University of Leicester

Archaeological Services

An archaeological field evaluation at 'The Breaches', Melton Road, Barrow upon Soar, Leicestershire (SK 58374 17285)

Leon Hunt

ULAS Report No 2013-200

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Leon Hunt

for

Jelsons

Planning Authority: Charnwood Borough Council
Planning Application Number: P/10/1518/2

Checked by Project Manager

Signed: 

Date: 3 December 2013

Name: R.J. Buckley

University of Leicester

Archaeological Services

University Rd., Leicester, LE1 7RH

Tel: (0116) 2522848 Fax: (0116) 2522614

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An archaeological field evaluation at 'The Breaches', Melton Road, Barrow upon Soar, Leicestershire (SK 58374 17285)

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Summary

An archaeological evaluation by trial trenching was undertaken by University of Leicester Archaeological Services (ULAS) in the field known as 'The Breaches', Melton Road, Barrow upon Soar (SK 58374 17285), in advance of the proposed re-development of the arable land for new housing.

The area is known to be very rich in archaeological remains and the line of a Roman Road (The Saltway) is said to pass through the field from north-east to south-west. The area around Barrow is well known for lime production, which may have been carried out from Roman times into the 20th century. Nearby excavations, in Barrow, have revealed a number of kilns from many periods; from simple 'clamp' kilns dated to the early post-medieval period to larger and more sophisticated kilns from the 19th and early 20th century. Cartographic evidence from the late 19th and early 20th centuries also showed limestone quarry and production continuing into these periods.

A geophysical survey undertaken on the site prior to the evaluation had located many kiln features, along with anomalies associated with quarrying and a possible rectilinear enclosure. The 26 trial trenches were placed across these anomalies and nearly all the features shown on the previous survey were identified as either 'clamp' or linear kilns or debris associated with kiln material. The evaluation also revealed that much of the field had been previously quarried for limestone and therefore any earlier archaeological remains may have been destroyed.

Three kilns were excavated and recorded but no dating evidence was recovered. Further work in the area may yield material that can be closely dated.

An archive of the site will be deposited with Leicestershire Museums with accession number X.A178.2013.

1. Introduction

University of Leicester Archaeological Services (ULAS) was commissioned by Jelsons to carry out an archaeological field evaluation at 'The Breaches', Melton Road, Barrow upon Soar, Leicestershire (NGR: SK 58374 17285). Planning consent is to be sought for the construction of 350 new dwellings within the site.

This archaeological work is in accordance with NPPF Section 12: Enhancing and Conserving the Historic Environment.

Fieldwalking on the site has identified flint scatters dating to the late Neolithic/Early Bronze Age period and the Historic Environment Record for Leicester, Leicestershire and Rutland has indicated that a Roman road, the Saltway, is believed to cross through the site from east to west. A number of Roman archaeological sites recorded

elsewhere in Barrow indicate that there is some potential for Roman occupation and settlement associated with the road, to be present within the development area itself. Furthermore, the area is known to contain quarries and kilns associated with lime production, dating from the medieval period through to the early 20th century. It is possible that this later activity has affected the preservation of earlier archaeological remains.

A geophysical survey carried out prior to the evaluation located several lime kiln and other anomalies, which may be associated with quarrying activity. A possible rectilinear enclosure was also identified.

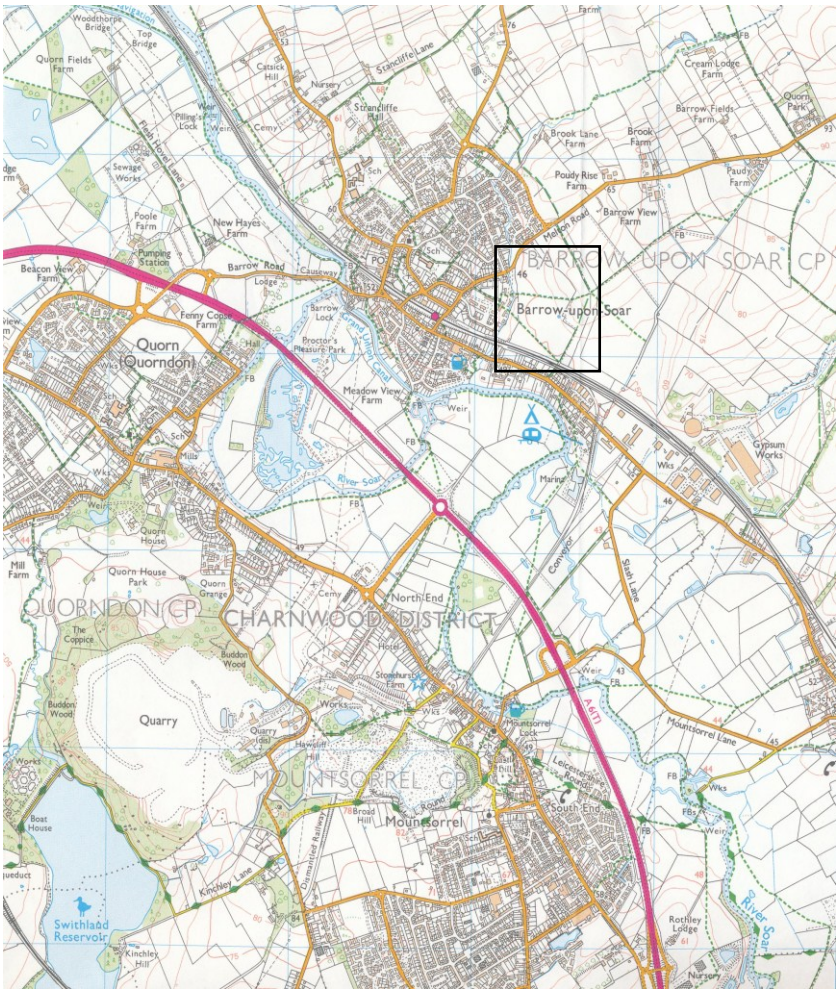

Figure 1: Site Location

2. Location and Geology

The site, locally known as 'The Breaches' is a large agricultural field of *c.*13.5 hectares, which lies at the south-eastern edge of the town of Barrow upon Soar, in the Charnwood District of Leicestershire, around 4 miles south-east of Loughborough (Figure 1).

The Ordnance Survey Geological Survey of Great Britain, Sheet 142 indicates that the underlying geology is likely to consist of Barnstone Member interbedded mudstone and limestone, overlain by Scunthorpe Member Mudstone on the eastern edge of the site and by Head along the western edge of the field near the Fishpool Brook. It also records that there may be areas of made ground associated with the quarrying of the area.

The site lies on undulating ground, located on a south-west facing slope ranging in height from *c*.64m aOD in the north-east corner to *c*.47m aOD in the south-west at the boundary with Fishpool Brook.

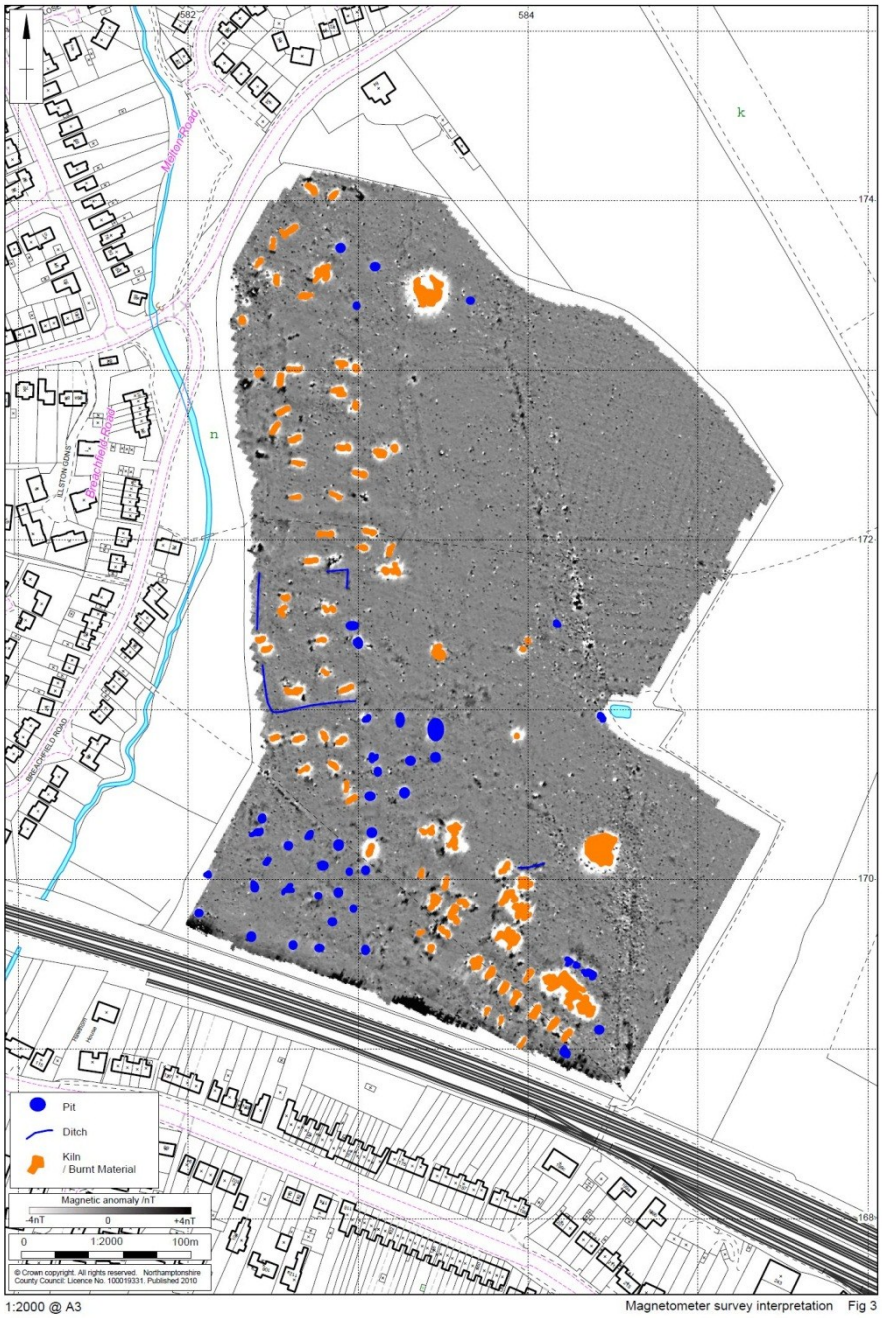

Figure 2: Magnetometry survey results (provided by Northamptonshire Archaeology)

3. Historical and Archaeological Background

An archaeological desk-based assessment was prepared in 2009 (Clarke 2009). This showed that the site had the potential to be rich in archaeological remains. Fieldwalking undertaken over a number of seasons has identified flint scatters dating to the late Neolithic/Early Bronze Age period and the Historic Environment Record (HER) for Leicester, Leicestershire and Rutland has indicated that a Roman road, the Saltway, is known to cross through the site from north-east to south-west. A number of Roman archaeological sites recorded elsewhere in Barrow indicate that there is some potential for Roman occupation and settlement associated with the road, to be present within the development area itself.

The HER also has records of a number of post-medieval lime kilns located within the area and cartographic evidence indicates that some of these may have been in use until the early part of the 20th century. The quarrying of lime is likely to have had a damaging impact upon any earlier archaeological deposits located within the affected areas. Early maps show mainly the central parts of the site affected by quarrying, but it is possible that much of the field had previously been excavated for limestone.

No intrusive archaeological investigation has previously been carried out on the site and the full extent of the damage from the early limestone works upon any underlying archaeological deposits is not known.

