

**FOSTERS END DROVE, BLACKBOROUGH END
EAST WINCH, NORFOLK**


ARCHAEOLOGICAL EXCAVATION
'STRIP, MAP AND SAMPLE'
(PHASE 7)

INTERIM REPORT

ARCHAEOLOGICAL SOLUTIONS LTD

**FOSTERS END DROVE, BLACKBOROUGH END,
EAST WINCH, NORFOLK**

**ARCHAEOLOGICAL EXCAVATION
'STRIP, MAP & SAMPLE'
(PHASE 7)**

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NGR: TF 6835 1516	Report No. 3453
Parish: East Winch	Site Code: 37413.WHE
Approved: Claire Halpin MIFA	Project No. 1793
Signed: 	Date: Dec 2009

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OASIS SUMMARY

Project details			
Project name	Fosters End Drive, Blackborough End, East Winch, Norfolk		
Project description (250 words)	<p>During November 2009, Archaeological Solutions Ltd conducted a 'strip, map and sample' excavation on the area of Phase 7 at Blackborough End, East Winch, Norfolk (NGR TF 6840 1520).</p> <p>Previous excavations (Phases 1 - 5) have revealed significant Roman archaeological features and limited evidence of Iron Age activity</p> <p>The current phase of excavation (Quarry Phase 7) revealed a continuation of the Roman droveway previously recorded, and three Roman pits. The features contained residual middle Iron Age pottery. The pits also contained slag associated with smelting, furnaces and kilns.</p>		
Project dates (fieldwork)	Nov 2009		
Previous work (Y/N/?)	Y		Y
P. number	P1793	Site Code	37413.WHE
Type of project	'Strip map and sample' archaeological excavation		
Site status	Former agricultural land		
Current land use	Quarry site		
Planned development	Proposed mineral extraction		
Main features (+dates)	Droveway and 3 pits		
Significant finds (+dates)	Roman pottery & slag. Residual middle Iron Age pottery.		
Project location			
County/ District/ Parish	Norfolk	Kings Lynn & West Norfolk	East Winch
HER/ SMR for area	Norfolk HER		
Post code (if known)	-		
Area of site	c. 6000sq m		
NGR	TF 6835 1516		
Height AOD (max/ min)	c.15m – 20m AOD		
Project creators			
Brief issued by	Norfolk Landscape Archaeology		
Project supervisor/s (PO)	Walter McCall		
Funded by	Middleton Aggregates		
Full title	Fosters End Drive, Blackborough End, East Winch, Norfolk. Archaeological Excavation, 'Strip, Map and Sample': Quarry Phase 7.		
Authors	Walter McCall		
Report no.	3453		
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CONTENTS

SUMMARY

1	INTRODUCTION
2	SITE DESCRIPTION
3	GEOLOGY & TOPOGRAPHY
4	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND
5	METHODOLOGY
6	RESULTS
7	CONFIDENCE RATING
8	DEPOSIT MODEL
	DISCUSSION

DEPOSITION OF THE ARCHIVE
ACKNOWLEDGEMENTS
BIBLIOGRAPHY

APPENDICES
CONCORDANCE OF FINDS
SPECIALIST REPORTS

**FOSTERS END DROVE, BLACKBOROUGH END,
EAST WINCH, NORFOLK**

**ARCHAEOLOGICAL EXCAVATION
'STRIP, MAP & SAMPLE'
(QUARRY PHASE 7)**

SUMMARY

During November 2009, Archaeological Solutions Ltd conducted a 'strip, map and sample' excavation on the area of Phase 7 at Fosters End Drove, Blackborough End, East Winch, Norfolk (NGR TF 6840 1520).

Previous excavations (Phases 1 - 5) have revealed significant Roman archaeological features and limited evidence of Iron Age activity (Lally et al forthcoming).

The current phase of excavation (Quarry Phase 7) revealed a continuation of the Roman droveway previously recorded, and three Roman pits. The features contained residual middle Iron Age pottery. The features contained residual middle Iron Age pottery. The pits also contained slag associated with smelting, furnaces and kilns.

1 INTRODUCTION

1.1 During November 2009 Archaeological Solutions (AS) carried out a 'strip map and sample' archaeological excavation on the area of Phase 7 at Fosters End Drove, Blackborough End, East Winch, Norfolk (NGR: TF 6835 1516; Figs. 1 - 2). The excavation was commissioned by Middleton Aggregates in advance of proposed mineral extraction. It was undertaken in compliance with a planning condition required by the local planning authority (based on advice from Norfolk Landscape Archaeology (NLA)).

1.2 The archaeological excavation was conducted in accordance with a brief issued by Norfolk Landscape Archaeology (NLA, dated 14/06/02), and a specification compiled by AS (dated 1/07/02). The project followed the procedures outlined in the Institute of Field Archaeologists' *Code of Conduct, Standard and Guidance for Archaeological Field Evaluation* (revised 1999). It also adhered to the relevant sections of *Standards for Field Archaeology in the East of England* (Gurney 2003).

1.3 The primary objective is to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site.

1.4 Specific research priorities are to examine the extent, date, duration, character, function, depth, density and state of preservation of any archaeological deposits present. It is also a priority to interpret the nature of human activity at the proposed quarry site and assess the significance of the site at local, regional and national levels

as appropriate. Another priority is to confirm the artefactual and environmental nature of the archaeological features and deposits encountered.

1.5 This report presents the results of the archaeological 'strip, map and sample' archaeological excavation of the area of Phase 7. By agreement with NLA, the requirement in the original project brief for subsequent trial trenching has been varied to proceed directly to a programme of archaeological 'strip, map & sample' excavation, as set out in a model brief for this phase of works issued by NLA.

2 DESCRIPTION OF THE SITE GEOLOGY AND TOPOGRAPHY

2.1 The site is located on the northern side of Fosters End Drive, c. 1.5km east of the village of Blackborough, c. 1.5km south-west of the village of East Winch and c.2km south-east of the village of Middleton. It comprises former agricultural land and is accessed from the south via the bridleway (Fosters End Drive) that links Blackborough and East Winch. It forms Phase 7 of the area of proposed extraction at the extensive Middleton Aggregates Quarry.

2.2 The site is situated on a gentle upward slope at around 20m AOD. The area in the immediate vicinity has been heavily quarried creating a landscape with numerous artificial lakes and open workings amongst the surrounding large arable fields. Cretaceous Carstone, Snettisham and Tealby Clays, Sandringham Sands and Splisbury Sandstone, with one small area of Gault comprise the local drift geology.

3 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

3.1 Previous excavations (Excavations Phases (EP) 1-5) have revealed significant Roman archaeological features and limited evidence of Iron Age activity (Lally *et al* forthcoming).

4 METHOD OF WORK

4.1 Quarry Phase 7 comprised a large area, immediately north and adjacent to Quarry Phases 4 and 5 (Fig. 2). The topsoil was stripped from the area using a mechanical excavator fitted with a toothless ditching bucket under the close supervision of an Archaeological Project Officer. Exposed features were cleaned and planned electronically using a Leica TPS Total Station. Numerous features were planned, comprising pits, postholes and natural features (Fig. 3).

4.2 An excavation strategy was agreed with Dr Ken Hamilton of Norfolk Landscape Archaeology. A minimum of 30 features were to be half-sectioned targeting those with visible surface finds. Features yielding diagnostic archaeological material were excavated in full and sampled.

4.3 All further investigations were undertaken by hand. Exposed surfaces were cleaned as appropriate and examined for archaeological features and finds. Deposits

were recorded using *pro forma* recording sheets, drawn to scale, and photographed when appropriate.

5 RESULTS (Figs. 4 - 6)

5.1 Thirty one features and three natural features were excavated. They have been phased on the basis of combined finds and stratigraphic evidence, and are tabulated below.

Phase	Date	Contexts
1	Roman	Gullies F7008, F7010 & F7012.
2	Roman	Droeway Ditches F7000 & F7002 Pits F7071, F7074 & F7080
-	Undated	Co-axial Gullies: F7016, F7018, F7020, F7022, F7024 Ring Ditch F7014 & Gully F7040 Other Linears: F7006, F7026, F7030, F7032, F7034 & F7036 Pits/ Post Holes: F7044, F7048, F7052, F7054, F7056, F7058, F7060, F7062, F7067, & F7069 Natural Features: F7028, F7046 & F7050

Phase 1: Pre-Roman (Figs. 4 - 5)

Gully F7008 and F7010 were cut by the Roman droeway. Gully F7012 was likely a continuation of Gully F7010. It contained Romano-British CBM.

