

**BULLS LODGE QUARRY,
FORMER BOREHAM AIRFIELD, ESSEX**

**ARCHAEOLOGICAL MONITORING AND EXCAVATION
WINTER 2012/13**



**Essex County Council
Field Archaeology Unit**

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BULLS LODGE QUARRY, FORMER BOREHAM AIRFIELD, ESSEX
ARCHAEOLOGICAL MONITORING AND EXCAVATION WINTER 2012/13

Client: Hanson Aggregates

NGR: TL 73250 12300

Site Code: BOAF05

ECC FAU project no: 2641

OASIS No: 143297

Dates of Fieldwork: 6th November 2012 to 24th Jan 2013

SUMMARY

The topsoil stripping of a 6ha area in the north-west of Bulls Lodge Quarry was subject to archaeological monitoring and investigation in advance of the northward enlargement of extraction works.

A relatively low density scatter of small prehistoric pits was identified across the western half of the site. This is a similar result to that of the previously stripped areas in this vicinity of the quarry and, given the absence of associated enclosure systems and structures, can only be evidence of general later prehistoric land-use activity.

The majority of the recorded remains were of post-medieval or modern date, largely comprising enclosure and drainage systems dating from the late 16th through to the 18th century. Of particular interest were boundary ditches and pits at the eastern end of the site which contained significant amounts of material of a domestic nature and of a fairly consistent 17th/18th century date. Moreover, the presence of quantities of deer remain, suggests an association between this cluster of features and the New Hall estate deer park during the late 16th and 17th centuries, with evidence for craft production utilising antler being of particular interest. The presence of a dwelling in close proximity, most likely just to the east of the site in an as yet un-investigated part of the quarry scheme area, is suggested.

Further drainage and boundary features of relatively modern date, and general disturbance relating to the sites use as a WW2 airfield, were also identified.

1.0 INTRODUCTION

Archaeological monitoring and excavation was carried out during the period November 2012 to January 2013 during topsoil stripping for a northward extension to Bulls Lodge Quarry, Boreham, near Chelmsford. Planning consent for mineral extraction was granted in 1990 and allows the ECC FAU access to investigate each area of the quarry for archaeological remains before quarrying takes place. The scope and extent of the archaeological work are determined by an informal agreement between Hanson Aggregates and ECC FAU, in consultation with the Historic Environment Management team (ECC HEM) of ECC Place Services who advise the mineral planning authority.

An area of c.6ha along the northern edge of the active extraction area was stripped of topsoil, exposing a range of archaeological remains that were subsequently investigated and recorded. A scatter of prehistoric and post-medieval features were recorded and excavated. This report presents the results of this work.

Copies of this report will be supplied to Hanson Aggregates, the ECC Historic Environment team and the Essex Historic Environment Record. A digital version of this report will be submitted, along with a project summary, to the Online Access to the Index of Archaeological Investigations (OASIS) and will be accessible via the Archaeological Data Service website (<http://archaeologydataservice.ac.uk/>). The site archive and finds, and hard copies of the report, will be deposited at Chelmsford Museum.

2.0 BACKGROUND

2.1 Location, Topography and Geology

Bulls Lodge Quarry covers 320ha on the site of a former World War II airfield situated 2km north-east of Chelmsford, in the north-west of the parish of Boreham and partly in the parish of Little Waltham (TL 7325 1205; Fig.1). The surrounding landscape consists of arable fields and former quarry workings on a plateau at 53m OD, forming a low outcrop within a wide loop of the river Chelmer. The drift geology comprises a 2m-thick deposit of Boulder Clay of the Springfield Till, laid down in the Anglian glacial period, overlying Chelmsford Sands and Gravels. Remnants of some of the World War II runways and dispersal loops still survive at the northern end of the quarry.

The winter 2012/13 site is a c.6ha area forming a strip along the northern edge of the quarry, a northward extension to the area archaeologically monitored in the spring of 2012 (Figs. 1-

3). Prior to development it lay largely within arable fields, bisected by a north-south running taxiway and plane dispersal areas, these being remnants of the airfield formally occupying the site.

2.2 History

The following historical background is based on previous research and publications by Jones (1988), Stephen (1988) and Clarke (2003). Bulls Lodge Quarry occupies part of the former estate of the manor of New Hall. The estate's manor house stands near the south-western edge of the quarry, 1.6km from the current area, and has been used as a convent since the late 18th century. The origins of the manor are uncertain, although it was first documented in 1301 and it is argued that it displaced an earlier manor known as *Walkfares* in the late 13th century (Clarke 2003, 1-5 and 67-9).

Documentary and cartographic records reveal that much of the manor estate was a deer park, although its precise boundaries are not known. The earliest reference to the deer park dates to 1396, but it was most likely established between 1250 and 1330, the main period of emparking in Essex. The disemparkment of the deer park began in the 17th century and was probably undertaken on a piecemeal basis over several centuries. By the late 18th/early 19th century, the deer park no longer existed and its area was occupied by enclosed fields and woods.

The airfield was constructed in 1943 by the 861st Engineer Battalion of the US Army. For a short period after the war it was used as a racetrack for motorcycles and cars, and in the 1950s it was bought by Ford Motor Sport as a centre for vehicle development. The use of the airfield for mineral extraction began in 1990, since when a number of phases of archaeological work have been conducted ahead of quarry development.

2.3 Archaeology

Extensive archaeological investigations have previously been carried out both in and around the quarry. It is located within a general landscape of established archaeological significance. In 1992-4 a Roman villa site was excavated in the neighbouring quarry at Great Holts Farm 0.5km to the east (Germany 2003). The villa is dated to the 2nd-4th centuries and was established within a landscape of regularly planned agricultural fields and stock enclosures. Remnants of an earlier prehistoric landscape were also recorded, including Neolithic finds, Late Neolithic and Bronze Age ring-ditches, Late Bronze Age pits, and an Early Iron Age timber building. In 1990, a metal-detectorist discovered a Late Bronze

Age spearhead in the area between the quarry and Great Holts Farm (Gilman and Bennett 1991). A medieval timber farm building has also been recorded at Great Holts Farm.

The archaeological monitoring of topsoil removal and investigation of exposed remains at Bulls Lodge Quarry has been carried out intermittently since the quarry first started to operate in 1990. The survival of the archaeological remains within the area of the quarry is variable due to truncation by large-scale ground clearance and levelling by bulldozers during the construction of the Second World War airfield. However, particularly in those areas least impacted by airfield construction, prehistoric, Roman, medieval and post-medieval remains have been found at various locations across the development area. The main archaeological discoveries made to date, in relation to the current area and in broad chronological order, are as follows (Fig. 1):

- A prehistoric (Late Neolithic or Early Bronze Age) ring-ditch and Early Bronze Age burial urn approx. 1km to the south-east (Archer and Clarke 2007);
- A Late Bronze Age cremation burial and pits approx. 800m to the south-east (Germany 2007);
- A Late Bronze Age timber building approx. 350m to the south (Germany 2008);
- A Late Iron Age/early Roman enclosure 1.2km to the south-east (Archer and Clarke 2007);
- Late Iron Age boundaries and a Roman stone-founded apsidal building, an administrative centre for a rural estate, approx. 2km to the south-east (outside the limits of Fig. 1) (Lavender 1993);
- A medieval moated farmstead approx. 1.2km to the east, dated to the 12th/13th century, including a farmhouse, windmill and granary (Clarke 2003);
- A medieval field system approx. 1km to the south-east (Germany 2007);
- A medieval enclosed farmstead, 150m to the south (Ennis 2011 and 2012);
- A large medieval pit and post-medieval field boundary ditches and in-filled ponds, approx. 250m to the south-east (Allen 2011);
- Post-medieval timber structures approx. 450m to the south-east (Germany 2007).

3.0 AIMS AND OBJECTIVES

The aim of the ongoing archaeological monitoring is to record archaeological remains that are exposed within Bulls Lodge Quarry before their destruction by successive phases of mineral extraction. The long-term objective is to obtain a greater understanding of the development of the prehistoric and historic landscape within the quarry area. Over much of the quarry the character and date of individual landscape elements can be established through recording and selective excavation, but in some areas more detailed excavation is required to investigate and record significant sites where there is good surviving evidence of settlement or farming activity.

The specific objectives of the current monitoring and excavation work were to:

- Investigate and record a further part of the general scatter of surviving prehistoric remains across the landscape
- Investigate and record the medieval landscape, and in particular to identify remains such as field systems associated with the medieval farmstead excavated to the south in 2012.
- Investigate and record remains relating to the post-medieval agricultural landscape

The origin and development of medieval rural settlement types and the dynamics of medieval settlement are ongoing regional research topics for the eastern counties (Medlycott 2011, 70).

4.0 METHOD

An area covering c.6ha was inspected for archaeological remains in the winter of 2012/13 during topsoil stripping undertaken by the quarry operator's contractor using tracked mechanical excavators fitted with toothless buckets (Plates 1-2). The winter season forced a prolonged period of topsoil removal, with the result that the site strip was under near constant supervision whilst exposed archaeological remains were investigated in tandem. The eastern half of the site, straddling the former runway remains, was stripped in more or less one phase. Due to deteriorating weather conditions, the west side of the site was stripped in two stages; the initial stage comprising the stripping of five parallel areas with 'islands' of topsoil and stockpile material in between, each measuring c.250x10m; the second phase comprising the removal of the remaining islands after the original strips had been archaeologically investigated. This strategy was necessary due to seasonal restrictions for running wheeled plant on the topsoil. A band of modern subsoil underlying

the topsoil was encountered running across the centre of the site from northwest to southeast but was not removed as part of the top-soiling operation.

Following mapping of the stripped areas by TST, all observed archaeological remains were appropriately sample excavated by hand, other than linear features of clear 19th/20th century date. Written, drawn and photographic records were made of all investigated remains, and artefacts retrieved for analysis and dating. The majority of the investigated archaeological features had sterile clay-rich fills that were unsuitable for environmental sampling.

Standard ECC FAU excavation, artefact collection and recording methodologies were employed throughout. The ECC FAU is a Registered Archaeological Organisation with the Institute for Archaeologists (IfA) and all work was carried out in accordance with IfA by-laws and guidelines for watching brief, excavation and artefacts (IfA 2008, revised), and complied with Standards for Field Archaeology in the East of England (Gurney 2003).