Magnetometry by Northamptonshire Archaeology on behalf of ULAS (Ladocha and Butler 2010) of the site revealed evidence of approximately 76 possible lime kilns, associated pits and two backfilled quarry pits (Figure 2). A possible rectangular ditched enclosure was identified on the western side of the field. The survey also revealed a linear feature running broadly north to south along the central/ eastern side of the field. This corresponds broadly with a mineral railway indicated in the 1904 OS map of the area.

Lime burning at Cotes Road, Barrow, was found to have taken place almost continuously between the 15th and 19th centuries (McAree 2007). It was reasonable to expect a similar date range at Melton Road, perhaps developing north to south along the hillside to the most ordered kilns in the south-east. These final industrial features, situated on a long-lived path, were ideally placed for access to both the River Soar and the railway.

4. Archaeological Objectives

The main objectives of the evaluation were:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
- To produce an archive and report of any results.

Within the stated project objectives, the principal aim of the evaluation is to establish the nature, extent, date, depth, significance and state of preservation of archaeological deposits on the site in order to determine the potential impact upon them from the proposed development.

Trial trenching is an intrusive form of evaluation that will demonstrate the existence of earth-fast archaeological features that may exist within the area.

5. Methodology

All work followed the Institute for Archaeologists (IfA) *Code of Conduct* (2010) in accordance with their *Standard and Guidance for Archaeological Field Evaluation* (2010). The archaeological work followed the *Written Scheme of Investigation (WSI) for archaeological work* (WSI) prepared by ULAS (Appendix).

The WSI provided for the investigation of 25 30m x 1.6m trenches, targeting areas identified by the geophysical survey as containing possible kiln features. Three trenches were placed along the line of the linear feature close to the eastern side of the field.

The excavator used was fitted with a 1.8m ditching bucket, so all the trenches were 1.8m-1.9m wide.

A total of 26 trenches were eventually excavated; the 26th trench was positioned in an attempt to sample other anomalies identified by the survey. Several of the trenches were extended so that kiln features could be properly excavated (Figures 3 & 5).

The fieldwork was carried out between 12th November and 25th November 2013. The trenches were excavated using a 13 tonne tracked excavator fitted with a 1.8m or 0.6m ditching bucket, under the close supervision of a professional archaeologist.

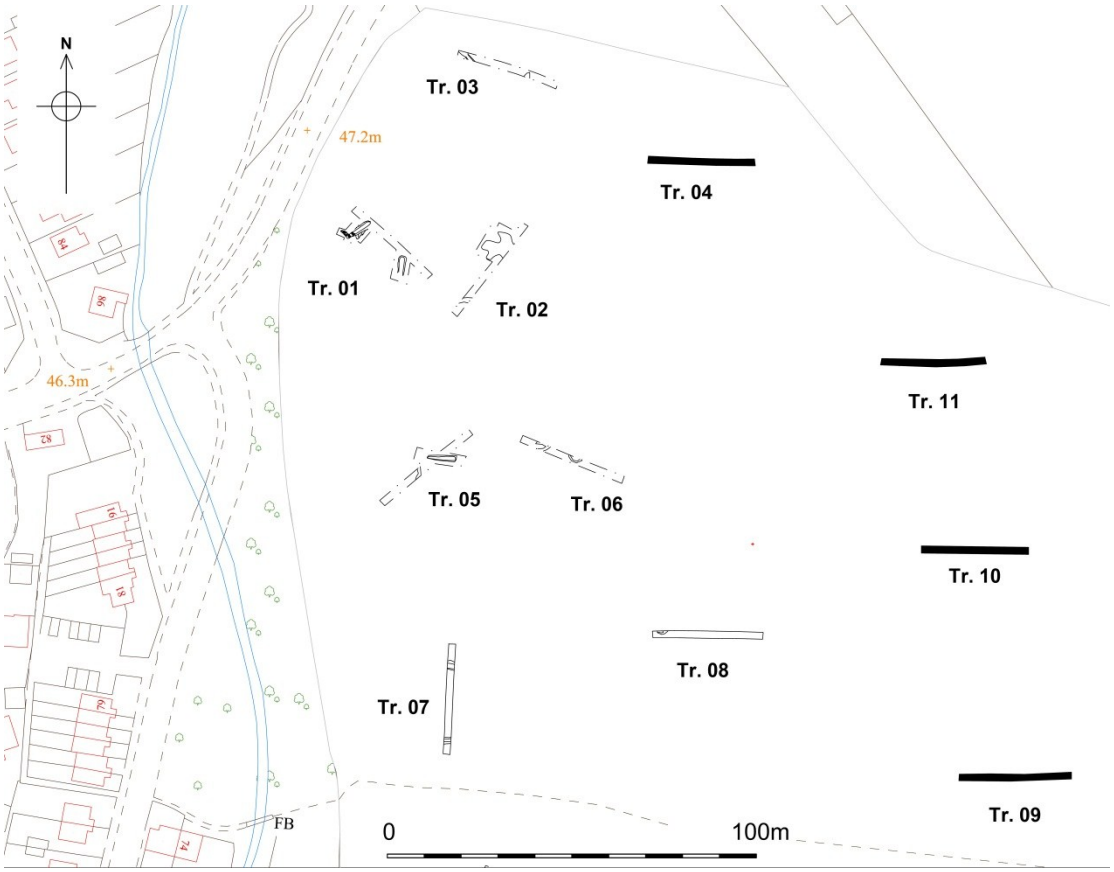

Figure 3: Trench location plan: Northern part of site, Trenches 01 to 11.
Black trenches indicate no archaeological features.

6. Results

The underlying geology throughout the site was very variable and in some areas excavation revealed made ground or a mixture of made ground and natural sub-stratum. For the most part the natural sub-stratum consisted of yellowish-brown clay with stones, with grey mudstone and siltstone. There were also patches of limestone and patches of burnt clay, which were likely to have been damaged kilns, or caused by the dumping of kiln material.

The made ground consisted of silty clay mixed with re-deposited clay and mudstone and it was often impossible to tell the difference between natural and man-made deposits within the trench.

Plate 1: Post excavation shot of kiln [2] in Trench 01, looking north-east

Trench 01

Length: 28.5m

Width: 1.9m

The trench was later extended in two places by around 7m x 5m

Topsoil: a greyish-brown crumbly silty clay with occasional medium rounded and sub-rounded pebbles

Subsoil: mid-yellowish-brown firm silty clay with occasional small rounded pebbles

Natural Substratum: yellowish-brown clay or grey clay and limestone, although some areas may be made ground.

Interval	0m (W)	5m	10m	15m	20m	25m	28.5m (E)
Topsoil	0.27m	0.26m	0.27m	0.34m	0.36m	0.35m	0.44m
Subsoil	-	-	0.10m	0.06m	-	0.07m	-
Top of Natural	0.27m	0.26m	0.37m	0.40m	0.36m	0.42m	0.44m
Base of trench	0.27m	0.31m	0.37m	0.40m	0.37m	0.42m	0.44m

Trench one contained two features, most likely kilns, and so the trench was extended in order that they could be examined fully. The eastern feature measured 5m x 2m and was orientated north to south and consisted of a lozenge shaped area of burnt clay with a silty infill.

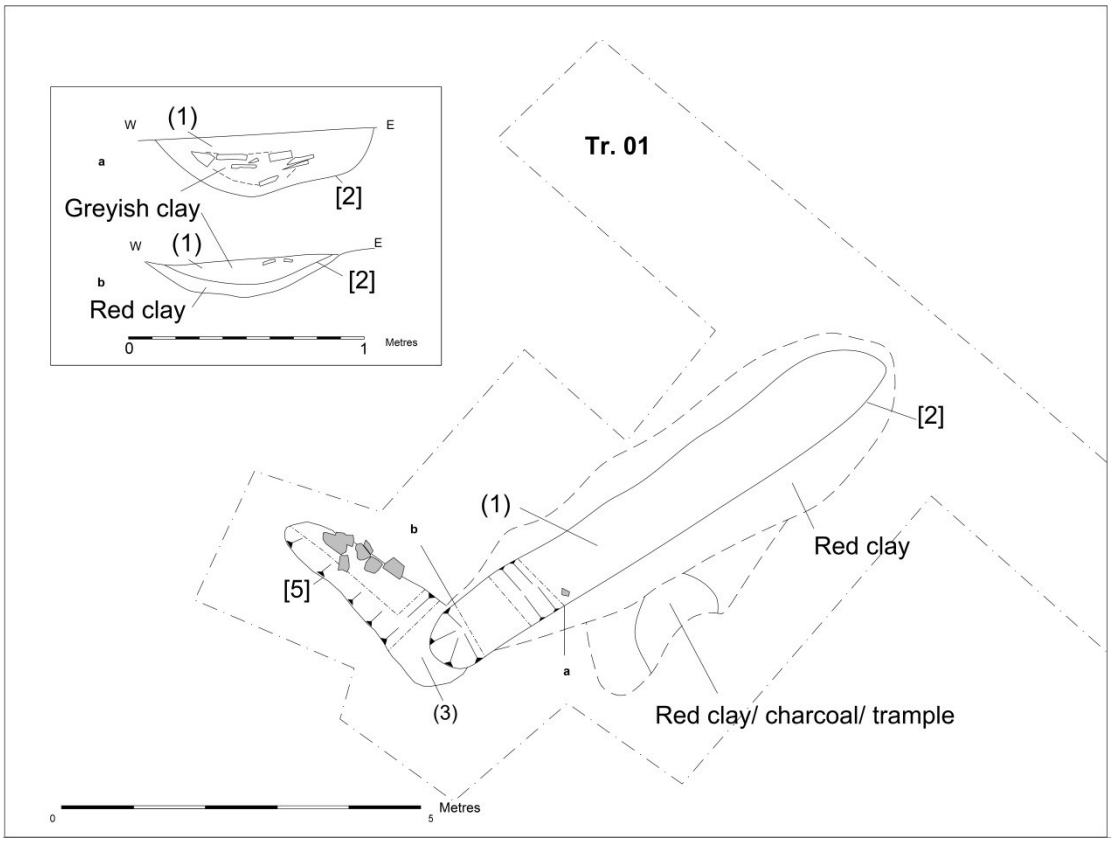

Figure 4: Plan and sections of kiln [2] in Trench 01

The western feature was orientated north-east to south-west and this feature was partially excavated (Plate 1 and Figure 4).

A narrow pit [2] measuring 8m by 2m had been excavated. This cut was surrounded by an area of burnt red clay, which appeared to be heat affected natural clay, although it is possible that this represented a lining to the structure of the feature. On the eastern side of the feature the burnt clay was laminated with layers of charcoal, which may have represented trampling.

The main fill of the pit (1) consisted of variable creamy grey clay and lime remnants with frequent laminar grey mudstone and areas of red clay.

To the south-west of the main pit [2] and lying off to the west of the end of the pit was a very elongated pit [5]. This was a very shallow feature around 2.7m long and 0.5m wide and between 0.15m and 50mm deep, which had the appearance of a pit that had been raked out to the west. The fill (3) was light brownish-grey clay with yellowish patches of lime and occasional small pebbles and patches of charcoal. To the west was a patch of laminar mudstone, which may have been natural but may also have represented an attempt to provide a surface of hard standing.

Plate 2: Trench excavated across spread in Trench 02, looking north

Trench 02

Length: 31m

Width: 1.9m

The trench was extended 10m x 5m at north-eastern end to expose a large feature.