Gullies

Gully F7008 (12.19+ x 1.00 x 0.21m) was linear in plan, orientated NW/SE. It had moderately sloping sides and an irregular base. Its fill, L7009, was a loose, medium orange brown silty sand with moderate flint. No finds were present. F7008 was cut by Roman Ditch F7000 Segment B. It terminated just short of F7002.

Gully F7010 was linear in plan (c.25.40m+ long), and orientated NW/SE. It was excavated in a series of segments (labelled A – D). It became generally wider and deeper towards the north-west, with steeper sides and a flattish base in Segments C and D. The fill alternated between medium red and grey brown silty sand and flint, and are tabulated below. It contained no finds.

Segment	Profile	Fill	Description	Findings/Observations
A	Shallow sides, concave base (1.12 x 0.66 x 0.12m)	L7011	Loose, mid grey brown silty sand with occasional small angular flint.	North-western terminus of gully. No finds.
B	Shallow sides, concave base (0.74 x 0.88 x 0.11m)	L7011	Loose, mid red brown silty sand with moderate flint gravel.	Cut by Roman Ditch F7000 Segment D. No finds.
C	Moderately steep sides, flattish base (0.94 x 0.87 x 0.43m)	L7011	Loose, mid red brown silty sand with moderate flint gravel.	Cut by Roman Ditch F7002 Segment C. No finds.
D	Moderately steep sides, flattish base (0.93 x 1.11 x 0.25m)	L7011	Loose, mid grey brown silty sand with occasional small angular flint.	No finds.

Gully F7012 (5.09 x 1.24 x 0.29m) was linear plan, orientated NW/SE. It generally continued the course of Gully F7010. It had moderately steep sides and a concave base. Its fill, L7013, was a loose, medium grey brown silty sand with moderate angular flint. It contained animal bone (222g) and Romano-British CBM (451g).

Phase 2: Roman (Figs. 4-5)

The substantial evidence for the Roman period was represented by a continuation of the droveway (F7000 and F7002), previously recorded in Quarry Phases 3 and 6. Located directly between the two ditches at their south-western end was a large square pit with rounded corners, F7071. Pits F7074 and F7080 also contained Roman pottery.

Ditch F7000 formed the south-east side of the droveway. It was linear in plan, c. 131m long, and orientated NE/SW. It was excavated in a series of segments (labelled A – E). The ditch became wider in north-eastern sector of the site and ranged in depth from 0.14 – 0.45m. Segment E was v-shaped in profile (DP 1). The remainder of the ditch had moderately steep sides and flattish or concave base. The fill was generally an orange or red brown silty sand with gravel. L7001 in Seg. C was more grey. L7001 in Seg. A contained Roman pottery.

Segment	Profile	Fill	Description	Findings/Observations
A	Moderately steep sides, concave base (1.00 x 0.73 x 0.14m)	L7001	Friable, mid orange brown silty sand and gravel.	Late 2 nd – 4 th C Roman pottery (239g)
B	Moderately steep sides, concave base (1.00 x 0.81 x 0.24m)	L7001	Friable, mid orange brown silty sand with occasional angular gravel.	No finds.
C	Moderately steep sides, flatfish base (1.20 x 1.38 x 0.45m)	L7001	Loose mid grey brown silty sand with moderate angular flint gravel.	Cut F7008 Segment A. No finds.
D	Moderately steep sides, flatfish base (1.52 x 1.00 x 0.21m)	L7001	Loose, mid red brown silty sand with moderate angular flint gravel.	Cut F7010 Segment B. No finds.
E	Steep sides, narrow base (1.00 x 0.93 x 0.33m)	L7001	Friable, mid orange brown silty sand with moderate angular flint gravel.	No finds.

Ditch F7002 formed the north-western side of the driveway. It was linear in plan, c.105m long, and orientated NE/SW. It was excavated in a series of segments (labelled A – E). The ditch became wider in north-eastern sector of the site and ranged in depth from 0.19 – 0.38m. Most of the segments revealed a v-shaped profile. Ditch F7008 was close to F7002, but terminated just short of it. The fill was generally an orange or red brown silty sand with gravel (tabulated below). No finds were present.

Segment	Profile	Fill	Description	Finds/Observations
A	Steep sides, narrow base (1.00 x 1.10 x 0.34m)	L7003	Loose, mid orange brown silty sand with occasional small angular flints.	No finds.
B	Steep sides, narrow base (1.00 x 0.76 x 0.30m)	L7003	Loose, mid orange brown silty sand with occasional small angular flints.	No finds.
C	Steep sides, flattish base (1.24 x 0.82 x 0.38m)	L7003	Loose, mid red brown silty sand with moderate flint gravel.	Cut F7010 Segment C. No finds.
D	Steep sides, narrow base (1.00 x 0.51 x 0.23m)	L7003	Loose, mid orange brown silty sand with occasional small angular flint.	No finds.
E	Steep sides, concave base (1.00 x 0.44 x 0.19m)	L7003	Friable, mid orange brown silty sand with occasional small angular flint.	No finds.

Pit F7074 (3.11 x 3.00 x 0.60m) was circular in plan with moderately sloping sides and a concave base. It was adjacent to Pit F7080. The latter contained a large quantity of industrial waste and may have had a similar function. It contained five fills, tabulated below.

Context	Dimensions (m)	Description	Finds/Observations
L7079	1.40 x 1.38 x 0.18m	Friable, mid red brown, mottled with grey, sandy silt with frequent small flints.	Late 2 nd – 4 th C Roman pottery (1046g)
L7078	2.90 x 2.10 x 0.17m	Friable, mid red brown sandy silt with frequent small flints.	Late 2 nd – 4 th C Roman pottery (642g) Slag (624g)
L7076	1.48 x 1.16 x 0.12m	Friable, sandy silt.	Late 2 nd – 4 th C Roman pottery (11g)
L7077	2.90 x 1.30 x 0.16m	Friable, mid orange brown silty sand with moderate small flint	No finds.
L7075	3.00 x 2.73 x 0.14m	Friable, mid greyish black sandy silt.	Late 2 nd – 4 th C Roman pottery (894g)

Pit F7080 (3.04 x 2.62 x 0.79m) was oval in plan with steep sides and a flattish base. It contained four fills, tabulated below. L7082 contained a large quantity of slag indicating possible disposal of industrial waste.

Context	Dimensions (m)	Description	Findings/Observations
L7081	0.23m	Friable, mid grey brown sandy silt with occasional small flints.	Late 2 nd – 4 th C Roman pottery (146g) slag (3500g)
L7082	0.19m	Friable, mid grey brown sandy silt with moderate small and medium flints.	Late 2 nd – 4 th C Roman pottery (151g) slag (72g)
L7083	0.32m	Friable, mid brownish orange sandy silt with occasional small and large flint.	Late 2 nd – 4 th C Roman pottery (149g) Slag (115g)
L7084	0.18m	Friable, dark grey and black sandy silt	Late 2 nd – 4 th C Roman pottery (68g)

Pit F7071 (3.65 x 2.90 x 0.67m) was sub-rectangular in plan with steep sides and a flattish base. It contained two fills. The principal and upper fill, L7072 (3.65 x 2.90 x 0.38m), was a friable, mid red grey, mottled with black, sandy silt with moderate small stones. It contained early – mid 3rd century Roman pottery (214g)). The basal fill, L7073 (3.25 x 2.61 x 0.21m), was a friable, dark grey brown sandy silt with frequent charcoal. It contained late 2nd – 4th century Roman pottery (90g), animal bone (40g) and slag (135g). This very large pit was located between the Ditches F7000 and F7002 of the droveway and post-dated the droveway.

Undated (Figs. 4 - 6)

Co-axial linear gullies

F7016 (18.68+ x 0.40 x 0.08m) was linear in plan, orientated NW/SE. It had shallow sides and a flattish base. Its fill, L7017, was a loose, medium brown orange sandy silt. No finds were present.

