

Darrington Northern Extension, Criddling Stubbs, North Yorkshire

Archaeological Strip and Record Operation

Summary

An archaeological Strip and Record operation was undertaken in advance of mineral extraction at the Darrington Quarry Northern Extension between 2003 and 2007. No evidence was found of the anticipated former boundaries or the post-medieval farmhouse that had occupied the western edge of the site. However, a post-medieval well was identified near the southern boundary of the site. No other archaeological features or deposits were identified.



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Report Information

Client: Darrington Quarries Ltd
Address: Darrington Leys, Criddling Stubbs, Knottingley, WF11 0AH
Report Type:
Location: Darrington Quarry, Criddling Stubbs
County: North Yorkshire
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Project Management: Ian Roberts BSc FSA MIfA, Alistair Webb BSc MIfA
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Steve Allen (Wood)
Alison Foster, Helen Ranner and John Carrott (Biological Remains)

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1 Introduction

Archaeological Services WYAS was commissioned by Darrington Quarries Ltd to undertake an archaeological strip and record operation at the northern extension of Darrington Quarry, Cridding Stubbs, North Yorkshire. The operation was undertaken in three separate phases of work during 2003, 2005, and 2007.

Site location and topography

The site, centred on NGR SE 503 219, is located 1.5km south of Knottingley. It is bounded to the north by the M62 motorway, to the east by the Knottingley to Doncaster railway, to the south by the existing quarry, and to the west by Leys Lane (Fig. 1). The site covers an area of approximately 17 hectares of what was gently undulating land, with a gradual slope to the east, seeing a fall from 44m above Ordnance Datum (OD) in the west to 32 m OD in the east.

Soils, geology and land-use

The site lies on Upper Magnesian Limestone, which in turn overlies the Middle Permian Marl and overlain in part by deposits of Upper Permian Marl (British Geological Survey 1978). These are overlain by calcareous fine loamy soils of the Aberford Association (Soil Survey of England and Wales 1983). Prior to excavation the site had been used as arable farmland.

2 Archaeological and Historical Background

An archaeological desk-based assessment was carried out by Northern Archaeological Associates (NAA 2001). The assessment identified 27 known sites with a 1 km radius of the site (Table 1), although only four of these (NAA Sites 10, 12, 24 and 25) actually lie within the quarry extension area.

Ten of the sites identified in the assessment are cropmarks identified from air photographs. These represent former settlement enclosures and land divisions that typically, elsewhere in this region, have been found to date to the Late Iron Age and Roman periods. Evidence for early prehistoric activity is scarce and the discovery through field walking of a possible Neolithic flint core (NAA Site 25) was viewed as significant, especially in the context of the large Neolithic ritual complex at Ferrybridge Henge, c.4km to the north-west. The proximity of the cropmark sites around the quarry extension (Fig. 2) suggests that there is moderate potential for later prehistoric/Roman remains within the cartilage of the site. Indeed a linear cropmark is recorded running towards the north-eastern part of the site on a pre-M62 motorway photograph. Significantly it is in this area that geophysical scanning of the eastern field revealed an anomaly.

The eastern half of the quarry extension fell within Cridding Park, originally a medieval deer park belonging to the Duchy of Lancaster, and subsequently the crown. The earliest reference

for park is in 1368 (Smith 1961, 62). The course of the park pale is recorded on the tithe map of 1841 which shows its western boundary to run diagonally NW-SE through the middle of the extension area (NAA Site 24). In the centre of the site its course appeared to coincide with the section of field boundary on a similar alignment. The boundary is assumed to have consisted of a substantial ditch and bank earthwork of which there is now no sign.

Leys Farm (NAA Site 10), at the western edge of the site, was first mapped as two buildings on the 1841 tithe map. By the time of the Ordnance Survey first edition mapping of 1853 the site had developed into a complex of buildings surrounding two courtyards. The farm features on air photographs taken in 1975 but has since been destroyed. The date of foundation of the farm is unknown. An adjacent quarry to the south (NAA Site 12), in the south-west corner of the extension area, is first mapped in 1853 and was back-filled after 1992.

