

KIRTON QUARRY

Archaeological Watching Brief

New Best Red Quarry extension: July-August 2017



NETWORK ARCHAEOLOGY

for

FORTERRA BUILDING PRODUCTS

Network Report: 17015: August 2017

OASIS ID: networka2-291913

NGR: 469310 368970



Document control

Client	Forterra Building Products Limited					
Project	Kirton Quarry					
Document title	Archaeological Watching Brief: New Best Red Quarry extension					
Report no.	17015					
Document ref.	KIQ126 report ver 1.0					
Distribution	William Selby (Forterra Building Products); Ursilla Spence (Nottinghamshire County Council)					
NGR	469310 368970					
Civil Parish	Kirton, Nottinghamshire					
Postcode	NG22 9LG					
OASIS ID	networka2-291913					
Document comprises:	Doc. control sheet	Contents	Text	Figures	Plates	Appendices
	1 page	2 pages	14 pages	1	2	4 (5 pages)

Version	Status	Author(s)	Reviewer	Approver	Date
0.1	Internal draft	Richard Moore	Chris Taylor		25 Aug 2017
1.0	Issue	Richard Moore	Chris Taylor	Chris Taylor	25 Oct 2017
2.0	Re-issue with minor changes	Richard Moore		Chris Taylor	01 Nov 2017



Northern Office
15 Beaumont Fee
Lincoln LN1 1UH
Tel: 01522 532621

Email: enquiries@netarch.co.uk

Southern Office
22 High Street
Buckingham MK18 1NU
Tel: 01280 816174

Email: enquiries@netarch.co.uk



Network Archaeology delivers a complete consultancy and field service nationwide. Our particular expertise is linear infrastructure: pipelines, roads, rail and cables. Our emphasis is on good communication and recognition of the individual needs and priorities of our clients. Network is known for delivering professional support, taking care of the archaeology and enabling projects to keep moving forward.

© Network Archaeology Ltd, August 2017

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means - electronic, mechanical, photocopying, recording or otherwise - unless the permission of the publisher has been given beforehand. All statements and opinions presented in any report(s) arising from the proposed programme of investigation are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the authors of the report(s) for any error of fact or opinion resulting from incorrect data supplied by any third party.

Our operating systems have been verified by:



serving the procurement professional



CONTENTS

Non-technical summary	1
1. Introduction.....	2
1.1 Work undertaken.....	2
1.2 Legislation, guidance and reporting.....	3
1.3 Geology, topography, soils and land use	3
1.4 Summary of previous archaeological investigations.....	3
2. Project aims and methods	5
2.1 Objectives.....	5
2.2 Principles, standards and conduct.....	5
2.3 Fieldwork procedures	5
2.4 Field records.....	5
2.5 Finds.....	6
2.6 Limitations.....	6
2.7 Archive and archive deposition.....	6
3. Results	6
3.1 Finds.....	7
4. Discussion	10
5. Recommendations.....	11
6. Conclusion.....	11
7. Acknowledgements	12
8. References	13
Appendix 1: Finds with GPS locations
Appendix 2: Struck Flint Archive
Appendix 3: Pottery and ceramic building material
Appendix 4: OASIS submission summary

FIGURES

Figure 1: Location of current and previous areas of study

PLATES

Plate 1: Stripped surface looking north from the former Golden Hill Lane, 1 August 2017

Plate 2: The two sides of flint dagger blade tip, as found, 31st July 2017

NON-TECHNICAL SUMMARY

Monitoring of topsoil stripping on a westward extension to the New Best Red Quarry at Kirton Brickworks, Nottinghamshire, was undertaken by Network Archaeology Ltd in July and August 2017.

This watching brief forms the latest of a series of archaeological works undertaken since 2004. Previous investigations have found limited archaeological evidence including occasional worked flints and sherds of medieval and post-medieval pottery.

No cut features were noted, apart from land drains and recent plough scores. The watching brief covered part of the former Golden Hill Lane. This lane is of some antiquity, but monitoring confirmed that it has been disturbed by modern service trenches and by the build-up of backfilled agricultural materials, and nothing of its earlier existence was noted.

In the previous watching briefs, evidence was noted that ridge and furrow agriculture to the south of Golden Hill Lane did not extend to the north of the lane. The current work confirmed this observation.

Twenty-one unstratified finds were recovered from the topsoil or the stripped surface. An Early Bronze Age flint dagger blade tip was a particularly noteworthy and significant find. It is recommended that this should be illustrated and published as a short article or note in an appropriate journal.

Otherwise, the finds were limited to pottery: twenty sherds of post-medieval or early modern date.

1. INTRODUCTION

This report presents the results of an archaeological watching brief undertaken by Network Archaeology for Forterra Building Products Ltd, Station Road, Kirton, Nottinghamshire. The extraction quarry is within the parish of Kirton, 1km east of the centre of the village, and approximately 15km to the north-east of Mansfield (NGR: 470000 368900). The stripped area was 0.92 hectares.

1.1 Work undertaken

Further extension to the western side of the New Best Red Quarry entailed the removal of topsoil from an area immediately to the east of the farm track running from Egmanton Lane (Fig. 1).

The stripped area included the remains of the lane which formerly ran east to west across the centre of the quarry area. Prior to the establishment of the quarry, this lane survived as the remains of an old farm access track, consolidated with dumped, mid-twentieth-century domestic waste and rubble, but it is marked on the Kirton Enclosure map of 1824 as 'Golden Wong Road', and on later maps as 'Golden Hill Lane' (Burton 2004). 'Wong', incidentally is a local word with Scandinavian antecedents, for an enclosure or in-field. The lane ran eastward towards the former Gate House Farm, where the present-day pumping station is shielded by a tight clump of cypress trees, before turning southward to cross the railway. It then continued up to Golden Hill, a local high point of the ridge to the south-east of the quarry.



