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# Archaeological Field Evaluation

On behalf of

GALLAGHER ESTATES | Part of the L&Q Group

Concerning

## Land at Newport Road

## (Milton Keynes Eastern Expansion Area)

## Milton Keynes

## MK17 8LJ

May 2018

## Report Specification

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# Contents

# 1 Non-Technical Summary

*This report presents the results from a programme of Archaeological Field Evaluation by Border Archaeology on behalf of Gallagher Estates in an area of land to the SW of the A5130 Newport Road relating to the proposed Newport Road Junction, which will form part of the Milton Keynes Eastern Area Expansion. This programme entailed the opening of five evaluation trenches across the land parcel to catch any underlying areas of archaeological significance.*

*Of the five trenches excavated, only Trench 003 revealed a feature of potential archaeological interest; [3004] was interpreted as a hedgerow, although this conclusion remains circumspect due to disturbance by nearby rooting.*

*The vast majority of the features were interpreted as rooting or suspected rooting and, as such, the finds that were recovered from these features indicate the presence of human activity in the vicinity.*

*Later anthropogenic activity was seen by furrow [4004] in Trench 004, which was consistent with prior evaluations of ridge and furrow systems concerning medieval and post-medieval agricultural practice within the wider Milton Keynes area.*

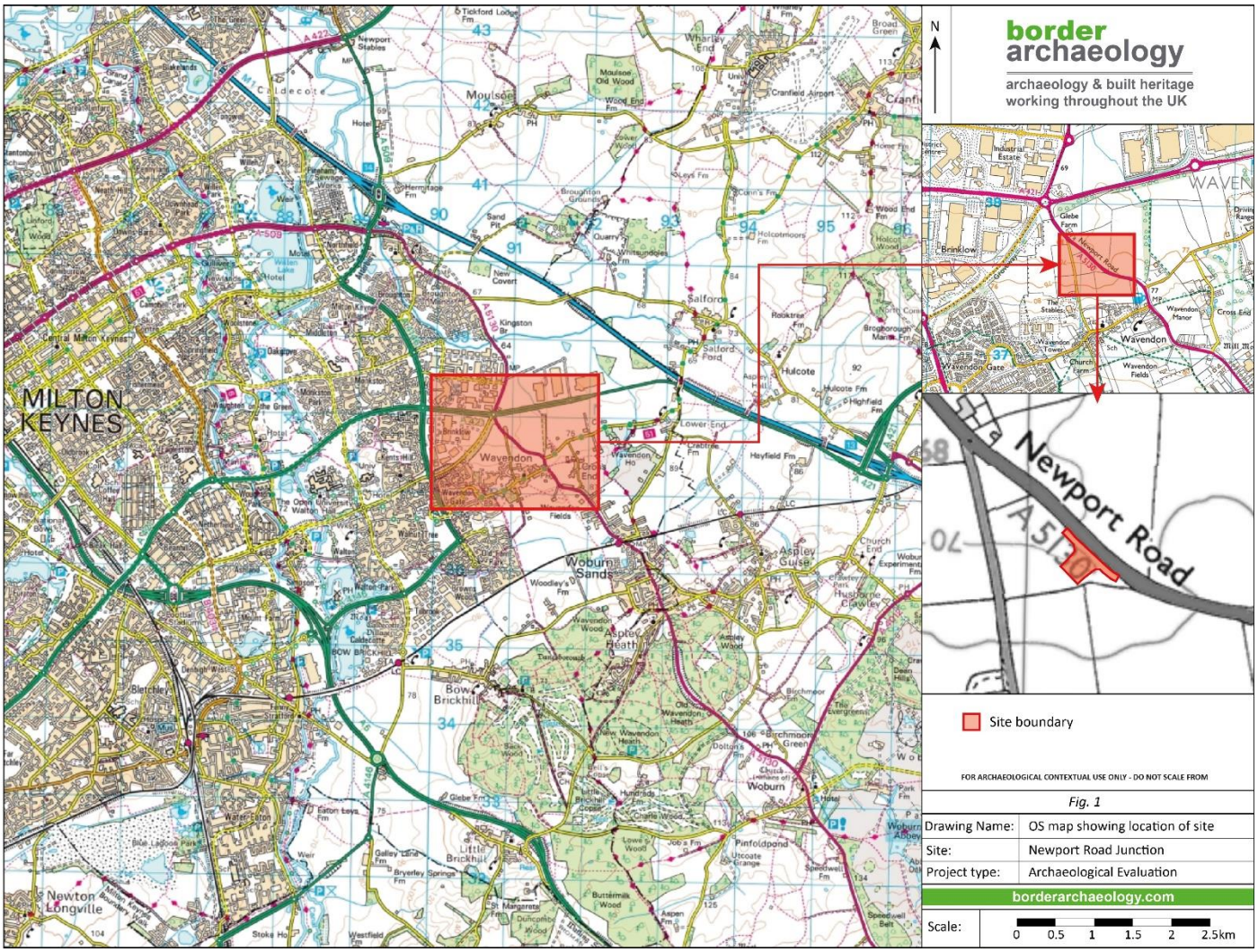
*No mitigation will be proposed for this site.*