Topsoil: A greyish-brown crumbly silty clay with occasional medium rounded and sub-rounded pebbles

Subsoil: mid-yellowish-brown firm silty clay with occasional small rounded pebbles

Natural Substratum: mainly grey clay, mudstone and limestone

Interval	0m (NE)	5m	10m	15m	20m	25m	31m (SW)
Topsoil	0.20m	0.40m	0.28m	0.26m	0.33m	0.29m	0.26m
Subsoil	0.10m	-	0.08m	0.06m	-	-	0.05m
Top of Natural	0.30m	0.40m	0.36m	0.32m	0.33m	0.29m	0.31m
Base of trench	0.31m	0.42m	0.36m	0.33m	0.33m	0.29m	0.31m

Trench 02 contained two features. Part of a linear feature, most likely part of a kiln, could be identified towards the south-western end of the trench, apparently orientated east to west. At the north-eastern end the trench was extended to reveal an amorphous area of burnt clay, charcoal and soil (measuring approximately 7m x 8m). A machine bucket slot, measuring 0.6m wide, was excavated across the feature and it appeared that the feature was a large spread of burnt clay and kiln material around 0.2m – 0.3m deep (Plate 2).

Trench 03

Length: 28.5m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with frequent small and medium rounded and sub-rounded pebbles

Subsoil: not observed

Natural Substratum: mixed clay and yellow grey mudstone, with occasional patches of limestone, some of which may be re-deposited

Interval	0m (W)	5m	10m	15m	20m	25m	28.5m (E)
Topsoil	0.24m	0.26m	0.29m	0.30m	0.23m	0.22m	0.13m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.24m	0.26m	0.29m	0.30m	0.23m	0.22m	0.13m
Base of trench	0.29m	0.27m	0.30m	0.31m	0.23m	0.23m	0.13m

Trench 03 contained two features; part of a kiln measuring 5m by 2m and orientated north-west to south-east across the trench and an arc of burnt clay, measuring 1.8m close to the eastern end of the trench. Neither feature was excavated.

Trench 04

Length: 29.4m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with frequent small and medium rounded and sub-rounded pebbles

Subsoil: yellowish-grey firm silty clay. Only visible at east end

Natural Substratum: yellowish-grey and grey mudstone and clay

Interval	0m (E)	5m	10m	15m	20m	25m	29.4m (W)
Topsoil	0.43m	0.40m	0.43m	0.35m	0.40m	0.36m	0.30m
Subsoil	0.14m	0.20m	-	-	-	-	-
Top of Natural	0.57m	0.60m	0.43m	0.35m	0.40m	0.36m	0.30m
Base of trench	0.61m	0.64m	0.49m	0.40m	0.45m	0.37m	0.30m

No archaeological features were identified within this trench.

Plate 3: Kiln in Trench 05, looking west

Trench 05

Length: 30m

Width: 1.9m

The trench was widened in two places by 4m x 5m in order to expose a kiln feature within the trench.

Topsoil: greyish-brown crumbly silty clay with frequent small rounded and sub-rounded pebbles

Subsoil: mixed yellowish-grey and greyish-brown firm/ crumbly silty clay with frequent medium pebbles. Layer of pebbles between topsoil and subsoil in places.

Natural Substratum: yellowish-grey and grey mudstone and siltstone, with occasional large lumps of limestone

Interval	**0m (NE)**	**5m**	**10m**	**15m**	**20m**	**25m**	**29.4m (SW)**
Topsoil	0.24m	0.15m	0.22m	0.22m	0.23m	0.33m	0.30m
Subsoil	-	-	0.10m	-	0.20m	0.10m*	0.10m
Top of Natural	0.24m	0.15m	0.32m	0.22m	0.43m	0.43m	0.40m
Base of trench	0.24m	0.18m	0.33m	0.22m	0.44m	0.43m	0.42m

The trench contained two features. The first, most likely part of kiln, was located close to the south-western side of the trench and could be seen running north to south across the trench for 3m.

The other, which had been further exposed by widening the trench, was 7.6m long and between 1m and 2m across. The form seemed very similar to the kiln [2] in Trench 01, although the pit at the end of the kiln had been damaged, possibly by the plough, and so the kiln was not excavated (Plate 3).

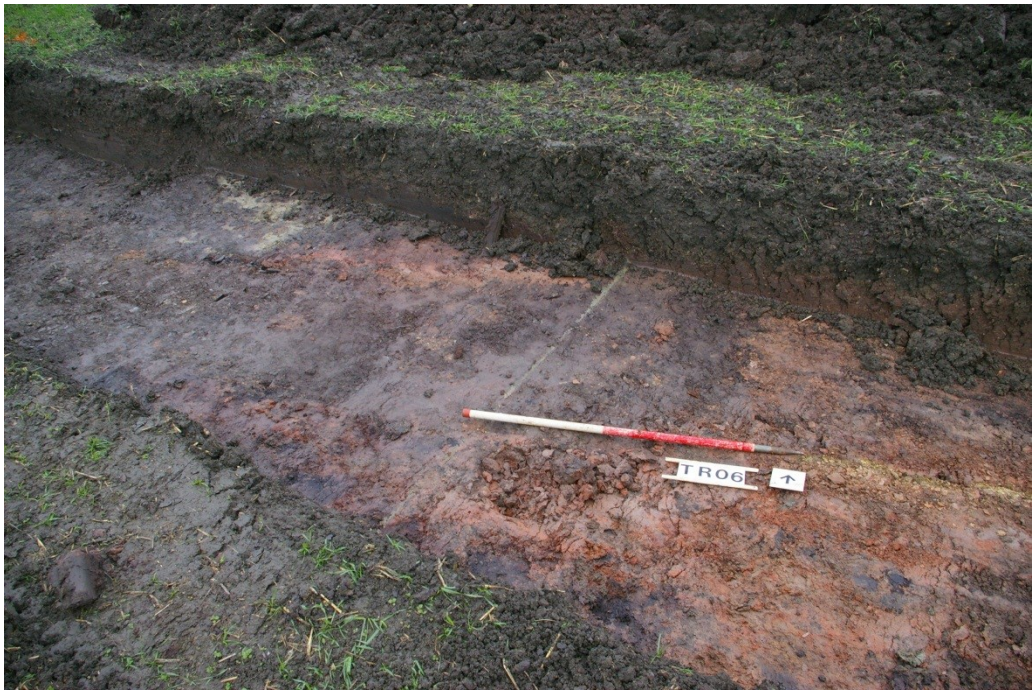

Plate 4: Kiln in Trench 06, looking north

Trench 06

Length: 30.5m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with frequent small rounded and sub-rounded pebbles

Subsoil: mixed yellowish-grey and greyish-brown firm/ crumbly silty clay with frequent medium pebbles. Layer of pebbles between topsoil and subsoil in places.

Natural Substratum: mixed greyish-yellow and orange-brown clay and mudstone.

Interval	0m (E)	5m	10m	15m	20m	25m	30.5m (W)
Topsoil	0.24m	0.15m	0.22m	0.22m	0.23m	0.33m	0.39m
Subsoil	-	-	0.10m	-	0.20m	0.10m	0.10m
Top of Natural	0.24m	0.15m	0.32m	0.22m	0.43m	0.43m	0.49m
Base of trench	0.24m	0.18m	0.33m	0.22m	0.44m	0.43m	0.49m

This trench contained two features. Both appeared to be kilns, with one aligned east to west and another, possibly, north to south. The kiln towards the western end of the trench measured 7m by 2m (Plate 4), whereas the other, close to the centre of the trench was around 4m across within the baulk of the trench.

Trench 07

Length: 30m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with frequent small rounded and sub-rounded pebbles

Subsoil: Mixed yellowish-grey and greyish-brown firm/ crumbly silty clay with frequent medium pebbles. Layer of pebbles between topsoil and subsoil in places.

Natural Substratum: mixture of yellowish-grey clay and siltstone; may be re-deposited.

Interval	**0m (S)**	**5m**	**10m**	**15m**	**20m**	**25m**	**30.5m (N)**
Topsoil	0.30m	0.20m	0.36m	0.40m	0.34m	0.35m	0.30m
Subsoil	0.10m	0.07m	0.06m	-	0.07m	-	0.12m
Top of Natural	0.40m	0.27m	0.42m	0.40m	0.41m	0.35m	0.42m
Base of trench	0.40m	0.28m	0.42m	0.41m	0.42m	0.35m	0.42m

This trench contained what appeared to be two kiln features, both running east to west across the width of the trench. The northernmost one was 1.47m wide and the southern one was 1.9m wide. Neither was excavated.

Trench 08

Length: 30.5m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with occasional small and medium rounded and sub-rounded pebbles

Subsoil: yellowish-grey firm silty clay.

Natural Substratum: yellowish-grey and grey mudstone and clay

Interval	**0m (W)**	**5m**	**10m**	**15m**	**20m**	**25m**	**30.5m (E)**
Topsoil	0.27m	0.20m	0.22m	0.29m	0.24m	0.30m	0.21m
Subsoil	-	-	-	0.15m	0.17m	0.09m	-
Top of Natural	0.27m	0.20m	0.22m	0.44m	0.41m	0.39m	0.21m
Base of trench	0.27m	0.21m	0.26m	0.45m	0.56m	0.40m	0.21m

This trench contained one kiln feature, aligned north-west to south-east and measuring 2m across, into the baulk of the trench. The feature was not excavated.

Trench 09

Length: 30.5m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with occasional small and medium rounded and sub-rounded pebbles. Rare charcoal flecks

Subsoil: None visible

Natural Substratum: yellowish-brown clay with stones (eastern side). Backfilled quarry to west

Interval	0m (E)	5m	10m	15m	20m	25m	30.5m (W)
Topsoil	0.36m	0.20m	0.28m	0.25m	0.26m	0.23m	0.21m
Subsoil	-	-	-	-	-	quarry	quarry
Top of Natural	-	0.20m	0.28m	0.25m	0.26m	-	-
Base of trench	0.42m	0.28m	0.28m	0.31m	0.26m	0.32m	0.50m

The trench contained no archaeological features. However, three areas which appeared to contain features were investigated and were found to be three furrows, spaced 6-8m apart, and one was found to contain three field drains.

The eastern side of the trench contained a sub-stratum of yellowish-brown clay, but the western side of the trench contained re-deposited grey mudstone and siltstone, overlain by re-deposited clay. Closer inspection revealed this to be quarrying backfill. This may represent the edge of the quarried area.

Trench 10

Length: 29.7m

Width: 1.9m

Topsoil: A firm mid to dark grey silty clay with occasional rounded pebbles

Subsoil: none visible

Natural Substratum: yellowish-brown clay with stones

Interval	0m (W)	5m	10m	15m	20m	25m	29.7m (E)
Topsoil	0.19m	0.28m	0.10m	0.16m	0.25m	0.21m	0.21m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.19m*	0.28m	0.10m	0.16m	0.25m	0.21m	0.17m
Base of trench	0.20m	0.29m	0.19m	0.30m	0.33m	0.29m	0.31m

*Made up ground/ quarry

No archaeological features were discovered within this trench. However, two field drains were identified and, as in Trench 09, the western end of the trench largely consisted of made ground of dark grey mudstone and siltstone.

Trench 11

Length: 29m

Width: 1.9m

Topsoil: A firm mid to dark grey silty clay with occasional rounded pebbles

Subsoil: none visible

Natural Substratum: yellowish-brown clay with stones

Interval	0m (W)	5m	10m	15m	20m	25m	29m (E)
Topsoil	0.26m	0.20m	0.20m	0.18m	0.21m	0.27m	0.22m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.26m*	0.20m	0.20m	0.18m	0.21m	0.27m	0.22m
Base of trench	0.37m	0.29m	0.30m	0.22m	0.22m	0.28m	0.24m

*Made up ground/ quarry

This trench contained no archaeological features. However, it did contain two field drains and the western end of the trench consisted of re-deposited mudstone and siltstone as in Trenches 09 and 10.

