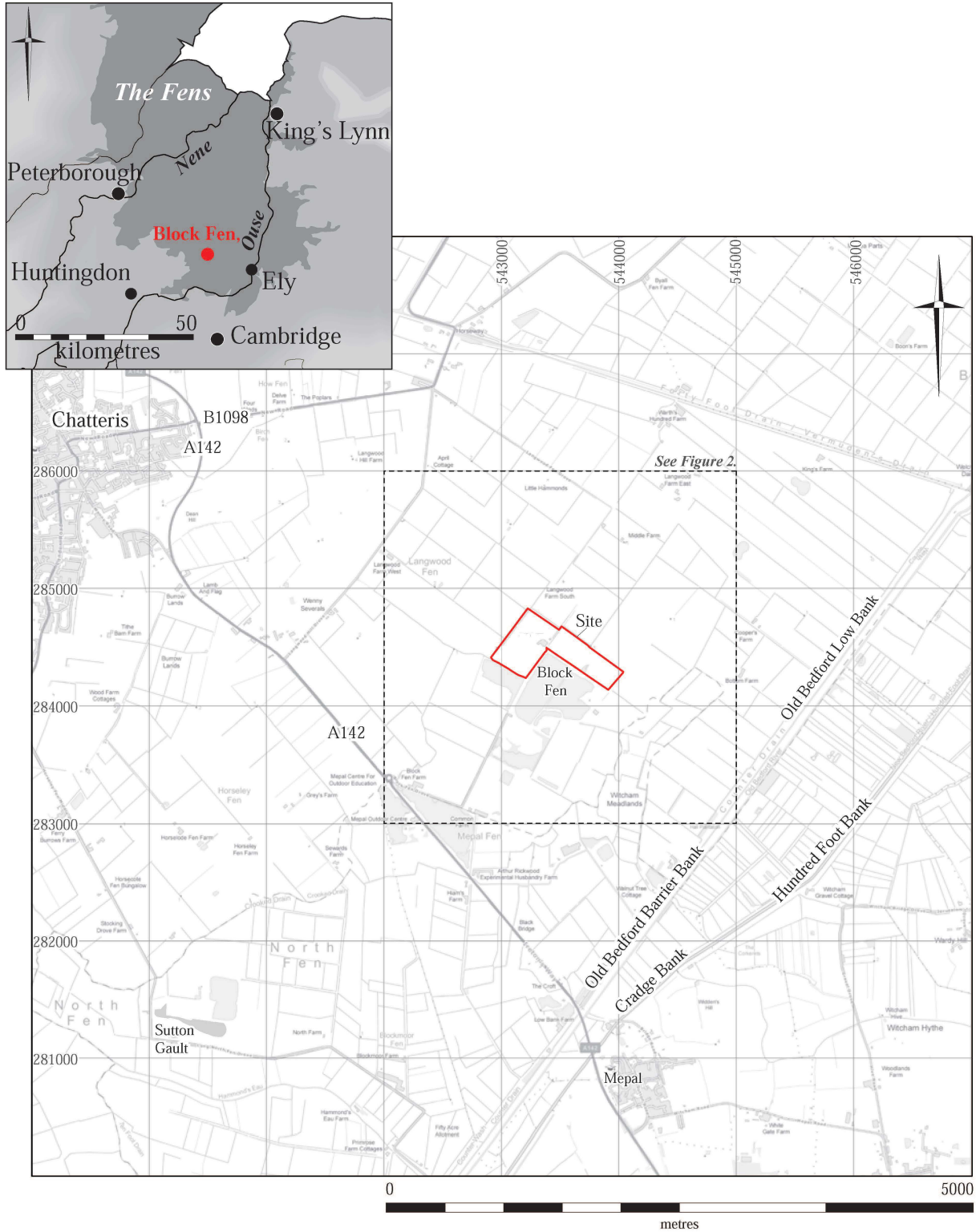


Figure 1. Location Plan.

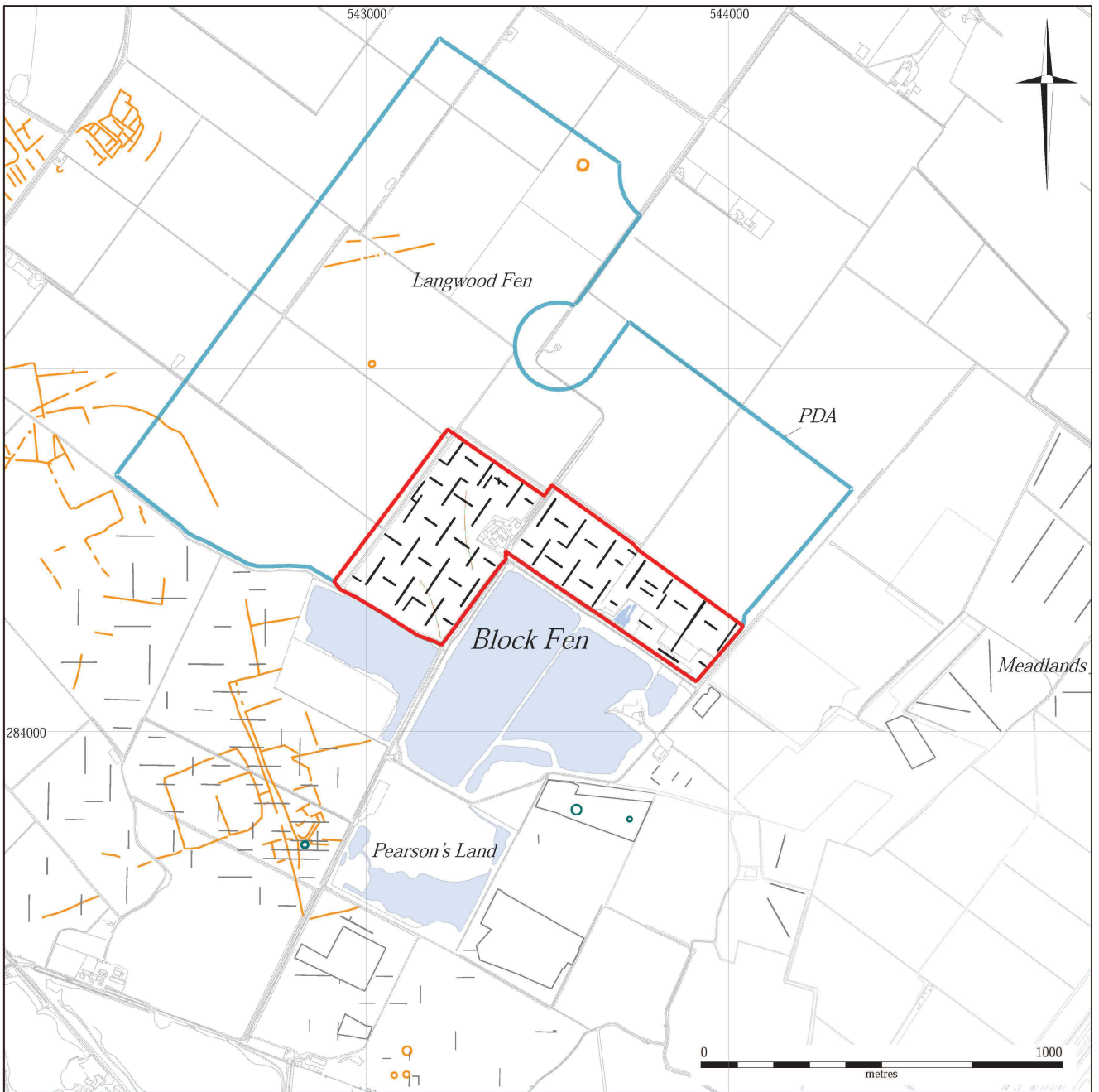


Figure 2: Detail location including Site (with trench layout), Proposed Development Area, cropmarks and earlier archaeological interventions.



Figure 3: Trench Plan relative to Field 1 & Field 2.



Figure 4: Trench Plan relative to areas of geophysical survey.



Figure 5: Sub-surface contour and principal feature location.

