

## Introduction

### 1 Background and history of site

#### 1.1 Summary

Duffield Castle is a Scheduled Ancient Monument, located on a natural escarpment on the northern edge of Duffield. Duffield itself lies approximately 4 miles north of Derby on the A6. The site covered by this report was added to the schedule area in 1997 as the only undisturbed area of the outer defences of the castle, since the site contains part of the bailey ditch. The Central Archaeology Service (CAS) agreed to undertake an evaluation project at the site, consisting of trial trenches to explore the possible surviving archaeology within the likely limits of development as proposed in a renewal of the existing outline planning application for the site. A desk-based assessment was undertaken (Cromwell 1998), and a project design was then developed in response to a brief from the Inspector of Ancient Monuments (IAM) that called for a series of trenches in strategic areas (see **fig 2**), taken to a depth of 600mm or to recognisable archaeological stratigraphy in order to assess the impact of the rough proposals as indicated in the application. The fieldwork took place the week of 22 February 1999 during a period of good weather, with a topographic survey taking place shortly afterwards.

#### 1.2 Location

The site covered by this report (see **figure 1**) is located on the southern edge of the outer bailey of Duffield Castle, and is accessed from Lime Avenue. Access to the site is by means of a gravel drive between the adjacent properties on Lime Avenue, and the site is separated from the adjacent National Trust property by a fence along the northern lip of the bailey ditch. Pedestrian access to the castle site is available as a set of stairs from the verge of the A6 roadway. The site is at Ordnance Survey grid reference SK 343440 at 70m OD. As a site of national archaeological importance it is a Scheduled Ancient Monument under the Ancient Monuments and Archaeological Areas Act 1979.

#### 1.3 Ownership

The land examined in this report is currently owned by Mrs A. Bemrose of Duffield, and has been the subject of an outline planning permission granted in 1962. Duffield Castle, along with the land scheduled in 1957, was given to the National Trust in 1899. Management of the site was the subject of an agreement with Duffield Parish Council in 1899, and the National Trust has only recently resumed direct management responsibility of the site. Recent work on the adjacent National Trust castle site by the Monuments Protection Programme has resulted in an extension of the scheduled area to include the land off Lime Avenue as shown in **figure 1**. Because this part of the monument was scheduled with an existing outline planning permission in place, English Heritage agreed to conduct a desk-based assessment and field evaluation to inform decisions on applications for Scheduled Monument Consent and full planning permission. This report presents the results of the evaluation trenches.

#### 1.4 Development proposal

The landowner proposes to build a single dwelling on the site, and to provide services via a trench along the access drive from Lime Avenue. The nature of building foundations and the depth of the service trench are as yet unspecified.

### **1.5 Statutory framework**

The adjacent castle site was included in the Schedule on 8 August, 1957 as Derbyshire 145, now National Monument 23334. The land in question for this evaluation was taken into the schedule area on 3 January, 1997 when the boundary was revised.

### **1.7 History of site**

The adjacent castle was established as a timber motte and bailey castle shortly after the Norman conquest in 1066, with the keep replaced by a square stone tower some time in the twelfth century, probably after 1177. Henry de Ferrers, who accompanied William the Conqueror in 1066, was granted the manor of Duffield amongst others, and is the most likely candidate for the construction of the motte and bailey castle. In 1173 William de Ferrers was implicated in a rebellion against Henry II, and his lands were seized. At this time the timber castle is most likely to have been demolished. By 1177, William was back in favour and regained possession of his lands at Duffield. This is the most probable date for the creation of the stone keep. This marks the first clearly identifiable use of the castle area. The stone keep was demolished, probably after the de Ferrers family forfeited their Derbyshire estates in 1266 as the result of another rebellion (Cox, 1887; Williamson 1932, p112). Following this, the whole castle area appears to have been farmland until the 1880s, when it is developed for housing. The land in question lies on the outer lip of the outer bailey ditch, and thus was expected to share some of the castle's archaeological sequence. Prior to the castle, Reverend Cox suggested that the area was the site of an Anglian cemetery, and a Roman settlement based on finds evidence from his excavations.

## **2 Methods**

The proposed trenches were located on a plan of the site, based on the results of the desk-based assessment, the proposed development footprint, and a site visit. The trenches were then laid out from the map of site, and were fitted around existing obstructions such as the three standing sheds and the two greenhouse structures. The trenches were opened by machine, with the topsoil removed to reveal the archaeology. Excavation then proceeded by hand, and the trenches were backfilled by machine.

