



# **BECKFOOT ROMAN CEMETERY AND MILEFORTLET, CUMBRIA**

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## SUMMARY

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This report presents an assessment of the results of an archaeological evaluation conducted in February and March 2006 at the site of the Roman cemetery and milefortlet at Beckfoot, Cumbria (NY 0876 4868). The area thought to accommodate the remains of the milefortlet is a designated Scheduled Ancient Monument (National Monument Number Cu 258), and lies within the Frontiers of the Roman Empire: Hadrian's Wall World Heritage Site. The entire archive is currently held by Oxford Archaeology North (OA North) in Lancaster, pending its eventual deposition at the Senhouse Museum, Maryport, Cumbria.

English Heritage issued a specification in 2005 for an archaeological evaluation at the site of the known Roman cemetery, since the erosion of the site by the sea during the past 100 years has destroyed an archaeological resource of considerable importance, and that this erosion is continuing. Given the difficulties which would be involved in a project to preserve the resource *in situ*, English Heritage considered preservation by record as an alternative option.

Following approval of a project design by English Heritage, a programme of archaeological evaluation was implemented, in order to assess:

- the extent and survival of the cemetery;
- the presence or otherwise of archaeological remains, their quality and preservation;
- the likely position and survival of Milefortlet 15, and whether it had already succumbed to coastal erosion.

The evaluation programme established that there was no evidence of Milefortlet 15, and it may have been lost to the sea, but features related to the cemetery survived in considerable quantity, albeit to various degrees of preservation across the study area. Whilst it was not possible to define the extent of the cemetery closely, activity did seem to be far more concentrated in the north of the study area, with a marked absence of such activity across the more southerly part. Burials in some cases appeared to have occupied distinct plots marked by semi-circular or perhaps penannular ditches, and short sections of linear ditches may represent similar activity. The build up of the sand dunes appeared to have already begun by the time the cemetery was first used; hence some of the buried features which were subject to formal excavation appeared well preserved. Some disturbance in antiquity was evident across most of the study area, and accretion of dune sand appeared to have continued throughout the period in which the cemetery was used as well as in the periods following its abandonment, when the sand was far lighter in colour.

The assessment demonstrated that the material warrants further analysis, as detailed in the individual specialist reports, and is worthy of formal publication. The stratigraphic dataset and the artefactual assemblage are both pertinent to research priorities identified for the North West region in relation to the nature of the coastal frontier in the third and fourth centuries AD, the role of the military in the introduction of cremation burial to the north-west of England, and the nature of the relationship

between the indigenous population and the invading army. The data may also serve to indicate some ethnicity of the Roman army during its occupation of the Solway Coast. The cremation rite itself is currently poorly understood, and the data obtained from further analysis will complement existing studies formed from comparable sites at Chester, Manchester, Lancaster, Low Borrowbridge, Brougham, Birdoswald and Carlisle.

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The archaeological evaluation was directed by Chris Healey, who was assisted by Steve Clarke, Rebekah Pressler and Jeremy Bradley. All survey requirements were completed by Marc Storey, and the illustrations were prepared by Mark Tidmarsh. This report was compiled by Chris Healey, and edited by Mark Brennand and Alison Plummer, who was also responsible for project management.

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## 1. INTRODUCTION

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### 1.1 PROJECT BACKGROUND

- 1.1.1 Beckfoot Roman cemetery lies within a coastal dune system 1.3km to the south of the village of Beckfoot, Cumbria (NY 0876 4868; Fig 1). The cemetery lies 350m to the south-west of the site of Beckfoot Roman fort National Monument Number Cu255), and close to the putative site of Milefortlet 15, a Scheduled Monument which is thought to have formed part of the Roman defences along the Cumbrian coast (National Monument Number Cu 258).
- 1.1.2 The frontier along the Solway coast, as an extension of the earthworks and structures along Hadrian's Wall, was designated in July 2005 as part of the 'Frontiers of the Roman Empire: Hadrian's Wall World Heritage Site'. This is a trans-national UNESCO (United Nations Educational, Cultural and Scientific Organisation) monument designation which initially comprises the Hadrian's Wall complex and the German '*limes*'. Hadrian's Wall and its associated features was first inscribed as a World Heritage Site in 1987.
- 1.1.3 The dune system at Beckfoot is part of the 'Upper Solway Flats and Marshes', a Site of Special Scientific Interest (SSSI) defined and protected by Natural England (Fig 1). The study area is also situated within the Solway Coast Area of Outstanding Natural Beauty (AONB), which covers the Solway coast from Maryport in the south to Rockcliffe in the north. The dune system suffers continuing coastal erosion, being undercut by the sea which then causes collapse of the overlying dunes containing Roman period remains.
- 1.1.4 Various finds from the cemetery have been reported throughout the twentieth century, and the constant erosion of the dunes, and subsequent loss of the archaeological resource, prompted English Heritage to consider preservation of the site by record, rather than *in-situ*. Consequently, the Hadrian's Wall Archaeologist issued a specification for the archaeological evaluation of the cemetery (*Appendix 1*) in order to provide information about the extent, survival and importance of the archaeology of the site.
- 1.1.5 Following the acceptance a Project Design (*Appendix 2*), the issue of Class Scheduled Monument Consent (No 1381), and a Licence to Remove Human Remains (Licence No 06-0006), in February and March 2006 OA North conducted a programme of archaeological evaluation in order to assess any surviving archaeological remains. The fieldwork assembled a body of stratigraphic data, in combination with environmental and artefactual datasets.

### 1.2 SITE DESCRIPTION, GEOLOGY AND TOPOGRAPHY

- 1.2.1 Beckfoot, in the Borough of Allerdale, lies 10km to the north of Maryport, on the north-west Cumbrian coast. The cemetery site is situated immediately to the west of the B5300, approximately 1km north of Mawbray, and 1km south of the village of Beckfoot (Fig 1).

- 1.2.2 The cemetery site overlies a solid geology composed of Permo-Triassic mudstones and sandstones (Countryside Commission 1998, 20). Erosion during the last glaciation reduced much of the rocky geology in the coastal area to a relatively level surface (*op cit*, 21), and the ice sheets deposited glacial till and spreads of sand and gravel, also sculpting drumlins from the boulder clay (*ibid*). Changes in sea level have produced raised beaches along parts of the coast, and during especially low tides the remains of a post-glacial forest are visible to the south of the site, at Allonby Bay (*ibid*). The sand dunes along the coast north of Maryport extend towards Silloth in an almost unbroken line, and these dunes have accumulated in the last 2000 years as the combined action of wind and sea circulates the loose grains before they become fixed by vegetation (E Huckerby *pers comm*).
- 1.2.3 The site is currently covered by an irregular dune system supporting grassland (Martin 2006, 2), and the activity of the Solway Firth has eroded the lower parts of these dunes, causing the collapse of the upper levels at the rate of *c* 0.3m a year (*Appendix 1*, 1). The cliff appears to be punctuated by a sandy knoll around which the active dune system flows (J Huntley *pers comm*).

### 1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 1.3.1 ***The Mesolithic, Neolithic and Bronze Age Periods (c 8000 - 600 BC)***: the climatic amelioration which followed the recession of the glacial ice encouraged the population of the area during the Mesolithic period, and tools, in the form of flint scatters, have been recorded on the west Cumbrian coast at St Bees (Cherry and Cherry 1983, 8). Nascent cereal agriculture, suggested for the early Neolithic period by palynological evidence from Solway Moss and Barfield Tarn (Hodgkinson *et al* 2000, 322; Pennington 1970), is partly attested by a 'Neolithic' quern, now lost, which is recorded as having been found a small distance to the north of the cemetery site at Beckfoot (HER 560). Settlement evidence is scarce, but may be represented by cropmarks, and it appears from the limited evidence available that Neolithic settlement in the west of Cumbria was a mixture of seasonal transhumance and permanently occupied sites (Hodgson and Brennand 2006, 33). Settlement evidence in the Bronze Age is rather more problematic, as the small number of excavations which have been conducted have not produced secure dating evidence (*ibid*). A picture of mixed permanent settlement and transhumance may have persisted into the Bronze Age, although there were undoubtedly changes in other aspects of society and economy (*ibid*). The Cumbria Historic Environment Record (HER) records a selection of probable Bronze Age flint objects (HER 17823) as having been found in the immediate vicinity of the Beckfoot cemetery.
- 1.3.2 ***The Iron Age (c 600 BC - AD 43)***: evidence for Iron Age activity in Cumbria is rare, with this largely aceramic period proving difficult to identify and date in the archaeological record (Hodgson and Brennand 2006, 51). The pollen record seems to show lower levels of human activity in the earlier part of the Iron Age, with a marked increase towards the end of the period, manifested in large-scale woodland clearances and cereal cultivation (Hodgkinson *et al* 2000, 114-15; McCarthy 2002, 43). The dating of physical remains of

settlement is more problematic, however. It is likely that some of the lowland enclosed sites, visible as cropmarks, as well as enclosed and unenclosed settlement remains in the uplands, date to the Iron Age (Hodgson and Brennand 2006, 53; Philpott 2006, 74). The 'hillfort' type triple-ditched enclosure at Swarthy Hill, 9km to the south of Beckfoot, produced a single Middle Iron Age date (Bewley 1992), while potential enclosure sites at Burghby-Sands and Scotby Road, Carlisle, remain undated (McCarthy 2002, 43). Bewley proposed pre-Roman phases at several sites across the Solway Plain (1994, 77), and excavations at New Cowper Farm, Aspatria, are likely to have uncovered Iron Age remains (Gareth Davies pers comm), for which publication is awaited. Overall, the evidence remains too scant to reconstruct anything but the outline of Iron Age society prior to the Roman invasion. Woodland clearance, enclosures and potential field systems suggest mixed farming was practised, with little evidence of hierarchy in settlements or material culture. It has recently been argued, however, that the Roman army invaded and occupied the North West because the economic and agricultural structure was already in place to support a large garrison (Wells 2003, 81).