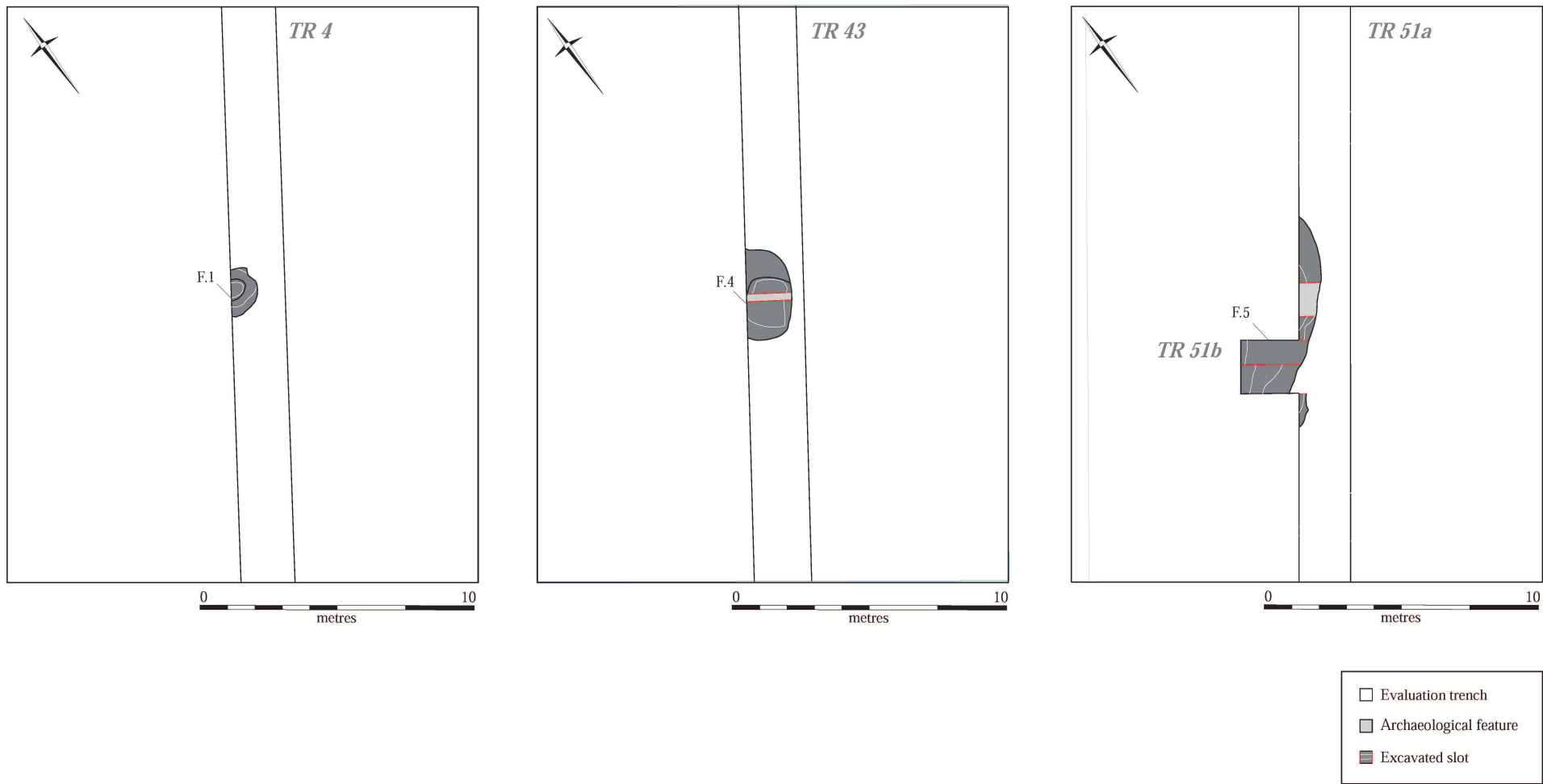


Figure 6: Principal features – F.1 (Trench 4); F.4 (Trench 43); and F.5 (Trench 51A/51B).

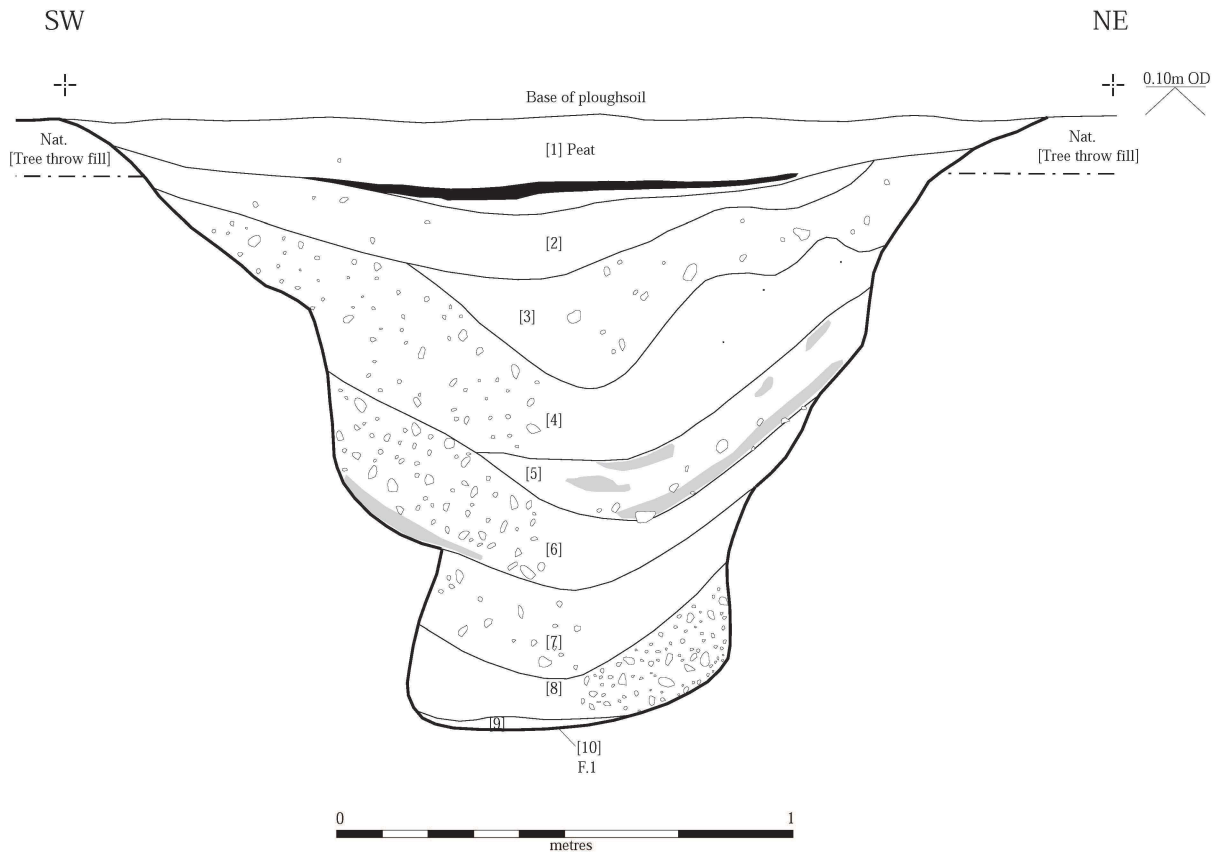


Figure 7: Watering Hole F.1 – Section and Photograph.

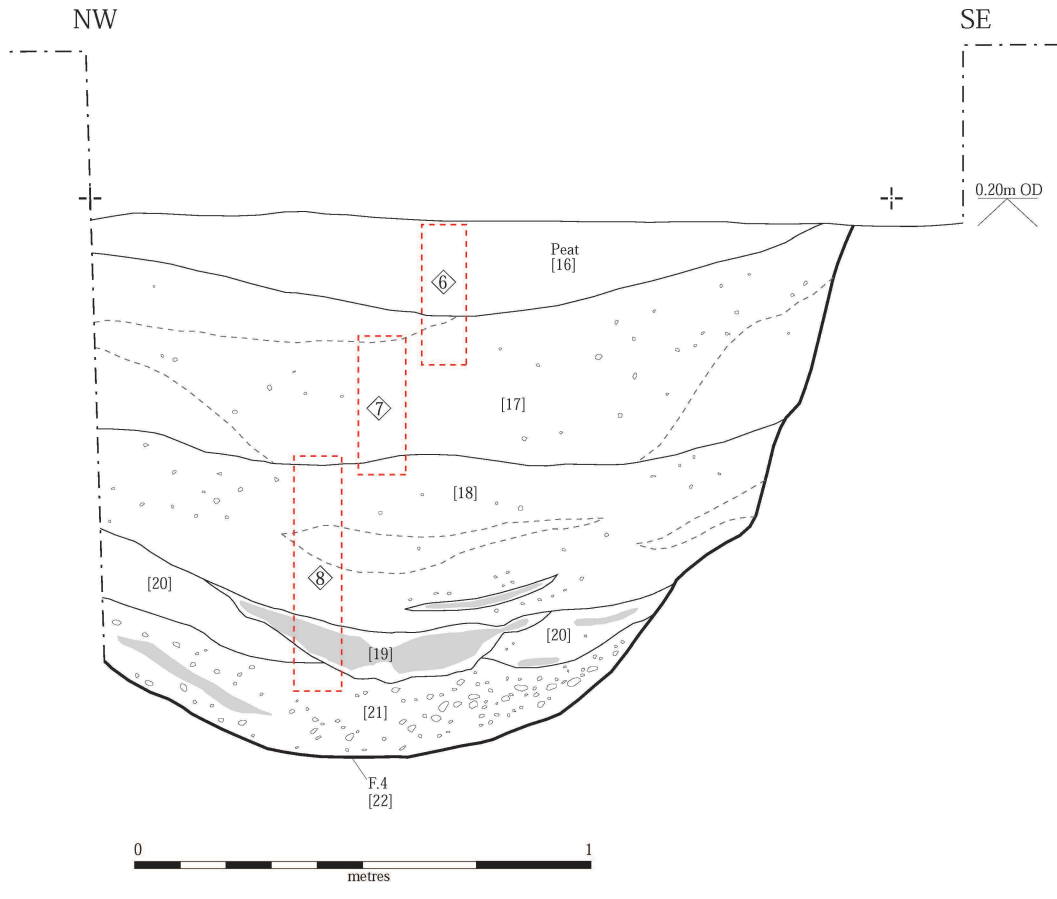


Figure 8: Watering Hole F.4 – Section and Photograph.