Soil cores were taken at three locations to examine the geological stratigraphy in advance of backfilling. These cores were taken by Matt Canti and James Wells of the Ancient Monuments Laboratory with the aid of a mechanical auger using 1-metre sections of open coring tubes driven into the ground. In addition, two sondages were dug into the natural subsoil by JCB to examine the stratigraphy in section and to validate the cores.

Soil samples were taken from all significant features, and all finds were collected for examination.

## **3 Results**

### **3.1 Stratigraphy**

#### **3.1.1 Trench I**

The top layers consisted of hardcore material to depth of 0.20m, modern in date, containing cinders, iron, tarmac, and ceramic building materials in a gravel matrix. Below this was homogeneous brown silt colluvium or plough soil [121] approximately 0.40m thick, cut by three land drains of late date. Below the colluvium/plough soil, grey clay was reached in a sondage, and water filled the trench where the clay was exposed. Machine excavation of the grey clay prior to backfilling revealed that the clay deposit was approximately 0.30m thick, and below was red-brown coarse sand or grit that was excavated to a depth of 0.40m. (See Trench IV for similar sand deposit below [135].)

The hardcore relates to the use of the site as a drive for the house behind it, and is no earlier than the turn of the century based on a mix of artefacts and anecdotal evidence. The drains are cut from beneath this drive, and appear to be late in design, consisting of 1-foot lengths of ceramic pipe, round in section, with makers' stamps cast in. The grey clay and underlying red-brown sand appear to be natural deposits, leaving only the colluvium/plough soil as the pre-modern archaeology. Note that the lower extent of the red-brown sand was not exposed due to health and safety concerns regarding deep excavation.

#### **3.1.2 Trench II**

The trench contained a richly organic silt topsoil to depth of 0.30m, probably from modern gardening activities that were still under way when the site was evaluated. Below this was approximately 0.30m of homogeneous brown silt, similar to the colluvium/plough soil in Trench I. Below this colluvium/plough soil was a yellowish-grey clay which showed no features or finds. The trench filled with water once the clay was exposed, and was not excavated further.

#### **3.1.3 Trench III**

The trench was covered by hardcore material approximately 0.20m thick, overlying a thin layer of clay [138] 0.20m thick. Below the clay was brown silt colluvium/plough soil [139] excavated to depth of 1.0m without finding a change to other strata. This was similar to the brown silt in trenches I&II, and contained mixed ceramic finds including clay pipe stems. An iron pipe, possibly housing either water or electric supply to the adjacent greenhouses, crossed the trench just below the hardcore and was cut through the clay.

#### **3.1.4 Trench IV**

Hardcore overlaid the southern edge of the trench, with apparently recent dark brown silt topsoil over the rest of the trench to a depth of approximately 0.20-0.30m. The cut for Terry Manby's Trench 2 (1957) was located in the north west corner of the trench just below topsoil, extending approximately 0.75m into Trench IV. The topsoil and hardcore sealed a yellow clay deposit [104] approximately 0.30m thick that contained apparently 20th century finds including window glass and flower pot, as well as medieval ceramics. The clay sealed a probable buried turf layer [125] of dark brown sandy loam approximately 0.05m thick that covered the whole trench. Finds from [125] ranged from possible medieval pottery to 18th century internally slipped earthenware and ceramic building material. Below this buried turf was brown silt colluvium or plough soil [128] 0.40m thick, containing clay pipe stems, Nottingham

stoneware, and 18/19th century Staffordshire-type wares. A land drain was cut into the colluvium/plough soil, and the lack of yellow clay in the backfill (and lack of cut in the clay layer [104]) indicates that the drain predates the turn-of-the-century landscaping as represented by the yellow clay. Below the brown silt was a layer of grey clay [135] with grit inclusions, 0.30m thick. The interface between the silt [128] and the clay [135] produced dark grey pottery with a date range from the 12/13th to 18th century, and flotation of soil samples from [135] yielded a short (c.25mm) length of clay pipe stem with a narrow hole. Finds were absent from the rest of the clay layer as excavated. Below the grey clay was a thick (0.5m) layer of red-brown sand, and core samples indicate a thick (1.5m+) layer of dark greyish-black clay below the sand, possibly the top of the decaying shale beds. The silt [128] and clay [135] both rose up significantly towards the south, and would have reached present ground level at the far side of the drive. The red sand, however, appeared to extend to a constant depth across the trench. **See figs 4, 5, 6.**