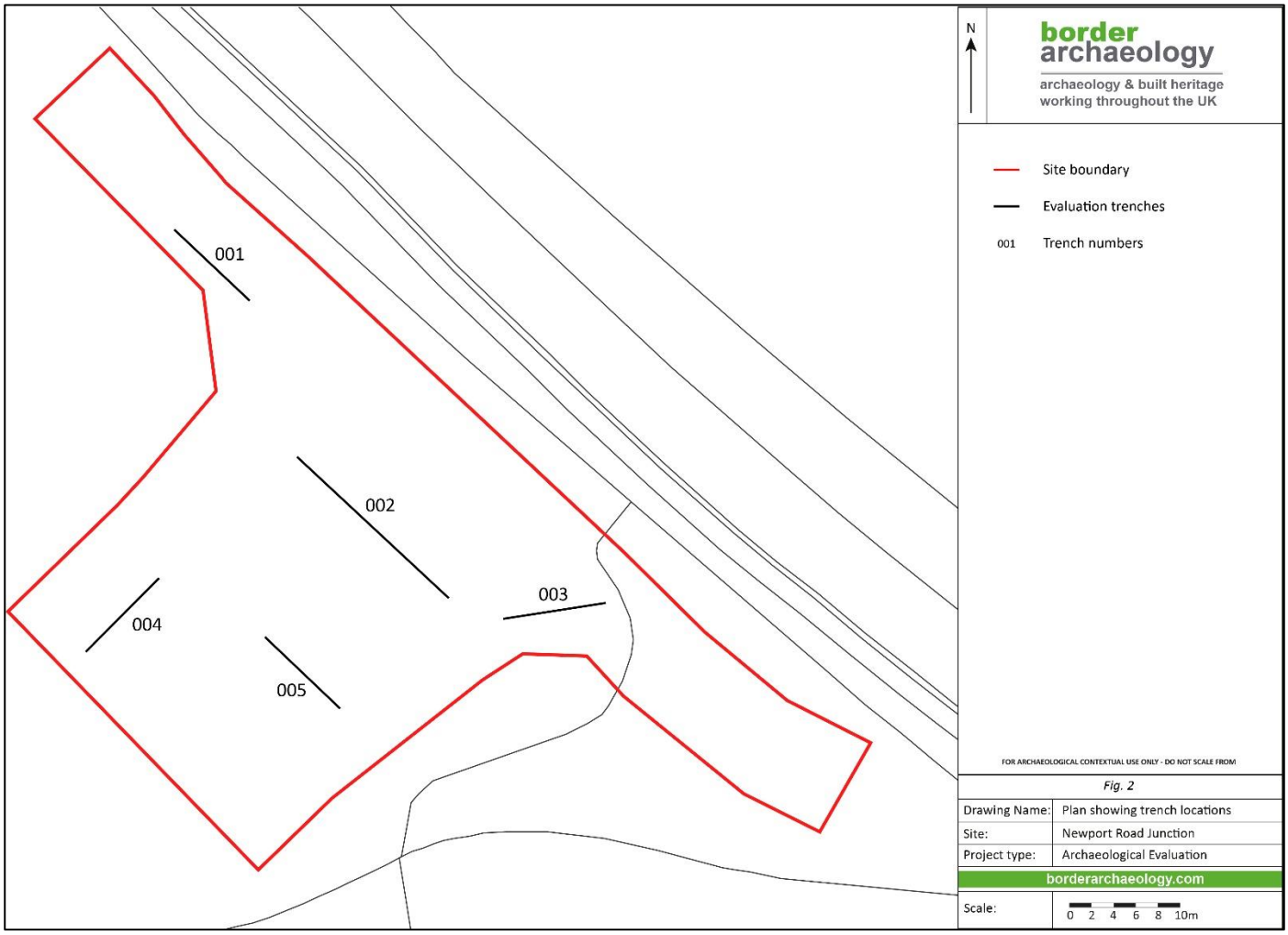
## 2 Introduction

Border Archaeology (BA) was instructed by Gallagher Estates (GE) to carry out a programme of Archaeological Field Evaluation (AFE) on land to the SW of the A5130 Newport Road, MK17 8LJ (nearest postcode), centred on NGR: SP 91085 37605, relating to the proposed Newport Road Junction (*fig.1*).

Five trenches, constituting approximately 5% of the proposed development area, were opened between 2nd and 23rd November 2017 *(fig.2).*

This report is for submission to Nick Crank BSc MCI*f*A, Senior Archaeological Officer for Milton Keynes Council (SAOMKC), and GE.






# 3 Site description

The site is located immediately to the SW of the A5130 Newport Road and approximately 100m to the E of Stockwell Road; it lies roughly 500m SW of the A421 and 350m WNW of Lower End Road and encompasses an area of approximately 2350m².

## 3.1 Soils & Geology

The site occupies a tract of typical calcareous pelosols of the EVESHAM 2 series (411b), which may be characterised as slowly permeable seasonally waterlogged calcareous clayey soils with some slowly permeable non-calcareous clayey soils and fine loamy or fine silty over clayey soils, the underlying geology comprising Jurassic and Cretaceous clay (SSEW 1983).

# 4 Aims & Objectives

The overall aim of the AFE was to characterise, as fully as possible within the parameters of the project, the extant archaeological resource as established within the Written Scheme of Investigation (WSI) (BA 2017). This is to inform any potential mitigation strategy with full reference to the relevant research priorities outlined in the *Solent-Thames Research Framework* (STRF) (Hey & Hind 2014).

# 5 Methodology

The programme of AFE was mandated by the WSI (BA 2017) and the works were carried out in accordance with practices set out in *Standard and Guidance for archaeological field evaluation* (CIfA 2014). BA adheres to the CIfA *Code of Conduct* (2014) and to *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Lee 2015).

Trench positions were determined by survey grade GPS to the trench plan allocated in the WSI (BA 2017), however discretion was used on site where overgrowth prevented the exact placement of trenches. The WSI sought to investigate a 5% sample of the total site area of approximately 2350m², this equating to approximately 118m² of trenching. In order to provide maximum potential trench coverage across the 'T' shaped area of the site, it was proposed to set out five trenches, four measuring 10m × 2m and one (002) measuring 20m × 2m (*fig.2*).

The five trenches were excavated by a 360° tracked machine equipped with a grading/ditching (toothless) bucket. Mechanical excavation was to the first significant archaeological or geological horizon under archaeological supervision. Archaeological excavation proceeded by hand.

## 5.1 Recording

Full written, drawn and photographic records were made in accordance with BA's *Archaeological Field Recording Manual* (2017). In the absence of archaeological deposits, the written record comprised a *pro-forma* trench recording sheet and representative section for each excavated trench.

The drawn record was produced on gridded, archive stable polyester film. Sections were illustrated at 1:10, feature plans were illustrated at 1:20 and trench plans were illustrated at 1:20 or 1:50 as appropriate. Temporary benchmarks (TBM) were established at appropriate locations and plans, elevations and sections contain grid and level information relative to OS data. All drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A photographic record was made using a high-resolution digital camera, comprising photographs of archaeological features and appropriate groups of features and structures. An appropriate scale was included in each photograph and photographic records were indexed and cross-referenced to written site records. Details

concerning subject and direction of view were maintained in a photographic register, indexed by frame number, in addition to photoboards.

## 5.2 Palaeoenvironmental/paleoeconomic sampling

Samples for palaeoenvironmental/palaeoeconomic purposes were collected according to guidance set out by Historic England in *Environmental Archaeology* (Campbell *et al.* 2011) and the *Palaeoenvironmental Department Manual* (BA 2017).

# 6 Results

Each trench contained topsoil and subsoil layers which overlaid the natural deposits. Archaeological features were potentially observed in Trench 003, whereas, in the remaining trenches, it appeared that the natural geology had only been disturbed by natural rooting processes. In Trenches 001 and 003, a potential colluvium deposit was seen, which likely formed prior to the subsoil.

Trenches 003, 004 and 005 contained ceramic land drains and were represented on the relevant trench recording sheets, sections and plan drawings. The furrow in Trench 004 was orientated to the same alignment as the furrows suggested by the geophysical survey but was excavated, recorded and sampled for further analysis and confirmation of this interpretation.

## 6.1 Archaeological Trenches

### 6.1.1 Trench 001

Trench 001 was orientated NW-SE and featured a series of colluvial deposits, which underlay subsoil and topsoil.

In addition to colluvium (1002), which extended the length of Trench 001, there was another colluvial deposit (1028) present in the NE section towards the SE end of the trench. These deposits were not thought to relate to colluvium (3002) in Trench 003, as the composition differed, but all three were thought to have been created by natural processes.