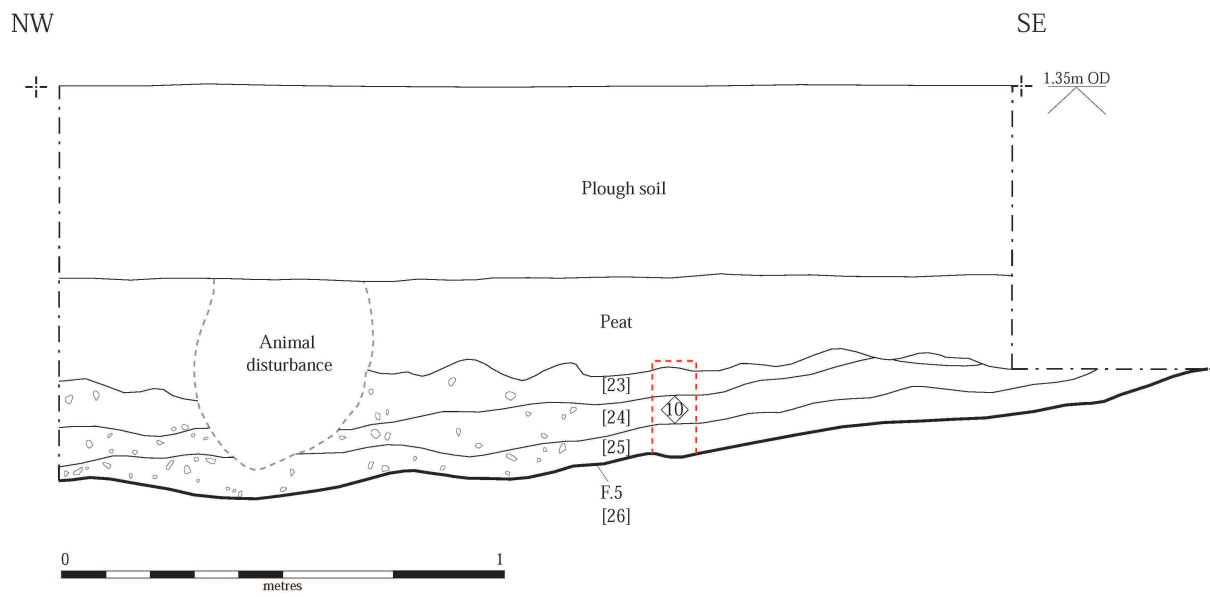


Figure 9: Hollow/Buried Soil F.5 Section and Photograph.

Appendix 1:

**Block Fen, Mepal
Cambridgeshire**

Report on Archaeological Geophysical Survey 2012

A.D.H. Bartlett

Surveyed by:

**Bartlett-Clark Consultancy
25 Estate Yard, Cuckoo Lane,
North Leigh,
Oxfordshire OX29 6PW
01865 200864**

for:

Cambridge Archaeological Unit

Block Fen, Mepal

Archaeological Geophysical Survey 2012

Introduction

This report describes the findings from a geophysical survey which forms part of an archaeological evaluation of a proposed quarry site near Mepal, Cambridgeshire. The areas investigated lie immediately to the north of previous quarried ground (now flooded), and represent Phase 1 of a proposed future extension to the quarry workings. The geophysical survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by Cambridge Archaeology Unit (CAU). Fieldwork for the survey was done in mid-June 2012.

The Site

Location and Topography

The site is an area of arable farmland about 4km south east of Chatteris, and 3km north of Mepal village. It takes in parts of Block Fen and Langwood Fen, and is centred on Langwood Fen Farm (NGR TL 434846). The evaluation area (as outlined on Figure 1) amounts in total to 31ha, but this includes the farm, a pond and some overgrown ground to the south east. The total survey coverage (as hatched in red on Figure 1) therefore amounts to 27.3ha.

The main field in area 1 (as numbered on Figures 1 and 7-8) had at the time of the survey been planted with a crop of carrots, and there were potatoes in area 2. The topsoil in each field was ridged along the rows of plants, which imposed constraints on the direction and spacing of the survey transects (as mentioned below).

Geology

The presence of the adjacent quarry indicates that the site must be on an area of sand and gravel subsoil within the surrounding silt and peat fenland. The magnetic susceptibility readings taken during the survey demonstrate that the site has a topsoil of highly magnetic silt. Readings from the greater part of the site were in a range between 170 – 400 ($\times 10^{-5}$ SI), with an overall average of 225. These readings are unusually high, and also contrast strongly with the underlying gravel. Much lower (and more normal) readings (20-50 SI) were obtained from an area of stripped gravel subsoil which is exposed next to the pond in the south east corner of the site. This contrast means that irregularities or variations in the depth of topsoil cover will give rise to magnetic anomalies, and also that any feature cut into the subsoil and containing topsoil in its fill should be strongly detectable. [It is also possible that subsurface features containing a gravel rather than soil fill might not be detectable.]

Archaeological background

The site is of archaeological interest because an area of gravel subsoil in fenland should offer suitable conditions for early settlement, as is indicated by the extensive cropmarks which have been recorded nearby. An extract from a cropmark plan supplied to us by CAU is inset in Figure 1. No cropmarks are indicated within the Phase 1 evaluation areas, but settlement sites and field systems appear to be present within about 1km or less to the south and west.

Survey Methodology

Magnetometer survey

Readings for the magnetometer survey were collected using Bartington 1m fluxgate magnetometers, and are plotted at 25cm intervals along the survey transects. The results of the survey are shown as grey scale plots in sections at 1:2000 scale in Figures 2-3, and as graphical (x-y trace) plots in Figures 4-6. These alternative representations allow the detected magnetic anomalies to be seen in plan and profile respectively. The plots represent the readings after standard processing operations which include adjustment for irregularities in line spacing caused by heading errors (direction sensitivity in the instrument zero setting), and truncation of extreme values.

It was necessary during the survey to adjust the separation and orientation of the magnetometer transects to take account of the earth ridges in the two main fields. The differing ridge orientations in area 2 are indicated by the transect directions as seen in the graphical plot (Figure 5). It was also necessary to adapt the line spacing so that lines were walked along the furrows. Transects are recorded in groups of three at 1m separation (using a triple detector array), but the furrow spacing imposed wider gaps between the sets of lines. Readings were interpolated for presentation from the initial uneven transect spacing to a uniform 1m separation.

A further complication arose from the exceptionally magnetic topsoil. This meant that minor changes in the distance of the central magnetometer in the array from the ridges to each side caused variations in the readings. (The outer magnetometers, which were each above a single ridge, were less affected.) It was therefore necessary to apply variable levels of numerical smoothing (in addition to the standard processing routines mentioned above) to the lines, depending on whether they were within or outside the furrows. This was largely successful, but some horizontal lines showing increased variability remain visible in the results (particularly in the grey scale plot). These effects have been disregarded in the interpretation of the survey.

Magnetic susceptibility survey

We usually supplement a magnetometer survey with background magnetic susceptibility readings, which in this case were taken at 60m intervals, using a Bartington MS2 meter with a field detector loop. Susceptibility measurements can provide a broad indication of areas in which archaeological debris, and particularly burnt material associated with past human activity, has become dispersed in the soil. They are also affected by non-archaeological factors, including geology, past and

present land use, and modern disturbances, and so provide evidence relating to soil and site conditions which can be of help in interpreting the magnetometer survey. The results are presented as a shaded plot inset in Figure 8.

