

**ARCHAEOLOGICAL TRIAL TRENCHING AND TEST-PITTING
AT LAND OFF STATION APPROACH
BRAINTREE
ESSEX**



**Essex County Council
Field Archaeology Unit**

MAY 2011

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**ARCHAEOLOGICAL TRIAL TRENCHING
AND TEST-PITTING AT
LAND OFF STATION APPROACH
BRAINTREE
ESSEX**

Client: CgMs Consulting Ltd

NGR: TL 7629 2276

Site Code: BT46

Oasis No.: 101678

Dates of Fieldwork: 11th – 15th April 2011

SUMMARY

An archaeological evaluation was carried out on land off Station Approach, Braintree, Essex, in advance of residential development. Ten evaluation trenches and two geotechnical test-pits were excavated across the 0.7 hectare site which was formerly used as a builders yard. Historically, the site was part of a 19th century brickworks. Archaeological features were identified in Trench 3 only - no features were identified in trenches 1, 2, 5, 6, 7 and 9, while only modern features/disturbances were noted in trenches 4 and 8. Trench 10 was abandoned due to localised constraints but in any event is likely to have been heavily disturbed.

Natural deposits were encountered only in trenches 3, 4, 6 and 8, with the remaining trenches revealing made ground and what is presumably the infilling of former quarry pits to depths in excess of 1.2m in trenches 1, 2 and 5, and over 2m in trenches 7 and 9. An in-situ assessment of the natural strata by Dr Peter Allen determined that the gravels on site are likely to be Kesgrave Sands and Gravels, possibly reworked downslope but had little potential to produce Palaeolithic artefacts or Pleistocene sediments and faunal remains of the kind found nearby to the south, at the base of Skitts Hill.

No remains of prehistoric, Roman, Saxon or medieval date were present. The only features of note encountered were the fragmentary remains of a 19th century brick kiln in the western half of Trench 3 and the scant remains of a possible contemporary timber out-building, perhaps a brick-making or drying shed, in the east.

Given the high level of disturbance encountered across much of the site, coupled with the absence of archaeological remains in all except Trench 3, it is clear that the development will have little impact upon the archaeological record.

1.0 INTRODUCTION

This report describes the results of a programme of archaeological evaluation, comprising trial-trenches and test pits, undertaken in advance of residential development on land off Station Approach, Braintree, Essex. The fieldwork was carried out by the Essex County Council Field Archaeology Unit (ECC FAU) for CgMs Consulting, in accordance with an archaeological brief prepared by Essex County Council Historic Environment Management (ECC HEM 2011) and a written scheme of investigation prepared by ECC FAU (2011).

The site archive will be deposited in Braintree Museum. A digital version of this report will be submitted, along with a project summary, to the Online Access to the Index of Archaeological Investigations (OASIS) (<http://ads.ahds.ac.uk/project/oasis>).

2.0 BACKGROUND

2.1 Site Description and Location (Fig. 1)

The site forms an irregular L-shape and lies to the south-east of Braintree town centre, along the northern edge of the Braintree to Witham railway and less than 100m north of the River Brain (NGR: TL 7629 2276). The area slopes naturally down to the south-east, from Rose Hill, though the eastern leg in particular has been considerably altered in levels, with some parts having been built-up and other areas levelled and/ or terraced. The entire site, with the exception of a small grassed area bordering the Station car park, is covered in concrete, tarmac and former building yards and surfaces.

The underlying geological deposit comprises Kesgrave sand and gravel above London Clay. A recent borehole survey, using the window sample method, was undertaken by MLM Environmental (2008) and revealed an average of 0.86m of made ground in the western end of the site and between 0.4m and 1m of made ground in the east. It proved difficult to distinguish made ground from natural sand and gravel in the eastern boreholes due to staining resulting from either the industrial activity on the site, or from natural organic processes. The central borehole (BH3) revealed 1.8m of made ground, but this appeared to be localised to this area. The natural gravel was present at an average depth of 1m, with the exception of borehole 1 in the south-west corner of the site (not illustrated) in which only clay was found and borehole 3 where the gravel appeared at a depth of 2m.

2.2 Reasons for Project

A planning application for the construction of 64 houses and flats with associated services and landscaping was submitted to Braintree District Council in June 2009 (09/00293/OUT). As the site is judged to lie in an area of some archaeological potential a full archaeological condition was placed on planning consent by Braintree District Council, following advice provided by the Essex County Council Historic Environment Management team in accordance with guidance contained in Planning Policy Statement 5: Planning for the Historic Environment. The recommendation states that:

No development, or preliminary groundworks, of any kind shall take place until the applicant has secured the implementation of a programme of archaeological work and recording in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority.

2.3 Historical and Archaeological Background

The following archaeological background makes use of the historic town assessment for Braintree (Medlycott 1998) and the Essex Historic Environment Record (EHER), held at County Hall.

Palaeolithic material in the form of animal bones and stone tools has previously been collected from the Kesgrave Sand and Gravel deposits in the Braintree area. Later prehistoric material, dating from the Mesolithic through to the Early Iron Age (EHER 6419-6423), was discovered during brickearth digging at Skitts Hill, just 200m to the south-east of the site. This material was found in association with alluvial deposits containing timber remains, possibly structures.

Although Braintree was important as a Late Iron Age settlement, Romano-British 'small town', a Saxon settlement, and a medieval and later market town, no remains of these dates are known in the immediate vicinity of the site. The town was also a centre for the medieval and post-medieval cloth industry and, from the early 19th century, silk and other textiles. Rapid expansion took place in the second half of the nineteenth century, particularly on the south-eastern side of the town around the station and the sidings, in the form of extensive industrial development and new housing. The Maldon, Witham and Braintree railway opened in 1848 and the line was extended to Bishops Stortford in 1869. The present railway station dates to 1865. A brickworks formerly situated to the north of the station is known to have been in existence since at least 1840 (Ryan 1999). On the 1st edition Ordnance Survey map of c.1876 an 'Old Brick Kiln' is marked within the

development area, along with a few near-by buildings. The land to the south of the railway line was used for gravel extraction and a pond, also shown on the 1st Edition Ordnance Survey, may be a relict gravel pit. The 2nd edition Ordnance Survey map shows a spring running through the centre of the east–west leg of the site, running down from the north to the River Brain. The location of the spring would have been a contributory factor to the siting of the ‘Old Brick Kiln’ and its associated works as considerable quantities of water are required for brick manufacture.

3.0 AIMS AND OBJECTIVES

3.1 Aims

The specific aim of the evaluation was to determine the presence or absence, extent, date, character, condition and significance of any archaeological deposits that may be present and the likely impact of development upon them. The results of the evaluation were to be used to determine the need for and extent of any additional work required to mitigate the impact of development. The specific aims of the investigation were to investigate:

- Evidence for prehistoric activity and settlement;
- Pleistocene sediments with geoarchaeological potential;
- Evidence of historical industrial activity;
- Remains of the old brick kiln and associated features.

3.2 Objectives

In the event of significant discoveries this report would have highlighted appropriate research aims for any further work in line with those laid out in *Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy* (Brown and Glazebrook 2000). However, due to the largely negative results of the evaluation the work has little potential to contribute to any of the regional research objectives.

4.0 METHODOLOGY

It was originally intended to investigate the site by excavating ten trial-trenches of varying lengths and three geoarchaeological test-pits, including one trench targeted upon the location of the Old Kiln depicted on early Ordnance Survey mapping (Fig. 1); however, the concrete floor slab remaining in the area of Trench 10 proved to be heavily reinforced

and could not be successfully removed, leading to the abandonment of the trench. The other trenches and test-pits were excavated largely as planned, with some minor adjustments to alignment and final positioning necessitated by localised obstructions, services, etc. Concrete and tarmac across the remaining trenches was broken up using an hydraulic breaker, following which modern overburden, subsoil, etc., was removed using a tracked excavator equipped with a toothless ditching bucket. All identifiable archaeological deposits were investigated and recorded.

