

# Whitemoor Haye Quarry, Alrewas Staffordshire, Archaeological Watching Brief, (2009-2012), Archive Statement



© Worcestershire County Council

Worcestershire Archaeology  
Archive and Archaeology Service  
The Hive, Sawmill Walk,  
The Butts, Worcester  
WR1 3PD

Status: Original  
Date: 16<sup>th</sup> December 2014  
Author: Andrew Mann [amann@worcestershire.gov.uk](mailto:amann@worcestershire.gov.uk)  
Contributors: Laura Griffin and Liz Pearson  
Illustrator: Carolyn Hunt  
Project reference: P3114  
Report reference: 2167  
HER reference: Unassigned



**Contents**  
**Summary**

**1**

**Report**

<b>1 Introduction.....</b>	<b>1</b>
<b>2 Methods.....</b>	<b>1</b>
2.1 Excavation methodology .....	1
2.2 Artefact methodology .....	2
2.3 Environmental archaeology methodology.....	2
<b>3 Structural analysis: Summary of results .....</b>	<b>2</b>
3.1 Phase 1: Palaeoenvironmental and alluvium .....	2
3.2 Mesolithic .....	3
3.3 Late Neolithic .....	3
3.4 Bronze Age .....	3
3.5 Iron Age .....	4
3.6 Roman .....	5
3.7 Medieval.....	5
3.8 Post-medieval/modern .....	5
3.9 Undated .....	5
3.10 Conclusions .....	5
<b>4 The Archive (including 2005-2012).....</b>	<b>6</b>
<b>5 Summary of post excavation progress (2005-2012).....</b>	<b>6</b>
5.1 Structural remains .....	6
5.2 Artefact analysis, by Laura Griffin.....	7
5.2.1 Finds processing and storage .....	7
5.2.2 Finds records .....	7
5.2.3 Prehistoric assemblage.....	10
5.2.4 Roman assemblage .....	11
5.3 Environmental analysis, by Elizabeth Pearson .....	11
5.3.1 Sampling policy.....	11
5.3.2 Processing and analysis .....	12
5.3.3 Initial results.....	12
<b>6 Bibliography.....</b>	<b>13</b>



---

# **Whitemoor Haye Quarry, Alrewas, Staffordshire**

## **Archaeological Watching Brief (2009-2012): Archive Statement**

Andrew Mann

With contributions by Laura Griffin and Liz Pearson

### **1 Introduction**

This report comprises a short summary, for archive purposes, of four phases of archaeological watching brief and contingency salvage recording undertaken at Whitemoor Haye Quarry, Staffordshire (NGR SK 180130, centre) (Fig 1). These were undertaken between 2009 and 2012 and were carried out by Worcestershire Historic Environment and Archaeology Service (WHEAS, now Worcestershire Archaeology) at the request of Phoenix Consulting on behalf of their client Lafarge Aggregates Ltd (now Lafarge Tarmac). It formed part of an ongoing programme of archaeological investigation being undertaken in response to topsoil and subsoil removal in advance of gravel extraction.

The western edges of these strips incorporated part of a Scheduled Ancient Monument (County Monument No ST200) for which Scheduled Monument consent had been obtained (Ref HSD 9/2/10433). The western edge of the strip also borders earlier watching briefs undertaken by Birmingham Archaeology (BA; previously BUFAU, Birmingham University Field Archaeology Unit) between 2005 and 2006 and WHEAS from 2007 to 2008 (Phear 2008, 2009). The 2010 area also incorporated previous BUFAU excavation areas (Area I and Area H) (Hewson 2006). Many features identified in those previous phases during 2005-2008 continued into the 2009-2012 watching brief areas.

A full programme of assessment, analysis and reporting will be undertaken shortly allowing the excavated area to be placed in its wider landscape context, especially as revealed during earlier programmes of investigation at the site undertaken between 1992 and 2004 (BUFAU 1992; Coates 2002; Hewson 2006). The following summary is based upon site interpretations and preliminary dating and phasing of the site sequence.

### **2 Methods**

#### **2.1 Excavation methodology**

Topsoil and subsoil stripping was undertaken throughout by a 360° tracked excavator employing a toothless bucket, with spoil being removed from the area by two 30 tonne dumpers working in succession. Soil stripping was undertaken under intermittent archaeological supervision. Where a low level of archaeology was present (or none), features were recorded and areas signed off after discussion with the consultant (Gary Coates) and when appropriate, with Staffordshire's Principal Archaeologist (Steven Dean). This allowed fairly continuous workflow in relation to topsoil and subsoil removal, with little disruption to the stripping process. Only where there were significant or concentrated archaeological remains were further people required on site. Between 2009 and 2012 a total of 27ha was stripped and recorded (7.8 ha in 2009, 7.0ha in 2010, 7.5ha in 2011 and 4.6ha in 2012) (Fig 2).

Archaeological features were densest within the scheduled area to the west of the site and were bounded by a degraded palaeochannel to the west, which ran in an approximate north to south direction. To the east, archaeological features were more sporadic although they appeared to form clusters and defined groups.

All recording methods during fieldwork conformed to the standard WHEAS Practice (CAS 1995). Selection of features for sampling was determined, following discussion with the archaeological consultant and Staffordshire's Principal Archaeologist, by comparison with previous excavated features within the designated area, and also in relation to distinctiveness. Features identified as continuations of those already excavated in previous years received minimal attention, whereas the remains of structures (such as roundhouses) and previously unidentified elements of settlement enclosures and field systems were subject to higher levels of investigation and sampling. The primary aim throughout was to recover a full plan of all deposits revealed and enable them to be characterised and dated. A total station and GPS was utilised as the key tool for locating the features.

Communication and good working relationships between the archaeological Project Officer, Lafarge area management, quarry management, the consultant, the Staffordshire's Principal Archaeologist and the machine operator were crucial to the success of the fieldwork. The co-operation, experience and skill of the plant operator were also integral to the successful machining of the area.

## **2.2 Artefact methodology**

The artefact recovery policy conformed to standard WHEAS practice (CAS 1995; appendix 2), which in essence states that all finds, of every date will be collected on site for post-excavation analysis.

## **2.3 Environmental archaeology methodology**

Sampling was undertaken according to standard WHEAS practice (CAS 1995). This in essence states that material will be retained for post-excavation analysis from a broad spread of feature types and phases and where it is visibly suitable. Bulk samples will usually be between 10-40 ltrs in size, however samples from earlier prehistoric features may be more, possibly as much as 100% of the deposit. Where significant deposits were encountered, such as palaeochannel fills, input was sought from environmental specialists, who took monolith and 5-10cm spit samples.

# **3 Structural analysis: Summary of results**

All records have been checked and cross-referenced and all finds have been washed, marked and appropriately packaged. At present none of the finds have been identified and phasing within this report is based upon preliminary on-site identifications. The following summary of results and discussion is structured around phases of activity at the site and focus upon the larger archaeological features identified (e.g enclosures). Numerous small and discreet features were also identified and excavated but are not discussed in detail here.

## **3.1 Phase 1: Palaeoenvironmental and alluvium**

Two areas of waterlogged deposits were identified during the watching briefs (Fig 3). The first of these, a palaeochannel containing degraded organic deposits, runs in a north to south direction through the centre of the site. This palaeochannel is a continuation of that identified during the 2008 watching brief and appears to represent a braided water course, although the two parallel channels identified may represent separate periods of activity. These channels were between 12.0m-25.0m wide and up to 1.0m deep. Both contained highly degraded organic/peaty clays whose upper surfaces had been eroded by ploughing. Towards the northern edge of the strip where the deposits appeared deeper and better preserved both columns and spit samples (of 10 litres) were taken. No samples were taken from the western arm of the channel, due to a lack of

suitable material, which had resulted from it being heavily truncated by post-medieval ditches and pipe cuts. At present the date of this palaeochannel is not known however Romano-British enclosure ditches appear to cross these deposits.