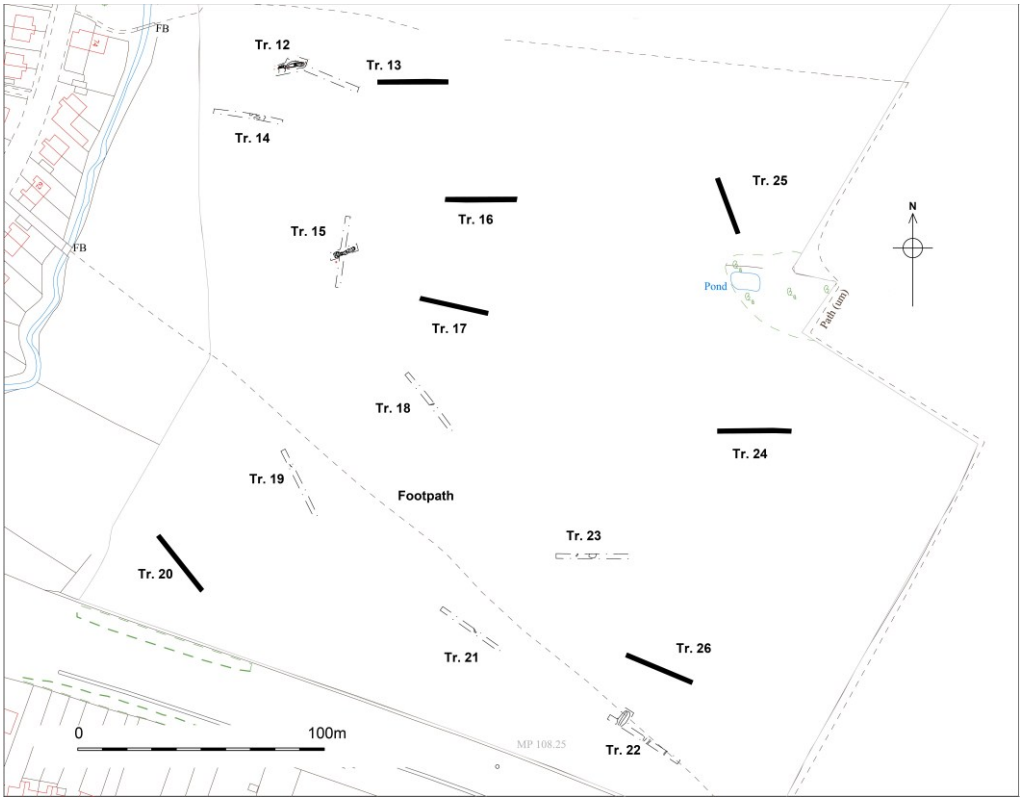

Figure 5: Trench location plan: Southern part of site, Trenches 12-26

Trench 12

Length: 30.5m

Width: 1.9m

The trench was extended 8m by 4m to expose more of the kiln feature.

Topsoil: crumbly greyish-brown silty clay with frequent rounded pebbles

Subsoil: yellowish-grey firm silty clay with rare very small stones

Natural Substratum: greyish-yellow clay and grey mudstone and siltstone

Interval	**0m (E)**	**5m**	**10m**	**15m**	**20m**	**25m**	**30.5m (W)**
Topsoil	0.37m	0.50m	0.45m	0.46m	0.30m	0.30m	0.47m
Subsoil	-	-	0.10m	0.07m	0.10m	-	0.10m
Top of Natural	0.37m	0.50m	0.55m	0.53m	0.40m	0.30m	0.57m
Base of trench	0.38m	0.52m	0.56m	0.56m	0.42m	0.31m	0.58m

The trench contained a kiln, orientated east to west, consisting of a cut [6], which was 7m long and 1.33m at the eastern end tapering to 0.6m at the western end (Figure 6). The total width of the feature, including the spread of burnt red clay, was 3.22m wide. The cut had fairly shallow side and an uneven, almost flat base. A thin line of limestone, possibly the lining of the kiln could be seen towards the western end of the cut. The fill consisted of a thin layer of subsoil over bands of burnt or semi-burnt clays, coloured grey or black (12), mixed with silt layers and chunks of black soil. There was also an abundance of lime granules and stones. At the base of the kiln was a layer of compacted lime slag (13).

To the west of the cut [6] was a semi-circular pit [15], which was around 3m by 3m in diameter (although after cleaning it was shown to disappear into the side of the baulk). It was 0.25m deep and was filled with a layer of subsoil over a mixed fill (14) and (15), which were very similar to the fill (12) within the main part of the kiln [6].

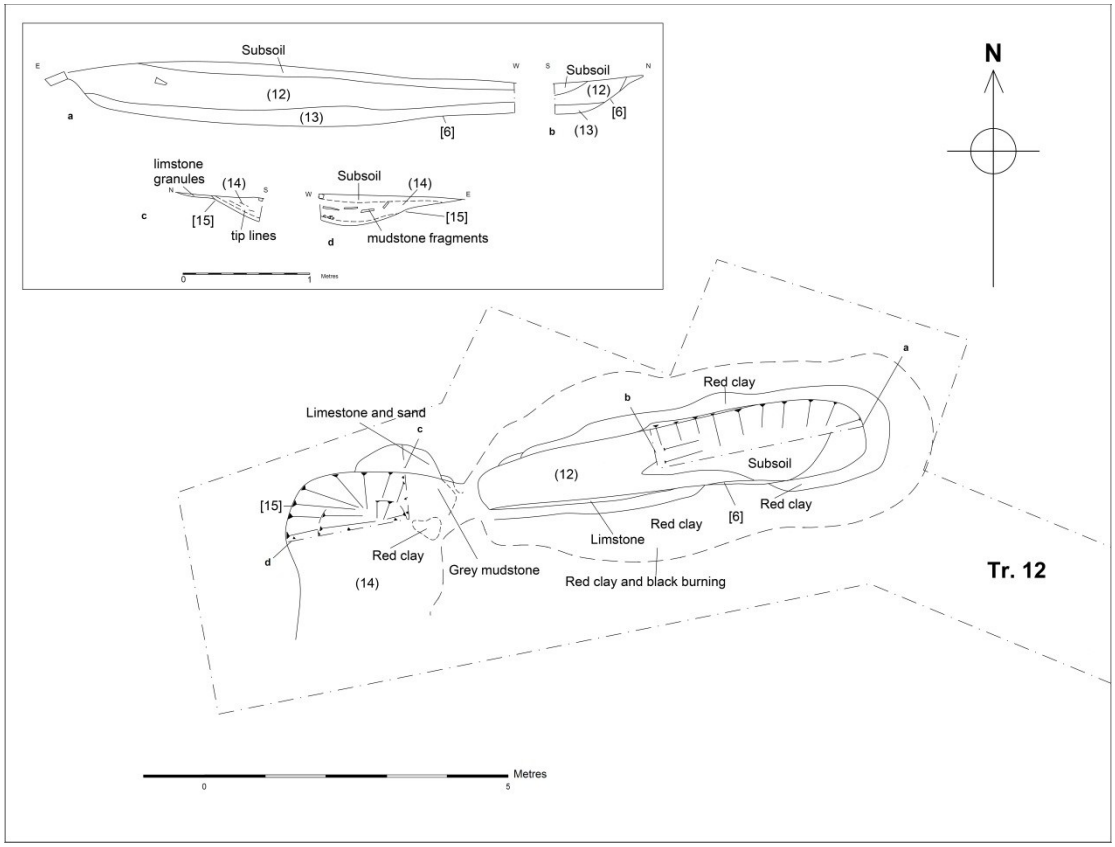

Figure 6: Plans and sections of kiln [6] in Trench 12

Trench 13

Length: 29m

Width: 1.9m

Topsoil: crumbly greyish-brown silty clay with frequent rounded pebbles

Subsoil: none visible

Natural Substratum: Northern part of trench is made-up ground or soil, mixed stones and patches of burnt clay. Southern part is yellowish-brown clay

Interval	**0m (W)**	**5m**	**10m**	**15m**	**20m**	**25m**	**29m (E)**
Topsoil	0.30m	0.37m	0.33m	0.29m	0.38m	0.32m	0.19m
Subsoil	-	-	-	0.10m*	-	-	-
Top of Natural/ made-up ground	0.30m	0.37m	0.33m	0.39m	0.38m	0.32m	0.19m
Base of trench	0.31m	0.37m	0.34m	0.39m	0.38m	0.34m	0.20m

*Burnt clay deposit

No archaeological remains were identified within this trench.

Trench 14

Length: 28.5m

Width: 1.9m

Topsoil: crumbly greyish-brown silty clay with frequent rounded pebbles

Subsoil: yellowish-grey firm silty clay with rare very small stones

Natural Substratum: greyish-yellow clay and grey mudstone and siltstone

Interval	0m (W)	5m	10m	15m	20m	25m	28.5m (E)
Topsoil	0.40m	0.35m	0.22m	0.30m	0.30m	0.30m	0.30m
Subsoil	-	-	-	0.10m	0.17m	0.20m	0.20m
Top of Natural	0.40m	0.35m	0.22m	0.40m	0.47m	0.50m	0.50m
Base of trench	0.56m	0.36m	0.22m	0.41m	0.48m	0.55m	0.55m

A kiln or part of a kiln with a dump of burnt clay was identified within this trench. The feature was not excavated.

Trench 15

Length: 30m

Width: 1.9m

Topsoil: dark greyish-brown firm silty clay with occasional small and medium pebbles and occasionally very stony areas of siltstone and mudstone

Subsoil: dark-grey silty clay with rare small stones

Natural Substratum: bands of dark brownish/yellowish-grey siltstone and mudstone, with bands/ dumps (?) of limestone

Interval	0m (N)	5m	10m	15m	20m	25m	30m (S)
Topsoil	0.38m	0.32m	0.34m	0.30m	0.30m	0.40m	0.47m
Subsoil	0.10m	0.09m	0.08m	-	0.18m	0.16m	0.10m
Top of Natural	0.48m	0.41m	0.42m	0.30m	0.48m	0.56m	0.57m
Base of trench	0.48m	0.41m	0.42m	0.32m	0.52m	0.56m	0.57m

Plate 5: Kiln [7] and pit [10], post excavation, looking north-east

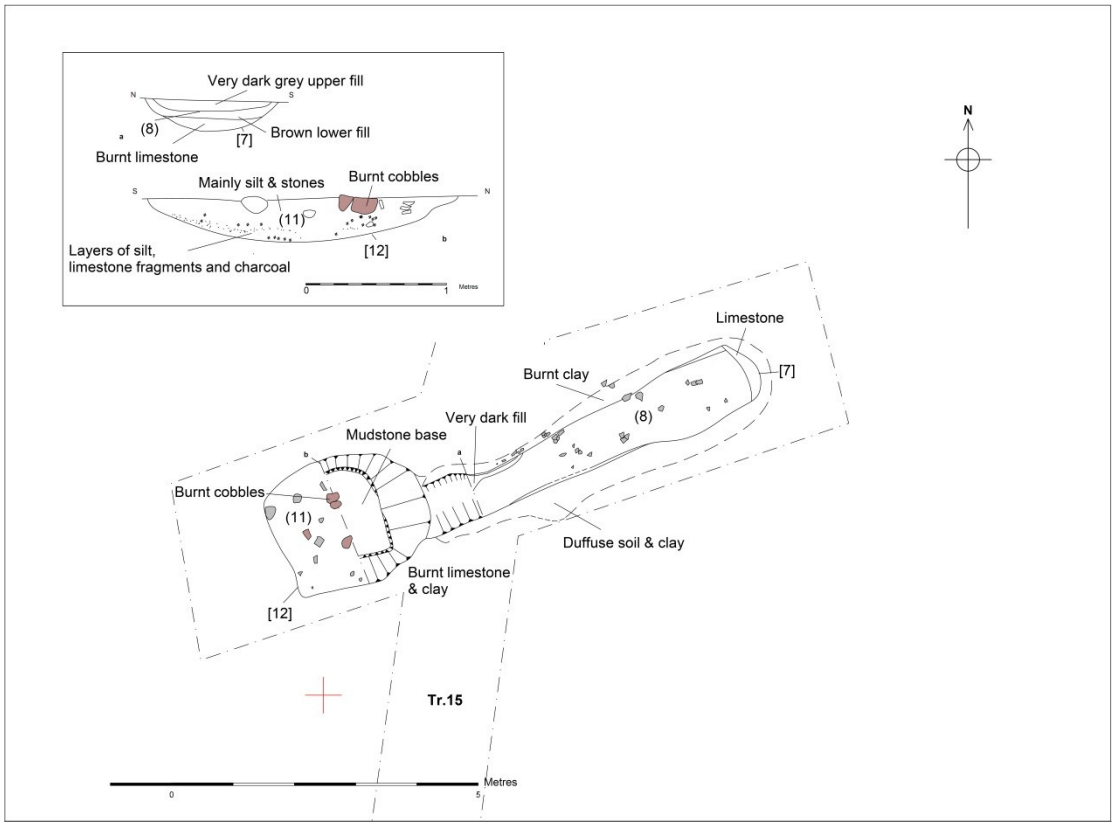

Figure 7: Plan and sections of kiln [7] in Trench 15

This trench contained a very well preserved kiln feature (originally numbered (4)), which consisted of an elongated pit [7], lying north-east to south-west and measuring 7.35m long and between 0.65m and 0.80m wide and 0.21m deep (Plate 5 & Figure 7). The pit was 0.21m deep and contained a fill (8) of black, dark grey and dark-brown clayey silt with very small pieces of limestone. The fill was loose and under a thin upper deposit of subsoil.