The colluvial deposits overlaid rooting [1004], [1008], [1010], [1015], [1019] and [1025]; while none of the features contained finds, each was subject to palaeoenvironmental sampling; small quantities of charcoal (<2mm in size) were present in each feature, with slightly higher quantities in [1015] and [1019] and none in [1025], which was sterile; rare instances of indeterminate slag were found in [1019], while rare instances of unburnt mammal bone and indeterminate cereal grains were recovered from [1009]; (1012) was also found to contain rare instances of indeterminate weed taxa (Putland 2018; Appendix 3).

*Plate 1: General view of [1019] and [1015]*

### 6.1.2 Trench 002

Trench 002 was orientated NW-SE, a short distance to the SE of Trench 001. Five areas of rooting, [2003], [2007], [2011], [2013] and [2015], were identified.

[2003] and [2007] were subject to palaeoenvironmental sampling: both fills from [2003] contained small quantities of indeterminate charcoal (<2mm in size) and rare instances of burnt mammal bone, with upper fill (2004) also including rare instances of unburnt mammal bone; both fills from [2007] contained occasional instances of indeterminate charcoal (<2mm in size), rare indeterminate slag and unburnt mammal bone (Putland 2018; Appendix 3); the nature and content of the palaeoenvironmental record is such that little can be ascertained about the environment in which the rooting existed.


*Plate 2: General view of rooting [2003]*

### 6.1.3 Trench 003

Trench 003 was orientated ENE-WSW and was located to the E of Trench 002.

A colluvial deposit (3002) was present between natural clay (3003) and the subsoil (3001) of the trench. Although similar to subsoil (3001) in composition, colluvium (3002) was darker and contained more frequent stone inclusions.

A linear feature [3004], measuring >4m × *c.*1.07m-*c.*1.54m × *c.*0.29m-*c.*0.32m, was identified at the WSW side of the trench and interpreted as a possible hedgerow; two slots were excavated, each of which contained a single fill.

No finds were recovered; however, a palaeoenvironmental sample from (3007), the fill of Slot 1, contained rare instances of indeterminate charcoal (<2mm in size), undiagnostic CBM and weed seeds, which included instances of *Chenopodium album* and *Stellaria graminea*; (3008), the fill of Slot 2, contained occasional instances of

indeterminate charcoal (<2mm in size) and a single instance of flake hammerscale (Putland 2018; Appendix 3); this latter find may be indicative of smithing activity nearby, although no such evidence was found within the Site (McLeish 2018; Appendix 2).


*Plate 3: SSE-facing section of hedgerow [3004]*

Three additional areas of rooting were recorded; of these, [3005] and [3009] were subject to palaeoenvironmental sampling and found to be sterile (Putland 2018; Appendix 3).

### 6.1.4 Trench 004

Trench 004 was orientated NE-SW and contained a single likely post-medieval furrow [4004], which measured >1.80m × *c.*0.87m × *c.*0.18m.

The NW-SE orientation of furrow [4004] correlated with the direction of the furrows in the geophysical survey; while no finds were retrieved during excavation, a palaeoenvironmental sample contained occasional

indeterminate charcoal (<2mm in size) and rare instances of indeterminate slag and unburnt mammal bone (Putland 2018; Appendix 3).


*Plate 4: Plan view of furrow [4004]*

### 6.1.5 Trench 005

Trench 005 was orientated NW-SE and three very shallow areas of rooting [5004], [5006] and [5010].

While no finds were recovered from [5006] and [5010], [5004] contained a small fragment of pottery established as a local sandy ware of Late 1st Century AD to 2nd Century AD (McLeish 2018; Appendix 2); additionally, a palaeoenvironmental sample of [5004] contained occasional instances of indeterminate charcoal (<2mm in size) as well as rare indeterminate slag and mammal bone (both burnt and unburnt) (Putland 2018; Appendix 3).


*Plate 5: Plan view of rooting [5004]*

## 7 Conclusion

The scarcity of archaeological remains contained within the evaluated trenches means that little understanding can be made of the Romano-British, medieval or post-medieval periods.

Of the five trenches excavated, only Trench 003 revealed a feature of potential archaeological interest: [3004] was interpreted as being a probable hedgerow, which may represent a now defunct field boundary predating the current field boundaries.

The vast majority of the features were interpreted as rooting and, as such, the finds that were recovered from these features indicate the presence of human activity in the vicinity but do not warrant any further action (McLeish 2018; Appendix 2); in particular, an instance of flake hammerscale identified within Slot 2 of [3004] suggests that smithing may have occurred in the wider vicinity, although this is an isolated find.

Later human activity was seen by furrow [4004] in Trench 004, which was consistent with prior evaluations of ridge and furrow systems concerning medieval and post medieval agricultural practice within the Milton Keynes area.

## 8 Copyright

# 9 Bibliography

Border Archaeology, 2017, *Archaeological Field Recording Manual*

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## 10 Appendix 1: Context Tabulation

| Trench No | Context No | Type | F/B | F/O | Description | Interpretation | Finds | Sample No | Provisional Date |
|---|---|---|---|---|---|---|---|---|---|
| 001 | (1000) | Deposit | - | - | Mid yellowish brown clayey sandy silt; moderate to frequent small and medium angular and rounded stones, rare large sub-angular stones, occ. charcoal, rare to occ. CBM, glass and pottery; 0.15m deep; overlies (1001). | Topsoil | - | - | Modern |
| | (1001) | Deposit | - | - | Mid yellowish brown sandy silty clay; rare small angular to rounded stones, rare charcoal; 0.17m deep; underlies (1000), overlies (1002) and (1028). | Subsoil | - | - | - |
| | (1002) | Deposit | - | - | Light to mid yellowish brown silty clay; rare to occ. small and medium angular to sub-rounded stones, rare charcoal; 0.24m-0.35m deep; underlies (1001) and (1028), overlies (1003). | Geological Layer | - | - | Unknown |
| | (1003) | Deposit | - | - | Light yellowish clay/brownish orange gravel; occ. small and medium angular stones; underlies (1002). | Geological Layer | - | - | Glacial |
| | [1004] | Cut | (1005), (1006), (1007) | - | Irregular shaped in plan; NW-SE orientation; gradual sides; concave base; 1.84m long, 1.80m wide, 0.12m deep; cuts (1003) and (1009). | Cut of Tree Throw | - | - | Unknown |