Presentation

An interpretation of the findings is shown superimposed (for comparison) on the graphical plots (Figures 4-6), and is reproduced separately to provide a summary of the findings in Figures 7-8. Features as marked include a few magnetic anomalies which may show characteristics to be expected from features of potential archaeological significance (in red). Weak magnetic anomalies of probably natural or non-archaeological origin are outlined in a light green. Probable recent or non-archaeological disturbances are indicated in brown and ferrous debris in blue. Linear markings which may represent ditches and land drains are also indicated.

Results

The survey has detected subsurface features and disturbances from various sources, although there may only be a limited likelihood that any of them are of direct archaeological significance. The clarity of the findings does not in general appear to have been substantially impaired by the geometrical and magnetic complexities arising (as mentioned above) from the presence of the crop ridges. We comment on the various categories of findings as follows.

Strongly defined linear magnetic anomalies were detected at the north of area 1, and to the east of area 2 (as labelled A and B on Figures 7-8), and also in the strip surveyed (in an un-ridged cereal crop) in the field to the north west of area 1 (C). The regularity of these lines suggests they are land drains, although ceramic drain pipes often give a less uniform magnetic response. It is probable therefore that the drains are laid in trenches containing a strongly magnetic topsoil fill, which gives rise to the observed linear anomalies.

Other more isolated ditch-like linear features (at D in area 1, and E, F in area 2) are likely to be former field boundaries.

Broad weak magnetic anomalies of the kind outlined in light green are commonly seen in surveys on alluvial or wetland soil, and appear to relate to natural variations in the depth or distribution of silt. They are most concentrated in the south of area 1 (around G), but there are other less conspicuous examples in area 2 (as at H).

Some possible weak linear features are visible within this natural back ground activity, and two are marked by broken lines (J and K) in area 1. They are indicated in red for clarity, but it is perhaps more likely that they represent shallow natural channels rather than archaeological features.

The remaining features which have been outlined in red (to indicate their potential archaeological relevance) are individual magnetic anomalies which (on the basis of their strength and profile as seen in the graphical plots 4-6) could be interpreted as silted pits. Features in this category are not in all cases clearly distinguishable from

either the larger natural background features mentioned above, or from the general background noise of the survey. One possible group (of rather marginal examples) is labelled L in area 1, and other more distinct individual features include M and N in area 2. These magnetic anomalies (except perhaps at L) are widely dispersed, and do not suggest the presence of any groups or concentrations of archaeological features (of the kind which might be expected at an ancient settlement site).

Other findings include strong magnetic anomalies (outlined in brown) at various locations. These suggest recent disturbances around the farm in area 1, and near to the pond in area 2. Other strong magnetic anomalies (P) suggest pipes around the western part of area 2 (although these disturbances could in part result from a change in cultivation direction). Magnetic susceptibility values are rather higher in this western part of area 2 than elsewhere. This gives rise to a higher background noise level (as seen in the grey scale plot), but few interpretable features are visible. Another pipe (Q) crosses the area of stripped ground to the east of area 2.

Conclusions

The survey has produced a number of clearly defined findings, but they appear to be mainly of natural or recent origin. Findings include land drains (A-C) and former field boundaries (D-E), which responded strongly to the survey. This suggests that conditions at the site should also be favourable for the detection of field systems and enclosures of the kind indicated by the nearby cropmarks, but none appear to be present.

A possibility remains that ancient ditches and other features might not be detected if they are filled with relatively non-magnetic gravel subsoil rather than the highly responsive silt topsoil (or if they are buried at much greater depth than the recent ditches and drains), but the survey provides no evidence for weak or fragmentary linear features to suggest this might be the case.

Two weak linear features are marked in the interpretation (J, K), but they are close to other apparently natural features (G), and so may be shallow natural silted hollows or channels. Some possible pit-like magnetic anomalies are visible, but they are widely dispersed (except for a possible group at L), and do not suggest the presence of any clearly detectable groups of archaeological features. The survey results otherwise are consistent with the cropmark plan, which shows no recorded features within the survey area.

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543000E

544000E

285000N

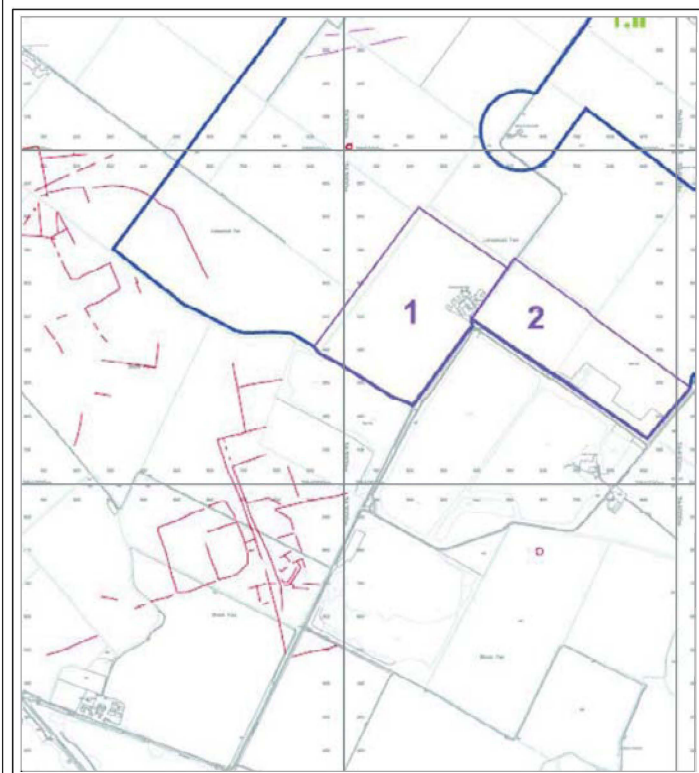


Proposed survey area

Approximate survey coverage

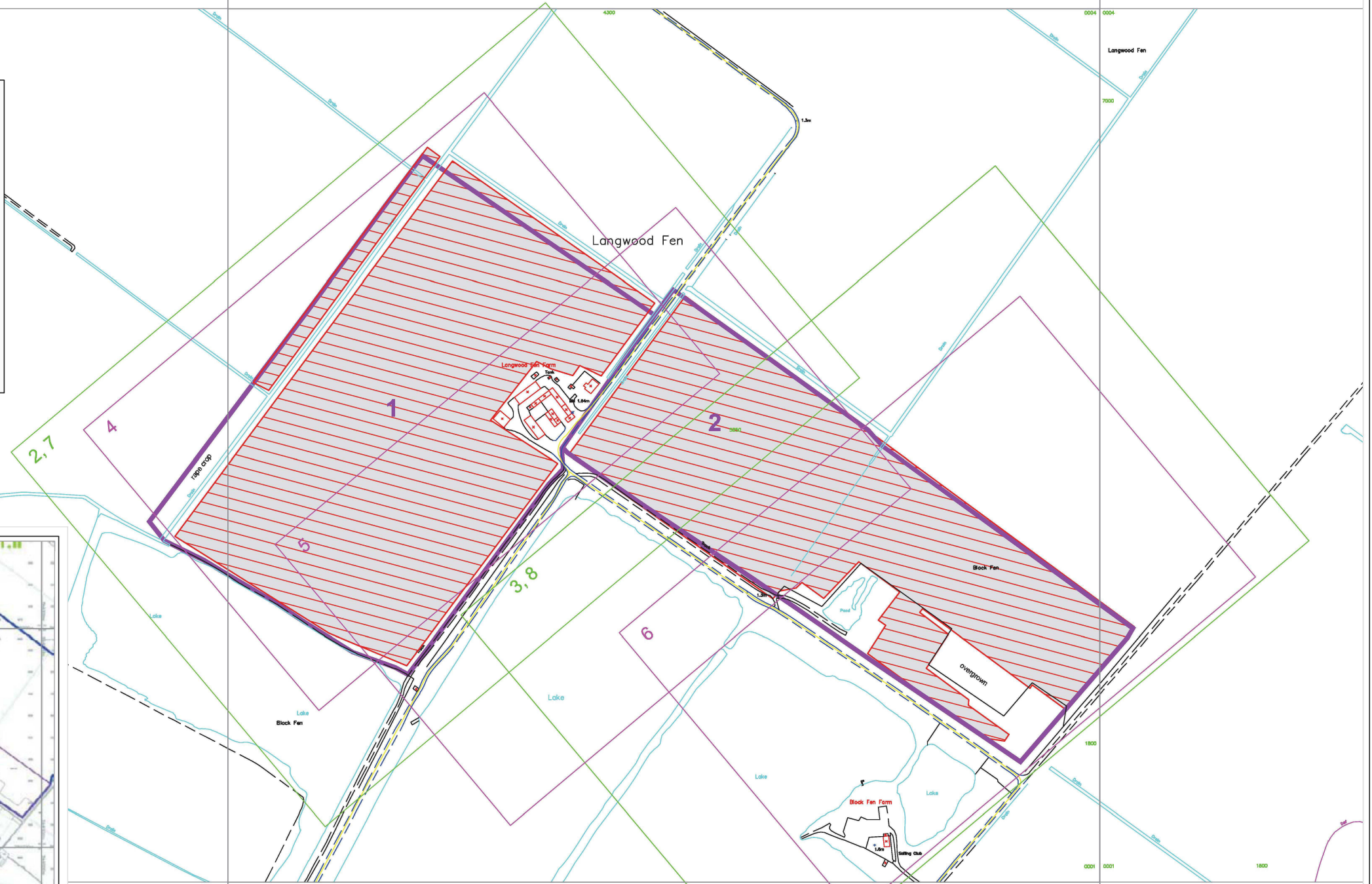
Location of 1:2000 figures (2-3 and 7-8)