- 1.3.3 ***Roman Period Beckfoot:*** the military systems employed by the Roman army along the Solway coast are poorly understood when compared to the frontier known as Hadrian's Wall (Breeze 2004, 83). It has traditionally been viewed as an extension of the Hadrian's Wall frontier, the physical barrier which was created in the AD 120s parallel to the broad line of the supply route known as the Stanegate (Breeze and Dobson 2000). The nascent early frontier along the Stanegate appears under Hadrian to have been extended west of Carlisle to protect the fertile Solway plain against incursions from the adjacent Scottish coast (Daniels 1978, 33), beside a seven-and-a-half mile long Firth comprising a number of narrow channels, some of which are fordable at low tide. At Bowness, the western end of Hadrian's Wall, the Solway estuary widens rapidly, but to the south and west of this formal end to the Wall, a series of regularly spaced milefortlets and towers has been identified (Bellhouse 1989), traced down the Cumbrian coast as far as Maryport. The work of Professor GDB Jones, however, has led to the suggestion that some sort of defensive system existed west of Carlisle prior to Hadrian's Wall (Jones 1990). Professor Jones recorded parallel ditches to the west of Milefortlet 1 (Jones 1982, 239-40), apparently delineating a possible 'military' zone. The existence of such a system of earthworks, though, has yet to be convincingly affirmed (Breeze 2004, 78).
- 1.3.4 The existence of a series of four forts along this coast is well-recorded, at Beckfoot, Maryport, Burrow Walls, and Moresby (Breeze 2004, 78). Beckfoot lay within the system of milefortlets, which apparently correspond to the milecastles on Hadrian's Wall (Daniels 1978, 33). Breeze has suggested that it is possible that forts situated further inland from Beckfoot and Maryport (Old Carlisle to the east of Beckfoot, and Papcastle to the east of Maryport) may have provided troops to man the smaller defensive structures prior to the construction of the coastal forts (Breeze 2004, 80). This would lend weight to the possibility that the milefortlets and towers along the Solway coast were an extension of Hadrian's Wall as first planned, similarly comprising milecastles and turrets (*ibid*). The relationship between the forts and the smaller structures

is equally enigmatic: they may have formed a coherent system for a time (*op cit*, 79), and while there are strong indicators of Antonine abandonment of installations smaller than forts, the forts appear to have at least been occupied into the fourth century (*op cit*, 81-2). The lack of clarity in the chronology and development of this putative extension of the Hadrianic frontier results from the relative lack of modern archaeological work when compared to the wider frontier (*op cit*, 84).

- 1.3.5 Roman troops are believed to have moved north (Carrington 1985) to conquer the territory of the Brigantes under the governorship of Petillius Cerealis, after AD 71 (Shotter 2004), and dendrochronology suggests that the first fort at Carlisle was built in the winter of AD 72-3 (Zant forthcoming). The fort at Beckfoot, however, has been little studied, the only excavations taking place in 1879-80 (Breeze 2006, 386-7), but recent excavation work at Maryport may suggest a Flavian (AD 69-96) precursor to the fort there (J Laskey *pers comm*). The archaeological material recovered from the forts at Beckfoot and Maryport from the later fourth century appears to indicate a continued occupation of these sites throughout the third and fourth centuries AD. The reasons for the continued importance of a frontier along this section of coast have been associated with the healthy economy of the Carvetii, bolstered by Roman economics, and the threat of raiding from across the Solway Firth (Shotter 2004). Given the favoured role of Hadrian's Wall in controlling goods, stock, and money across the border, the Solway coast would also have needed monitoring in the face of smuggling (*ibid*). Persistent attacks from the north early in the third century seem to have coincided with an hiatus in the maintenance of the frontier (Philpott 2006). Most forts seem to have remained in occupation throughout the fourth century and military occupation is demonstrable at Carlisle and Birdoswald well into the fifth century (Zant forthcoming; Wilmott 1997, 218).
- 1.3.6 The fort at Beckfoot may have been called *Bibra* or *Bribra*, (Holder 2004, 60), meaning Brown or Beaver River, if interpretations of the Ravenna Cosmography are correct (Breeze 2006). If the fortlets and towers were spaced at regular intervals, it should lie on the site of Tower 14b, but neither Milefortlet 14 or Tower 14a are known. Whilst Bellhouse considered Milefortlet 15 to have been eroded by the sea (Bellhouse 1962), the existence of this structure has never been firmly proven, although a line of 'turf' in the cliff was interpreted as evidence for the upcast mound from its ditch (Breeze 2006, 389).
- 1.3.7 It is not known when the fort at Beckfoot was initially constructed, but the latest datable find from the beach in the vicinity of the fort is a coin of Valentinian I (AD 364-75; Shotter 2006, 2), suggesting that occupation of the site continued well into the fourth century. The only evidence for the garrison at Beckfoot is an inscription recording the presence of a Prefect of the Second Cohort of Pannonians (Daniels 1978, 267-9; *Section 1.3.11*), a tribe occupying land to the east of the Adriatic, in parts of what is modern Austria, Croatia, Hungary, Serbia, Slovenia, Slovakia and Bosnia-and-Herzegovina, who, according to Suetonius, had been subjugated by Tiberius and Germanicus in the early years of the first century AD (Shotter 1997, 55).

- 1.3.8 Aerial photography has allowed identification of some of the fort's components, in particular the headquarters building and the commanding officer's house. The western part of the fort contained granaries in addition to two barracks (*op cit*, 268), and a potential bath-house has been identified to the north-east of the fort (*op cit*, 269). The existence of an extramural settlement, outside the fort is again suggested by aerial photography (*ibid*), although this largely seems to have comprised field systems.
- 1.3.9 **Beckfoot's cremation cemetery:** a cemetery is assumed to have been associated with the fort by some writers (Hogg 1949; Caruana 2004, 154) but with Milefortlet 15 by others (Bellhouse 1962, 71-2), although conclusive evidence for either interpretation is wanting. Cremation is the funerary rite traditionally seen as being practised by the Roman military (Philpott 2006), and certainly, amongst the almost non-existent evidence for late pre-Roman Iron Age funerary activity in the North West, only a small group of inhumations have been recorded (OA North 2004).
- 1.3.10 Artefacts retrieved from the beach to the south-west of the fort, and in dark buried soils in the cliff at Beckfoot, seem generally to reflect the outline chronology of the fort (Caruana 2004, 154). Bellhouse recorded a radiocarbon date of cal AD 259-663 ( $1540 \pm 100$  BP; Bellhouse 1989, 38) for a dark buried soil which he believed to equate to the horizon in the cliff section from a trial trench some 500m to the south-east of the cemetery site. Bellhouse has assumed that, even if the cemetery was originally associated with the putative Milefortlet 15, the site may have continued to have functioned as a cemetery long after the abandonment of the milefortlet (*op cit*, 153).
- 1.3.11 The occurrence of a burial accompanied by weapons, and the possibility that a couch-burial was also present, suggests considerable variation amongst the funerary practices at Beckfoot, and implies some potentially unique features (Hogg 1949). Cremation cemeteries associated with forts are known in the north of England, and in the Cumbria have been examined to a greater or lesser extent at Birdoswald (Wilmott 1993), Brougham (Cool 2004), and Low Borrowbridge (Hair and Howard-Davis 1996). Cremation in second- and third-century Britain appears to have been the standard practice but it has been suggested that the characteristics displayed by burials at such northern cemeteries represent a military tradition (Caruana 2004, 161). This is perhaps exemplified by diverse practice in relation to the dumping of pyre material and the careful selection of cremated bone, often in apparently nominal amounts, for burial (McKinley 2004a, 297).
- 1.3.13 The use of ditched plots in the cemetery outside the fort of Low Borrowbridge has been tentatively linked to Iron Age traditions elsewhere in northern Britain (Hair and Howard-Davis, 1996, 124). The evidence from Brougham, however, invited comparisons with the Rhineland and the Danubian regions, more specifically with Pannonia (Cool 2004, 464-6; *Section 1.3.9*), in terms both of burial practice and material culture.
- 1.3.14 By the mid-third century, in most of the Imperial Provinces, inhumation had become the norm, whereas in the militarised North West, the cremation rite seems to have been more dominant and long-lived (Caruana 2004, 154).



Cremation at the Beckfoot cemetery evidently continued into the fourth century (*ibid*; *Section 1.3.10*), although the lack of any skeletal evidence for inhumation is as likely to have been due to the rapid decay of bone in sandy, acidic soils (Mays 1998, 17-20) as to a lack of inhumation. Pits interpreted as inhumation graves at Low Borrowbridge contained no bone (Hair and Howard-Davis 1996), and at Beckfoot two stone cists were recorded by Bellhouse in 1957 (Bellhouse and Moffat 1958) and 1961 respectively (Bellhouse 1962), although while these possibly contained Roman inhumations there is no evidence to confirm this. It is thought that the larger of the two cists, measuring 1.52m by 0.76m, would not have been sufficient to house an extended adult corpse, and that the smaller of the two, measuring 0.61m by 0.53m, would not have been capable of accommodating even a crouched adult inhumation (Caruana 2004, 155).

- 1.3.15 In northern cemeteries, a jar sometimes contained the bones, and such a vessel is sometimes accompanied by beakers, included as grave goods (Philpott 2006, 80). Burial pits at Low Borrowbridge were seen to contain large amounts of pyre debris and relatively small amounts of cremated bone (Hair and Howard-Davis 1996, 121). Grave goods from the cemeteries at Brougham (Cool 2004, 464-6) and Birdoswald (Wilmott 1997, 407) seem to indicate continental origins or links for some of the 'Roman' contingents buried there. Excavations at Brougham (Cool 2004) and Low Borrowbridge (Hair and Howard-Davis 1996) have shown that while there was considerable diversity in disposal of pyre and cremation material, any inference regarding development or practice is tentative given the relative dearth of material. The excavation of weapons in a burial at Beckfoot, a putative funerary couch, and deposition in a Samian bowl of the cremated remains from one individual are further evidence for distinctive and otherwise little-understood rites (Philpott 1991; Philpott 2006, 80), all of which suggest that our knowledge of Roman-period cremation practice is still deficient.
- 1.3.16 **Early Medieval Period:** the coastal tracts to the north and south of the study area seem to have continued slowly to accumulate dune sands in the centuries subsequent to the Roman occupation (*Section 1.3.1*). Little is known of the period immediately after the collapse of Roman rule in the North West, although increasing archaeological evidence supports the few documentary references to a broadly Roman lifestyle persisting into at least the sixth century, in major centres such as Carlisle (Newman 2006; Webb 1998). Place-name evidence also suggests that there was a degree of continuity, with 'Celtic' name elements surviving in a number of places (Haverfield 1900; Armstrong *et al* 1950).
- 1.3.17 It can be supposed that the Solway coast was incorporated into the Kingdom of Rheged, and subsequently into the Anglian Kingdom of Northumbria, by the mid seventh century (Kirby 1962). Again, local place-name evidence indicated a presence of Norse speakers (Armstrong *et al* 1950), presumably from the tenth century onwards. Indeed, one of the few overtly Scandinavian graves known in England was found at Aspatria, some 9km to the east of Beckfoot (Cowen 1948).

1.3.18 **Medieval Period:** while the Norman Conquest may have marked a turning point in British history, it was not until 1092, when William Rufus took Carlisle and the surrounding area from Scotland (Earle and Plummer 1892) that its impact was truly felt in the Solway region. The area was very volatile throughout the medieval period, at first due to continuous cross-border conflict with Scotland (Rollinson 1996, 87-9) and later as a result of general lawlessness associated with the border reivers, although the focus of this tended to be further east (Fraser 1995). This led to the construction of fortified houses and pele towers, to protect against raiders. Prince Henry of Scotland founded an abbey nearby at Holm Cultram in 1150 for the monks of Melrose Abbey (Ashworth 1907). The Cistercians were responsible for draining much of the Solway marshland, fostering both agricultural exploitation and settlement (*ibid*). The Abbey appears to have been larger than Carlisle Cathedral by the fifteenth century, and these rich monastic lands passed to the crown at the Dissolution in 1536. During the reign of Elizabeth I, 40 acres of land adjacent to Mawbray and Beckfoot were recorded as being covered in sand (Ferguson 1879, 320; *Section 1.3.1*), and little else seems to have changed throughout the medieval period, with most settlements remaining small until the nineteenth century (Whellan 1860). Indeed, throughout its history, the area has remained largely rural.