5.0 FIELDWORK RESULTS

The removed topsoil (600) consisted of mid to dark grey-brown clay silt and was generally about 0.3m thick. Over the majority of the site the topsoil laid directly above the natural clay. However, a large band of subsoil (671) was present running across the centre of the site from northwest to southeast. It measured 370m+ in length and 120m in width at its widest point. It consisted of a mid grey brown, firm clay silt (Plate 3) and its deposition was revealed to post-date the demise of an east-west 19th/20th century ditch, but pre-date the excavation of service trenches associated with the airfield. This layer was left in-situ. The underlying natural (601) consisted of mid yellow orange silty clay with frequent chalk flecks, which overlay gravel. Archaeological remains were present across the majority of the site, although no archaeological features were identified within the area of modern truncation caused by the construction of the north-south taxiway and its adjacent dispersal loops (Fig.1).

The recorded remains consisted of scattered prehistoric and undated pits and occasional in-filled field ditches towards the west end of the site; and a concentration of post-medieval features, predominantly field ditches and ponds, towards the southeast corner of the site.

The recorded archaeological remains are described below in broad period order. Further context data is presented in Appendix 1.

5.1 Prehistoric

Although only four features contained finds of identifiably prehistoric date (pits 660, 665, 667 and 699), the western side of the site also featured a large quantity of undated small pits located in a general scatter (Fig. 2), many of which may also represent prehistoric activity.

Pit 660 was the western-most feature exposed, located towards the south west corner of the sit. It was roughly sub-circular in plan and measured 1.8 x 1.6 x 0.25m, with generally shallow sides and a flat base. Its two fills both contained prehistoric pottery. Basal fill 661 (0.15m thick) was a dark blackish brown clay silt. Upper fill 662 (0.10m thick) was a dark yellowish brown, firm silty clay.

Pit 699 was located approximately 10m east of pit 660. It was circular in plan and measured 0.56 x 0.54 x 0.12m. It had moderately steep sides and a flat base (Plate 4). Its single fill (700) was a dark orange grey, silty clay and contained prehistoric pottery and struck flint.

Two small pits 665 and 667 were located immediately adjacent to each other and approximately 58m northwest of pit 660 (Plate 5). Pit 665 was roughly circular in plan and measured 0.64 x 0.60 x 0.10m. It had shallow sides, a concave base and contained single fill 666, which was a mid brown grey, firm clay silt that contained two sherds of prehistoric pottery. Pit 667 was located immediately to the southeast. It was oval in plan and measured 0.90 x 0.60 x 0.14m and also had shallow sides and a concave base. Its single fill 668, contained a modest quantity of prehistoric pottery sherds and was a dark brown grey, soft clay silt with frequent flecks of charcoal. Some scorching to the surrounding clay suggested either burning in-situ or the deposition of 668 while the material was still hot.

5.2 Post-medieval (Figs 2 and 3)

The post-medieval features were primarily located at the eastern end of the site. Of most significance was ditch 669, an enclosure ditch in the south-east corner, together with a number of small rubbish pits in the vicinity; a sample of which were excavated. To the north of this, along the eastern edge of the area, a large irregular ditch was investigated by means of two machine-dug segments, 638 and 643. A field boundary ditch oriented east to west across the entire site and its north-south contemporary revealed against the eastern limit of the site (labelled as modern on figs 2 and 3) were not investigated; these ditches are depicted on the first four editions (c.1876-1936) of the Ordnance Survey mapping and were most probably in-filled during construction of the airfield in 1943. That at the eastern limit of excavation was clearly a continuation of a ditch/pond alignment recorded during both the 2011 and Spring 2012 monitoring stints (Allen 2011; Ennis 2012).

Ditches:

Ditch 669 was a dog-legged field ditch located in the southeast corner of the site. It was investigated by way of five evenly-spaced segments 607, 611, 613, 615, and 620. Group number 669 has been assigned as a context number for the feature as a whole in order to aid post-excavation analysis. Ditch 669 had a total recorded length of approximately 60m, being cut by a relatively modern ditch at its east end and not traced beyond the edge of the runway at its west end. Its width ranged from 0.6 to 1.22m and a depth from 0.17 to 0.32m. It had generally moderately steep sides and a concave base (Plate 6). In all but one segment, a single fill was present, which was a mid pinkish grey-brown, firm silty clay with little variation. This backfill contained abundant and varied finds of post-medieval date. Within segment 615, located at the ditch's northern bend, a basal fill (616) was also present; this was a light yellow grey, firm silty clay which contained no finds. Finds assemblages collected from these ditch segments comprise pottery, brick and tile, animal bone, with a small quantity of shell in 613. The pottery supplies a consistent late 16th to 17th century date for the infilling of this ditch.

Ditch 602/609 appears to share an alignment with 669 and potentially be a westward continuation of this boundary, although in character the two ditches were very different. It was exposed for a length of 50m; being truncated at its western end by the airfield taxiway and not evident beyond obscuring layer 671 beyond while its eastern terminus was obscured by modern truncation from plough damage and land drains. Where investigated within segments 602 and 609, this ditch was revealed to be steep-sided with a concave base and averaging a width of 1.0m and depth of 0.3m (Plate 7). The two segments contained the same single fill of mid yellow brown, firm silty clay (603 and 610 respectively). Neither contained any finds

A short length of NW-SE aligned ditch, 622, was exposed at the eastern limit of excavation. It was clearly seen to be cut by the later post-medieval/modern north-south ditch depicted on the ordnance survey historic maps. A segment was excavated at its terminus, revealing quite shallow sides and a concave base. It contained single fill (623) which was a mid yellow-brown soft silty clay with occasional large flint inclusions. The fill could not be securely dated by finds although did contain a fragment of animal bone in a similar state of preservation to that recovered from the surrounding post-medieval features, therefore a post-medieval date seems likely. Given its similar proportions to ditch 669, an association is tentatively suggested.

Close to the eastern limit of the site, a large irregular north-south ditch was recorded over a distance of c.60m and investigated within two machine-dug segments 638 and 643 across it. The segments were excavated to the natural clay using a 2.2m-wide ditching bucket and the sections cleaned by hand. Finds were collected during excavation and cleaning. Segment 643 revealed the ditch to be 5m wide and 1.08m deep (Plate 8) but its width reached approximately 11m at its bulbous southern terminus. It had moderately steep sides and a flat base. Basal fill 644 (0.36m deep) was a dark reddish-grey, firm clay silt, somewhat organic with occasional charcoal flecks. Above this, the most substantial fill was 645 (0.64m deep), a mid yellow-brown, very firm silty clay with occasional charcoal flecks and occasional medium chalk and flint fragments. Top fill 646 (0.22m deep) was a dark grey-brown, firm silty clay with occasional charcoal flecks and occasional small flint fragments. The only finds to be retrieved were a brick fragment from fill 645 and a copper alloy button from 646. The top fill is likely to represent an infilling/levelling episode that may significantly post-date the cutting and major use of the ditch; possibly the result of airfield preparation/construction.

Segment 638, dug approximately 16m to the north of 643 was only partially recorded due to severe flooding problems. It was the deeper of the two segments reaching a depth of c.2.5m. It contained broadly similar deposits, although its lower organic fill 640 (equivalent to 644 within segment 643) was more substantial and also present was additional basal fill 639. This fill had the appearance of an alluvial clay deposit, being a mid to light blue-grey, very firm clay. The main fill 641 (equivalent to 645 within segment 643) contained only a fragment of brick, animal bone and a copper alloy object.

East-west aligned ditch 627 was located east of large ditch 638/643, and was exposed over c.8m before extending off beyond the limit of excavation. At 1.26m wide and 0.35m deep, it had quite steep sides and a wide concave base. Its single fill (628) was a mid grey-brown, firm silty clay with occasional small flint fragments and chalk flecks. Finds of glazed pottery, brick, tile, animal bone and an iron nail were recovered from the fill. The ditch appears to have been contemporary with large ditch 643/638 as it merged into it, did not continue west of it, and was filled with the same material. It is assumed that, when open and functioning, ditch 627 drained into 638/643.

West of the former taxiway, north-south aligned ditch 655 was clearly a continuation of ditch 599 that was recorded in the Spring 2012 excavation area directly to the south (and of ditch 305/492 found in 2008/9 further south still). Only intermittently traced, it became very difficult to distinguish shortly before it became sealed by masking subsoil layer 671 and did not reappear to its north. At 1.45m wide and 0.45m deep, it had relatively steep sides and a

concave base, and contained two mid yellow-brown silty clay fills (Plate 9). Other than charcoal flecks, no finds were present in either fill. However, a post-medieval date has been previously posited for this feature.

Pits and other features:

Pit 604 was the only feature located to the south of ditch 669, at the southern limit of excavation. It was roughly circular in plan and measured 1.3m diameter by 0.3m deep. It had generally steep sides, although shallower on its eastern edge and a flat base (Plate 10). It contained two fills; its basal fill 605 (0.08m thick), was a light grey yellow, soft silty clay that and contained a small quantity of animal bone. Being quite similar to the natural clay, this fill may have formed from weathering or collapse of the pit sides prior to its backfill. Upper fill 606 (0.23m thick) was a mid grey, soft ashy clay silt with frequent small charcoal fragments. It represents a deliberate backfill and contained a quantity finds of likely domestic nature, comprising pottery, brick and tile, animal bone, oyster shell, and several metal objects including iron nails and tool head and a copper alloy thimble. The pottery provides a late 16th to 17th century date.

North of ditch 669 six further post-medieval pits were identified, two of which were half-sectioned and recorded (618 and 624). Pit 618 was sub-circular in plan and measured 0.83 x 0.76 x 0.24m. It had quite steep sides and a concave base. It contained single fill (619) which was a mid yellow-brown firm clay with moderate flint inclusions and chalk flecks. A fragment of red brick was recovered close to its surface.

Pit 624, roughly circular in plan and measured 1.5 x 1.4 x 0.3m, was of greater interest (Plate 11). Its basal fill 626, a dark yellowish-grey firm silty clay with occasional charcoal flecks and contained a sherd of glazed earthenware pottery, probably a jug handle. Upper fill 625 was a mid yellowish grey, firm silty clay with moderate small charcoal fragments and flecks. It was a deliberate backfill and contained a relatively large and varied domestic finds assemblage including pottery, brick and tile, animal bone, clay pipe, glass and a range of ironwork comprising nails, bucket handle and a horseshoe. The pottery is of late 17th to 18th century date and includes dish, bowl, jug, chamber pot and cistern fragments in a range of wares.

The remaining four identified pits were left unexcavated although two (632 and 634) were assigned context numbers, with surface finds collected for dating. Pit 632 was oval in plan and measured approximately 0.8 x 0.6m. Pit 634 was roughly oval in plan and measured c.3.5 x 2m. Both contained mid reddish brown silty clay fills, 633 and 635 respectively. A

fragment of brick was recovered from the surface of 633 and a base sherd of Black-glazed ware pottery from the surface of 635. It is perhaps notable that the majority of these pits seem to cluster around the southern end of ditch 638/643.