An in-situ assessment of exposed sands and gravels with the potential for the presence of Pleistocene sediments and faunal remains was undertaken by Dr Peter Allen (independent consultant) and the results are summarised in this report. The full assessment is presented as Appendix 4.

The archaeological fieldwork was carried out in accordance with the Institute of Field Archaeologists *Standards and Guidance for Archaeological Evaluation* (IFA 2008) and the Association of Local Government Officers' *Standards for Field Archaeology in the East of England* (Gurney 2003). The ECC FAU uses its own recording system.

5.0 FIELDWORK RESULTS

Archaeological features were identified in Trench 3. No features were identified in Trenches 1, 2, 5, 6, 7 and 9, while only modern features/disturbances were noted in Trenches 4 and 8. Trench 10 was abandoned due to localised constraints but in any event is likely to have been heavily disturbed. Trench location data is recorded in Appendix 1 and detailed context information is presented in Appendix 2.

Trench depths ranged from 0.60m to in excess of 2m. The overburden varied considerably across the site but essentially comprised either a concrete or tarmac capping over modern dumps and layers of demolition rubble, etc. The underlying natural strata where encountered generally consisted of either a blue-grey gravel and clay mix as found in Trench 4, or light orange-brown sandy gravel and clay as in Trench 8. Trench 6 contained blue-grey gravel and clay in the north-western half of the trench with orange sandy clay in the south-east.

5.1 Trench 1 (Fig. 1; Plate 1)

Trench 1, which was positioned immediately east of an existing wooden hut, was intended in part to establish the eastern extent of a large pond or former quarry pit depicted on early Ordnance Survey maps and to ascertain the extent of disturbance/survival of original ground surfaces alongside the railway. Grass and topsoil were removed to reveal a series of late Post-medieval/ Early Modern deposits filling what is believed to be a large quarry pit, the edges of which were not found, to a depth of at least 1.2m, at which point excavation ceased.

5.2 Trench 2 (Fig. 1; Plate 2)

Trench 2 was positioned in a tarmac-covered open area of the site, to the southwest of a series of underground tanks. The tarmac was removed to reveal modern levelling layers and dumps, containing concrete fragments, plastic, etc., to a depth in excess of 1.36m. No archaeological remains were present.

5.3 Trench 3 (Figs. 1, 2 & 3; Plates 3, 4, 5 and 6)

Trench 3 was positioned to target the Old Kiln and possible associated structures shown on the 1st edition Ordnance Survey map. The fragmentary remains of the kiln were found, as expected, towards the western end of the trench and consisted primarily of three sections of wall, surviving to a maximum height of 0.76m. In form, the remains are interpreted as the foundations to a scotch kiln; a large open-topped oblong structure, with under-floor fire-chambers along the sides, a brick floor and typically a wide loading door at one end.

This example is orientated broadly north to south with part of the southern end built onto the natural clay. Dimensions taken show a 5.5m-wide structure with a length, extrapolated from historic maps, of at least 6.5m. The kiln was located some 3m further north than depicted on the 1st edition Ordnance Survey map.

The walls encountered represent the foundations of the kiln and no evidence for the kiln floor or fire-chambers survives. Handmade orange bricks built either side of a brick rubble core form the construction. Brick dimensions are c.223 x 110 x 65mm, with shallow irregular frogs, sharp arises and few, very fine gritty inclusions. They are arranged three-deep in English bond and bedded in a lime mortar, burned a dark red colour. Most are full-sized, but some are $\frac{3}{4}$ or $\frac{1}{2}$ sizes; others are warped and it is likely the kiln was built from under- and over-fired bricks and other wasters that were unsuitable for sale/ use.

The western wall (context 1) is wider than the rest at 1.25m and the outer part is battered back for extra stability. It survives to a greater height than the others at 0.76m and contains a higher number of engineering bricks, again for greater strength. This stronger build suggests a weakness in the ground, perhaps caused by subsidence, the nearby spring or previous clay pits, though it is not unusual for kilns to have battered sides. None of the walls beyond wall 1 survives well.

The south wall (context 2) is more disturbed than context 1 and much of it remains beyond the limit of excavation. It is 0.9m-wide and survives to a height of 0.43m. A buttress stands at the eastern end and there is likely to be another towards the west, outside of the trench. A loading/wicket door was probably positioned between the two. The east wall (context 3) is only 0.76m wide and survives to 0.3m in height.

Internally the walls continue into the natural clay, though probably not much deeper than was ascertained by the excavation. The bricks on the inside of the kiln are quite fragile from successive firings. The interior of the kiln was filled with two red brick rubble deposits (12 and 15) that were separated by a lens of grey clay (14) (Fig. 3; Plate 5). Both rubble deposits contained 19th century pottery and fragments of waste brick. The lower deposit (15), investigated by means of a small sondage, was found to be 0.45m deep and to overlay grey clay with brick fragments at a level which also coincided with the top of the water table. Above the red brick rubble was a distinct yellow deposit of brick rubble mixed with sand, mortar and silt (13) which was clearly a post-demolition deposit as it partly overlay the eastern kiln foundation (3). The yellow rubble was sealed by two deposits of black ashy silt (5 and 10) and a more intermittent lens-like layer (9) that contained inclusions of brick, coal, slate and mortar. At the top of the sequence was a mixed silty-clay deposit (11) overlain by modern sand and concrete. Externally, to the west of the kiln, a thin layer of red clay-silt (8) overlying natural clay appeared to respect foundation wall 1 whilst deposits 4, 6 and 7 accumulated post-demolition.

In the eastern half of the trench a few ephemeral deposits were identified that could be part of a post-built outbuilding associated with the use of the kiln. In the base of the trench was an irregular, partially surviving, layer of white mortar (17) with some embedded brick fragments possibly the remains of a floor (Plate 6), whilst to the east were two rectangular post-impressions containing decomposed timber that may have been part of the structure. Overlying the mortar floor was a thin layer of red brick dust (18) that suggested a connection with the brick-making process. It is likely that some

truncation to this area had occurred in the past. The overburden in this part of the trench consisted of 0.60m of dark grey silt sealed by layers of concrete and tarmac.

5.4 Trench 4 (Fig. 1; Plate 7)

Trench 4 was positioned in the central part of the site, to the rear of properties extending back from the Rose Hill street frontage. Ground levels in this area appeared to be relatively undisturbed, falling away to the south from Rose Hill, with a geotechnical window sample (WS5) suggesting between 0.4m and 1m of made ground overlying natural sand and gravel. This was broadly confirmed by trenching, with the tarmac removed to reveal modern levelling layers and dark grey silt (former topsoil) to a maximum depth of 0.66m, overlying blue-grey natural gravel and clay. A few clearly modern features/disturbances were noted but no remains of any antiquity. A geological test pit was excavated through natural deposits at the west end of the trench (see Section 7.0).

5.5 Trench 5 (Fig. 1; Plate 8)

Trench 5 was positioned along the southern edge of the site, immediately north of the railway line, and formed a T-shape with Trench 2. Concrete and tarmac was removed to reveal modern levelling layers and dumps, again containing concrete fragments, plastic and wood, down to a depth of 1.3m, at which point excavation was halted. A previously unknown drain-cut was noted running east/west down the centre of the middle trench. No archaeological remains were present and the area appears to have been disturbed to a considerable depth.

5.6 Trench 6 (Figs. 1; Plate 9)

Trench 6 was positioned in the central part of the site, cutting across a raised concrete slab. As with Trench 4, based upon the results of an earlier geotechnical window sample, ground levels in this part of the site appeared to be relatively undisturbed, falling away to the south and southeast. This was confirmed by trenching, with tarmac and concrete removed to reveal modern levelling layers overlying dark brownish grey silty clay. Trench depth varied from c. 0.6m in the centre to over 1m at the extremities with the dark silty clay becoming progressively thicker. No archaeological remains were present. A geological test pit was excavated through natural deposits at the north-west end of the trench (see Section 7.0).