Plate 1: Stripped surface looking north from the former Golden Hill Lane, 1 August 2017

Topsoil removal was carried out over a period of three working days, from Monday 31st July to Wednesday 2nd August 2017. Removal of the overburden of the lane, which carried the risk of contamination, was accomplished in a separate operation on the following day, Thursday 3rd August.

Earth-moving was carried out by a tracked 360° excavator fitted with a smooth blade over the bucket teeth. It was monitored throughout by an experienced archaeologist. Dumper trucks removing the spoil were kept off the stripped surface until it had been carefully examined for any archaeological features and the monitoring archaeologist was satisfied that all significant archaeological evidence had been retrieved and recorded.

All unstratified artefacts, with the exception of undiagnostic brick or tile, and finds that were clearly modern, were collected and their locations recorded using a Garmin eTrex handheld GPS unit, which will typically achieve an accuracy of $\pm 5\text{m}$.

1.2 Legislation, guidance and reporting

The work was carried out as part-fulfilment of Condition 10 of the planning consent granted by Nottinghamshire County Council for extensions to the existing brickearth quarry, and which requires the implementation of an agreed programme of archaeological investigation, treatment and recording. The procedures to be followed were detailed in a Written Scheme of Investigation produced by Network Archaeology prior to the start of work (Moore 2014). Work was carried out in accordance with an approved Risk Assessment and Method Statement (Lingard 2017).

This report has been produced for Forterra Building Produces. Copies will also be submitted for approval to Ursilla Spence, the Senior Archaeological Officer for Nottinghamshire County Council, and subsequently deposited with the Nottinghamshire Historic Environment Record, for public access.

1.3 Geology, topography, soils and land use

The bedrocks underlying the Best Red Quarry are described on the BGS website as Triassic siltstones, mudstones and sandstones of the Tarporley Siltstone Formation (BGS geologyofbritain website). The sandstones of this group form the exposure at Rice Hill at the north end of the village, where the A6975 Tuxford road descends into Kirton village. To the west of Main Street, the land is underlain by the slightly older rocks of the Retford Member of the Triassic sandstone. To the east, the higher ground that forms the southern part of the quarry lies over mudstones of the Mercia Mudstone Group. Either side of the small River Maun, to the east of Kirton village, there are alluvial deposits, but no superficial deposits are recorded in the area of the quarry.

The immediate landscape is one of undulating hills. The Best Red Quarry lies on a slight north-east facing slope, with an original land surface at its current western extent at a height of 53m to 55m OD. Soils are reddish loam, grouped in the Hodnet Association (572c) in the Soil Survey of England and Wales classification (SSEW 1983), described as reddish fine and coarse loamy soils with slight seasonal waterlogging, and used for cereals, some sugar beet and potatoes, and some grassland.

The stripped area had previously been used as arable for growing maize, but more recently had been set-aside, with a thriving vegetation of thistles and other arable weeds, immediately prior to topsoil removal.

1.4 Summary of previous archaeological investigations

John Samuels Archaeological Consultants conducted an archaeological desk-based assessment, and field reconnaissance and fieldwalking surveys at Kirton Quarry on an area to the south of the

current quarry, in order to quantify and assess the known and potential archaeological resource. One sherd of Roman pottery was recovered from within the development area (Young 1999). No further work in this area was recommended.

Network Archaeology Ltd carried out a desk-based assessment to determine the potential of the proposed northern extension to the New Best Red Quarry (Burton 2004), which identified a number of post-medieval and modern features nearby. This report concluded that the study area had a fairly low archaeological potential with the known sites nearby of no more than local importance. However, because in recent years there have been sites on similar geologies elsewhere in the county that have confounded expectations by producing significant archaeological results, it was considered that a watching brief on stripping of topsoil was a proportionate response to the perceived archaeological risk.

Since 2004, Network Archaeology Ltd has monitored several extensions to the quarry. Topsoil stripping in 2004 revealed the remains of a modern field boundary oriented north-west to south-east in the area of the Best Red Quarry (Sleap 2004). This boundary had been removed in the very recent past, and parts of its hedge were still extant. An eastern extension to this area was monitored in 2005 and revealed the remains of another modern hedged field boundary, also on a north-east to south-west orientation (Sleap 2006).

A haul road for the northern extension to the quarry was stripped of topsoil in 2006 (Sleap 2006), and stripping of the eastern section of the northern extension was carried out the following year, when an infilled pond and a possible palaeochannel were recorded (Casswell 2008).

In 2010, two shallow, modern ditches were found during topsoil stripping of two hectares of the New Best Red Quarry immediately to the south-east of the northern extension (Casswell 2010). The following year a watching brief was conducted on land extending the quarry further to the northwest, but no archaeological deposits were recorded (Casswell 2011). Monitoring in 2012 (Casswell 2013) produced evidence of ridge and furrow cultivation and more recent ploughing, as well as retrieving a small assemblage of post-medieval pottery. An extension to the Cream Quarry area, on the high ground to the south, revealed fragments of a relict field boundary, one sherd of late Iron Age or early Roman pottery, and a horse burial.

A further extension in 2013 (Moore 2013) uncovered infilled ditches from the pre-existing pattern of field boundaries and traces of medieval or post-medieval furrows, along with unstratified pieces of worked flint and a small assemblage of pottery; this was mostly post-medieval but including single sherds dated to the thirteenth to fourteenth and fifteenth to sixteenth centuries.