## 1.4 BACKGROUND TO THE EXCAVATION

- 1.4.1 Robert Hogg made the first report of the cemetery at Beckfoot, in the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* in 1949 (Hogg 1949, 32-7), citing an article from an earlier *Transactions* (Duff 1877) which referred to objects having been recovered from dunes at Beckfoot. He noted that, while no literary reference had previously been made of a cemetery site, ceramic vessels and fragments, cremated material and other objects had been found intermittently on the beach, all presumed to have come from funerary deposits. The material recovered from the beach at Beckfoot has been synthesised into a gazetteer by Caruana (2004, 136). Hogg's 1949 report and his later note (1962, 323) both stem from the work of Mr Arthur Hall, who had also excavated one of the stone cists at the site in 1962 (*ibid*). In these cases, the material appears to have been excavated sideways in from the cliff section, although the text is not explicit, as the author was not responsible or even present during the excavation (Hogg, 1949, 33; 1962, 323).
- 1.4.2 The majority of academic work on the cemetery was conducted by RL Bellhouse in the 1950s and 1960s. His interest was with Roman military sites along the Cumbrian coast, and it was as part of this research that his first excavation work in the cliff section of the cemetery at Beckfoot was undertaken (Bellhouse 1954, 51-3). Bellhouse examined a number of cremation pyres, graves and associated deposits, which were again excavated in a sideways fashion against or into the cliff section, as it then stood (Bellhouse 1954, 51-3; Bellhouse and Moffat 1958, 57-62). Between 1964 and 1984, only two instances of excavation were recorded, undertaken by Ian Clark in 1972 and 1973, both producing finds, and again both dug sideways into the cliff section (Caruana 2004, 137-8).

- 1.4.3 Since 1984, Ian Caruana and Alan James have made numerous visits to the site, excavating a number of cremation-related features, and recovering a good deal of material from the cliff section. Most importantly, Ian Caruana (2004) has synthesised and disseminated the hitherto unpublished details of the finds retrieved from the site, and of the work conducted on it. He states that, in terms of spatial relationships, all that is known is that the nature of coastal erosion on the site, and the manner of all work conducted there, are such as lend weight to the general premise that the earlier finds would have been found more seaward than the later finds (*op cit*, 134).

## 1.5 PHASE 1 OF THE PRESENT PROJECT (PRE-ASSESSMENT)

- 1.5.1 The evaluation programme was carried out in accordance with an accepted Project Design (*Appendix 2*), and the relevant professional standards and guidance as detailed by the Institute of Field Archaeologists. The site archive includes context records, site drawings, trench records, environmental sample records, object records, monochromatic, colour slide and digital photographs, indices of context records, objects, drawings, environmental samples and photographs, as well as a large and varied artefactual and environmental assemblage. The artefactual and environmental assemblages have been entered onto an Access database. All section drawings and plans have been digitised using AutoCAD.
- 1.5.2 The project design provided for the dataset produced by the evaluation being assessed in accordance with the guidelines set out within the *Management of Archaeological Projects* (MAP 2; English Heritage 1991). This assessment is accompanied by an appraisal of the evaluation archive to establish the potential for further analysis. Post-excavation assessment of all categories of material has been undertaken and the results are presented below (*Section 4*).

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## 2. RESEARCH DESIGN

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### 2.1 INTRODUCTION

2.1.1 The sporadic recovery along the beach at the foot of the cliff of finds originating from the cemetery, and the intermittent work of Hogg, Bellhouse and Caruana (*Section 1.4*), have highlighted the considerable archaeological potential of the cemetery at Beckfoot. The site was also close to the putative position of Milefortlet 15, the survival of which was in some doubt (Bellhouse 1957, 22). The current project was intended to evaluate the nature, survival, character and potential of the surviving archaeological resource. The eventual intention is likely to be to preserve the site by record, as the preservation *in situ* of a section of coastline suffering constant erosion from sea and storm would involve prohibitive costs.

### 2.2 RESEARCH OBJECTIVES OF THE EVALUATION PROJECT

2.2.1 The project aimed primarily to provide supplementary information to the existing dataset for the cemetery, in order to quantify the potential costs of preserving by record the entire cemetery site. The presence and absence of archaeological remains were therefore to be assessed across the whole of the site by archaeological evaluation trenches, the position of each of which would be agreed with the Hadrian's Wall Archaeologist, in light of the results from previous trenches (Fig 2). This was intended to construct a picture of the probable extent, quality and preservation of the archaeological remains forming the site. The putative position of Milefortlet 15 was also to be targeted, in order to determine whether it was in the process of being eroded onto the beach, or whether this had already occurred. It was also hoped that characteristics common to other Roman cremation cemeteries in the north of Britain could be indicated, namely that:

- inhumation burial is absent or rare;
- cremated bone is often deposited in token quantities;
- grave goods are scarce;
- beakers predominate as grave goods in burials where the cremated bone may be contained in ceramic vessels;
- other artefacts in grave pits rarely include anything other than charcoal, hobnails and nails;
- stone cists are occasionally present, although not necessarily in association with inhumations.

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### 3. METHODOLOGY

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#### 3.1 ASSESSMENT AIMS AND OBJECTIVES

3.1.1 The aim of the assessment is to evaluate all classes of data from the evaluation, and to formulate a project design for a programme of further analysis appropriate to the potential of the site archive. This programme of work has been undertaken with the close co-operation of Jane Laskey, Manager of the Senhouse Museum, Maryport, Cumbria.

3.1.2 The objectives of this assessment correspond to, and are prescribed by, *Appendix 4* of *MAP2* (English Heritage 1991). They are to:

- assess the quantity, provenance and condition of all classes of material: stratigraphic, artefactual and environmental;
- comment on the range and variety of that material;
- assess the potential of the material to address questions raised in the course of this project design, or in earlier publications;
- formulate any further questions arising from the assessment of this material.

3.1.3 This assessment will present:

- a factual summary, characterising the quantity and perceived quality of the data contained within the site archive;
- a statement of the academic potential of these data;
- recommendations on the storage and curation of these data.

#### 3.2 MATERIAL ASSESSED

3.2.1 The entire paper and material archive was examined for the purposes of this assessment. Detailed quantifications are set out in *Section 4*.

#### 3.3 PROCEDURES FOR ASSESSMENT

3.3.1 The method of quantification and assessment used varied according to the class of information examined, although predominantly the approaches used were those proposed within the original Project Design (*Appendix 2*). For the most part quantities are given as numbers of fragments, enhanced or replaced where necessary by total weight.

3.3.2 Assessments were undertaken in-house at the premises of OA North or sent to the premises of the relevant specialists. There were no significant modifications to the original proposals as outlined in the Project Brief and Project Design (*Appendices 1 and 2*).

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## 4. SUMMARY OF THE RESULTS

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### 4.1 INTRODUCTION

- 4.1.1 The cemetery site at Beckfoot (Fig 1; Plate 1) revealed a variety of features and deposits related to burials, which appear to represent funerary activity dating from early in the second century, and then resuming in the later part of that century and continuing through to the early fourth century (see comments in *Section 5.3.10-11*). Pre-Roman activity is also hinted at in the material dataset (*Section 5.3.16*). Later material is present, but it is deemed to have little or no archaeological interest, and bears no relevance to the original research aims.
- 4.1.2 In all, 12 trenches were excavated, covering the whole of the study area (Fig 2). In order to distinguish between the trenches the context numbering system was divided into groups of hundreds, beginning at **100** for Trench 1, at **200** for Trench 2, and so forth. The evaluation methodology only allowed for a small percentage of the features to be completely or even partially excavated. It was envisaged that probably five of each type of feature would be subject to 100% excavation. The features targeted would be selected on the basis of their potential to contribute salient information to the research questions.
- 4.1.3 Roman period cemetery activity appeared to occupy an ill-defined spread concentrated across the centre of the study area (Fig 2). It is possible that a large ditch along the eastern side of the study area, which appeared to traverse Trenches 2, 4 and 5, formed a boundary to the cemetery (*see Section 4.3.12*).
- 4.1.4 The evaluation results indicated that cremation-related features appeared to be especially dense in Trenches 5 and 6, although Trenches 2, 3, 4, 7 and 8 appeared to contain only marginally fewer features (Fig 2). Features were noticeably less dense in Trenches 1 and 9, perhaps suggesting that these lay at the extremities of the cemetery. Trenches 5 and 6 contained ten cut features and eleven individually recorded layers not contained within cut features, all of which are probable cremation-related activity. Based on this evidence, an area of at least 300 square metres might contain similarly dense funerary activity, of which only 16% has been examined. Collectively, Trenches 2, 3, 4, 7 and 8 contained 11 cut features, and 14 individually recorded layers not contained within cut features, all of which are probable cremation-related activity. This suggests that surrounding the central zone of dense activity, an area of 1500 square metres might contain a similar density of activity, of which only 18% has been examined. It must be stated that although linear trenching is accepted best practice during the evaluation stage of an archaeological project, even the combination of reflexive trench location and varied trench sizes can produce an imprecise picture of the sub-surface resource. Consequently, the proposed density of features within the cemetery necessarily remains speculative, as it is quite possible that major concentrations of features may be missed by relatively small margins in the process of locating trenches.

- 4.1.5 The environmental samples recovered during the evaluation were predominantly bulk samples intended to recover quantities of cremated bone or artefacts which would have been missed during hand excavation, and in most cases these samples also contained charcoal and charred wood and plant remains.

## 4.2 PREHISTORIC ACTIVITY

- 4.2.1 Eleven pieces of hand-made pottery were recovered from sandy deposit **1109** (Plate 2; Fig 3), which appeared to be a lower fill of a possible ditch (**1113**), crossing the southern end of the site on a north to south alignment (Fig 2). Although only a little is known of Iron Age pottery traditions in the area, the sherds appear to share characteristics with previously recovered material that is believed to be of that date (*Section 5.3.16*). The 2.80m wide linear feature (**1113**) was 0.40m deep, comprising a cut containing two deposits (**1108** and **1109**), which appeared to comprise windblown sands. This ditch (**1113**) appeared to have been recut by a subsequent linear feature (**1112**; Plate 2) on almost the same alignment, containing two successive deposits of windblown sand (**1110** and **1114**). A ditch (**1204**) was also recorded in Trench 12 (Figs 2 and 4), filled with two windblown sand deposits (**1202** and **1205**). It is possible that a prehistoric field boundary, defined by a ditch, was situated within the southern part of the site (Fig 2), and that the ceramic material represents some Iron Age activity in the study area.