Under the loose fill lay a compacted layer of yellowish-white or brownish-yellow burnt limestone fragments.

In places the kiln appeared to have been lined with limestone and, as in the other kilns [2] and [6], the surrounding area consisted of burnt clay, with some patches on the southern side where the ground had possibly been trampled.

Joined onto the south-western end of the kiln was a large sub-circular pit [10], measuring 2.4m by 2.3m, which had been cut into the mudstone to a depth of 0.3m, with fairly shallow sides and an uneven base. The pit contained a fill (11) consisting of an upper fill of mainly mid to light brown silt and stones, some of which had been burnt and a lower fill consisting of layers of silty clay plus reddish patches of burnt clay, limestone fragments and quite a large amount of charcoal and ash.

Trench 16

Length: 29.2m

Width: 1.9m

Topsoil: mid to dark greyish-brown silty clay

Subsoil: not visible

Natural Substratum: yellowish-grey or brown clay with pebbles plus grey and reddish grey mudstone. *Centre of trench appears to consist of made ground of grey mudstone mixed with clay, siltstone and charcoal.

Interval	0m (W)	5m	10m	15m	20m	25m	29.2m (E)
Topsoil	0.30m	0.26m	0.27m	0.33m	0.30m	0.24m	0.29m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.30m	0.26m	0.27m*	0.33m*	0.30m	0.24m	0.29m
Base of trench	0.31m	0.28m	0.28m	0.33m	0.30m	0.26m	0.30m

No archaeological features were identified within this trench.

Trench 17

Length: 29m

Width: 1.9m

Topsoil: dark greyish-brown crumbly silty clay with rare very small stones

Subsoil: mid brown firm silty clay with rare very small stones

Natural Substratum: not seen. All made-up ground

Interval	0m (W)	5m	10m	15m	20m	25m	29m (E)
Topsoil	0.30m	0.19m	0.24m	0.25m	0.30m	0.29m	0.29m
Subsoil	0.09m	0.26m	0.27m	0.40m	0.40m	0.30m	0.33m
Top of made ground	0.39m	0.45m	0.51m	0.65m	0.70m	0.59m	0.62m
Base of trench	0.39m	0.55m	0.55m	0.70m	0.78m	0.62m	0.65m

No archaeological features were identified within this trench.

Trench 18

Length: 30m

Width: 1.9m

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: yellowish-grey silty clay with occasional small stones

Natural Substratum: mottled grey/yellowish clay with stones and some patches of gravelly clay

Interval	0m (NW)	5m	10m	15m	20m	25m	30m (SE)
Topsoil	0.20m	0.18m	0.28m	0.27m	0.24m	0.17m	0.20m
Subsoil	0.04m	0.09m	-	0.10m	0.04m	-	0.03m
Top of Natural	0.24m	0.27m	0.28m	0.37m	0.28m	0.17m	0.23m
Base of trench	0.24m	0.27m	0.29m	0.37m	0.29m	0.18m	0.24m

The trench contained a patch of burnt clay, which may be part of kiln, or possibly a dump of kiln material.

Trench 19

Length: 30.5m

Width: 1.9m

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: yellowish-grey silty clay with occasional small stones

Natural Substratum: yellowish-brown clay with stones with some patches of gravelly clay and re-deposited grey clay

Interval	0m (NW)	5m	10m	15m	20m	25m	30.5m (SE)
Topsoil	0.30m	0.32m	0.31m	0.39m	0.27m	0.20m	0.25m
Subsoil	0.09m	0.16m	0.10m	0.07m	0.12m	0.20m	0.14m
Top of Natural/ made ground	0.39m	0.48m	0.41m	0.46m	0.39m	0.40m	0.39m
Base of trench	0.40m	0.50m	0.42m	0.46m	0.43m	0.44m	0.45m

The trench contained patches of burnt clay, which may be part of kiln, or possibly a dump of kiln material.

Trench 20

Length: 29.5m

Width: 1.9m

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: not visible

Natural Substratum: yellowish-brown clay with patches of siltstone and mudstone

Interval	0m (SE)	5m	10m	15m	20m	25m	29.5m (NW)
Topsoil	0.25m	0.30m	0.30m	0.31m	0.06m	0.20m	0.23m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.25m	0.30m	0.30m	0.31m	0.06m	0.20m	0.23m
Base of trench	0.35m	0.40m	0.34m	0.32m	0.17m	0.29m	0.31m

No archaeological features were identified within this trench.

Trench 21

Length: 29.5m

Width: 1.9m

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: dark yellowish-brown crumbly silty clay with rare very small pebbles

Natural Substratum: mixture of grey clay and siltstone plus some yellowish-grey clay and stones

Interval	0m (NW)	5m	10m	15m	20m	25m	29.5m (SE)
Topsoil	0.40m	0.39m	0.43m	0.26m	0.18m	0.36m	0.25m
Subsoil	0.10m	0.12m	0.20m	kiln	0.05m	-	0.08m
Top of Natural/ made ground	0.50m	0.51m	0.63m	0.26m*	0.23m	0.36m	0.33m
Base of trench	0.52m	0.55m	0.65m	0.26m	0.23m	0.36m	0.35m

*kiln material

This trench contained a kiln feature partially obscured by the northern baulk. It appeared to be at least 4m long and 0.92m wide. The kiln was not excavated.

Plate 6: Possible kiln feature in Trench 21, looking south-east

Trench 22

Length: 35m

Width: 1.9m

The trench was extended 5.3m to the north-east to expose the kiln feature within the trench.

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: dark yellowish-brown crumbly silty clay with rare very small pebbles

Natural Substratum: greyish yellow clay and mudstone with occasional lumps of limestone. Rather muddled; some may be re-deposited

Interval	**0m (NW)**	**5m**	**10m**	**15m**	**20m**	**25m**	**30m**	**35m (SE)**
Topsoil	0.32m	0.27m	0.23m	0.27m	0.26m	0.30m	0.29m	0.22m
Subsoil	-	0.08m	-	-	0.08m	0.12m	0.08m	0.10m
Top of Natural/ made ground	0.32m	0.35m	0.23m	0.27m	0.34m	0.42m	0.37m	0.32m
Base of trench	0.33m	0.36m	0.23m	0.28m	0.34m	0.42m	0.38m	0.33m

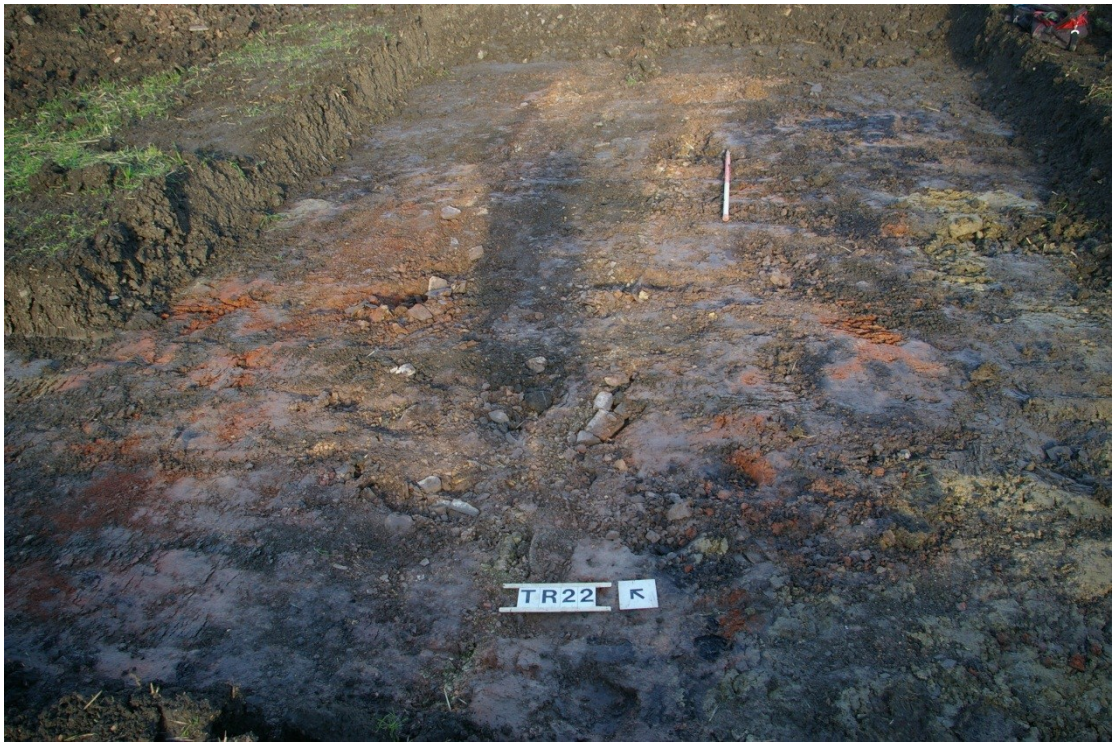

Plate 7: Kiln feature in Trench 22, looking north-east

The trench contained three features. At the south-eastern end of the trench was a patchy area of burnt clay that may have been part of a kiln feature, or a dump of kiln material. Around the centre of the trench was part of a kiln feature that appeared to be orientated north-east to south-west.

Close to the north-western end of the trench was a large, fairly well preserved kiln. The kiln measured 6m by 1.4m and was unusual in that it appeared more uniform than that in Trenches 01, 12 and 15 and was not burnt at the north-eastern end. The south-western end, however, was very disturbed and burnt, with red clay spread out in a wide halo at this end.

Trench 23

Length: 30m

Width: 1.9m

Topsoil: very dark greyish-brown crumbly silty clay with frequent very small stones

Subsoil: not visible

Natural Substratum: greyish yellow clay and mudstone

Interval	0m (W)	5m	10m	15m	20m	25m	30m (E)
Topsoil	0.30m	0.33m	0.28m	0.24m	0.30m	0.28m	0.40m
Subsoil	-	-	-	-	-	-	-
Top of Natural	0.30m	0.33m	0.28m	0.24m	0.30m	0.28m	0.40m
Base of trench	0.34m	0.34m	0.33m	0.27m	0.31m	0.29m	0.40m

There were two areas of burnt clay in this trench, which may be remnants of kilns or dumps of material. A test of the patch closer to the centre of the trench proved to be merely a dump of burnt clay and kiln material.