As part of the desk-based assessment the site was systematically field walked at 10m intervals. As well as the probable Neolithic flint core (NAA Site 25), this revealed a general background scatter of 17th and 18th century pottery and building material, thought to possibly relate to the occupation of Leys Farm.

Table 1. Summary of sites and find spots within 1 km of the site (Fig. 2)

<i>Site No.</i>	<i>Ref. Nos</i>	<i>Grid reference</i>	<i>Description</i>	<i>Period</i>
1	-	SE 5058 2248	Park Balk	Medieval/post-medieval
2	PRN 5240 /NMR 56249	SE 5100 2240	Cropmark	?Prehistoric
3	NY 9814	SE 5092 2231	Cropmark	?Prehistoric
4	PRN 5239	SE 5020 2220	Enclosure	?Prehistoric
5	-	SE 5110 2225	Kings Standard Hill	Medieval/post-medieval
6	NY 9814	SE 5110 2220	Cropmark	?Prehistoric
7	-	SE 5043 2208	Cropmark	?Prehistoric
8	NY 9814	SE 5085 2206	Cropmark	?Prehistoric
9	-	SE 5090 2190	Kings Standard Wood	Medieval/post-medieval
10	-	SE 5005 2186	Leys Farm	Medieval/post-medieval
11	-	SE 4995 2190	Leys Quarry	Medieval/post-medieval
12	-	SE 5010 2180	Quarry	Post-medieval
13	PRN 1005	SE 4940 2180	Cropmark	?Prehistoric
14	NY 9814	SE 5107 2179	Cropmark	?Prehistoric
15	-	SE 5110 2170	Park Wood	Medieval/post-medieval
16	NY 246	SE 5025 2143	Geophysical anomaly	?Prehistoric
17	-	SE 5060 2140	High Wood Cottages	Post-medieval
18	-	SE 5070 2130	High Wood House	Post-medieval
19	-	SE 5050 2130	High Wood Quarry	Post-medieval
20	NY 9817	SE 5055 2094	Wake Wood	Medieval/post-medieval
21	NY 9817	SE 5015 2083	Wake Wood	Medieval/post-medieval
22	NY 9810	SE 5097 2076	Cropmark	?Prehistoric
23	-	-	Railway	Post-medieval
24	-	-	Park boundary	Medieval/post-medieval
25	-	SE 5028 2190	Flint core	Neolithic
26	-	SE 5025 2244	Cropmark	?Prehistoric
27	-	SE 5112 2192	Cropmark	?Prehistoric

3 Aims and Objectives

The aims and objectives of the archaeological work were:

- to gather, where possible, sufficient information to establish extent, date, and function of any archaeological remains uncovered within the quarry extension
- to determine the extent, condition, character, quality of survival, importance and date of any archaeological remains present

The specific aims and objectives were:

- to ascertain the presence, extent, nature, and date of any settlement enclosures and field systems of prehistoric and Roman period origin within the various areas of mineral extraction
- to establish the location and course of the western boundary of the medieval deer park, to establish its nature, composition, dimensions, dates of construction and infilling and to realise the potential of any ditch fills and buried soils for environmental analysis
- to try and precisely locate the position of Leys Farm and to carry out investigations to ascertain the lay-out and form of its earliest construction
- to report the finding in their local and regional context, synthesising information resulting from the various stages of the work to provide a coherent statement with regard to the former uses and development of this part of the historic landscape.

4 Methodology

All works were carried out in accordance with relevant industry standards (English Heritage 1991, 2006; Institute of Field Archaeologists 2008). The whole of the site was subject to the strip and record process, the order of stripping being determined by Darrington Quarries Ltd's extraction plan. The ploughsoil and subsoil were separately removed using 360° mechanical excavators equipped with a toothless ditching buckets. An archaeologist was present throughout this process and the resulting surfaces inspected for archaeological remains. Where deposits required clarification the relevant area was cleaned by hand.

An appropriate written, drawn and photographic record was made of any identified features, in accordance with the Written Scheme of Investigation (Appendix 3) with ASWYAS standard methodologies (ASWYAS 2003). A soil sampling strategy was in place for the recovery and identification of carbonised plant remains, vertebrate remains and molluscs and where appropriate samples of up to 30 litres were taken for biological analysis.