5.7 Trench 7 (Fig. 1; Plate 10)

Trench 7 was positioned on the Rose Hill street frontage, slightly to the rear of the adjacent properties. Tarmac was removed to reveal modern levelling layers and dumps overlying redeposited natural clay, which in turn sealed further dumps of Early Modern material including brick rubble, down to a depth of 2m at which point excavation was halted. A service trench was noted in the western half of the trench. No archaeological remains were present.

5.8 Trench 8 (Fig. 1; Plate 11)

Trench 8, which was initially intended to be L-shaped, was excavated as a 5m x 3.5m rectangle within the footprint of a recently demolished building, in order to ascertain the extent of disturbance beneath the remaining concrete floor. The slab was removed to reveal levelling layers above a 1m thick deposit of dark grey silty clay that contained a variety of modern finds. Natural gravel in the base of the trench was cut by two modern post-holes and a linear drainage feature containing a plastic pipe. No other archaeological remains were identified.

5.9 Trench 9 (Fig. 1; Plate 12)

Trench 9 was positioned in a former open area in the south eastern corner of the site, to the north of the railway line. The removal of concrete and levelling layers revealed underlying dark grey clay silt which was machine-investigated in the south of the trench and found to extend to a depth of 2.8m. The silt contained frogged-brick fragments, whilst part of a modern blue-coloured object was noted towards the base of the deposit. For safety reasons the trench was back-filled as soon as the depth of the silt had been ascertained. The position of the trench roughly coincided with a property boundary ditch depicted on the 1st edition Ordnance Survey and the dark grey silt would be consistent with the fill of such a feature. However, the depth of the feature was excessive for a boundary ditch and could perhaps indicate the presence of an additional silted-up quarry pit on the line of the ditch.

5.10 Trench 10 (Fig. 1; Plate 13)

As with Trench 8, Trench 10 was located within the footprint of a recently demolished building; however, the concrete floor slab proved to be reinforced and was in turn supported by a heavily reinforced ring beam that could not be safely broken-out and removed with the equipment available. As a consequence of this the trench was abandoned with the agreement of the monitoring officer.

6.0 FINDS by Alan J Jacobs

A total of 44 fragments of pottery, brick, sewer pipe and a much abraded copper alloy coin weighing a total of 9137 grams were recovered from three stratified contexts. All of the material has been sorted into context and recorded by count and weight. The finds are described below and tabulated in Appendix 3.

6.1 Pottery by Helen Walker

A total of thirty-four sherds of pottery (wt 1223g) belonging to the Victorian period or 20th century was recovered from two contexts. That from deposit 12 comprises fragments from a modern white earthenware teacup showing a ring handle and bottle-green sponged decoration (rather like a potato print) in the form of a row of stylised flowers just below the rim. Sponged ware is the cheapest of the decorated wares and was common from the 1830s onwards.

Further examples of sponge decorated china were recovered from deposit 15, comprising part of a chamber pot and possible jug fragment. Finds also include a deep rectangular dish showing a transfer-printed rural scene and floral border. Such designs were first introduced in the 1820s, but continue to the present day. Rather more upmarket than the sponged wares are examples of bone china comprising a teacup, saucer and possible bowl. However, all are undecorated or sparsely decorated, suggesting they are not top of the range. An example of a china dinner plate, with moulded floral decoration around the rim, may also have been relatively expensive. A ?cup handle with a green transfer-print, like the sponged wares, provides a date of 1830s or later for this china, which is of lower and middle range in terms of quality and price.

Kitchen wares from context 15 are represented by one, possibly two, mixing bowls of a type still in production. Horticultural wares are represented by the remains of two flowerpots. One shows a thick white encrustation in the base, overlain by a deposit of soot and other material, and appears to have been used for some kind of industrial process.

6.2 Other finds

A single fragment of the end of a modern sewer pipe was recovered (context 12). This was in an iron-poor fabric with a light brown surface slip and dates from the mid 19th to 20th century. A total of three modern brick fragments were recovered (context 15), these consisted of a fragment of a paver in a light orange/brown fabric with a much worn upper surface of 19th to 20th century, date and a fragment of an air brick with four vertical holes in a very iron poor fabric of 19th century date. In addition half of a brick which has been

broken along its long axis was recovered, this is extremely abraded and would again date to the 19th to early 20th century.

Two further bricks were collected from the interior structure of Kiln 16. These were both 19th century bricks in a red sandy fabric which had been over fired. The bricks were fractured and cracked and evidently as poorer quality bricks were used in the foundations of this structure (Pat Ryan per's Comm.). The interior facing bricks of the kiln were of better quality, and had indications of burning on their exposed surface.

Finally, the only non ceramic finds consisted of a much corroded and disfigured copper alloy half penny coin recovered unstratified in Trench 3; this could not be more closely dated than to the 19th to 20th century.

6.3 Conclusion

This site produced a very limited variety of artefact types indicating its distinct industrial nature. This would be consistent with the known use of the area (Ryan 1999, p73) and the expansion of industrial activity in Braintree during the mid to late 19th century. The ceramic assemblage reflects the great change in the mass production of utilitarian wares in the Victorian period. The pottery seemingly represents domestic rubbish deposited during the dereliction and/or backfilling of the kiln. The lack of any material dateable only to the 20th century would indicate that this had occurred by the end of the 19th century.

No further work is required on any of the finds, all materials could be discarded.

7.0 GEOARCHAEOLOGICAL ASSESSMENT

A site visit was made on 14 April by Dr Peter Allen during which all trenches were observed. Natural deposits were recorded in Trenches 4, 6 and 8, and geotechnical test pits were excavated in the bases of Trenches 4 and 6. The full text of the geoarchaeological report is included as Appendix 4.

7.1 Summary by Dr Peter Allen

The gravels on site are difficult to assign to any stratigraphic level with certainty, but they are likely to be Kesgrave Sands and Gravels, associated with the Bures Member, possibly reworked downslope. A glacial outwash origin cannot be ruled out nor a locally higher terrace of the Brain.

No palaeolithic lithics or sediments of palaeoenvironmental interest were seen and the likelihood of such material being present elsewhere on the site is estimated to be low.

8.0 CONCLUSION AND ASSESSMENT

The evaluation demonstrated that the site has been substantially altered in the past, most likely through the quarrying of sand, gravel and clay, and the subsequent infilling of the resultant pits. Trenches 1, 2, 5, 7 and 9 suggest that these works were to a considerable depth, with over 2m of made ground encountered in trenches 4 and 9. Cartographic sources show at least one large former quarry pit in the southwest corner of the site but the remainder are not depicted, although from the material incorporated in the backfill it seems clear that this extraction activity dated from either the second half of the 19th century or the first half of the 20th.

What is conjectured to be something approaching the original ground level was encountered in the central part of the site, in the area of trenches 4 and 6, where natural deposits were encountered at a depth of 0.6m+ below the existing ground surface, although even here past industrial processes/ the dumping of waste material had resulted in heavy staining and discolouration of the sands and gravel.

The only archaeological feature of note encountered was the remains of a 19th century brick kiln in Trench 3. In form, these are the foundations to a scotch kiln, a large open-topped oblong structure, which would have had under-floor fire-chambers along the sides, a brick floor and loading door at the end, though there are variations. Typical kilns would have held somewhere between 20,000 and 50,000 bricks (Brunskill 1990).

The kiln was probably in use in the first half of the 19th century but appears to have become redundant by c.1876, as it is labelled as the 'old brick kiln' on the first edition Ordnance Survey map and it had been demolished by the end of the 19th century. There is no mention of the kiln or its associated works in the Gazetteer of Sites in Ryan's study of Essex brickmaking (Ryan 1996). There was however another brickworks operating in the later 19th century to the west of the development area, on the opposite side of Station Approach. This works was in existence by 1840 (Ryan 1996, 73) and it is possible that our brick kiln was associated with an early phase of this operation.