Location of 1:1250 figures (4-6)



Survey areas with cropmarks (plan supplied by CAU) 1:20000

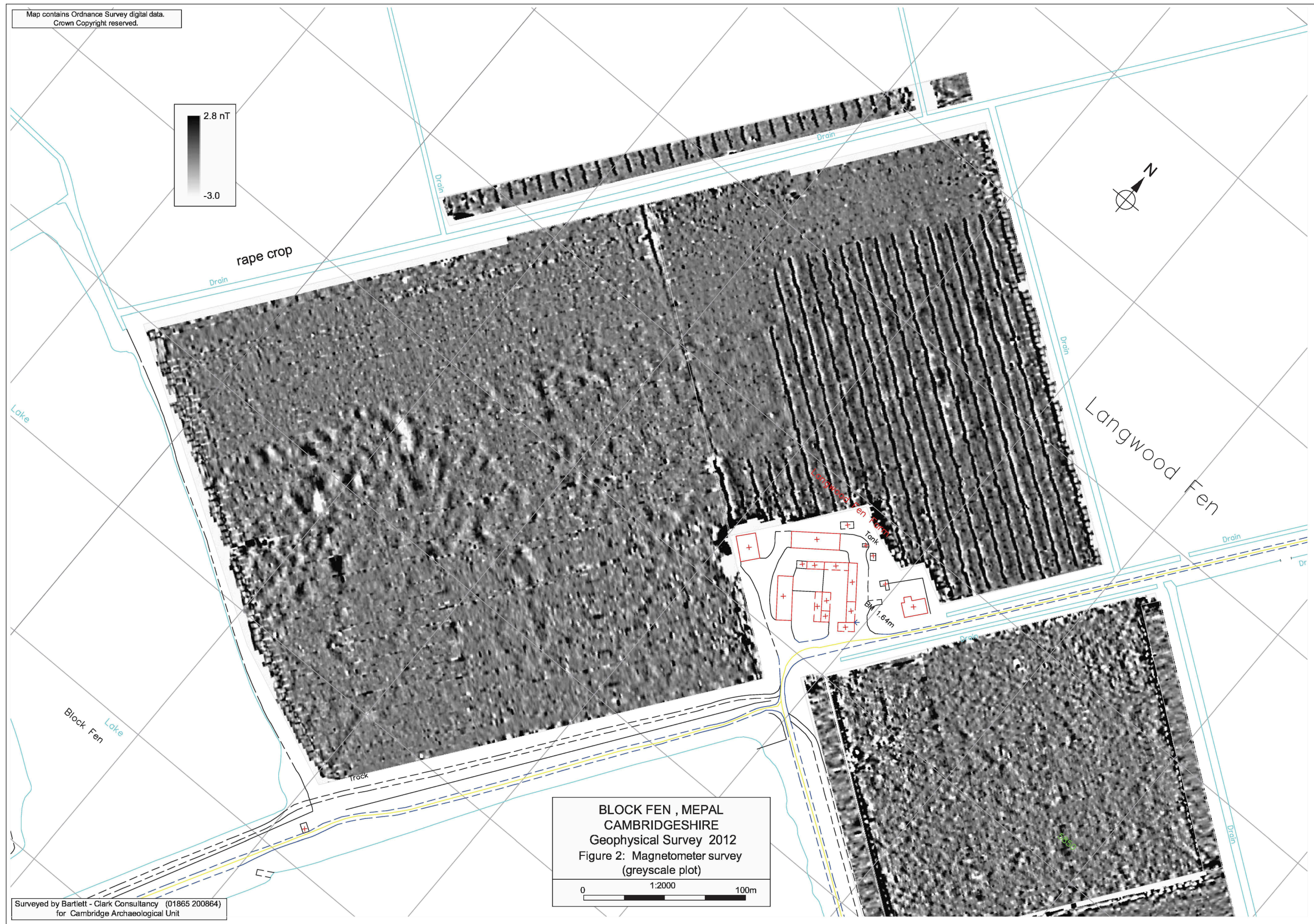
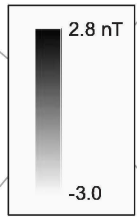
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for Cambridge Archaeological Unit



**BLOCK FEN , MEPAL
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 1: Location of survey

0 1:5000 250m

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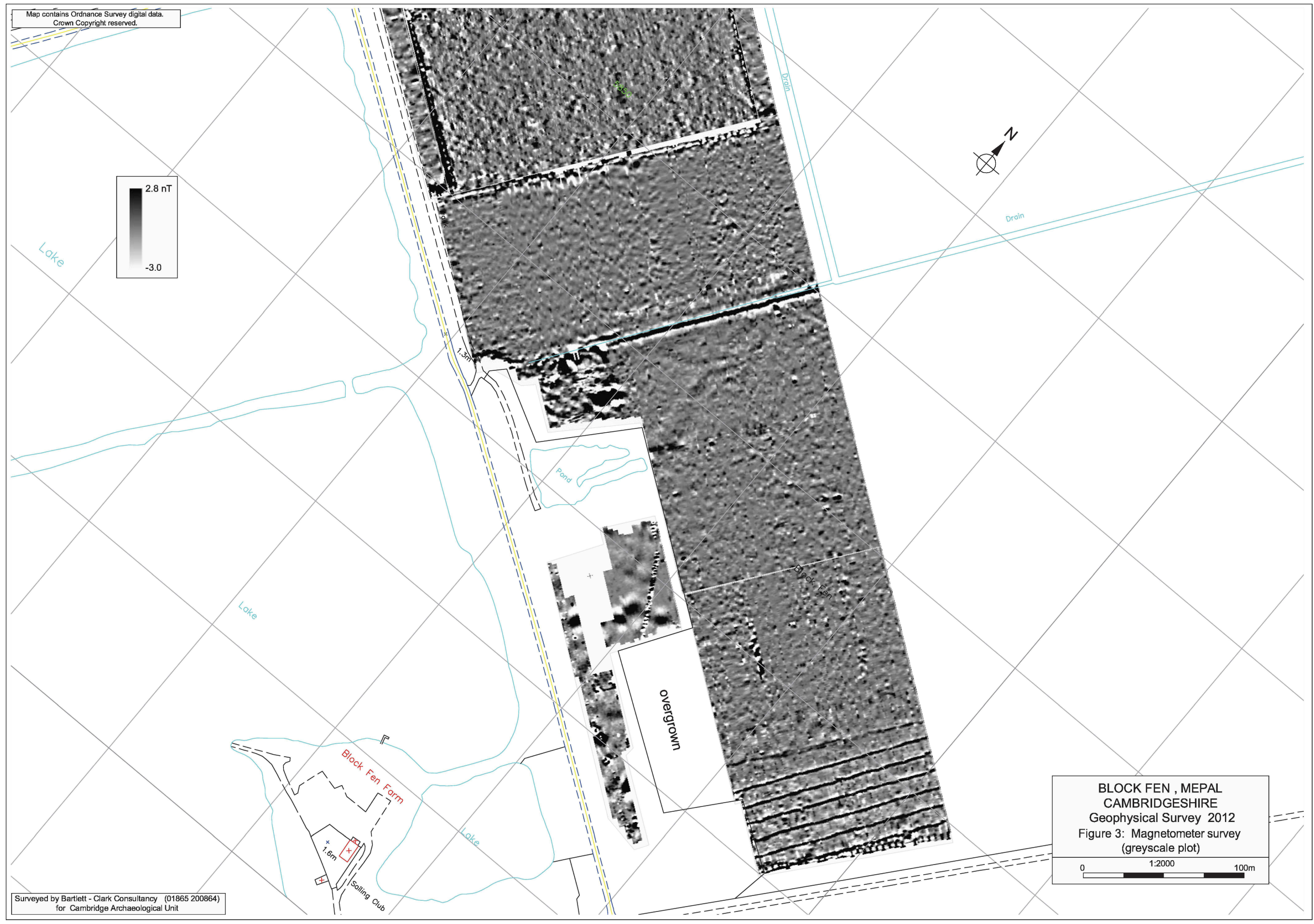
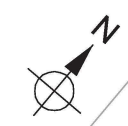
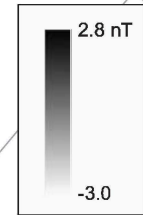