F7018 was linear in plan, c. 55.00m+ long, and orientated NE/SW. It was excavated in a series of segments (labelled A – D). Its fill, L7019, was a mid orange brown sandy silt. No finds were present. Its characteristics are tabulated:

Segment	Profile	Fill	Description	Finds/Observations
A	Moderately steep sides, concave base (0.65 x 0.78 x 0.23m)	L7019	Loose, mid orange brown sandy silt with occasional small angular flints.	Cuts F7016 Segment A. No finds.
B	Steep sides, narrow base (1.00 x 0.66 x 0.19m)	L7019	Loose, mid orange brown sandy silt with occasional small angular flints.	No finds.
C	Moderately steep sides, narrow base (0.58 x 0.40 x 0.16m)	L7019	Loose, mid orange brown sandy silt with occasional small angular flints.	Cut by F7020 Segment C. No finds.
D	Moderately steep sides, narrow base (0.60 x 0.56x 0.13m)	L7019	Loose, mid orange brown sandy silt with occasional small angular flints.	Cut by F7030 Segment D. No finds.

F7020 was linear in plan, c. 44.00m+ long, and orientated NW/SE. It was excavated in a series of segments (labelled A – D). Its fill, L7021, was a mid grey orange sandy silt (tabulated below). No finds were present.

Segment	Profile	Fill	Description	Finds/Observations
A	Shallow sides, narrow base (0.40 x 0.56 x 0.14m)	L7021	Loose, mid grey orange sandy silt with occasional small angular flints.	No finds.
B	Moderately steep sides, narrow base (0.98 x 0.70 x 0.26m)	L7021	Ditto	No finds.
C	Steep sides, concave base (0.44 x 0.52 x 0.20m)	L7021	Ditto	Cut F7018 Segment C. No finds.
D	Moderately sloping sides, concave base (0.44 x 0.66x 0.24m)	L7021	Ditto	Cut Pit F7028. No finds.

F7022 (14.00 x 0.43 x 0.17m) was linear in plan, and oriented NE/SW. It had steep sides and a concave base. Its fill, L7023, was a friable, mid orange brown sandy silt with occasional small angular and rounded flint gravel. It contained no finds.

F7024 (10.00 x 0.47 x 0.14m) was linear in plan, and oriented NE/SW. It had moderately steep sides and a concave base. Its fill, L7025, was a friable, mid orange

brown silty sand with occasional small angular and rounded flint gravel. It contained no finds.

Ring Ditch F7014

Ring Ditch F7014 was circular in plan, and had an outer diameter of 3.93m. It was excavated in a series of segments (labelled A – D). The segments were 0.27 – 0.36m wide and generally 0.17 – 0.29m deep with steep sides and narrow bases. Exceptionally Segment B had shallow sides and flat base. The fills of Segments A and D were darker. The fills of Segments B and C comprised light yellow sand with few inclusions (tabulated below). No finds were present.

Segment	Profile	Fill	Description	Finds/Observations
A	Steep sides, narrow base (1.00 x 0.32 x 0.29m)	L7015	Friable, black orange sandy silt with occasional gravel.	No finds.
B	Shallow sides, flatish base (1.00 x 0.32 x 0.08m)	L7015	Friable, light yellow brown silty sand with occasional small rounded flint.	No finds.
C	Steep sides, narrow base (1.00 x 0.36 x 0.17m)	L7015	Ditto	Cut Gully F7040. No finds.
D	Steep sides, narrow base (1.00 x 0.27 x 0.17m)	L7015	Loose, dark brown grey sandy silt with occasional small rounded flint.	No finds.

Gully F7040 (3.20 x 0.37 x 0.10m) was linear in plan, orientated NE/SW. It had shallow sides and a flat base. It terminated within the area enclosed by Ring Ditch F7014 and was cut by it. The terminus was square with rounded corners. Its fill, L7041, was a friable, pale yellowish brown silty sand with occasional small rounded flints. It contained no finds.

Other linears

Gully F7006 (19.28 x 0.48 x 0.22m) was linear plan with moderately steep sides and a concave base. It was generally orientated NW/SE, but turned to the south-west at its north-western end. Its fill, L7007, was a friable medium orange brown silty sand with occasional angular gravel. No finds were present.

F7026 (5m x 0.33 x 0.15m) was linear in plan, and oriented NE/SW. It had relatively steep sides and a concave base. Its fill, L7027, was a friable, mid orange brown silty sand with occasional small angular and rounded flint gravel. It contained no finds.

F7030 was linear in plan, c. 78.00m+ long, and orientated NW/SE. It was excavated in segments (labelled A – D). Its fill was a friable, dark grey brown silty sand, much darker than in the other linears on the site (tabulated below). No finds were present. F7030 was very straight and aligned at a right angle to the existing track immediately to the south east of the site. It contained a much darker fill than the other recorded linears suggesting that it may have been a modern ditch.

Segment	Profile	Fill	Description	Finds/Observations
A	Moderately steep sides, flattish base (1.15 x 0.54 x 0.40m)	L7031	Friable, dark grey brown silty sand with moderate small angular flint.	Cut linears F7032 Seg A and F7034 Seg A. No finds.
B	Shallow sides, flattish base (1.06 x 0.65 x 0.10m)	L7031	Ditto	No finds.
C	Steep sides, narrow flattish base (1.00 x 0.52 x 0.20m)	L7031	Ditto	No finds.
D	Moderately steep sides, narrow base (0.80 x 0.62 x 0.20m)	L7031	Ditto	Cut linear F7018 Seg D. No finds.

F7032 was linear in plan, 13.00m+ long, and oriented NE/SW. It was cut by Linear F7030. It varied in width between 0.88m and 1.20m, and depth between 0.29m and 0.31m (Segments A and B respectively). Its fill, L7033, was a friable, mid orange brown, with some black mottling, sandy silt. It contained no finds.

F7034 was linear in plan, 22.00m+ long, and oriented N/S. It was cut by Linear F7030 and cut Linear F7036. Its fill, L7035, was a friable, mid orange brown sandy silt that contained no finds.

Segment	Profile	Fill	Description	Finds/Observations
A	Moderately steep sides, concave base (0.95 x 0.90 x 0.17m)	L7035	Friable, mid orange brown sandy silt with moderate small pebbles.	Cut by Linear F7030 Seg A. No finds.
B	Moderately steep sides, concave base (0.98 x 0.95 x 0.23m)	L7035	Ditto	No finds.
C	Moderately steep sides, narrow concave base (0.65 x 0.25 x 0.18m)	L7035	Ditto	Cut linear F7036 Seg B. No finds.

F7036 was linear in plan, 20.00m+ long, between 0.34 and 0.40m wide, and oriented NW/SE. It had shallow sides and a flattish base. It was cut by Linear F7034. Its fill, L7037, was a friable, pale brownish yellow sandy silt that contained no finds.

Pits/postholes

Pit F7038 (1.30 x 0.82 x 0.10m) was sub-circular in plan. It had shallow sides and a flat base. Its fill, L7039, was a friable, mid orange grey sandy silt with moderate small flints. It contained a modern articulated animal skeleton (164g) but no other finds.

Post Hole F7044 (0.26 x 0.20 x 0.15m) was oval in plan with steep sides and a concave base. Its fill, L7045, was a friable, mottled black and dark grey sandy silt that contained no finds.

Post Hole F7048 (0.43 x 0.39 x 0.14m) was sub-circular in plan with moderately steeply sloping sides and a flattish base. Its fill, L7049, was a friable, mottled dark grey and black sandy silt. It contained no finds.

Pit F7052 (0.84 x 0.55 x 0.08m) was oval in plan with steep sides and a flat base. Its fill, L7053, was a friable, dark greyish black sandy silt with frequent small burnt flint (350g). It contained no other finds.

Pit F7054 (1.12 x 0.74 x 0.30m) was sub-oval in plan with steep sides and a concave base. Its fill, L7055, was a friable, mid red brown silty sand with moderate small flints that contained no finds.

Post Hole F7056 (0.34 x 0.23 x 0.21m) was oval in plan with vertical sides and a concave base. Its fill, L7057, was a friable, mid red brown silty sand with moderate small flints that contained no finds.

Pit F7058 (1.18 x 0.77 x 0.45m) was sub-oval in plan with steep sides and a concave base. Its fill, L7059, was a friable, mid red brown silty sand with occasional small flints. It contained no finds.

Post Hole F7060 (0.41 x 0.38 x 0.13m) was circular in plan with moderately sloping sides and a concave base. Its fill, L7061, was a friable mid blackish grey sandy silt with frequent small flint gravel. It contained no finds.