To the far east of the site better preserved, waterlogged organic remains, were identified below significant alluvial deposits. These are thought to be an earlier course of the River Tame (Plate 1). These deposits were identified in all watching brief phases but again they appeared better preserved and deeper (1.05m) to the north. During 2010 and 2011 both column and spit samples (of up to 10 litres) were taken from these waterlogged rich organic peats and clays. Two perpendicular machine cuts were observed through this channel, but no channel re-incision was observed and it is therefore thought to represent a single watercourse. This material had been previously investigated by Birmingham Archaeology in 2004 and carbon dating of remains at its base provided a date of 6235 ±35 BP (approximately 4285 BC, during the Late Mesolithic). A second sample from the middle of the sequence was dated to 5385 ±35BP (approximately 3435 BC, Early Neolithic). Although dated, organic preservation in the BA samples was poor in contrast to those in the more recent samples and did not yield significant palaeoenvironmental results.

Above this channel there was an alluvial deposit, up to 2.00m thick, that also overlay the parts of the gravel terrace to the west. Few archaeological features were found within this deposit apart from a curvilinear ditch approximately 0.20m from the surface and two hearths or furnaces on the gravel terrace as it rose from east to west. At present both are undated but Iron Age and modern boundary ditches run parallel to this palaeochannel and alluvial deposits, suggesting it was demarcated for being too wet and unsuitable for settlement.

### **3.2 Mesolithic**

Mesolithic activity has only been tentatively identified from flint remains (microliths) within 12 tree throws excavated towards the eastern edge of the site (Fig 4). The largest of these [3667] was 5.50m long, 3.00m wide and 0.44m deep and contained the greatest concentration of flint in its four fills (Plate 2). It is possible that during post-excavation artefact analysis further discrete features will be identified as Mesolithic. This activity may represent a temporary camp at the edge of the river.

### **3.3 Late Neolithic**

Neolithic activity appears rare and is only represented by a small group of pits containing a Grooved Ware pottery assemblage (Fig 5). The pits were sub circular in plan and measured between 1.05-1.44m in diameter and were up to 0.40m deep (Plate 3). These were found in isolation and are typical of such features of this period, containing burnt material that may have originated from a small temporary camp. There is no evidence for the progression of activity, specifically funerary, of these remains into the Bronze Age as has been seen at other areas of the quarry (Hewson 2006). It is also possible that further Neolithic pits will be identified during the post excavation artefact analysis.

### **3.4 Bronze Age**

As with the previous investigations, confirmed Bronze Age activity is dominated by funerary monuments or remains (Fig 6). In this case a large barrow ring-ditch that had previously been partially investigated between 2000-2004 (Hewson 2006, Area I) (Plate 4). The ditch circuit was oval in plan and measured 29.0m long and 25.0m wide, the U-shaped ditch measured up to 1.20m wide and 0.60m deep. The excavation fully exposed the circuit but did not identify any internal cremations; it did however establish that there was not an entrance on the eastern side as had previously been thought. Excavations also confirmed the re-cut of the ditch extended around the entire circuit from which all of the pottery finds were recovered. This pottery assemblage was all located in the south and south-eastern side of the ring-ditch and included material provisionally

identified as collared urn of Early to Middle Bronze Age date. After hand excavation had been undertaken it was decided, with discussions with the consultant and county's principal archaeologist, to machine excavate the remaining ditch to recover further finds or burials. During this exercise, three small pottery concentrations were recovered from the south eastern side of the monument. A small number of postholes within the internal space may have been an earlier phase to the monument or acted as a construction guide or revetment/kerb support. This monument was truncated by a large east to west aligned ditch that is thought to be of Late Iron Age or Roman date.

To the immediate north of the ring-ditch was a small enclosed area, possibly a field system aligned approximately east to west forming a small field with a 3.50m wide entrance on the northwest corner. The eastern side of this field was heavily truncated although it is thought it originally formed a complete square covering an area of approximately 1.7ha. Within the southern terminus of the entrance there were a number of Beaker pottery sherds. The fragile nature of this pottery would suggest that it was not residual. Seventeen hand excavated slots were dug across this field system and no further finds of any date were identified. This suggests that if this field was of Bronze Age date it was some distance from any settlement areas and is of importance in that Bronze Age agricultural or settlement remains at Whitemoor Haye are rare.

### **3.5 Iron Age**

Seven unenclosed roundhouses were identified that are thought to be of Late Bronze Age or Early Iron Age date (Fig 7, Plate 5). The two southernmost were defined by drip gullies, while four were defined by post circles, both partial and complete. Only one contained a complete post circuit and associated drip gully. These ranged in diameter between 9.96m to 15.49m and where entrances were visible they appeared aligned to the south-east or east. Two of these contained central hearth pits filled with fire cracked stone. These are similar to the previous roundhouses excavated during 2005-2008 which were unenclosed and in places were truncated by Later Iron Age and Roman enclosures.

Several substantial ditches were identified across the quarry that appear to represent major land divisions or territorial boundaries. These are broadly aligned in a north-east to south-west direction and some appear to abut the alluvium seen to the east of the site. Many of these ditches extended into previous watching brief areas forming a large bounded /partitioned landscape. Dating of these features is problematic, as they contained few datable finds, however in places where they came close to settlement/activity areas they occasionally contained extensive pottery spreads (Plate 6). To the north of the site there were two possible driveways defined by ditches. These were between 4.0-7.5m wide with the largest ditch measuring 2.30m wide and 0.75m deep. Elements of these driveways had previously been identified in BUFAU excavation areas E and G (Hewson 2006).

To the east of the site, next to one of the boundary ditches was a large polygonal enclosure covering an area of approximately 3.0 ha parts of which were buried by alluvium. This enclosure had a 6.5m wide entrance on its eastern side facing the river/palaeochannel. The enclosure ditch truncated the gully of a small unenclosed roundhouse measuring 5.5m in diameter. Only two small pits were identified within the enclosure, although large quantities of fire cracked stone had been deposited into the boundary ditch suggesting it had been associated with some form of settlement, at least on a seasonal basis. The enclosure ditch was V-shaped in profile, with a flat base and was up to 1.80m wide and 1.20m deep. The fills varied in number but there were up to four in places, the majority of which were sterile.

---

### 3.6 Roman

In comparison to the 2006-2008 watching briefs there is a reduction in the quantity of Roman archaeology across the 2009-12 areas (Fig 8). Although there are a number of enclosures, these contained few internal features and only limited pottery assemblages. It is unclear at present whether this resulted from truncation through ploughing or as the main focus of settlement activity was located towards the south-west in the 2006-2008 watching brief areas. These enclosures are aligned in a north to south arrangement to the west of the site on a small gravel ridge similarly aligned. These enclosures cross a number of Iron Age boundary ditches and a palaeochannel. Where the enclosures crossed the palaeochannel the ditch fills had become leached and it became very difficult to define the ditch cuts.

Three of these enclosures were similar sizes measuring between 1.3-1.6ha in area. The enclosure ditches were mostly V-shaped in profile and were filled by sterile fills resulting from the weathering of the natural. Few areas contained multiple fills or re-cuts, although the latter were observed in the termini forming the entrances. The largest enclosure covered an area of approximately 6.0ha and appeared to contain a number of internal divisions. This enclosure ditch circuit was also larger, measuring up to 3.30m wide and 0.52m deep with a more U-shaped profile (Plate 7). At present it is thought that these may represent stock enclosures rather than settlement areas, which appear to be located to the west in the 2006-2008 watching brief areas.

External to these enclosures were a small number of posthole groups that may also be of Roman date. These appeared to be small structures, possible granaries or buildings similar to those found within Roman settlement enclosures to the west. There was also evidence for a Roman field system that crosses earlier Iron Age boundary ditches in the south of the quarry.

### 3.7 Medieval

The only confirmed medieval remains were east to west aligned furrows to the north of the site (Fig 9). These truncated a number of Iron Age and Roman enclosures and boundary ditches.