5.3 Modern and Undated (Figs 2 and 3)

Modern ditches

In addition to the field boundary ditches described within the post-medieval section above, which fell out of use during the modern period, several distinctive service trenches associated with the airfield were revealed to the west of the former airfield taxiway. These were recorded in plan only, as part of the site survey (Fig.2). A number of additional features were only revealed as modern during investigations, these are described below.

Roughly parallel ditches 686 and 697 were revealed in the centre of the site, running on a north-south alignment and separated from one another by a distance of c.8m. Ditch 686 was 2m wide and over 0.76m deep. Its sides were initially shallow then became very steep. It contained three fills, the lowest 687 being a weathering deposit. Dark brown silty clay fill 688 above contained a fragment of rotted wood and an ammunitions shell case (not retained). It is likely that this, and the upper fill (690), represent deliberate infilling of the ditch as part of airfield construction/expansion during WW2.

Ditch 697 was very different in appearance to 686, despite their apparent association in plan. It was 2.6m wide and 0.42m deep, with gently sloping sides and a concave base. It contained single fill 698, which was a mid yellow brown, firm clay silt from which no finds were recovered. Its orientation and proximity to WW2-infilled ditch 686 may suggest an equally modern date for this feature. Alternatively, its equation as a northern continuation of ditch 535 previously encountered in the summer 2012 excavation area (Ennis 2012), could be used to posit its earlier, though undetermined, date. As the southern continuations of both 686 and 697 were obscured by masking subsoil deposit 671 it is difficult to further clarify their relationship, function and date. However, the fact that airfield-related features cut the subsoil and are not disrupted at their projected intersection with ditches 686 and 697 would indicate that they both at least predate the airfield.

Roughly east-west aligned ditch 629/636 ran across the eastern side of the site and was recorded over a distance of c.82m. Truncated at its west end by the former taxiway and not traced beyond, a rounded terminal was recorded as segment 636 at its eastern end. At its widest, the ditch measured 1.2m wide and 0.45m deep with fairly steep sides and a flat base, narrowing and rising at its eastern terminal. Segment 629 contained two fills, a mid

yellow-brown, firm silty clay lower fill (631) and an overlying mid grey-brown firm clay silt with occasional charcoal flecks (632). Terminal 636 contained single fill 637, which was the same as 631 - perhaps as a result of this end of the feature having suffered greater truncation. Ditch 629/636 was clearly cut across the upper fill of large ditch 638/343 and at its terminal was demonstrated to post-date a modern land drain. The sherd of 17/18th century pottery, and perhaps the iron object, collected from the terminal is therefore clearly residual.

Undated

That part of the site west of the former taxiway contained the majority of the undated discrete features recorded. 13 of these are likely pits, while a further two are judged to be of natural origin. Pit 658, located towards the south-west corner of the site, was notably larger than any of the others at 2.7m diameter and over 0.7m depth (Plate 12). Its single fill 659 was a mid orangey grey-brown, firm silty clay with occasional small stones that contained no finds.

The remainder of the undated pits were smaller and oval to circular, or else elongated, and widely scattered across the western half of the site. Most were 0.6m-1.0m wide and 0.1-0.3m deep (e.g. pits 647, 652, 675, 682, 684), though the smallest (e.g. 677) could have been the base of a circular post-hole rather than a pit. Pit 680 was an irregular rectangle in plan. Fills of these features varied, from single dark brown silty clays (e.g. pits 647, 681, 682, 684) to dual fills of orange-grey silty clays under dark brown silts (e.g. pits 652, 677), some containing small amounts of charcoal fragments and flecks. In pits 691 (Plate 15) and 694 the dual fill sequence was noted to be reversed, with the dark silt fill at the bottom. Only the fills of pits 684 (Plate 13) and 691 included a significant proportion of charcoal, though no sign of *in situ* burning.

Feature 672 was the least pit-like, being an elongated oval cut some 3.0m long, 0.6m wide and 0.22m deep (Plate 14). Its basal fill 673 was a dark greyish black clay with moderate charcoal flecks and the upper fill 674 a light brownish red, baked clay - this *in situ* burning suggesting a function as a hearth pit.

None of these pit-like features contained artefacts, other than a quantity of burnt flint fragments recovered from the charcoal-rich deposit in pit 684. However, they are not dissimilar in character to dated prehistoric pits 660, 665, 667 and 699 (section 5.1, above) or to other scattered pits found elsewhere in previous quarry stripping phases and it is probable that most, if not all, are of a similarly later prehistoric date.

Irregularly-shaped features 663 and 649 are considered to be naturally-formed tree bowls or throws. Both contained dark silt clay mixed fills, that in 663 being charcoal-rich in places and possibly signifying that the tree root had been burnt *in situ*.

6.0 FINDS

A small quantity of pottery, a single struck flint and some burnt flint is of prehistoric date. However, the recovered finds assemblage is predominantly of early post-medieval date, comprising structural debris and apparent domestic waste that includes a surprisingly varied range of ceramic vessels, metalwork, glass, clay pipe, animal bone and shell. Deriving from a small number of ditches and pits located at the east end of the site, this is a cohesive assemblage probably deposited in the late 16th and 17th centuries. Also of note is the occurrence of deer remains, mostly antler.

6.1 Prehistoric pottery by N.J. Lavender

A total of 20 sherds (275g) of prehistoric pottery was recovered from four contexts during the monitoring. This has been recorded according to a system devised for prehistoric pottery in Essex (Brown 1988. Details in archive). The pottery was recorded by fabric, class (after Barrett 1980), form, decoration, surface treatment and condition. The assemblage was quantified by sherd count and weight.

<i>Fabric</i>		<i>Sherd Count</i>	<i>Sherd Weight</i>	<i>% Sherd Count</i>	<i>% Sherd Weight</i>
C	Flint, S 2 well sorted.	1	5	5	76.4
D	Flint, S-L 2 poorly sorted.	7	210	35	1.1
F	Sand, S-M 2-3 with addition of occasional L flint.	12	62	60	22.5
		20	275	100	100

Where:

Size of inclusions S= less than 1mm diameter.
 M= 1-2mm diameter.
 L= more than 2mm diameter.

Density of inclusions 1= less than 6 per cm²
 2= 6-10 per cm²
 3= more than 10 per cm²

The pottery is all in flint- or flint and sand-tempered fabrics that are ubiquitous throughout the prehistoric period in Essex and most of it is abraded to some extent – that from context 668 being particularly heavily abraded – though no later material appears to have been recovered from any of these contexts. Most of the material comes from coarse jars and there are few diagnostic sherds. A flat-topped rim came from context 661 along with what seems to be a damaged rounded shoulder from a Form A jar. Two vessels may be represented since there are sherds with external finger-smoothing and vegetable wiping, but none with both.

The only other diagnostic sherd is a very small, fine sharply carinated shoulder from a Form K bowl, which suggests an Early Iron Age date for context 700. It is one of the least abraded sherds in the assemblage, but it is the only find from this context, and the only reasonably closely dateable sherd from the assemblage.

Whilst nothing else in the assemblage argues against an Early Iron Age date such an attribution, based on a single sherd, is tentative at best.

6.2 Post-medieval pottery by H. Walker

A modest amount of post-medieval pottery, 107 sherds, weighing 4138g, was excavated from ten contexts, all from features located at the eastern end of the excavation. The pottery has been catalogued following Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985) and is examined by feature.

The earliest pottery from Pit 604 comprises a sherd of sandy orange ware from the shoulder of a vessel, showing splashes of glaze internally. It is most likely to date to the 15th to 16th centuries. Virtually all the remaining pottery is post-medieval red earthenware (PMRE), vessel forms comprising fragments from cisterns, a flanged dish, and the remains of at least two drinking vessels, both are more or less cylindrical and show bands of rilling. Of the larger fragments of drinking vessel, one has a plain lead glaze and the second has an all over brown glaze, none shows the black glaze more commonly associated with this vessel form. The base of one of the drinking vessels has an internal white residue indicating a secondary use of some kind. Also present in this pit is the cylindrical neck of a Frechen stoneware rounded jug dating from the last quarter of the 16th century (*cf.* Hurst *et al.* 1986, fig.106.333). Cisterns are chiefly datable to the 16th century, the flanged dish is only glazed in the base, an indicator of early date and the drinking vessels, lacking a black-glaze could also be 16th century. Therefore a date of last quarter of the 16th century may be assigned to this feature.

Several segments of Ditch 669, to the north of Pit 604 produced small quantities of pottery (segments 607, 611, 613 and 615). Some of the pottery is similar to that from Pit 604 and may date to the late 16th century, comprising unglazed fragments of PMRE from cisterns and flanged dishes, with the addition of a fragment of drinking vessel (in Segment 607), that has a very dark green glaze rather than a true black glaze. However, there are also fragments of PMRE from an internally glazed bowl or jar(s) and the foot from a pipkin or cauldron, which date from the late 16th to 17th centuries. Also from the ditch are fragments from a drinking vessel and a thick-walled sherd both showing a true black glaze, which are most likely to be 17th century, although a late 16th century date cannot be precluded.

Pit 624 produced the largest group, with over 2kg of pottery, of which all but one sherd is from fill 625. This feature may be later than those described above, probably belonging to the later 17th century. Most of the pottery comprises PMRE and black-glazed ware. In addition, there is a fragment of metropolitan slipware, another earthenware fabric, decorated with white slip-trailing under a plain lead glaze. Its peak period of production was from around 1625 to the 1660s, but manufacture continued for local consumption into the 18th century. All the earthenware ware appears to be of Harlow-type and can be paralleled by material excavated at Harlow (Davey and Walker 2009). Several vessel forms, some partially complete, are present and are listed below:

- Base of decorated flared cup or bowl: metropolitan slipware
- Chamber pot with flanged rim: black-glazed ware
- Pedestal base dish: black-glazed ware
- Base and sides of rounded ?jug: black-glazed ware
- Remains of two flared dishes with a groove around the rim: PMRE
- Rounded jar with hooked beaded rim and internal glaze, probably from a single-handled jar: PMRE

The black-glazed ware flanged rim chamber pot is of a type datable to the later 17th century and the metropolitan slipware vessel can be paralleled at Harlow production sites dating to the mid and later 17th centuries. Examples of flared PMRE bowls with grooved rims appear at a Harlow production site dated to the 1660s, but may have been made both before and after this date and are not a closely datable form. The remaining pottery in this feature comprises the rim of a Frechen stoneware bellarmine (a type of narrow-necked jug) datable to the middle years of the 17th century, from around 1625 to 1675 (Hurst *et al.* 1986, fig.106.335 and pl.44). There is also a bevelled rim sherd in plain English tin-glazed earthenware, which could be 17th or 18th century in date. All the pottery could have been current in the later 17th century and this appears most likely for the infilling of this feature.