Trench 24

Length: 30m

Width: 1.9m

Topsoil: greyish-brown crumbly silty clay with occasional very small and medium pebbles

Subsoil: not visible

Natural Substratum: greyish-yellow clay and mudstone

Interval	0m (W)	5m	10m	15m	20m	25m	30m (E)
Topsoil	0.25m	0.30m	0.20m	0.26m	0.25m	0.28m	0.35m
Subsoil	-	-	-	-	-	-	-
Top of natural	0.25m	0.30m	0.20m	0.26m	0.25m	0.28m	0.35m
Base of trench	0.25m	0.30m	0.22m	0.28m	0.26m	0.32m	0.40m

No archaeological features were identified within this trench.

Trench 25

Length: 24.5m

Width: 1.9m

Topsoil: mid yellowish-grey silty clay with occasional very small and medium pebbles

Subsoil: yellowish-brown silty clay with occasional very small and medium pebbles

Natural Substratum: mixed orange-grey and yellowish-grey clay with stones

Interval	0m (NW)	5m	10m	15m	20m	24.5m (SE)
Topsoil	0.17m	0.20m	0.19m	0.19m	0.26m	0.28m
Subsoil	0.17m	-	0.11m	-	-	-
Top of natural	0.35m	0.20m	0.30m	0.19m	0.26m	0.28m
Base of trench	0.35m	0.21m	0.30m	0.24m	0.28m	0.28m

No archaeological features were identified within this trench.

Trench 26

Length: 29m

Width: 1.9m

Topsoil: dark greyish-brown crumbly silty clay with rare very small stones

Subsoil: mid brown firm silty clay with rare very small stones

Natural Substratum: not seen. All made-up ground

Interval	0m (E)	5m	10m	15m	20m	25m	30m (W)
Topsoil	0.28m	0.30m	0.30m	0.20m	0.24m	0.32m	0.30m
Subsoil	-	-	-	-	-	0.19m	0.20m
Top of Natural/ made ground	0.28m	0.30m	0.30m	0.20m	0.24m	0.51m	0.50m
Base of trench	0.29m	0.31m	0.30m	0.21m	0.24m	0.52m	0.62m

No archaeological features were identified within this trench.

7. Conclusion

The area around Barrow upon Soar is historically associated with the quarrying and production of lime, and lime appears to have been worked in the area since Roman times. Lime kilns have previously been located and excavated around Barrow and have been dated to between the 15th and 20th centuries (McAree 2007 & Harvey 2011).

Most of the lime quarries in the area during the 19th century were owned by Messrs John Ellis and Sons and their pits extended along both sides of the railway to the south and east of the town. The early Ordnance Survey maps of the area show a number of limestone pits throughout the parish, including within the 'Breaches' site itself.

The most basic form of lime production that was used from the post-medieval period into fairly recent times was the 'clamp' kiln. These consisted of a long pit (around 4m long) excavated and then filled with alternate stacks of limestone and fuel. The stack was then covered in sods or turves to form a 'clamp', which was then fired and left burning for up to ten days, before the lime was extracted by raking out into a pit at the base of the kiln. The larger form of clamp kiln is sometime referred to as a 'linear' kiln. These are generally longer than the standard clamp kiln being 7m – 8m long.

The magnetometry survey carried out by Northamptonshire Archaeology prior to the evaluation had located a number of anomalies that by their shape and location were likely to represent lime kilns and dumps of kiln material.

The targeted trenches of the current evaluation confirmed that there were a number of lime kilns located throughout the site, mainly located along the western and southern edges of the field. Most of the anomalies were kilns, damaged kilns or areas of dumped kiln material; burnt clay and ash and so forth.

A number of the kilns and their associated pits were exposed and three were excavated in order to assess their form. All appeared to be of a similar design, that of the longer 'linear' form, consisting of a long narrow pit, usually 7m-8m long and

around 0.65m to 1.5m wide, with an outer 'halo' of burnt clay, representing the main part of the 'clamp'. Joined onto this pit was another more amorphous pit, which in some cases showed signs of having been raked out causing material to spread around a large area around the basic pit shape. This area rarely showed signs of burning, but often contained ash and charcoal within the fill, which would be consistent with the remains of the clamp being raked into the pit.

The main clamp often showed signs of possible being lined with limestone, although this may also simply be where the limestone had been stacked within the pit. Remnants of burnt limestone often remained as a lower fill within the main pit. This was most obvious in kiln [7].

Although not all the kiln features were excavated, their observed general form would suggest that all the kilns seen within the evaluation trenches were of this same 'clamp' or 'linear' type form. The un-excavated kiln in Trench 22 was slightly more uniform in shape and did not exhibit the burnt clay halo around the main clamp. This may be simply that the kiln failed to fire (or fired badly) and so did not stain the clay surrounding the kiln. However, there were signs of burning clay around the southern end of the kiln, and so maybe the kiln partially fired and was abandoned.

The trenches revealed a large amount of made ground throughout the field, which would be in keeping with the historical and cartographic evidence for the town, which shows a large amount of limestone extraction throughout the Barrow upon Soar area. The evaluation would suggest that the eastern edge of the site (observed within Trenches 09-11 and 25) was relatively undisturbed by quarrying as, for the most part, a natural sub-stratum of yellowish-brown clay was observed throughout the eastern side of the trenches, along with plough furrows, suggesting the remains of a medieval field system.

No other archaeological features were revealed by the evaluation. The trenches placed across the suggested rectilinear feature were negative for any other remains except the aforementioned kilns. Quarrying may easily have removed any earlier archaeological remains.

A geo-technical excavation was undertaken for Jelsons at the same time as the archaeological evaluation. This largely confirmed the evidence revealed by the evaluation; that much of the field had been previously excavated and had been re-instated sometime in the recent past. One geo-technical trench was excavated across a large anomaly shown on the magnetometry survey (Figure 2) as a large orange mark in the northern part of the field. This was revealed as a large, deep quarry pit, infilled with soil, clay and debris, including metal and plastic (Plate 8).

The line of the railway seen on the early 20th century maps was not evident and the linear feature picked up by the magnetometry survey may be the edge of the quarry workface, with most of the area to the west of the aforementioned trenches consisting of backfilled quarry workings with 'islands' of natural clay and mudstone. It is possible that the quarry working gradually progressed across the field from east to west, with the limestone being processed in kilns along the way, so that the kilns discovered during this evaluation representing the final phase of lime production along the western and southern edges of the site.

Unfortunately, no dating evidence was retrieved from any feature encountered during the evaluation. The simple form of the kilns, along with evidence of similar 'linear' clamp kilns from archaeological work in other parts of Barrow, which have been

dated by archaeomagnetic dating techniques (McAree 2007), may suggest that the kilns could be as early as 15th-16th century in date for clamp kilns and 16th-17th century for the linear type.

Given that quarrying on the 'Breaches' site appears to have been in operation until at least the early 20th century, and that the 'clamp' or linear kiln model may, as the simplest form of lime production, be plausibly still in use by local producers of lime, such as local farmers producing lime to improve the soil quality thereabouts, the kilns in this area may be fairly late in date. Further work, in conjunction with a sampling strategy for material that could be dated by archaeomagnetic techniques may throw more light on lime production in this particular area of Barrow.

Plate 8: Geo-technical pit excavated in northern part of field, showing deep quarry backfill, looking west

8. References

Clarke, S., 2009 *An Archaeological Desk-based Assessment of land adjacent to Melton Road, Barrow upon Soar, Leicestershire (SK 583 173).* (ULAS Report No. 2009-155)

Harvey, J., 2011 *An Archaeological Evaluation at Strancliffe Hall, Cotes Road, Barrow Upon Soar, Leicestershire (SP 572 181)* (ULAS Report 2011-135)

Johnson, D., 2008 'The Archaeology and Technology of Early-Modern Lime Burning in the Yorkshire Dales: Developing a Clamp Kiln Model' in *Industrial Archaeology Review*, Volume 30, Number 2. pp. 127-143(17)

Ladocha, J & Butler, *An Archaeological Geophysical Survey on land at Melton Road, Barrow-on-Soar, Leicestershire*. (Northamptonshire Archaeology Report No. 10-44)

McAree, D., 2006 *Archaeological Excavation at Cotes Road, Barrow upon Soar, Leicestershire* (Northamptonshire Archaeology Report No. 07/148).

9. Acknowledgements

ULAS would like to thank Jelsons for their help and co-operation with this project. The project was managed by Richard Buckley and the fieldwork was carried out by the author, assisted by Jon Coward and James Harvey.

The machine was supplied by Meynells and was driven by Tony Bassett.

10. Publication

Since 2004 ULAS has reported the results of all archaeological work through the *Online Access to the Index of Archaeological Investigations* (OASIS) database held by the Archaeological Data Service at the University of York.

A summary of the work will also be submitted for publication in a suitable regional archaeological journal in due course.

OASIS data entry

Project Name	'The Breaches', Melton Road, Barrow upon Soar
Project Type	Evaluation
Project Manager	Richard Buckley
Project Supervisor	Leon Hunt
Previous/Future work	Geophysical survey/ not known
Current Land Use	Arable
Development Type	Housing
Reason for Investigation	NPPF
Position in the Planning Process	Planning condition
Site Co ordinates	SK 58374 17285
Start/end dates of field work	12-11-2013 to 25-11-2013
Archive Recipient	Leicestershire Museums
Study Area	13.5ha

11. Archive

The archive for this project will be deposited with Leicestershire Museums. An accession number will be allocated forthwith.

The archive consists of the following:

1 Unbound copy of this report (2013-200)

1 Unbound copy of Desk Based Assessment (2009-155)

26 Trench recording sheets

14 Context Sheets

5 sheets of A3 permatrace with primary drawings

2 Contact sheets of digital photographs

1 CD digital photographs

1 Set B&W contact sheets

1 Set B&W negatives

Leon Hunt
ULAS
University of Leicester
University Road
Leicester LE1 7RH

Tel: 0116 252 2848
Fax: 0116 252 2614

Email:

lh90@le.ac.uk

02-12-2013

APPENDIX: Design Specification for archaeological work
UNIVERSITY OF LEICESTER ARCHAEOLOGICAL SERVICES
Design Specification for Archaeological Trial Trench Evaluation
Site: Land off Melton Road, Barrow on Soar, Leicestershire

NGR: SK 583 173

Client: Jelsons

Planning Authority: Charnwood Borough Council

Planning Application Number: P/10/1518/2

Non-Technical Summary

This document represents a design specification for archaeological field evaluation by trial trenching in advance of the construction of new housing on land off Melton Road, Barrow on Soar, Leicestershire. The evaluation is intended to provide further information on the nature, extent, date and depth of any archaeological deposits which may be affected by the proposals so that the Planning Authority can make an informed decision over whether further investigations are required to mitigate any potential damage. The design specification follows the guidelines as laid out in the *Institute of Field Archaeologists Standards and Guidance for Archaeological Field Evaluation (IFA S&G).*

1. Introduction

1.1 ***Definition and scope of the specification***

This document is a design specification for a phase of intrusive archaeological evaluation at the above site (and attendance during demolition), in accordance with National Planning Policy Framework (NPPF): Section 12 Conserving and Enhancing the Historic Environment, and the condition placed on planning permission. The aim of the fieldwork is intended to evaluate the presence/absence, date, character, extent and state of preservation of surviving archaeological features at the site, and to assess what further mitigation will be needed regarding the archaeological deposits.

1.2 The definition of archaeological field evaluation, taken from the Institute of Field Archaeologists Standards and Guidance: for Archaeological Field Evaluation (IFA S&G: AFE) is a limited programme of non-intrusive and/ or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate.

