ARCHAEOLOGICAL SERVICES WYAS

Balby Carr: Zone D2, Phase 1, Doncaster, South Yorkshire

Archaeological Excavation
Final Report

February 2009

Report No. 1769

CLIENT

ROK Development

Balby Carr: Zone D2, Phase 1, Doncaster, South Yorkshire

Archaeological Excavation

Summary

An archaeological excavation was undertaken at Balby Carr, Doncaster on behalf of ROK Development. This work identified a series of field/enclosure boundaries that were both preceded and succeeded by numerous drainage gullies. The need for drainage confirms the low-lying, seasonally waterlogged nature of much of this landscape. Pottery, found in association with the gullies, is probably of pre-Roman Iron Age date. The stratigraphically earliest field/enclosure has been radiocarbon dated to the 1st century BC, while the south-western limits of a subsequent enclosure has been identified previously as a crop mark. It is apparent that the site was part of the wider landscape of enclosures, settlement and field systems already investigated nearby.

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1 Introduction

Archaeological Services WYAS (ASWYAS) was commissioned by ROK Development to undertake an archaeological strip and record exercise followed by an excavation on land at First Point Business Park, Balby Carr, Doncaster (Zone D2, Phase 1) (Fig. 1). The mechanical stripping took place during 7th-19th November and hand excavation during 3rd December 2007 to 11th January 2008. All work was undertaken in accordance with a Project Design agreed with South Yorkshire Archaeology Service (SYAS) and carried out in advance of a proposed office development with car parking.

Site location and topography

Phase 1 of the proposed development area is located approximately 2km south of Doncaster (National Grid Reference SE 5840 0050), on the southern edge of a developing business and retail park at Balby Carr. The site is located between three earlier phases of development; Zone D1 which forms the western boundary, B&Q to the east, and the Subaru/Harley Davidson development to the north-east. A drainage dyke comprises the southern site boundary (Fig. 2). The development area (hereafter referred to as 'the Site' is situated on very low-lying ground at approximately 5m above Ordnance Datum, with a slight depression towards the western limits of the Site. The modern vegetation cover on the Site consisted of low scrub and grasses. The strip and record and excavation area comprised roughly 0.34 hectares in extent, marginally larger than the proposed development area (0.32ha). This was to ensure that the current area overlapped with Zone D1, an area immediately to the west that had been excavated previously (Rose and Roberts 2006).

Soils, geology and land-use

The solid geology under the Site is Sherwood Sandstone (British Geological Survey 1969) overlain by palaeostagnogley soils of the Foggerthorpe 2 Association (Soil Survey of England and Wales 1983). These largely stone-free soils are derived from glacio-lacustrine clays and are consequently only slowly permeable, and seasonally waterlogged. In the immediate vicinity, some localised deposits of peat are also known.

2 Archaeological and Historical Background

The archaeological potential of the Balby Carr area was first recognised from cropmarks present on air photographs. Subsequently, it has been subject to numerous archaeological investigations by several organisations, which have produced variable results in terms of the level of archaeological remains recorded (Fig. 2).

A large area to the east of the Site was evaluated and then excavated by Birmingham University Field Archaeology Unit (BUFAU) in 2002, prior to the construction of a B&Q warehouse. This work uncovered the remains of an Iron Age/Romano-British ditched field

system including a possible double-ditched trackway and an enclosure. Some of the ditch fills contained waterlogged plant and insect remains (Jones 2002, 2005, 2007).

Immediately to the east of the BUFAU site, an evaluation and excavation was conducted by ASWYAS in 2003-2004, prior to the construction of a Harley Davidson and Subaru dealership. This revealed the remains of a ditched trackway and a large circular ditch that enclosed the remains of a roundhouse. The excavated ditches also contained waterlogged, organic-rich deposits dating to the Late Iron Age (Richardson 2008; Richardson and Rose 2005; Rose 2003). The cropmark evidence suggests that this excavation had investigated only part of a much larger sub-rectangular enclosure (Fig. 2). Two investigations (not illustrated here) by ARCUS (Archaeological Research and Consultancy at the University of Sheffield) immediately to the north of the Site, however, only revealed part of a possible Romano-British ditch, a line of well-preserved wooden stakes of unknown date (O'Neill 2005) and a series of 18th-century drainage channels (Dransfield 2006). Neither investigation found evidence of the cropmarks that apparently ran through this area.

A further evaluation conducted by ASWYAS some 400m to the north-east proved negative in terms of archaeological remains (Rose 2005). A similar paucity of archaeological features was observed to the west of the Site. An archaeological evaluation by ASWYAS on the site of a proposed IKEA store only revealed the remains of a possible medieval deer park boundary and three features of unknown date (Brown 2005; Webb 2004).

More recent work by AOC Archaeology on the First Point site further to the west found a D-shaped enclosure with an internal penannular ring ditch, possibly appended to a boundary ditch like a 'clothes line' enclosure (Wilson 2006a, 2006b). Although no dateable artefacts were recovered, the presence of fire-cracked stones and the probable roundhouse ring gully suggested an Iron Age or Romano-British date. This is now supported by recently obtained radiocarbon dates of 50 BC- AD 90 for the enclosure and 120 BC- AD 60 for the roundhouse (both first sigma, Wilson pers. comm.). Additional but widely spaced features consisted of a small oval gully (Wilson 2006a), also recently dated to AD 80-260 and similar to features excavated on Iron Age and Romano-British sites in West Yorkshire and Nottinghamshire, and a rectangular ditched enclosure 12m long and 10m wide, associated with a few sherds of Romano-British pottery and occasional fragments of burnt bone (Clements 2007). This has produced a radiocarbon date of AD 250-420 at first sigma (Wilson pers. comm.).

Finally of significance is the investigation undertaken by ASWYAS immediately to the west of the Site. This work identified the remains of an Iron Age settlement including five roundhouses and boundary ditches (Rose and Roberts 2006). Two of the roundhouses have been radiocarbon dated to *c*. 400-200 BC and it has been suggested that they represent an earlier, unenclosed settlement that may be a precursor of the later Iron Age activity discussed here and previously identified by ASWYAS to the north-east (Richardson 2008). An even earlier date from one of the boundary ditches (800-520 BC), however, is inconsistent with this hypothesis but residuality may be a factor. Nevertheless, these earlier investigations

reveal an extended, though not necessarily intensive, Iron Age and Romano-British occupation at Balby Carr.

3 Aims

The aim of the first stage of works (strip and record) was twofold:

- to determine the presence and extent of any archaeological features on the Site and their spatial relationship to previously identified features;
- to ascertain the potential and significance of any identified archaeological deposits and features in order to inform decisions about the likely scope, cost and duration of any further evaluation and/or excavation works that might be required to mitigate the proposed development scheme.

Hand-excavation of the exposed features followed the strip and record. The aims of this phase of the project were:

- to determine the date, nature, depth, function and stratigraphic complexity of any archaeological features and deposits at the Site;
- to determine the presence or absence of preserved, waterlogged organic material.

4 Methodology

The strip and record stage was carried out during the 7th-19th November 2007 using a 360° tracked mechanical excavator equipped with a toothless ditching bucket. The area under investigation was stripped of topsoil in spits, and halted when the first archaeological horizon was encountered. The exposed surface was then partially cleaned by hand in order to clarify the extent and density of archaeological features and deposits. Wherever possible, and subject to restrictions from standing water and dust, the limits of the stripped area and the location of the archaeological features were surveyed using a Geodimeter 600 Total Station.

During hand-excavation, all features were excavated and recorded using ASWYAS *pro forma* sheets. Plans were drawn at 1:50 and sections at either 1:10 or 1:20, as appropriate. Photographs of relevant features and deposits were taken using 35mm colour and black and white film, supplemented by high resolution (colour) digital photographs.

Finds were hand-collected and environmental samples (of no more than 20 litres) were taken where deposits were seen to contain charcoal or preserved organic material.

The site archive, listed in Appendix 1, is currently held by ASWYAS, but subject to the landowner's agreement, will be deposited with Doncaster Museum in due course. A concordance of contexts is given in Appendix 2.

5 Results

The excavation was hampered by the low-lying nature of the Site and a preponderance of standing water (Plate 1). Despite this, archaeological visibility was good with the dark filled features easily differentiated from the lighter natural clay (Plate 2).

Archaeological deposits and features in the form of ditches, gullies, pits, post-holes and layers were concentrated in the north-east corner of the Site, with a small number of unphased features in the west (Figs 3 and 4). Four broad phases of activity have been identified, based on stratigraphic relationships alone: relationships that were often seen clearly in plan. Unfortunately only a very limited radiocarbon dating programme was possible due to the recovery of little dateable material and what little pottery was recovered is of indeterminate date. The four phases are:

1. stratigraphically early drainage gullies and pits;
2. the creation of field boundaries or enclosures;
3. stratigraphically later drainage gullies;
4. later discrete features

Further gullies, pits and post-holes are of unknown phase.

Underlying all features was the natural clay deposit 1501. This was mostly mid white yellow in colour with slight variations, and contained small depressions onto which the overlying peat (1739) had formed. Some horizontal truncation of the deposits was noted across the Site, caused by early modern activity.

Phase 1: drainage gullies and pits

Phase 1 is represented by eight gullies and one pit that were stratigraphically earlier than the field boundaries and enclosures of Phase 2. Sub-phases are clearly indicated by the inter-cutting of many of these gullies (Fig. 3). Two of the gullies, 1710 and 1730 contained pre-Roman conquest type pottery within their single fills.

There are eight gullies in Phase 1 (Table 1), all located to the north of the Site (Figs 3 and 4). All were quite sinuous to varying degrees and varied in width from 0.15-1.27m and from 0.20-0.41m in depth. With the exception of gully 1717 with two fills, all gullies contained a single fill of grey/blue, grey or orange-grey clay. In addition, to the seven pre-Roman conquest type pottery sherds, twenty fragments of cattle, sheep and similar-sized bones were recovered from gullies 1708, 1710, 1717, 1719, 1730 and 1764.

Table 1. Phase 1 gullies

Cut	Fill(s)	Max. width (m)	Max. depth (m)	Profile
1708	1707	0.50	0.34	Regular, U-shaped
1710	1709	0.40	0.31	Steep-sided, U-shaped
1711	1748	0.40	-	-
1717	1715, 1716	1.27	0.41	U-shaped (Fig. 5, S.60)
1719	1718	1.02	0.24	U-shaped (Fig. 5, S.60)
1730	1729	0.69	0.20	Angular, flat-based (Fig. 5, S.61)
1764	1761	0.15	0.30	U-shaped
1766	1765	0.30	0.31	U-shaped

Only one pit, 1572, was identified as stratigraphically earlier than the Phase 2 enclosures. Pit 1572 was sub-circular in plan with a U-shaped profile. It was at least 0.48m wide and 0.61m deep and contained a light yellowish grey sandy clay fill (1571). No finds were recovered from this feature.

Phase 2: field boundaries or enclosures

Three field boundaries or enclosures defined by ditched 1706/1738 and 1777 to the north and ditch 1505 to the east have been assigned to this phase, although again sub-phases are indicated. No direct association between the northerly enclosures and ditch 1505 is indicated, but the termination of ditch 1505 close to ditch 1706 suggests contemporanity (Fig. 3). No dateable artefacts were recovered from any of the ditches, but two radiocarbon dates from fills 1703 and 1794 of ditch 1706 in the range 350-50 BC and 90 BC- AD 60 (SUERC-19393 and SUERC-19394, Table 9) suggest a date somewhere in the 1st century BC.