### 3.8 Post-medieval/modern

Several north-east to south-west and north to south oriented field boundary ditches were identified that truncated numerous earlier pits and ditches (Fig 9). Of particular interest is that many of these ditches run parallel to the Iron Age and Roman field boundaries, illustrating continuity in land division seen in the 2007-2008 watching briefs. Two to the east of the area there is a clear arrangement of north-west to south-east aligned fields

### 3.9 Undated

Many postholes, pits, and ditches were identified that were devoid of finds. Where possible, however, the features will be dated stratigraphically and on morphological grounds. This includes pits and postholes enclosed by both Iron Age and Romano-British ditches and more isolated features. Of those undated features of particular note is a post fence aligned north-west to south-east, approximately 68.0m long.

### 3.10 Conclusions

The watching briefs undertaken between 2009 and 2012 identified limited but significant areas of Mesolithic and Neolithic activity along with three main phases of activity of Bronze Age, Iron Age and Roman date. The majority of these remains were located in the SAM running along a north to south aligned ridge of sand and gravel. During the early prehistoric period there is some evidence that the site had been visited by nomadic populations, probably on a seasonal basis. These

remains were located to the west of the site overlooking the larger north to south aligned palaeochannel that was probably active during this period.

This sporadic occupation is replaced by a more ritualised landscape containing two Bronze Age barrows, one identified in 2010 and a barrow/cremation cemetery identified in 2006 by Birmingham Archaeology. The earliest permanent settlement remains (unenclosed roundhouses) are likely to be of Late Bronze Age or earlier Iron Age date. It is possible these were contemporary with the large field systems, boundary ditches and droveways that cover the site.

These boundary features appear to define the drier areas of the site from the wetter more flood prone zones of the landscape. Many of these field boundaries remained established until modern times. It remains unclear how many of the Iron Age boundary ditches remained in use in to the Roman period, but some had certainly become obsolete by the time the row of Roman enclosures was constructed on the west of the site. This may suggest there was a hiatus in occupation in this part of the site between the Iron Age and Roman periods. The lack of internal features and cultural remains within the Roman enclosures suggests that these are likely to be for stock, but further investigation is required here.

These results largely conform to previous work at the quarry, with denser Neolithic and Earlier Bronze Age activity being located to the north and later Bronze Age, Iron Age and Roman archaeology dominating the southern area.

## 4 The Archive (including 2005-2012)

The archive is being held in temporary storage at WA's offices in readiness for the completion of a full programme of assessment, analysis, and reporting to be undertaken during 2015-16

Following completion of fieldwork and post-fieldwork analysis of the entire project, it is intended that the archive will be deposited with the City Museum and Art Gallery, Stoke-on-Trent.

The archive for this phase comprises:

	2005-6	2007	2008	2009	2010	2011	2012
Abbreviated context records	671	627	399	524	362	691	1
Context registers		8	10	7	5	9	26
Drawing index records		5	3	4	4	6	1
Scaled drawings	121	401	420	322	277	427	21
Photographic records		13	13	7	6	11	3
Digital photos	212	1072	985	503	472	824	91
Sample record index sheets		4	3	1	1	6	1
Bulk environmental sample	159 samples 541.5 Ltrs	109 samples 1570 Ltrs	47 samples 1160Ltrs	64 samples 920 Ltrs	33 samples 1230 Ltrs	45 samples 1374 Ltrs	2 samples 20 Ltrs
Environmental monoliths	0	0	0	0	3	4	0
Boxes of finds	13 boxes in total						

## 5 Summary of post excavation progress (2005-2012)

### 5.1 Structural remains

All fieldwork records have been checked, cross-referenced and scanned as digital copies. All records have been inputted into a structural database covering the watching brief years 2007 to

2012. This database base includes all context and stratigraphic information alongside environmental, photographic and drawing registers. At present the 2005 and 2006 Birmingham archaeology database remains separate due to the possibility of duplicating context numbers and register information, although the database contains a similar level of information to the 2007 to 2012 database.

The site surveys for the years 2005 to 2012 have been combined to produce a full site plan. This also gives the heights (years 2007 to 2012) of the archaeological remains, the locations of any sections or detailed plans and the locations of any environmental monoliths and spit samples. Each feature, section or plan grid is also labelled. These can all be cross referenced with the database.

## 5.2 Artefact analysis, by Laura Griffin

The artefactual assemblage recovered is summarised in Table 1.

### 5.2.1 Finds processing and storage

All finds from fieldwork, including those previously held by Birmingham Archaeology have been washed, marked and boxed up by year, all held in suitable long-term storage. In total, there are 13 boxes plus 10 pieces of stone which are too big to be boxed (see Table 1). All metalwork is appropriately packaged in plastic boxes with silica gel and humidity indicator strips.

### 5.2.2 Finds records

All Worcestershire Archaeology finds have been quantified by context and entered into a Microsoft 2007 database. General observations, items of particular note and finds to be illustrated have also been recorded in the database as part of this assessment process. All finds from sites excavated by Worcestershire Archaeology are now recorded in a single table. However, due to issues with context numbering and database format, the finds assemblage from Birmingham Archaeology has been recorded in separate tables for the time being, with a view to combining them as part of the next stage of reporting.

year	material class	material type	Total	Weight (g)	period
2007	ceramic	pot	118	2058	Prehistoric
	ceramic	pot	211	3307	Roman
	ceramic	tegula	1	64	Roman
	ceramic	fired clay	79	486	
	iron	nail	1	5	
	slag(Fe)		41	515	
	stone	?hammerstone	2	397	
	stone	pot-boiler	7	843	LIA/ERB

	stone	quern	4	2880	
	stone	?shale	1	12	
	stone	flint	3	7	prehistoric
2008	ceramic	pot	124	1249	prehistoric
	ceramic	pot	853	12099	Roman
	ceramic	pot	1	5	post-medieval
	ceramic	tile	1	140	Roman
	ceramic	fired clay	64	925	
	iron	object	2	61	
	iron	nail	1	16	
	iron	hobnail	33	25	Roman
	slag(Fe)		1	13	
	slag(Fe)	smelting slag(tap)	4	1	Roman
	stone	?building material	9	5075	
	stone	pot-boiler	29	3798	LIA/ERBR
	stone	quern	1	605	Roman
	stone	?red sandstone	19	445	
		stone	flint	12	30
2009		?mortar	5	12	?post-medieval
	ceramic	pot	395	8937	prehistoric
	ceramic	pot	82	2063	Roman
	ceramic	pot	1	7	post-medieval
	ceramic	fired clay	40	1059	
	iron	horseshoe	1	532	post-medieval

	stone	pot-boiler	1	53	LIA/ERB
	stone	quern	4	1088	LIA/ERBR
	stone	flint	9	79	prehistoric
	ceramic	pot	1084	759	prehistoric
	ceramic	pot	37	798	Roman
	ceramic	pot	22	283	post-medieval
	ceramic	brick/tile	1	12	post-medieval
	ceramic	drain	1	6	post-medieval
	stone	pot-boiler	3	370	LIA/ERBR
	stone	quern	1	329	
	stone	?red sandstone	1	9	
2010	stone	flint	55	301	prehistoric
	ceramic	pot	3	19	?EBA
	ceramic	pot	7	107	?EIA
	ceramic	pot	1	5	?EPRH
	ceramic	pot	1	12	?LBA
	ceramic	pot	1	3	?LBA/EIA
	ceramic	pot	1	6	BA
	ceramic	pot	3	59	EBA
	ceramic	pot	6	328	EIA
	ceramic	pot	8	8	IA
	ceramic	pot	22	404	LBA/EIA
	ceramic	pot	4	50	LNEO/EBA
2011	ceramic	pot	144	1603	LPRH

	ceramic	pot	203	4228	Roman
	ceramic	pot	6	17	?medieval
	ceramic	pot	1	36	post-medieval
	ceramic	brick	2	964	post-medieval
	ceramic	tegula	6	291	Roman
	ceramic	tile	16	321	post-medieval
	ceramic	fired clay	10	53	
	glass	vessel	1	14	post-medieval
	slag(Fe)	hearth bottom	1	349	?LIA/RBR
	stone	pot-boiler	21	2076	
	stone	quern	4	2456	
	stone	flint	39	157	prehistoric
2012	stone	flint	2	7	prehistoric

*Table 1: Worcestershire Archaeology material (2007-2012)*

### 5.2.3 Prehistoric assemblage

The prehistoric material spans the period from the Mesolithic through to the Late Iron Age. The Mesolithic material took the form of a small number of microliths, whilst later material consisted primarily of pottery.