To the east of the kiln in Trench 3 were the scant remains of a timber out-building that may have been in contemporary use as a brick-making or drying shed. It is possible that this structure was one of three attached buildings depicted on the 1st edition Ordnance Survey map. However, as there is some disparity between the position of the buildings on plan and the archaeological remains, this possibility seems unlikely. Also, the depicted buildings were probably of a more substantial nature particularly as the eastern most building was still shown on the 3rd edition Ordnance Survey map of the early 20th century.

No remains pre-dating the 19th century were found, nor any residual finds collected, to suggest that any prehistoric, Roman, Saxon or medieval settlement activity extended into the development area. Similarly, the in-situ assessment of the natural strata by Dr Peter Allen concluded that the gravels on site had little potential to produce Palaeolithic artefacts or Pleistocene sediments and faunal remains of the kind found nearby to the south, at the base of Skitts Hill.

Given the high level of disturbance encountered across much of the site, coupled with the absence of archaeological remains in all trenches except those of the 19th century brick kiln in Trench 3, it is clear that the development will have little impact upon the archaeological record.

ACKNOWLEDGEMENTS

The ECC FAU would like to thank Duncan Hawkins of CgMs Consulting for commissioning and funding the archaeological investigation.

The fieldwork was led by Trevor Ennis, assisted by Andrew Letch, Mark Germany, Andrew Lewsey and Adrian Scruby. Dr Peter Allen (independent consultant) undertook an in-situ assessment of the geological strata. The finds were analysed and reported upon by Helen Walker, Alan Jacobs and Pat Ryan. The report was authored by Adrian Scruby and Trevor Ennis with specialist input from Andrew Letch. The figures were drawn by Andrew Lewsey. Teresa O'Connor of ECC HEM monitored the work on behalf of Braintree District Council.

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APPENDIX 1: TRENCH DATA

All dimensions given in metres

Trench	Measurements	Co-ordinates (end, centre)
1	5.6m x 1.4m x 1.2m, orientated E/W	W - 576236.77, 222744.29 E - 576242.37, 222744.30
2	13.4m x 1.8m x 1.36, orientated N/S	N - 576282.12, 222757.45 S - 576283.02, 222744.08
3	28m x 1.8m x 1.5m, orientated E/W	W - 576270.40, 222777.69 E - 576297.76, 222771.70
4	15m x 1.8m x 0.66m, orientated E/W	W - 576314.15, 222767.86 E - 576329.06, 222766.21
5	15.8m x 1.8m x 1.3m, orientated E/W	W - 576275.28, 222742.66 E - 576291.04, 222743.71
6	25m x 1.8m x 1.15m, orientated NW/SE	NW - 576306.09, 222761.49 SE - 576326.77, 222747.44
7	10m x 1.8m x 2m+, orientated E/W	W - 576345.81, 222811.13 E - 576355.81, 222811.13
8	5m x 3.5m x 1.35m, orientated N/S	N - 576351.45, 222792.59 S - 576352.31, 222787.66
9	15m x 1.8m x 2.8m, orientated N/S	N - 576344.27, 222757.05 S - 576346.14, 222742.17
10	15m x 1.8m x 0.3m, orientated N/S	N - 576358.73, 222761.09 S - 576360.99, 222746.26

APPENDIX 2: CONTEXT DATA

Context	Type	Description	Period
1	Wall foundation	Brick with rubble infill, 2m+ x 1.25m x 0.76m	19th century
2	Wall foundation	Brick with rubble infill, 2.8m+ x 0.9m x 0.43m	19th century
3	Wall foundation	Brick with rubble infill, 1.4m+ x 0.76m x 0.3m	19th century
4	Layer	Dark grey to dark brown clay silt, 0.32m thick	19th century
5	Layer	Black ashy clay silt, 0.33m thick	19th century
6	Layer	Greenish grey sandy clay silt, 0.25m thick	19th century
7	Layer	Dark grey ashy sandy clay silt, 0.22m thick	19th century
8	Layer	Red to orange clay silt, 0.10m thick	19th century
9	Layer	Mid greenish grey clay silt, 0.18m thick	19th century
10	Layer	Black ashy silt, 0.28m thick	19th century
11	Layer	Mixed grey & brown silty clay, 0.40m	19th century
12	Layer	Red/brown silty clay, 0.50m thick	19th century
13	Layer	Yellow mortar silt, 0.38m thick	19th century
14	Layer	Mixed mid grey & light yellow brown silty clay, 0.10m thick	19th century
15	Layer	Red brick rubble & clay, 0.45m thick	19th century
16	Structure	Rectangular brick kiln, 5.5m x 2m+ (comprising walls 1, 2 & 3)	19th century
17	Layer	Mortar & brick surface, 3.2m x 1.5m	19th century
18	Layer	Red brick dust/ small fragments, 0.05m thick	19th century

APPENDIX 3: FINDS DATA

All weights in grams

Context	Feature	Count	Wt (g)	Description	Date
U/S	Topsoil	1	10	Copper alloy half penny of modern date, very corroded and disfigured.	19th century to 1972?
12	Deposit	4	18	Modern white earthenware, sherds from a teacup showing a ring handle, bottle green sponged decoration in the form of a row of stylised flowers just below the rim, poor quality	1830s to 20th C
		1	108	Sewer pipe, fragment of one end, white iron poor fabric with light brown surface slip.	Mid 19th to 20th century
15	Deposit	7	97	Bone china, comprising the profile of a plain teacup with a recessed base, part of a large cup or hemispherical bowl showing a red-painted band around the rim, and a second band below the rim on the internal surface, and part of a saucer showing gold-painted bands around the edge	Later 18th century onwards
		13	496	Ironstone china comprising, part of a rectangular pie dish showing a transfer-printed scenic pattern and floral border, further sherds perhaps from a similar vessel showing a willow pattern transfer-print, part of a chamber pot showing a mauve sponged design, the rim of a plate with a moulded flower pattern around the rim flange, the rim of a ?jug showing blue sponged decoration, a ?cup handle showing a green transfer print	Latest is 1830s onwards
		5	189	Part of a mixing bowl in buff earthenware, showing internal slip-coating, two vessels may be represented	19th century to present-day
		5	423	Flowerpot, two vessels represented, one shows evidence of industrial use as there is a thick white deposit in the base, overlain by a thick encrustation of soot, which extends up the side of the vessel, the beaded rim of the flowerpot appears to have been deliberately chipped off, perhaps to allow the pot to be slotted into another container	19th to 20th century
		1	1416	Brick, about half split longitudinally, orange/red sandy fabric with occasional larger inclusions, upper surface mostly abraded where surfaces survive they have been smoothed and slightly irregular, lower surface roughly finished and Measures 220mm by 65mm, regular arises and rough frog.	19th century
		1	752	Brick, fragment of a paver, fine light orange/brown fabric with occasional larger inclusions, upper surface has been worn smooth, lower surface roughly finished and Measures 52mm, regular arises.	19th to 20th century
		1	608	Brick, fragment of air brick, white iron poor fabric with vertical air holes (4) distinct form and Measures 65mm thick, regular arises.	19th century
		Kiln 16	Brick Sample of structure	4	2530
1	2490			Brick, complete, orange/red sandy fabric with occasional larger inclusions, upper surface burnt/over fired but has been smoothed and slightly irregular, lower surface has a poorly defined frog. This is a poorly fired brick with stress fractures from the firing and a purple glazed patch on the upper surface and measures 220mm by 105mm by 65mm, sharp arises.	19th to early 20th century
Total		44	9137		

BRAINTREE, STATION APPROACH

GEOARCHAEOLOGICAL REPORT

Site Visit 14 March 2011

P. Allen

26/5/11

BRAINTREE, STATION APPROACH

GEOARCHAEOLOGICAL REPORT

Site Visit 14 March 2011

DESCRIPTION

The Station Approach site lies on a slope losing height southwards from the centre of Braintree to the River Brain. Geological mapping (British Geological Survey) indicates the centre of Braintree is built on till (boulder clay), giving way downslope to Kesgrave Sands and Gravels and then London Clay, with alluvium infilling the valley bottom. The site lies mostly on the Kesgrave Sands at Gravels, at their junction with the London Clay. The local branch railway line into Braintree Station forms the southern boundary of the site, immediately beyond which are the alluvial deposits of the Brain (Figure 1).