Another PMRE flared dish, this time with a flanged rim was recovered from Ditch 627, indicating it may have been contemporary with Pit 624. The remaining pottery from this site comprises single sherds of black-glazed ware, recovered from pit 634 and occurring residually in modern ditch 629.

To summarise, the assemblage spans the later 16th to later 17th centuries (possibly continuing to the 18th) with slight evidence that the features at the south of the site, Pit 604 and Ditch 669, are a little earlier than the rest. The excavation has provided good evidence of post-medieval occupation in this area of Bulls Lodge Quarry. Apart from one sherd of 15th to 16th century pottery, there is no evidence of earlier occupation. The assemblage appears domestic in nature, with a mixture of table-wares, kitchen-wares and bedroom-wares (the black-glazed chamber pot, with other less complete jar forms perhaps also from chamber pots). The presence of three flanged dishes is interesting; these may have been used in the kitchen, perhaps as pie dishes (although do not shown signs of heating), or may have had a more specialised use.

6.3 Copper Alloy objects

A total of four objects of copper alloy was retrieved from four separate contexts and appear all to be of post-medieval date. All are in fair to good condition:

Ctxt 606 (Plate 16)

SF1 - open thimble, height 15mm, diameter at base 18mm, weight 2g. Apparently cast, indentation relatively small and hand-punched evenly in a spiral of six rows. No maker's mark apparent. No decoration other than a simple thin incised band or border at top and bottom.

Ctxt 628

SF5 - composite unidentified object, incomplete. Appears to comprise a solid copper alloy pin within a ?coil of black non-metallic material bound with a thin strip of iron and encased within a fragmentary circular copper alloy case, through which the pin extrudes. Overall diameter 21mm, surviving height 8mm. Looks vaguely mechanical or electrical?

Ctxt 641

SF4 - plain strip, c.190mm long x 5.5mm wide, bent and twisted. One possible finished square end, the other slanted and probably broken

Ctxt 646

SF3 - small thin plate button, plain. 16mm diameter. Soldered loop on rear.

6.4 Lead objects

A single lead object was recovered.

Ctxt 606

SF6 - elongated, roughly L-shaped, dribble/puddle of melted lead. c.120mm long, 68g.

6.5 Iron objects

21 iron fragments, representing 20 separate objects, were collected from four contexts. The majority are nails, though there are four more interesting small-find objects. All are moderately corroded but in a stable condition. These are as follows:

Ctxt 606

SF2 - tool haft, incomplete, broken at ?blade end. 25mm diameter haft for ?wooden handle. Object corroded and concreted. 100mm long, 132g

10 nails, heavily corroded, varying sizes and completeness. All square sectioned. Largest complete example 60mm long, shortest 23mm. Also small curving plate fragment.

Ctxt 625

SF9 - horseshoe, complete. Very broad and thick, being 39mm wide and 10mm thick at front, slightly dished. Overall length 131mm and width 120mm. Some nail remains fused in situ. 525g

SF8 - handle and fittings, flattened and broken, but near-complete. Handle features a broad concave grip in centre, narrowing to thinner square-sectioned ends that curve to form open loops with turned/rolled terminals. Shaped mounts still attached to the handle loops. Handle approx 500mm long. Presumably from wooden bucket.

4 nails, square sectioned, all similarly proportioned. Longest 65mm.

Ctxt 628

nail, square-sectioned, tip missing, 40mm long

Ctxt 637

substantial bar fragment, square-sectioned, broken one end. With tapers at opposite end to a catch or barb. Probable gate or door latch bar. 125mm long, 15mm wide. 188g

6.6 Clay pipe

Ten fragments (56g) of clay tobacco pipe were collected from fill 625 of late 17-18th century pit 624. At least three conjoining pieces belong to a single plain bowl and part stem. This is a moderately-sized example with upright bowl and rim parallel to stem. The remainder comprise further stem and a bowl fragment. Parts of a minimum of three pipes are represented. All appear consistent with the ceramic dating for this feature.

6.7 Animal bone by Gemma Ayton

The mammal bone assemblage contains 170 identifiable fragments from post-medieval ditch and pit fills. The assemblage is in a moderate condition with some large but few complete specimens. Bones were hand-collected and therefore small mammals are likely to be underrepresented.

The assemblage has been recorded onto an Excel spreadsheet in accordance with zoning system outlined by Serjeantson (1996). Wherever possible the fragments have been identified to species and the skeletal element represented. Elements that could not be confidently identified to species, such as long-bone and vertebrae fragments, have been recorded according to their size and identified as large, medium or small mammal. In order to distinguish between the bones and teeth of sheep and goats a number of criteria were used including those outlined by Boessneck (1969), Boessneck *et al* (1964), Halstead *et al* (2002), Hillson (1995), Kratochvil (1969), Payne (1969, 1985), Prummel and Frisch (1986) and Schmidd (1972). Red and fallow deer bones and antler were identified with reference to Lister (1997) and Hillson (1996). Metrical data has been taken in accordance with von den Driesch (1976), the assemblage does not contain any recordable mandibles. The state of fusion has been noted and each fragment has then been studied for signs of butchery, burning, gnawing and pathology.

A variety of both wild and domestic mammals have been identified including cattle, horse, sheep, roe deer and fallow deer.

<i>Taxa</i>	<i>NISP</i>
Cattle	11
Horse	3
Fallow Deer	57
Red/Fallow Deer	35
Roe Deer	6
Sheep	1
Sheep/Goat	6
Large Mammal	27
Medium Mammal	24

NISP (Number of Identified Specimens) count

The assemblage is dominated by fragments of fallow deer antler the majority of which were recovered from pit [624], fill [625] and pit [604], fill [606]. In total, 84 antler fragments were recovered and 55 have been identified as fallow deer. The remaining specimens were either too small or in too poor a condition to be confidently distinguished and may represent either red or fallow deer. Amongst the antler assemblage were a number of worked specimens including polished beam points (see worked bone, below) and it is clear that antler working was undertaken in the vicinity. A total of fourteen antler bases were recovered and five of these had been naturally shed whilst the remaining fragments were still attached to the frontal bone. These uncast antlers may have been obtained from corpses though the presence of eight post-cranial bones suggests that deer were also hunted and venison was occasionally consumed.

Few butchery marks were recorded though cattle and sheep are represented primarily by non-meat producing elements including, metapoidals and phalanges which indicates that the area was utilised as a dumping ground for primary butchery waste.

A horse metacarpal gave a withers height of 129cm or c.13 hands. No other measurable bones were recovered.

Although the animal bone assemblage is relatively small it provides information regarding the function of the site. The presence of a relatively large quantity of worked antler indicates that this was a site of craft production.

6.8 Worked bone by Trista Clifford

Worked antler indicating primary bone working was recovered from for separate contexts: 606, 617, 623 and 625, with the largest group from pit fill 625. This small assemblage consists of 17 sawn beam points, present in all contexts, and 7 small tines showing evidence of sawn edges, together with two bases from 625.

Several of the sawn beam points and smaller tines show evidence of polishing. The bases have been chopped through the pedicles and/or burr, with the brow tine having been removed subsequently with a saw in one example. Since this sequence of cuts would not be necessary for butchery alone, the presence of this antler base together with a high number of cut points and tines is indicative of the deliberate selection of raw material, in particular the mid-section of the beam, for further bone working processes.

6.9 Shell

Oyster shell was retrieved from only two contexts; 33 shells (250g) from pit fill 606 and two from ditch fill 614 (14g). All is complete or near-complete valves in fair condition. Both left and right valves are present, right valves predominating in the fill 606 assemblage. The shells vary in size, the smallest left valve being 50mm and the largest 700mm.

6.10 Brick & tile

A total of 80 pieces of brick and tile, weighing 14,292g, was collected from eleven pit and ditch fill contexts. The assemblage predominantly comprises brick fragments, with only six roof tile and one probable floor tile/brick pieces being present.

The brick generally occurs in small quantities and is noticeably fragmented and abraded. All seems to be hand-made. Context 625, the fill of pit 624, comprises 26 pieces, though the majority are small. Of its eight larger examples, one is a near-complete sandy red brick measuring 200 x 105 x 50mm (probably 210mm long complete). Others are in varying sandy orange-brown, soft red and hard dark red fabrics, and are mostly 120mm wide by 60mm thick. One example appears to display a tapering thickness, from 50 to 35mm, though it is not clear whether this is a shaped brick or the result of wear. The bricks from other contexts are of the same character as those from fill 625, though generally featuring fewer substantial fragments and more sign of abrasion. Some pieces are clearly over-fired, one piece from fill 625 to near-vitrification. A certain uniformity might be expected of material from various excavated segments along a single ditch (e.g. 608/612/614/617 from ditch group 669) and this is indeed the case.

The small quantity of roof tile mostly comes from fill 625 (pit 624). All fragments are small, 12mm thick and in a fine orange fabric. The single piece from fill 628 (ditch 627) bears a peg hole. The same fill also includes a probable floor tile/brick in a red, slightly coarse and sandy fabric and is 25mm thick. Additionally, two small fragments of yellow 'gault' clay tile may in fact derive from land drain tubes and so most probably be intrusive in fill 641 (ditch 638).

All the brick and tile assemblage would appear to be of post-medieval date and in keeping with the late 16th/17th dating for the pottery that is present in the same features. It is noteworthy that all of this material derives only from the eastern part of the site.

6.11 Worked & burnt flint

A single struck flint comes from fill 700 of prehistoric pit 699. This is a small (<2g) secondary flake in a dull light brown poor quality flint, with no retouch evident. Otherwise undiagnostic, it occurs in the same context as a bowl sherd of possible early Iron Age date.

Twelve pieces of burnt flint, weighing 465g, were recovered from fill 685 of prehistoric pit 684. Almost all are relatively fragments of large pebbles, the biggest being 6cm x 5cm. All are burnt to a light grey colour, one piece with a pink outer surface, and heavily heat cracked. None are worked.

6.12 Glass

Two vessel sherds; relatively short neck of a bottle and a body sherd probably also from a bottle, 68g. Also five fragments of plate glass, very thin, 6g. All items are clouded gold and laminating. All from pit fill 625.

6.13 Miscellaneous objects

A single piece of stone (585g, thought to possibly be worked, was retrieved from pit fill 625. This is a pale cream coloured, vaguely tabular, dense limestone fragment, ostensibly with a dished and pitted 'upper' surface - though in reality more probably this is a natural feature and the piece is unworked.