Pit F7062 (1.38 x 0.80 x 0.21m) was sub-oval in plan with shallow sides and a narrow concave base. It contained two fills. The principal and upper fill, L7063, was a friable, mid grey brown sandy silt. The basal fill, L7066, was a friable, mottled black and red sandy silt with frequent small stones. It contained burnt flint, but no other finds. It would appear that this flint was burnt *in situ* as peripheral burning was visible on the base of the pit.

Post Hole F7067 (0.44 x 0.37 x 0.08m) was oval in plan with moderately steep sides and a flattish base. Its fill, L7068, was a friable, dark grey brown sandy silt that contained no finds.

Pit F7069 (1.10 x 0.75 x 0.08m) was sub-oval in plan with shallow sides and a concave base. Its fill, L7070, was a friable, sand with occasional medium stones. It contained burnt flint (46g) but no other finds. Burning had occurred *in situ* as the base of the pit had been scorched.

Natural features

Tree Hollow F7028 (1.61 x 1.16 x 0.37m) was oval in plan with irregular sides and a concave base. It cut Linear F7020 Seg. D. Its fill, L7029, was a friable, mid greyish orange sandy silt with occasional small flint that contained no finds.

Burnt out Tree Root F7046 (1.83 x 1.43 x 0.12m) was oval in plan with shallow sides and an irregular base. Its fill, L7047, was a friable, black silty sand that contained no finds.

Root F7050 (0.66 x 0.49 x 0.06m) was sub-oval in plan with shallow sides and an irregular base. Its fill, L7051, was a friable, dark grey sandy silt that contained no finds.

6 CONFIDENCE RATING

6.1 It is not felt that any factors inhibited the recognition of archaeological features during the excavation at East Winch, Norfolk.

7 DEPOSIT MODEL

7.1 The stratigraphic sequence at the site was very basic, comprising a thin layer of topsoil (0.40 – 0.54m) directly overlaying the natural deposit. Topsoil L7004 was a friable, dark grey brown sandy silt with occasional angular flint gravel and rounded pebbles. The natural deposit consisted of friable, light yellow brown silty sand with angular flint gravel throughout. All of the excavated features were sealed by the topsoil.

8 DISCUSSION

8.1 Previous excavations (Phases 1 - 5) have revealed significant Roman archaeological features and limited evidence of Iron Age activity (Lally *et al* forthcoming)

8.2 The current phase of excavation (Quarry Phase 7) revealed a continuation of the Roman droveway (F7000 & F7002) and three Roman pits (F7071 F7074 & F7080). The features contained residual middle Iron Age pottery. The pits also contained slag associated with smelting, furnaces and kilns (Slag Report below).

8.3 Gullies F7010 and F7008 were truncated by the Roman droveway. Gully F7012 was likely a continuation of Gully F7010. F7012 contained Romano-British CBM. The gullies were parallel, and broadly perpendicular to the Roman droveway. They may represent an earlier droveway.

8.4 Numerous undated features were excavated, principally co-axial gullies (F7016, F7018, F7020, F7022 & F7024) and Ring Ditch 7014.

8.5 The results of Excavation Phase 7 (EP7) will be integrated with the principal publication (Lally *et al* forthcoming)

ARCHIVE DEPOSITION

Archive records, with an inventory, will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. The archive will be deposited with the Norfolk Museums Service.

ACKNOWLEDGEMENTS

Archaeological Solutions Ltd is grateful to Middleton Aggregates for their co-operation and funding the excavation, in particular Mr Lemon.

AS is also pleased to acknowledge the input and advice of Dr Ken Hamilton of Norfolk Landscape Archaeology.

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APPENDIX 1 CONCORDANCE OF FINDS

37413: Blackborough Farm, East Winch, Norfolk

Concordance of finds by feature

Feature	Context	Segment	Description	Spot Date	Pottery	CBM (g)	A.Bone (g)	Other
7000	7001	A	Droeway Terminal	L 2 - 4th C AD	(19) 239g			
7012	7013	A	Ditch Fill			451	222	
7038	7039		Pit Fill				164	
7052	7053		Pit Fill					B. Flint (26) 350g
7069	7070		Pit Fill					B. Flint (3) 46g
7071	7072	A	Pit Fill	E-M 3rd C AD	(6) 106g			
	7072	B	Pit Fill	L 2 - 4th C AD	(12) 108g			
	7073		Pit Fill	L 2 - 4th C AD	(4) 90g			
		B	Pit Fill				40	Slag (3) 135g
7074	7075	A	Pit Fill	L 2 - 4th C AD	(25) 324g			
	7075	B	Pit Fill	L 2 - 4th C AD	(35) 570g			
			Pit Fill	L 2 - 4th C AD	(6) 11g			
	7078	A	Pit Fill	L 2 - 4th C AD	(26) 346g			
	7078	B	Pit Fill	L 2 - 4th C AD	(35) 296g			Slag (2) 624g
			Pit Fill	L 2 - 4th C AD	(51) 239g			
	7079	A	Pit Fill	L 2 - 4th C AD	(31) 496g			
	7079	B	Pit Fill	L 2 - 4th C AD	(33) 311g			
7080	7081		Pit Fill	L 2 - 4th C AD	(25) 146g			Slag (22) 4241g
	7082		Pit Fill	L 2 - 4th C AD	(26) 151g			Slag (2) 72g
	7083		Pit Fill	L 2 - 4th C AD	(10) 149g			Slag (1) 115g
	7084		Pit Fill	L 2 - 4th C AD	(4) 68g			

APPENDIX 2

The Pottery

Andrew Peachey

The excavation recovered a total of 349 sherds (3650g) of pottery from four Roman features, including late 2nd to 4th century AD Roman pottery and residual middle Iron Age sherds (Table 1). The pottery has been subject to a low degree of fragmentation and abrasion but only contains a low quantity of diagnostic sherds. Both the middle Iron Age and Roman pottery is consistent with the occupation and industry recorded in previous phases of excavation at East Winch, with the bulk of the Roman pottery probably produced in the kilns on the site.

Feature	Roman Pottery		Residual Middle Iron Age Pottery	
	Sherd Count	Weight (g)	Sherd Count	Weight (g)
Droveaway Terminal F7000	19	239	0	0
Pit F7071	21	294	1	10
Pit F7074	235	2474	7	119
Pit F7080	52	342	14	172
Total	327	3349	22	301

Table 1: Quantification of Pottery in Feature Groups

Methodology

The Roman pottery was recorded by sherd count, weight and R,EVE (Orton, Tyers and Vince 1993, 172-3, PCRG 1995) with fabric examined at x20 magnification. Fabric codes were assigned to the middle Iron Age pottery using the type series used at Bittering and Longham, Norfolk (Percival 1999, 246), and for the Roman pottery according to the system developed for the National Roman Fabric Reference Collection (Tomber and Dore 1998).

Fabric descriptions

Middle Iron Age Fabrics (after Percival 1999, 246)

- Q2 A hard fabric tempered with abundant, medium, well-sorted and rounded quartz sand.
Q3 A hard fabric tempered with abundant, coarse, well-sorted and rounded quartz sand.
Q7 A hard fabric tempered with abundant, fine, ill-sorted, rounded quartz sand and sparse, medium, ill-sorted, and sub-rounded calcined flint.

Roman Fabrics

- NAR RE1 Nar Valley reduced ware 1 (Gurney 1990, 89; Andrews 1985, 89) waster vessels in this moderate to hard fabric were recovered from all the kilns on the site, and is the most common fabric in the assemblage. The colour of this fabric is not always consistent and sometimes mottled in appearance, with surfaces and cores ranging from very dark grey (2.5Y 3/1 or darker) to dark 'burnt' orange, dark red-brown and black. The description of the fabric as a reduced ware is appropriate and oxidised sherds only occur as misfired kiln material or possibly as storage jars. Inclusions in the fabric comprise common sub-rounded quartz generally in the 0.25-0.50mm size range, occasionally to 2mm, with sparse fragments of flint (1-5mm, occasionally larger) and sparse iron rich grains (predominantly black and <0.5mm). The fabric has an irregular fracture and a slightly granular break.
RHZ SA Rheinzebern samian ware (Tomber and Dore 1998, 39)

Commentary

The largest concentration of pottery was contained in Pit F7074 (L7075, L7076, L7078 and L7079). The Roman pottery was entirely comprised of NAR RE1 including, from L7079 Seg.B, an everted rim with a slight groove on the underside from a jar type characteristic of the kilns recorded at East Winch in previous phases of excavation and elsewhere in Blackborough End (Gurney 1990: fig.3.4). Also present in NAR RE1, from L7075 Seg.B, was a narrow 'trumpet' pedestal base that is not known from any of the kiln material in the area and may have formed the base of a jar, tazza or possibly bowl. NAR RE1 was produced in kilns recorded in previous phases of excavation at East Winch between the late 2nd-4th centuries AD, and the limited diagnostic sherds present do not allow a narrower date range to be defined. The residual middle Iron Age pottery in Pit F7074 comprises Q2 sherds in L7078 Seg.A, L7079 and L7079 Seg.B, including the rim of a jar with a t-shape rim and burnished exterior in L7079 Seg.B that is comparable to examples from Longham (Percival 1999, 244: vessels P44-5) and previous phases of excavation at East Winch.