Pottery fabrics represented are consistent with those from the earlier assemblages published by Birmingham Archaeology (Coates 2002, Hewson 2006). The majority of this pottery was fragmentary with the soft, friable fabrics resulting in the sherd size being below average. Due to the majority of sherds being undiagnostic, it has been difficult to assign much of the assemblage to specific periods at this stage of analysis. However, it was possible to note that the earlier prehistoric assemblage included small amounts of Late Neolithic Grooved Ware, Beaker pottery and Early Bronze Age urns (collared and biconical), some of which were associated with cremations.

Diagnostic sherds of later prehistoric date were primarily from jars of Iron Age date. These included ovoid, slack-shouldered and bead-rimmed forms, as well as some much more substantial, thick walled vessels. This assemblage also included examples of scored wares dating from the Middle Iron Age onwards.

### 5.2.4 Roman assemblage

The Roman material forms a substantial proportion of the artefactual assemblage and as would be expected, is dominated by pottery. General observations made during the recording of this pottery indicate a continuation from the late Iron Age, with a definite 2<sup>nd</sup>-3<sup>rd</sup> century peak. At this stage of analysis, it would appear that occupation doesn't continue much beyond the end of the 3<sup>rd</sup> century, if at all.

The assemblage is dominated by locally produced oxidised and reduced wares supplemented by other commonly identified ware types such as Derbyshire ware, Black-burnished ware 1, Mancetter-Hartshill mortaria, Samian ware and small amounts of Romano-British finewares. The reduced wares included a large proportion of dark-surfaced wares which are generally considered to be of early Roman date.

Preservation was variable with some sherds only lightly abraded but others with no surfaces surviving. There also appeared to be high proportion of sooted and blackened sherds amongst the group and not just confined to those fabrics traditionally considered as cooking wares.

The range of forms present appears to fit into established patterns for rural settlement (Evans 2003), with jars dominating. This high frequency of jar forms can be attributed to the versatile nature of the form serving a variety of functions, with types ranging from the standard storage jar form in finer oxidised and reduced wares, through to 'cooking' forms in Derbyshire and Black-burnished ware.

Non-pottery finds were found only in small amounts and included building material, fired clay, slag, quern stones and iron nails and hobnails.

### 5.3 Environmental analysis, by Elizabeth Pearson

The environmental samples recovered and processed is summarised in Table 2.

Year	No of samples	Total volume (L)	Total volume processed (L)	Total no samples processed	Total no samples fully assessed
BA 2005/6 cremations	102	601	601	102	102
BA 2005/6 other samples	47	562	562	38	38
2007	109	1570	907	109	66
2008	48	1160	468	47	47
2009	64	1160	176	21	10
2010	33	1230	240	29	12
2011	44	1374	302	43	3
2012	2	20	17	2	1

Table 2: summary of environmental samples 2005-2012

#### 5.3.1 Sampling policy

Samples from 2005 to 2006 were taken by Birmingham Archaeology from deposits considered to be of high potential. Samples from 2007 to 2012 were taken according to standard Worcestershire Archaeology practice (2012).

### 5.3.2 Processing and analysis

Environmental samples have been processed for assessment as follows:

For material selected for assessment from Birmingham Archaeology excavations (2005 to 2006), 100% of the sample was processed. For remaining material from 2007 to 2012 excavations, 10 litres from each sample selected for assessment was processed (thus representing 25% of a standard 40 litre sample).

For waterlogged samples, a sub-sample of 1 litre was processed by the wash-over technique as follows. The sub-sample was broken up in a bowl of water to separate the light organic remains from the mineral fraction and heavier residue. The water, with the light organic fraction was decanted onto a 300µm sieve and the residue washed through a 1mm sieve. The remainder of the bulk sample was retained for further analysis.

The remaining samples were processed by flotation using a Siraf tank. The flots were collected on a 300µm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammer scale. The flots were scanned using a low power MEIJI stereo light microscope and plant remains identified using modern reference collections maintained by Worcestershire Archaeology, and a seed identification manual (Cappers *et al* 2012). Nomenclature for the plant remains follows the *New Flora of the British Isles*, 3<sup>rd</sup> edition (Stace 2010).

At present the monoliths taken from the palaeochannels have been subsampled for palynological processing and assessment. Each 2cm<sup>2</sup> sample was taken at regular intervals through the monolith and refrigerated for long term storage. The remaining monoliths have been resealed and stored in case further samples are required.

Processing of the cremations and the associated deposits involved a two stage process thus ensuring recovery of cremated bone, pottery, charcoal (from pyres) and any other material present. An initial dry sort was completed to extract any fragile prehistoric pottery and large bone fragments present. Subsequently, wet sieving was undertaken to extract environmental remains and further bone or artefacts. Subsequently, wet sieving was undertaken to extract environmental remains and further bone or artefacts. All remains have been packaged for assessment.

### 5.3.3 Initial results

In summary a rapid assessment of the material recovered and scanned indicates the following:

- Very few animal bones were recovered from site. This is likely to be a result of poor preservation conditions.
- Only a small number of samples contain evidence of crop processing or storage, and generally this material is sparse. Limited interpretation of the arable economy is, therefore, likely and this may indicate a more pastoral dominated economy. Further consideration of soil conditions and preservation, is however, required.
- A total of 18 contexts to so far have been identified as containing identifiable charcoal suitable for radiocarbon dating and/or charcoal analysis. These will be assessed against the structural record and artefactual dating to determine which samples have the potential to refine the chronology of the site and provide information on use of woodland resources and the fuel economy.

- 
- Possible naked barley, which is rare, has been identified in a small number of contexts. These contexts are of interest as if confirmed may indicate a prehistoric date and activity or crop production of distinct character.
  - One context (3670) a tree bole provisionally dated to the Mesolithic, contains onion couch tubers (*Arrhenatherum elatius*) which are usually associated with prehistoric cremations of Bronze Age to Iron Age date.
  - Contexts containing rye or free-threshing wheat (884, 3137, 3902) indicate a mid-Saxon or later date.
  - Waterlogged remains survive well in some of the palaeochannel samples.

## 6 Bibliography

Birmingham University Field Archaeology Unit 1992. *An Archaeological Evaluation at Whitemoor Haye, Alrewas, Staffordshire 1992*. Birmingham University Field Archaeology Unit Report, 231.

CAS 1995 (as amended) *Manual of Service practice: fieldwork recording manual, County Archaeological Service*, Hereford and Worcester County Council, report, 399

Coates, G. 2002. *A Prehistoric and Romano-British Landscape. Excavations at Whitemoor Haye Quarry, Staffordshire, 1997-1999*. Birmingham Archaeology Field Archaeology Unit Monograph Series 5. BAR British Series 340.

Hewson, M. 2006. *Excavations at Whitemoor Haye Quarry, Staffordshire, 2000-2004*. Birmingham Archaeology Monograph Series 2. BAR British Series 428.