Ditches 1706 and 1738

Ditch 1706 was exposed over a length of *c*. 29m, was a maximum of 1.9m in width and was typically 0.9m in depth (Fig. 5, S.58). Predominantly U-shaped in profile, the ditch contained between one and two fills. The primary fill, a weathered mid-yellow clay up to 0.12m thick (1705), may indicate slumping from banked material to the south of the ditch (Fig. 5, S.58). A secondary fill (1703) of grey-blue clay contained cattle and horse bones including a near complete cattle skull (Plate 3).

Ditch 1738, orientated approximately north-south and measuring *c*. 1.15m in width and 0.58m in depth (Fig. 5, S.62), was contemporary with ditch 1706. It was exposed for approximately 5m but clearly extended beyond the north-western limits of the excavation. Ditch 1738 also contained a (single) fill of dark blue-grey compact clay (1737) but, with the exception of a few animal bone fragments, no artefacts.

Subsequently ditch 1706 was re-cut along its length but as ditch 1738 was truncated by this episode of later redefinition, it is assumed that the latter had gone out of use by this time. Certainly in section, ditch 1738 appeared to have largely infilled by this time (Fig. 5, S.63).

The new east-west ditch 1704 was a steep-sided U-shape in profile, up to 1.9m in width and 0.52m in depth (Fig. 5, S.58). It contained a single fill of grey-brown silty-clay but apart from a few bone fragments, no artefacts were recovered.

Ditches 1505 and 1723

Assumed to be contemporary with either ditch 1706 or its re-cut 1704, was an enclosure defined by ditches 1505 and 1723. Orientated approximately north-south, before turning south-eastwards at its southern end, ditch 1505 was exposed over 40m in length and was up to 1.1m in width and 0.64m in depth. Re-cut at least once, this ditch (1505) was initially U-shaped in profile and subsequently a shallower, V-shape (1773) , 0.98m in width and up to 0.56m in depth (Fig. 5, S.66, Plate 4). The fill of the first ditch was a very dark grey sandy clay with orange mottling, while the re-cut contained dark grey clay. No finds were recovered from either ditch.

Ditch 1723, orientated approximately east-west, was clearly part of this enclosure although no stratigraphic relationship with ditch 1505 or its re-cut was identified. In plan, the ditch appears to terminate up against ditch 1505, but then its disturbance by the re-cut would have been expected (Fig. 3). Approximately 5.50m of its length was exposed in plan, and it was up to 1.71m wide and 1.16m deep (Fig. 5, S.60, Plate 5) . It contained three clay-rich fills but no finds.

Ditches 1777

Ditch 1777, located in the north-eastern corner of the Site, was exposed over a distance of 25m. It was curvilinear in plan with a wide, shallow profile and a flat base. It measured between 3-5m in width and up to 0.50m in depth. The single fill (1776) was dark orange grey clay, and contained only one fragment of horse bone. Ditch 1777 truncated the northern limits of ditch 1706 and its re-cut (Fig. 5, S.58) and as such belongs to a later sub-phase. It is included as part of this 'enclosure' phase, however, as it represents the south-west corner of a large sub-rectangular enclosure identified as a crop mark and investigated previously by ASWYAS to the north-east (Richardson 2008). During this earlier stage of work, the enclosure ditch was identified as steep-sided and deeper at 0.95m, although it was later redefined as a broader and shallower feature. Although the enclosure ditch was not dated directly during this previous excavation, associated features suggest a Late Iron Age date.

Phase 1 or 2 features

A number of gullies and up to four pits are stratigraphically earlier than the Phase 3 gullies but in the absence of any relationship with the enclosures of Phase 2, may be associated with either Phase 1 or Phase 2 activity.

In total, eight gullies are detailed here (Table 2). They are similar in form to the gullies assigned to Phases 1 and 3: generally sinuous in nature and varying in width from 0.30-0.95m and in depth from 0.11-0.37m. With the exception of gully 1675, all gullies contained a single fill of mid orange or mid brownish-grey clays. Gully 1675 in contrast contained up to

two fills of very dark grey clay. It also contained a few fragments of animal bone and three sherds of pre-Roman conquest-type pottery. A single bone fragment was recovered from gully 1528.

Table 2. Phase 1 or 2 gullies

Cut	Fill(s)	Max. width (m)	Max. depth (m)	Profile
1528	1527	0.95	0.36	U-shaped
1563	1564	0.64	0.17	Flat-based, U-shaped
1584	1583	0.40	0.28	V-shaped
1607	1606	0.59	0.11	U-shaped
1618	1619	0.42	0.12	U-shaped
1675	1676 (1628)	0.62	0.31	U-shaped (Fig. 5, S.56)
1680	1681	0.70	0.37	Steep-sided U-shaped
1682	1683	0.30	0.30	Steep-sided, tapering U-shaped (Fig. 5, S.57)

Pits 1526, 1534 and 1544 were all cut by Phase 3 gully 1515. Pit 1526 was 0.30m wide but only 0.06m deep, and contained a dark blue-grey sandy clay fill (1525) from which a single fragment of cattle bone was recovered. Pit 1534 was 0.48m wide and 0.13m in depth and contained a single fill (1533) of yellow grey sandy clay but no artefacts. Pit 1544 was 0.3m wide and 0.2m deep and contained a dark brown orange sandy clay fill (1543) from which no finds were recovered. A fourth possible pit (1759) was cut by Phase 3 gully 1755. It full plan was not exposed, but it was excavated to a depth of 0.29m. Alternatively this feature may represent the extension of gully 1680 northwards.

Phase 3: drainage gullies

The Phase 3 gullies are all those features that can be shown to be stratigraphically later that the Phase 2 enclosures. In plan, however, it is clear that the sixteen gullies represent a number of sub-phases. The proposed drainage gullies are of similar form once again: orientated approximately east-west and varying in width from 0.26-1.1m and in depth from 0.10-0.45m (Table 3). The majority of gullies contained a single grey/blue, grey or orange-grey clay. No pottery was recovered but a few bone fragments were recovered from gullies 1515, 1558, 1672, 1674 and 1684.

Table 3. Phase 3 gullies

Cut	Fill(s)	Max. width (m)	Max. depth (m)	Profile
1515	1514, 1513	0.60	0.39	U-shaped
1537	1536, 1535	1.05	0.28	U-shaped (Plate 6)
1546	1545	0.40	-	-

Cut	Fill(s)	Max. width (m)	Max. depth (m)	Profile
1550	1549 (1518)	0.51	0.19	U-shaped (Fig. 6, S.13, Plate 6)
1558	1557	0.94	0.40	U-shaped (Fig. 6, S.15)
1630	1631	0.42	0.18	U-shaped
1641	1640	0.44	0.32	U-shaped
1645	1644	0.81	0.45	U-shaped
1649	1648	0.48	-	-
1665	1664	0.26	0.18	Square-sided, concave
1672	1671	1.10	0.31	Steep-sided, U-shaped
1674	1673	0.61	0.24	U-shaped
1678	1679	0.88	0.22	U-shaped
1684	1685	0.51	0.24	U-shaped (Fig. 6, S.44)
1755	1756	1.80	0.41	U-shaped
1784	1785, 1786	0.95	0.10	Wide V-shaped

Two final features tentatively assigned to this phase are ditches 1798 and 1802 as the latter clearly post-dates enclosure ditch 1706 in plan (Fig. 3). Orientated north-west to south-east, ditch 1798 had a rounded, U-shaped profile, was 1.5m wide by 0.8m deep and contained three clay-rich fills (Fig. 6, S.69). It ended in a rounded terminal, before being re-cut lengthways by ditch 1802 on the same alignment. Ditch 1802 was 1.26m wide and 0.52m deep with a stepped, U-shaped profile. It contained two fills; a primary fill (1803) of mid grey clay, overlain by light grey silty clay (1804). No finds were recovered from either ditch. One or either ditch may represent further drainage gullies but their depths distinguish them from all the other gullies regardless of phase. The continuation of ditch 1798 beyond the area of modern disturbance was not observed.

Phase 4: later features and deposits

Pits and post-holes

Six pits were identified as being stratigraphic late features and are described in Table 4. Pit 1677 cut Phase 3 gully 1678 and given its close spatial relationship with pit 1620 and post-holes 1690, 1688 and 1686 (from west to east), these five features are probably related. The post-holes were up to 0.50m wide but no more than 0.08m deep. All were sub-circular or slightly irregular in plan, and were all filled by mid reddish brown clay. To the north-east of the Site, three inter-cutting pits (1693, 1695 and 1697) were observed. These were stratigraphically later than ditch 1777. The final pit, 1509 cut Phase 3 gully 1515 to the south-east of the Site. No function could be assigned to any of these pits and post-holes, and no finds were recovered from their fills. Generally, fills were similar, ranging from light to mid-grey clay, with occasional orange brown clay. Animal bone fragments were recovered from pits 1693 and 1695.

Table 4. Phase 4 pits

Cut	Fill(s)	Shape in Plan	Profile	Diameter (m)	Depth (m)
1509	1510, 1508	Oval	Steep sides, flat base	1.35	0.38
1620	1621, 1629	Sub-oval	Shallow, steep sides, flat base	1.20	0.17
1677	1670	Sub-oval	Shallow, U-shaped	1.20	0.22
1693	1692	Sub-circular	Shallow, U-shaped	0.75	0.07
1695	1694	Sub-circular	Flat-based, U-shaped	0.80	0.22
1697	1696	Oval	Regular, U-shaped	0.50	0.15

Alluvial deposit 1736

This deposit of mid-grey alluvial clay was between 0.17-0.66m thick, and was situated to the north of the Site where it overlay enclosures ditches 1706, 1738 and 1777 (Fig. 3). No finds were recovered from this layer, apart from one cattle bone fragment. It is possible that it was similar to material (1727) seen to obscure gullies 1755 and 1645 immediately to the south (not shown in plan). This alluvial clay was up to 0.17m thick.

Unphased features

Four further drainage gullies (1714, 1623, 1625 and 1601 from north to south) were investigated to the south-west of the Site and gully 1610 was exposed to the north-east (Table 5). All were filled with similar dark brown or grey clay, but no finds were recovered.

Table 5. Unphased gullies

Cut	Fill	Max. Width (m)	Max. Depth (m)	Profile
1601	1600	0.43	0.24	U-shaped
1610	1609	0.32	0.10	Shallow, undulating U-shaped
1623	1622	0.88	0.31	Flat-based v-shaped
1625	1624	0.34	0.15	Flat-based U-shaped
1714	1713	0.64	0.08	Shallow, undulating U-shaped

Overlying these ditches was an extensive former ‘wet area’ of dark brown to dark grey alluvium, up to 0.40m thick and extending for at least *c*. 520 sq. m (Fig. 3). This deposit was observed during the 2005 archaeological intervention immediately to the west (Rose and Roberts 2006). Finds associated with the alluvium observed during the current stage of works included 20th-century brick and tile fragments.

Ditch 1661 formed an irregular ovoid with a maximum diameter of 2.50m. The ditch had an irregular U-shaped profile and was up to 0.45m wide and 0.19m deep, and was filled with a dark greyish brown clay (1660). It was interpreted as an early modern feature during excavation, but no finds were recovered to confirm this.