The Roman pottery in Pit F7080 (L7081, L7082, L7083 and L7084) was also entirely comprised of NAR RE1, including the footring base of a jar or bowl in L7084 that had had at least one hole drilled through it to facilitate a secondary use (i.e. strainer), but did not include any further diagnostic material. The residual middle Iron Age pottery comprised sherds of Q2, Q3 and Q7 in L7082 and L7083, including a jar with an upright/slightly everted rim comparable to examples from Bittering (Percival 1999, 240: vessel P2) and previous phases of excavation at East Winch.

The pottery contained in Pit F7071 (L7072 and L7073) was limited in quantity but has high diagnostic value. With the exception of a single sherd, the pottery was comprised of NAR RE1 including a shallow dish with a delineated rim (Andrews 1985: type 153.3) in L7072 Seg.A that is known to have been produced in the kilns recorded in previous phases of excavation at East Winch. The remaining fragment, also from L7072 Seg.A comprised a single decorated body sherd of East Gaulish samian ware (RHZ SA) from a Form 37 bowl. Although abraded, the moulded decoration can be identified as that of a Venus figure, attributed to Primitivus I of Rheinzaubern and dated to the early to mid 3rd century AD (Bird 1986, 167: 2.110; Ludovici, Ricken and Fischer 1963: M60b). Pit F7071 (L7072 Seg.B) also contains a single sherd of residual middle Iron Age fabric Q2.

In contrast to the Roman pottery from the three pits, that in Ditch Terminus F7000 (L7001) is entirely derived from a single NAR RE1 vessel: a jar with an everted rim that was probably produced in the nearby kilns. However, despite the presence of nearly all the rim of the vessel, only a small fraction of the body was recovered, so it remains unclear whether the vessel was part of a ritual or structured deposit.

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The Ceramic Building Materials

Andrew Peachey

Two fragments (451g) of slightly abraded Romano-British CBM were contained in Ditch F7012 (L7013 Seg.A). The CBM was quantified by fragment count and weight (g). Any extant dimensions were measured and form types were defined according to Brodribb (1987). The fabric of the CBM was examined at x20 magnification.

Both fragments of CBM comprise 40mm thick brick in a red-orange fabric with inclusions of medium-coarse (<0.7mm, occasionally to 1.5mm) quartz and common iron rich inclusions (<0.4mm). Previous phases of excavation at East Winch have recorded *pedalis* and *bessalis* type bricks (both used in the construction of *pilae* for hypocausts) in this fabric and with a thickness of 40mm, in association with structures and demolition deposits on the site.

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The Slag

Andrew A. S. Newton

Introduction

A total of 4527g of slag, originating from five different contexts, was recovered during archaeological evaluation at Blackborough Farm, East Winch. The slag was identified on morphological grounds by visual examination.

Results

F7071 L7073 Three pieces (135g) of homogenous very dark brown to black iron smelting slag. Morphology suggests that these pieces derive from a flow, probably of tap slag, of quite high viscosity. The three pieces would appear to have derived from the same flow. Broken surfaces show low interior porosity. The slag is very slightly magnetic suggesting efficient smelting process.

F7074 L7078 2 pieces (624g) of dark purple brown to dark grey slag. Although both pieces are similar in colour and density they appear to derive from different sources. Both would appear to be derived from slag cakes, material agglomerated within the base of the kiln, however, their surface morphology suggests that they were of differing viscosities while molten and therefore possibly from different smelts. One displays impressions of fuel materials (charcoal or wood).

F7080 L7081 22 pieces (4241g) of homogenous very dark purple/red to black iron smelting slag. These fragments of slag all appear to have been broken from the same larger piece of slag. This material probably represents at least part of a large furnace bottom or slag cake. Some pieces display rippling surfaces indicating that this was a very viscous material that cooled in the air. Other pieces display deep impressions of what appears to be wood or charcoal suggesting that it formed in the base of the furnace where fuel materials were present. Low to moderate magnetic response indicates a comparable Fe content suggesting a fairly efficient smelting process.

F7080 L7082 2 pieces (72g) of very dark brown to black undiagnostic Fe smelting slag.

F7080 L7083 1 piece (115g) dark brown to black iron smelting slag. Displays deep and prominent impressions of fuel material indicating that it is most likely that this material accumulated within the base of the kiln. It is not, however, necessarily derived from the same hearth bottom/slag cake as other slag of similar origin in this assemblage. Broken surfaces indicate high interior porosity, low magnetic response indicates low Fe content suggesting efficient smelting process.

The Animal Bone

By Mike P Feider

Introduction

The investigation retrieved 22 fragments (426g) of animal bone. These were scanned to assess the nature of the assemblage. The remains came from an undated ditch, F7013, an undated pit, F7039, and a pit dated to the late second to fourth century AD, F7073.

Methods

The remains from each context were scanned following MAP2 guidelines (Davis 1992; English Heritage 1991; 2002), with each element identified to species where possible and as unidentified otherwise. Element information was not recorded. The number of fragments and any associated butchery, ageing, taphonomic, and metrical information were recorded in a Microsoft Access database which will accompany the site archive.

Results

Preservation

The preservation of the remains was quite poor, with heavy surface weathering noted on all fragments. However, the identifiable bones were fairly complete.

Species present

Context	Feature	S/g	Horse	Unidentified	Total
7013	7012	0	1	1	2
7039	7038	2	0	5	7
7073	7071	0	0	13	13
Total		2	1	19	22

Table 1: NISP counts by context and species (s/g = Sheep/goat)

Only three fragments were identifiable to species, with a horse tibia recorded from context F7012, and a sheep/goat radius/ulna and tibia from context F7039. The other fragments appear to be from other medium and large mammals. Six of the fragments from context F7073 are from one or more large mammal molars.

Further information

No butchery was noted on any fragments, but such marks may have been lost due to poor preservation. Epiphyseal fusion and metrical information were available on the three identified elements. The sheep/goat radius/ulna had osteophytic activity around the proximal articulation, probably resulting from joint degeneration or injury.

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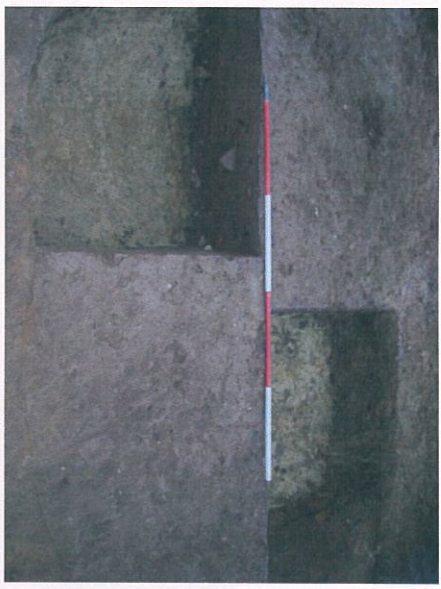
Davis, S. 1992 'A rapid method for recording information about mammal bones from archaeological sites', English Heritage, AML Report 71/92.