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|---|---|---|---|---|---|---|---|---|---|
| | (1005) | Fill | - | [1004] | Compact light reddish yellow silty clay; occ. small to medium sub-rounded to angular stones; 0.39m-0.60m wide; 0.19m deep; underlies (1007). | Lower fill of Tree Throw [1004] | - | - | Unknown |
| | (1006) | Fill | | [1004] | Compact light reddish yellow silty clay; occ. small to medium sub-rounded to angular stones; 0.31m wide; 0.04m deep; underlies (1007). | Lower fill of Tree Throw [1004] | - | - | Unknown |
| | (1007) | Fill | | [1004] | Compact mid to dark yellowish brown silty clay; occ. sub-rounded to sub-angular stones, small charcoal flecks; 1.84m long; 0.90m wide; 0.11m deep; underlies (1002), overlies (1005) and (1006). | Upper fill of Tree Throw [1004] | - | 0009 | Unknown |
| | [1008] | Cut | (1009) | - | Irregular/elongated shape in plan; NW-SE orientation; gradual sides; flat/irregular base; 2.60m long; 0.78m wide; 0.15m deep; cuts (1003). | Rooting | - | - | Unknown |
| | (1009) | Fill | - | [1008] | Compact mid to light yellowish brown silty clay; occ. small and medium sub-rounded to sub-angular stones; 2.60m long; 0.78m wide; 0.15m deep; cut by [1004]. | Fill of Rooting [1008] | Pottery, animal bone, CBM from sample | 0008 | Unknown |
| | [1010] | Cut | (1011)<br>(1012)<br>(1013)<br>(1014) | - | Elongated shape in plan; NW-SE orientation; steep, near vertical sides; concave base; 1.20m long; 0.52m wide; 0.39m deep; cuts (1003). | Rooting | - | - | Unknown |
| | (1011) | Fill | - | [1010] | Compact light yellowish grey silty clay; rare small and medium sub-angular stones; 0.27m long; 0.35m wide; 0.15m deep; underlies (1012) and (1013), cut by [1015]. | Fill of Rooting [1010] | - | - | Unknown |

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|---|---|---|---|---|---|---|---|---|---|
| | (1012) | Fill | - | [1010] | Compact dark brownish grey silty clay; occ. small sub-angular to sub-rounded stones, one large flat angular stone, occ. small charcoal flecks; 0.11m long; 0.30m wide; 0.09m deep; underlies (1013) and (1014), overlies (1011). | Fill of Rooting [1010] | Metal fragments from sample | 0015 | Unknown |
| | (1013) | Fill | - | [1010] | Compact light to mid yellowish grey silty clay; rare small angular stones; 0.10m wide; 0.10m deep; underlies (1014), overlies (1011) and (1012). | Fill of Rooting [1010] | - | - | Unknown |
| | (1014) | Fill | - | [1010] | Compact mid yellowish brown silty clay; moderate rounded to angular stones, rare charcoal flecks; 0.10m long; 0.42m wide; 0.15m deep; overlies (1012) and (1013), underlies (1002). | Fill of Rooting [1010] | - | 0014 | Unknown |
| | [1015] | Cut | (1016) (1017) (1018) | - | Irregular shaped in plan; NW-SE orientation; steep and moderate sides; irregular base; 0.92m long; 0.69m wide; 0.34m deep; cuts (1011), (1013), (1014) and (1003). | Rooting | - | - | Unknown |
| | (1016) | Fill | - | [1015] | Compact light brownish yellow silty clay; rare small angular stones; 0.50m long; 0.45m wide; 0.21m deep; underlies (1017) and (1018), cut by [1019]. | Fill of Rooting [1015] | - | - | Unknown |
| | (1017) | Fill | - | [1015] | Compact mid yellowish brown silty clay; moderate to frequent small and medium angular to sub-rounded stones, rare large sub rounded stones; 0.37m long; 0.20m wide; 0.31m deep; overlies (1016), underlies (1002) and (1018). | Fill of Rooting [1015] | - | - | Unknown |