## 4.3 ROMAN AND ROMANO-BRITISH ACTIVITY

- 4.3.1 **Milefortlet 15**: it appeared from the results of evaluation Trenches 10, 11 and 12 that no evidence survived which would have enabled the secure location of Milefortlet 15 (Figs 1 and 2), as suggested by Bellhouse (1957, 21-2), on the basis of its measured position. However, it should be noted that the greatly increased depth of the dunes in the south-western corner of the study area precluded safe excavation to a depth at which confirmed natural sands were encountered.
- 4.3.2 **Cremation Burials**: Trenches 1-9, toward the centre and north of the study area (Figs 1 and 2), all contained some level of Roman or Romano-British activity. This took the form of cremation burials and cremation-related deposits, ditches, ring-ditches and dumps of pyre debris. Analysis of the excavated material from Low Borrowbridge concluded that the term 'burial' might not be the most appropriate description of the majority for the features there (Hair and Howard-Davis 1996, 121), and so 'cremation burial' status was allocated judiciously during the present study. Seven cremation burials were recorded in evaluation Trenches 3, 4, 5, 6 and 7, forming a loose cluster in the north of the study area (Fig 2). With the exception of the cremation burials in Trenches 5 and 6, which were left *in situ*, these were fully excavated in accordance with the Project Design (*Appendix 2*). Analysis of the excavated material revealed that the amount of cremated bone included in these burials was relatively small, possibly indicating token interment (*Section 1.3.12*). Two cremation vessels, other ceramics, cremated bone, charcoal and what appeared to be a variety of iron objects, mostly comprising nails (*Section 5.4*), were recovered from these features, although no cist-type structures or other

evidence for inhumation was observed. Features which may have represented cremation activity were recorded in Trench 1, although only one of the amorphous areas of dark subsoil, **116**, contained cremated bone, retrieved during cleaning of the feature. Identification of these spreads as cremation-related features is thus tentative.

- 4.3.3 The cremation burial in Trench 3, **315**, comprised an irregularly shaped pit some 1.20m long by 0.20m wide, cut to a depth of 0.18m into the dark Roman soil horizon, **302** (Fig 5). The deposit within the pit (**312**) contained a concentration of burned bone at its northern end, and some large pieces of charcoal in the southern end. The feature had been disturbed by animal burrowing. Whilst the bone and charcoal were not held in a container, fragments of ceramics were recovered from **312**, in addition to some ironwork. Preliminary analysis of the cremated bone has concluded that the individual represented was a mature adult, possibly female (Section 5.10; Appendix 6).
- 4.3.4 The cremation burial in Trench 4, **406** (Plate 3; Fig 6), comprised an approximately circular pit some 0.16m deep, cut into the natural sand (**414**). In the centre of the base of this pit an urn (**408**) had been placed upright. This contained cremated bone and charcoal and was emptied under excavation conditions in spits at the OA North premises. Analysis of a sample taken from the backfill (**407**) of the pit revealed far more charcoal and cremated bone than was present in the urn (Appendix 5; Appendix 6). The bone from both the backfill (**407**) and the urn (**408**) appeared to be that of a juvenile or a sub-adult (Appendix 6).
- 4.3.5 A sub-circular pit (**516**) some 0.63m across, observed in Trench 5, also appeared to contain a cremation burial (Figs 7 and 8). This was not subject to excavation, although the uppermost 0.05m of its fill (**517**) was removed as a spit (**510**) in order to ensure that it was not part of an adjacent pyre dump (**519**; Fig 7). The cremation pit (**516**) appeared to be partially enclosed by a semi-circular or perhaps penannular ditch (**527**; Fig 8) approximately 3m across, 0.55m wide and 0.19m deep. The sandy fill (**528**) of this ditch contained no artefactual or environmental evidence. This ditch may have functioned as a boundary marker for a burial plot, and it had subsequently been cut into by a narrow linear ditch (**514**; Section 4.3.12), suggesting some reuse after the plots were abandoned or forgotten.
- 4.3.6 A subrectangular pit (**608**), measuring 1.20m by 0.50m, was recorded in the western end of Trench 6 (Figs 2 and 9), which appeared to cut into an earlier deposit of cremated bone (**611**) occupying a small subcircular pit (**612**). The cremated bone deposit was left *in situ*, although the dark brown sandy deposit filling (**609**) the larger pit (**608**) was removed. This appeared to have been badly disturbed by burrowing, and the sample recovered from it was considered unsuitable for analysis.
- 4.3.7 A subcircular pit (**616**), measuring 0.26m by at least 0.18m, was recorded towards the east end of Trench 6 (Fig 9), beneath a spread of pyre debris (**606**; Section 4.3.11). This was interpreted as a probable cremation burial, and was left *in situ*. Approximately 1m to the west of this feature, a 0.20m by 0.12m oval pit was recorded (**621**; Fig 9), beneath a spread of pyre debris (**607**;



*Section 4.3.11*). This was also interpreted as a cremation burial and was left *in situ*.

- 4.3.8 A cremation burial recorded in Trench 7 (Plate 4; Figs 2 and 10) comprised a sub-circular pit (**707**), some 0.60m deep and 0.45m across. This pit contained a ceramic vessel (**708**) which was again excavated in spits at the OA North premises. The vessel appeared to have been placed onto a deposit of pyre debris (**711**) in the centre of the pit before the pit was backfilled with more redeposited pyre debris (**706**). The combined quantity of bone from the urn and the two backfill deposits indicates that the majority of the cremated individual's remains were not deposited in this burial, and that this may therefore constitute a cenotaph-style burial (see *Section 5.10.3*). The cremation pit was enclosed by a ditch (**705**), which seemed to have formed a penannular circle approximately 2.50m across, 0.35m wide and 0.15m deep (Fig 10; Plate 5). Cremated bone was recovered from the sandy fill (**704**) of the ditch, and it appears from initial assessment that this bone was from a sub-adult, whereas the bone from the cremation urn (**708**) appeared to have belonged to an infant (*Appendix 6*).
- 4.3.9 The penannular ditch in Trench 7 (**705**) cut through an earlier cremation pit (**710**) (Fig 10). This pit was approximately 0.60m diameter and 0.30m deep, filled by a single silty-sand deposit (**709**) which contained cremated bone. The bone retrieved from this context appears to have represented a single adult burial showing signs of *Osteomyelitis*, infection of the bone, perhaps the tibia (*Appendix 6*; *Section 5.10.4*).
- 4.3.10 A sub-square pit (**204**), measuring 0.80m square, at the western end of Trench 2 (Figs 2 and 11), seems to have represented a deliberate removal of material. This may be a result of grave-robbing, a phenomenon demonstrated at the cremation cemeteries at Brougham (Cool 2004, 15-16) and Low Borrowbridge (Hair and Howard-Davis, 1996, 120). The cemetery may have become a target for the impious in the years during which, or immediately after which, the cemetery fell out of use.
- 4.3.11 **Cremation Pyres:** sites of cremation pyres did not appear to be represented in the areas evaluated, although cremation activity in the form of discrete dumps of what appeared to be redeposited pyre debris in Trenches 5 and 6. Carbonised material and charcoal present in the layers of dark soil across the majority of the site also appears to have been redeposited across the site by subsequent disturbance. However, in Trench 5, a 0.19m thick spread of pyre debris (**519**) was cut into by a later cremation burial, and in Trench 6 two dumps of pyre material (**606** and **607**) appeared to have been deposited immediately over existing cremations (Figs 7 and 9; Plate 6). The instances of pyre dumping recorded during the evaluation have provided material evidence for the types of wood that may have been used for fuel (*Section 5.9.6-8*).
- 4.3.12 **Ancillary Features:** a ditch was observed traversing Trench 2 in an approximately north/south direction (**213**; Fig 11), measuring 0.30m deep and 1.26m wide. This ditch contained a sequence of three secondary fills (**218**, **215** and **214**) and a single primary fill (**217**). Deposits **214** and **215** were packed

with cremated bone and charcoal, and these appear to have comprised a cremation-related deposit as opposed to a cremation burial (*Section 4.3.2*).

- 4.3.13 A ditch in Trench 4 (**411**; Fig 6) was again aligned north/south, and measured 0.21m deep and 0.76m wide, and contained a single fill (**412**), although this appeared to have been truncated by a rectangular pit (**415**). The deposit (**416**) filling the pit appeared to comprise redeposited natural sandy-gravel, and this may represent disturbance in antiquity.
- 4.3.14 Two ditches were recorded in Trench 5 (**514** and **536**; Fig 8), both aligned north/south, the larger of these two ditches (**536**), being 0.47m deep and 1.85m wide. It contained a silting deposit (**533**), a secondary fill below this (**534**), probably representing a deliberate backfill, and a primary fill (**535**) below this, representing initial erosion of the sides of the ditch. No artefactual or environmental evidence was retrieved from either of these fills. The smaller of the two ditches in Trench 5 (**514**) was 0.18m deep and 0.50m wide, containing a single fill (**515**), from which no artefacts were recovered.
- 4.3.15 A 0.40m wide linear feature (**614**; Fig 9) was recorded traversing Trench 6 on an approximate north/south alignment. Although this was left *in situ*, it appeared to be a small ditch.
- 4.3.16 Apart from approximately shared alignments (Fig 2), the characteristics of these ditches appear to be quite different from each other. It is possible, however, that they formed short stretches of ditches which enclosed plots or marked divisions within the cemetery.
- 4.3.17 **Roman Artefacts:** the overwhelming majority of the artefacts recovered were Roman ceramics and ironwork. Dating provided by the pottery suggests some early activity, with small amounts of coarseware suggesting a (possibly) Flavian-Trajanic start date. The Samian ware, however, seems to have an Antonine emphasis and the majority of the dated coarsewares fall into a broad third-fourth-century range. The fabrics present seem to suggest a peak of activity in the early to mid-third century (*Section 5.3.10-11*). The ceramic assemblage appears to reflect the nature of the site, with an emphasis on vessels associated with the consumption rather than preparation of food; jars have often been reused as containers for cremations, and the number of drinking vessels, especially seems to be associated with what has been deduced about the Roman rite of cremation and burial from cemetery analysis elsewhere (Philpott 1991).
- 4.3.18 The ironwork is represented by nails, hobnails, tacks and rivets, unidentified blades or strips and fragments of a vessel (*Section 5.4.2*). The nails, tacks and rivets perhaps represent the surviving remains of scrap wood used as pyre fuel.
- 4.3.19 Four fragments of ceramic tile were retrieved from three contexts (**405**, **602** and **807**). Their rarity within the assemblage would indicate that few, if any, Roman buildings were in the immediate vicinity of the study area, and that these are more likely to have occurred in a funerary context, perhaps as coverings for cremation burials (Cool 2004, 34).