**BLOCK FEN , MEPAL
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 2: Magnetometer survey
(greyscale plot)



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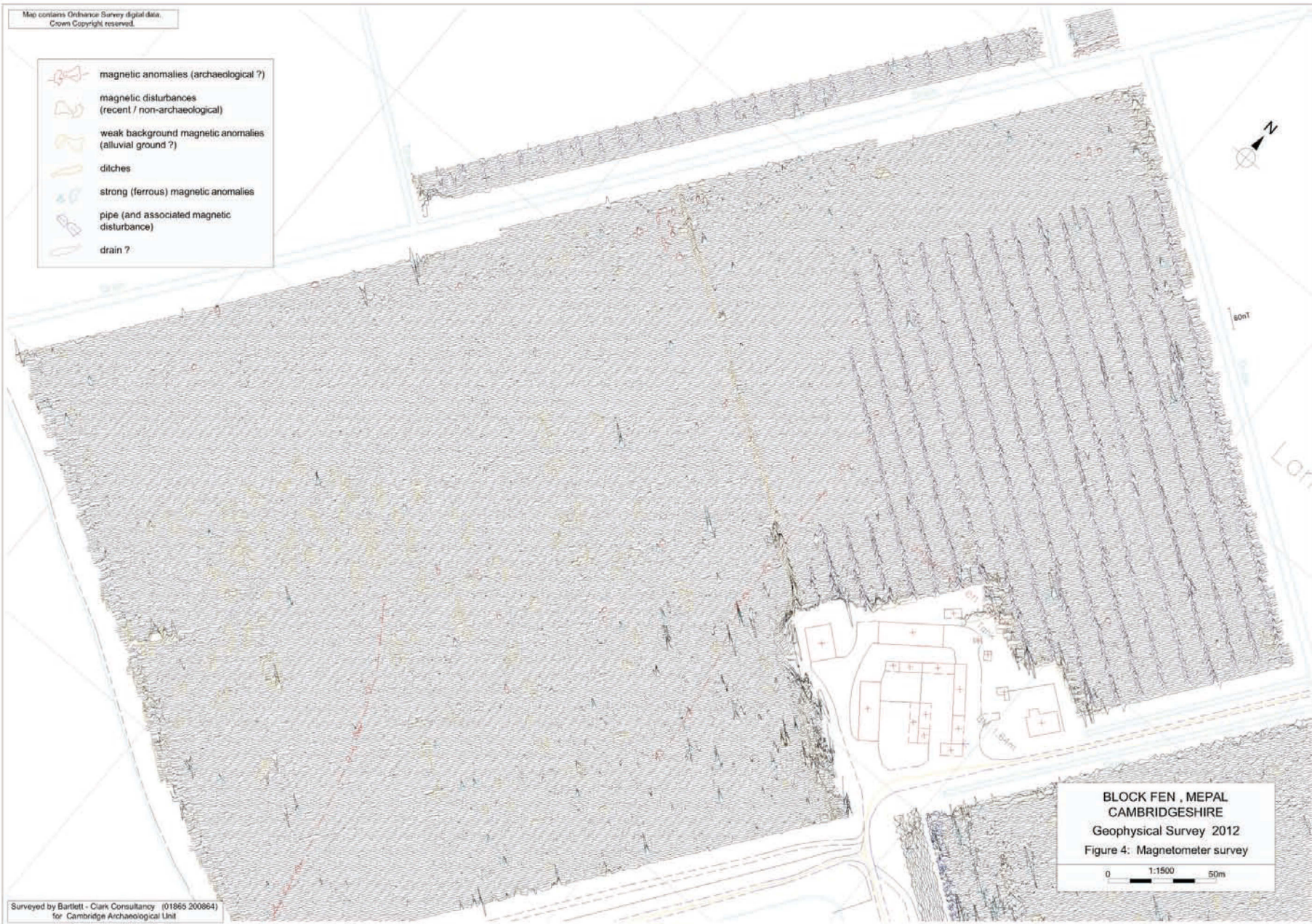


**BLOCK FEN , MEPAL
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Figure 3: Magnetometer survey
(greyscale plot)

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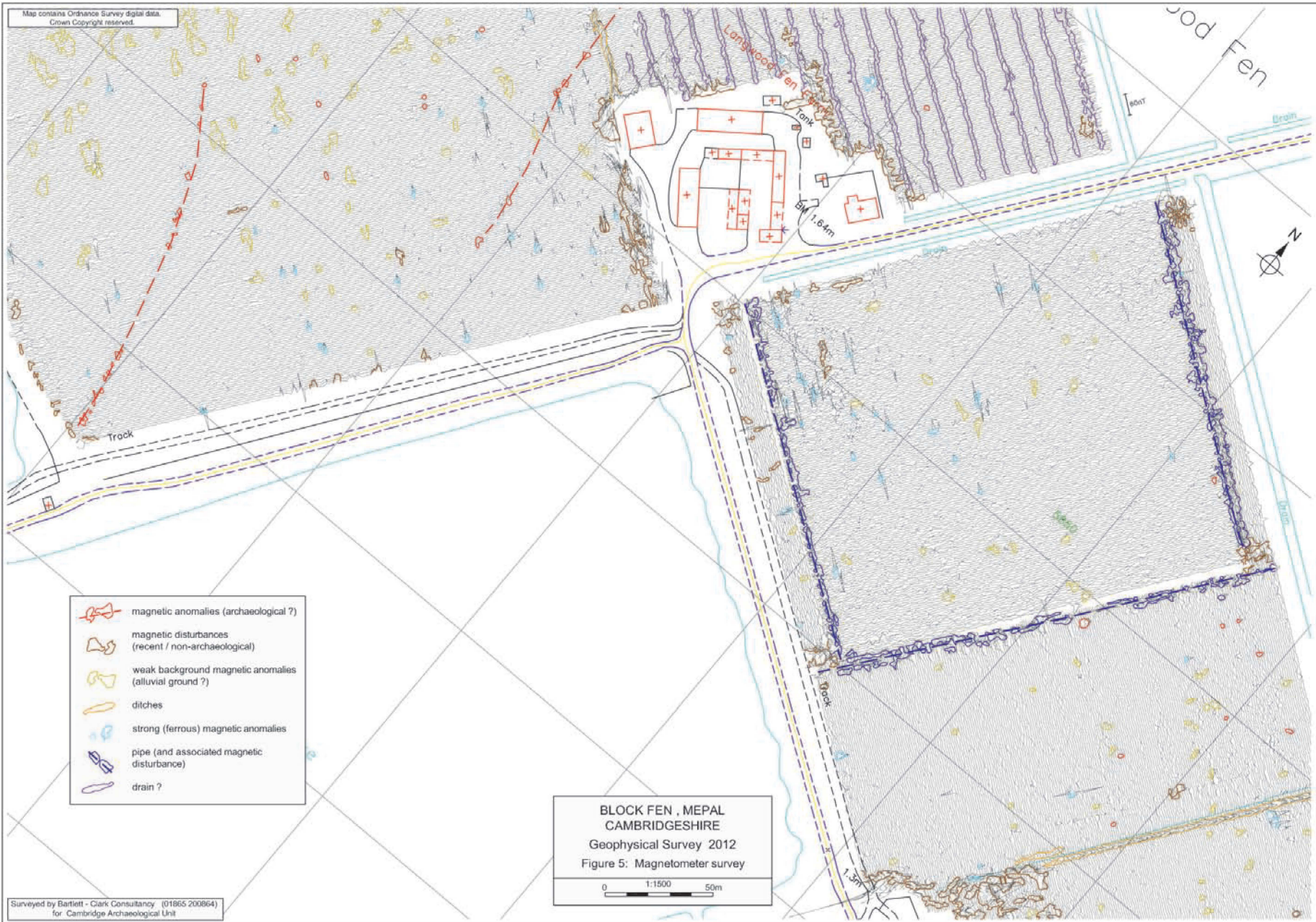
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-  magnetic disturbances (recent / non-archaeological)
-  weak background magnetic anomalies (alluvial ground ?)
-  ditches
-  strong (ferrous) magnetic anomalies
-  pipe (and associated magnetic disturbance)
-  drain ?