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|---|---|---|---|---|---|---|---|---|---|
| | (1018) | Fill | - | [1015] | Compact mid yellowish brown silty clay; moderate to frequent small and medium sub-angular to sub-rounded stones; 0.65m long; 0.20m deep; overlies (1016) and (1017), underlain by (1002). | Fill of Rooting [1015] | - | 0012 | Unknown |
| | [1019] | Cut | (1020) (1021) (1022) (1023) (1024) | - | Irregular circle shaped in plan; moderate and steep sides; concave base; 1.52m long; 1.50m wide; 0.47m deep; cuts (1003) and (1016). | Rooting | - | - | Unknown |
| | (1020) | Fill | - | [1019] | Compact light greyish orange silty clay; rare small and medium angular to sub-rounded stones; 0.33m wide; 0.05m deep; underlies (1021) and (1022). | Fill of Rooting [1019] | - | - | Unknown |
| | (1021) | Fill | - | [1019] | Compact mid-dark yellowish grey silty clay; rare small and medium angular to rounded stones; 0.41m wide; 0.06m deep; underlies (1022) and (1023), overlies (1020). | Fill of Rooting [1019] | - | - | Unknown |
| | (1022) | Fill | - | [1019] | Compact light-mid greyish orange silty clay; occ. Small and medium angular to sub-rounded stones; 0.72m wide; 0.11m deep; underlies (1023), overlies (1020) and (1021). | Fill of Rooting [1019] | - | - | Unknown |
| | (1023) | Fill | - | [1019] | Compact mid-dark yellowish grey silty clay; occ. to moderate small and medium rounded to angular stones; 1.15m wide; 0.25m deep; underlies (1024), overlies (1022) and (1021), cut by [1025]. | Fill of Rooting [1019] | - | 0011 | Unknown |
| | (1024) | Fill | - | [1019] | Compact mid yellowish brown silty clay; occ. small and medium sub angular to rounded stones; 0.70m wide; 0.21m deep; overlies (1023), cut by [1025]. | Fill of Rooting [1019] | Slag from sample | 0010 | Unknown |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | [1025] | Cut | (1026) (1027) | - | Elongated and irregular shape in plan; NW-SE orientation; moderate sides; concave base; 0.74m long; 0.45m wide; 0.39m deep; cuts (1003), (1023), (1024). | Rooting | - | - | Unknown |
| | (1026) | Fill | - | [1025] | Compact mid yellowish brown silty clay; occ. small and medium angular to sub-rounded stones, one large angular stone; 0.45m long; 0.42m wide; 0.30m deep; underlies (1002) and (1027). | Fill of Rooting [1025] | - | 0013 | Unknown |
| | (1027) | Fill | - | [1025] | Compact dark greyish brown silty clay; rare small angular to rounded stones; 0.40m long; >0.16m wide; 0.25m deep; underlies (1002), overlies (1026). | Fill of Rooting [1025] | - | - | Unknown |
| | (1028) | Deposit | - | - | Compact light yellowish brown silty clayey sand; rare to occ. small and medium angular to rounded stones, rare charcoal flecks; 0.18m deep; overlies (1002), underlies (1001). | Geological Layer | - | - | Unknown |
| 002 | (2000) | Deposit | - | - | Moderate dark greyish brown silty clay; occ. sub-rounded and angular stones; >10m long; >10m wide; overlies (2001). | Topsoil | - | - | Modern |
| | (2001) | Deposit | - | - | Moderate mid greyish brown silty clay; occ. sub-angular and sub-rounded stones, frequent charcoal flecks; > 10m long; >10m wide; 0.39m deep; underlies (2000), overlies (2002), (2008), (2004) and (2010). | Subsoil | - | - | Modern |
| | (2002) | Deposit | - | - | Firm mid yellowish brown silty sandy clay; rare sub-angular and sub-rounded stones; >10m long; >10m wide; 0.13m deep; underlies (2001), cut by [2003] and [2007]. | Natural | - | - | Glacial |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | [2003] | Cut | (2006) (2005) (2004) | - | Irregular linear shaped in plan; NE-SW orientation; moderate sides; irregular/flat base; >1.80m long; 2.78m wide; 0.37m deep; cuts (2002). | Rooting | - | - | Unknown |
| | (2004) | Fill | - | [2003] | Moderate dark greyish brown silty clay; rare sub-angular and sub-rounded stones; 2.06m wide; 0.14m deep; underlies (2001), overlies (2005). | Fill of Rooting [2003] | Pottery, animal bone, burnt bone, CBM, metal fragments from sample | 0016 | Unknown |
| | (2005) | Fill | - | [2003] | Firm mid orangeish grey silty clay; occ. sub-angular and sub-rounded stones, frequent manganese; 1.85m wide; 0.24m deep; overlies (2006), underlies (2004). | Fill of Rooting [2003] | Burnt bone from sample | 0017 | Unknown |
| | (2006) | Fill | - | [2003] | Firm black silty clay; occ. sub-angular and sub-rounded stones, occ. charcoal flecks; 0.75m wide; 0.16m deep; underlies (2005). | Fill of Rooting [2003] | - | - | Unknown |
| | [2007] | Cut | (2008) (2009) (2010) | - | Irregular curvilinear shaped in plan; NE-SW orientation; moderate/steep sides; irregular/flat base; >1,80m long; 1.74m wide; 0.22m deep; cuts (2002). | Rooting | - | - | Unknown |
| | (2008) | Fill | - | [2007] | Moderate dark brownish grey silty clay; rare sub-rounded and sub-angular stones; 1.26m wide; 0.04m deep; underlies (2001), overlies (2010). | Fill of Rooting [2007] | Pottery, small animal bone, slag from sample | 0018 | Unknown |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (2009) | Fill | - | [2007] | Moderate dark brownish grey silty clay; occ. charcoal flecks, rare sub-angular and rounded stones; 0.28m wide; 0.15m deep; underlies (2010). | Fill of Rooting [2007] | - | - | Unknown |
| | (2010) | Fill | - | [2007] | Firm mid orangeish grey silty clay; frequent sub-angular and sub-rounded stones, v. frequent manganese; 1.41m wide; 0.21m deep; underlies (2008), overlies (2009). | Fill of Rooting [2007] | Small animal bone and slag from sample | 0019 | Unknown |
| | [2011] | Cut | (2012) | - | Irregular shaped in plan; N-S orientation; moderate sides; irregular base; 2.30m long; 0.90m wide; 0.10m deep; cuts (2002). | Rooting | - | - | Unknown |
| | (2012) | Fill | - | [2011] | Firm mid brownish grey silty clay; occ. small and medium sub-angular to sub-rounded stones; 0.90m wide; 0.10m deep; underlies (2001). | Fill of Rooting [2011] | - | - | Unknown |
| | [2013] | Cut | (2014) | - | Irregular shaped in plan; E-W orientation; moderate and steep sides; irregular base; 1.60m long; 0.70m wide; 0.18 deep; cuts (2002). | Rooting | - | - | Unknown |
| | (2014) | Fill | - | [2013] | Compact mid brownish grey silty clay; occ. small and medium sub-angular and sub-rounded stones; 0.70m wide; 0.18m deep; underlies (2001). | Fill of Rooting [2013] | - | - | Unknown |
| | [2015] | Cut | (2016) (2017) | - | Irregular shaped in plan; NE-SW orientation; steep sides; irregular base; 1.80m long; 0.75m wide; 0.25m deep; cuts (2002). | Rooting | - | - | Unknown |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (2016) | Fill | - | [2015] | Compact mid brownish grey silty clay; moderate small and medium sub-rounded and angular stones; 0.75m wide; 0.19m deep; underlies (2001), overlies (2017). | Fill of Rooting [2015] | - | - | Unknown |
| | (2017) | Fill | - | [2015] | Compact light to mid yellowish brown silty clay; rare small angular and sub-angular stones; 0.10m deep; underlies (2016). | Fill of Rooting [2015] | - | - | Unknown |
| 003 | (3000) | Deposit | - | - | Soft mid to dark brown silty clay; rare small sub-rounded to sub-angular stones, v. rare charcoal; 14m long; 1.80m wide; 0.50m deep; overlies (3001). | Topsoil | - | - | Modern |
| | (3001) | Deposit | - | - | Moderate to Firm mid grey brown silty clay; occ. small stones, v. rare charcoal; 14m long; 1,80m wide; 0.35m deep; underlies (3000), overlies (3002). | Subsoil | - | - | Modern |
| | (3002) | Deposit | - | - | Moderate to firm mid grey to dark brown silty clay; rare charcoal; 0.10m deep; overlies (3003), underlies (3001). | Geological Layer | - | - | Unknown |
| | (3003) | Deposit | - | - | Firm orange brown silty clay; occ. stones; 14m long; 1.80m wide; underlies (3002), cut by [3004], [3005], [3009]. | Natural | - | - | Glacial |
| | [3004] Slot 1 | Cut | (3007) | - | Linear shaped in plan; W-E orientation; moderate to steep sides; irregular flat base; 1.20m long; 1.07m wide; 0.32m deep; cuts (3003). | Hedgerow | - | - | Unknown |
| | [3004] Slot 2 | Cut | (3008) | - | Linear shaped in plan; W-E orientation; gradual to moderate sides; concave base; >4m long; 1.54m wide; 0.29m deep; cuts (3003). | Hedgerow “Terminus” | - | - | Unknown |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | [3005] | Cut | (3006) | - | Irregular shaped in plan; moderate sides; flat base; >0.90m long; 0.86m wide; 0.20m deep; cuts (3003). | Rooting | - | - | Unknown |
| | (3006) | Fill | - | [3005] | Moderate to firm mid brown/orange brown; occ. small sub-rounded and sub-angular stones, rare charcoal; 0.86m wide; 0.20m deep; underlies (3001). | Fill of Rooting [3005] | - | 0002 | Unknown |
| | (3007) | Fill | - | [3004] Slot 1 | Firm dark grey brown silty clay; moderate small to medium sub-angular to sub-rounded stones, rare charcoal and bone; 1.20m long; 1.07m wide; 0.32m deep; underlies (3001). | Fill of Hedgerow [3004] Slot 1 | Bone fragments; CBM from sample | 0001 | Unknown |
| | (3008) | Fill | - | [3004] Slot 2 | Firm dark grey brown silty clay; moderate small sub-rounded to sub-angular stones, rare charcoal; 1.12m long; 1.54m wide; 0.29m deep; underlies (3001). | Fill of Hedgerow [3004] Slot 2 | Flake hammerscale from sample | 0003 | Unknown |
| | [3009] | Cut | (3010) | - | Irregular shaped in plan; moderate sides; flat, slightly sloping base; >1.80m long; 0.40m wide; 0.27m deep; cuts (3003). | Rooting | - | - | Unknown |
| | (3010) | Fill | - | [3009] | Moderate dark grey brown silty clay; occ. small to medium sub-angular to sub-rounded stones, occ. charcoal; 0.40m long; 0.30m wide; 0.27m deep; underlies (3001). | Fill of Rooting [3009] | - | 0004 | Unknown |
| 004 | (4001) | Deposit | - | - | Loose dark brownish grey silty clay; occ. stones; >10m long; >10m wide; >0.40m deep; overlies (4002), (4005) and (4007). | Topsoil | - | - | Modern |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (4002) | Deposit | - | - | Firm mid greyish brown silty clay; rare stones; >10m long; >10m wide; >0.15m deep; underlies (4001), overlies (4005), (4007) and (4003). | Subsoil | - | - | Modern |
| | (4003) | Deposit | - | - | Firm light yellowish brown silty clay; >10m long; >10m wide; underlies (4002), (4005) and (4007). | Natural | - | - | Glacial |
| | [4004] | Cut | (4005) | - | Linear shaped in plan; NW-SE orientation; moderate sides; flat base; 1.80m long; 0.87m wide; 0.18m deep; cuts (4002) and (4003). | Furrow | - | - | Medieval to Post Medieval |
| | (4005) | Fill | - | [4004] | Firm dark brownish grey silty clay; frequent charcoal flecks; >1.80m long; 0.87m wide; 0.18m deep; cut by [4006]. | Fill of Furrow [4004] | Pottery, animal bone, small animal bone, burnt small animal bone, CBM, glass, iron, slag from sample | 0007 | Medieval to Post Medieval |
| | [4006] | Cut | (4007) | - | Linear shaped in plan; NW-SE orientation; moderate to steep sides; flat base; >1.80m long; 0.39m wide; 0.20m deep; cuts (4005), (4003) and (4002). | Land Drain | - | - | Post Medieval to Modern |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (4007) | Fill | - | [4006] | Moderate dark greyish brown silty clay; occ. small stones and charcoal flecks; >10m long; 0.31m wide; 0.20m deep; underlies (4002). | Fill of Land Drain | - | - | Post Medieval to Modern |
| 005 | (5001) | Deposit | - | - | Loose dark brownish grey silty clay; rare stones; >10m long; >10m wide; >0.30m deep; overlies (5002). | Topsoil | - | - | Modern |
| | (5002) | Deposit | - | - | Firm mid greyish brown silty clay; rare stones; >10m long; >10m wide; >0.26m deep; underlies (5001), overlies (5003), (5005), (5007), cut by [5004], [5006] and [5008]. | Subsoil | - | - | Modern |
| | (5003) | Deposit | - | - | Firm light yellowish brown silty clay; >10m long; >10m wide; >0.12m deep; underlies (5002), cut by [5004], [5006] and [5010]. | Natural | - | - | Glacial |
| | [5004] | Cut | (5005) | - | Irregular shaped in plan; gradual to moderate sides; irregular and undulating base; >1.80m long; 1.54m wide; 0.08m deep; cuts (5003) and (5002). | Rooting | - | - | Romano-British |
| | (5005) | Fill | - | [5004] | Firm mid greyish brown silty clay; occ. small rounded stones, one piece of pottery; >1.80m long; 1.54m wide; 0.08m deep; underlies (5002). | Fill of Rooting [5004] | Pottery; Animal bone, burnt small animal bone, slag from sample | 0005 | Romano-British |
| | [5006] | Cut | (5007) | - | Irregular shaped in plan; moderate to steep sides; irregular base; 2.18m long; 2.10m wide; 0.12m deep; cuts (5003) and (5002). | Rooting | - | - | Unknown |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (5007) | Fill | - | [5006] | Firm mid greyish brown silty clay; occ. small rounded stones; 2.18m long; 2.10m wide; 0.12m deep; underlies (5002). | Fill of Rooting [5006] | Burnt bone, CBM from sample | 0006 | Unknown |
| | [5008] | Cut | (5009) | - | Linear shaped in plan; NW-SE orientation; >10m long; 0.16m wide; cuts (5003). | Land Drain | - | - | Post Medieval to Modern |
| | (5009) | Fill | - | [5008] | Moderate dark greyish brown silty clay; occ. small stones; >10m long; 0.16m wide; underlies (5002). | Fill of Land Drain | - | - | Post Medieval to Modern |
| | [5010] | Cut | (5011) | - | Circular shaped in plan; gradual sides; irregular base; 0.24m long; 0.22m wide; 0.07m deep; cuts (5003). | Rooting | - | - | Unknown |
| | (5011) | Fill | - | [5010] | Firm mid greyish brown silty clay; 0.24m long; 0.22m wide; 0.07m deep; underlies (5002). | Fill of Rooting [5010] | - | - | Unknown |