The site archive contains all the information gathered during the investigations and is indexed in Appendix 1. A concordance of contexts, artefacts and environmental samples is listed in Appendix 2. The site archive is currently held by ASWYAS in an appropriate and stable environment and will be deposited with Doncaster Museum within a timescale agreed between ASWYAS and that museum.

5 Results

A total area about 17 hectares was subject to the strip and record operation in three phases between 2003 and 2007.

The Well (Figs 2 and 3; Plates 1-7)

A well was identified in the southern part of the site during the first phase in 2003 (Fig. 2). At that time the well-head was recorded and part of the upper fill excavated by hand to a depth of 1.5m. During 2003 and 2005 the well was successively machine excavated by 5m and 3m respectively, under archaeological supervision. During 2007 further work at the quarry involved the final 2m of the well being hand excavated and sampled to reveal the well bottom at the interface of the Upper Magnesian Limestone and the Middle Permian Marl.

The well was approximately 11.5m deep and about 1m wide (Fig. 3). It had been cut through the limestone bedrock which was relatively smooth with no obvious tool marks, although it was apparent that parts of the middle section of the well were not symmetrical and had taken advantage of the natural bedding fractures within the limestone, leaving sections of it with a polygonal profile (Plate 5), although elsewhere it was circular.

The well-head was formed by a ring of limestone rubble (118) with a maximum diameter of 2.5m (Plates 2 and 3). This occupied a funnel-shaped cut at the top of the well shaft. This deposit produced two sherds of later 18th or 19th century pottery.

The well was filled by a sequence of thirteen distinct deposits, representing different acts of infilling. All of the fills were described as silty clays or clayey silts and were differentiated on the basis of their inclusions. Of the middle and upper fills only the uppermost fill (101) produced dateable artefacts in the form of five sherds of later 18th or 19th century pottery. The fills of the mid section of the well were only recorded in section. The four basal fills (123-126) were all hand excavated, although deposit 123, was truncated by machining (see Fig. 3).

Deposit 123 was a dark brown clayey silt that yielded a single sherd of later 18th or 19th century pottery. Tertiary fill (124) was a moist orangey brown clayey silt which contained a significant amount limestone rubble (35%) whilst the secondary fill (125) was a moist dark brown clayey silt which contained several pieces of wood, thought to relate to the structure and winding gear that had been at the well-head. The lowest primary deposit (126) was a dark

brown wet silt which contained one half of a well preserved base from a coopered vessel, probably a bucket.

Other Features

Apart from the well, no other archaeological features or deposits were identified during the strip and record operation. The cropmarks identified in the surrounding landscape seem not extended into the extraction area, or at least did not manifest themselves. Equally, the anticipated medieval park boundary was not identified, despite meticulous searches of the stripped surface and, eventually, the quarry section faces. Four sheep burials were identified, three of them close to the former site of Leys Farm. The nature of the fills of these burials, essentially ploughsoil, indicated that they were of no great age.

6 Artefact Record

Pottery by Chris Cumberpatch

The assemblage consists of two distinct elements. The earliest component consists of the 18th century sherds from the ploughsoil (200) while the later includes the remainder of the pottery from the well. The small quantity recovered from the site precludes any detailed analysis or interpretation above the most obvious but it would seem that there is good evidence for both early modern and recent activity on or close to the site. This was most probably of domestic character but beyond this it is scarcely possible to speculate.

Catalogue

Well

Context 101

1. Rim of a Brown Glazed Coarseware pancheon or bowl (212g) of later 18th or 19th century date.
2. Rim of a blue banded Cane Coloured ware bowl (5g) dating to between c.1795 and c.1895; the blue band is thin with diffuse edges.
3. A small chip of Brown Glazed Coarseware (1g), with part of the internal, glazed, surface surviving. It most probably dates to the later 18th or 19th century.
4. A small body sherd (1g) from a transfer printed Whiteware vessel (hollow ware) bearing an unidentified design internally and externally. A date range in the mid to late 19th century is most probable.
5. A small body sherd (1g) from a transfer printed Whiteware vessel (flatware) bearing an unidentified design. A date range in the mid to late 19th century is most probable;

Context 118

6. A flaked sherd (3g) probably from the rim of a Brown Glazed Coarseware bowl or pancheon. It is of later 18th or 19th century date.
7. Two joining flakes (1g) from a transfer printed Whiteware vessel, probably a plate or saucer. The design appears to be the typical border associated with the Willow design and is most probably of mid to late 19th century date.