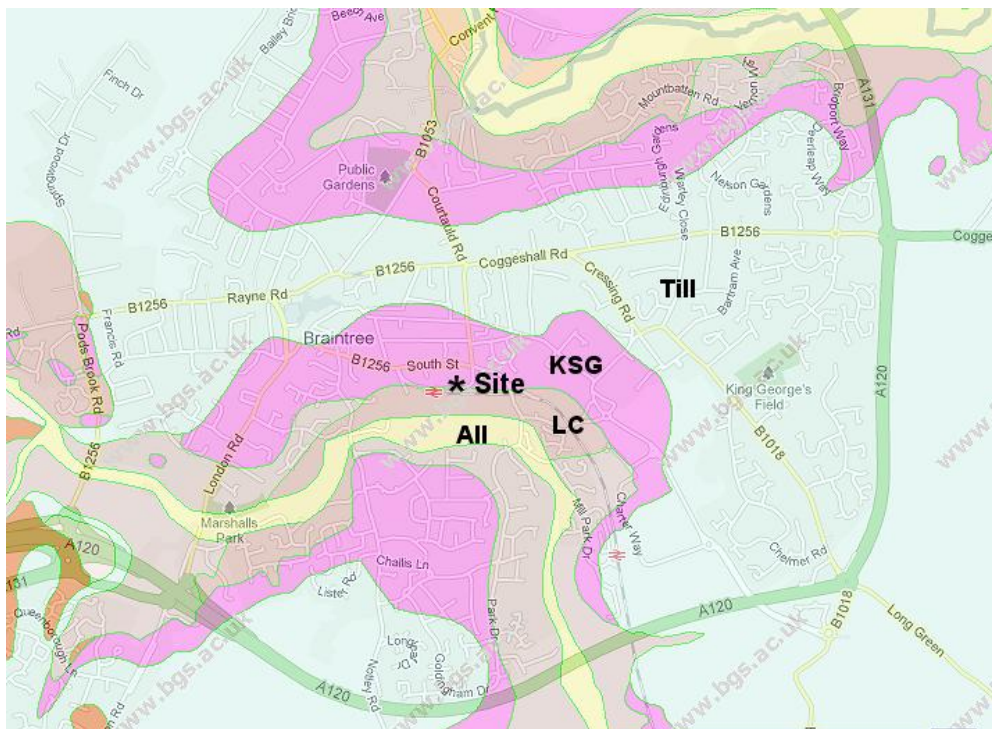
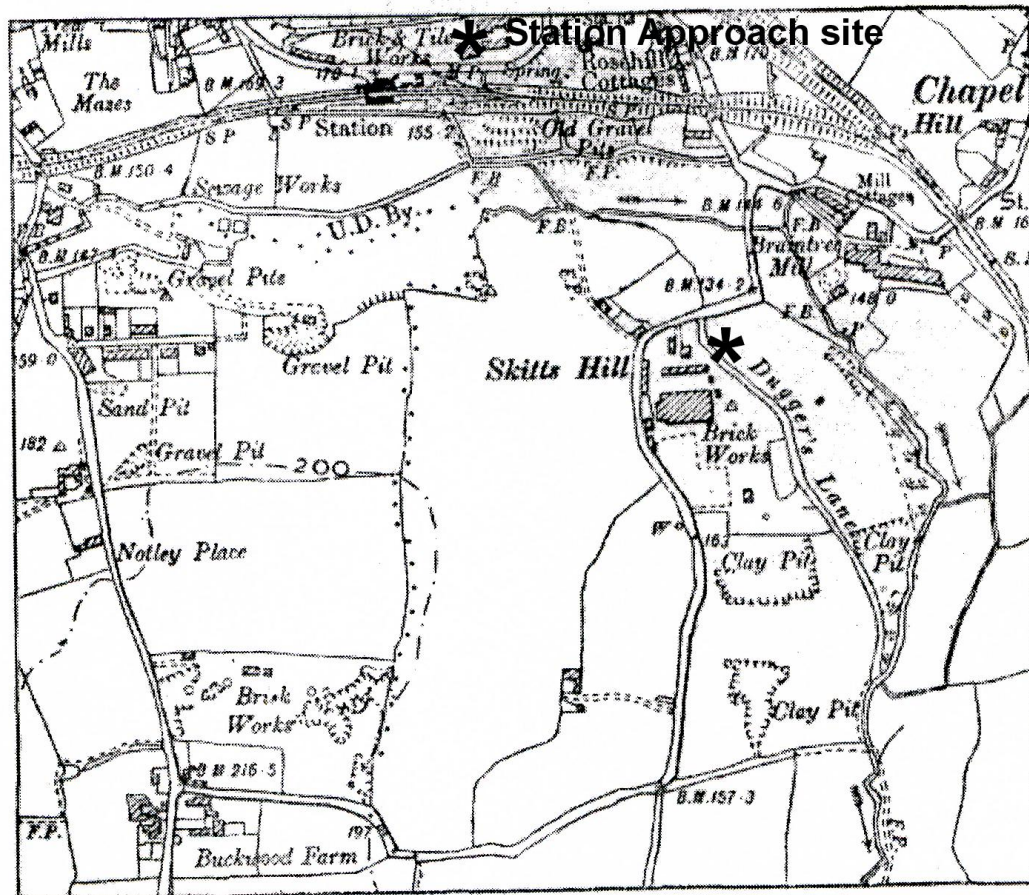


Figure 1 Geology of Braintree area (British Geological Survey)

All – Alluvium; KSG – Kesgrave Sand and Gravel; LC - London Clay

Nearby at Skitts Hill a rich vertebrate fauna, together with neolithic artefacts, was recovered from an alluvial terrace (Figure 2) (Kenworthy, 1898).



Portion of 6 inch Ordnance Map of the district around Braintree.

Figure 2 Location of Station Approach Site and Skitts Hill

The London Clay was reached during the programme of window sampling at 47 to 49 mOD, though WS3 penetrated to 45.3 mOD and did not reach the London Clay. Above this lies a series of sands and sands and gravels, usually with a clayey and or silty component, seen in the logs of the window samples (WS 1-6) and most of the 10 archaeological trenches (Figure 3).