4.3.20 The dark layer of sandy subsoil (**104, 202, 302, 402, 502, 602, 702, 802, 902** and **1002**) above the natural geology appeared to be largely homogeneous, although it had suffered from sporadic and heavy modern animal disturbance. Previous work at the cemetery site identified this layer as the 'Roman level' (Bellhouse 1954, 53; *Section 1.3.10*), into which cremations were inserted and pyre-pits dug. From the evaluation it would appear that only one cremation (**315**) was demonstrably cut into this layer (**302**, in Trench 3), and no other evidence for discrete or linear features cutting it was observed during its removal. Disturbance in antiquity across the study area suggests that this level was deposited over the period during which the cemetery was in use, and that it represents ancient dune sand (*Section 1.3.1*). The process by which the dunes built up to their present height was probably already active during the Roman period, and perhaps before (*Section 4.2.1*).

#### **4.4 EARLY MEDIEVAL, MEDIEVAL AND POST-MEDIEVAL ACTIVITY**

4.4.1 The uppermost metre of stratigraphy was almost entirely archaeologically sterile, comprising a complex accumulation of sands held in place by 'topsoil', which in the case of the study area comprised only a loose tangle of dune grass roots. These pale sands (**101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101** and **1201**) appear to represent the deposition of dune sands over at least the last 1500 or 1600 years. The majority of these sands accumulated above the 'Roman level' (*Section 4.3.16*), and have then been subject to heavy disturbance, primarily from rabbit burrowing.

4.4.2 From the Roman period onwards, the material assemblage is small and archaeologically insignificant. There were no early medieval or medieval finds; a single perforated iron strap (*Section 5.4.2*) dates to the post-medieval period, and a single glass bottle from the nineteenth century (*Section 5.5.3*), representing material thrown into a rabbit warren to block the exits. This material has limited archaeological significance, and no relevance to the original research aims.

## 5. QUANTIFICATION AND ASSESSMENT

### 5.1 STRATIGRAPHIC RECORD

5.1.1 **Quantification:** 181 context records were assigned over the course of the evaluation. Four broad phases of development were defined, between the underlying natural geology and the extant turf horizon:

- i. Prehistoric activity;
- ii. Roman cemetery deposits and associated features;
- iii. Accumulation of dark soil horizons;
- iv. Accumulation of dune sand and wind-blown sand.

5.1.2 The contexts may be divided between the broad phases as follows:

Natural deposits	17
Prehistoric activity	10
Roman Cemetery	121
Post-Roman deposits	27
Undated deposits and features	6

5.1.3 Of the contexts allocated, unexcavated features were given a single context number unless a cut was explicitly visible in plan. Cremation-related features were only excavated to a sufficient degree that they could be attributed this status, as per the Project Design (*Appendix 1, 3.1.6*), with only five such features fully excavated in order to provide a sample of the site's potential. Once the natural contexts are removed, the remainder can be divided by category as follows:

Cut features	29
Deposits contained within cut features	91
Layers	40
Other	4

5.1.4 **Methodology:** the validity of each stratigraphic unit, and/or groups of units, was assessed, and rapid stratigraphic analysis was used to produce individual stratigraphic matrices and broad phasing for the 12 trenches. From these, a single stratigraphic matrix for the entire site was compiled, incorporating and linking the record from all the trenches. The matrices were compiled using ArcEd software.

- 5.1.5 All plans and sections compiled and drawn during the excavations were digitised using AutoCAD. A computerised database (Access) was created in the course of these tasks, incorporating all stratigraphic information, which is cross-referenced to, and can be linked with, the digitised drawings.
- 5.1.6 **Evaluation:** individual trench matrices show that the stratigraphy does not vary greatly across the areas excavated. Whilst towards the southern end of the site, Trench 12 had only a single feature dividing the subsoil from the natural deposits, in Trenches 5, 6 and 7 there was a more complex pattern of deposition. While features did intersect, the data show this to have been the exception. There seems to be however, a concentration of activity in the vicinity of Trenches 5 and 6, with notably less activity in the northern part of Trench 1 and in Trench 9.
- 5.1.7 Four broad phases of activity were established by the stratigraphic data: prehistoric activity; the Roman cemetery; the accumulation of dark soil horizons; and post-Roman sand dune accumulation. The second of these phases can be refined in light of further finds' analysis, especially the dating of the pottery assemblage.
- 5.1.8 The evaluation programme revealed that the study area contained cremation burials and associated features, and that the preservation was of high quality, despite disturbance in antiquity and more recent interference. Whilst it was not possible to provide definitive boundaries for the cemetery from the evaluation evidence, the location of the cremation burials and the associated pyre dumps indicates a concentration towards the north of the study area (Fig 2).
- 5.1.9 The lack of archaeological remains within the area of the Scheduled Monument (Figs 1-2) possibly indicates that the position of Milefortlet 15 as measured by Bellhouse (1962) may have been incorrect, although the depth of the sand dunes in the very far south-western corner of the study area (Fig 2) precluded excavation. However, as Bellhouse recorded possible remains as they fell into the sea (Breeze 2006), this may have represented the landward side of the structure, meaning that nothing now remains in the area of the Scheduled Monument.
- 5.1.10 **Potential:** the assessment has allowed some estimate of the size and density of the cemetery to be made. Further assessment of the stratigraphic record should allow closer phasing of the second phase of activity, although this will require further finds' analysis, particularly of the ceramic assemblages. The phasing of individual features is, however, unlikely to lead to the detailed phasing of areas of activity within the cemetery, given the apparent size of the cemetery and the relative lack of interconnecting stratigraphy.

## 5.2 SAMIAN WARE (*MARGARET WARD*)

- 5.2.1 **Quantification:** in total, 40 sherds of Samian were recovered, weighing 129g and representing a maximum of 34 vessels. Most of the material comprised small fragments (average weight 3g). While there were a few larger sherds (c 10g), much of the group comprised tiny crumbs, weighing less than 1g.

- 5.2.2 **Evaluation:** there appeared to be no more than one South Gaulish vessel, datable only in the wide range *c* AD 70-110. Central Gaulish products represented 91% of the sample, and two possible East Gaulish vessels may have constituted 6%.
- 5.2.3 The collection contained a large proportion of fragments of indeterminate form and date, which are presumed to have been produced in the Hadrianic-Antonine period on the basis of fabric. Much of this is likely to be of Antonine date from the Central Gaulish Potteries at Lezoux. There were three decorated bowls that can be dated more closely within that period; one found in subsoil layer **702** was certainly produced in the period *c* 160-200. Layer **702** also contained a mortarium of form 45, produced no earlier than *c* 170. The presence of mortaria, alongside late East Gaulish products, is often indicative of third-century activity on a site, and there were at least one or two East Gaulish vessels in this assemblage, probably from Rheinzabern. East Gaulish products comprised *c* 6% of the group, a proportion in line with expectations of sites in the North West where there was third-century activity.
- 5.2.4 Apart from the mortarium, other forms noted in the group included one or two beakers, possibly two cups of form 27 (popular before *c* 160) and several of form 33, and one or two dishes. Five of the vessels were moulded bowls, whose proportion of the collection may prove significant (see Willis 2005, table 42). It appeared from this rapid assessment that there were more cups than dishes in this sample, and that cups, beakers and moulded bowls formed the bulk of the forms where identifiable.
- 5.2.5 None of the material was obviously repaired or could be identified as re-worked or re-used, although more would be expected in a larger sample. One sherd in **704**, the fill of ring-ditch **705**, may have been incised with a graffito, although it is possible that the sherd was scored accidentally by raking. There were no potters' stamps identified.
- 5.2.6 As much as 76% of this sample was burnt, and it seems likely from its condition that some of the material served as pyre goods. Those sherds found in subsoil layer **502** were burnt black, and more than half the collection had suffered an extreme reaction, with surfaces badly crazed and fabrics crumbling to the point of disintegration. As a consequence of their condition, attribution even to the main centres of production was problematic.
- 5.2.7 **Potential:** although of no great intrinsic interest as vessels, this group has considerable interest as cemetery material, and comparison should be made with other cemetery groups, particularly in the North, such as Brougham (Cool 2004). In particular, the choice of vessel forms, decorated and undecorated vessels, their date, and the incidence of burning, are all potential avenues of further research. This small but important assemblage has considerable potential to add to our limited knowledge of Samian use within Roman funerary rites in northern England.

### 5.3 ROMAN COARSEWARES (*RUTH LEARY*)

- 5.3.1 **Quantification:** in total, 534 sherds of Romano-British pottery and 11 sherds of handmade ceramic, possibly of Iron Age date, were recovered. The quantities of pottery sherds recovered from the excavated areas and trenches are shown in *Appendix 3*. The pottery was examined in context groups and catalogued according to the *Guidelines of the Study Group for Romano-British Pottery* for basic archiving (Darling 2004). The fabrics were recorded in broad groups, and source suggested where appropriate (*Appendix 4*). Reference was made to the *National Fabric Collection* where appropriate (Tomber and Dore 1998). Details of fabric variations were also recorded where appropriate; forms were described.
- 5.3.2 **Wares:** the fabric of the pottery was first examined by eye and sorted into ware groups on the basis of colour, hardness, feel, fracture, inclusions and manufacturing technique. A limited amount of microscopic analysis was undertaken on some of the very burnt sherds. National fabric collection codes have been assigned wherever possible (Tomber and Dore 1998).
- 5.3.3 Black burnished ware category 1 (BB1) was the most common fabric, representing c 80% of the assemblage. Both the cremations urns were in BB1 fabric. All other categories of pottery fabric were uncommon to rare. Other reduced wares accounted for less than 4% of the total group, and the oxidised ware amounted to c 6% but were predominantly undiagnostic bodysherds. Four of the oxidised ware sherds were of Severn Valley ware type, but the rest were more likely to come from a North Western source. The fine wares associated with the pyre activities were predominantly in Nene Valley colour-coated ware or Trier black slip wares. A very tiny scrap of roughcast ware was present, probably from the Argonne, and an Oxford red colour-coated vessel was also present. The identification of an oxidised ware as a possible mica-dusted ware is tentative although it has been included amongst the finewares. All the oxidised wares were abraded, but some sherds had a distinctly micaceous surface, suggesting they may originally have been mica-dusted. It is not, however, impossible that the medium quartz-tempered fabric was simply a micaceous clay, in which case the proportion of finewares should be reduced by a percentage point.
- 5.3.4 The sources of the reduced coarsewares have not been identified but are likely to be local. None of the distinctive East Yorkshire reduced wares were identified, although nine vesicular sherds were found, and these are comparable to the East Yorkshire calcite-gritted wares of the third and fourth centuries. A small amount of whiteware was present, but the fabrics were unlike those of the flagons made at the Midlands kilns, for example Mancetter/Hartshill (Howe *et al* 1980), and the probable base sherds suggested they may come from *tazze*. A single moratorium body sherd was provisionally identified as a Cumbrian product, perhaps from the Penrith industries, or other kilns in Cumbria (Tomber and Dore 1998, 124).
- 5.3.5 **Forms:** all but one of the BB1 vessels were jars, and at least half had late splayed rim types typical of the third century. One early to mid second-century necked jar was present (Gillam 1976, no 2), and one neckless jar of second-

century date (Gillam 1976, no 31). One BB1 vessel would be classified as a beaker in jar form; having an obtuse lattice and a splayed rim, it can be dated to the same period. The BB1 vessels suggest a date range from *c* AD 215/6 to before AD 270.