### 3.1.5 Trench V

Hardcore to 0.20m, overlying mixed lenses of yellow clay deposits. The yellow clay contained modern finds and sloped down hill to the north west as seen in section. The clay consisted of a series of bands of clay c0.05m thick with bands of dark brown silt of similar thickness. Below the clay layers a brown silt [134] was found, similar to the colluvium in the other trenches. This was excavated to a depth of 0.60m, and a core sample was taken from it to a depth of 1 metre. The core indicated several layers of different soils, with a grey clay at a depth of 65cm into the core. The additional layers might represent ditch fills of some sort, but the underlying grey clay is similar to context [135] in Trench IV. The slope of the yellow clay and the upper surface of the silt suggests that the pre-drive landscape here was dominated by a turning of the bailey ditch to the south, across the entrance of the site. **See figs 4, 5.**

### 3.1.6 General assessment of site stratigraphy

Hardcore and topsoil of early 20th century origin covered the entire site. Below this in Trenches IV and V was a layer of yellow clay, possibly imported onto site after development in the 1880s to make up level ground for the drive. Below this clay, a very homogeneous layer of brown silty soil was found in all of the trenches, varying in depth between 0.4 and 1 metre. This soil produced finds of mixed dates, including clearly post-medieval clay pipe stems, and is likely to be a mix of colluvium and plough-disturbed soil. Below the colluvium was clay of a greyish colour, which acted as an impermeable barrier for local ground water, and did not appear to be archaeological in formation as observed in Trench I and II. The rate at which Trench II filled with water suggests that the clay extended up the slope beyond the trenches, and was collecting water across a large area rather than being a small deposit. A similar rapid flooding in Trench I and Trench IV occurred when the clay was encountered below the silty colluvium/plough soil. This was ameliorated when the clay was removed to expose the red sand/grit, as this layer was far more permeable.

The results of Trench IV and careful examination of the surrounding topography suggest that the ditch may have been a natural feature such as a water course prior to the construction of the castle, and that the grey clay was a water-bourne accumulation on top of the red sand, which appears to be a natural deposit. This water course could have been reshaped by the Normans as part of the castle defences, but the depths of the stratigraphy across Trench IV suggests that the bailey ditch is not likely to have

been as deep and wide as the section from trench II of Manby's excavations suggests. The build-up of colluvium would have occurred after the demolition of the keep in 1266, when the area became farm land. Annual ploughing events could have churned up archaeological deposits down to the present upper surface of the grey clay. However, this hypothesis assumes that the clay pipe and pottery from the top of [135] represents contamination from the overlying soil, and that the grey clay is itself sterile. No features were identified in the areas of grey clay that were exposed in trenches I, II, and IV.

### 3.2 Artefacts (S. Jennings)

All the contexts containing artefacts have spot dates in the post medieval period, or have been contaminated during excavation.

100	2 featureless medieval pot sherds; lump of brick
101	1 sherd 2nd half 18th century
104	medieval to 20th century; flower pot, modern window glass, clay pipe stem
121	2 pieces featureless medieval pottery
125	medieval to 18th century; 18th century internally slipped earthenware, 2 scraps possible medieval pottery, CBM fragment
128	medieval to 19th century; clay pipe stems, Nottingham stoneware, 18th/19th century Staffordshire-type wares
133	19th/20th century; white china, transfer printed wares, modern glass base
134	19th century Nottingham stoneware - 1 sherd
135	12th/13th to 18th century; 17th/18th century spotdate; clay pipe stem narrow with small bore; unglazed medieval pottery.
139	medieval - 12th/14th century; unglazed medieval wares including a jar rim.

The stratigraphy suggested that all the deposits, except contexts 125, 128, and 135, dated to the post medieval period, and probably to the 19th century. In addition the flot from 135 appears to contain modern looking material. The evidence from the finds assemblage shows that all the contexts date to the post medieval period. Certainly contexts 125, 128, and 135 all contain material that cannot be earlier than the 17th/18th century.

### 3.3 Environmental sampling

#### 3.3.1 Bulk samples

The sample from [135] was processed through flotation and wet sieving in order to examine it for artefacts, and the residue has been retained. Given the nature of the other sampled deposits and the questions that the samples could answer, it was decided that further processing was not justified at this time.

#### 3.3.2 Core samples (See appendix 2 for complete report)

The cores proved useful for examination of stratigraphy (see trench descriptions and Fig 5), but were disappointing in environmental terms. There was an absence of pollen from the deepest core through the ditch, and no further work was recommended for environmental purposes.