Phear, S, 2008 *Whitemoor Haye, Alrewas, Staffordshire. Archaeological Watching brief (2007): Archive Statement*, Worcestershire Archaeology, Worcestershire County Council, unpublished document dated 27 February 2009, **P3114**

Phear, S, 2009 *Whitemoor Haye, Alrewas, Staffordshire. Archaeological Watching brief (2008): Archive Statement*, Worcestershire Archaeology, Worcestershire County Council, unpublished document dated 27 February 2009, **P3114**

WA 2012 *Manual of service practice, recording manual*, Worcestershire Archaeology, Worcestershire County Council, report **1842**



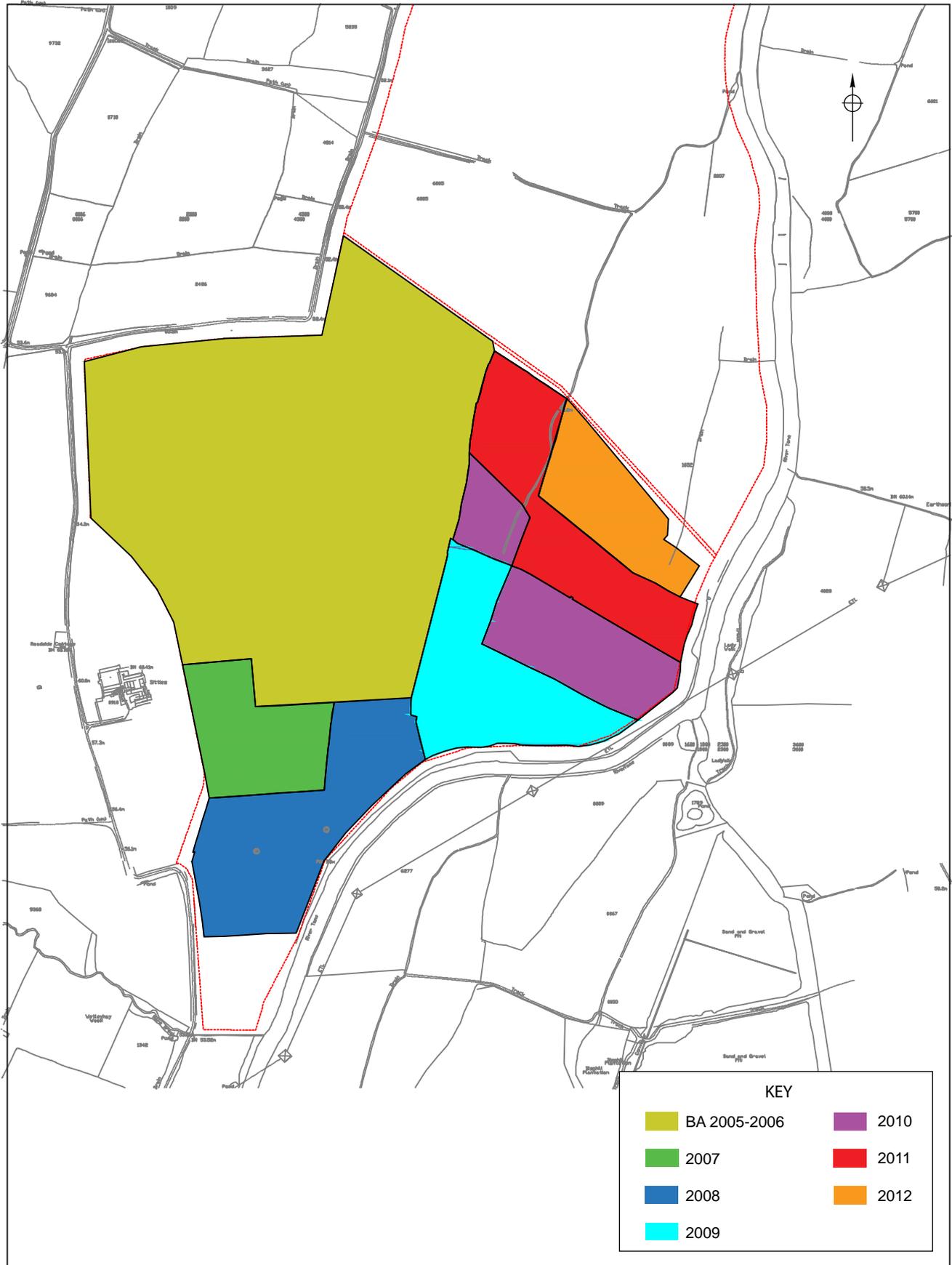
**Figures**

---



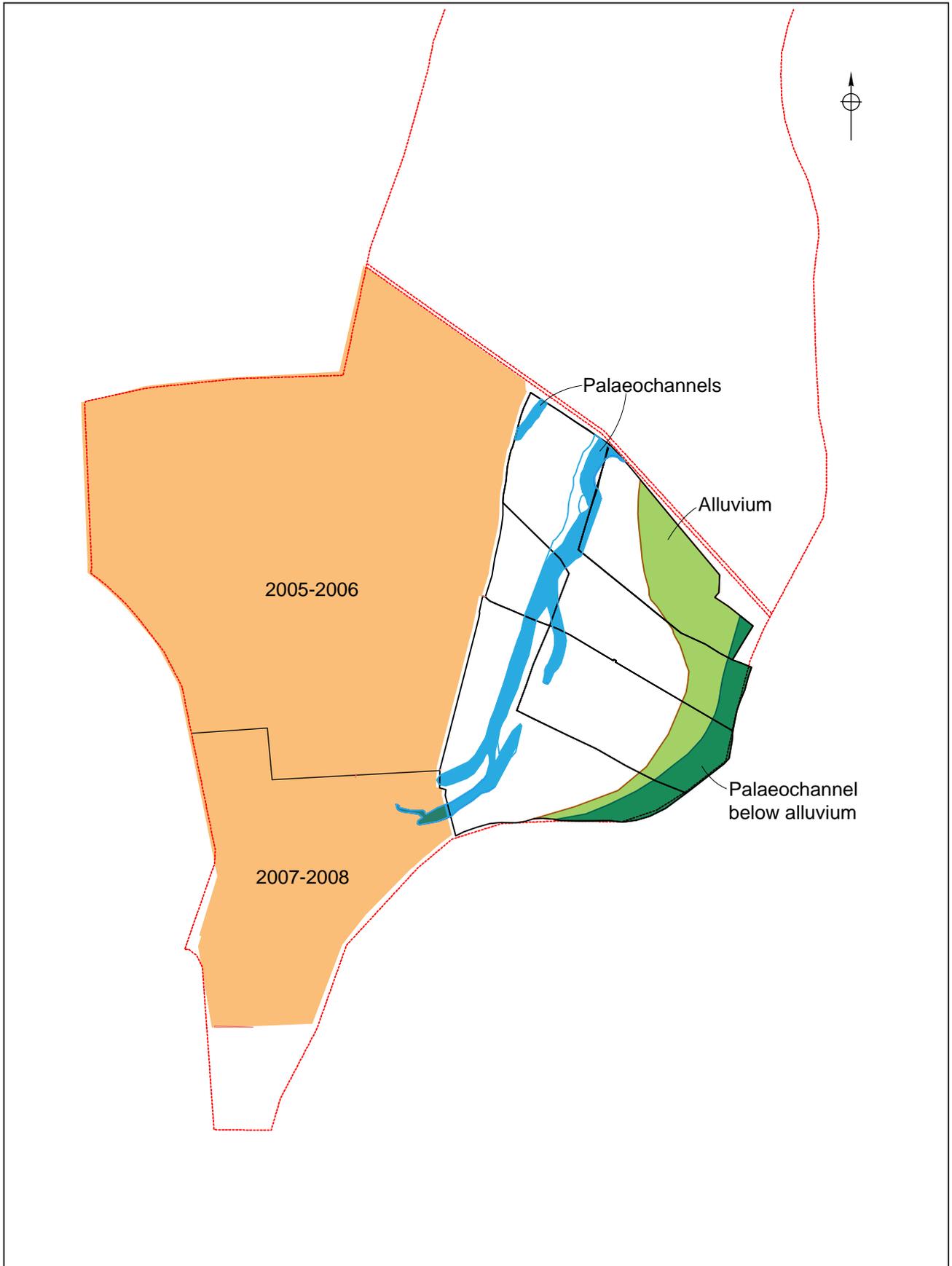
Location of the site (2009-2012)