**BLOCK FEN , MEPAL
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 4: Magnetometer survey

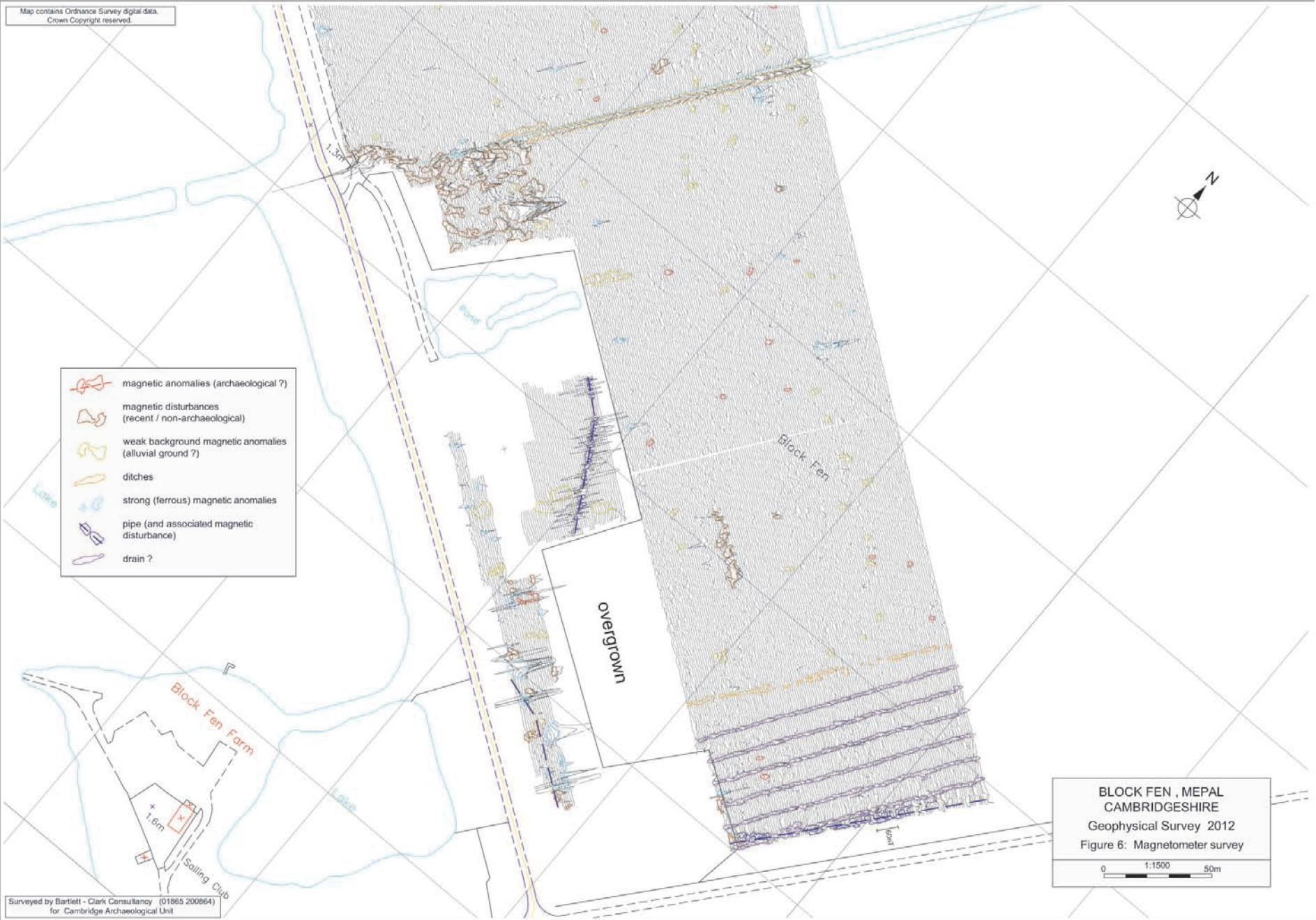
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-  magnetic anomalies (archaeological ?)
-  magnetic disturbances (recent / non-archaeological)
-  weak background magnetic anomalies (alluvial ground ?)
-  ditches
-  strong (ferrous) magnetic anomalies
-  pipe (and associated magnetic disturbance)
-  drain ?










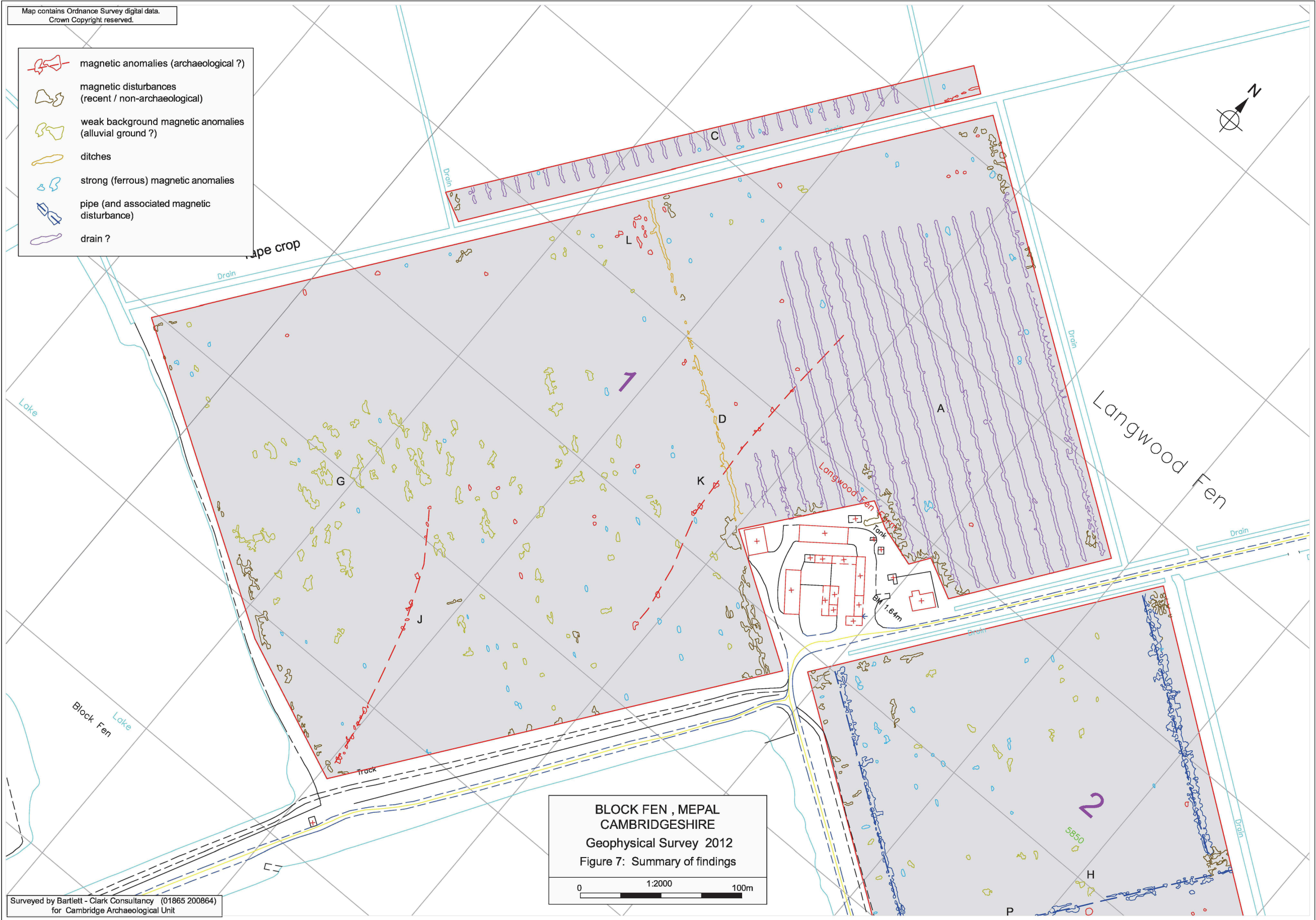
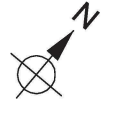
**BLOCK FEN , MEPAL
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 6: Magnetometer survey

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-  magnetic anomalies (archaeological ?)
-  magnetic disturbances (recent / non-archaeological)
-  weak background magnetic anomalies (alluvial ground ?)
-  ditches
-  strong (ferrous) magnetic anomalies
-  pipe (and associated magnetic disturbance)
-  drain ?