Finally compact peat layer 1739 was present across the entire excavation area, with the exception of the north-west corner of the Site where the former wet area was located. This and the overlying mid brown topsoil (1500) was disturbed by the recent movement of heavy plant, probably during the 2005 excavations to the west.

6 Artefact Record

Pottery by Chris Cumberpatch

Eleven sherds of pottery or fired clay fragments weighing a total of 0.072kg were examined and assessed with reference to ceramic assemblages recovered from previous stages of excavation at Balby Carr and pottery from the wider region.

Catalogue (those marked by an asterisk indicate illustrated pieces; Fig. 7)

1* A small (8g) abraded rim sherd with a flat top and a slightly everted profile, grey-brown to black in colour with a fine sandy texture and some fine voids at the surface and in cross-section. Under a microscope the fabric can be seen to contain moderate (*c*. 10%) quantities of fine sub-rounded to sub-angular grit with sparser but much larger (1 mm+) pale grey to white irregularly shaped inclusions. These were soft enough to be scratched with a scalpel blade and may be some kind of burnt material although it is unlikely that they are burnt shell as the shape does not appear to be consistent with the normal size and shape of shelly inclusions. *BCD07, Gully 1675, 1676*.

2* A small (5g) abraded rim sherd with a slightly clubbed, rounded rim with a prominent cordon below the short neck giving the appearance close to that of a bifid rim. The fabric appears to be very similar in colour and composition to the sherd described above although the soft grey inclusions are sparser and smaller in this sherd. The top of the rim, although rounded in form has slight facets and these appear to have a thin, slightly shiny black coating on them. *BCD07, Gully 1675, 1676*.

3* A small (4g) abraded rim sherd, pale grey in colour and with a fine sandy, slightly vesicular texture containing moderate quantities (10-15%) of fine and very fine rounded quartz grit. Although it is difficult to be certain from the surviving fragment, it seems as if the rim was slightly inturned and the external profile is rounded. The even colour of the fabric and its slightly cindery appearance in parts sets it apart from the other two sherds in this context and it is possible that it has been subject to higher temperatures than the other two sherds from this fill. This would be consistent with the suggestion (Leary, pers. comm.) that it was part of a crucible. It is possible that the

hard, greenish deposit on the inside of the rim may be a residue left after the use of the crucible, if such it is. *BCD07, Gully 1675, 1676*.

4 One thick (10-13mm) body sherd weighing 11g. The sherd has a bright orange external margin but is black internally and in cross-section. Under a microscope (X10 magnification) the sherd is hard and dense without the voids seen in the sherds from fill 1676. The external surface appears to have a tendency towards a laminated fracture and is also somewhat pitted. The fabric contains sparse to moderate (5-10%) quantities of sub-rounded quartz but no other inclusions. *BCD07, Gully 1710, 1709*.

5 One body sherd (7g), black throughout with an abraded pale grey external surface. Inclusions appear to be rare but where present are large (1mm+) and non-crystalline. Unusually quartz grit appears to be rare. *BCD07, Gully 1730, 1729*.

6 One body sherd (4g) had a dark grey to black internal surface and a dull brownish orange external margin. The sherd is tempered with abundant large fragments of white shell which, at a magnification of X10 is flaky and laminated. There is no sign of the sort of leaching which is frequently a characteristic of shell tempered wares. *BCD07, Gully 1730, 1729*.

7 One body sherd (4g) in a fine brown sandy textured fabric, and apparently identical to the two everted rim sherds from fill 1676. Although small in size, the sherd contains a large (5mm) rounded grey vesicular inclusion protruding from one broken edge. *BCD07, Gully 1730, 1729*.

8* One probable rim sherd (6g) with irregular internal and external surfaces. The fabric is dark grey in colour with an orange external margin. It contains moderate to abundant fine angular quartz grit but no larger inclusions. The finish of the sherd is notably rougher than all but the four sherds described below and the diameter of the vessel (if such it is) is small, little larger than a thumb. This must raise the possibility that it is also a crucible fragment, although it does not show any of the other characteristics of such vessels and in particular does not appear to have any metallic residues adhering to the surface, or to have been heated to a particularly high temperature. *BCD07, Gully 1730, 1729*.

9 Three abraded body sherds or fired clay fragments, one consisting of two joining pieces, weighing a total of 23g (14g, 6g and 3g). The two larger sherds appear to preserve areas of the inner surface and while the exterior surfaces have not survived, from the surviving thickness it would seem that the original vessel or object would have been thick walled (15mm +) and quite robust. The sherds are orange in colour with grey internal surfaces. Occasional quartz grains are visible in the broken edges but generally speaking the fabric is homogenous and without the density of inclusions seen in other sherds discussed here. The smallest sherd is considerably more abraded

than others and no surfaces survive but it appears to be similar in its characteristics to the better preserved sherds. *BCD07, Gully 1730, 1729*.

Discussion

The eleven sherds described above were previously examined by Ruth Leary (pers. comm.) who concluded that they are unlikely to be of Romano-British date as they do not conform to the expected characteristics of known Romano-British wares. The supposition is that they are of pre-Roman conquest type, a conclusion based primarily on the sherds themselves, but lent credence by the fact that Balby Carr has produced other examples of pre-Roman Conquest pottery (Cumberpatch 2006, 2007), an unusual occurrence in an area characterised by a general lack of such material.

The excavations in 2003 and 2004 (BCA03 and BCA04; Cumberpatch 2007) produced an assemblage which included fine quartz tempered sandy textured sherds and large parts of a vessel in a heavily leached shell tempered fabric. Both types may be compared to sherds in the present assemblage although the single shell tempered sherd has not suffered the leaching so evident in sherds of this type from sites BCA03 and BCA04. The presence of the soft grey inclusions in the sherds from gully fill 1676 in the present assemblage would seem to set them apart from the material from earlier sites, but a direct comparison will be necessary in order to determine how similar or dissimilar the fabrics actually are. The single sherd from the First Point site (FBC05; Cumberpatch 2006) appeared to be a shell tempered ware but like those from BCA03 and BCA04 was so heavily leached that it was difficult to characterise adequately.

Parallels for the pottery from other sites are limited. The single shell tempered sherd (gully fill 1729) may be similar in type to some of the sherds from Redhouse Farm (Cumberpatch 2000) and Pickburn Leys (Sydes 1993) although shell temper is known to have been used in both Northamptonshire and Lincolnshire and the sherd would have to be thin sectioned and sampled for petrological and chemical analysis before a source could be determined with any accuracy. The fine sandy fabrics have some similarity with Fabric 3 as defined in the case of the Sykehouse assemblage (Cumberpatch 2003, 18) but the soft grey inclusions were not present in the Sykehouse sherds and so a similar source may be unlikely.

The picture of pottery use at Balby Carr was summarised in an earlier report as follows:

> In terms of the fabrics represented in the assemblage a sandy textured, quartz tempered type was the commonest (BCA04 contexts 335 and 349, BCA03, Trench 3, 036) but generally there was little similarity between the fabrics, suggesting a variety of different sources for the individual vessels. This is perhaps to be expected in an area which does not seem to have had a local ceramic tradition in the later prehistoric period (Cumberpatch 2007).

This picture is one which is supported by the present assemblage with the fine quartz tempered fabrics being the commonest amongst a small but diverse group. It is unclear, given limited dating for the Site, whether chronological factors could be responsible for the variety

in pottery fabrics or whether the original situation was one in which pottery vessels were arriving from diverse sources at around the same time. There is evidence that in the later pre-Roman Conquest and early post-Roman Conquest period certain vessels, including Scored ware and Shell Tempered wares were reaching South Yorkshire from areas further south and east (Cumberpatch 2000) and given the apparent diversity of wares even within much larger and apparently relatively homogenous assemblages in East Yorkshire (Vince 2007) it would seem that this may be a characteristic of such assemblages although further work is required across southern Yorkshire before the complexity of the situation, including variability in depositional practice as well as in the procurement and use of pottery, becomes clearer.

Other artefacts

A scrap of slag from the fill (1707) of Phase 1 gully 1708 and a small fragment of ceramic building material from the fill (1694) of Phase 4 pit 1695 were assessed. These were not considered to be diagnostic, however, and are not reported further.

7 Environmental Record

Plant and invertebrate macrofossils by Alexandra Schmidl, John Carrott and Alex Beacock

Two bulk sediment samples ('GBA'/'BS' *sensu* Dobney *et al*. 1992) taken from fill 1794 of ditch 1706 and from fill 1702 of its re-cut 1704. The samples were submitted for an evaluation of their bioarchaeological potential and a report has been prepared (Schimdl *et al.* 2008), which will be deposited as part of the archive. The following is a summary of that report.

Methods

The samples were inspected and their lithologies were recorded, using a standard pro forma, prior to processing. For each, a subsample was processed broadly following the techniques of Kenward *et al*. (1980). Prior to processing the subsamples were disaggregated in water for 24 hours or more and their volumes recorded in a waterlogged state.

The processing resulted in large quantities of organic remains (predominantly waterlogged plant material), with very little mineral content, which were not separated into washover and residue fractions and were examined wet. The remains were scanned for identifiable plant and invertebrate macrofossils, and other biological and artefactual remains. Paraffin flotation was not employed as remains were required for submission for radiocarbon dating and consideration was given to the identification of remains suitable for this purpose.

Nomenclature for plant taxa follows Stace (1997) and insects follow Kloet and Hincks (1966-77).

Results

The results are presented in context number order. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample numbers. Summary information for the recorded remains is presented in Table 6.

Context 1702 [fill of ditch re-cut 1704]

Sample 11/T (2.3kg/2.5 litres sieved to 300 microns; approximately 100g of unprocessed sediment remain with PRS and a further 7 litres with ASWYAS)

Moist, mid to dark grey-brown to dark reddish-brown, brittle and slightly fibrous to soft (working crumbly), very slightly sandy, silty amorphous organic sediment. A significant part of the sample matrix was coarse woody and herbaceous material, including fragments of wood and twigs.

The remains after processing (250ml) were largely of indeterminate herbaceous plant material, in the form of rootlets, small unidentifiable fibres and a few leaf and twig fragments, with a little sand and fine charcoal (to 5mm). Overall, the preservation of the identifiable waterlogged plant remains from this subsample was often rather poor and the concentration of remains was low. There were numerous remains of celery-leaved buttercup and smaller quantities of floating sweet-grass, marsh pennywort and water-dropwort, all indicating wet places such as marshes, fens or bogs. Nuts and twig fragments of alder were frequently recorded and these, together with the other plant remains and very large numbers of cladoceran (water flea, including Daphnia) ephippia (resting eggs) which also imply standing water, suggested and environment of alder carr. In addition, there were a few remains of wild plant taxa of drier areas of waste and open ground, such as common nettle and nipplewort. Insect remains were numerous but poorly preserved. Although there were occasional better preserved beetle sclerites, most were unidentifiable owing to severe fragmentation and chemical erosion; a few fragments of ground beetle (Carabidae) elytron were noted and there were also a few ?Hydraena sp. Curiously, there were quite large numbers of rather well preserved mites (Acarina) present.

Context 1794 [primary fill of ditch 1706]

Sample 20/T (2.9kg/2.5 litres sieved to 300 microns; approximately 100g of unprocessed sediment remain with PRS and a further 7 litres with ASWYAS)

Just moist, mid to dark brown to mid to dark yellow-brown (with some pale grey layers, and mid yellow-brown, dark gray and orange-brown patches), soft to sticky (working plastic), silty clay. Small stones (2 to 6mm) and charcoal were present.