No cut features were noted in the 2014 season, apart from land drains and recent plough scores. The watching brief confirmed the observation from the previous work in 2013 that the ridge and furrow visible in the area to the north of Golden Hill Lane did not extend south of the lane, suggesting that the lane respected the pattern of land division existing at the time that ridge and furrow agriculture was still practised. Unstratified finds included pieces of possibly worked flint and shale, and a small assemblage of pottery, once again including single sherds of thirteenth- to fourteenth- and fifteenth- to sixteenth- century dates.

No cut features were noted during monitoring in April 2015, apart from land drains and recent plough scores. The watching brief confirmed the earlier conclusions that there was no evidence for ridge and furrow to the north of the lane. Unstratified finds were limited to ceramics: thirty-eight sherds of pottery and two pieces of tile. Six of the pottery sherds were dated to the medieval or early post-medieval periods, the rest being more recent (Moore 2015).

2. PROJECT AIMS AND METHODS

2.1 Objectives

The stated objectives of the archaeological works were to:

- record and interpret all archaeological deposits, where their presence and nature had not been established in advance of development
- compare the archaeological remains with existing data from the immediate area
- produce recommendations for future work to inform the ongoing regional research agenda
- produce a project archive for deposition
- provide information for the county Historic Environment Record (HER).

2.2 Principles, standards and conduct

All works conformed to the standard and guidance documents of the Chartered Institute for Archaeologists, including the Code of conduct, the Code of approved practice for the regulation of contractual arrangements in field archaeology, and the Standard and guidance for an archaeological watching brief (CI/A 2014). The work was managed in accordance with the methods and practice described in the Management of Archaeological Projects, second edition (English Heritage, 1991) and subsequently updated in Management of Research Projects in the Historic Environment (English Heritage 2006).

2.3 Fieldwork procedures

A qualified and experienced field archaeologist was present during topsoil removal to carefully monitor machine removal of deposits down to the first archaeological horizon. The attending archaeologist visually searched the exposed subsoil surface for any significant archaeological remains.

Had archaeological remains been located that could not have been adequately investigated and recorded by the attending archaeologist, provision had been made to report them and to have the area around them barricaded off to allow for appropriate mitigation strategies to be agreed and implemented. Excavation and recording methods following standard practice, as detailed in the Written Scheme of Investigation and the Risk Assessment and Method Statement.

2.4 Field records

The project code for the 2017 Kirton Quarry watching brief, KIQ126, appears on all records to be included in the site archive. Network Archaeology *pro forma* record sheets were used for on-site recording. These are consistent with CI/A guidance. All records will be included in the site archive.

Digital photographs were taken, showing the appearance of the ground surface after topsoil removal, as well as general location shots and working shots.

2.5 Finds

The finds were quantified and sent to appropriate specialists for assessment. Ceramic finds were assessed by Jane Young, and the flint by Jim Rylatt.

2.6 Limitations

Visibility of archaeological remains is dependent on many factors including machine type, depth of stripping, weather and geology. In this instance, the character of the area monitored and the machining methods used revealed a fairly clean surface to the clay deposits beneath the topsoil, and it is considered that there was a high probability that archaeological remains, if present, would have been visible.

2.7 Archive and archive deposition

The archive has been consolidated in accordance with the standards set out in Appendix 3 of the Management of Archaeological Projects, second edition (English Heritage 1991) and the Archaeological Archives Forum (Brown 2007). It is currently housed at the Lincoln office of Network Archaeology. Nottinghamshire Historic Environment Record will receive the document archive. A digital copy of this report will be uploaded to OASIS (Online Access to the Index of archaeological investigations) for inclusion in the online library of unpublished fieldwork reports (Appendix 3).

3. RESULTS

The plough soil throughout the stripped area (context 101) was a mid-orange brown clay loam with very occasional inclusions of small pebbles, up to 5mm across. At a depth of 300mm to 350mm there was a clear horizon with the underlying subsoil layer (102). The exposed subsoil was a fairly dark brownish-red, firm stone-free silty clay. Where more deeply machined, a much more homogeneous, unweathered clay was exposed.

Occasional plough scores were visible in the stripped surface. Backfilled trenches of ceramic land drains were visible intermittently throughout the stripped areas. The quarry practice is to have open drains bordering the areas prepared for clay extraction, and the sides of these could be examined to confirm that the presence of ceramic drains.

Apart from this evidence of relatively recent agricultural activity, no cut features were seen. Intermittent heavy rain showers during the work, between longer intervals of settled sunny weather, affected the ground to some extent but, overall, ground conditions were good. There can be a fair degree of confidence that the lack of observed cut features was an accurate reflection of a low level of sub-surface archaeology in this part of the quarry area.

Two sherds of pottery were recovered as surface finds from the unstripped land surface prior to machining. A worked flint tool and a further eighteen pottery sherds were recovered during topsoil stripping, mainly from the interface between the topsoil and subsoil. All unstratified finds were located to Ordnance Survey National Grid co-ordinates using hand-held Garmin eTrex GPS units.

Monitoring of the former Golden Hill Lane confirmed earlier observations that there was little or no undisturbed archaeological deposits pre-dating the twentieth century. The track had been built

up above the height of the surrounding fields with backfilled agricultural materials, which included mid-twentieth century finds, in which Coca-Cola bottles and similarly distinctive proprietary products were prominent. Below these layers, the line of the track was marked by infilled service trenches, presumable to serve Gate House Farm, that formerly stood to the east, near to the railway line. These included two parallel 150mm-diameter steel pipes, an electricity cable and a blue plastic water pipe beneath the track, as well as a concrete main drain, approximately 300mm in diameter, running immediately to the south.