Figure 1



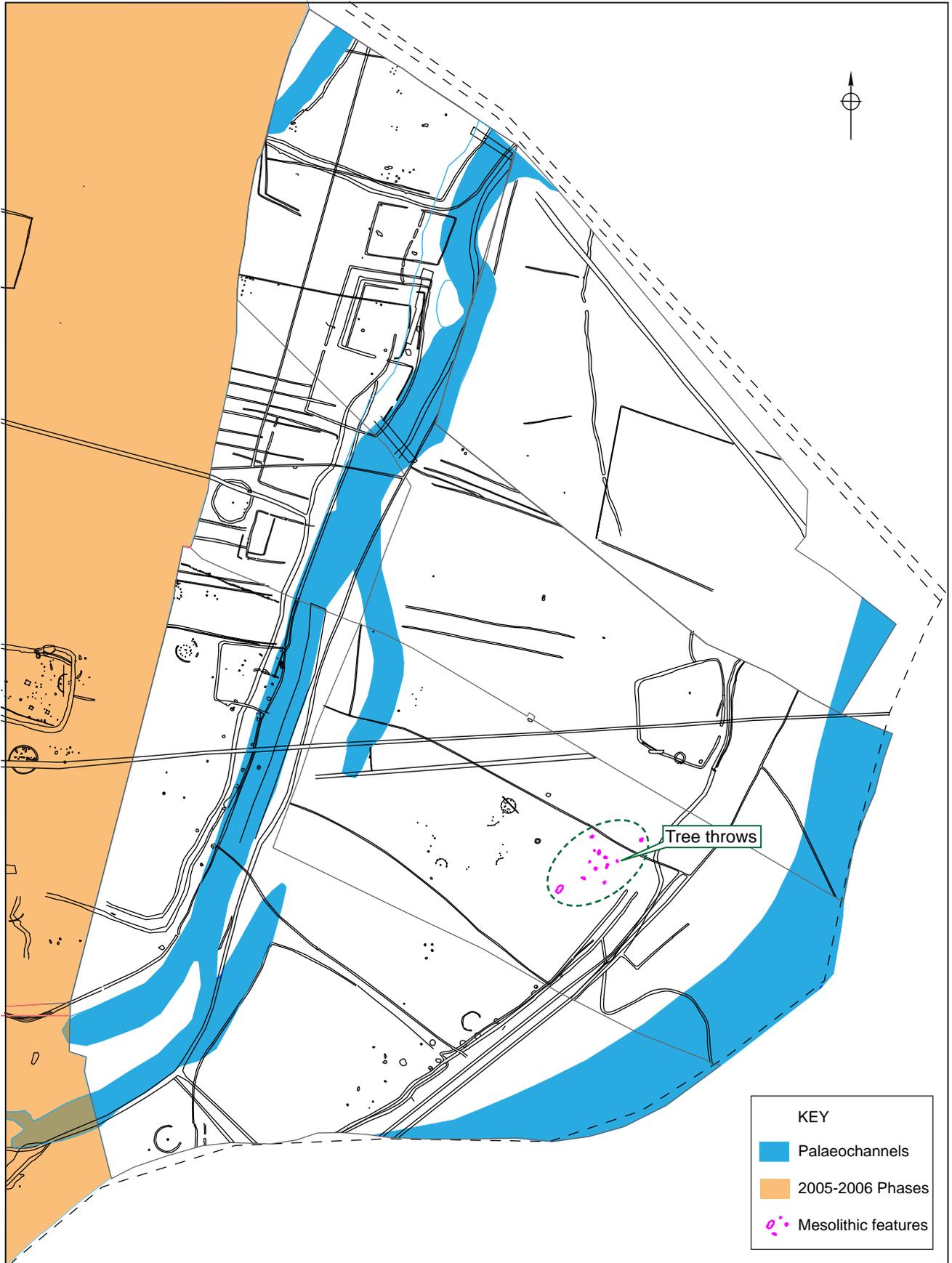
Watching Briefs 2005-2012

Figure 2



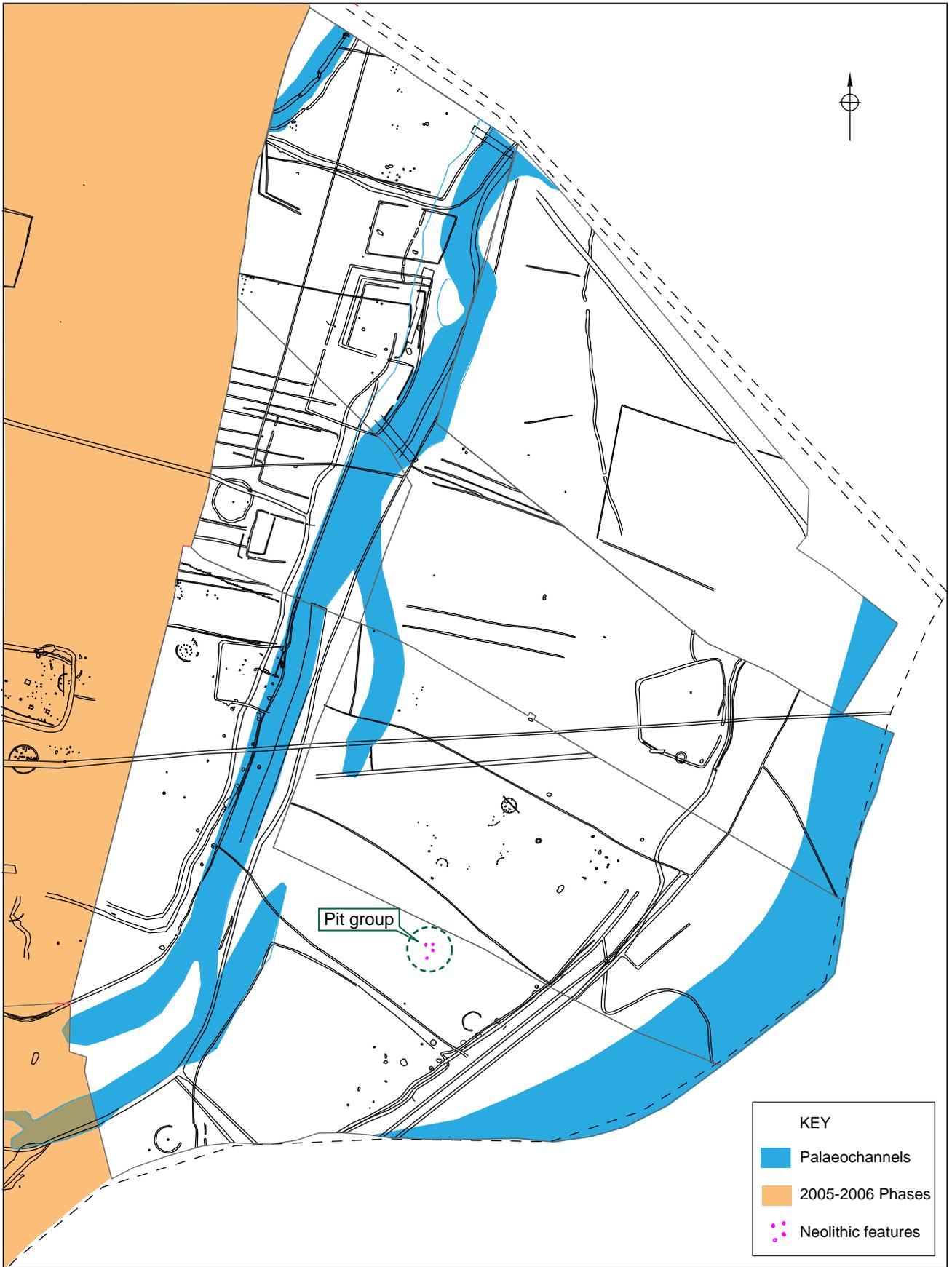
*Palaeochannels and alluvium*

*Figure 3*



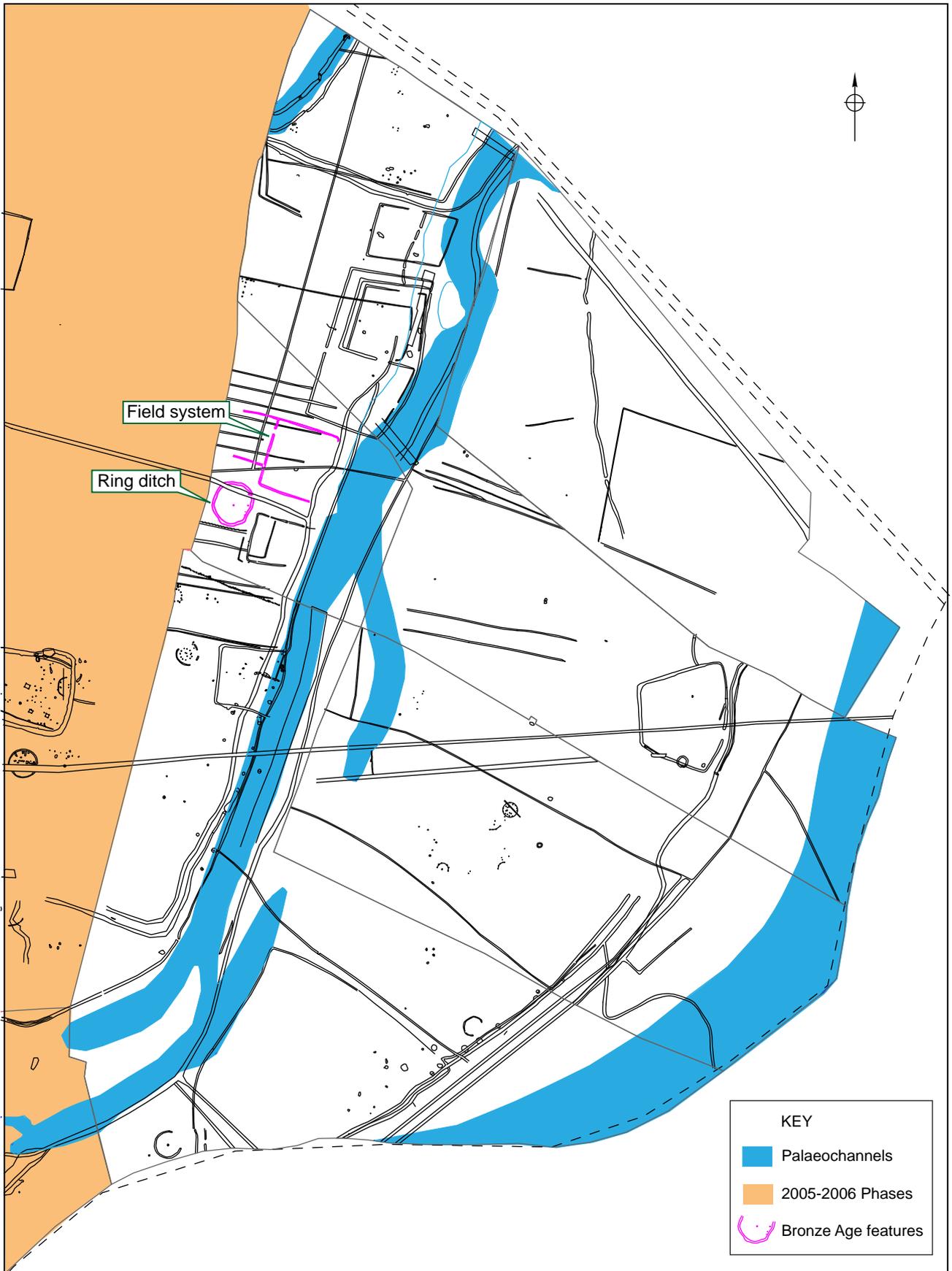
Mesolithic features

Figure 4



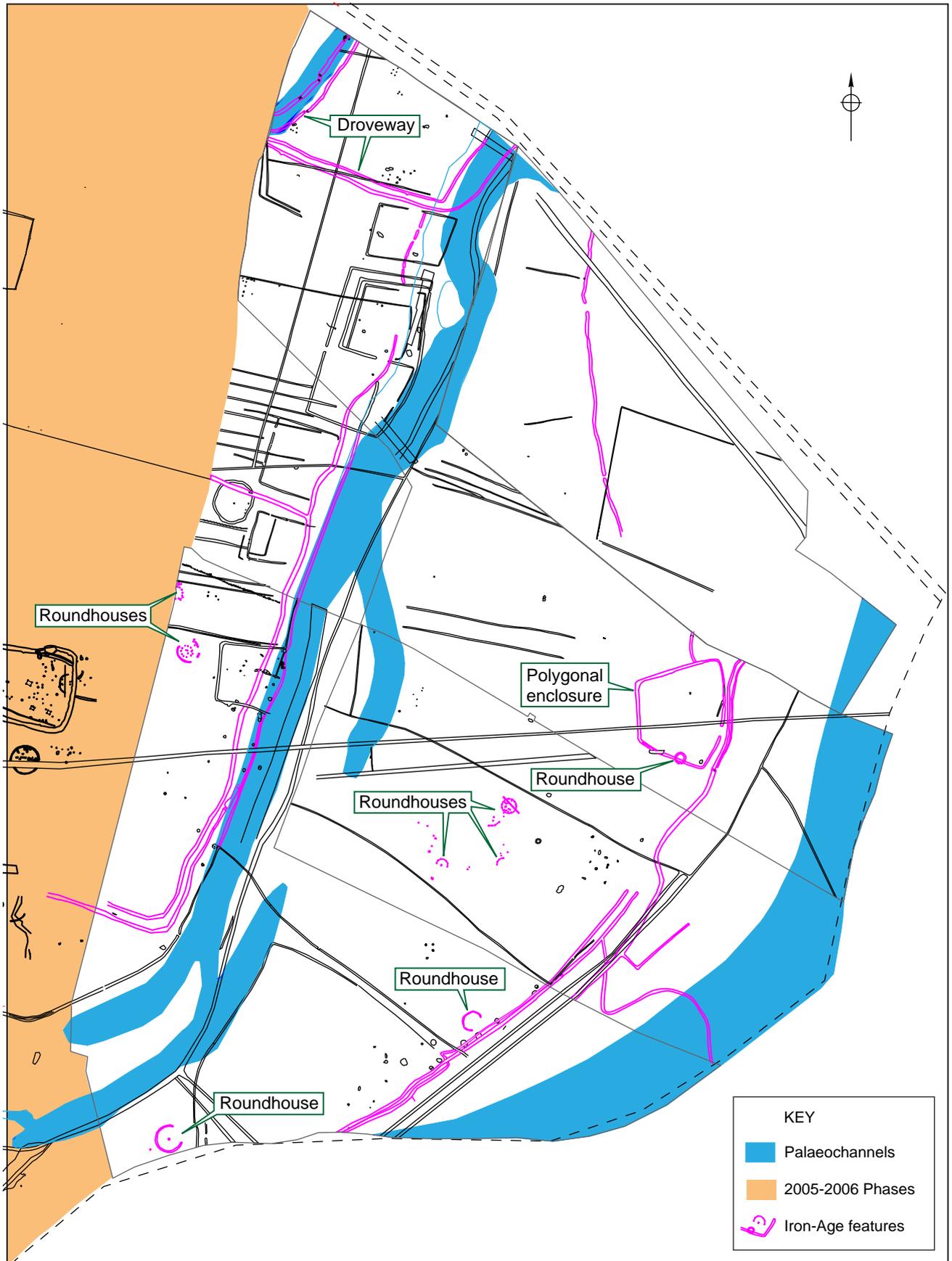
Neolithic features

Figure 5



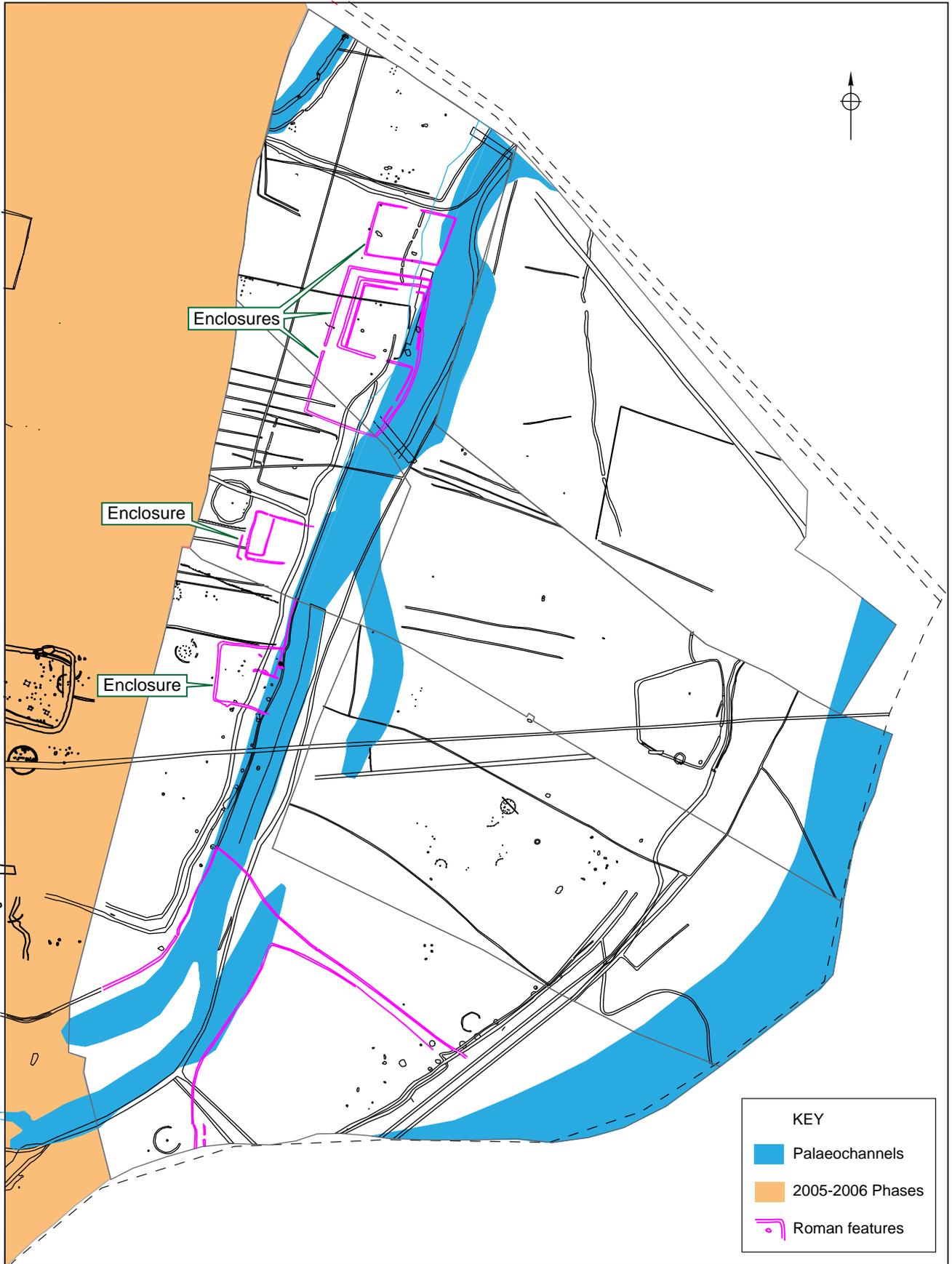