Two small charcoal fragments were collected from pit fill 625 and pit fill 666.

6.14 Discussion

The prehistoric finds collected from 660, 665 and 667 provide dating evidence for these features, but have relatively little further interpretive value. Despite the majority of the investigated features appearing to relate to post-medieval land-division, both boundary ditches and pits at the eastern end of the site appear to have attracted the deposition of interesting and significant amounts of material of a domestic nature and of a fairly consistent 17th/18th century date. In particular, the presence of relatively large quantities of ceramic household items such as dishes, jugs, chamber pots and cisterns, glass and the varied range of metalwork, suggests that the material retrieved from these features derives from a dwelling nearby. Similarly, the brick assemblage is perhaps uncharacteristically large and un-fragmented for a site such as this and may derive from its structure.

The domestic animal bone and oyster shell component from the ditches and pits in the eastern vicinity of the site may also derive from this postulated occupation site. However, the more interesting aspect is that of the significant quantity of roe and fallow deer remains also present. Given the seemingly isolated location of the site, in an area probably still within the emparkment of New Hall during the late 16th and 17th centuries, it is not unreasonable to suggest that this material represents waste from primary butchery of freshly hunted game and the recovery of selected antler material for working and production of items such as knife handles. As such, the animal bone assemblage may well warrant further study in order to aid interpretation of the nature and function of its postulated related occupation site.

7.0 DISCUSSION & ASSESSMENT OF RESULTS

Archaeological remains dating to the later prehistoric, post-medieval and modern periods were all recorded. While construction of the WW2 airfield had clearly disturbed and removed archaeological features in the vicinity of the old taxiway, general ground preparation in advance of airfield construction appears not to have been particularly severe. The northeast corner of the western part of the site was evidently once occupied by a set of dispersal circles, since removed but still indicated by a curving perimeter ditch/gully (see figure 2), but underlying features (i.e. ditches 686 and 697) survive in relatively un-truncated form.

While it is acknowledged that subsoil layer 671 obscured the top of the natural deposit over a significant portion of the site, itself probably being an airfield related deposit, it is judged unlikely that this has resulted in significant quantities of remains being left unrecorded. The range of features exposed and investigated is likely to be an accurate reflection of the

archaeological content of the site as a whole. The recorded remains are discussed, further interpreted and their significance considered by broad period below.

7.1 Prehistoric

While only a few discrete features could be assigned a later prehistoric date on the grounds of their artefact content, it is highly likely that most, if not all the undated examples are also Bronze Age or perhaps later. The relatively low density scatter of prehistoric pits, confined only to the area west of the taxiway, is similar to that of the earlier striped areas in this vicinity of the quarry. In the absence of associated enclosure systems and structures, and given the paucity of artefacts in their fills, it is difficult to interpret function and significance other than to conclude that these are a part of a wider general later prehistoric land use activity.

7.2 Late Iron Age to Medieval

No Late Iron Age, Roman or Saxon remains were found, which is consistent with the results of archaeological monitoring of previous areas of topsoil strip within this north-western part of the quarry. Despite a medieval farmstead being investigated a short distance to the south, no features or finds of this date were encountered within the current site and it is presumed that such settlements are tightly focused and have only limited enclosure systems around them.

7.3 Post-medieval & Modern

The majority of the recorded remains were of post-medieval or modern date, largely comprising enclosure and drainage systems dating from the late 16th through to the 18th century. Somewhat surprising and of particular interest is that boundary ditches and pits at the eastern end of the site appear to have attracted the deposition of interesting and significant amounts of material of a domestic nature and of a fairly consistent 17th/18th century date. In particular the ceramic household items, together with the metalwork and brick assemblage, suggests the former presence of a dwelling in close proximity to the site. Moreover, the presence of significant quantities of deer remains suggest an association between this cluster of features and the New Hall estate deer park during the late 16th and 17th centuries. The evidence for craft production using the antler is of particular interest. The location of this cluster of activity at the eastern end of the site suggests that more significant evidence for a dwelling may lie just east of the excavation area; the investigation of which being a clear objective for future work.

Feature 638/643, recorded as a large ditch, shows an alignment with the field boundary ditch present along the very eastern edge of the site. Late 19th and early 20th century mapping suggests that the feature may be an irregular-shaped pond, or a series of intercutting ponds, as much as it is a ditch; other ponds associated with ditches appear to be present within the general vicinity. The historic mapping also indicates the possible presence of a north-south oriented track in this location and the parallel alignment of 638/643 beside the identified field boundary ditch may support this as evidence for drainage ditches on either side of such a route. If this is accepted then east-west ditch 627, which appears contemporary with 638/343, was presumably dug after this track fell out of use.

Some of the 19th century boundary and drainage features clearly persisted into the 20th century and only appear to have passed out of use when purposefully backfilled – ostensibly as part of the preparation of the site for the WWII airfield. The recorded remains of latest date relate directly to the structures of the airfield. As such, these are adequately mapped and understood from contemporary records. While they are of relatively low archaeological importance, they have some significance in that they form part of the latest tangible land use remains in this landscape.

The information gained from this phase of quarry investigation works adds to general understanding and interpretation of the evolution of this landscape from the prehistoric to modern day. The results should be subsumed into the analysis and publication of cumulative quarry investigation as and when the opportunity arrives.

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BIBLIOGRAPHY

- | | | |
|--|------|---|
| Allen, P. | 2011 | <i>Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2011</i> , 2435 HER summary October 2011 |
| Archer, J. and
Clarke, R. | 2007 | 'A Late Iron Age and early Roman enclosure at Bulls Lodge Quarry, Boreham Airfield: archaeological monitoring and excavation 1997-2004'. <i>Essex Archaeol. Hist.</i> 36, 188-193 |
| Barrett, J. | 1980 | 'The pottery of the later Bronze Age in lowland England' <i>Proc. Prehist. Soc.</i> 46 , 297-330 |
| Boessneck, J.,
Muller, H.H. and
Teichart, M. | 1964 | 'Osteologische Unterscheidungsmerkmale zwischen Schaf (<i>Ovis aries</i> Linne) und Ziege (<i>Capra hircus</i> Linne). <i>Kuhn-Archiv</i> 78, 5-129 |
| Boessneck, J. | 1969 | 'Osteological differences between sheep (<i>Ovis aries</i> Linne) and goat (<i>Capra hircus</i> Linne), in Brothwell, D.R and Higgs, E.S (eds) <i>Science in Archaeology: A Comprehensive Survey of Progress and Research</i> . London: Thames and Hudson.331-358 |
| Brown, N. | 1988 | 'A Late Bronze Age enclosure at Lofts Farm, Essex' <i>Proc. Prehist. Soc.</i> 54 . 249-302 |
| Brown N. and
Glazebrook J. | 2000 | <i>Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy</i> , E. Anglian Archaeol. Occ. Paper 8 |
| Clarke, R. | 2003 | <i>A medieval moated site and windmill: excavations at Boreham Airfield, Essex 1996</i> , E. Anglian Archaeol. Occ. Pap. 11 |
| Cunningham,
C.M. | 1985 | 'A typology for post-Roman pottery in Essex', in Cunningham, C. M. and Drury, P. J., <i>Post-medieval sites and their pottery: Moulsham Street, Chelmsford</i> , Chelmsford Archaeol. Trust Rep. 5, Counc. Brit. Archaeol. Res. Rep. 54, 1-16 |
| Davey, W. and
Walker, H. | 2009 | <i>The Harlow pottery industries</i> , Medieval Pottery Research Group Occasional Paper 3 |
| Ennis, T. | 2011 | <i>Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2008-9</i> , FAU rep. 1975 |
| Ennis, T. | 2012 | <i>Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2012</i> , FAU rep. 2582 |
| Germany, M. | 2003 | <i>Excavations at Great Holts Farm, Boreham, Essex, 1992-94</i> . E. Anglian Archaeol. 105 |
| Germany, M. | 2007 | <i>Bulls Lodge Quarry, Former Boreham Airfield, Essex. Archaeological Monitoring and Excavation 2005 and 2006</i> . ECC FAU Report 1704 |
| Germany, M. | 2008 | <i>Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation 2007</i> , ECC FAU Rep. 1822 |
| Gilman, P. and
Bennett, A. (eds) | 1991 | 'Work of the Essex County Council Archaeology Section 1990', <i>Essex Archaeol. Hist.</i> 22, 139 |
| Gurney, D. | 2003 | <i>Standards for Field Archaeology in the East of England</i> . E. Anglian Archaeol. Occ. Pap. 14 |
| Halstead, P.,
Collins, P. and
Isaakidou, V. | 2002 | 'Sorting Sheep from Goats: Morphological distinctions between the mandibles and mandibular teeth of adult <i>Ovis</i> and <i>Capra</i> '. <i>Journal of Archaeological Science</i> 29, 545-553 |

Hillson, S.	1995	Mammal Bones and Teeth: An Introductory Guide to Methods of Identification. London: Institute of Archaeology, University of London
Holmes, E.F.	undated	<i>Sewing Thimbles</i> , Finds Research Group 700-1700 Datasheet 9
Hurst, J. G., Neal, D.S. and Beuningen, H.J.	1986	<i>Pottery Produced and Traded in North-West Europe 1350 – 1650</i> (Rotterdam Papers VI)
IfA	2008	<i>Standard and guidance for the collection, documentation, conservation and research of archaeological materials (revised)</i>
IfA	2008	<i>Standard and Guidance for Archaeological Excavation (revised)</i> . Institute for Archaeologists
IfA	2008	<i>Standard and Guidance for Archaeological Watching Brief (revised)</i> . Institute for Archaeologists
Jones, B.	1988	'Wartime Airfield' in Burgess, E. and Rance, M. (eds), <i>Boreham, History, Tales and Memories of an Essex Village</i> , 78-84 (Lavenham)
Kratochvil, Z.	1969	'Species criteria on the distal section of the tibia in <i>Ovis ammon</i> F. <i>aries</i> L. and <i>Capra aegagrus</i> F. <i>hircus</i> L.' <i>Acta Veterinaria</i> 38 , 483-490
Lavender, N.	1993	'A Roman principia at Boreham: excavations 1990'. <i>Essex Archaeol. Hist.</i> 24 , 1-22
Lister, A.M.	1997	'The Morphological Distinction between Bones and Teeth of Fallow Deer (<i>Dama dama</i>) and Red Deer (<i>Cervus elaphus</i>)'. <i>International Journal of Osteoarchaeology</i> 6 , 119-143
Medlycott, M. (ed.)	2011	Research and Archaeology Revisited: a revised framework for the East of England, E. Anglian Archaeol. Occ. Paper 24
Payne, S.	1969	'A metrical distinction between sheep and goat metacarpals', in Ucko, P. and Dimbleby, G. (eds) <i>The Domestication and Exploitation of Plants and Animals</i> . London: Duckworth, 295-305
Payne, S.	1985	'Morphological distinctions between mandibular teeth of young sheep, <i>Ovis</i> , and goats, <i>Capra</i> '. <i>Journal of Archaeological Science</i> 12 , 139-147
Schmid, E.	1972	'Atlas of Animal Bones- for pre-historians, archaeologists and quaternary geologists.' Amsterdam: Elsevier Publishing Company.
Serjeantson, D.	1996	'The Animal Bones, in Needham, S and Spence, T 'Runnymede Bridge Research Excavations, Volume 2: Refuse and Disposal at Area 16 East, Runnymede'. London: British Museum, 194-223
Stephen, M.	1988	'The Mystery of Walfares', in Burgess, E. and Rance, M. (eds), <i>Boreham, History, Tales and Memories of an Essex Village</i> , 85-87 (Lavenham)
von den Driesch, A.	1976	'A Guide to the Measurement of Animal Bones from Archaeological Sites', Peabody Museum Bulletin Harvard University