- 5.3.6 The vesicular group (EYCT) were all body or base sherds from jars. These are probably from fourth-century Huntcliff ware vessels, which are known from the site (Caruana 2004, fig 6.10, no 46). Alternatively, the sherds could come from third-century Knapton-ware jars, a type found in small quantities at Brougham (Evans 2004, burial 192), to the east.
- 5.3.7 The grey ware included few diagnostic pieces. One fine abraded sherd seemed to be from an open vessel such as a bowl or dish, and another sherd came from a jar with a shoulder groove, similar to that found on early jars of the Flavian-Trajanic period. The other grey ware sherds came from closed vessels, probably jars. Similarly, the oxidised wares were mostly badly abraded but included one sherd, from a flagon or narrow-necked vessel, and an everted rim sherd from a small jar or beaker.
- 5.3.8 The whiteware sherds were mostly undiagnostic, but were quite thick and included one sherd which was either a lid knob or the pedestal base of a vessel, such as a *tazza*. The latter interpretation is preferred, taking into account its size. The fine wares included more diagnostic pieces. At least three Trier black slip beakers were present. Two were indented, and the other was a long-necked beaker with bead rim, probably also indented. Most of the Nene Valley colour-coated ware vessels represented were of indented long-necked beakers with beaded rims, but one bead and flange bowl was also present. An Oxfordshire red colour-coated ware dish, type C45 (Young 1977), was identified. The MG group of sherds were undiagnostic bodysherds (see *Appendix 4*).
- 5.3.9 Fragments of what would appear to comprise a single handmade vessel, retrieved from ditch fill **1109**, appear to have come from a large jar with inturned rim and oblique incisions/scratches on the top of the rather flat rim. This is possibly of Iron Age date.
- 5.3.10 **Chronology:** the types of fabrics and forms identified in the assemblage date from the Antonine period to the third century, with the possibility of one Flavian-Trajanic (*c* AD 69-120) vessel. The BB1 jar types suggested a peak in activity during the period spanning AD 215/6 to *c* AD 270. The fine ware provides a similar date range, with Trier ware beakers dated to AD 200-75 (Symonds 1992), and Nene Valley colour-coated ware beakers and flanged bowls dating to the third and late third to fourth centuries, where closely datable (Perrin 1999, 94-6). Types such as the earlier BB1 jars and the roughcast ware sherd were found residually in contexts with later, third-century pottery, except for the material from pyre dump **518** in Trench 5, and potential cremation **815** in Trench 8.
- 5.3.11 At Brougham, Severn Valley-type oxidised wares were dated to the first half of the third century (Evans 2004, 341), which would be consistent with the date range suggested by other fabric types at this site. Evans' group O01,



identified as likely to be from a North Western source, is probably equivalent to the O groups from Beckfoot, with OAA1/SV1 being more likely to be true Severn Valley ware, which may appear somewhat earlier, perhaps in the mid second century.

- 5.3.12 **Function and Site Status:** the proportions of vessel types strongly reflects the function of the site, with vessels such as jars, commonly used as cremation urns, most prolific, accompanied by drinking vessels, particularly beakers. Vessels for preparing and serving food were rare amongst the coarse pottery, but this lack is redressed by the Samian ware (*Section 5.6*). No amphorae were present. The coarseware serving vessels, flagons and the mortarium were unburnt, whilst around half of the jars and a third of the beakers were burnt, with three jars also sooted. It was noticeable that the jars were only moderately burnt whereas some of the beakers were sintered, particularly that from the pyre deposit **606**. This difference is best interpreted as a result of the beakers being placed on, rather than beside, the pyre (Evans 2004, 444). One of the BB1 sherds bore a graffito of two lines with two terminal boxes. This did not seem to be lettering, but some kind of symbol.
- 5.3.13 **Potential:** cemetery assemblages have long been recognised as a distinct and valuable resource (Fulford and Huddleston 1991, 43; Willis 2004, 12; Philpott and Brennand in press) and the modern treatment of ceramic assemblages is a priority, particularly with respect to their quantitative study (Willis 1997, 23). The primary potential of the assemblage is to provide a chronological context to the cemetery deposits, and an insight into the selection of specific types of ceramics for different purposes, together with the longevity of some vessel types in a funerary context. The presence of complete vessels is also significant for ceramic typological studies. The recent publication of the Brougham cemetery (Cool 2004) has illustrated the potential of ceramics when studied in this way and when analysed in conjunction with other artefacts and ecofacts from the cemetery.
- 5.3.14 At Beckfoot, the BB1 jars used as cremation urns were moderately burnt/singed and may thus have been placed around the edges of the pyre, whereas some of the beakers and serving dishes were so thoroughly burnt that they must have been placed well into its centre, the extreme heat sintering the fabric of a Trier beaker from pyre dump **606**. Several of the Samian sherds had also suffered extensive burning and are likely to represent pyre goods. At Brougham, some of the cremation urns were characteristically burnt on one side only, as if placed at the edge of the pyre. This has not yet been observed on the Beckfoot vessels, but reconstruction of selected vessels may yet reveal such a pattern. The degree of burning may also be a significant factor worthy of record and might reveal an additional distinction in how vessels were treated. The study of these ceramic pyre goods would add to the existing understanding of funerary rites, and add to research such as that by Polfer (2000), which has revealed that distinct ceramic assemblages were used at different stages of the burial process, with a predominance of eating vessels at the *ustrinum* (pyre site), more drinking vessels deposited in the graves as pyre goods, and unburnt drinking vessels selected as grave goods.

- 5.3.15 Analysis of the spatial distribution of relevant vessels should provide valuable evidence for the use of areas within the cemetery, and the relationship between different kinds of features. It is noticeable that the only mortarium sherd came from a layer below the subsoil, rather than from any of the cremation features. At Brougham, vessels relating to food preparation were found in the unstratified groups, but were absent from the burials, and this may reflect activities associated with memorial feasts (Evans 2004, 364; Cool 2004, 457). The comparison of the coarse pottery evidence with that of the Samian is clearly of considerable importance and, alongside the other categories of artefacts, evidence for gender, age, and other conditions from the bone, will undoubtedly reveal further evidence for the nature of the burial rites.
- 5.3.16 The assemblage clearly reflects the function of the site, and the sources of the pottery contrast with contemporary settlement sites. The majority of the vessels have been traded, with a large proportion from Dorset (BB1), and most of the finewares were also imported. Coarseware dishes and bowls are virtually absent, as are amphorae. There are very few flagons represented and regional ceramics are also rare. The group of handmade sherds hints at earlier activity on the site, and this material needs to be examined by a regional prehistoric pottery specialist. This group was not associated with Romano-British ceramics, and may relate to a much earlier use of the site.

#### 5.4 METALWORK (SEAN MCPHILLIPS)

- 5.4.1 **Quantification:** in total, 433 fragments of burnt ferrous metalwork, of almost entirely Roman in date, were recovered from pyre deposits, and ditch and pit fills across the site. All of the ironwork was examined for the purposes of this assessment and the catalogue supplemented accordingly. In addition, there was a single small fragment of copper alloy.
- 5.4.2 **Evaluation:** approximately 56% (241 fragments) of the assemblage is represented by nails, hobnails, rivets and tacks, in a variety of sizes. A large proportion of the other objects (125) are either too small or unidentifiable at this stage, due to accretion of corrosion products. The identifiable items include blades or strips (25), fragments of a small vessel (three), and a perforated iron strip possibly from a stave-built wooden barrel.
- 5.4.3 The nails were predominantly moulded with square-shafts, presumably hand-forged. The variety included flat-headed, T-shaped (holdfasts), clench and conical-headed types, similar to those types previously recovered from Beckfoot (Caruana 2004).
- 5.4.4 A significant amount of hobnails (130), presumably derived from nailed shoes or boots, were collected from ditch fills and pyre deposits. It is noticeable that a large proportion of the hobnails deriving from pyre debris had unworn crowns, with straight shafts. It is highly likely that the deposition of hobnails was associated with funerary activity, either suggesting the deceased was shod, or that shoes were placed on the pyre or in the grave, or a combination of both. It has long been thought that the deposition of shoes in graves had ritual connotations (Crummy and Crossan 1993), perhaps symbolising the journey to the afterlife. Hobnails and nails were recovered from grave pits at

comparable northern military cemeteries, such as at Brougham (Cool 2004), Birdoswald (Wilmott 1997) and Low Borrow Bridge (Howard-Davis 1996), as well Beckfoot during the 1970s excavations (Caruana 2004).

- 5.4.5 A large group (176) of objects, deriving from pyre debris **605**, **606** and **607**, included blades, strips, hobnails and unidentified objects. Many of the strips retained traces of wood adhered to the corrosion, which may represent bindings from a container, such as a wooden box. A significant proportion of the collection of iron from these deposits probably represents the remains of funeral biers.
- 5.4.6 A single small fragment of copper alloy, possibly from a bow brooch, but seemingly distorted by heat, was recovered from subsoil **902**.
- 5.4.7 **Potential:** the nature of the assemblage makes it of little direct use for dating, although it will on occasion supplement and reinforce that obtained from other sources. Its interest lies in its association with burials and pyre debris, suggesting that it represents the remains of pyre goods and/or biers. Cool (2004) has demonstrated the depth of information to be recovered from such finds and, whilst on a smaller scale, the material from Beckfoot has similar potential.

## 5.5 ROMAN AND LATER GLASS (SEAN MCPHILLIPS)

- 5.5.1 **Quantification:** in total, 28 fragments of vessel glass were recovered, 14 of which were possibly Roman, and the remainder post-medieval in date. All artefacts were examined for the purposes of this assessment. Outline details of the objects were entered into an Access database in order to prepare a preliminary catalogue.
- 5.5.2 **Evaluation:** most of the possible Roman fragments were extremely small, having been recovered by sieving, and as such were difficult to identify with confidence. The colour of the fragments from the sample varied from colourless to olive and light green. A single blown, natural blue-green fragment, recovered from subsoil layer **802**, possibly derived from a second-century flask, although the fragment was too small to ascribe a vessel type.
- 5.5.3 The remaining fragments were collected from topsoil deposit **101**, and comprised a complete colourless glass mineral water bottle bearing the manufacturers' trade-mark of 'Armstrong & Dickies', a firm producing ginger beer and mineral water bottles in Dumfries throughout the nineteenth century (Hiddleston 2005). The other 13 fragments from **101** derived from a single, thin-walled wine glass, probably of a similar date.
- 5.5.4 **Potential:** the fragmentary nature of the Roman assemblage means that it is unlikely to contribute either to dating, or understanding activity on the site. The later vessels are of little significance, and are not relevant to the study of the cemetery.