# 11 Appendix 2: Finds Report

*Janice McLeish*
*Border Archaeology*

Between September and October 2017, Border Archaeology carried out an archaeological evaluation consisting of five trenches, four measuring 10m × 2m and one (002) measuring 20m × 2m.

A small quantity of finds were recovered from both hand recovery and environmental sampling. The pottery totalled 15.42g (averaging <1g per sherd) and is most likely Roman in date, with the hand-recovered sherd from [5004] indicative of a local sandy ware of late 1st-2nd C. The vast majority of the features were interpreted as rooting or suspected rooting and as such the finds that were recovered from these features indicate the presence of human activity in the vicinity but do not warrant any further action.

The feature within Trench 003 noted as a linear contained 4.5g of abraded undiagnostic animal bone, 0.67g of abraded CBM and a single possible flake hammerscale. The hammerscale may be an indication that iron-working processes, such as smithing, had occurred but we do not have any evidence that it occurred within the footprint of the evaluation. Some possible slag crumbs totalling 1.95g were also recovered from environmental sampling. Again, these small crumbs do not indicate that iron-working occurred within the vicinity.

# 12 Appendix 3: Palaeoenvironmental Report

## Report Specification

**Compilation:**
Robin Putland BSc MSc

**Analysis:**
Robin Putland BSc MSc

**Final Edit & Approval:**
Neil Shurety Dip. M G M Inst M

**Report Reference:**
BA1705NPTRD(278)/PALAEO

**Edit:**
Amy Bunce BSc MA ACI*f*A
Ross Shurety MA (Cantab.)

**Date:**
May 2018

# Contents:

## 12.1 Executive Summary

This report has been prepared by the Palaeoenvironmental Department at Border Archaeology (BA) to facilitate and elucidate the palaeoeconomic interpretations of a sequence of features discovered during Archaeological Field Evaluation at Newport Road, Milton Keynes Eastern Expansion Area, Milton Keynes, MK17 8LJ.