The remains after processing (250ml) were, again, mostly of herbaceous (mostly modern rootlet) and woody detritus, including some small branches of alder (to 20mm) and much 'twiggy' debris, with some sand, a few undisaggregated sediment lumps and an occasional fragment of charcoal (to 5mm). A wide range of well preserved waterlogged seeds and fruits was recovered from this deposit, largely from species growing in alder carr and wet places such as marshes or fen (e.g. celery-leaved buttercup, floating sweet-grass, water-dropwort). Cladoceran ephippia were numerous though not quite so abundant as in the previous sample. Again, there were also some wild plant taxa indicative of disturbed habitats such as areas of open/rough ground, including chickweed, common nettle and creeping thistle. Identifiable invertebrate remains (other then the ephippia) were very few (although there were quite large numbers of fragments). Preservation of beetle remains was extremely poor, with the sclerites being both heavily fragmented and eroded; largely reduced to no more than 'filmy' scraps. The only insect remains identified (at least in part) were a few poorly preserved ant (Formicidae) heads.

A small twig fragment of alder (Alnus)/willow (Salix)/hazel (Corylus) – most likely alder – weighing approximately 1g (waterlogged) and representing less than twenty years of wood growth, was submited for radiocarbon dating.

Discussion

Most of the organic material recovered was 'woody' and herbaceous plant material. Identifiable ancient plant remains were present in both subsamples, largely in the form of rather variably preserved waterlogged seeds and fruits. Overall, the plant assemblage from fill 1702 was rather small, with individual remains showing significant damage and decay (i.e. fragmented and seed coats were mostly corroded), with that from fill 1794 being better preserved, larger and more diverse.

For both deposits, most of the botanical remains were from 'woody' taxa, especially nuts from alder and fruit stones from hawthorn and blackberry/raspberry, but there were also some plant taxa from marsh or fen (e.g. branched bur-reed, celery-leaved buttercup, floating sweet grass, marshy pennywort, water-dropwort) and waste places (e.g. chickweed, common nettle, creeping thistle). The assemblages represented various natural habitats, such as areas of wet woodland (alder carr), more open wetlands and drier areas of waste ground; the last more clearly indicated in 1794. Cladoceran ephippia were also recorded from each sample and perhaps indicate that standing water was temporary and subject to drying out, or at least significant reduction (perhaps seasonally). Other invertebrate remains were numerous but very poorly preserved, largely unidentifiable and of no interpretative value. It was curious to note that the preservation of invertebrate remains appeared somewhat better in the sample showing poorer preservation of plant material, and vice versa.

No human food remains or waste from human activities (e.g. crop processing) were in evidence, although there were trace amounts of fine unidentified charcoal from each sample.

The character of the assemblages seen here was very similar to others of better preserved remains from previous excavations nearby that have been analysed and reported in detail (see Allison *et al*. 2008, Greig 2005, Smith and Tetlow 2005). These have already provided considerable amounts of information regarding the local environment of Balby Carr in the Late Iron Age.

Table 6. Summary of waterlogged plant and invertebrate remains by context

Context			**1702**	**1794**
Sample			11/T	20/T
Weight of sediment processed (kg)			2.3	2.9
Volume of sediment processed (litres)			2.5	2.5
Volume after processing (ml)			250	250
Wild plant taxa				
Alnus glutinosa (L.) Gaertn.	alder	Nut	x	x
Alnus glutinosa (L.) Gaertn.	alder	female and male cone axis	x	x
Alnus glutinosa (L.) Gaertn.	alder	twig fragment	x	x
Carex	sedge	caryopsis with utriculus		x
Cirsium arvense (L.) Scop.	creeping thistle	Achene		x
Crataegus monogyna Jacq.	hawthorn	fruit stone		x
Eleocharis	spike-rush	Nut	x	x
Glyceria fluitans (L.) R. Br.	floating sweet-grass	Caryopsis	x	x
Hydrocotyle vulgaris L.	marsh pennywort	Mericarp	x	x
Lapsana communis L.	nipplewort	Achene	x	x
Lycopus europaeus L.	gypsywort	Nutlet	x	x
Oenanthe	water-dropwort	Mericarp	x	x
Persicaria	knotweed	Achene		x
Poaceae	grass family	Caryopsis		x
Polygonum aviculare L.	knotgrass	Achene		x
Ranunculus acris L./R. repens L.	meadow/creeping buttercup	achene		x
Ranunculus flammula L.	lesser spearwort	Achene	x	
Ranunculus subg. *Batrachium*	crowfoot	Achene	x	x
Ranunculus sceleratus L.	celery-leaved buttercup	Achene	x	
Rubus	rose/bramble	Prickle	x	x
Rubus fruticosus L. agg./ R. *idaeus* L.	blackberry/ raspberry	fruit stone	x	x
Rumex	dock	Achene		x

Context			**1702**	**1794**
Sample			11/T	20/T
Sambucus nigra L.	elder	Seed	x	
Sonchus asper (L.) Hill	prickly sow-thistle	Achene		x
Sparganium erectum L.	branched bur-reed	Drupe	x	x
Stellaria media (L.) Vill.	chickweed	Seeds		x
Urtica dioica L.	common nettle	Achene	x	x
Other plant remains				
Charcoal			x	x
modern rootlets			x	x
twig fragments			x	x
unidentifiable plant fibres			x	x
wood fragments				x
Invertebrate remains				
ants (Formicidae)				x
beetle (Coleoptera) sclerite fragments			x	x
Cladoceran (including *Daphnia*) ephippia			x	x
mites (Acarina)			x	
Inorganics				
Sand				x
undisaggregated sediment lumps				x

Key: x – present.

Carbonised plant macrofossils and charcoal by Diane Alldritt

A total of four sample flots and one bag of sorted retent material was assessed for carbonised plant macrofossils, including charcoal. Charcoal fragments were identified in order to provide short-lived types suitable for radiocarbon dating and to provide an indication of fuel types in use at the site.

Methodology

Bulk environmental samples were processed by ASWYAS using an Ankara style water flotation system (French 1971) and dried before being forwarded for sorting and analysis. Charred material was generally quite rare with <2.5ml to 5ml of cereal grain, charcoal fragments and tea-leaf size detritus present. Modern roots were recorded in small amounts varying from <2.5ml to up to 35ml, although some of this material may originally have been

waterlogged leaf-litter and so forth. All four samples contained dry 'waterlogged' plant remains such as wood and seeds. Identified carbonised plant material and charcoal was bagged separately by type.

All charcoal suitable for identification was examined using a high powered Vickers M10 metallurgical microscope. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

All results are presented in Table 7 and are discussed below.

Discussion

The four samples examined produced very small trace amounts of generally well preserved carbonised cereal grain and weed seeds, together with a small quantity of nicely preserved wood charcoal. It would appear from the large amount of dried waterlogged seeds recorded that the main source of preservation in the sampled area was indeed by the processes of waterlogging, with very little charred material being present in the samples examined.

Carbonised cereal grain was recorded from one of the samples only, with a single specimen of *Hordeum vulgare* sl. (barley) recovered from sample 17, (fill 1729 of gully 1730). This specimen provided the only tentative indication for cereal agriculture occurring in the vicinity of the site. The sample also contained the only charred weed seed in evidence, a solitary *Carex* sp. (sedge), unlikely to be connected to agriculture and more probably arriving at the site from wetland areas such as peat bogs or fen cut for fuel. Although no other evidence for peat was recovered amongst the charred material.

Charcoal fragments constituted the main element of the carbonised assemblage and were recovered in samples 16 (fill 1721 of ditch 1723), 17 (fill 1729 of gully 1730) and 18 (fill 1751 of ditch 1738) mostly from the retent portions. Four different woodland types were identifed, with *Corylus* (hazel) in sample 16 (1721), *Betula* (birch) in 17 (1729), *Quercus* (oak) in 18 (1751), and *Salix* / *Populus* (willow / poplar) in both (1729) and (1751). This combination of types suggested mixed deciduous woodland with open lighter, probably scrub areas being used as a source of fuel. Birch and willow/poplar may have been growing as scru /shrubs or small trees on wetter areas, such as peat bogs and wetland edges, or in generally damp conditions around the site. All may have been gathered for fuel, with scrub types in particular easily exploitable without the effort of cutting down whole trees. All types recorded apart from oak would be suitable for radiocarbon dating submission and all were nicely preserved.

Conclusion

Overall the samples produced very few charred plant remains, with preservation indicative of waterlogged seeds and leaf-litter. The identifiable charred material, however, did provide a trace indication of cereal grain (barley) agriculture and for the use of woodland resources as

fuel. Various types of open woodland and scrub type trees were exploited for fuel at the site, in particular willow/poplar, birch and hazel, with trace evidence for oak also.

Table 7. Summary of carbonised plant macrofossils and charcoal

	Sample	2	16	17	18
	Context	1613	1721	1729	1751
	Feature	1674	1723	1730	1738
	Total CV	<2.5ml	<2.5ml	2.5ml	5ml
	Modern	15ml	20ml	15ml	15ml
Carbonised Cereal Grain	**Common name**				
Hordeum vulgare sl.	Barley			1	
Charcoal					
Quercus	Oak				1 (0.25g)
Corylus	Hazel		2 (0.01g)		
Betula	Birch			2 (0.02g)	
Salix/*Populus*	willow/poplar			1 (0.06g)	2 (0.43g)
Carbonised Weeds					
Carex sp.	Sedges			1	
Other Remains					
Dry (waterlogged) seeds		10+	30+	30+	20+
Dry (waterlogged) wood/twigs					10+
Non-marine mollusc shell		6			
Earthworm egg capsules		8			

Animal Bone by Jane Richardson

In total, 68 fragments of animal bone were recovered (Table 8), predominantly from gully fills, although pit 1695 contained a single cattle bone fragment (1694) and ditches 1706 and 1738 contained cattle and horse bones (1703 and 1737), as well as sheep(/goat) bones (1778) from the re-cut of ditch 1706.

The condition of the bones varied from highly eroded and porous bones to bones with dense, unaltered surfaces. Fragmentation also fluctuated with the majority broken, but complete bones were also recovered. Presumably, rates of deposition and/or the burial environment varied, although no pattern by feature type was observed.

Too few bones were recovered to consider herd management strategies (in terms of age and sex data), but the presence of a few butchered bones (mainly large mammal ribs) is indicative of food consumption. One unusual deposit was the recovery of an almost complete cattle skull from a fill (1703) of ditch 1706 (Plate 3).

Table 8. Animal bone fragments by context (bones recovered from soil samples in italics)

Context	Feature	Cattle	Horse	Sheep	Sheep/goat	Dog	Large mammal	Small mammal	Total
1514	1515	8				1			9
1525	1526	1							1
1554	1558							2	2
1560	1528				1				1
1617	1674						1		1
1666	1708	1					1		2
1676	1675	1			1		1		3
1683	1672		1						1
1685	1684	1							1
1692	1693	2					1		3
1694	1695	1							1
1703	1706	2	1				4		7
1709	1710	1		1			1		3
1715	1717						1		1
1718	1719						1		1
1729	1730			1	2		8	3	14
1734	1735		2		1		1	1	5
1736	-	1							1
1737	1738	1							1
1751	*1738*				*1*			*2*	*3*
1761	1764	1					1		2
1778	1704			1	2			1	4
1782	1777		1						1
Total		21	5	3	8	1	21	9	68

8 Radiocarbon Dating

Two samples were submitted to the Scottish Universities Environmental Research Centre (SUERC) for radiocarbon dating. The aim was to provide a date for the infilling of ditch 1706, a stratigraphically early field or enclosure boundary. A section of a later enclosure to the north-east (investigated here as ditch 1777) has been previously evaluated and radiocarbon dating from the site indicated its use during the Late Iron Age (Richardson 2008). Late Iron Age dates were also returned for Ditch 1706.