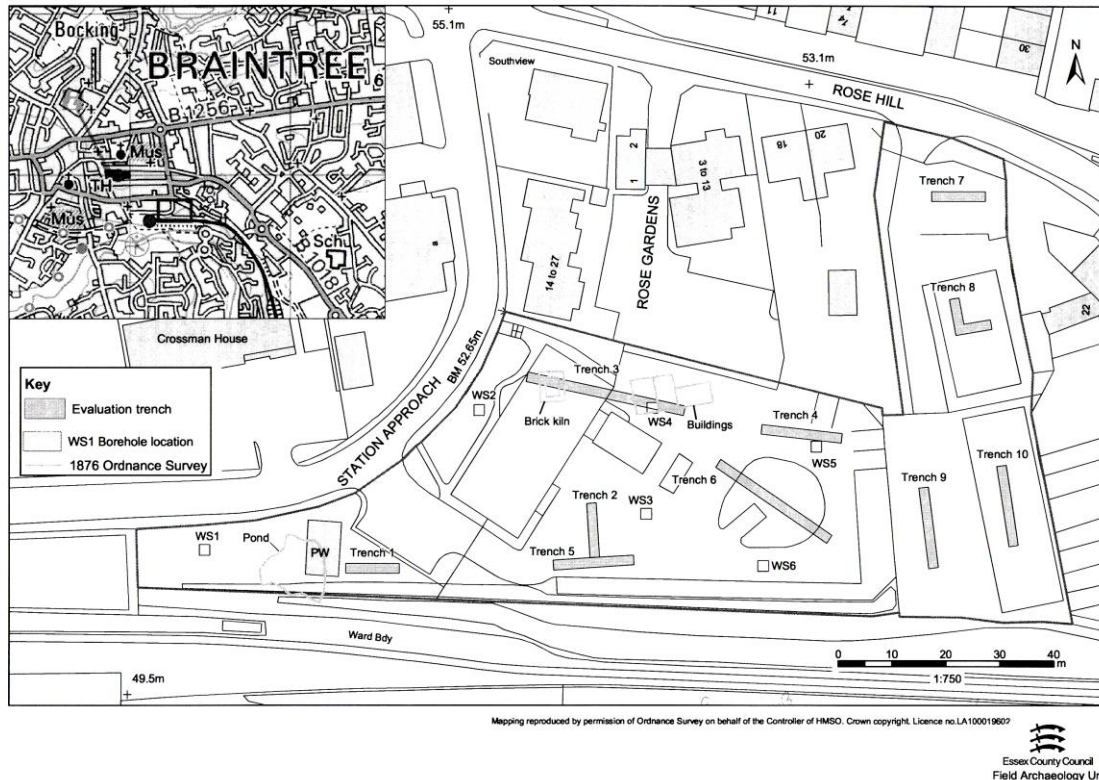


Figure 3 Indicative locations of window sampling points (WS) and evaluation trenches and test pits

Two of the archaeological trenches are described below:

Trench 4

Surface height c.49.31 mOD

Altitude, mOD	Description	Colour	Stratigraphy
49.3 – 48.7			Made ground
48.7 – 48.1	Sandy stony clay, flints up to 12 cm	2.5Y4/2 Dark greyish brown	?Kesgrave Formation (?made ground)
48.1 - 47.8	Sandy stoney clay		?Kesgrave Fm
47.8 – 47.5	Gravelly medium sand, slightly clayey, flints up to 9 cm	10YR6/4 Light yellowish brown	
47.5 – 47.2	Gavelly medium sand, slightly clayey. Flints and vein quartz to 8 cm	7.5YR5/8 Strong brown	

Trench 6

Surface height c.50.0 mOD

Altitude, mOD	Description	Colour	Stratigraphy
50.0 – 49.2			Made ground
49.2 – 48.4	Slightly sandy clay	5Y5/1 (Grey)	?Kesgave Formation
48.4 – 47.8	Gravelly sandy clay	5Y5/1(grey) with mottles 7.5YR5/8 (strong brown) + black managanese	

Lithological composition

Four samples of the stone content were counted from the trenches:

16-32 mm

Lithology	Trench4	Trench 6 (lower)	Trench 6 (upper)	Trench 8
Flint (primary) rounded				2
sub-ang	11	5	8	9
angular	12	23	14	9
Flint (Tertiary) rounded	8	11	17	20
sub-ang	6		5	
angular	9	1	7	2
Vein quartz	13	7	14	10
Quartzite	3	3	8	6
Sandstone	1	1		
Chert - Carbonif	2		3	
G'sand	1		2	1
unknown				
Total	66	51	78	59

Carbonif – Carboniferous (Pennines); G'sand – Greensand (Kent)

DISCUSSION

It is difficult to be confident of the origin of the sands and gravels at the site, which lie at between 47 and 50 mOD.

The alluvial deposits at Skitts Hill lie between 32.5 and 36 mOD, obviously belonging to a terrace at a lower height than the sands and gravels at Station Approach.

The Kesgrave Sands and Gravels lie in a series of terraces, mostly buried beneath the till. Detailed mapping of the Kesgrave Sands and gravels at Braintree has not been carried out. At Bradwell, 6 km to the east, the surface of the Moreton Member of the Kesgrave Formation lies at 40-41 mOD, again below the height of the deposits at Station Approach. They could however, belong to the next highest terrace and be part of the Bures Member (Figure 4).

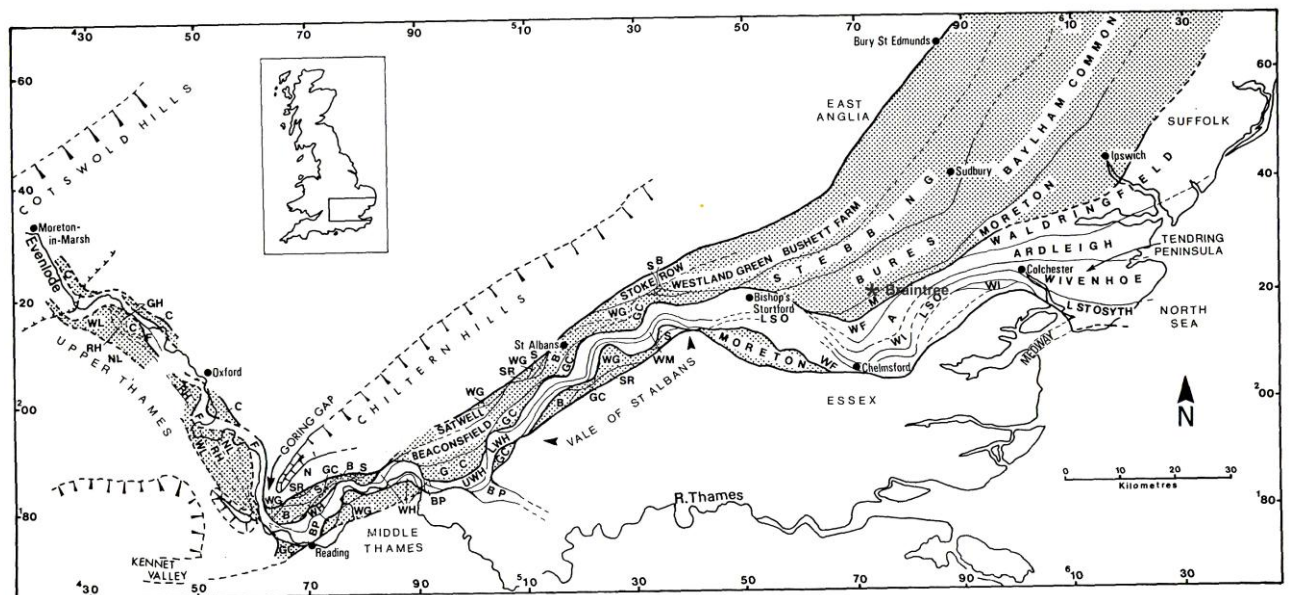


Figure 4 Terraces of the Kesgrave Formation (Whiteman and Rose, 1992)

At Bradwell, the Kesgrave Formation is overlain by 2-3 m of glacial outwash, associated with the overlying till. The latter is in considerable part derived from the former, but there are differences. The glacial outwash can contain small amounts of Jurassic *Rhaxella* chert, a glacial introduction post-dating the Kesgrave Formation. Primary flint and reworked Tertiary flint occur in approximately equal proportions in the Kesgrave Formation, but primary flint predominates over Tertiary flint in the outwash. The samples collected from Trenches 4, 6 and 8 showed no *Rhaxella* chert, but all showed broadly equal proportions of primary and Tertiary flint, suggesting Kesgrave Sands and Gravels. However, it must be stressed that the

samples were very small, the counts being 51 – 78 stones, whereas 300 is required as a minimum for a representative sample.

Although the stone counts suggest the gravels are associated with the Kesgrave Formation, the overall textures of the deposit were not typical. The Kesgrave Sands and Gravels are usually clay-free, grey or light yellow, also known as Essex white ballast, typically 5YR6/2 (light olive grey) or 10YR6/8 (brownish yellow). At Station Approach, the sandy component of the sands and gravels was mostly mixed with clay or silt and were darker in colour, being 2.5Y4/2 (dark greyish brown) to 5Y5/1 (grey) and 7.5YR5/8 (strong brown) to 10YR6/3 pale brown), often mottled brown or orange. The clayey component of the sand matrix suggests incorporation of the underlying London Clay and the mottling periods of wetting and drying. There is a strong possibility that these gravels have been locally reworked downslope or even by the River Brain.