1.3 The Ordnance Survey Geological Survey of Great Britain, Sheet 142 indicates that the underlying geology is likely to consist of Lower Lias Clays and Limestone, with an area of Glacial River Gravel in the western part of the site. The site lies on undulating ground, located on a south-west facing slope ranging in height from c.64m aOD in the north-east corner to c.47m aOD in the south-west at the boundary with Fishpool Brook.

2. Planning Background

2.1 Following an appeal against Charnwood Borough Council's refusal to grant planning permission, a Public Inquiry was held 2012-13. The Planning Inspector recommended that the appeal be allowed and planning permission granted. The Secretary of State concurred with the Inspector's conclusions and recommendations.

2.2 Condition 8 of the permission states that: '*No development shall commence until the applicant or developer has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved in writing by the local planning authority, and no development shall take place except in accordance with the approved scheme details.'*

2.3 In view of the high archaeological potential of the site, ULAS recommended a phased programme of archaeological field evaluation to clarify this potential in order to assess the impact of the proposals on buried remains. Phase 1, geophysical survey, has been completed and this WSI describes the methodologies to be adopted for a second phase of intrusive trial trenching.

2.4 Depending on the results of the evaluation, it is possible that further archaeological investigation will be necessary to mitigate any damage which will be caused by groundworks.

3. Archaeological and Historical Background

3.1 Archaeological desk-based assessment has shown that the site has the potential to be rich in archaeological remains. Fieldwalking undertaken over a number of seasons has identified flint scatters dating to the late Neolithic/Early Bronze Age period and the HER for Leicester, Leicestershire and Rutland has indicated that a Roman road, the Saltway, is known to cross through the site from east to west. A number of Roman archaeological sites recorded elsewhere in Barrow indicate that there is some potential for Roman occupation and settlement associated with the road, to be present within the development area itself. The HER also has records of a number of post-medieval lime kilns located within the area and cartographic evidence indicates that some of these may have been in use until the early part of the 20th century. The excavations of the lime pits are likely to have had a damaging impact upon any earlier archaeological deposits located within the affected areas; the maps show however that the areas of pitting appear to have been restricted, largely to the central area, with a small pit in the northern part of the site. No intrusive archaeological investigation has previously been carried out on the site and the full extent of the damage of the early limestone works upon any underlying archaeological deposits is not known. However, for the larger part of the application area, any damage is not likely to have been significant and any archaeological deposits present here are likely to be relatively well preserved and close to the ground surface.

3.2 Magnetometry by Northamptonshire Archaeology on behalf of ULAS (Ladocha and Butler 2010) of a 16ha area revealed evidence of approximately 76 possible lime kilns, associated pits and two backfilled quarry pits. A possible rectangular ditched enclosure was identified on the western side of the field. Lime burning at Cotes Road, Barrow, was found to have taken place almost continuously between the 15th and 19th centuries (McAree 2007). It is reasonable to expect a similar date range at Melton Road, perhaps developing north to south along the hillside to the most ordered kilns in the south-east. These final industrial features, situated on a long-lived path, were ideally placed for access to both the River Soar and the railway

3.3

4. Aims and Objectives

4.1 The main objectives of the evaluation will be:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works
- To produce an archive and report of any results.

4.2 Within the stated project objectives, the principal aim of the evaluation is to establish the nature, extent, date, depth, significance and state of preservation of archaeological deposits on the site in order to determine the potential impact upon them from the proposed development.

4.3 Trial trenching is an intrusive form of evaluation that will demonstrate the existence of earth-fast archaeological features that may exist within the area.

5. Methodology

5.1 *General Methodology and Standards*

5.1.1 All work will follow the Institute of Field Archaeologists (IFA) Code of Conduct and adhere to their *Standard and Guidance for Archaeological Excavations.*

5.1.2 Staffing, Recording systems, Health and Safety provisions and Insurance details are provided.

5.1.3 Internal monitoring procedures will be undertaken, including visits to the site by the project manager. These will ensure that project targets are being met and professional standards are being maintained. Provision will be made for external monitoring meetings with the Planning authority and the client, if required.

5.2 *General Trial Trenching Methodology*

5.2.1 Twenty-five trenches, each measuring 30m long by 1.6m wide will be examined at the approximate locations shown on Figure 9.

5.2.2 Modern overburden will be removed carefully in level spits, under continuous archaeological supervision by 360 degree excavator using a toothless ditching bucket of 2m width. The trenches will be excavated down to the top of archaeological deposits or natural undisturbed ground (subject to health and safety considerations), whichever is reached first.

5.2.3 Depending on depths, it is possible that the trench edges will need to be stepped to allow safe access by archaeologists, due to the likely depth of modern overburden.

5.2.4 The trench will be examined by hand cleaning and any potential archaeological deposits which are located will be planned at an appropriate scale. Archaeological deposits will be sample-excavated by hand as appropriate to establish the stratigraphic and chronological sequence. All plans will be tied into the Ordnance Survey National Grid. Relative spot heights will be taken as appropriate.

5.2.5 Sections of any excavated archaeological features will be drawn at an appropriate scale. At least one longitudinal face of each trench will be recorded. All sections will be levelled and tied to the Ordnance Survey Datum, or a permanent fixed benchmark.

5.2.7 Trench locations will be recorded using an electronic distance measurer. These will then be tied in to the Ordnance Survey National Grid.

5.2.8 Any human remains will initially be left *in situ* and will only be removed if necessary for their protection, under a Home Office Licence and in compliance with relevant environmental health regulations.

5.4 *Environmental Sampling*

5.4.1 If features are appropriate for environmental sampling a strategy and methodology will be developed on site following advice from ULAS's Environmental Specialist Anita Radini and Consultant, Angela Monckton. Preparation, taking, processing and assessment of environmental samples will be in accordance with current best practice. The sampling strategy is likely to include the following:

- A range of features to represent all feature types, areas and phases will be selected on a judgmental basis. The criteria for selection will be that deposits are datable, well-sealed and with little intrusive or residual material.
- Any buried soils or well-sealed deposits with concentrations of carbonised material present will be intensively sampled taking a known proportion of the deposit.
- Spot samples will be taken where concentrations of environmental remains are located.
- Waterlogged remains, if present, will be sampled for pollen, plant macrofossils, insect remains and radiocarbon dating provided that they are uncontaminated.

5.4.2 All collected samples will be labelled with context and sequential sample numbers.

5.4.3 Appropriate contexts (i.e. datable) will be bulk sampled (50 litres or the whole context depending on size) for the recovery of carbonised plant remains and insects.

5.4.4 Recovery of small animal bones, bird bone and large molluscs will normally be achieved through processing other bulk samples or 50 litre samples may be taken specifically to sample particularly rich deposits.

5.4.5 Wet sieving with flotation will be carried out using a York Archaeological Trust sieving tank with a 0.5mm mesh and a 0.3mm flotation sieve. The small size mesh will be used initially as flotation of plant remains may be incomplete and some may remain in the residue. The residue > 0.5mm from the tank will be separated into coarse fractions of over 4mm and fine fractions of > 0.5-4mm. The coarse fractions will be sorted for finds. The fine fractions and flots will be evaluated and prioritised; only those with remains apparent will be sorted. The prioritised flots will not be sorted until the analysis stage when phasing information is available. Flots will be scanned and plant remains from selected contexts will be identified and further sampling, sieving and sorting targeted towards higher potential deposits.

5.4.6 Where evidence of industrial processes are present (e.g. indicated by the presence of slag or hearth bases), samples will be taken for the analysis of industrial residues (e.g. hammer scale).

5.5 ***Recording Systems***

5.5.1 The ULAS recording manual will be used as a guide for all recording.

5.5.2 Individual descriptions of any observed archaeological strata and features exposed by the works will be entered onto pro-forma recording sheets.

5.5.3 A site location plan based on the current Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO) will be prepared. This will be supplemented by a plan at appropriate scale, which will show the location of the trenches in relation to the OS or site grid, as appropriate.

5.5.4 A record of the full extent in plan of all archaeological deposits encountered will be made. Sections including the half-sections of individual layers of features will be drawn as necessary, typically at a scale of 1:10. Relative levels of archaeological deposits will be taken across the site area. A record of the relative depths of all machined deposits will be recorded for at least one of the longitudinal sections of each trench.

5.5.5 A photographic record of the investigations will be prepared illustrating in both detail and general context the principal features and finds discovered. The photographic record will also include 'working shots' to illustrate more generally the nature of the archaeological operation mounted.

6. Report and Archive

6.1 The full report in A4 format will usually follow within eight weeks of the completion of the fieldwork. An interim can be made available for comment soon after the completion of the evaluation.

6.2 The report will include consideration of:

- The aims and methods adopted in the course of the evaluation.
- The nature, location and extent of any structural, artefactual and environmental material uncovered.
- The anticipated degree of survival of archaeological deposits.
- The anticipated archaeological impact of the current proposals.
- Appropriate illustrative material including maps, plans, sections, drawings and photographs.
- Summary.
- The location and size of the archive.
- A quantitative and qualitative assessment of the potential of the archive for further analysis leading to full publication, following guidelines laid down in *Management of Archaeological Projects* (English Heritage).

6.3 A full copy of the archive as defined in *The Guidelines For The Preparation Of Excavation Archives For Long-Term Storage* (UKIC 1990), and *Standards In The Museum: Care Of Archaeological Collections* (MGC 1992) and *Guidelines for the Preparation of Site Archives and Assessments for all Finds* (other than fired clay objects) (Roman Finds Group and Finds Research Group AD 700-1700 1993) will usually be presented to within six months of the completion of fieldwork. This archive will include all written, drawn and photographic records relating directly to the investigations undertaken.

6.4 ***OASIS Record***

The Leicestershire and Rutland HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. Upon completion of the fieldwork, the online OASIS (Online Access to the Index of Archaeological Investigations) project form at http://ads.ac.uk/project/oasis will be completed. Once any reports have become public documents following their incorporation into Leics. SMR, they will be uploaded to the Archaeology Data Service web site where they may be freely consulted.

7. Publication and Dissemination of results

7.1 A summary of the work will be submitted to a relevant local journal – Transactions of the Leicestershire Archaeological and Historical Society – for publication. A larger report will be submitted for inclusion if the results of the recording work warrant it.

8 Acknowledgement and Publicity

8.1 ULAS shall acknowledge the contribution of the Client in any displays, broadcasts or publications relating to the site or in which the report may be included.

8.2 ULAS and the Client shall each ensure that a senior employee shall be responsible for dealing with any enquiries received from press, television and any other broadcasting media and members of the public. All enquiries made to ULAS shall be directed to the Client for comment.

9. Copyright

9.1 The copyright of all original finished documents shall remain vested in ULAS and ULAS will be entitled as of right to publish any material in any form produced as a result of its investigations.

10. Health and Safety

10.1 ULAS is covered by and adheres to the University of Leicester Statement of Safety Policy and uses the ULAS Health and Safety Manual (revised 2010) with appropriate risks assessments for all archaeological work. A draft Health and Safety statement for this project is in the Appendix. The relevant Health and Safety Executive guidelines will be adhered to as appropriate.

10.2 A Risks assessment form will be completed prior to work commencing on-site, and updated as necessary during the site works.

10.3 All health and safety risks at the site will be made known to ULAS prior to any on-site works commencing. Any Health and Safety Plan for the site should be provided to ULAS. Site inductions would also be undertaken by all ULAS staff if necessary at the site.

11 Insurance

11.1 All ULAS work is covered by the University of Leicester's Public Liability and Professional Indemnity Insurance. Public Liability Insurance and Employers Liability Insurance: Allianz Insurance plc Policy No. SZ/21696148. Professional Indemnity Insurance – Novae Underwriting Ltd. Policy No. 702610MMA120

12. Monitoring arrangements

12.1 Unlimited access to monitor the project will be available to both the Client and his representatives and Charnwood Borough Council subject to the health and safety requirements of the site. Usually at least one weeks' notice will be given to the Planning Authority before the commencement of the archaeological works in order that monitoring arrangements can be made.