## 4 Assessment of existing archive

### 4.1 Potential for further stratigraphic work

There is no further information to be extracted from the existing stratigraphic record. Any further analysis should be dependant upon the addition of new material.

#### **4.2 Potential for further artefact research**

The pottery comes from deposits that appear to have accumulated over long periods of time and with frequent disturbance through to the more recent post-medieval period. It is therefore unlikely to give further information regarding the uses, dating, or stratigraphy of the site.

#### **4.3 Potential for further environmental research**

Preservation appears to be poor. Pollen sampling in the auger core samples proved fruitless. It is therefore unlikely that further environmental work on the existing samples would be productive.

### **5 Recommendations for further fieldwork**

The results of the trenches suggested that there is no remaining undisturbed medieval or earlier stratigraphy on the site prior to the development of Lime Avenue at the turn of the century. However, the sampled area does not preclude the presence of surviving archaeology in unsampled areas of the site. Any firm proposals for development would need to be examined to determine the likelihood that excavations would reach the base of the colluvium, where features might be present cut into the underlying clay. As a minimum, a watching brief should be kept during any ground disturbance, with archaeological excavation as an option if large areas are to be disturbed, or if disturbance is likely to exceed the depth of the colluvium.

The investigation of the ditch was hampered by the presence of land drains and the need to preserve the drive for access. There are still questions regarding the nature of the deposits and their extent that could be addressed by more comprehensive trenching or by a large-scale programme of core sampling. Neither of these options were justified as part of the evaluation due to the level of disturbance they would cause, but they would be justified if development was likely to cause large-scale disturbance in the ditch. Any proposals that might affect the ditch should involve further investigation of this type. If excavation is justified, it should include a full transect of the ditch, from the boundary of the National Trust property across at least as far as the south side of the drive.

### **6 References**

Cox, J C, "Duffield Castle; its History, Site and recently found remains; with some account of the seven Earl Ferrers who held it", *Derbyshire Archaeological Journal*, Vol. 9, 1887, pp118-178.

Derbyshire county Sites and Monuments Record, entries for Duffield Castle and surrounding area.

English Heritage, Description of Monument 23334, Duffield Castle, Derbyshire, from Revised Schedule Entry, 1997.

Manby, T G, "Duffield Castle Excavations 1957", *Derbyshire Archaeological Journal*, Vol. 79, 1961 (for the year 1959), pp1-21.

Watson, W R, *Illustrated History of Duffield and the Surrounding Villages of Hazelwood, Holbrook, Makeney, Milford, Shottle, Turnditch, and Windley*, 1986

Watson, W R, *The Derbyshire Village of Duffield, Past and Present*, 1991

Williamson, F, "Roman and other Remains found at Duffield", *Derbyshire Archaeological Journal*, Vol. 52, 1932 (for the year 1931), pp107-112.

### **Appendix 1: Archive contents**

Item	Numbers
Context records (42 no.)	100-141
Drawings (13 no.)	200-212
Photographs (7 no. films)	501-574
Bulk finds (10 no. bags, numbered by context)	
Environmental samples (9 no.)	400-408

#### Digital archive:

There is one CD-ROM of digital copies of the colour photographs.

There are 4 files of raw survey data in Leica GSI format, and 2 files of digital drawings in AutoCAD R14 format.



## **Appendix 2: Field notes and assessment of pollen from sediments associated with the ditch at Duffield Castle, Derbyshire (National monument 23334)**

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### **Background**

Duffield Castle (Grid reference: SK 343 440), Derbyshire, is a multi-period motte and bailey structure that dates back to shortly after the Norman conquest of AD 1066. The original timber structure was replaced by a stone keep *circa* AD 1177 which itself survived until demolition, probably after AD 1266; the site has since been used as farmland until the 1880s when the surrounding area was developed for housing. The stone built keep was a square tower, 30 x 28 m, making it one of the largest examples of its type in Britain (Williamson 1932, p111). The authors were invited to visit the site by Tom Cromwell (CAS) during an evaluation excavation of one part of the scheduled area which was subject to an outstanding outline planning permission. This area is situated to the south of the castle and incorporated the castle ditch. A machine and hand-cut trench was excavated across the outer half of the ditch area and the sedimentary sequence revealed was the focus of the present investigation.

### **Aim and objectives**

The overall aim of the project is to characterise the archaeology on the site, in order that the Inspector of Ancient Monuments may make informed decisions regarding the granting of planning consent, and the requirement for any conditions attached to such consent. The specific objectives of the work presented here are to assess the potential of the ditch deposits to provide information about local environmental conditions in and around the ditch, the sequence of cutting and infilling (including any re-cutting) and the source of the infilling material.