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PHOTOGRAPHIC INDEX



1 Section from the Roman droveway, F7000 Seg E. Looking North-East.



2 Possible SFB F7071 located in the middle of the Roman droveway. Looking South.



3 Industrial Waste Pit F7080 (left) and Rubbish Pit F7074 (right). Looking North-West.



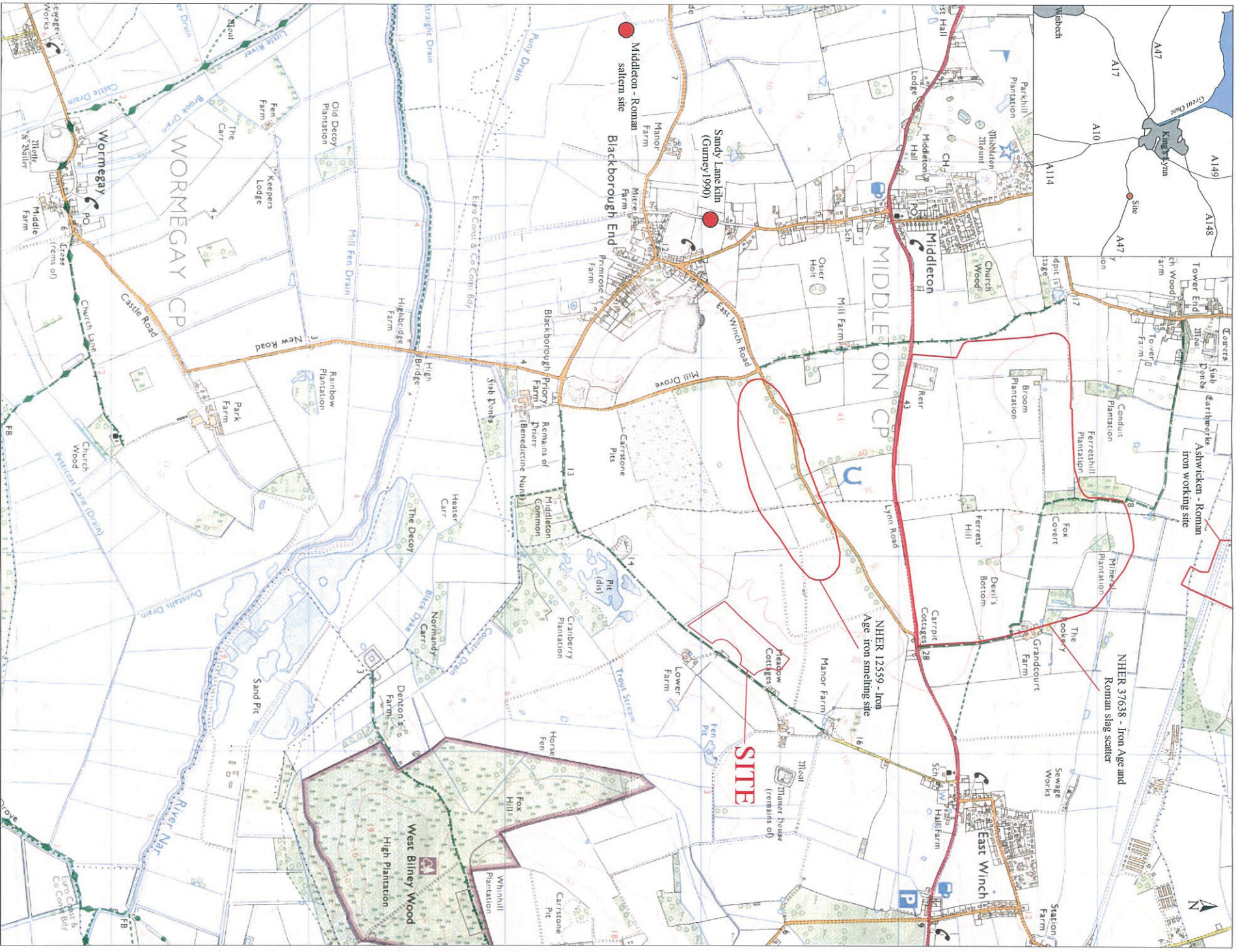
4 Ring Ditch F7014. Looking North.



5 Pit F7054 (below), Pit F7078 (above), and Posthole F7076. Looking North-West.



6 Shallow Pit F7069. Looking North-East.



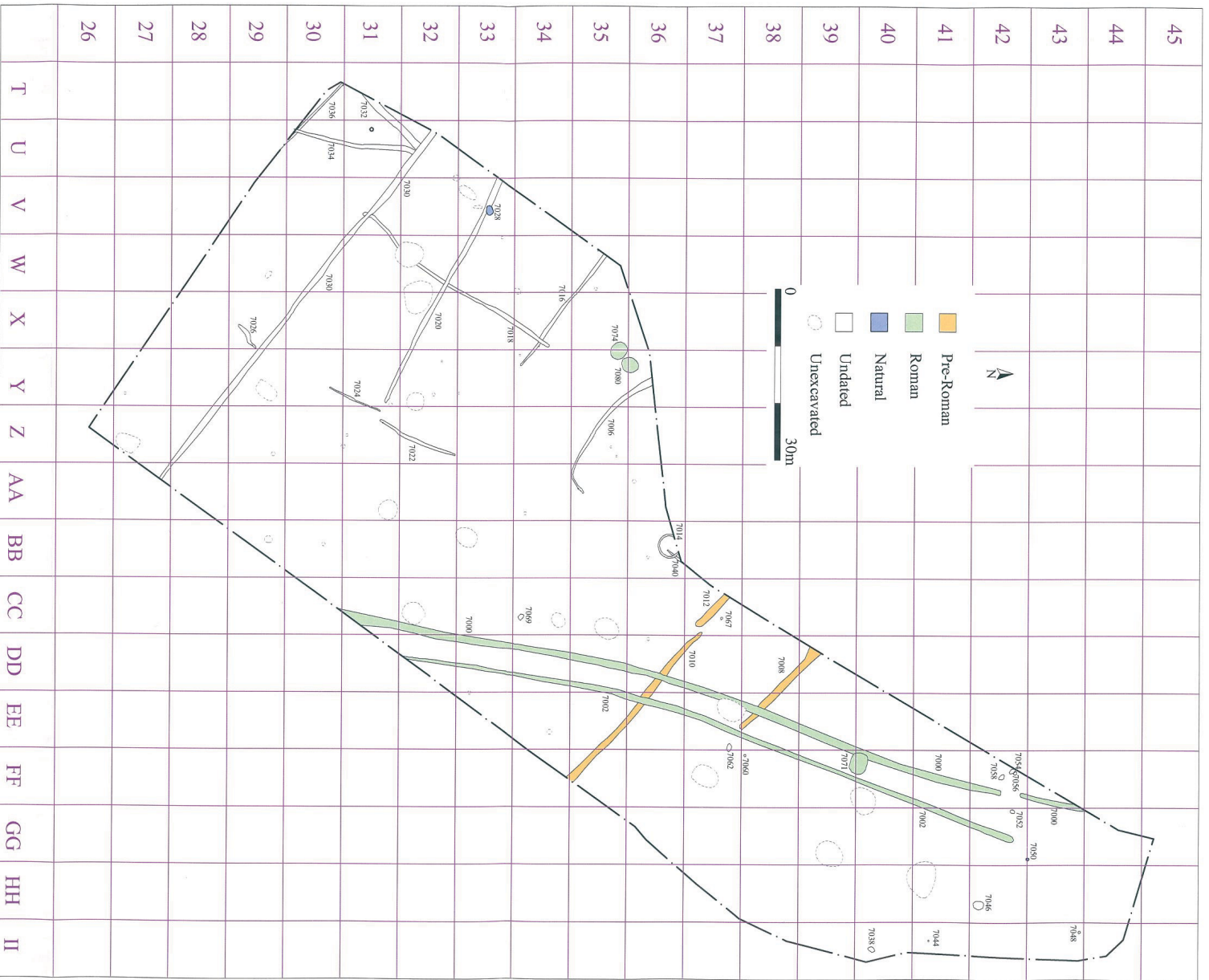
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Fig. 1 Site location plan
 Scale: 1:25,000 at A4



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Fig. 2 Detailed site location plan
 Scale 1:2,500 at A4