Table 9. Summary of the results of radiocarbon dating

Context	Feature	Lab. code	Sample material	1σ date range	2σ date range	Radiocarbon age BP	13C/12C Ratio
1703	Ditch 1706	SUERC – 19393	Cattle bone – right premaxilla	cal BC 190-BC 50	cal 350 BC - 50 BC	2110 ± 35	-21.0‰
1794	Ditch 1706	SUERC – 19394	Waterlogged wood (alder/ willow/ hazel)	cal 90 BC – 30 AD	cal 160 BC – AD 60	2025 ± 35	-27.3‰

9 Discussion

The most obvious difference between this Site and other previously excavated areas at Balby Carr was the greater density of features identified and the relatively small area that they covered (Fig. 3). This strongly suggests that a different type of activity was being carried out in this area – drainage, rather than settlement (cf. Richardson 2008; Rose and Roberts 2006) and the ordered division of the land for livestock or cultivation (cf. Jones 2007). Drainage was facilitated by the construction of a number of drainage gullies, which served to carry water from east to west towards the former wet area. Although the deposits in the wet area were dated to the post-medieval period, the orientation of the majority of the drainage gullies strongly suggests that this was also a wet and boggy area in the pre-Roman Iron Age. The large number of gullies and the fact that so many truncated one another may suggest that these features were dug informally. It is likely that such activity may also have been repeated regularly, perhaps seasonally or annually. The need to drain the land by cutting gullies certainly both pre- and post-dated the construction and use of the field/enclosure boundaries.

Balby Carr may not have been permanently occupied during the Iron Age and Romano-British periods, as palaeoenvironmental evidence from the Site and from previous investigations indicates that at least part of the area consisted of alder carr and wet meadow that would have been seasonally inundated during winter and spring (Jones 2007; Richardson 2008). The palaeoenvironmental data have also indicated that ditches were periodically filled with standing water, so a concern with drainage and water management was highly likely. Dung beetle fauna support the notion that agricultural activity in the area might have been largely confined to seasonal livestock grazing. Cultivated fields were probably located on slightly higher, drier ground.

Some features, however, were comparable with the types of archaeological features investigated previously. These are the larger ditches cut on different alignments to the smaller, more sinuous drainage gullies. Ditches 1706 and 1505 appear to represent southern and western boundaries respectively of two possible enclosures or field systems, both of which were re-cut at least once. Two radiocarbon dates from Ditch 1706 suggest that this

preliminary boundary dates to the 1st century BC. One or both of these enclosure/field boundaries may represent the continuation of the complex of 'brickwork' plan field systems (Jones 2007) identified to the east. Meanwhile, ditch 1777, constructed after ditch 1706 and its re-cut 1704 were abandoned, appears to correspond with the south-west corner of a large sub-rectangular enclosure identified as a crop mark. This enclosure has already been investigated (Richardson 2008) and the results from an albeit limited radiocarbon dating programme at both sites suggest that this second phase of enclosure was also Late Iron Age in inception.

Artefact recovery from these enclosures/fields was minimal, although it is revealing that the majority of the pottery from the Site was recovered from gullies located within the large sub-rectangular enclosure mapped as a crop mark. Evidence for domestic occupation, in the form of roundhouse gullies, daub and querns was absent, however, while debris such as animal bones and pottery was scarce. Although the previous excavations have not produced an overabundance of finds, a concentration of such material from the 2004 excavations to the north-east (Fig. 2) suggests that occupation (although still possibly seasonal) was located in this area. In contrast, this Site and the fields excavated by BUFAU to the east are more likely to have been used for agricultural purposes. Given the damp, low-lying nature of this area, seasonal grazing of livestock, rather than crop husbandry, is probable.

10 Conclusions

The archaeological remains encountered during the current stage of works represent a continuation of the land enclosure activity recorded to the east and north-east of the Site (Jones 2007; Richardson 2008; Richardson and Rose 2005). Ditch 1777 was also previously identified as a crop mark enclosure. Radiocarbon dating and the pottery evidence suggests that the features on the Site were of pre-Roman conquest date, in line with the dating evidence obtained from earlier interventions. In contrast, however, land management here differed significantly with the cutting of numerous irregular drainage gullies. These confirmed that the landscape was low-lying wetland and that it was necessary to drain water from higher ground in the east and south-east to lower land in the west.

A publication of the archaeological landscape including the findings from this Site is anticipated.

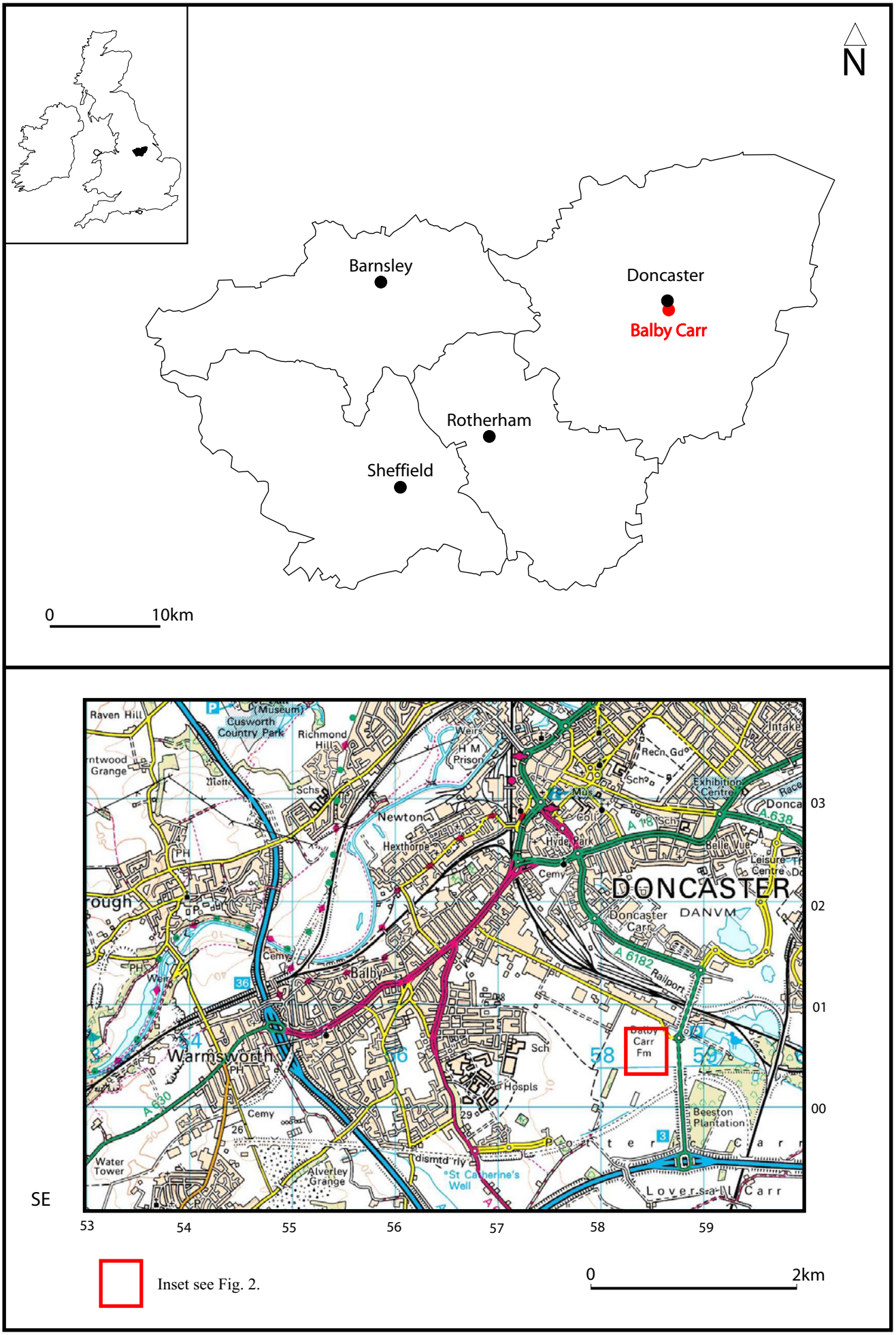


Fig. 1. Site location

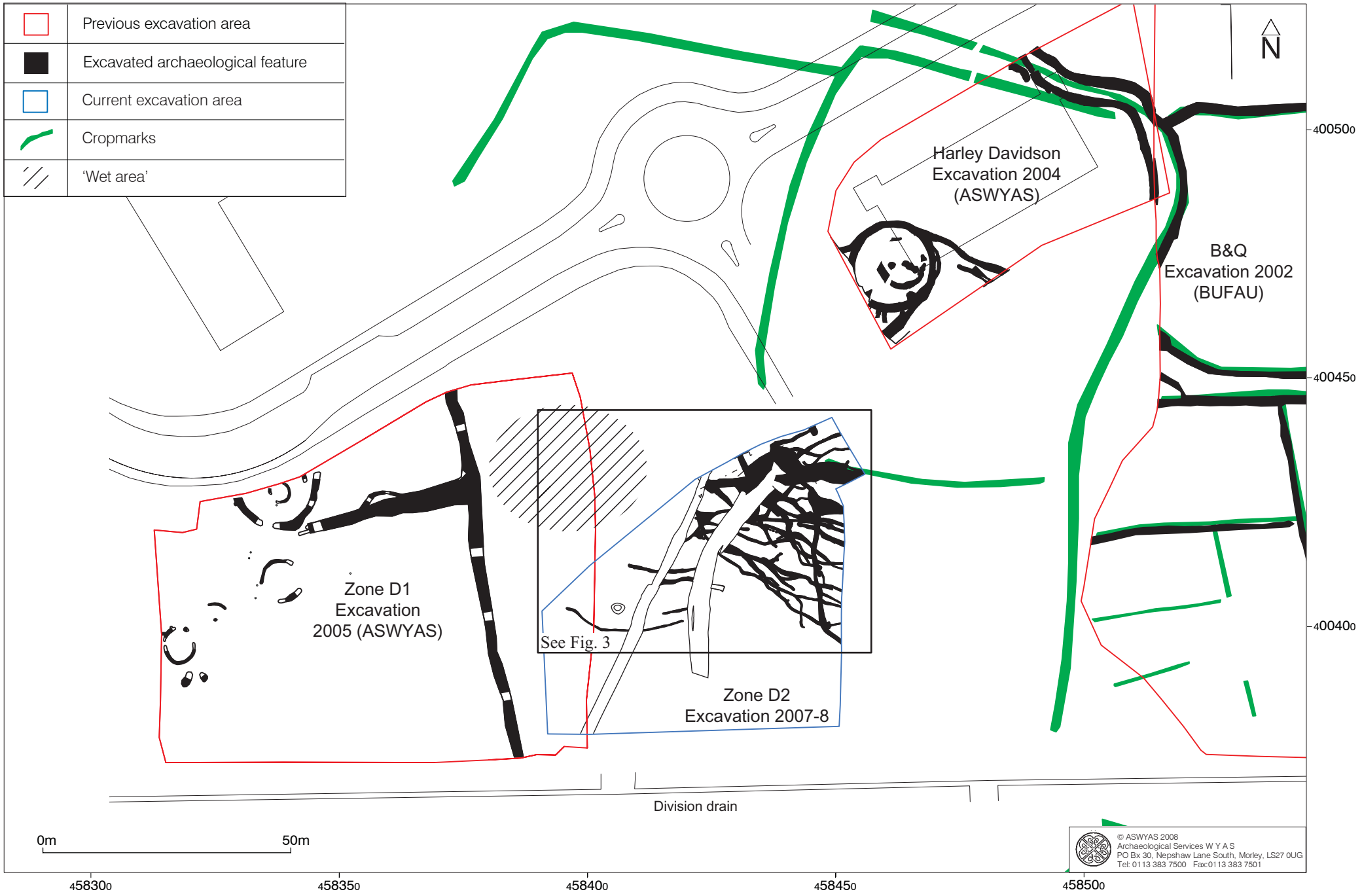


Fig. 2. Site plan in relation to previous excavations (1:1000 scale)