A total of 18 samples, comprising 180ℓ of material, were processed by flotation having originated from a sequence of features identified as tree throws, rooting features, a furrow and a hedgerow.

The palaeoenvironmental sampling confirmed the archaeological interpretations that the features were of limited archaeological value.

## 12.2 Introduction

This report details the results derived from 18 samples, constituting a total of 180ℓ of soil, retrieved from a tree throw, ten rooting features, a furrow and a hedgerow.

In accordance with the WSI (BA 2017), 40ℓ or 100% of the deposits were sampled. However, discretion and the high likelihood of the samples deriving from natural features led to 18 samples comprising only 180ℓ of material being received by the Palaeoenvironmental Department and processed through flotation, with the resultant archaeological and archaeobotanical material sorted and identified.

The samples were processed by means of flotation and any potential archaeobotanical remains from both the floating element and the heavier residue/retent were sorted and visually identified. The nature and interpretative significance of the recovered remains is detailed in Section 12.4.1 below.

The 18 samples were taken in multiples of 10ℓ sample buckets and derived from 18 contexts, from which 10ℓ was taken. The results are presented by context in Section 12.4.2 below.

### 12.2.1 Site Description

The land comprising the evaluation totalled approximately 2,350m² and was located immediately to the SW of the A5130 Newport Road and approximately 100m to the E of Stockwell Road.

At the time of evaluation, the land was overgrown with early colonising species. Prior to this, there was evidence that the land had been used for silage production.

Soils & Geology

The surrounding geology of calcareous soils (SSEW 1983) with a character for seasonal waterlogging and sizable fluctuations in the water table generally has a negative effect on the taphonomy of palaeoenvironmental material. However, this does not appear to have significantly impacted on the Newport Road assemblage.

## 12.3 Methodology

### 12.3.1 Objectives of analysis

The purpose of the palaeoenvironmental sampling strategy implemented during archaeological evaluations is the retrieval of non-specific palaeoenvironmental remains and the further characterisation of features that cannot be fully investigated due to the confines of the evaluation parameters. An additional purpose to palaeoenvironmental reporting in the case of archaeological evaluations is the recommendation of further, potentially specific, palaeoenvironmental sampling in further archaeological mitigation.

### 12.3.2 Sampling methodology

Sampling methodology followed the *Palaeoenvironmental Department Manual* (BA 2017) for environmental sampling and processing and with reference to Historic England guidance (Campbell *et al*. 2011). On site, the samples were collected in sample buckets and identified by context and sample number. Following receipt into the Palaeoenvironmental Department, they were assigned bucket numbers for tracking purpose. The samples were not subject to sub-sampling and their entirety was processed by means of flotation.

Flotation was undertaken in Siraf-style tanks (Williams 1973) with a 1mm retent mesh and 250µm flot sieve. No refloating was required for these samples. Retents were initially scanned by magnet to retrieve any archaeometallurgical debris and a sieve bank was used to facilitate visual sorting with the smaller fractions sorted by means of magnifying lamp and/or illuminated stereo zoom microscopy (≤x10). The flots were sorted entirely by means of illuminated stereo zoom microscopy (≤x10). The results of this analysis are reported with the flot and retent data recombined.

### 12.3.3 Personnel

Flotation and primary analysis was undertaken by staff within BA's Palaeoenvironmental Department managed by Kath Hunter-Dowse BA and supervised by Robin Putland BSc MSc. The Palaeoenvironmental Department is managed under the post-excavation remit of Janice McLeish MA and consists of a minimum of ten members of staff, predominantly with post-graduate palaeoenvironmental qualifications. This work was further assisted by BA's field staff as part of a programme of Continuing Professional Development (CPD). Analysis and identification was only undertaken by the palaeoenvironmental department under the guidance of Kath Hunter-Dowse BA, Robin Putland BSc MSc and Amy Bunce BSc MA ACI*f*A, who additionally maintains directorial control.

External and internal specialists were consulted for all archaeological finds and faunal material recovered from palaeoenvironmental samples. Archaeological, archaeometallurgical and archaeozoological assemblages from the palaeoenvironmental material were recombined with the full site assemblages to ensure unbiased and broader specialist reporting on those materials.

## 12.4 Description of Results

### 12.4.1 Description and implications of materials recovered

Detailed below are the general implications of the discovery of certain materials within the palaeoenvironmental samples. Section 12.4.2 details such information by trench. Of particular note is the absence of archaeomalacological material although this is likely to be due to soil conditions.

Finds

Archaeological finds within palaeoenvironmental samples are fairly common and help confirm that the sampling of the material was not biased in any manner.

Bone

Both burnt and unburnt bone may be present within palaeoenvironmental samples with taphonomic conditions occasionally proportionately affecting their preservation. Burnt bone is reasonably conclusively of anthropogenic origin, deriving from domestic activities as well as some industrial and funerial practices. Unburnt bone may additionally have become incorporated due to animal death in the vicinity of the context while it was forming and therefore cannot always be used as an indicator of human activity. Incidences of the inadvertent inclusion of unburnt bone from decomposed individuals, especially of small mammals and reptiles, can highlight specific ecological niches. However, it is by no means the case that all unburnt bone derives from such cases and unburnt bone from large mammals is a good indicator of nearby settlement and potential butchery.

Unburnt bone was present and included tooth fragments, burnt bone comprised a smaller part of the assemblage.

Charcoal

Charcoal is ubiquitous in palaeoenvironmental samples as it is used in domestic, funerary and industrial settings or may be present as a result of accidental firings. Identification of the wood species making up the charcoal assemblage can add valuable data as to wood selection for the varying purposes.

While often relied upon for dating, in particular $C^{14}$, charcoal is not the best material to use. Charcoal is subject to the 'Old Wood problem', whereby wood is known to be frequently reused and charcoal redeposited. In addition, wood grows over many years and it is not possible to know precisely where within the tree a charcoal fragment has derived.

Anthracological analysis is undertaken in-house by Amy Bunce BSc MA ACI*f*A additionally utilising reference keys (Hather 2000) (Schweingruber 1990) (Schweingruber 1990). Anthracological analysis was generally undertaken at x100 magnification although higher magnifications to x400 were used where necessary. Lighting was by incident lighting with transmitted lighting where necessary. Charcoal was transversally sectioned with tangential or radial sectioning undertaken where required. Any waterlogged wood present will be presented in a separate Wood Identification and Technology report.

The charcoal recovered was of a size too small for identification although it can be suggested this is due to

windblown inclusion.

Slag

Archaeometallurgical debris may be present in the form of unspecific slag fragments, diagnostic slag fragments, vitrified structures and, more commonly for environmental samples, as hammerscale of the spheroidical or flake variety. Slag may be retrieved from both the flot and retent; this apparent contradiction, in that slag would normally be too heavy to float, is due to vesicles containing air in the spheroidical hammerscale and the smaller fragments of slag. Droplets of slag become spheroidical if they cool while travelling through the air after having been propelled during iron working.