## 5.6 STONE OBJECTS (SEAN MCPHILLIPS)

- 5.6.1 **Quantification:** the small assemblage comprised a single unworked sandstone item and four modified fragments, none of which were closely datable, although it is possible they had Roman origins, having derived from Roman contexts on the site. These were all examined for the purposes of this assessment. Outline details of the objects were entered into an Access database in order to prepare a preliminary catalogue.
- 5.6.2 **Evaluation:** the modified fragments appeared to be worn pieces of local stone, which had been used either as burnishers, polishers, or hone stones. Of interest were the pieces deriving from subsoil **1002**, and unstratified, that showed evidence of blade marks across each surface. A fragment of light shale-like stone, from subsoil layer **802**, was heavily worn, but ostensibly unworked.
- 5.6.3 **Potential:** the group is small and of restricted range, containing nothing that can be identified with certainty as having been man-made.

## 5.7 CERAMIC BUILDING MATERIAL (SEAN MCPHILLIPS)

- 5.7.1 **Quantification:** four fragments of broken Roman tile were recovered, all of which were examined in the course of this assessment. All the fragments were small, none in excess of 40mm, and were highly abraded. The pieces derived from the base of layer **405**, which sealed cremation pit **406**, probable disturbed cremation material **807**, and from a subsoil deposit (**605**).
- 5.7.2 **Evaluation:** two flat floor tiles in a soft orange oxidised fabric were recovered from layer **405**, which sealed cremation pit **406**. These may originally have formed part of a lining or capping for the burial pit. Other pieces of ceramic building material, derived from a disturbed cremated deposit (**807**) and a subsoil layer (**602**), comprised a harder-fired, reddish-orange floor tile.
- 5.7.3 **Potential:** the tile has no potential for further study, although its paucity affords some significance to the few fragments recovered, and their possible association with burials should be noted. The use of roof tile for the construction of inhumation burial tombs is known, for instance from York (RCHME 1962, pl 28), and the possibility that the fragments from Beckfoot have been put to similar use should be explored.

## 5.8 BURNT CLAY (SEAN MCPHILLIPS)

- 5.8.1 **Quantification:** four fragments of burnt or fired clay and several small particles of ochre were recovered from three contexts across the site. All were examined for the purposes of this assessment. Outline details of the objects were entered into an Access database in order to prepare a preliminary catalogue.
- 5.8.2 **Evaluation:** most appeared to be very small and largely amorphous fragments of daub, although none retained any architectural detail, or were of sufficient size to justify analysis of organic content. A single squared piece of fired clay (measuring 30mm<sup>2</sup>), which appeared to have finished edges, derived from

cremation debris (**607/1019**). Other fragments collected from pyre material included particles of ochre recovered from the fill of pyre dump **518**. This ochre possibly derived from an item of clothing or other personal ornament burned on the pyre.

- 5.8.3 **Potential:** this class of material has little potential to inform the interpretation of the site further. However, a note of its presence or absence within stratigraphic deposits should be made.

## 5.9 CHARCOAL AND CHARRED PLANT REMAINS (*DANA CHALLINOR*)

- 5.9.1 **Quantification:** from a total of 22 bulk samples taken during the fieldwork, 16 were selected for assessment for this report. The selected samples came from securely stratified contexts and from the different feature types, while those not processed were potentially from disturbed or contaminated contexts. A further 13 (spit samples) came from the cremation urns, excavated under laboratory conditions. Additionally, there were 13 bags of hand-picked charcoal, which were examined briefly in the bags. All of the samples date to the Romano-British period, and are from deposits relating to the cremation cemetery. The number of samples for each individual feature type is shown in Table 1, and a tabular breakdown of the results is presented as *Appendix 5*.

Feature type	Number of samples
Two Cremation urns	13 spit samples
Cremation pit	4
Pyre	1
Pyre dump	4
Charcoal deposit	1
Ditch	3
Ring ditch	1
Pit	1
Subsoil	1

*Table 1 Number of environmental samples assessed and feature type*

- 5.9.2 **Methodology:** the soil samples, ranging in size from one litre to 40 litres, were processed for charred plant remains and charcoal by hand at the OA North offices, with the flots collected on a 250µm mesh. The air-dried flots were scanned under a binocular microscope at up to x45 magnification. Charcoal caught on the 2mm sieve was considered identifiable and quantified; fragments were randomly extracted, fractured and examined in transverse section. While this provides a reliable method for the identification of ring porous taxa (eg *Quercus* sp), identifications are tentative for the semi- to diffuse-porous taxa (Maloideae, *Prunus* etc). In the case of large flots, a sample of c 20% was examined, although any quantification given is based on estimates of the entire flots. The flots were also scanned for the presence of any other charred remains.

- 5.9.3 **Evaluation:** the results of the assessment are summarised in *Appendix 5*. Charcoal was abundant in most of the samples and was very well preserved. In some cases, the charcoal was exceptional, with large fragments of more than 50mm. Six taxa were provisionally identified: cf *Pinus* (pine), *Quercus* sp (oak), *Betula/Acer* (birch/maple) type, *Alnus/Corylus* (alder/hazel), Maloideae (hawthorn, apple, pear etc), *Prunus* sp (blackthorn, cherry), and *Fraxinus excelsior* (ash). The *Betula/Acer* type could be either of these species, or other species with short radial files and small multiseriate rays, but there did seem to be only one species represented. Context **802**, a subsoil layer, was dominated by very large fragments of knotty roundwood, which may have been suitable for a pyre structure. Further investigation is required to confirm the species and the possibility of burr wood.
- 5.9.4 Other charred plant remains were rare. Only one sample (from possible disturbed cremation deposit **305**) produced some interesting remains. These appeared to be nutshell or achene fragments (probably not typical hazel nutshell fragments), and in fact one or two appeared to have the internal endocarp for a single seed. One large seed and a poorly preserved cereal grain were also present. Grass-type rhizomes and charred roots were noted in several samples.
- 5.9.5 There were a number of other types of material in the flots, including nails, pottery, cremated bone, and general charred amorphous material. Some of this may be carbonised liquid from the cremation process, but it is also possible that other plant remains were present in the pyre. The abundant fragments of textile found in possible cremation **103** appeared to be charred, and clearly exhibited a woven texture, although this ‘cremation’ contained no bone, and was found almost immediately below the turf, cut into the subsoil (**101**). As such, this context is not considered stratigraphically secure, and further analysis on the textile fragment is not considered worthwhile.
- 5.9.6 **Potential:** all of the charcoal samples from Beckfoot are from deposits relating to the cremation cemetery. This offers a valuable opportunity to examine the differences in assemblage composition between pyre sites, burials and redeposited pyre debris. While some of the samples are dominated by a single species, many have mixed assemblages. It is not clear at this stage whether samples with a greater range of species are from several cremations or whether a range was used in a single cremation; the results from urn **708** suggest the latter interpretation. Clearly, alder and/or hazel were used as the primary fuelwood in some cremations and it is expected that other species will be identified at the analysis stage. Interestingly, the dominant taxa at the cemetery at Brougham were alder and birch, with oak and ash associated with pyre goods (Campbell 2004), and at Low Borrowbridge oak and ring-diffuse taxa such as alder, birch or hazel were also noted as comprising some of the charcoal obtained from palaeoenvironmental analysis (Huntley 1996, 121). This contrasts with the results from Roman cremation cemeteries in Southern England (Challinor forthcoming a; forthcoming b), which suggest that oak and ash were the main fuelwoods used, and these species tend to dominate all of the assemblages, from any category of pyre deposit. The availability of local woodland resources is likely to have played a part in the choice of fuelwood.

- 5.9.7 Further analysis of the charcoal would confirm the patterns of wood use for funerary activities, taking into account woodland availability, and place the site within a regional and national context. Beckfoot is particularly important, because although there is no direct evidence for pyre sites, there is a good range of samples from discrete redeposited contexts of pyre debris in which the preservation of the charcoal is excellent. This would allow quantification of the charcoal to provide a means for examining sample composition. The widespread recovery of charcoal, including roundwood, will also provide significant potential for radiocarbon dating of a variety of features from across the cemetery.
- 5.9.8 The presence of charred rhizomes/roots is not uncommon in cremation assemblages, where grass may have been accidentally uprooted, or where the pyre structure was on grass, or where grass was used as packing. None of the charred roots/rhizomes appeared to be the large edible tubers that are often found in cremation contexts (eg *Arrhenatherum elatius*), but a selection should be examined by a specialist at the analysis stage, to confirm this and determine if any identifications can be made. The nutshell/fruit from possible cremation deposit **305** could be the remains of food, or could have entered the archaeobotanical assemblage with the wood fuel, but a confirmed identification is necessary to determine its significance.

## 5.10 THE CREMATED BONE (JACQUELINE MCKINLEY)

- 5.10.1 **Quantification:** all the bone was subject to a rapid scan to assess its condition, demographic data, and the presence of pathological lesions, non-human osseous, and non-osseous, material. The bone was quantified by weight (*Appendix 6*). Assessment of age and sex was undertaken using standard ageing and sexing methodologies (Buikstra and Uberlaker 1994; Scheuer and Black 2000). The probable nature of the deposits was deduced using the results of the bone assessment together with the site contextual data (*Appendix 6*).
- 5.10.2 **Evaluation:** there appears to have been relatively little disturbance to most deposits. The bone from eight deposits appears worn/eroded to some degree, indicative of deposition within an acidic microenvironment. Most of these represent the remains of redeposited material or deposits of uncertain type, with some (**502** and **510**) showing variability suggestive of the material having derived from different contexts originally. Most of the burials include both compact and trabecular bone, the latter being prone to preferential loss in adverse soil conditions (McKinley 1997, 245; Nielsen-Marsh *et al* 2000).
- 5.10.3 A minimum of four, probably five, individuals were identified in the assessment. These include three adults and one juvenile/subadult from each of the five burials. Material recovered from the various deposits of pyre debris may include remains from individuals represented within the burials, and cannot, without detailed analysis, be counted as those of separate individuals. The nature of at least five deposits is uncertain due to incomplete excavation and, consequently, incomplete recovery of the bone and contextual information. Some of these cremation-related deposits (crd) may prove to represent the remains of discrete burials.