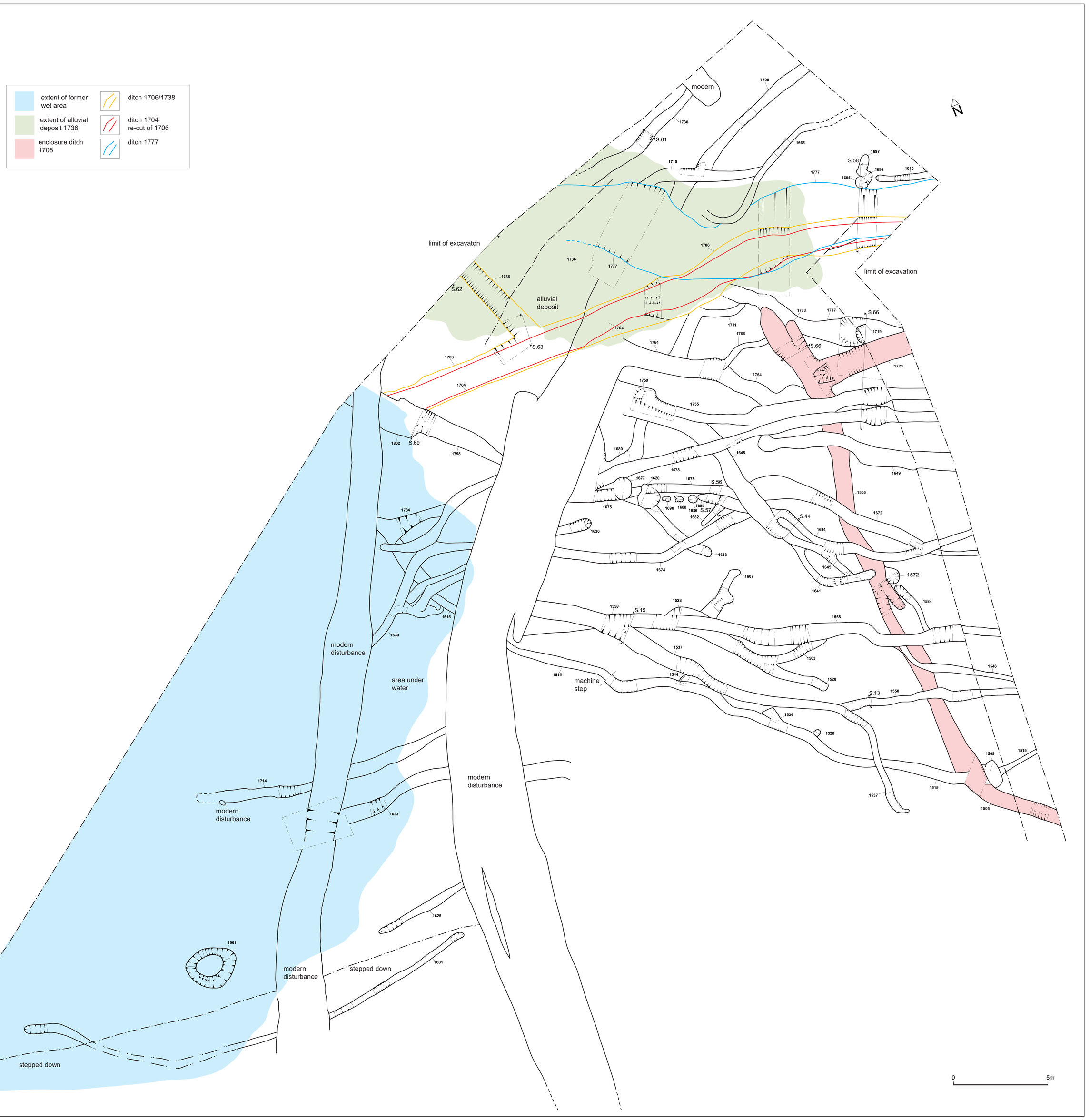
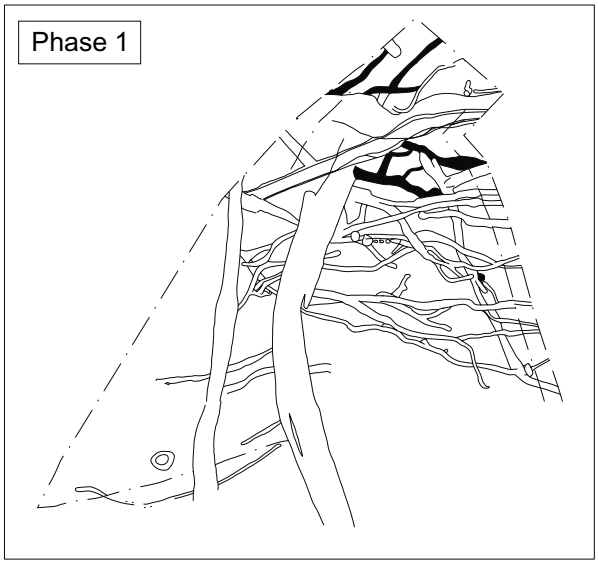
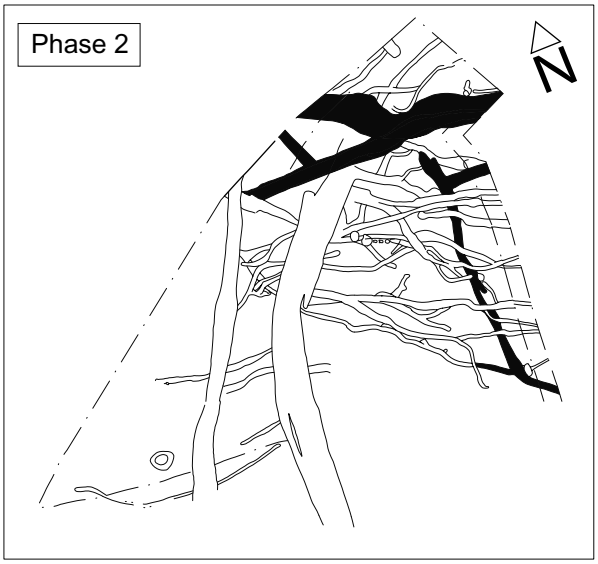
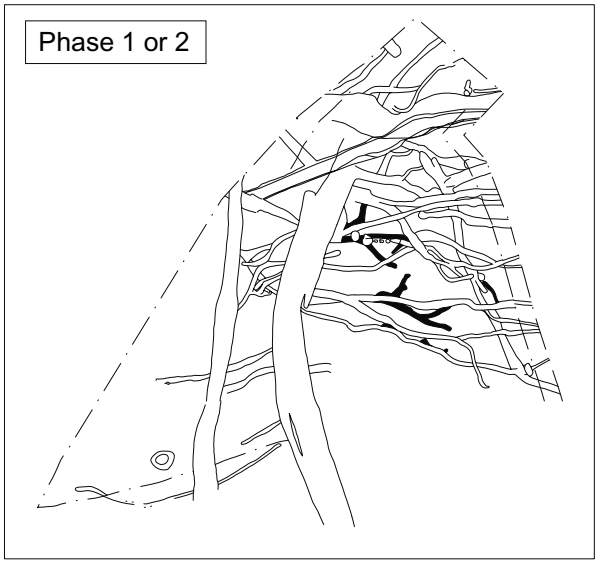
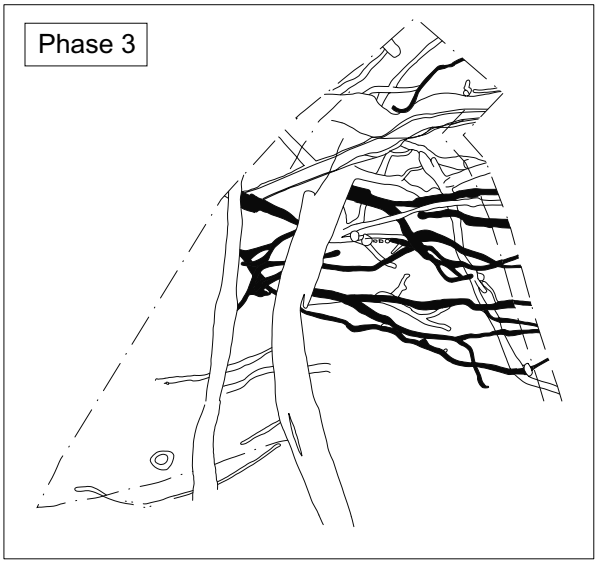


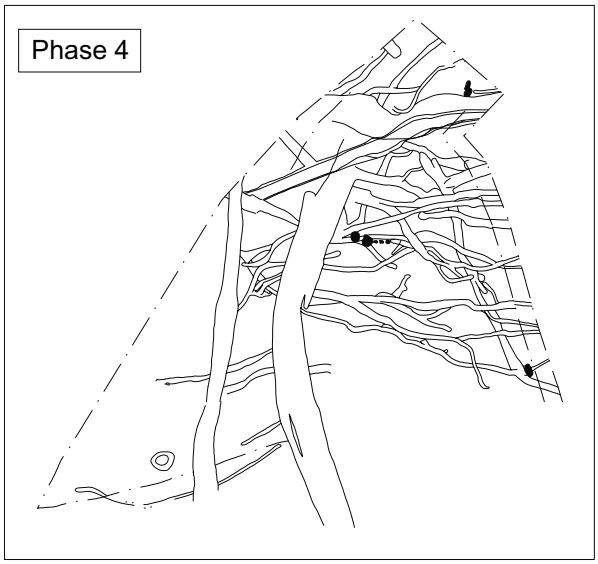
Fig. 3. Site plan (scale 1:100)











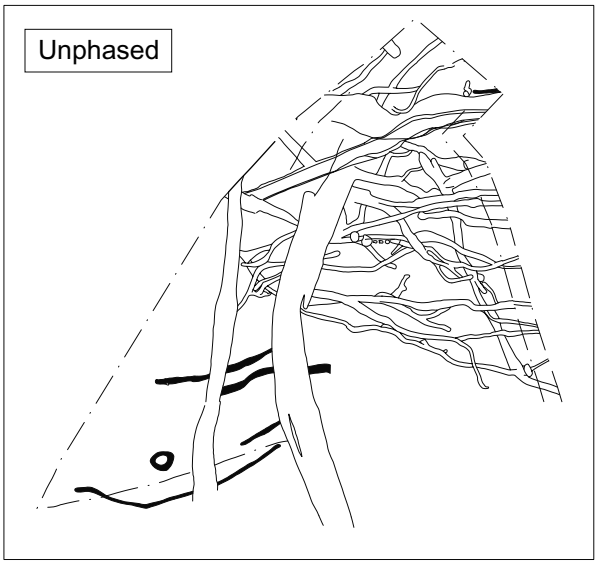


Fig. 4. Phase plans (not to scale)