Context 123

8. Rim of a Brown Glazed Coarseware pancheon (111g), glaze internally and with a prominent groove around the external edge of the rim. It dates to the later 18th or 19th century

Ploughsoil

Context 200

9. A small sherd of 18th century press-moulded Slipware (2g) decorated with brown and white slip on an embossed design (the sherd is too small to determine the nature of the design);
10. A heavily abraded fragment of a vessel handle (8g) in a bright orange sandy fabric containing abundant fine quartz grit. The sherd may be of later medieval date but is too abraded for a definite identification to be made;
11. A sherd of wheel-thrown Type 1 Slipware (4g) with feathered yellow and orange decoration internally and dark red slip externally. Type 1 Slipware is a variant of Redware and dates to the 17th and early 18th century.
12. The handle of a small jug or mug in 18th century Late Blackware (11g).
13. A body sherd in a pale grey-green stoneware (20g) of mid 19th to early 20th century date.
14. A small body sherd (1g) in a buff fabric with a thin layer of red slip externally under clear glaze with mottled glaze internally. The sherd is slightly unusual in that it combines the characteristics of two common locally manufactured 18th century types; Slip Coated ware and Mottled ware with the two techniques giving contrasting internal and external surfaces.

7 Environmental Record

Assessment of a waterlogged wooden artefact by Steven Allen

One waterlogged wooden artefact, from the headpiece of coopered vessel was submitted for assessment. The wood has been preserved through burial in the waterlogged anoxic environment of the primary fill of the well (126). It appears that these conditions were maintained almost up to the time of excavation. Some surfaces had suffered from abrasion before or during burial, but otherwise there is little damage to the artefact apart from its having been broken in two parts upon its disturbance by excavation (Plate 8).

The wood has been cut from radially faced *Quercus spp.* (Oak, sub-species not determinable) heartwood (species identification after Schweingruber 1982). One edge has been planed, and surviving chatter marks from the tool used are in evidence. Both ends and the opposing edge are cut to a continuous curve and bevelled on both faces, with faint axe marks present. Three 8mm diameter holes are cut into the planed edge to house edge pegs for attachment to the (missing) opposite half of headpiece. Some Oak pegs have been truncated by later breakage, the surviving portions measuring 14mm long by 7mm in diameter. Abraded faces with some old surface damage are also present. The item has recently been broken across the grain, resulting in two refitting sections measuring in total 325mm long by 162mm wide by 18mm thick.

Discussion

This headpiece is part of a two-piece head or end from a coopered vessel, almost certainly a bucket. Strictly it is not possible to be certain what sort of vessel it derives from as at around 324 mm in diameter, it could have come from a medium to large bucket or other open vessel, though the possibility that it derives from a small cask cannot be discounted. Given its context there is a very strong likelihood that this piece is from a bucket. This is supported by the presence of a double bevelled edge finishing in a 'V', which would have fitted into a similarly profiled croze groove in the wall of the vessel, typical of a vessel intended to contain, store or carry liquid contents.

Although the technology of cooperage does change with time, the technology exhibited on this artefact is common to most coopered vessels. The presence of edge pegs to join this piece to its neighbour (Plate 8 insets) would be consistent with a date anywhere between the Roman or post medieval period.

Other timbers by A. Walsh

Several fragments of shaped timber were recovered from fill 125. These seem to have been waterlogged for a time but had begun to dry out and warp out of shape some time before the excavation was carried out. These fragments (Plate 9), thought to include part of the structure and winding gear from the well-head, were not submitted for specialist assessment.

Bioarchaeological remains by Alison Foster, Helen Ranner and John Carrott*Introduction*

A single bulk sediment sample ('GBA' *sensu* Dobney *et al.* 1992), recovered from the primary fill (126) of the well, was submitted for an assessment of its bioarchaeological potential.