APPENDIX 1: FEATURE CONTEXT DATA

All dimensions given in metres

Contexts	Type	Filled by	Description	Period
600	Layer	-	Mid greyish brown clay silt plough soil, c.0.30m thick	-
601	Layer	-	Light/mid yellowish orange clay natural deposit	-
602	Ditch seg.	603	East-west aligned linear cut, 1.0m wide x 0.30m deep. Part of group 669	Post-med
604	Pit	605, 606	Sub-circular cut, 1.30m x 0.30m deep	Post-med
607	Ditch seg.	608	East-west aligned linear cut, 0.80m wide x 0.26m deep. Part of group 669	Post-med
609	Ditch seg.	610	East-west aligned linear cut, 0.90m wide x 0.35m deep. Part of group 669	Post-med
611	Ditch seg.	612	NW-SE aligned linear cut, 0.66m wide x 0.20m deep. Part of group 669	Post-med
613	Ditch seg.	614	North-south aligned linear cut, 0.90m wide x 0.32m deep. Part of group 669	Post-med
615	Ditch seg.	616, 617	Corner of linear cut, 1.22m wide x 0.30m deep. Part of group 669	Post-med
618	Pit	619	Sub circular/triangular cut, 0.83m x 0.76m x 0.24m deep	Post-med
620	Ditch seg.	621	Curvilinear cut, 0.54+ x 0.60m x 0.17m deep. Part of group 669	Post-med
622	Ditch seg.	623	NE-NW aligned linear cut, 0.60m wide x 0.20m deep	Post-med
624	Pit	625, 626	Sub-circular cut, 1.50m x 1.40m x 0.30m deep	Post-med
627	Ditch seg.	628	ESE-WNW aligned linear cut, 1.26m wide x 0.35m deep	Post-med
629	Ditch seg.	630, 631	ESE-WNW aligned linear cut, 1.20m wide x 0.45m deep. With 636	Modern
632	Pit	633	Oval cut, 0.80m x 0.60m. Unexcavated	Post-med
634	Pit?	635	Oval cut, 3.5m x 2.0m. Unexcavated	Undated
636	Ditch seg.	637	ESE-WNW aligned linear cut, terminal.0.64m wide x 0.20m deep. With 629	Modern
638	Ditch seg.	639-642	North-south linear cut, partially recorded due to flooding, segment 643 fully recorded.	Post-med
643	Ditch seg.	644-646	North-south linear cut, 5.0m wide x 1.08m deep. With 638	Post-med
647	Post-hole	648	Oval cut, 0.60m x 0.30m x 0.1m deep	Undated
649	Pit	650, 651	Irregular oval cut, 1.60m x 0.80m x 0.25m deep	Undated
652	Pit?	653, 654	Irregular oval cut, 0.70m x 0.46m x 0.20m deep	Undated
655	Ditch seg.	656, 657	North-south aligned cut, 1.45m wide x 0.45m deep	Post-med
658	Pit	659	Circular cut, 2.70m x 0.72m deep	Undated
660	Pit	661, 662	Sub-circular cut, 1.80m x 1.60m x 0.25m deep	Prehist
663	Tree hole?	664, 670	Irregular cut, 1.30m+ x 0.64m x 0.21m deep	Undated
665	Pit	666	Circular cut, 0.64m x 0.10m deep	Prehist
667	Pit	668	Oval cut, 0.90m x 0.60m x 0.14m deep	Prehist
669	Ditch group	-	Inc. segs. 602, 607, 609, 611, 613, 615, 620	Post-med
671	Layer	-	Mid grey-brown clay silt subsoil, running NW-SE across site. c.60m-120m wide band	Modern?
672	Pit?	673, 674	Elongated cut, 3.0m x 0.60m x 0.22m max deep	Undated
675	Pit	676	Irregular oval cut, 1.0m x 0.46m x 0.17m deep	Undated
677	Post-hole	678, 679	Near-circular cut, 0.25m x 0.08m deep	Undated
680	Pit	681	Elongated ?rectangular cut, 1.30m x 0.50m x 0.32m deep	Undated
682	Pit	683	Oval cut, 0.52m x 0.44m x 0.10m deep	Undated
684	Pit	685	Near circular cut, 0.68m x 0.62m x 0.09m	Undated
686	Ditch seg.	687, 688, 690	North-south linear cut, 2.0m wide x 0.75m deep	Post-med
691	Pit	692-694	Oval cut, 0.80m x 0.50m x 0.30m deep	Undated
694	Pit	695, 696	Oval cut, 0.80m x 0.60m x 0.07m deep	Undated
697	Ditch seg.	698	NNW-SSE aligned linear cut, 2.60m wide x 0.42m deep	Post-med

Contexts	Type	Filled by	Description	Period
699	Pit	700	Circular cut, 0.56 x 0.54 x 0.12m deep	Prehist
701	Pit	702	Irregular oval cut, 1 x 0.64 x 0.27m deep	Undated

APPENDIX 2: FINDS DATA

Context	Feature	Count	Weight (g)	Description	Date
605	Pit 604	5	64	Animal bone: deer	-
606		33	740	Pottery: PMRE dish, cistern & mug frags, also Frechen stoneware jug sherds	L16-17 cent
		19	380	Brick: small and abraded fragments	
		1	2	Cu alloy object: open thimble SF1	
		1	68	Lead object: puddle/dribble SF6	
		12	-	Iron objects: tool haft SF2, ten nails and a misc frag	
		47	640	Animal bone: deer (inc. worked antler), sheep/goat, and cattle	
608		Ditch 607	33	250	Shell: oyster, complete left and right valves
	3		66	Pottery: PMRE ?cistern and black-glazed ware rim sherds	L16-17 cent
	4		2624	Brick: inc. two half brick frags, one shaped or worn?	
			8	116	Animal bone: deer along with unidentified fragments
610	Ditch 609	1	4	Animal bone: fragment from a sheep/goat	-
612	Ditch 611	2	46	Pottery: PMRE ?dish sherds	L16-17 cent
		5	821	Brick: small abraded frags	
		1	25	Animal bone: large mammal	-
614	Ditch 613	12	374	Pottery: PMRE jar/jug handle, bowl/jar rim, tripod base foot, also black-glazed ware tyg sherd	L16-17 cent
		5	637	Brick & tile: one small roof tile frag; remainder brick, small and abraded	
		7	271	Animal bone: horse	-
		2	14	Shell: oyster, one left and one right valve	-
617	Ditch 615	6	630	Pottery: PMRE jug/cistern, jar/bowl and black-glazed ware sherds	16-17 cent
		2	1120	Brick: one large, one small frag. Both abraded	
		10	880	Animal bone: horse, cattle and worked deer antler	-
619	Pit 618	5	196	Brick & tile:	
623	Ditch 622	4	9	Animal bone: unidentified fragments and deer antler (inc. worked fragments)	-
625	Pit 624	46	2115	Pottery: PMRE, Stoneware Bellarmine jug, tin-glazed earthenware, Metropolitan slipware and Black-glazed ware sherds, inc jug, dish, and ?chamber pot forms	L17-E18 cent
		30	6492	Brick & tile: four small roof tile frags; remainder brick, large and small frags. One near complete.	
		8	-	Iron objects: Bucket handle SF8 frags, horseshoe SF9, four nails	
		10	56	Clay pipes: bowl and stem frags from min three pipes	
		147	2242	Animal bone: substantial quantities of deer including several examples of worked antler, as well as sheep/goat and cattle.	-
		7	74	Glass: two bottle sherds, five plate frags	
		1	3	Charcoal	-
		1	585	Stone: limestone frag, ?unworked, though poss worn surface	-
626		1	12	Pottery: PMRE ?jug sherd	17-19 cent
628	Ditch 627	2	122	Pottery: PMRE dish sherds	L17 cent
		5	546	Brick & tile: one roof tile frag with peghole; one floor tile/brick; remainder abraded brick frags	
		1	-	Cu alloy object: unidentified object SF5	
		1	-	Fe object: nail	
		9	96	Animal bone: mainly unidentified but also cattle and possible sheep/goat	
		633	Pit 632	1	737
635	Pit 634	1	30	Pottery: Black-glazed ware jar - chamber pot?	17-E18 cent
637	Ditch 636	1	5	Pottery: Black-glazed ware sherd	17-E18 cent
		1	188	Iron object: ?latch bar SF7	
641	Ditch 638	3	203	Brick & tile: one small brick frag; two small gault clay ?tile frags - poss intrusive land drain?	
		1	-	Cu alloy object: plain strip SF4	

		2	53	Animal bone: unidentified medium mammal	-
645	Ditch 643	1	536	Brick: abraded frag	
646		1	-	Cu alloy object: button SF3	
661	Pit 660	5	202	Pottery: inc. form A jar rim and shoulder	Prehist
666	Pit 665	2	8	Pottery: no diagnostic forms	Prehist
668	Pit 667	12	62	Pottery: no diagnostic forms	Prehist
685	Pit 684	12	465	Burnt flint	
700	Pit 699	1	3	Pottery: form K bowl sherd	EIA?
Total		523			