### **Methodology**

Exposed sections of sedimentary sequences were viewed in the field; these were supplemented by adjacent borehole investigations using a hand-held powered gouge auger. Three locations were cored and recorded in the field. Samples were returned, housed in the gouge chambers, to the AML for further recording and sampling for pollen analysis.

### **Stratigraphy**

Of the three boreholes undertaken only one, borehole DC/2 (upper soil core, Trench IV), was collected and sampled for pollen analysis. The stratigraphic sequence was recorded both in the field and in the laboratory. The laboratory sediment description is detailed below in Table 1. The depths shown in table 1 have been adjusted to account for sediment compaction as a result of the coring process; a compression gap of 16 cm at the top of the second metre of the core was recorded. The measured depths for 100 - 200 cm have, therefore, been corrected using the formula of Canti and Meddens (1998).

*Table 1 Core DC/2 stratigraphical description*

Depth (cm)	Sediment description	Adjusted depths
0-100	Not returned to the laboratory (see field notes)	
100-116	Compression gap	
116-150	Light creamy grey fine sandy silt + stone inclusions (mottled)	100-140
150-155	Light creamy grey silty fine sand	140-146
155-163	Light creamy grey silty fine sand with orange mottling	146-156
163-175	Transition - increasing mottling to grey/brown organic fine sandy silt	156-170
175-200	Light brown fine sandy silt (some organics?)	170-200
200-250	Brown sandy silt (organic) - homogenous	
250-290	Medium grey silty clay (stiff)	
290-400+	Dark grey silty clay	

## Samples

Six samples were prepared for assessment for pollen from the thickest sediment sequence recorded in borehole 2; these were taken at the following (non-adjusted) levels: 117-118 cm, 133-134 cm, 182-183 cm, 228-229 cm, 270-271 cm and 320-321 cm.

## Laboratory work

A sub-sample (1g wet weight) from each level was prepared by the author for pollen analysis using the methodology outlined in Barber (1976). This included treatment with HF and the adding of a *Lycopodium clavatum* spore tablet to each sample if pollen and/or charred particle concentrations needed to be calculated (see Stockmarr 1971). Each sample was mounted in silicone fluid to both prevent rapid decay of the pollen residue and to aid microscope analysis. The pollen were counted with a Leitz Dialux microscope, using Andrew (1990), Moore *et al.* (1989) and the Ancient Monuments Laboratory pollen reference collection for critical identifications. Ordinarily in pollen assessments a slide would be prepared for each sampled level and all would be counted to either a minimum of 100 grains of land pollen or all pollen in 10 traverses of the slide - whichever is first achieved. In this case it soon became clear that most samples were barren of pollen and, therefore, only 5 traverses of each slide was undertaken. Nomenclature follows Stace (1991).

## Results

[N.B. All results detailed in the following sections are based on a limited amount of data produced during an assessment exercise. Any interpretation suggested here should be regarded as provisional pending more detailed analysis and should not be used in a final report except when no further analysis is undertaken].

The results of the assessment of pollen in the six prepared samples are detailed in Table 2 below.

Table 2 Assessment for pollen for DC/2

Depth (cm)	Palynomorphs	Transects	Exotics*
117-118	Poaceae 4; Caryophyllaceae 1; Lactuceae 1; <i>Pteridium</i> 1.	5	33
133-134	Poaceae 1; <i>Plantago</i> undiff. 1; Pteridopsida (monolete) 2; <i>Polypodium</i> 1.	5	17
182-183	None	5	20
228-229	None	5	13
270-271	None	5	14
320-321	None	5	7

\**Lycopodium clavatum*

The four lowermost samples are barren of palynomorphs. The pollen recorded in the uppermost two samples (133-134 and 117-118 cm) after five transects were too few to place any sensible interpretation on the assemblages, however, no arboreal species are recorded.

The high exotic to palynomorph ratio indicates how low the pollen concentrations are in these samples.

### **Recommendations**

An assessment of the pollen on six samples from different sedimentary horizons in the ditch that surrounds Duffield Castle proved to be unproductive. Only in the two uppermost samples were any palynomorphs recorded and these were not in high enough concentrations to warrant further investigation. Therefore, no further pollen analysis is recommended.

### **References**

- Andrew, R. 1984. *A practical pollen guide to the British flora*. Technical Guide No. 1. Quaternary Research Association, Cambridge.
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