**BLOCK FEN , MEPA
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 7: Summary of findings

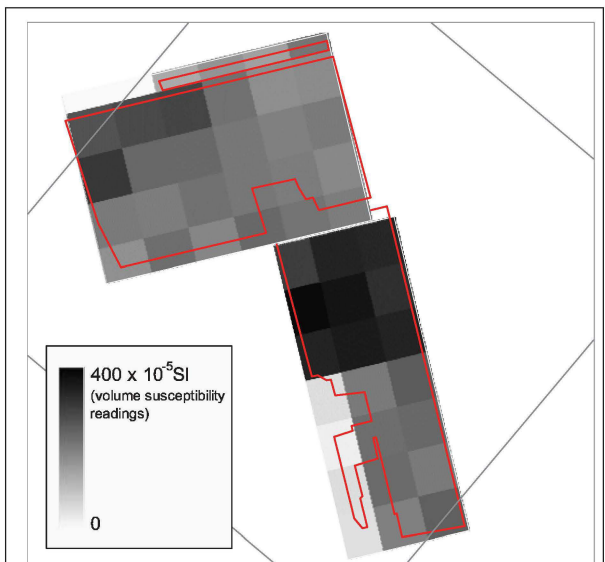
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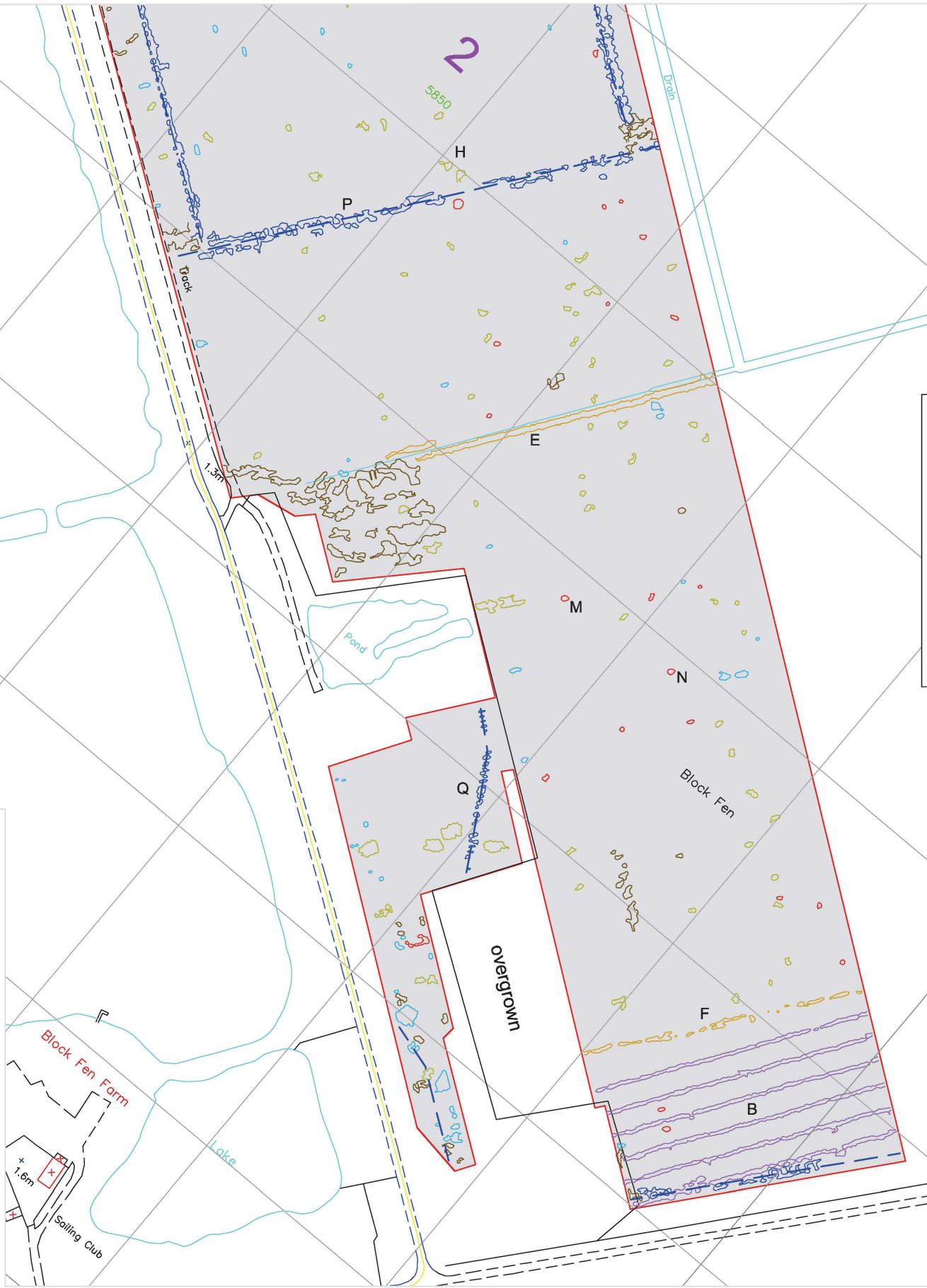


-  magnetic anomalies (archaeological ?)
-  magnetic disturbances (recent / non-archaeological)
-  weak background magnetic anomalies (alluvial ground ?)
-  ditches
-  strong (ferrous) magnetic anomalies
-  pipe (and associated magnetic disturbance)
-  drain ?



Magnetic susceptibility survey 1:12500

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**BLOCK FEN , MEPA
CAMBRIDGESHIRE**
Geophysical Survey 2012
Figure 8: Summary of findings

0 1:2000 100m

OASIS DATA COLLECTION FORM: England

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OASIS ID: cambridg3-142310

Project details

Project name	Langwood Fen Farm (South), Block Fen
Short description of the project	On behalf of Hanson, a trench-based evaluation of two fields at Block Fen, Chatteris (TL 434 846), articulated a widely dispersed pattern of two large watering holes associated with an Early Bronze Age sub-fen landscape. In addition, it identified a narrow strip of buried soil together with a discrete midden-like deposit replete with sherds of Early Bronze Age pottery, and all preserved beneath a thin horizon of desiccated peat. Otherwise the evaluation described a somewhat denuded patch of land which owing to intensive drainage had experienced severe peat wastage and comprehensive plough damage. Consequently, all but three of the sixty-two trenches recorded a thin cover of ploughsoil above an archaeologically sterile natural.
Project dates	Start: 15-10-2012 End: 26-10-2012
Previous/future work	Yes / Yes
Any associated project reference codes	BOF '12 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	WATERING HOLES Early Bronze Age
Monument type	BURIED SOIL Late Prehistoric
Significant Finds	POTTERY Early Bronze Age
Significant Finds	FLINT Early Bronze Age
Significant Finds	ANIMAL BONE Early Bronze Age
Methods & techniques	"Sample Trenches"
Development type	Mineral extraction (e.g. sand, gravel, stone, coal, ore, etc.)
Prompt	Direction from Local Planning Authority - PPS

Position in the planning process After full determination (eg. As a condition)

Project location

Country England
 Site location CAMBRIDGESHIRE FENLAND CHATTERIS Langwood Fen Farm
 Postcode CB6 2AY
 Study area 31.00 Hectares
 Site coordinates TL 434 846 52 0 52 26 24 N 000 06 35 E Point
 Height OD / Depth Min: 0.20m Max: 0.70m

Project creators

Name of Organisation Cambridge Archaeological Unit
 Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
 Project design originator Christopher Evans
 Project director/ manager Emma Beadsmoore
 Project supervisor Mark Knight
 Type of sponsor/ funding body Developer
 Name of sponsor/ funding body Hanson Aggregates

Project archives

Physical Archive recipient Cambridge Archaeological Unit
 Physical Archive ID BOF '12
 Physical Contents "Animal Bones","Ceramics","Environmental","Worked stone/lithics"
 Digital Archive recipient Cambridge Archaeological Unit
 Digital Archive ID BOF '12
 Digital Contents "Animal Bones","Ceramics","Environmental","Survey","Worked stone/lithics"
 Digital Media available "Database","Geophysics","Images raster / digital photography","Spreadsheets","Survey","Text"
 Paper Archive recipient Cambridge Archaeological Unit
 Paper Archive ID BOF '12
 Paper Contents "Animal Bones","Ceramics","Environmental","Survey","Worked stone/lithics"
 Paper Media available "Context sheet","Correspondence","Drawing","Map","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Report","Section","Survey","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Block Fen, Chatteris, Cambridgeshire, An Archaeological Evaluation - Langwood Fen Farm (South)
Author(s)/Editor(s)	Knight, M.
Other bibliographic details	CAU Report No. 1145
Date	2013
Issuer or publisher	Cambridge Archaeological Unit
Place of issue or publication	Cambridge Archaeological Unit
Description	Wire bound A4 27 page report (text and tables), plus 9 pages of figures/ photographs, plus Appendix of Geophysical Report (including 8 additional pages of figures).
Entered by	Mark Knight (mk226@cam.ac.uk)
Entered on	30 January 2013

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