APPENDIX 3: POST-MEDIEVAL POTTERY DATA

Context	Feature	Count	Weight	Description	Date
606	604	1	14	Sandy orange ware: from shoulder of vessel, splashes of glaze internally	15 th to 16 th C
		2	55	Post-medieval red earthenware: sherds from cisterns; upright rim with internal bevel and fragment of bung-hole, both unglazed	16 th C
		11	223	Post-medieval red earthenware: sherds from flanged rim dish, unglazed apart from decomposed powdery glaze on base	Later 16 th to 17 th C
		5	158	Post-medieval red earthenware: fragments from tyg/flared mug(s), narrow vessel, bands of rilling, lower handle attachment at base, all over but patchy plain lead glaze, thick white residue inside base, indicating secondary use	Later 16 th to 17 th C
		4	66	Post-medieval red earthenware: fragment from larger tyg/mug, all over brown glaze and bands of rilling, plus other rilled body sherds from mugs/tygs or larger vessels	Later 16 th to 17 th C
		8	116	Post-medieval red earthenware: misc. sherds glazed and unglazed	Later 16 th to 17 th C
		2	108	Frechen stoneware: rim and cylindrical neck from rounded jug, speckled but not 'tiger ware' salt glaze	Later 16 th to 17 th C
608	607	2	60	Post-medieval red earthenware: unglazed sherds comprising flanged rim with external thickening and thick-walled base perhaps from a cistern	16 th c
		1	6	Black-glazed ware: upright rim, rilled, all over very dark green rather than true black glaze	Later 16 th to 17 th C
612	611	2	46	Post-medieval red earthenware: unglazed sherds, one perhaps from a flared dish	Later 16 th to 17 th C
614	613	8	216	Post-medieval red earthenware: unglazed handle, oval in section with single thumb mark at base from a jar or jug; internally glazed flanged rim from bowl or jar; unglazed foot from tripod base of pipkin or cauldron and misc. internally glazed sherds	Later 16 th to 17 th C
		3	68	Post-medieval red earthenware: joining sherds from vessel, very dark brown internal glaze, external surface almost completely laminated away	Later 16 th to 17 th C
		1	90	Black-glazed ware: base of large tyg/cylindrical mug, rilled sides, Harlow type	Most likely 17 th C
617	615	2	535	Post-medieval red earthenware: thick-walled unglazed slightly sagging base sherds from large jug or cistern	16 th C
		3	88	Post-medieval red earthenware: internally glazed base from jar or small bowl; joining sherds from glazed jug handle, oval in section, thickened at the edges, abraded edges	16 th to 17 th C
		1	6	Black-glazed ware: thick-walled sherd not from drinking vessel, full external black glaze, splashes of glaze internally; adhesion on handle attachment scar on external surface	17 th C or later
625	624	1	22	Frechen stoneware: rim of bellarmine jug, 'tiger ware' salt glaze	17 th C
		1	4	English tin-glazed earthenware: thick, all over off white tin glaze, undecorated,	Most likely 18 th C
		2	24	Metropolitan slipware: joining sherds from the base of a flared cup or flared bowl with an all over glaze and slip-trailing, possibly in the form of lettering on the external surface (cf. Davey and Walker 2009, fig. 57.12; fig.60.334)	Mid 17 th to late 17 th C or beyond
		10	505	Black-glazed ware: joining sherds from chamber pot with flanged rim, profile present but not handle; horizontal incised line below rim, pad base; yellow/white deposit in base perhaps urine.	Later 17 th C

		10	448	Black-glazed ware: joining sherds from base and sides of rounded vessel, almost certainly a jug although no handle is present, angle with neck visible; all over black glaze, although glaze cover is patchy on the inside of the shoulder – an indicator that it is from a jug, black colour partial achieved by reduction of fabric; pool of glaze to one side of base, where it has been stacked at an angle in the kiln; wear mark around girth, perhaps from being stored in a crate	17 th to 18 th centuries
		2	74	Black-glazed ware: joining sherds from pedestal base dish, comparable in Davey and Walker 2009, fig.28.172	17 th to earlier 18 th C
		6	110	Black-glazed ware: thick-walled body sherds, all but one joining, with an all over black glaze, most likely from a jar form, perhaps another chamber pot	17 th to earlier 18 th C
		2	48	Post-medieval red earthenware: discoloured sherds showing remains of powdery glaze, perhaps burnt, comprising a body sherd and the rim of a flanged dish	17 th to earlier 18 th C
		3	370	Post-medieval red earthenware: joining sherds from flared dish with pronounced groove around the rim and internal glaze, as found at the Latton Riddings site in Harlow (Davey and Walker 2009, fig.69.384)	Current during the 1660s
		2	162	Post-medieval red earthenware: joining sherds from slightly flared dish with shallow groove around rim, all over glaze, comparable to vessels at the Latton Riddings site in Harlow (Davey and Walker 2009, fig.63.367-72)	Current during the 1660s
		3	172	Post-medieval red earthenware: joining sherds from the profile of a rounded jar with a hooked beaded rim, probably a single-handled jar, although no handle is present, internally glazed, band of incised grooves below rim, again similar to material from Latton Riddings (cf. Davey and Walker 2009, fig.70.398), but this is a common vessel type and would have been made at several production site	Current during the 1660s
		1	38	Post-medieval red earthenware: fragment of second jar with beaded rim and internal glaze	Current during the 1660s
		3	140	Post-medieval red earthenware: misc. sherds comprising two internally glazed thick-walled base sherds and a body sherd with an all over glaze	17 th to 18 th C
626	624	1	10	Post-medieval red earthenware: handle fragment, oval in section with all over glaze, probably from a jug	17 th to 19 th C
628	627	2	122	Post-medieval red earthenware: joining sherds from flared dish, internally glazed with hooked flanged rim, similar at Latton Riddings (Davey and Walker 2009, fig.63.370-71)	Current during the 1660s
635	634	1	30	Black-glazed ware: base of jar form, perhaps another chamber pot, all over black glaze. Wear on underside of base as if stood on a hard floor	17 th to earlier 18 th C
637	629	1	4	Black-glazed ware: thick-walled body sherd with all over black glaze	17 th to earlier 18 th C
		107	4138		

APPENDIX 4: ESSEX HISTORIC ENVIRONMENT RECORD SUMMARY SHEET

Site name/Address: Bulls Lodge Quarry (former Boreham Airfield), Boreham, Essex	
Parish: Boreham	District: Chelmsford
NGR: TL 73250 12300	Site Code: BOAF 05
Type of Work: Archaeological Monitoring & Excavation	Site Director/Group: Adam Dyson, ECC Field Archaeology Unit
Dates of Work: 6th Nov 2012 to 24th Jan 2013	Size of Area Investigated: c.6 ha
Location of Finds/Curating Museum: Chelmsford	Funding source: Hanson Aggregates
Further Seasons Anticipated?: Yes	Related HER Nos.:
Final Report: EAH	Oasis No.: 143297
Periods Represented: prehistoric, post-medieval, modern	
<p>SUMMARY OF FIELDWORK RESULTS:</p> <p>The topsoil stripping of a 6ha area in the north-west of Bulls Lodge Quarry was subject to archaeological monitoring and investigation, in advance of the northward enlargement of extraction works, in winter 2012/13. A scatter of prehistoric pits and post-medieval features were exposed and investigated.</p> <p><u>Prehistoric</u></p> <p>Towards the west of the site a relatively low density scatter of small prehistoric pits was identified. This is similar result to that of the earlier striped areas in this vicinity of the quarry and, given the absence of associated enclosure systems and structures, can only be regarded as evidence of general later prehistoric land use activity.</p> <p><u>Post-medieval</u></p> <p>The majority of the recorded remains were of post-medieval or modern date, largely comprising enclosure and drainage systems dating from the late 16th through to the 18th century. Of particular interest were boundary ditches and pits at the eastern end of the site which contained significant amounts brick and tile as well as material of a domestic nature and of a fairly consistent 17th/18th century date. Moreover, the presence of significant quantities of deer bone and antler, suggest an association between this cluster of features and the New Hall estate deer park during the late 16th and 17th centuries, with evidence for craft production using the antler being of particular interest. The presence of a dwelling in close proximity, most likely just to the east of the present site, is suggested.</p> <p><u>Modern</u></p> <p>Further drainage features and general disturbance relating to the sites use as a WW2 airfield were also identified.</p>	

Previous Summaries/Reports:

Allen, P. 2011 (Oct). *Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation, 2011*. EHER Summary

Clarke, R. 2003. *A medieval moated site and windmill: excavations at Boreham Airfield, Essex 1996*. E. Anglian Occ. Paper 11

Ennis, T. 2011. *Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2008-9*, ECC FAU rep. 1975

Ennis, T. 2012. *Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2012*, ECC FAU rep.2582

Germany, M. 2007 (Feb). *Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation, 2005 and 2006*. ECC FAU report 1704

Germany, M. 2008. *Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation 2007*, ECC FAU Rep 1822