Methods

The sediment sample was examined and its lithology recorded using a standard *pro forma*. A subsample (of 2 litres) was processed for the recovery of plant and invertebrate macrofossils, broadly following the techniques of Kenward *et al.* (1980). Prior to processing, the subsample was disaggregated in water for 24 hours or more and its volume recorded in a waterlogged state. The residue was composed largely of inorganic material and biological remains which would not be damaged by drying and was dried prior to recording, whereas the washover was primarily of uncharred organic matter and was recorded wet.

Plant, invertebrate and vertebrate remains in the processed subsample fractions (washover and residue) were recorded briefly by 'scanning' (using a low-power microscope where necessary), identifiable taxa and other components being listed on paper. Macrofossil remains were identified by comparison with modern reference material, where possible, and/or with reference to published works. Identifications were made to the lowest taxonomic level necessary to achieve the aims of the project. The components of the washover fraction were recorded using a five-point semi-quantitative scale; the washover was scanned until no new remains were observed and a sense of the abundance of each taxon or component (relative to the original volume of the subsample) was achieved.

A small subsample (of only a few grams) from the deposit was examined using the 'squash' technique of Dainton (1992). This technique was originally developed to rapidly assess deposits for their content of eggs of intestinal parasitic nematodes but routinely reveals other microfossils, such as pollen and diatoms. In this case, the purpose of the 'squash' subsample was to determine the presence/absence of these other microfossils and, if present, the quality of their preservation. The assessment slide was scanned at 150x magnification with 600x used where necessary (notably for 'spot' measurements).

Nomenclature for plant taxa follows Stace (1997), insects follow Kloet and Hincks (1964-77) and mammal species follow Corbet and Southern (1977).

During recording, consideration was given to the suitability of the macrofossil remains for submission for radiocarbon dating by standard radiometric technique or accelerator mass spectrometry (AMS).

Results

The results of the examinations are presented below. Archaeological information, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample number.

Note: Summary details of the plant taxa recorded, together with notes on other components of the washover fraction from the processed subsample, and regarding the presence of material suitable for submission for radiocarbon dating, are shown in Table 2.

Context 126 [primary fill of well]

Sample 13/T (3kg/2 litres sieved to 300 microns with washover and microfossil ‘squash’; approximately 1.5 litres of unprocessed sediment remains)

Waterlogged, mid brown, unconsolidated to sticky, slightly clay sandy silt and fine and coarse woody and herbaceous detritus, with stones (2 to 20mm) common and larger stones (20 to 60mm), beetle sclerites, wood and twig fragments, and small mammal and amphibian bone present.

The large washover (~250ml) was mostly of waterlogged plant remains, primarily indeterminate vegetative material and wood fragments, with a component of partly decomposed remains, including leaves, needles, thorns, buds, fern/bracken fronds with sporangia, and also some fungi (these appeared to be remains of a bracket fungus). There were also numerous bones from small mammals/amphibians (with additional bones in the residue fraction – see separate paragraph on the vertebrate remains, below) and insect remains, with a few fragments of unidentified terrestrial/freshwater mollusc shell and fly puparia, and a trace of cinder.

The assemblage of identifiable and interpretively useful plant remains derived from: the arable weed species corncockle (*Agrostemma githago* L.) and cornflower (*Centaurea cyanus* L.), particularly associated with cornfields; the wetland taxa, sedge (*Carex*) and hemlock (*Conium maculatum* L.); woodland/scrub taxa, hazel (*Corylus avellana* L.) and bramble (*Rubus fruticosus* agg.); the ruderal species agrimony (*Agrimonia eupatoria* L.), hawkweed oxtongue (*Picris hieracioides* L.) and prickly sow-thistle (*Sonchus asper* (L.)); and a few eurytopic taxa, including members of the carrot family (Apiaceae), thistles (*Carduus/Cirsium*), members of the grass family (Poaceae), self heal (*Prunella vulgaris* L.) and dandelions (*Taraxacum*).