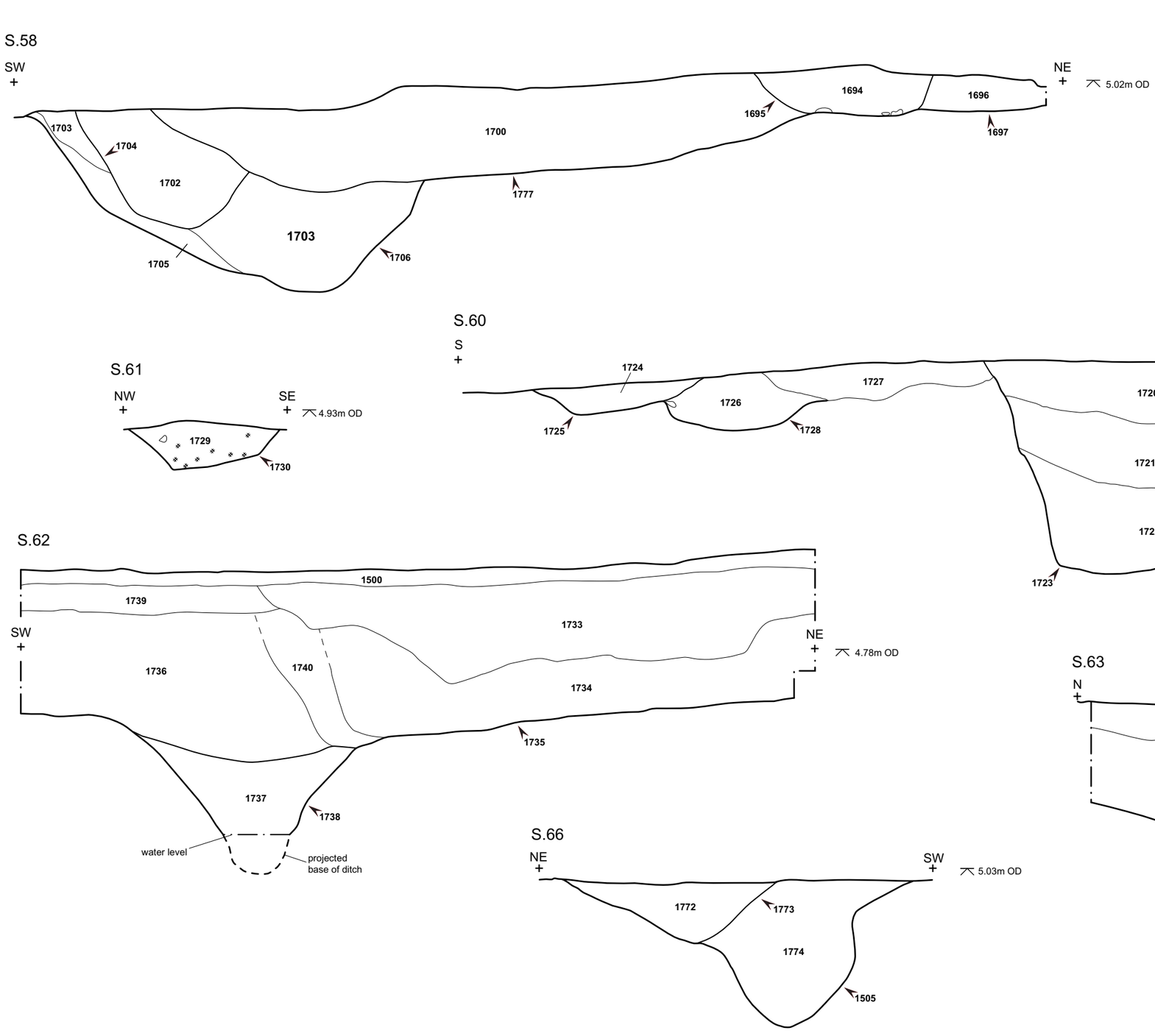


Fig. 5. Phases 1 and 2: sections (scale 1:20)

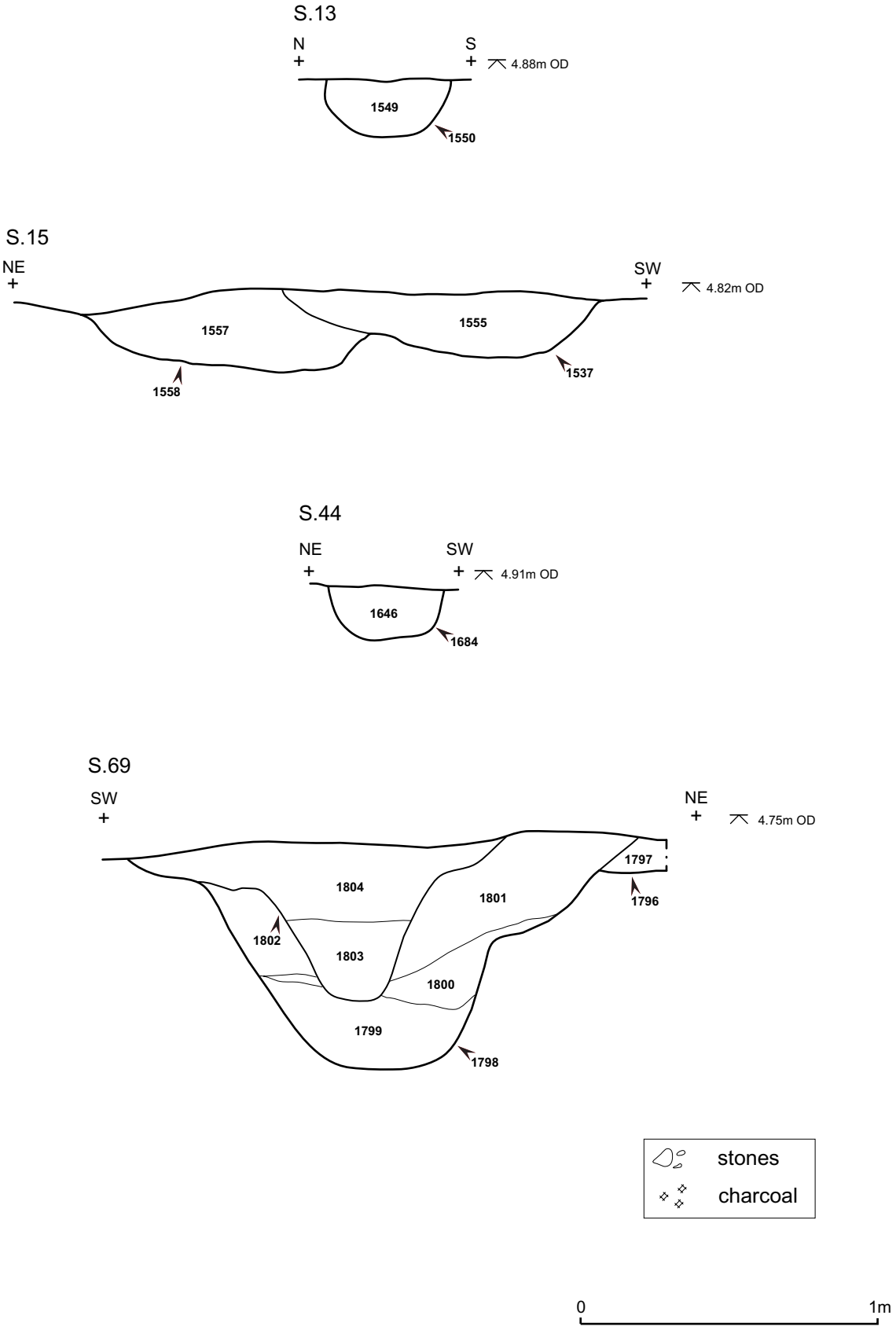


Fig. 6. Phases 3 and 4: sections (scale 1:20)

Fig. 7. Pottery Nos 1, 2, 3 and 8. Scale 1:4

Plate 1. General view of site looking south-west

Plate 2. Pre-excavation view of gullies and ditches looking north

Plate 3. Ditch 1706 and its re-cut with a cattle skull towards the base looking north-west

Plate 4. Ditch 1505 and its re-cut looking north

Plate 5. Ditch 1723 and gully 1719 looking south-east

Plate 6. Gullies 1537 and 1550 looking south-east

Appendix 1: Inventory of primary archive

File No	Description	Quantity
1	Context register sheets	13
1	Drawing register sheets	4
1	Levels sheets	11
1	Sample register sheets	1
1	Finds and samples (Form B) sheets	1
1	Photo register sheets	14
1	Digital photo record sheets	2
1	Digital photo (CD)	1
1	Colour negative strips	6
1	B&W negative strips	6
2	Context sheets (nos. 1500-1699)	186
3	Context sheets (nos. 1700-1804)	102
4	Small drawing paper sheets	12
Loose	Large drawing paper sheets	8

Appendix 2: Concordance of contexts

Context	Description	Group	Artefacts and environmental samples
1500	Topsoil	-	-
1501	Natural clay	-	-
1502	Fill of 1503	Gully 1537	-
1503	Gully	Gully 1537	-
1504	Fill of 1505	Ditch 1505	-
1505	Ditch	Ditch 1505	-
1506	Fill of 1516	Gully 1515	-
1507	Gully	Gully 1515	-
1508	Fill of 1509	-	-
1509	Pit	-	-
1510	Fill of 1509	-	-
1511	Fill of 1512	Gully 1515	-
1512	Gully	Gully 1515	-
1513	Fill of 1515	Gully 1515	-
1514	Fill of 1515	Gully 1515	Animal bone
1515	Gully	Gully 1515	-
1516	Ditch	Ditch 1777	-
1517	Fill of 1516	Ditch 1777	-
1518	Fill of 1520	Gully 1550	-
1519	Fill of 1520	Gully 1550	-
1520	Gully	Gully 1550	-
1521	Fill of 1522	Gully 1558	-
1522	Gully	Gully 1558	-
1523	Fill of 1524	Gully 1558	-
1524	Gully	Gully 1558	-
1525	Fill of 1526	-	Animal bone
1526	Pit	-	-
1527	Fill of 1528	Gully 1528	-
1528	Gully	Gully 1528	-
1529	Fill of 1530	Gully 1515	-
1530	Gully	Gully 1515	-
1531	Fill of 1532	Gully 1515	-
1532	Gully	Gully 1515	-
1533	Fill of 1534	-	-
1534	Pit	-	-
1535	Fill of 1537	Gully 1537	-
1536	Fill of 1537	Gully 1537	-
1537	Gully	Gully 1537	-
1538	Fill of 1540	Gully 1537	-
1539	Void	-	-
1540	Gully	Gully 1537	-
1541	Fill of 1542	Gully 1515	-
1542	Gully	Gully 1515	-
1543	Fill of 1544	-	-