Bronze Age features

Figure 6



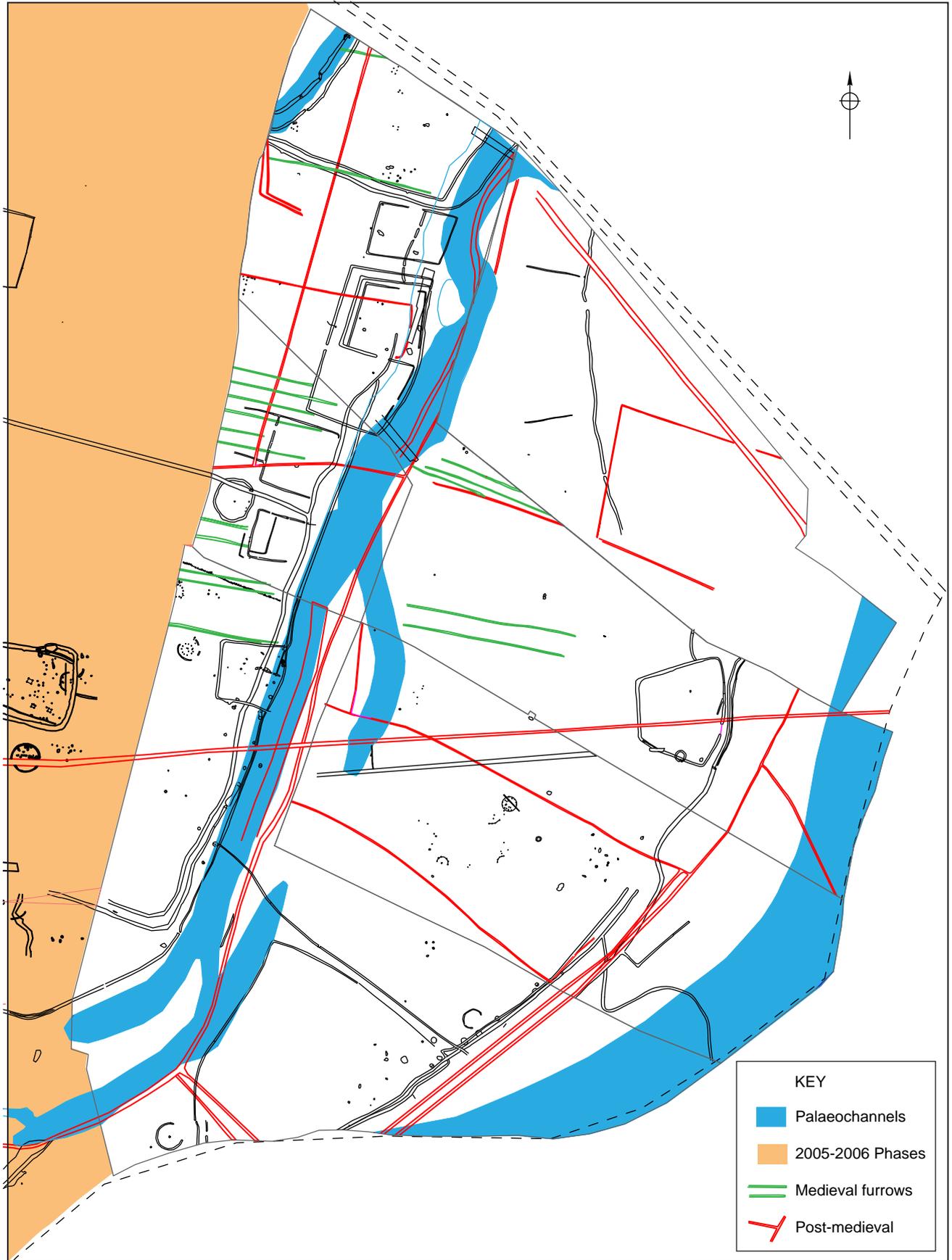
Iron-Age features

Figure 7



Roman features

Figure 8



Medieval and Post-medieval/modern features

Figure 9

**Plates**



*Plate 1: Palaeochannel [4141] on the east of the quarry, with orange/brown alluvium above, facing south-east*



*Plate 2: Mesolithic tree throw/pit [3667] facing south, 2 x 1m scale*

---



*Plate 3: Neolithic pit [3531] facing north, 1m scale*



*Plate 4: Bronze Age barrow ring ditch pre-excavation facing east*



Plate 5: Unenclosed roundhouse facing west, 2 x 1m scale



Plate 6: Part of an Iron Age pottery spread, 1m scale



Plate 7: Roman enclosure ditch [4321] facing east, 2 x 1m scale