There was a range of quite well preserved invertebrate remains within the washover which included some delicate structures such as whole wings (unidentified). There were also some mites (Acarina) and larval fragments, but the vast majority of the remains were of adult beetle sclerites representing some aquatic and waterside taxa (including, for example, *Cercyon analis* (Paykull)) and occasional phytophagous weevils (Curculionidae), but

predominantly of terrestrial rove (Staphylinidae) and, in particular, ground (Carabidae) beetles (many of these last being provisionally identified as *Nebria brevicollis* (Fabricius)).

The fairly large residue (dry weight 1.020kg) was mostly stones (to 70mm), with numerous small mammal bones and lesser quantities of large mammal, bird and amphibian bone. There were also a few fragments of unidentified mollusc shell (to 5mm; <0.1g) and a moderate number of ground beetle sclerites (to 4mm; <0.1g – most, if not all, of which were, again, appeared to be from *Nebria brevicollis*) which had not separated into the washover fraction.

The subsample produced a large quantity of small vertebrate remains. Several species were provisionally identified by this preliminary assessment, with the most frequently occurring being common shrew (*Sorex araneus* L.), field vole (*Microtus agrestis* (L.)), wood mouse (*Apodemus sylvaticus* (L.)) and common frog (*Rana temporaria* L.); the last including juveniles. Water shrew (*Neomys fodiens* (Pennant)), mole (*Talpa europaea* L.) and at least one species of bird (small passerine) were also present but represented by significantly fewer elements.

The microfossil ‘squash’ subsample was approximately equal parts inorganic material and organic detritus, with many plant tissue fragments, a few fungal spores and some other spores/pollen grains; the last were rather poorly preserved being very pale and sometimes somewhat distorted). A single *Trichuris* (whipworm) egg was noted (lacking both polar plugs but otherwise rather well preserved) and there were two other structures which were tentatively identified as *Ascaris* (maw worm) eggs; spot measurements of all of these remains showed them to be consistent in size with the eggs of the whipworm and maw worm parasites of humans or pigs (the size of the trichurid egg and the relative proportions of the remains perhaps favouring the latter).

Table 2. Plant remains from the washover from an assessment sediment subsample from the primary fill of a well revealed during excavations at the site, with notes on other components. Key: ‘+’ = present (1-3); ‘++’ = occasional (4-20); ‘+++’ = common (21-50); ‘++++’ = abundant (51-200); ‘+++++’ = super-abundant (201+).

Context		126
Sample		13/T
Context type		primary well fill
processed subsample size (kg/litres)		3/2
residue size (g)	dry	1020
washover volume (ml)	wet	375
material suitable for radiocarbon dating		Yes
Plant remains		
Cultivated and associated plants		
Arable weeds		
<i>Agrostemma githago</i> L.	corncockle	seed fragment +
cf. <i>Bifora radians</i> M. Bieb.	?wild bishop	mericarp +
<i>Centaurea cyanus</i> L.	cornflower	achene +

Wild plants**Wetland taxa**

<i>Carex</i>	sedge	trigonous nutlet	++
<i>Conium maculatum</i> L.	hemlock	mericarp	+

Woodland (including scrub and hedgerow) taxa

<i>Corylus avellana</i> L.	hazel	nutshell fragment	++
<i>Rubus fruticosus</i> agg.	bramble	fruitstone	++

Ruderal (wasteland and disturbed ground) taxa

<i>Agrimonia eupatoria</i> L.	agrimony	pseudocarp	+
		seed	+
<i>Picris hieracioides</i> L.	hawkweed oxtongue	achene	+
<i>Sonchus asper</i> (L.) Hill	prickly sow-thistle	achene	+

Wide ecological niche taxa

Apiaceae	carrot family	mericarp	++
<i>Atriplex/Chenopodium</i>	orache/goosefoot	seed	+
<i>Carduus/Cirsium</i>	thistle	achene	++
Poaceae	grass family	caryopsis	++
<i>Prunella vulgaris</i> L.	selfheal	nutlet	++
<i>Ranunculus</i> subg. <i>Ranunculus</i>	buttercup	achene	+
<i>Taraxacum</i>	dandelion	achene	++
<i>Torilis</i>	hedge-parsley	mericarp	+