3.1 Finds

The assemblage of finds comprised 20 sherds of pottery and one worked flint. All were unstratified, either from the surface of the field prior to stripping or from the exposed subsoil surface.



Plate 2: The two sides of flint dagger blade tip, as found, 31st July 2017

Finds were kept with their individually labelled bags throughout washing, drying and cataloguing, before being sent to the appropriate artefact specialist for assessment.

Flint assessment (Jim Rylatt)

Introduction

A single piece of struck flint was recovered during an archaeological watching brief undertaken at the brickworks quarry in Kirton, Nottinghamshire. The artefact is a fragment of a bifacially worked tool and it has morphological attributes that suggest it formed the tip of a flint dagger of Early Bronze Age date.

Methodology

The artefact was physically examined and, its attributes, weight and metrical data were recorded to form a digital archive. Macroscopic analysis determined position in the reduction sequence and any observable characteristics of the reduction technology, together with an assessment of its functional potential. It was examined with x6 and x20 hand-lenses to determine whether there was any evidence for localised modifications that are indicative of utilisation.

Assemblage

A single piece of struck flint was recovered from context (002), at the interface of the ploughsoil and natural clay.

Raw material

The artefact was manufactured on a flake of good quality mid to dark (slightly greyish) brown translucent flint, which incorporated a few small pale grey/white inclusions.

Superficial deposits have not been identified within the immediate environs of the site (GSEW 1966), but watercourses to the west (Boughton Dyke; River Maun), north (River Meden), and east (Goosemoor Dyke; Moorhouse Beck) are associated with alluvial deposits. However, the absence of quarry pits along any of these streams and rivers suggests that these alluvial deposits do not contain significant quantities of gravel. Consequently, it is probable that the artefact was imported onto the site, potentially from some distance, either as a flake blank or as a finished object.

Condition

The margins are fresh and unabraded, but a small nick close to the tip of one margin could represent localised post-depositional damage. A number of small invasive flakes extending away from the distal end of the truncation scar could also be a product of post-depositional modification, but are more likely to be a by-product of the truncation event. The flake surfaces are unpatinated.

Description

The artefact represents a fragment of a larger bifacially worked flint tool; the surviving element extends 47mm longitudinally, is 46mm wide and has a maximum thickness of 7.3mm. Both faces of the flake blank have been thinned by shallow invasive flakes, which have been removed across the entirety of the surface. Subsequently, the preform was shaped by serial, bifacial pressure flaking. This created gently arcing convex edges that intersect at an angle of c. 110°, forming a tip with a slightly flattened point. The artefact has a relatively flat profile, but is slightly more convex on one surface, suggesting that this was the dorsal surface of the flake blank.

The flake scars along the margins are fresh and unabraded. A few very small jagged projections along the retouched margins suggest that the piece has not been utilised and there is no macroscopically discernible use-wear polish along the margins. Similarly, there is no discernible polish on the arrises covering the central part of each surface, such as might be associated with removing and replacing the object in a sheath.

The lack of visible use-wear raises possibility that piece broke during manufacture or re-sharpening and was subsequently smashed. The tool was struck a third of the way across the (putative) dorsal surface causing truncation; the truncation scar preserves a small negative bulb and a slight negative lip running along the distal end of the scar. An incipient fracture runs between one margin and the centre of the truncation scar.

Discussion

The partial nature of this artefact raises some uncertainty regarding its original form, necessitating comparison to, and rejection of, several tool types. It resembles the tip of an arrowhead, but the original unbroken object would have been too large to be effective for this purpose; occasionally even larger arrowheads have been recovered (e.g. during the Stonehenge Riverside Project), but they were evidently the crude products of novices learning their trade, while this piece was manufactured by a skilled flint knapper. The artefact also shares some similarities with a laurel leaf, but in contrast to the latter, it is very symmetrical and both margins have been invasively retouched.

Having discounted other possibilities, the morphological characteristics of the piece are indicative of the tip of the blade of a flint dagger, which has been truncated approximately one-quarter to

one-third of the way along its length. Flint daggers are an extremely rare artefact type and less than 400 complete examples have been identified in Britain (Frieman 2014). As such, they tend to be viewed as prestige items and as a proxy for social status. The shape and proportions of the fragment recovered from Kirton Quarry suggest it formed the tip of a Class 2, Class 3, or Class 4 long-tanged British dagger (ibid. fig. 2). British flint daggers are predominantly associated with artefacts forming part of the Beaker cultural package, and the limited number of available dates suggests they were in circulation from *c.* 2250-2000 cal BC.

Ceramics (Jane Young)

Introduction

A group of twenty pottery sherds recovered from the site were examined for this report. The pottery ranges in date from the post-medieval to early modern periods. The pottery has been fully archived to the standards for acceptance to a museum and within the guidelines laid out in Slowikowski, et al. (2001). The pottery was examined both visually and using a x20 binocular microscope and quantified by three measures: number of sherds, weight and vessel count within each context. The resulting pottery data was entered on an access database using post-Roman fabric codenames (see Table 1) developed for the Lincoln Ceramic Type Series (Young, Vince and Nailor 2005) and the City of Nottingham Type Series (Nailor and Young 2001).

Condition

The pottery is in a variable condition although most sherds are in a slightly abraded to fairly fresh condition with sherd size mainly falling into the small to medium size range (2 to 32 grams), although one sherd is larger at 146grams. No vessel was represented by more than a single sherd.

The Range and Variety of Materials

A range of twelve identifiable post-Roman pottery ware types were identified; the type and general date range for these fabrics are shown in Table 1. The post-Roman pottery ranges in date from the post-medieval to early modern periods and includes local and regionally imported vessels. A narrow range of vessel types were recovered.