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Fig. 4 Phase plan

Scale 1:750 at A3

PHOTOGRAPHIC INDEX



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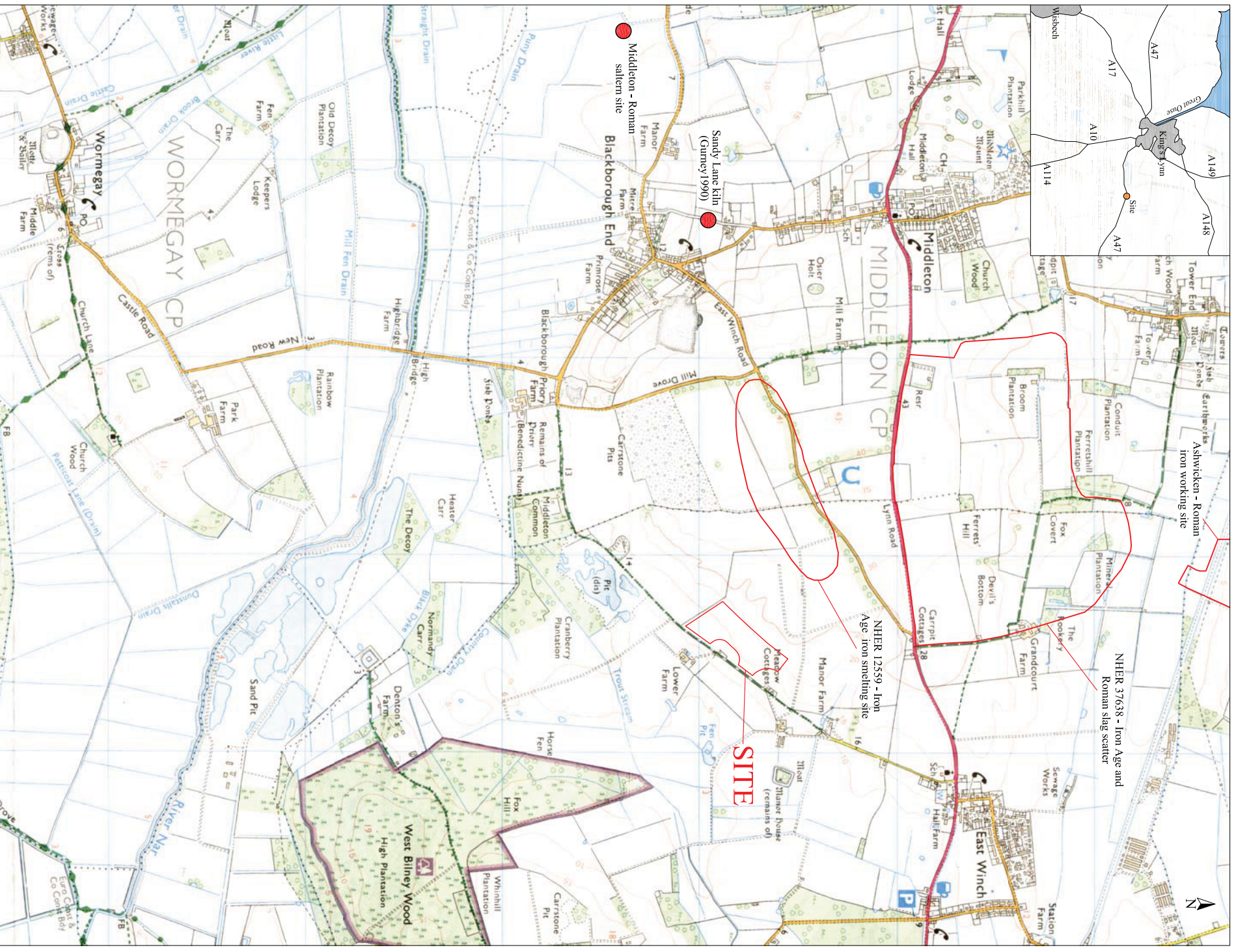
4 Ring Ditch F7014. Looking North.