Other waterlogged botanical remains

buds	undifferentiated	++
bud scales	undifferentiated	++
fern/bracken fronds (with sporangia)	fragment	+
fungi	undifferentiated	+
leaves	fragments	++
leaves	skeleton fragments	++
mosses	undifferentiated	++
needles	undifferentiated	+
thorn	undifferentiated	+
stems/twigs	indeterminate	+
vegetative material	miscellaneous	++++
wood	indeterminate fragments	+++

Other remains**Animal remains**

bone	small animal/amphibian	+++++
insect remains	undifferentiated	++++
mollusc shell (terrestrial/freshwater)	indeterminate fragment	+
fly puparia	undifferentiated	+

Artefactual and inorganic material

cinder		+
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Discussion and statement of potential

Assemblages of well preserved waterlogged plant, invertebrate and vertebrate remains were recovered from the assessment subsample some of which could provide suitable material for radiocarbon dating via accelerator mass spectrometry (if required).

The presence of remains from cornfield weeds implies that cereals were being grown locally. In addition, the remains from wild plants indicated the former presence of areas of wetland, ditches, marshes or ponds; hemlock (*Conium maculatum* L.) is likely to have been occupying disturbed ground in the immediate vicinity of the well. Hazel (*Corylus avellana* L.) and bramble (*Rubus fruticosus* agg.) may have been growing as scrub on waste ground, and the suites of ruderal and eurytopic taxa were typical of open and disturbed ground associated with occupation. The presence of a pseudocarp and seed from agrimony (*Agrimonia eupatoria* L.) is of interest, since this species has been an important plant in herbal medicine, recommended for snake-bite and ‘elf-shot’ in the middle ages and more mundanely as a mild astringent for unsettled digestive systems and catarrh (Mabey 1996); it is also a dye plant, providing a source of yellow pigment.

Also of note was a single mericarp and a few other fragments provisionally identified as wild bishop (cf. *Bifora radians* M. Bieb.). The morphological characteristics matched those detailed in Cappers *et al.* (2006); the characteristic scar (from the point of attachment of the seed) was very prominent, and appeared to have been exaggerated by foraging small mammals. However, this identification could not be confirmed without access to supplementary reference material. This species is a particular weed of the culinary herb coriander and does not grow in Britain, hence this possible occurrence may imply the use of imported coriander seed.

The invertebrate macrofossil assemblage was dominated by remains of terrestrial ground and rove beetles which presumably became incorporated into the deposit by the well acting as a pit fall trap. The smaller numbers of aquatic and waterside beetle taxa most likely entered the feature in a similar fashion but could perhaps have survived within (and at the edges of) water at the base of the well for at least a short time; the larval fragments noted also suggest a breeding community though this was probably short-lived.

Some of the other animal taxa present may have survived, for a time at least, within the well (the frogs, for example, remains of which included juveniles) but the vast majority would not.

Field voles, common shrews and wood mice all prefer areas with abundant natural cover, such as thick grass (not closely grazed), scrub and woodland; this suggests a period of abandonment during which the environs of the well became overgrown and is consistent with the plant assemblage. The small vertebrate species present would also comprise a typical prey assemblage of the barn owl (*Tyto alba* Scopoli) and could therefore represent an accumulation of indigestible material from owl pellets, in which case any interpretation of the surrounding habitat must then widen as the assemblage could reflect the hunting territory of

the barn owl (approximately 2.5 km²) rather than the immediate surroundings of the well. However, there was no evidence that any superstructure existed above the well which might have served as a regular roost site and the overall impression gained from the biological remains as a whole was of an accumulation of material suggesting that the disused well acted as a pit fall trap.

The presence of intestinal parasitic nematode eggs (noted in the microfossil 'squash' subsample) was rather unexpected. They imply at least a small faecal component to the deposit which almost certainly originated from humans or pigs (provisionally with a slight bias in favour of the latter). These remains might indicate the disposal of faeces into the disused well but the small numbers seen only suggest a minor faecal component and could equally have arrived with in-wash from adjacent areas.

Recommendations

Although detailed recording of the well preserved plant, invertebrate and vertebrate assemblages from this deposit would be of academic interest it would be of little value for the interpretation of the well feature or the wider archaeological site. The biological remains recovered from the assessment subsample appear to have accumulated through the well initially acting as a pit fall trap after falling into disuse and so do not relate to the primary use of the feature nor do they reflect a secondary use for the disposal of waste relating to human activity.