Post-medieval (seventeenth to mid-twentieth century)

Six of the vessels examined are of post-medieval type. Two Brown-glazed Earthenware (BERTH) sherds are of Staffordshire/Derbyshire mid-seventeenth- to eighteenth-century type. One sherd is from a cup (findspot 042) whilst the other is from a jar. Three other brown-glazed sherds in gritty fabrics are of North Nottinghamshire Light-bodied Coarseware type (NNLBCW). The earliest sherd is probably from a large jug or jar of potential mid-sixteenth- to seventeenth-century date (findspot 044). The other sherds come from a mid-seventeenth- to mid-eighteenth-century large cylindrical jar or bowl (findspot 052) and a large bowl of late seventeenth- to mid-eighteenth-century date (findspot 048). A small body sherd in a light firing fabric is from a Midlands Light-bodied Slipware mug/tankard/small jug of mid-seventeenth- to eighteenth-century date (findspot 011).

Table 1 Ceramic types with total quantities by sherd, vessel count and weight

Codename	Full name	Earliest	Latest	Sherds	Vessels	Weight
BERTH	Brown glazed earthenware	1550	1930	2	2	10
BL	Black-glazed wares	1550	1930	2	2	27
CREA	Creamware	1770	1830	2	2	8
ENGS	Unspecified English Stoneware	1750	1930	2	2	19
ENPO	English Porcelain	1780	2000	1	1	2

Codename	Full name	Earliest	Latest	Sherds	Vessels	Weight
MLBSL	Midlands Light-bodied Slipware	1680	1800	1	1	9
NCBW	19th-century Buff ware	1800	2000	1	1	3
NNLBCW	North Nottinghamshire Light-bodied Coarse ware	1550	1750	3	3	217
NOTS	Nottingham stoneware	1690	1800	2	2	20
PEARL	Pearlware	1770	1830	2	2	7
REFR	Refined Red Earthenware	1730	1800	1	1	4
TPW	Transfer printed ware	1770	2000	1	1	3

Early modern (eighteenth to twentieth century)

Two coarseware and twelve fineware sherds are of early modern type. The two Black-glazed Earthenware vessels (BL) are a jar and a bowl of eighteenth- or nineteenth-century date. Twelve of the vessels examined are industrial finewares or stonewares of eighteenth- to mid-twentieth-century date. An unusual sherd is from a small Refined Redware vessel (findspot 041). The fine red fabric has an internal and external white slip with a bright blue glaze over and is decorated with brown banding. This sherd can only be dated to between the mid-eighteenth and mid-twentieth centuries. Two tiny Creamware sherds (CREA) are of mid-/late to late eighteenth century (findspot 054) and early to mid-nineteenth century type (findspot 015). Two Pearlware (PEARL) sherds are from plates of late eighteenth- to early nineteenth (findspot 047) and early to mid- nineteenth-century date (findspot 049). A tiny sherd (findspot 051) is of nineteenth- or twentieth-century English Porcelain (ENPO). A green transfer-printed rim sherd (TPW) is from a saucer of nineteenth- to mid-twentieth-century date (findspot 046). The small blue and white banded Nineteenth Century Buff ware jar (NCBW) sherd is from a small jar or bowl of nineteenth- to twentieth-century date (findspot 018). The three English Stoneware (ENGS) sherds come from vessels of nineteenth- to mid-twentieth-century date (findspots 053 and 056) whereas the two Nottingham Stoneware (NOTS) sherds are from a small dish (findspot 040) and a bowl (findspot 050) of eighteenth-century date.

Summary and Recommendations

This is a small assemblage, which provides us with an opportunity to look at some of the pottery types in use in the area, but is too small to provide other useful information. The assemblage suggests post-medieval and early modern rubbish disposal in the area of the site. The common early modern types can be discarded.

4. DISCUSSION

The most significant find was the flint dagger blade. Occasional stray finds of struck flints in previous seasons have hinted at very sporadic activity in the Neolithic or Bronze Age periods. The river valleys of the East Midlands are known to have been quite extensively settled by the Neolithic period. The higher ground on the Triassic clays, such as the 'Best Red' clay that forms the target product of Kirton Quarry, would have been intractable to the of the farmers of the Neolithic and Bronze Age, and are likely to have remained forested, or at possibly as rough grazing, throughout these periods. They would, nevertheless, have been exploited for their resources: for woodland products and for hunting.

In previous seasons, small quantities of struck flint have been recovered during the watching brief and have been interpreted as evidence for limited activity in the broad period from the later Neolithic and into the Bronze Age. Apart from confirming that there was activity in the period,

the flint dagger blade increases confidence in this interpretation of the flint finds from previous seasons.

There is no flint native to the quarry site, and the nearest source is probably the river gravels of Maun and Idle. However, for finer flint-work, such as the dagger blade, either the raw material or the finished piece is likely to have been traded, perhaps over a considerable distance, from areas with higher quality flint.

The unstratified ceramic finds are consistent with those from earlier seasons, with small numbers of sherds from the medieval and early post-medieval periods and rather more post-medieval wares. Overall, the cumulative results from the successive watching briefs add to a growing body of evidence for the range of ceramics locally available through the medieval and post-medieval periods. This material was probably deposited as a result of manuring, incorporating domestic waste from Kirton, Egmanton or from farmsteads close to the site.

One of these farmsteads could well have been the former Gate House Farm. It was the provision of access and services to this farm, and perhaps to others beyond, that had removed any visible evidence that Golden Hill Lane must once have been pastoral country lane.