12.2 All monitoring shall be carried out in accordance with the IFA *Standard and Guidance for Evaluation.*

13 Timetable and staffing

13.1 The on-site archaeological works will be run by Leon Hunt of ULAS. The start date has yet to be confirmed.

13.2 The project will be managed by Richard Buckley (Director of ULAS.)

Richard Buckley
ULAS
University of Leicester
University Road
Leicester LE1 7RH
Tel: 0116 252 2848
Fax: 0116 252 2614

14 Bibliography

Clarke, S., 20	*An Archaeological Desk-based Assessment of land adjacent to Melton Road, Barrow-upon-Soar, Leicestershire SK 583 173* ULAS Report 2009-155
Ladocha, J. and Butler, A., 2010	*Archaeological geophysical survey on land at Melton Road, Barrow upon Soar, Leicestershire X.A3.2010* Northants Archaeology Report
MAP 2	The management of archaeological projects 2nd edition English Heritage 1991
MGC 1992	Standards in the Museum Care of Archaeological Collections 1992 (Museums and Galleries Commission)
RFG/FRG 1993	Guidelines for the preparation of site archives (Roman Finds Group and Finds Research Group AD 700-1700 1993)
SMA 1993	Selection, retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland 1993 (Society of Museum Archaeologists)

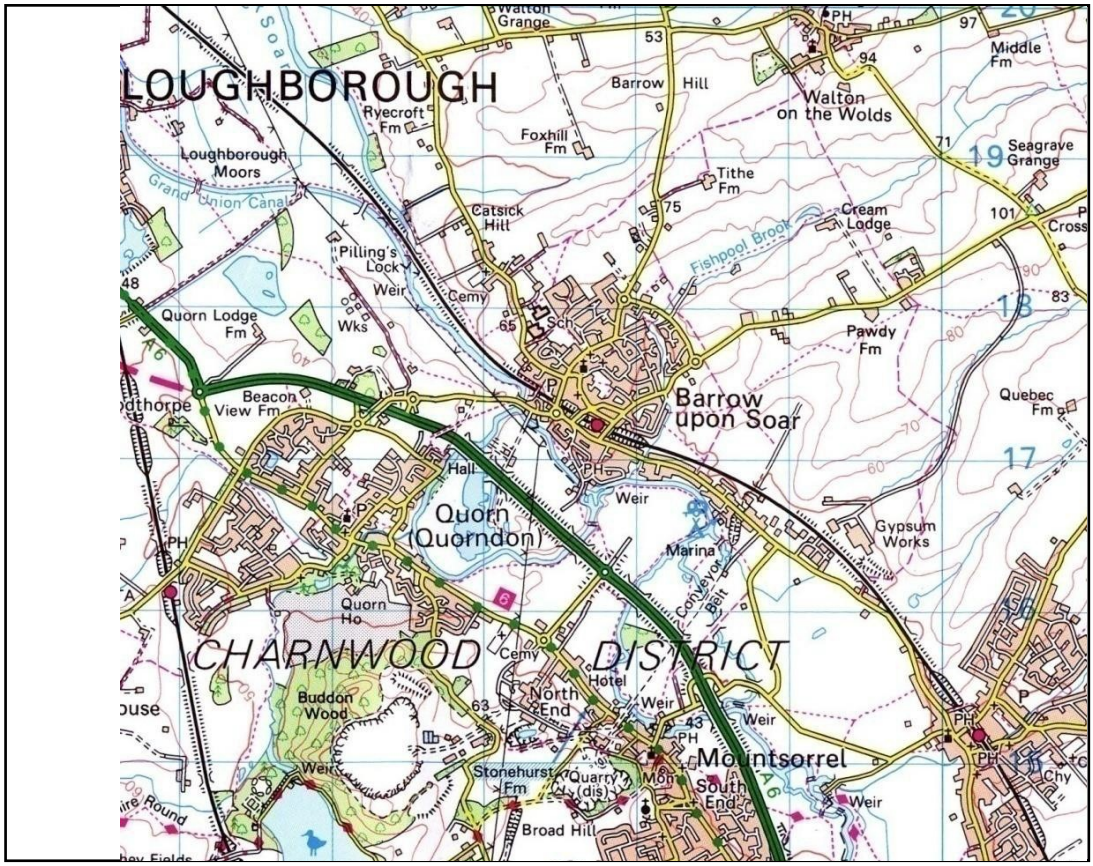

Figure 8 Site location plan

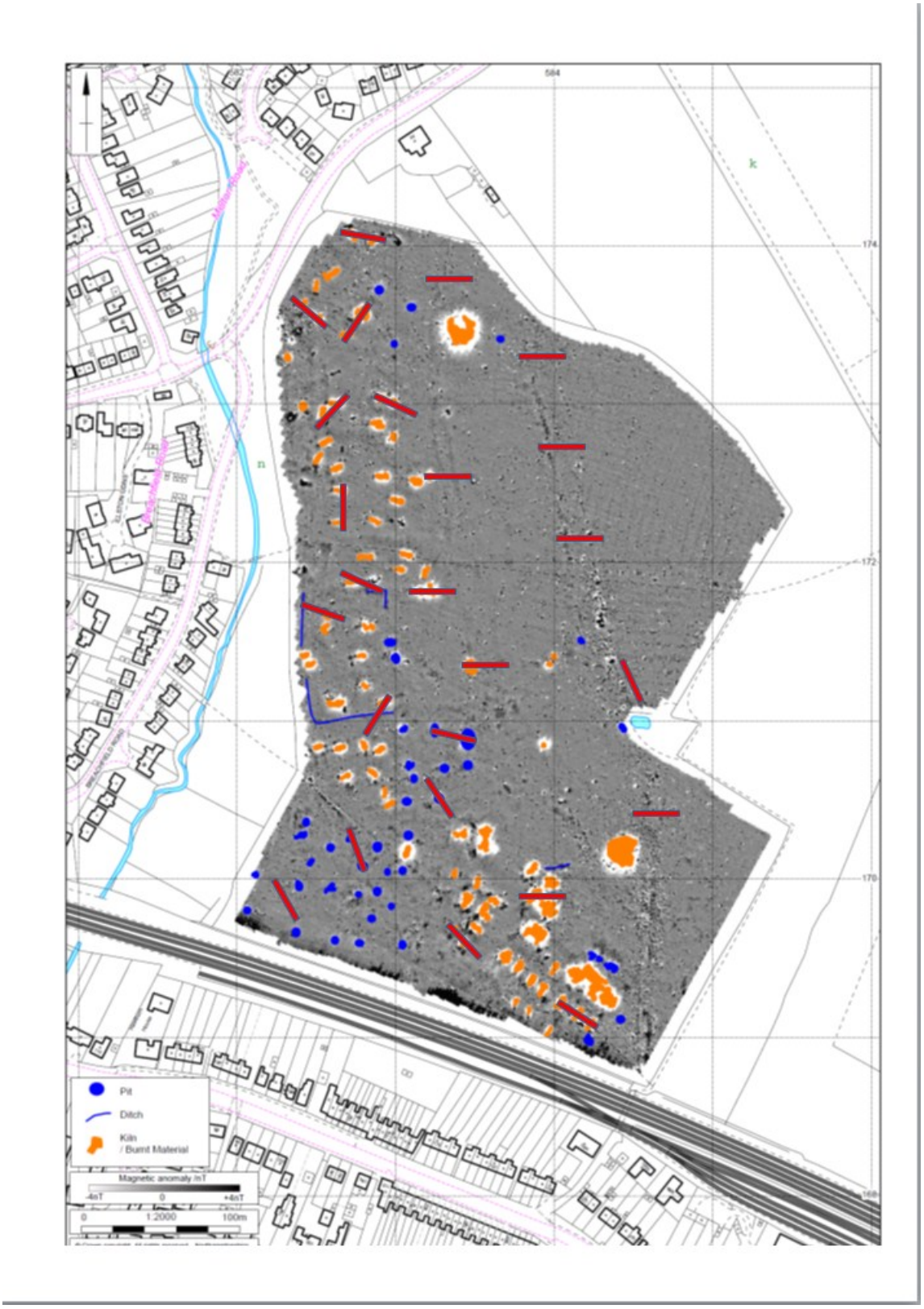

Figure 9 Results of geophysical survey in relation to proposed trench locations

ARCHAEOLOGICAL TRIAL TRENCHING METHOD STATEMENT & RISK ASSESSMENT

Site Name	Job No	PM	Contact
Land off Melton Road, Barrow on Soar, Leicestershire	14-528	Richard Buckley	**0116 252 2848** **0776 2546960**

Site Director	Site Contacts	Team (Nos)
Leon Hunt	TBA	2

SITE WORKS & METHOD STATEMENT

Evaluation trenches are to be machine excavated as detailed in the specification to look at archaeological deposits

Excavation Method Statement

- Access and parking will be gained via authorised routes to be arranged with the land owner/tenant.
- All staff will be inducted by the site director prior to starting work on site (Appendix 3).
- **Services**: A CAT Scanner may be used in both POWER and RADIO mode to scan trench lines for services prior to excavation. [The CAT must be in calibration and used by a competent person and used in both POWER and RADIO mode.
    - Trenches will not be excavated within 15m of known water mains or sewers or in the vicinity of other underground services or electrical cables without a separate SSOW. Any known services will be marked on the ground and avoided. All machine excavation will be carefully monitored.
    - No work will be undertaken beneath overhead cables. If a tracked machine is required to pass below an overhead cable a separate SSOW will be followed.
- **Excavation:** Trenching we conducted as per the *Trial Trenching Methodology* in the specification. Machining will be conducted using ULAS SSOW1. Excavation of trenches will be undertaken according to ULAS SSOW3 (Appendix 1).All trenches will be inspected each day by an appointed person and noted on the trench sheet (Appendix 4).
- Any lone working on site will be undertaken according to ULAS SSOW2 (Appendix 1).
- A first aid kit and a site phone will be available on site at all times. At least one member of staff will have first aid training.

Equipment

A mechanical excavator will be used for trench excavation. The site director will ensure that the appropriate certification is carried.

ULAS vehicles or personal cars will be used (all appropriately insured and maintained).

Besides the plant, equipment will include a variety of hand tools (e.g. shovels, mattocks, trowels); recording materials (e.g. photographic equipment, computers, levels etc.), survey equipment (e.g. EDM, DGPS) CAT scanners and metal detectors may be used.

Personnel

The site director will be responsible for the day to day running of the site. Specialists and visitors may be invited to visit the site during fieldwork. It is expected to hire plant and operators from a reputable local company.

All personnel are experienced in working with plant and in the excavation of trenches. All site staff holds CSCS cards and many also hold a SPA quarry passport. All site staff has some first aid training.

Normal working hours are 7 hours a day between 8am and 6pm Monday to Friday.

Monitoring and communications

ULAS management and site staff details are as above.

Work will be monitored internally by the ULAS Project Manager and/or Health & Safety Co-ordinators.

ULAS method statements are prepared following standard guidelines and after consultation with the University Safety Services Department. Communication of the contents of the method statement to site staff is the responsibility of the Site Director. The risk assessment will be updated weekly or when conditions change.

Accident Reporting

All accidents will be logged using ULAS accident forms and report to the ULAS Main Office (0116 252 2848) and if necessary to the University of Leicester Safety Services Dept. (Appendix 2).

Contact Details

Richard Buckley or Patrick Clay
University of Leicester Archaeological Services (ULAS)
University of Leicester,
University Road,
Leicester LE1 7RH

T: +44 (0)116 252 2848
F: +44 (0)116 252 2614
E: ulas@le.ac.uk
w: www.le.ac.uk/ulas

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