However, the biological remains could perhaps provide additional details regarding the immediate environment of the well shortly after it fell into disuse, and material for radiocarbon dating that might provide an approximate date for this event, should this be deemed worthy of pursuit. Should full analysis be undertaken then all of the remaining sediment should be processed to maximise the size of the assemblages available for study (paraffin flotation should be employed to separate the invertebrate remains into a flot fraction but only after the selection of any material for radiocarbon dating has been made).

8 Discussion

By I. Roberts

It seems remarkable that a site of this size on the Magnesian Limestone should prove to be devoid of archaeological features relating to the enclosure and agricultural regimes of the Late Iron Age and Roman period. Such evidence for land division is prevalent in the immediately adjacent areas to the west of Leys Lane and to the north of the M62 motorway (Williams *et al.* 2008; Williams 2010). There is undoubtedly a potential case for some of the expected features along the northern periphery of the site to have been missed due to the nature of the deep subsoil, but overall it seems unlikely that any extensive arrangements of filled ditches would have been missed across the whole site. The conclusion that that this area was never subjected to clearance and agricultural production gains some credence through the existence of the subsequent medieval parks in this area, suggesting vast tracts of mature woodland existed here. This could of course have been the result of regeneration in the Saxon period, but as it stands the absence of Roman field systems coinciding with areas of medieval parkland makes a compelling case.

The failure to detect the park boundary is more difficult to explain and three possibilities exist. One possibility is that the boundary did not take the form of a massive earthwork (ditch and bank) and may have been defined by a simple fence or palisade, which has not been manifested in the archaeological record. A second possibility relates to the deep clay deposits encountered in the area of the site where the boundary was supposed to be. It is conceivable that the clay and any ditch fill were not sufficiently differentiated to allow such a feature to be seen. The third possibility is that the line of the boundary has either been erroneously recorded in the past, or wrongly assumed by cartographers.

Despite potential mapping errors, the absence of the well from any 19th-century mapping would, combined with the date ranges of the recovered pottery, would suggest that it is probably of 18th century date. It is quite detached from the Leys Farm site, but in the absence of any other site being identified in the immediate vicinity, it is probably that it is a field well associated with that farm. Of the farm complex itself nothing was found. The reason for this is that it would appear to have been removed by small-scale quarrying prior to this work taking place. The desk-based assessment carried out by NAA (2001) identifies two separate quarries (Sites 11 and 12) to the north-west and south of Leys Farm. It is clear however from aerial photographs taken prior to 2003 (Plate 10) that the area between these two quarries had also been extracted at some point in the past, so removing all the remains of the farm, apart from a few satellite animal burials.

Appendix 1: Inventory of primary archive

Description	Quantity
Context Register sheets	3
Context sheets (nos. 001-002; 100-104; 107-117; 120-126; 200-107)	30
Drawing record sheets	26
Daily Record sheets	35
Sample register sheets	6
Environmental laboratory sheets	6
Skeleton register sheet	1
Finds/samples register sheets	1
Photo register sheets	11
Colour negative strips (6975, 6876, 7383, 7,413, 8054, 8099)	6
B&W negative strips (6974, 7384, 8100)	3
Digital photograph downloads (0204, 0217)	2

Appendix 2: Concordance of contexts yielding artefacts or environmental remains

Context	Area	Description	Artefacts and environmental samples
101	Well	Upper fill of well	Five sherds of 18 th or 19 th -century pottery
118	Well	Stone structure at well-head	Two sherds of 18 th or 19 th -century pottery
123	Well	Quaternary fill of well	One sherd of 18 th or 19 th -century pottery
125	Well	Secondary fill of well	Fragmented timbers thought to be from the well-head structure or winding gear
126	Well	Primary fill of well	Part of a wooden bucket and bulk environmental sample for analysis
200		Ploughsoil	Five sherds of 18 th -century pottery and one sherd of 19 th or 20 th -century pottery

Appendix 3: Written Scheme of Archaeological Investigation

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