5. RECOMMENDATIONS

The early Bronze Age flint dagger is of sufficient significance to warrant publication. It is recommended that it should be fully illustrated, showing both surfaces, a longitudinal cross-section and a profile across the truncation scar. A short article, briefly summarising the results reported here and including the flint illustrations, should be prepared for submission to an appropriate journal, such as the Transactions of the Thoroton Society of Nottinghamshire.

6. CONCLUSION

The results of this watching brief once again add to the accumulation of evidence for a relatively low level of human activity from the prehistoric period onward. In these earlier periods, the site would have been forested and would have seen little activity other than the occasional passage of hunting groups.

There was no clear evidence of ridge-and-furrow agriculture in this part of the quarry area, suggesting that it continued to be wooded or had been cleared for pasturage in the medieval times. It may be significant in this regard that there were no ceramic finds earlier than the post-medieval period. As with the findings from previous years, the results confirm the earlier findings of a lack of evidence, from any period, of the intensity of use that might be expected in close proximity to a place of settlement.

7. ACKNOWLEDGEMENTS

Network Archaeology would like to thank the following for their help and co-operation:

Forterra Building Products

Bill Selby

Tim Darling

Nottinghamshire County Council

Ursilla Spence

Senior Archaeological Officer

Specialist Contributors

Jane Young

Pottery and ceramic building materials

Jim Rylatt

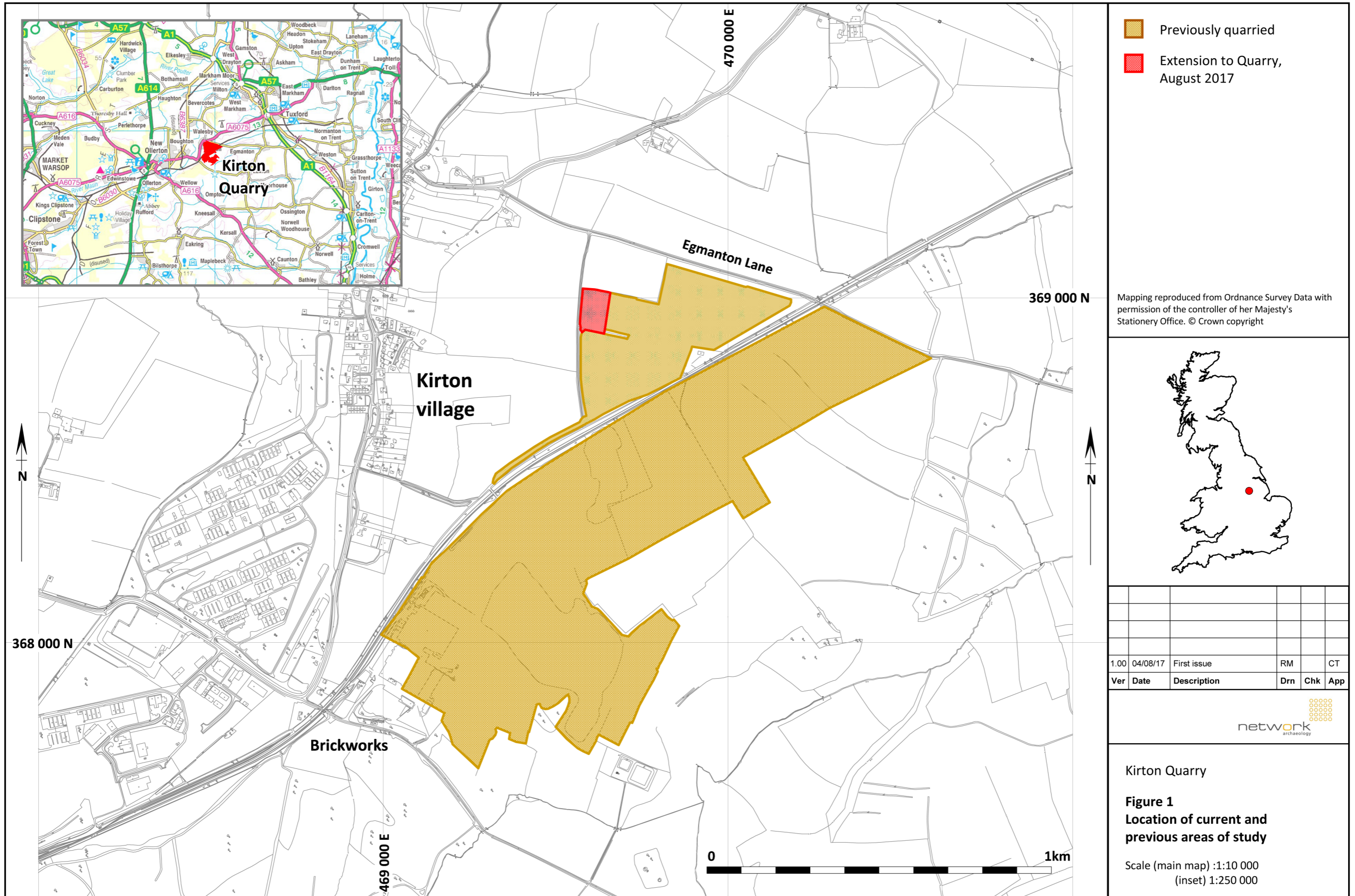
Flint

For Network Archaeology, the executive manager was Christopher Taylor, and fieldwork and reporting was carried out by Richard Moore. Finds were processed by Caroline Kemp.