5 Pit F7054 (below), Pit F7078 (above), and Posthole F7076. Looking North-West.

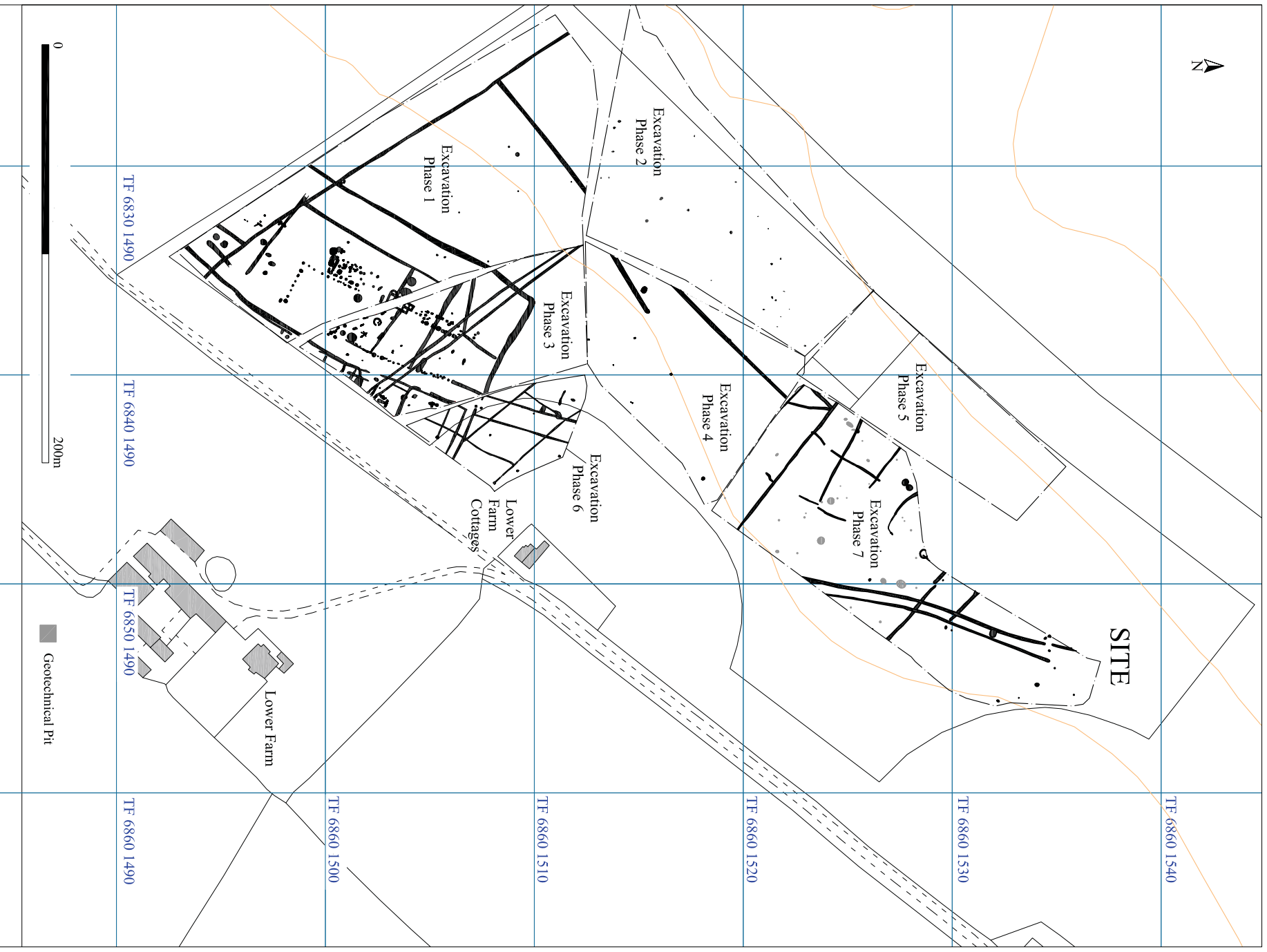


6 Shallow Pit F7069. Looking North-East.



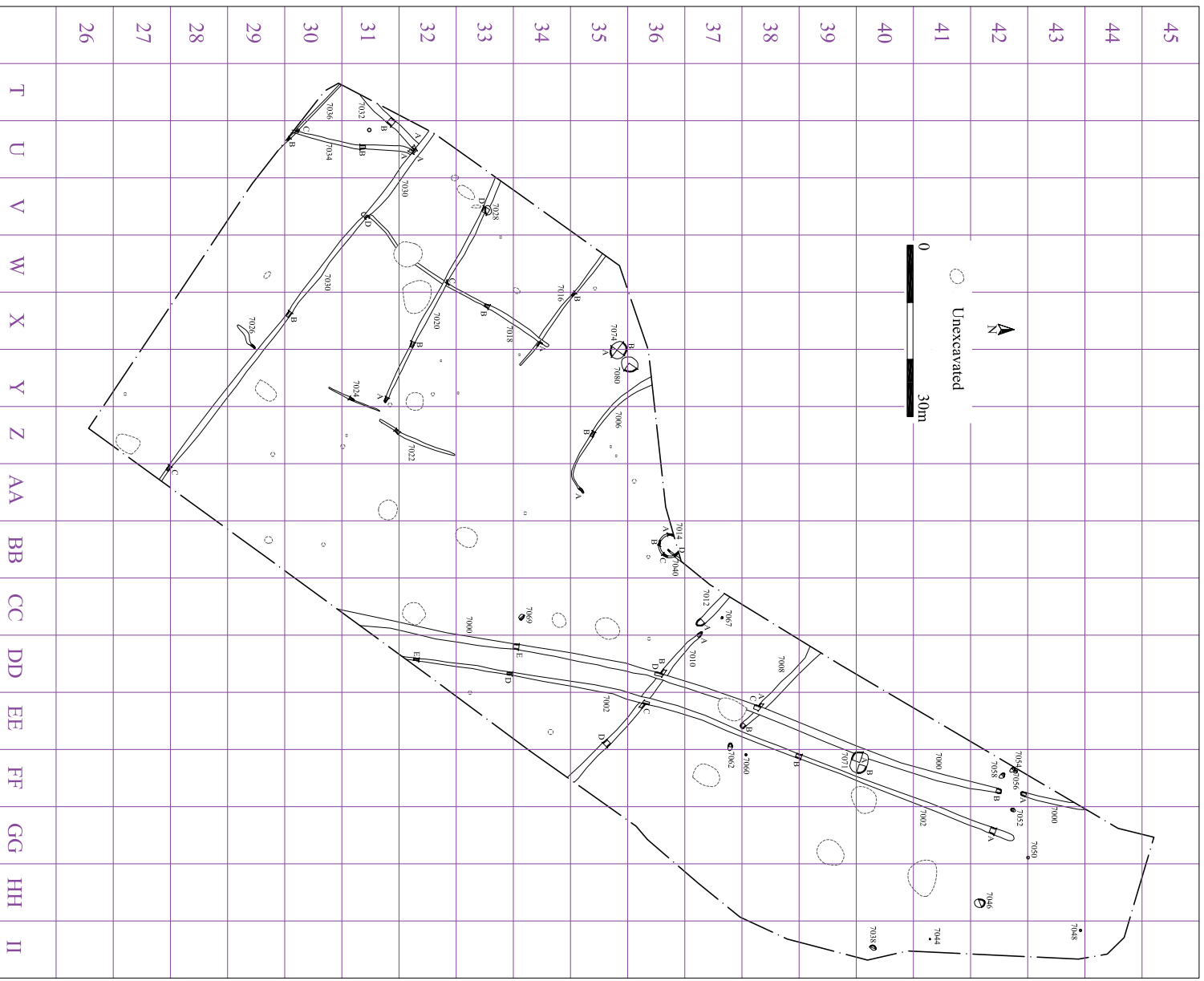
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Fig. 1 Site location plan
 Scale: 1:25,000 at A4



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Fig. 2 Detailed site location plan
 Scale 1:2500 at A4

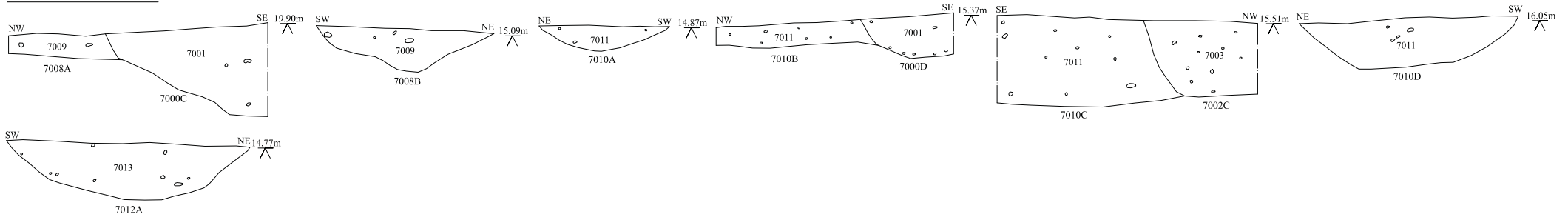


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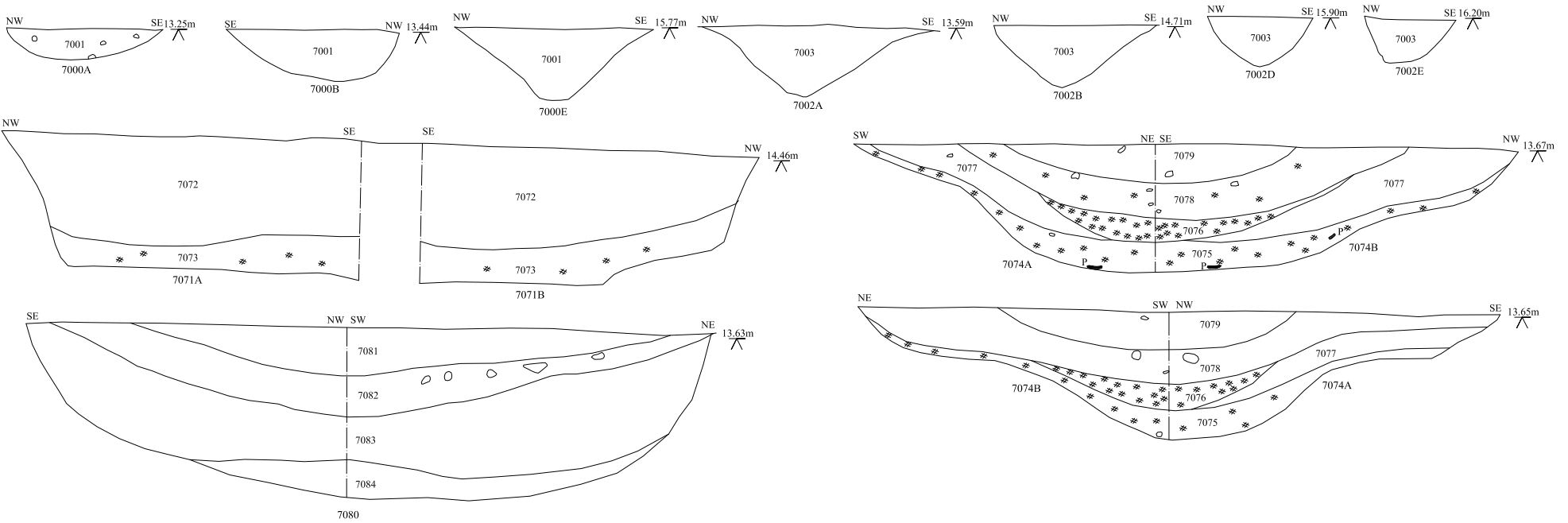
Fig. 3 All features plan

Scale 1:750 at A3

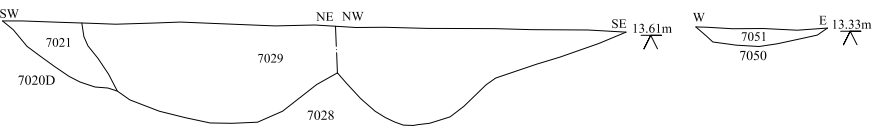
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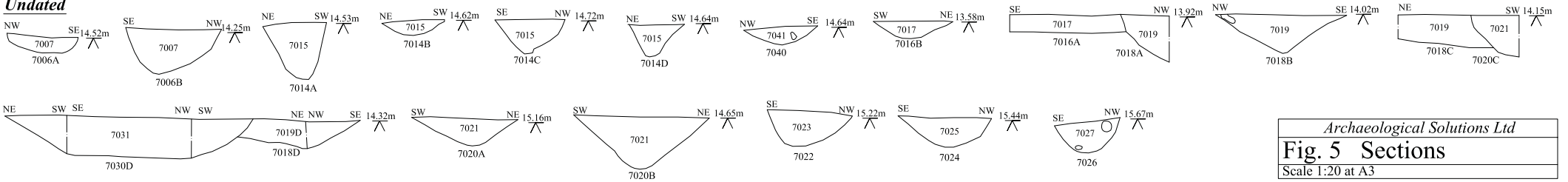
Phase 2: Roman



Natural



Undated



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Fig. 5 Sections
 Scale 1:20 at A3

Undated continued