Context	Description	Group	Artefacts and environmental samples
1544	Pit	-	-
1545	Fill of 1546	-	-
1546	Unexcavated gully	-	-
1547	Void	-	-
1548	Void	-	-
1549	Fill of 1550	Gully 1550	-
1550	Gully	Gully 1550	-
1551	Fill of 1552	Gully 1537	-
1552	Gully	Gully 1537	-
1553	Gully	Gully 1558	-
1554	Fill of 1553	Gully 1558	Animal bone; sample 1
1555	Fill of 1556	Gully 1537	-
1556	Gully	Gully 1537	-
1557	Fill of 1558	Gully 1558	-
1558	Gully	Gully 1558	-
1559	Gully	Gully 1528	-
1560	Fill of 1569	Gully 1528	Animal bone
1561	Void	-	-
1562	Void	-	-
1563	Gully	Gully 1563	-
1564	Fill of 1563	Gully 1563	-
1565	Fill of 1566	Ditch 1505	-
1566	Ditch	Ditch 1505	-
1567	Fill of 1568	Ditch 1777	-
1568	Ditch	Ditch 1777	-
1569	Fill of 1570	Ditch 1505 re-cut	-
1570	Ditch	Ditch 1505 re-cut	-
1571	Fill of 1572	-	-
1572	Pit	-	-
1573	Fill of 1574	Ditch 1505	-
1574	Ditch	Ditch 1505	-
1575	Fill of 1576	Ditch 1505	-
1576	Ditch	Ditch 1505	-
1577	Fill of 1578	Gully 1558	-
1578	Gully	Gully 1558	-
1579	Fill of 1580	Gully 1558	-
1580	Gully	Gully 1558	-
1581	Fill of 1582	Gully 1563	-
1582	Gully	Gully 1563	-
1583	Fill of 1584	-	-
1584	Gully	-	-
1585	Void	-	-
1586	Gully	Gully 1528	-
1587	Fill of 1586	Gully 1528	-
1588	Gully	Gully 1528	-
1589	Fill of 1588	Gully 1528	-

Context	Description	Group	Artefacts and environmental samples
1590	Gully	Gully 1558	-
1591	Fill of 1590	Gully 1558	-
1592	Fill of 1593	Gully 1684	-
1593	Gully	Gully 1684	-
1594	Fill of 1595	Gully 1672	-
1595	Gully	Gully 1672	-
1596	Fill of 1597	Gully 1601	-
1597	Gully	Gully 1601	-
1598	Fill of 1599	Gully 1601	-
1599	Gully	Gully 1601	-
1600	Fill of 1601	Gully 1601	-
1601	Gully	Gully 1601	-
1602	Fill of 1603	Gully 1601	-
1603	Gully	Gully 1601	-
1604	Fill of 1605	-	-
1605	Natural feature	-	-
1606	Fill of 1607	Gully 1607	-
1607	Gully	Gully 1607	-
1608	Fill of 1507	Gully 1515	-
1609	Fill of 1610	Gully 1610	-
1610	Gully	Gully 1610	-
1611	Fill of 1792	Ditch 1704	-
1612	Gully	Gully 1674	-
1613	Fill of 1612	Gully 1674	Sample 2
1614	Gully	Gully 1618	-
1615	Fill of 1614	Gully 1618	-
1616	Gully	Gully 1674	-
1617	Fill of 1616	Gully 1674	Animal bone
1618	Gully	Gully 1618	-
1619	Fill of 1618	Gully 1618	Sample 3
1620	Pit	-	-
1621	Fill of 1620	-	Sample 4
1622	Fill of 1623	-	-
1623	Gully	-	-
1624	Fill of 1625	-	-
1625	Gully	-	-
1626	Gully	Gully 1675	-
1627	Fill of 1626	Gully 1675	-
1628	Fill of 1626	Gully 1675	-
1629	Fill of 1620	-	-
1630	Gully	Gully 1630	-
1631	Fill of 1630	Gully 1630	-
1632	Void	-	-
1633	Void	-	-
1634	Void	-	-
1635	Void	-	-

Context	Description	Group	Artefacts and environmental samples
1636	Gully	Gully 1618	-
1637	Fill of 1636	Gully 1618	-
1638	Fill of 1639	Gully 1641	-
1639	Gully	Gully 1641	-
1640	Fill of 1641	Gully 1641	-
1641	Gully	Gully 1641	-
1642	Fill of 1643	Gully 1684	-
1643	Gully	Gully 1684	-
1644	Fill of 1645	Gully 1645	-
1645	Gully	Gully 1645	-
1646	Fill of 1647	Gully 1684	-
1647	Gully	Gully 1684	-
1648	Fill of 1649	-	-
1649	Unexcavated gully	-	-
1650	Fill of 1651	Gully 1641	-
1651	Gully	Gully 1641	-
1652	Fill of 1653	Gully 1645	-
1653	Gully	Gully 1645	-
1654	Void	-	-
1655	Void	-	-
1656	Fill of 1657	Gully 1645	-
1657	Gully	Gully 1645	-
1658	Void	-	-
1659	Void	-	-
1660	Fill of 1661	Gully 1661	Sample 5
1661	Gully	Gully 1661	-
1662	Fill of 1663	Gully 1661	Sample 6
1663	Gully	Gully 1661	-
1664	Fill of 1665	-	Sample 7
1665	Gully	-	-
1666	Fill of 1667	Gully 1708	Animal bone; sample 8
1667	Gully	Gully 1708	-
1668	Gully	Gully 1675	-
1669	Fill of 1668	Gully 1675	Sample 9
1670	Fill of 1677	-	-
1671	Fill of 1672	Gully 1672	Sample 10
1672	Gully	Gully 1672	-
1673	Fill of 1674	Gully 1674	-
1674	Gully	Gully 1674	-
1675	Gully	Gully 1675	-
1676	Fill of 1675	Gully 1675	Animal bone; pottery
1677	Pit	-	-
1678	Gully	Gully 1678	-
1679	Fill of 1678	Gully 1678	-
1680	Gully	Gully 1680	-
1681	Fill of 1680	Gully 1680	-

Context	Description	Group	Artefacts and environmental samples
1682	Gully	-	-
1683	Fill of 1682	-	Animal bone
1684	Gully	Gully 1684	-
1685	Fill of 1684	Gully 1684	Animal bone
1686	Post-hole	-	-
1687	Fill of 1686	-	Sample 12
1688	Post-hole	-	-
1689	Fill of 1688	-	Sample 13
1690	Post-hole	-	-
1691	Fill of 1690	-	Sample 14
1692	Fill of 1693	-	Animal bone
1693	Pit	-	-
1694	Fill of 1695	-	Animal bone; CBM
1695	Pit	-	-
1696	Fill of 1697	-	-
1697	Pit	-	-
1698	Fill of 1699	Gully 1610	-
1699	Gully	Gully 1610	-
1700	Fill of 1701	Ditch 1777	-
1701	Ditch	Ditch 1777	-
1702	Fill of 1704	Ditch 1704	Sample 11
1703	Fill of 1706	Ditch 1706	Animal bone
1704	Ditch	Ditch 1704	-
1705	Fill of 1706	Ditch 1706	-
1706	Ditch	Ditch 1706	-
1707	Fill of 1708	Ditch 1708	Slag
1708	Gully	Ditch 1708	-
1709	Fill of 1710	-	Animal bone; pottery; sample 15
1710	Gully	-	-
1711	Gully	-	-
1712	Ditch	Ditch 1706	-
1713	Fill of 1714	-	-
1714	Gully	-	-
1715	Fill of 1717	-	Animal bone
1716	Lens within 1715	-	-
1717	Gully	-	-
1718	Fill of 1719	-	Animal bone
1719	Gully	-	-
1720	Fill of 1723	Ditch 1723	-
1721	Fill of 1723	Ditch 1723	Sample 16
1722	Fill of 1723	Ditch 1723	-
1723	Ditch	Ditch 1723	-
1724	Fill of 1725	Gully 1678	-
1725	Gully	Gully 1678	-
1726	Fill of 1728	Gully 1755	-
1727	Layer	-	-

Context	Description	Group	Artefacts and environmental samples
1728	Gully	Gully 1755	-
1729	Fill of 1730	-	Animal bone; pottery; sample 17
1730	Gully	-	-
1731	Fill of 1732	-	-
1732	Modern disturbance	-	-
1733	Fill of 1735	-	-
1734	Fill of 1735	-	Animal bone
1735	Modern plant wheel ruts	-	-
1736	Layer	-	Animal bone
1737	Fill of 1738	Ditch 1738	Animal bone
1738	Ditch	Ditch 1738	-
1739	Peat layer overlying all features	-	-
1740	Fill of 1735	-	-
1741	Gully	Gully 1678	-
1742	Fill of 1741	Gully 1678	-
1743	Gully	Gully 1678	-
1744	Fill of 1743	Gully 1678	-
1745	Tree bowl	-	-
1746	Fill of 1745	-	-
1747	Layer	-	-
1748	Fill of 1711	-	-
1749	Fill of 1750	Ditch 1704	-
1750	Ditch	Ditch 1704	-
1751	Fill of 1752	Ditch 1738	Sample 18
1752	Ditch	Ditch 1738	-
1753	Gully	Gully 1645	-
1754	Fill of 1753	Gully 1645	-
1755	Gully	Gully 1755	-
1756	Fill of 1755	Gully 1755	-
1757	Gully	Gully 1755	-
1758	Fill of 1757	Gully 1755	Sample 19
1759	Possible pit	-	-
1760	Fill of 1759	-	-
1761	Fill of 1764	-	Animal bone
1762	Void	-	-
1763	Void	-	-
1764	Gully	-	-
1765	Fill of 1766	-	-
1766	Gully	-	-
1767	Fill of 1769	Ditch 1723	-
1768	Fill of 1769	Ditch 1723	-
1769	Ditch	Ditch 1723	-
1770	Fill of 1771	Ditch 1505 re-cut	-
1771	Ditch	Ditch 1505 re-cut	-
1772	Fill of 1773	Ditch 1505 re-cut	-
1773	Ditch	Ditch 1505 re-cut	-

Context	Description	Group	Artefacts and environmental samples
1774	Fill of 1775	Ditch 1505	-
1775	Ditch	Ditch 1505	-
1776	Fill of 1777	Ditch 1777	-
1777	Ditch	Ditch 1777	-
1778	Fill of 1779	Ditch 1704	Animal bone
1779	Ditch	Ditch 1704	-
1780	Fill of 1781	Ditch 1706	-
1781	Ditch	Ditch 1706	-
1782	Fill of 1783	Ditch 1777	Animal bone
1783	Ditch	Ditch 1777	-
1784	Gully	-	-
1785	Fill of 1784	-	-
1786	Fill of 1784	-	-
1787	Fill of 1788	Gully 1630	-
1788	Gully	Gully 1630	-
1789	Fill of 1790	Gully 1630	-
1790	Gully	Gully 1630	-
1791	Fill of 1792	Ditch 1704	-
1792	Ditch	Ditch 1704	-
1793	Fill of 1795	Ditch 1706	-
1794	Fill of 1795	Ditch 1706	Sample 20
1795	Ditch	Ditch 1706	-
1796	Ditch	Ditch 1704	-
1797	Fill of 1796	Ditch 1704	-
1798	Ditch	-	-
1799	Fill of 1798	-	-
1800	Fill of 1798	-	-
1801	Fill of 1798	-	-
1802	Ditch	-	-
1803	Fill of 1802	-	-
1804	Fill of 1802	-	-

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