There was no indication of the palaeosol often found at the top of the Kesgrave Formation nor any indication of interglacial deposits.

SUMMARY

The gravels on site are difficult to assign to any stratigraphic level with certainty, but they are likely to be Kesgrave Sands and Gravels, associated with the Bures Member, possibly reworked downslope. A glacial outwash origin cannot be ruled out nor a locally higher terrace of the Brain.

No palaeolithic lithics or sediments of palaeoenvironmental interest were seen and the likelihood of such material being present elsewhere on the site is estimated to be low.

References

- Kenworthy, J.W. (1898) A supposed Neolithic settlement at Skitts Hill, Braintree, Essex. Essex Naturalist, 11, 94-126.
- Whiteman, C.A. and Rose, J. (1992) Thames river sediments of the British Early and Middle Pleistocene. Quaternary Science Reviews, 11, 363-375.

APPENDIX 5: CONTENTS OF ARCHIVE

Site Name: Land off Station Approach, Braintree

Site Code: BT 46

Index to Archive:

1. Introduction

- 1.1 Brief
- 1.2 Written Scheme of Investigation

2. Research Archive

- 2.1 Client Report
- 2.2 Finds Reports

3. Site Archive

- 3.1 Context Record Register
- 3.2 Context Records (1 to 18)
- 3.3 Plan Register
- 3.4 Section Register
- 3.5 10 x Trench Record sheets
- 3.6 Trench location plan
- 3.7 Photographic Register
- 3.8 Site Photographic Record (1 set of B/W and colour prints + 1 set of digital images on CD-Rom)
- 3.9 Miscellaneous notes/plans

Not in File

2 large plan/section sheets

Finds

No retained finds.

APPENDIX 6: ESSEX HISTORIC ENVIRONMENT RECORD SUMMARY SHEET

Site name/Address: Land off Station Approach, Braintree, Essex	
Parishes: Braintree	District: Braintree
NGR: TL 7629 2276	Site Code: BT 46
Type of Work: Archaeological Trial trenching and Test Pitting	Site Director/Group: T. Ennis, ECC Field Archaeology Unit
Dates of Work: 11th – 15th April 2011	Size of Area Investigated: 7140 sq m
Location of Curating Museum: Braintree	Funding source: CgMs Consulting Ltd
Further Seasons Anticipated?: No	Related HER Nos.: None
Final Report: EAH summary	Oasis No.: 101678
Periods Represented: Post-Medieval, Modern	
SUMMARY OF FIELDWORK RESULTS:	
<p>An archaeological evaluation was carried out on in advance of residential development. Ten evaluation trenches and two geotechnical test-pits were excavated across the 0.7 hectare site. Significant archaeological features were identified in Trench 3 only.</p> <p>The site forms an irregular L-shape and lies to the south-east of Braintree town centre, along the northern edge of the Braintree to Witham railway and less than 100m north of the River Brain Palaeolithic material in the form of animal bones and stone tools has previously been collected from the Kesgrave Sand and Gravel deposits immediately to the south. The site is located south-east of the main focus of Late Iron Age, Roman, Saxon and medieval settlement, in an area of 19th and 20th century industrial development.</p> <p>The only features of note encountered were the fragmentary remains of a 19th century brick kiln in the western half of Trench 3 and the scant remains of a possible contemporary timber out-building, perhaps used a brick-making or drying shed, in the east. The kiln was probably in use in the first half of the 19th century but appears to have become redundant by the time of the first edition Ordnance Survey map (c.1876) and it had been demolished by the end of the 19th century.</p> <p>No remains of prehistoric, Roman, Saxon or medieval date were identified in any of the trenches.</p> <p>Natural deposits were encountered only in trenches 3, 4, 6 and 8, with the remaining trenches revealing made ground and what is presumably the infilling of former 19th/20th century quarry pits to depths in excess of 1.2m in trenches 1, 2 and 5, and over 2m in trenches 7 and 9. An in-situ assessment of the natural strata by Dr Peter Allen (independent consultant) determined that the gravels on site are likely to be Kesgrave Sands and Gravels, possibly reworked downslope but had little potential to produce Palaeolithic artefacts or Pleistocene sediments and faunal remains of the kind found nearby to the south, at the base of Skitts Hill.</p>	
Previous Summaries/Reports: none	
Author of Summary: T. Ennis	Date of Summary: 25th May 2011