Author of Summary: A. Dyson

Date of Summary: May 2013

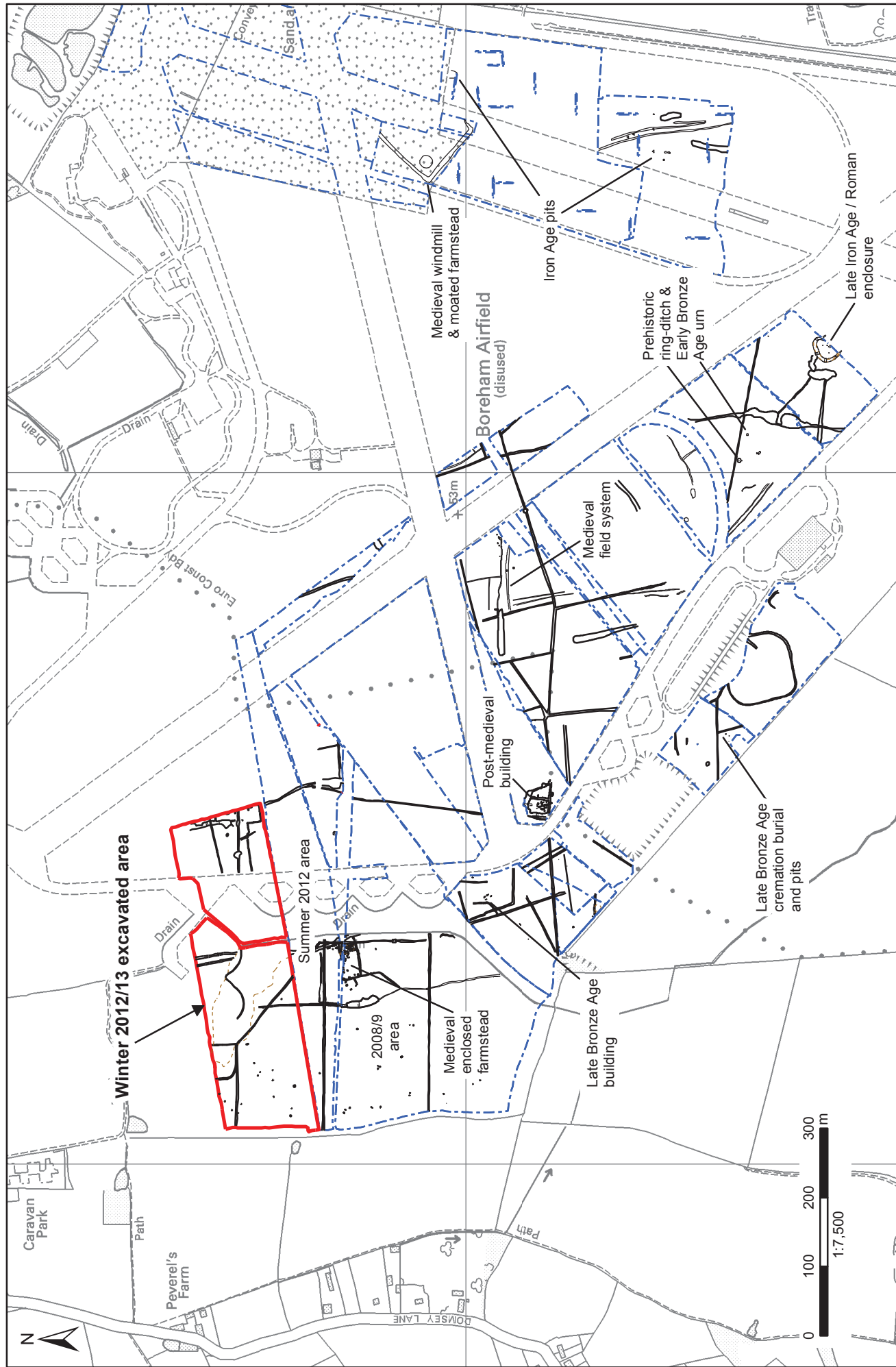


Fig.1. Location plan

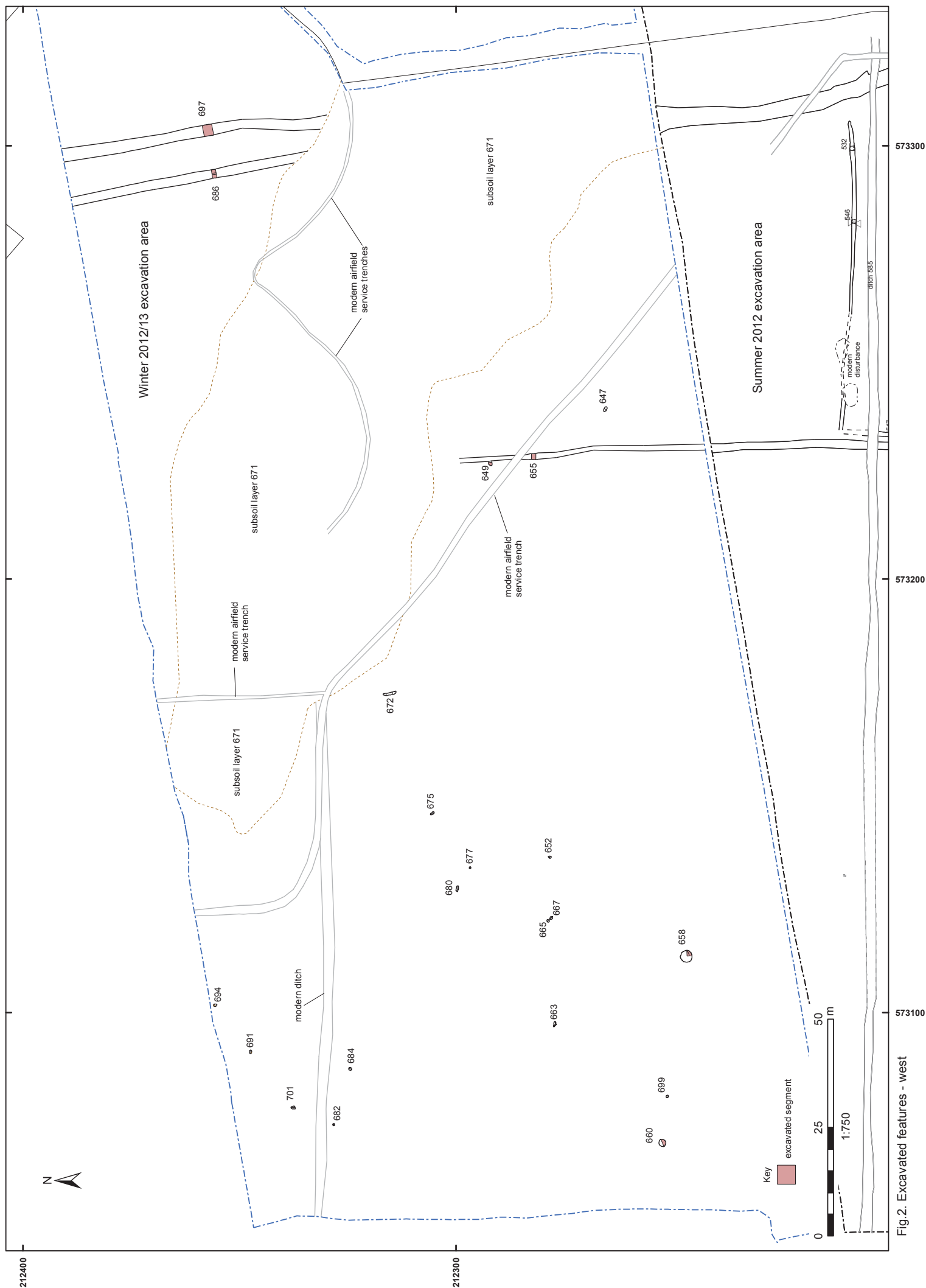


Fig.2. Excavated features - west

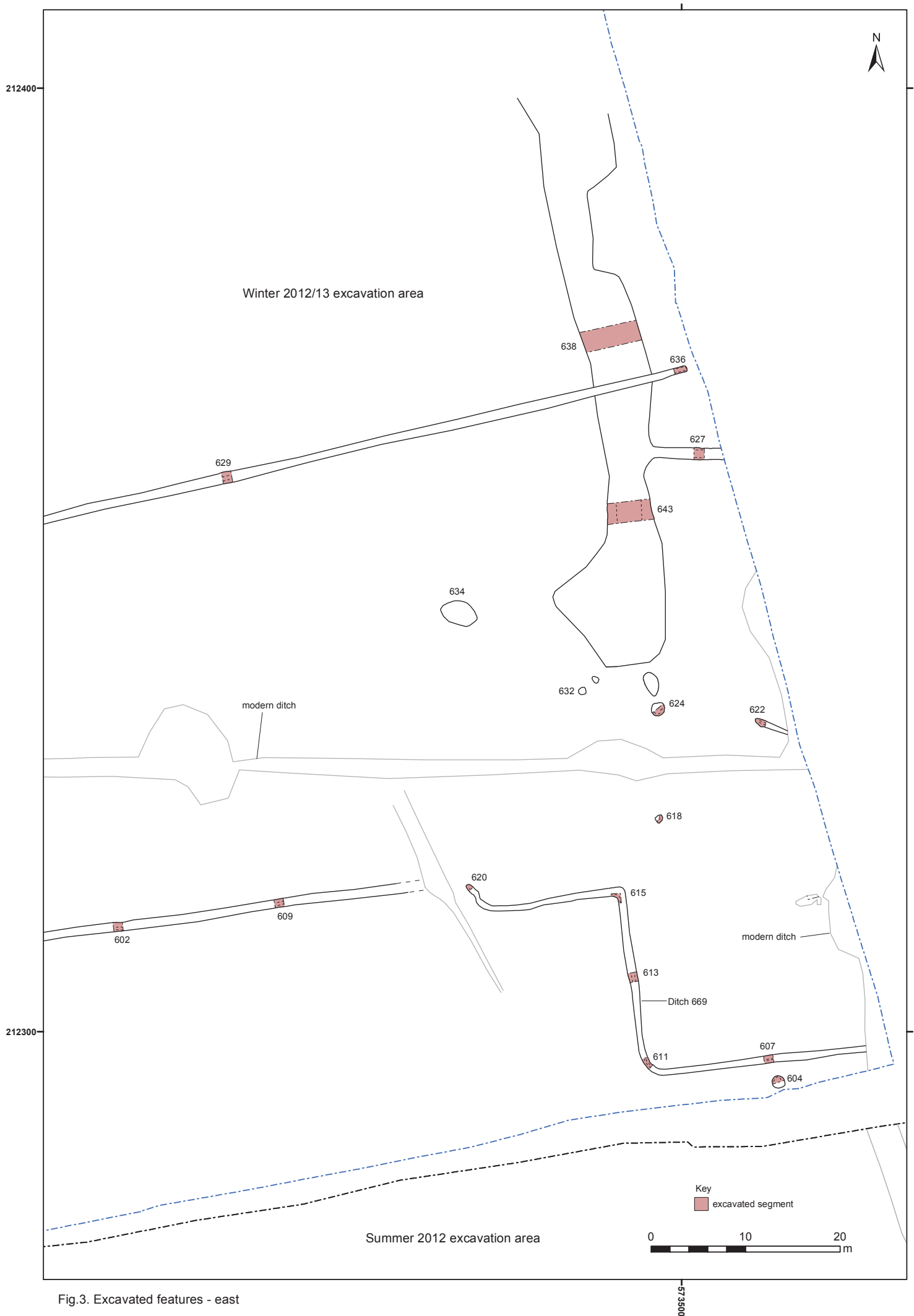


Fig.3. Excavated features - east



Plate 1. General view of topsoil strip in progress, east end of site



Plate 2. General view of topsoil strip in progress, west end of site



Plate 3. Subsoil over natural



Plate 4. Pit 699, looking southwest (0.5m scale)



Plate 5. Pits 665 and 667, looking northeast (0.5m scale)



Plate 6. Ditch 669, segment 607, looking east (0.5m scale)



Plate 7. Ditch segment 609, looking east (0.5m scale)



Plate 8. Ditch 643, looking south (1m scale)



Plate 9. Ditch 655, looking south (1m scale)



Plate 10. Pit 604, looking south (1m scale)



Plate 11. Pit 624, looking northwest (1m scale)



Plate 12. Pit 658, looking north (1m scale)



Plate 13. Pit 684, looking southeast (0.5m scale)



Plate 14. Pit 672, looking north (0.5m scale)



Plate 15. Pit 691, looking south (0.5m scale)



Plate 16. Open thimble SF1 (height 15mm)