8. REFERENCES

- BGS geologyofbritain <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 24 April 2015)
- Brown, D. 2007. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation, IfA on behalf of AAF, London
- Burton, R. 2004. Kirton Brickworks, Nottinghamshire, Archaeological Desk Based Assessment. Unpublished Network Archaeology client report no. 312
- Casswell, C. 2008. Kirton Quarry (Northern Extension), Archaeological Watching Brief. Unpublished Network Archaeology client report no. 543
- Casswell, C. 2010. Kirton Quarry, Archaeological Watching Brief. Unpublished Network Archaeology client report no. 571
- Casswell, C. 2011. Kirton Quarry, Archaeological Watching Brief. Unpublished Network Archaeology client report no. 583
- Casswell, C. 2013. Kirton Quarry, Archaeological Watching Brief. Unpublished Network Archaeology client report no. 598
- Cooper, N. J. (ed) 2006. The Archaeology of the East Midlands: an archaeological resource assessment and research agenda. Leicester Archaeology Monograph 13. Univ. of Leicester
- Ekwall, E. 1991. The Concise Oxford Dictionary of English Placenames (4th ed.). Clarendon Press, Oxford
- English Heritage, 1991. The Management of Archaeological Projects (2nd ed.), London
- English Heritage, 2006. Management of Research Projects in the Historic Environment: The Morphe Project Managers Guide. London
- CIfA, 2014, *Code of conduct*, Chartered Institute for Archaeologists
- CIfA, 2014. *Code of approved practice for the regulation of contractual arrangements in field archaeology*, Chartered Institute for Archaeologists
- CIfA, 2014. *Standard and guidance for an archaeological watching brief*, Chartered Institute for Archaeologists
- CIfA, 2014. *Standard and guidance for archaeological excavation*, Chartered Institute for Archaeologists
- Frieman, C. J. 2014. *Double Edged Blades: Re-visiting the British (and Irish) Flint Daggers*, Proc Prehist Soc, 80: 33-65
- GSEW, 1966. *Ollerton: England and Wales Sheet 113. Solid and Drift. 1:63,360 geology series*, Geological Survey of England and Wales
- Hayfield, C, and Buckland, P.C. 1989. 'Late Medieval Pottery Wasters from Firsby, South Yorkshire', *Transactions of the Hunter Archaeological Society* 15: 8-24

- Moore, R. 2013. *Kirton Quarry, Archaeological Watching Brief: New Best Red Quarry extension*, unpublished, Network Archaeology client report no. 610
- Moore, R. 2014. *Kirton Quarry, Nottinghamshire, Written Scheme of Investigation to be carried out during an Archaeological Watching Brief*, Network Archaeology, unpublished
- Moore, R. 2014. *Kirton Quarry, Archaeological Watching Brief: New Best Red Quarry extension*. Unpublished Network Archaeology client report no. 613
- Moore, R. 2015. *Kirton Quarry: Archaeological Watching Brief: New Best Red Quarry extension*, unpublished, Network Archaeology client report no. 15006
- Nailor, V and Young, J, 2001. *A fabric type-series for post-Roman pottery from Nottingham City (5th to 16th centuries)*, unpublished report for Nottingham City Museum
- Sleap, J. 2004. *Kirton Quarry Archaeological Watching Brief*. Unpublished Network Archaeology client report no. 500
- Sleap, J. 2006. *Kirton Quarry Archaeological Watching Brief*. Unpublished Network Archaeology client report no. 520
- Slowikowski, A.M., Nenk, B. and Pearce, J. 2001. *Minimum standards for the processing, recording, analysis and publication of post-Roman ceramics*, Occasional paper 2, London: Medieval Pottery Research Group.
- Soil Survey of England and Wales, 1983. *Soil Map of England and Wales*
- Young, J. 1999. *An Archaeological Desk-Based Assessment of Land to the East of Kirton Brickworks, Kirton, Nottinghamshire*. JSAC 530/99/01
- Young, J., Vince, A. and Nailor, V. 2005. *A Corpus of Anglo-Saxon and Medieval Pottery from Lincoln*, Lincoln Archaeological Studies 7, Oxbow, Oxford



APPENDIX 1: FINDS WITH GPS LOCATIONS

Find	type	easting	northing	found?
011	pottery	469588.72	369011.11	Surface find
013	pottery	469588.80	369011.29	Stripped subsoil surface
014	flint	469638.14	368973.76	Stripped subsoil surface
015	pottery	469631.38	368923.37	Stripped subsoil surface
017	pottery	469623.24	368931.69	Stripped subsoil surface
018	pottery	469629.04	368942.24	Stripped subsoil surface
019	pottery	469625.17	368956.08	Stripped subsoil surface
040	pottery	469603.71	368988.00	Stripped subsoil surface
041	pottery	469597.40	368936.64	Stripped subsoil surface
042	pottery	469586.82	368943.06	Stripped subsoil surface
043	pottery	469595.02	368984.35	Stripped subsoil surface
044	pottery	469578.15	369001.77	Stripped subsoil surface
045	pottery	469589.72	369000.68	Stripped subsoil surface
046	pottery	469589.91	368998.97	Stripped subsoil surface
047	pottery	469597.87	369000.50	Stripped subsoil surface
048	pottery	469603.07	368997.87	Stripped subsoil surface
049	pottery	469614.54	368996.67	Stripped subsoil surface
050	pottery	469582.24	369006.63	Stripped subsoil surface
051	pottery	469616.53	369004.24	Stripped subsoil surface
052	pottery	469601.85	369020.56	Surface find
053	pottery	469623.41	369009.49	Stripped subsoil surface
054	pottery	469600.61	369022.99	Stripped subsoil surface
055	pottery	469611.83	369017.89	Stripped subsoil surface
056	pottery	469616.15	369020.42	Stripped subsoil surface

APPENDIX 2: STRUCK FLINT ARCHIVE

Summary of struck flint assemblage:

Context No.	SF No.	Reduct. Seq	Type	Spot Date	Weight (g)	Complete (mm)	Retouch	Post-dep damage	Flint type	Comments
002	1	T	flint dagger fragment	EBA	16.8	no	yes	poss	greyish-brown trans	probable fragment from a flint dagger, representing the tip of the blade; the piece has a relatively flat profile, that has become more lenticular due to retouch along its margins - it is slightly more convex on one surface, suggesting that this was the dorsal surface of the blank; the blank was bifacial thinned by shallow invasive flaking across the entire surface and then shaped by serial, bifacial removal of pressure flakes along the margin, creating gently arcing convex edges that intersect at c. 110 ° to form a slightly flattened point; the flake scars along the margins are fresh and unabraded, with the exception of one small area that is slightly crushed, and there is no macroscopically discernible use-wear polish, or polish associated with removing and replacing the object into a sheath; the lack of visible use-wear raises possibility that piece broke/failed during manufacture or resharpening and was subsequently smashed; the piece was struck on the (putative) dorsal surface causing truncation - truncation scar has small negative bulb and slight negative lip running along the distal end of the scar - an incipient fracture runs between one margin and the truncation scar; a small nick in one margin, close to the tip is the only evidence of possible post-dep damage

No. of finds	Reduction Sequence	Type	Spot Date	Weight (g)	Complete	Retouch	Post-dep damage
1	T 1	flint dagger fragment 1	EBA 1	16.8g	no 1	yes 1	poss 1

APPENDIX 3: POTTERY AND CERAMIC BUILDING MATERIAL

Pottery archive (Jane Young)

findspot	cname	sub fabric	description	form type	sherds	vessels	weight	decoration	part	action	description	date
011	MLBSL	Midlands Light-bodied Slipware	light orange/buff medium sandy	small jug/mug/tankard	1	1	9		BS		int & ext dark glaze with ?some manganese	Mid-17th to 18th
015	CREA	Creamware		?	1	1	5		BS	discard	Late	early to mid-19th
017	BL	Black-glazed wares	fine red sandy	jar ?	1	1	13		BS		int glaze	18th to 19th
018	NCBW	19th-century Buff ware		small jar/bowl	1	1	3	blue & white banded	BS	discard		19th to 20th
040	NOTS	Nottingham stoneware		small dish	1	1	13		base	discard		18th
041	REFR	Refined Red Earthenware		small hollow	1	1	4	brown banded	BS		white slipped int & ext;int spalled glaze & ext bright blue glaze with brown banding	mid 18th to mid-20th
042	BERTH	Brown glazed earthenware	fine red sandy	cup	1	1	3		BS		Staffs/Derbs;int & ext glaze; mid-17th to 18th	Mid-17th to 18th
043	BL	Black-glazed wares	fine red sandy	bowl	1	1	14		BS		int glaze;18th to 19th	18th to 19th
044	NNLBCW	North Nottinghamshire Light-bodied Coarse ware	buff/light grey gritty	large jug/jar	1	1	21		BS		ext purple-brown glaze; near vitrified	Mid-16th to 17th
046	TPW	Transfer printed ware		saucer	1	1	3	int green printed	rim	discard	fluted rim	19th to mid-20th

findspot	cname	sub fabric	description	form type	sherds	vessels	weight	decoration	part	action	description	date
047	PEARL	Pearlware		plate	1	1	5	blue feather edged rim	rim	discard	scalloped rim edge	late 18th to early 19th
048	NNLBCW	North Nottinghamshire Light-bodied Coarse ware	light orange coarse	large bowl	1	1	164		rim		everted rim; int dark glaze over red slip; ext orange slip	late 17th to mid-18th
049	PEARL	Pearlware		plate ?	1	1	2	int blue printed	base	discard		early to mid-19th
050	NOTS	Nottingham stoneware		bowl	1	1	7		rim	discard		18th
051	ENPO	English Porcelain		?	1	1	2		BS	discard		19th to 20th
052	NNLBCW	North Nottinghamshire Light-bodied Coarse ware	light orange/light grey/light orange coarse	large cylindrical jar/bowl	1	1	32		BS		int dark glaze	Mid-17th to mid-18th
053	ENGS	Unspecified English Stoneware	grey	?	1	1	5		BS	discard		19th to mid-20th
054	CREA	Creamware		?	1	1	3		BS	discard	early	mid/late to late 18th
055	BERTH	Brown glazed earthenware	coarse brown	jar	1	1	7		BS		Staffs/Derbs; int glaze	Mid-17th to 18th
056	ENGS	Unspecified English Stoneware	grey	small jug/mug/tankard	1	1	14		BS	discard		19th to mid- 20th

APPENDIX 4: OASIS SUBMISSION SUMMARY

OASIS DATA COLLECTION FORM: England

[List of Projects](#) | [Manage Projects](#) | [Search Projects](#) | [New project](#) | [Change your details](#) | [HER coverage](#) | [Change country](#) | [Log out](#)

Kirton Brickworks, quarry extension August 2017 - Network Archaeology Ltd

OASIS ID - networka2-291913

Versions				
View	Version	Completed by	Email	Date
View 1	1	Richard Moore	richardm@netarch.co.uk	3 August 2017
View 2	2	Richard Moore	richarm@netarch.co.uk	4 August 2017
View 3	3	Richard Moore	richardm@netarch.co.uk	3 November 2017
Completed sections in current version				
Details	Location	Creators	Archive	Publications
Yes	Yes	Yes	Yes	0/1
Validated sections in current version				
Details	Location	Creators	Archive	Publications
No	No	No	No	0/1
File submission and form progress				
Grey literature report submitted?	No		Grey literature report filename/s	
Boundary file submitted?	No		Boundary filename	
HER signed off?			NMR signed off?	