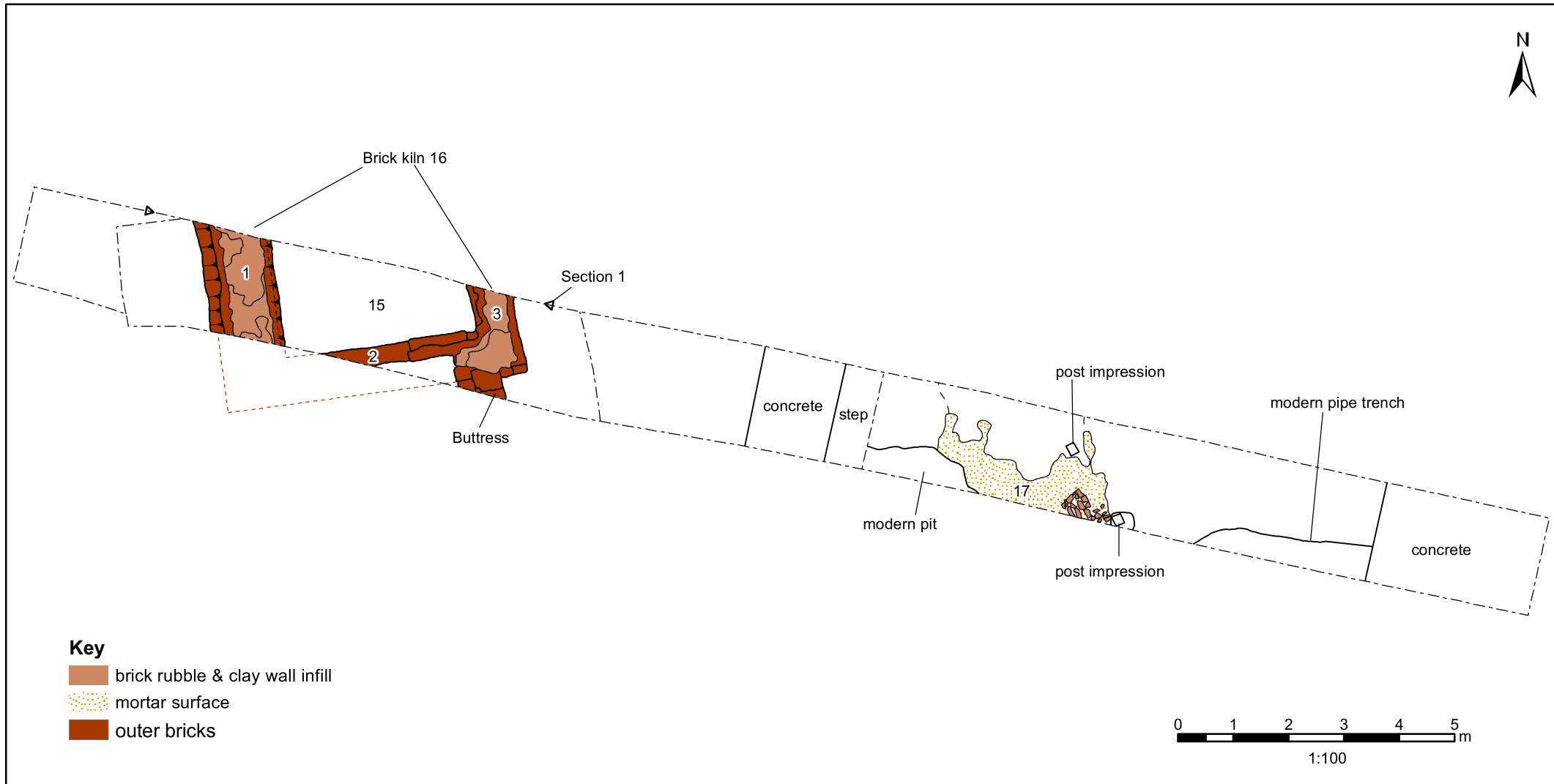


Fig.2. Plan of Trench 3

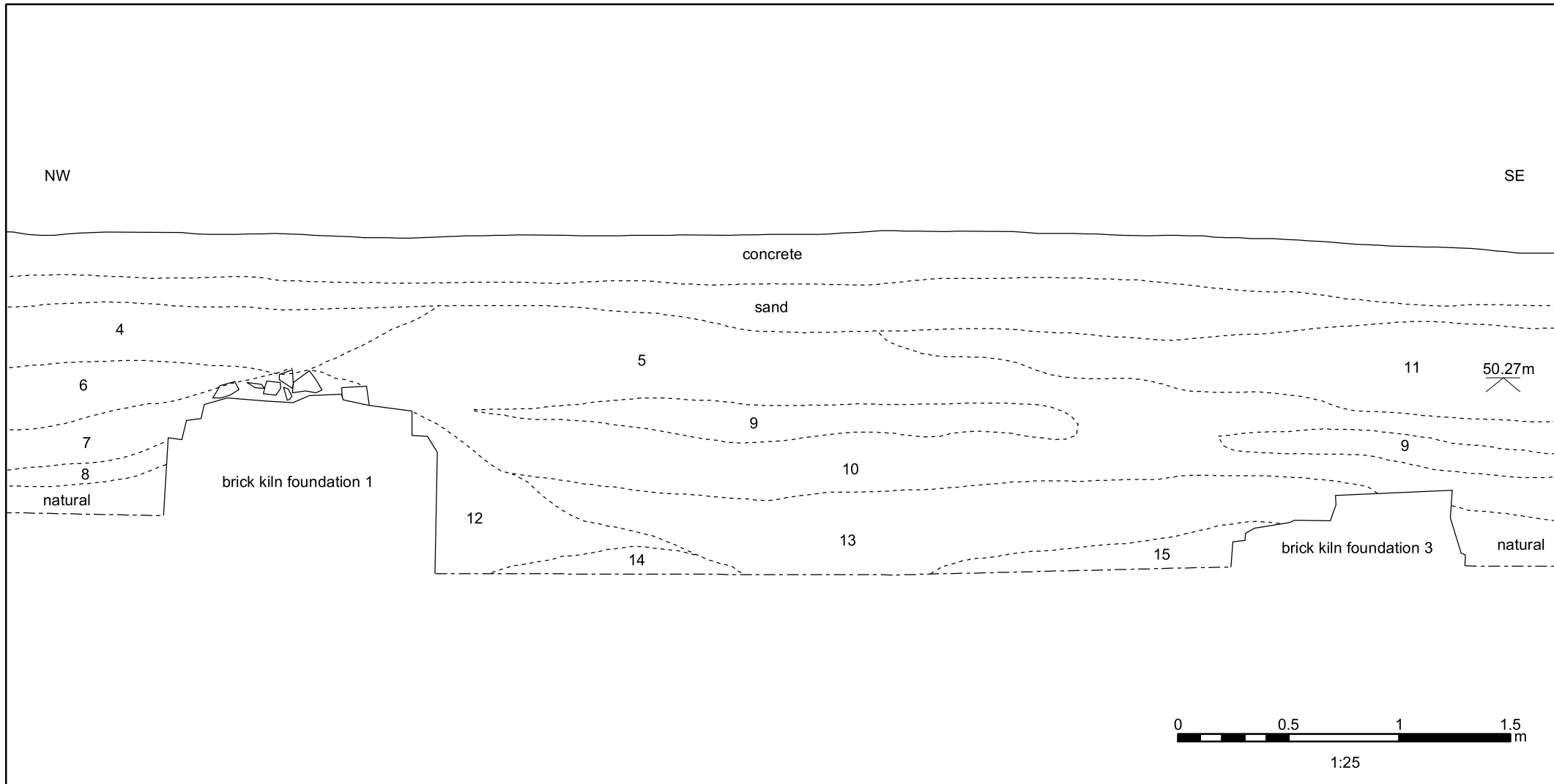


Fig.3. Section 1



Plate 1: Trench 1 looking north west (1m scale)



Plate 2: Trench 2 looking north (2m scale)



Plate 3: Trench 3 - remains of kiln looking west (1m scale)



Plate 4: Trench 3 - detail view of kiln structure (1 scale)

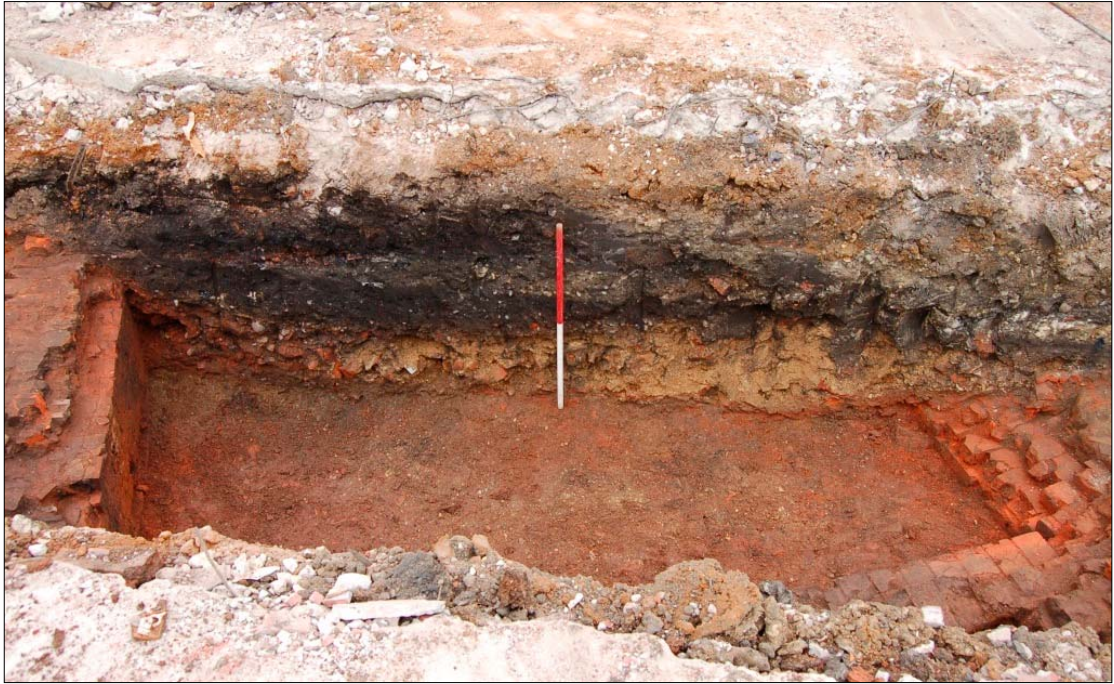


Plate 5. Trench 3 - Section 1 (1m scale)



Plate 6. Trench 3 – mortar surface (2m scale)



Plate 7: Trench 4 looking east (1m scale)



Plate 8: Trench 5 looking southeast (2m scale)



Plate 9: Trench 6 looking southeast (2m scale)



Plate 10: Trench 7 looking east (1m scale)



Plate 11: Trench 8 – natural deposits (1m scale)



Plate 12: Trench 9 – view of deep deposits (1m scale)



Plate 13: Trench 10 – view of reinforced concrete floor slab looking north