Slag was present in many of the contexts suggesting that it was present throughout site and reflects metalworking in the vicinity at some point in the site history.

Charred archaeobotanical material

Charred archaeobotanical material is generally the most illustrative palaeoeconomic remnant. Charring is generally accepted to be almost solely of anthropogenic origin and the material can therefore be used to directly reconstruct the past agricultural or consumer economy and diet. Caution must be taken by the intrinsic bias a charred assemblage presents over the uncharred plant remains of palaeoeconomic utility. However, such variance is built into the study of charred plant remains.

Archaeobotanical identification is undertaken in-house by the Palaeoenvironmental Department under the guidance of Kath Hunter-Dowse BA and Robin Putland BSc MSc utilising reference texts that include the most valid to the British assemblages (Anderburg 1994) (Berggren 1969) (Berggren 1981) (Groningen Institute of Archaeology 2006-present) (Jacomet 2006) (Martin & Barkley 2000) (Renfrew 1973) (Schoch *et al.* 1988) with classification following Stace (Stace 2010).

The charred assemblage included stitchwort, possible goosefoot and indeterminate cereal.

### 12.4.2 Description of palaeoenvironmental remains by selected context

Detailed below are the palaeoenvironmental remains from each context, an assessment of the localised palaeoenvironment reconstruction is attempted. Results for all contexts can be observed in the tables in Section 12.5 below.

Trench 001

(1007) was the singular fill of tree throw [1004] and contained only charcoal as would be expected from a natural feature.

(1009) was the singular fill of rooting feature [1008] and contained charcoal, unburnt bone and indeterminate cereal.

(1012) and (1014) were fills of possible rooting [1010]. While fill (1014) was sterile, fill (1012) contained charcoal

and indeterminate weed seed alongside a broad assemblage of pottery, CBM, slag, metal and bone that suggests backfilling with debris. This profile is very similar to rooting [2003].

(1018) was a fill of rooting feature [1015] and contained only charcoal as would be expected from a natural feature.

(1023) and (1024) were fills of possible rooting [1019]. Both fills contained charcoal with fill (1024) also containing indeterminate slag.

(1026) was a fill of possible rooting [1025] but was sterile.

Trench 002

(2004) and (2005) were fills of rooting feature [2003]. Fill (2005) contained charcoal and burnt bone while fill (2004) contained charcoal and burnt bone and additionally contained unburnt bone, pottery, CBM, slag and metal that suggests backfilling with debris. This profile is very similar to possible rooting [1010].

(2008) and (2010) were fills of rooting feature [2007]. Both fills contained charcoal, slag, metal and unburnt bone in equal proportions suggesting both fills were formed by the same processes.

Trench 003

(3006) was the singular fill of rooting feature [3005] but was sterile.

(3007) was the singular fill of hedgerow [3004] at slot 1 while (3008) was the singular fill of hedgerow [3004] at slot 2. Both fills contained charcoal but (3007) additionally contained weed seeds that included stitchwort and Fat Hen. Furthermore, fill (3007) contained CBM while fill (3008) contained flake hammerscale that are both suggestive of general debris.

(3010) was the singular fill of rooting feature [3009] but was sterile

Trench 004

(4005) was the singular fill of furrow [4004] and was very rich with charcoal, slag, Fe fragments, burnt and unburnt bone, pottery, CBM, glass and worked stone that suggests a post-medieval date for the feature.

Trench 005

(5005) was the singular fill of rooting feature [5004] and contained charcoal, slag and bone (both burnt and unburnt).

## 12.5 Table of Results

The following table details the abundance results from both the archaeobotanical material and the archaeological finds. Weight and quantity records have been recorded but are not presented here due to the variation between materials.

Abundance key: + = rare; ++ = occasional; +++ = common; ++++ = abundant.

| | | Context no. | 1007 | 1009 | 1012 | 1014 | 1018 | 1023 | 1024 | 1026 | 2004 | 2005 | 2008 | 2010 | 3006 | 3007 | 3008 | 3010 | 4005 | 5005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample no. | 9 | 8 | 15 | 14 | 12 | 11 | 10 | 13 | 16 | 17 | 18 | 19 | 2 | 1 | 3 | 4 | 7 | 5 |
| | | Sample part | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 |
| | | Bucket no. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Sample vol. (mℓ) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | % sample analysed | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Waterlogged? | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| | | Refloated? | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Latin name | Common name | Plant part | | | | | | | | | | | | | | | | | | |
| **Carbonised cereal** | | | | | | | | | | | | | | | | | | | | |
| Cereal indet. | Indeterminate | caryopsis | | + | | | | | | | | | | | | | | | | |
| **Carbonised wild taxa** | | | | | | | | | | | | | | | | | | | | |
| *Chenopodium album* | Fat Hen | seed | | | | | | | | | | | | | | + | | | | |
| *Stellaria graminea* (cf) | Stichwort | seed | | | | | | | | | | | | | | + | | | | |
| Indeterminate | Indeterminate | - | | | + | | | | | | | | | | | + | | | | |
| **Charcoal** | | | | | | | | | | | | | | | | | | | | |
| Indeterminate <2mm | Indeterminate | fragments | ++ | ++ | ++ | | +++ | +++ | ++ | | ++ | +++ | ++ | ++ | | + | ++ | | ++ | ++ |
| **Archaeometallurgical** | | | | | | | | | | | | | | | | | | | | |
| Flake hammerscale | - | - | | | | | | | | | | | | | | | + | | | |
| Slag | - | - | | | + | | | | + | | + | | + | + | | | | | ++ | + |
| **Artefactual** | | | | | | | | | | | | | | | | | | | | |
| Ceramic/pottery | - | - | | | + | | | | | | + | | | | | | | | + | |
| CBM | - | - | | | + | | | | | | + | | | | | + | | | + | |
| Fe | - | - | | | | | | | | | | | | | | | | | + | |
| Glass | - | - | | | | | | | | | | | | | | | | | + | |
| Metal | - | - | | | + | | | | | | + | | + | + | | | | | | |
| Worked stone | - | - | | | | | | | | | | | | | | | | | + | |
| **Faunal** | | | | | | | | | | | | | | | | | | | | |
| Mammal (unburnt) | Indeterminate | - | | + | + | | | | | | + | | + | + | | | | | +++ | + |
| Mammal (burnt) | Indeterminate | - | | | | | | | | | + | + | | | | | | | ++ | + |

## 12.6 Conclusions and Recommendations

The intention of the non-specific palaeoenvironmental sampling was largely unsuccessful in further characterising features. However, the features are generally of extremely low archaeological (and palaeoenvironmental) value. Whilst the site did not produce significant palaeoenvironmental material, the general presence of materials indicates human activity in the vicinity.

### 12.6.1 Recommendations

Due to the nature of the materials recovered and full analysis undertaken, no further work is recommended.

Retention of the materials detailed above as an incorporation of the site archive for deposition with the museum is recommended.

## 12.7 Copyright



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