- 5.10.4 The cremated bone was all white in colour, indicative of full oxidation of the organic components of the bone (Holden *et al* 1995a; 1995b). Few pathological lesions were observed in the rapid scan of the bone, though remains from one deposit (**709**) showed signs of infection. Six deposits, including the remains of two burials, contained small quantities of burnt/cremated animal bone, which in most cases will be representative of the remains of pyre goods.
- 5.10.5 **Potential:** a large body of material has been recovered from the Beckfoot cemetery over the last 100 years, demonstrating it to be both of considerable size, and to contain the remains of a variety of mortuary deposits, including burials, intact pyre sites and redeposited pyre debris (Hogg 1949; Bellhouse and Moffat 1958; Caruana 2004). In terms of both their type and excellent state of preservation (Hogg 1949), some of the deposit types from Beckfoot, in particular the undisturbed pyre sites, represent almost unique deposits in the British archaeological record for this period, although much of the cemetery has eroded and what remains is desperately at risk (*Section 1.2*). Relatively little of the cremated bone from these deposits appears to have been retained or been subject to full analysis (Caruana 2004), resulting in a lacuna in our understanding and interpretation of the mortuary rites practised.
- 5.10.6 The potential for further analysis on the assemblage from the assessment is limited by the incomplete recovery of deposits in all except eight cases (29.6% of the assemblage). This places limits not only on the analysis of individual deposits, in terms of deducing the type of deposit represented and a confident assessment of the demographic data, but also on the assemblage as a whole. A variety of deposit types (unurned and possibly urned burials, redeposited pyre debris and potentially pyre sites) may be represented, but without further investigation some of these cannot be confirmed.
- 5.10.7 In combination with the site contextual data, analysis of the bone will provide more detailed demographic data with regard to the number, age and sex of individuals. Although there are limits to the confidence and definition of age and sex which can sometimes be attributed to cremated remains, sufficient information should be forthcoming to help illustrate the nature of the assemblage (eg domestic or military), and to assess age/gender links with pyre/grave goods and, potentially the fuel used for the cremation (Cool 2004, 441; *Section 4.9.6*). It is probable that more pathological lesions will be observed in full analysis, but this will only allow a general comment on the observed conditions, rather than any general overall assessment of health or, by inference, status. The cremated bone, when combined with samples of charcoal, will also provide significant potential for radiocarbon dating of a variety of features from across the cemetery.

## 5.11 THE ANIMAL BONE (JACQUELINE MCKINLEY)

- 5.11.1 **Quantification:** one piece of unburnt animal bone was present in the finds assemblage, which was recovered from subsoil deposit **302**.
- 5.11.2 **Evaluation:** the piece of bone was rapidly visually identified as belonging to an unidentified bird species.



- 5.11.3 **Potential:** the context of this single bone (subsoil **302**) prevents it from contributing a great deal to our knowledge of either the cremation rite or burial practice associated with the site. Species identification, if possible, will be the only further analysis possible.

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## 6. CURATION AND CONSERVATION

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### 6.1 RECIPIENT MUSEUM

- 6.1.1 The Senhouse Museum, Maryport, has been nominated as the ultimate place of deposition for the finds:

Senhouse Museum, The Battery, Sea Brows, Maryport, Cumbria, CA15 6JD

Contact: Jane Laskey, Museum Curator

- 6.1.2 Arrangements were made with the Museum prior to the works for the deposition of the complete site archive from the 2006 evaluation, and Jane Laskey has acknowledged her willingness to accept this archive.

### 6.2 CONSERVATION

- 6.2.1 The assemblage was manually cleaned and marked as per the project brief (*Appendix 1*). Most of the assemblage is well-preserved and in good condition, although the burnt Samian is relatively unstable. The conservation requirement is therefore generally low, but the Samian and metalwork will require additional measures and packaging to ensure its stability during long-term storage. Selected metalwork will require x-radiography and conservation (see *Section 9.5.2*).

### 6.3 STORAGE

- 6.3.1 The complete project archive, which will include records, plans, both black and white and colour photographs, artefacts, ecofacts and sieved residues, will be prepared following the guidelines set out in *Environmental standards for the permanent storage of excavated material from archaeological sites* (UKIC 1984, Conservation Guidelines 3) and *Guidelines for the preparation of excavation archive for long-term storage* (Walker 1990).
- 6.3.2 All finds will be packaged according to the Museum's specifications, in either acid-free cardboard boxes, or, for unstable material (principally the metalwork), in airtight plastic boxes providing a controlled microclimate.

### 6.4 PACKAGING

- 6.4.1 The assemblage is currently well-packed, and will require no further packaging. Box lists are prepared and will be updated from the database when the identification of objects is complete.

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## 7. STATEMENT OF POTENTIAL

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### 7.1 INTRODUCTION

- 7.1.1 Continued erosion of the cemetery at Beckfoot has to date necessitated the preservation of the archaeological resource by record rather than by the professionally preferred method of *in situ* preservation. The evaluation has subsequently demonstrated that significant archaeological deposits from the Roman cemetery survive within the study area. The finds' assemblage, the assemblage of cremated bone, and the environmental samples indicate that the site retains significant archaeological potential which is, despite the depredations of the sea, otherwise unparalleled in the north of England. Apart from Brougham and Low Borrowbridge, the paucity of any comparable excavated cemeteries from the northern frontier makes the archaeological resource at Beckfoot, and the opportunity for the use of up-to-date excavation techniques, potentially unique.
- 7.1.2 The evaluation has provided further evidence of the evolution of land use in the area, with tentative hints of prehistoric activity preceding the Roman cremation cemetery, which appears to have been first used extensively in the early third century (*Section 5.3.5*). The evidence has confirmed previous suggestions (Hair and Howard-Davis 1996, 96) that the cremation rite survived throughout the second and third centuries, and even into the fourth in the North West, before its eventual abandonment. The evaluation has also provided the first opportunity in the study area to excavate sequences of features stratigraphically, as previous excavation work has only been able to tackle the archaeological features in relative isolation, and usually along the vertical plane of the cliff side.
- 7.1.3 The lack of evidence in the measured position for any military installation in the Scheduled Monument Area, or immediately beyond it, raises questions concerning Milefortlet 15. The possibilities as to its position as measured by Bellhouse are that: it may never have been occupied by a Roman military building; any remains of the putative milefortlet have been destroyed by coastal erosion and the lack of any evidence produced during these excavations in the measured area shows that the 'turf' alluded to by Bellhouse (Breeze 2006) was the last vestiges of the structure on its landward side; or the measured position was always incorrect. The possibility that a milefortlet never existed there, however, has implications upon the chronology and morphology of the Solway coastal defences.

### 7.2 PRINCIPAL POTENTIAL

- 7.2.1 The most significant aspect of the excavations is the potential to characterise and date the Roman cremation cemetery since, prior to this work, little archaeological excavation had been undertaken, except along the edge of the cliff. As such, the longevity and extent of the cemetery, in particular, was unknown. The artefactual data appear to have the capacity to address chronological questions relating to the cemetery, and analysis of the stratigraphic record will allow some progress towards outlining the extent to

which the cemetery continued landwards. The presence of a relatively well-preserved sequence of archaeological features will allow the establishment of a chronological sequence for the cremations, and opportunities to examine Roman burial and cremation practice on the north-western frontier.

- 7.2.2 The finds' assemblage from Beckfoot is of good quality, and elements, especially the pottery, have the potential to sustain a range of analysis comparable to that recently published for the cemetery at Brougham (Cool 2004). Such investigation, based on an assemblage recovered under modern conditions, will add detail to an understanding of the Roman cremation rite.
- 7.2.3 Firm dating of the use of the cemetery will also provide a more detailed picture of the general nature and character of the earliest Roman presence in Beckfoot, and contribute to further interpretation of the early history of this part of the Roman North West (Philpott and Brennand in press). The data recovered from the excavations do, however, also raise significant further questions relating to the chronology, morphology, and status of the cemetery.
- 7.2.4 Similar sites, especially in the north of Britain, present the opportunity for the recovery of a complete multi-period sequence only infrequently. Given the environmental conditions on the Solway Coast, the opportunity to observe a considerable section of the surviving cemetery will become increasingly difficult as it erodes. The stratigraphic sequence and the artefactual material will feed into the development of research questions for any future work at Beckfoot, on the Solway Coast, and the wider Roman frontier.

### 7.3 NATIONAL PRIORITIES ADDRESSED BY THE SITE'S POTENTIAL

- 7.3.1 Surprisingly, the Romano-British period is not well served by research frameworks at a national scale. The CBA volume *Britons and Romans: Advancing an Archaeological Agenda* (James and Millett 2001) is to a degree region and subject specific, and overall does not represent a national research strategy for the period. The most recent English Heritage Research Strategy documents are *Exploring our Past Implementation Plan* (2003) and *Discovering the Past, Shaping the Future* (2005), although these are, in effect, strategies for English Heritage itself. The draft *Research Agenda*, circulated to the archaeological profession in 1997, is no longer considered current, although the following research objectives remain pertinent for a large part of England:

- to examine the levels of social and economic interaction between military and civilian populations (H1);
- to examine the level of continuity in settlement and landuse and by implication the social and economic organisation between the Late Iron Age and Romano-British periods, particularly its regional variations (PC4);
- to examine the nature of change in Romano-British society in the third and fourth centuries (PC5);

## 7.4 LOCAL AND REGIONAL PRIORITIES

- 7.4.1 Knowledge of funerary remains from the Romano-British period in the North West is almost entirely confined to military and urban contexts, yet even there the range and nature of practices are poorly understood. The small number of modern excavations which have examined burial practices of the period would suggest that there is a variety of rites and forms of deposition, which may be to some extent determined by cultural and ethnic preferences. Practices with origins in mainland Europe, more specifically the Danubian and Rhineland regions, have previously been observed at the military site of Brougham in Cumbria (Cool 2004, 464-6). The only unit known to have been at Beckfoot was a cohort of Pannonian troops, from modern Austria, Croatia, Hungary, Serbia, Slovenia, Slovakia and Bosnia-and-Herzegovina (*see Section 1.3.7 above*), who may also have followed their own, native, funerary practices. The *Regional Research Agenda* has suggested that identification of cremated remains should be pursued with full multi-disciplinary analysis to investigate ‘the range of practices and their distribution and associations’ (Philpott and Brennand in press), to address the possibility of just such different practices.
- 7.4.2 To date, work on cremation cemeteries can be divided into two categories, the first of which comprises circumstantial antiquarian investigation. At Beckfoot, archaeological activity has included the recovery of miscellaneous objects, including cremation urns, on the beach (Caruana 2004, 136-40), and very small-scale intrusive works conducted into the eroding cliff section following the chance discovery of archaeological features (Bellhouse 1954; 1962; 1989; Bellhouse and Moffat 1958). In more ‘casual’ circumstances, seven cremation burials and six funerary monuments have been recovered during ploughing and other happenstance at the cremation cemetery associated with Birdoswald fort on Hadrian’s Wall (Wilmott 1993, 80-4).
- 7.4.3 The cremation cemetery at Brougham was excavated under archaeological conditions in the 1960s, although the material was not assessed and examined until 2000-02 (Cool 2004). The full weight of the techniques available to modern archaeology were applied to the material and paper archive, resulting in a wealth of illuminating analysis and comment provided in the 2004 report.
- 7.4.4 Excavation of the cremation cemetery at Low Borrowbridge (Hair and Howard-Davis 1996) was able to demonstrate a variety of burial practices. Despite the works being constricted by conditions dictated by development, the data were able to elaborate on the chronology and practice of cremation in the north of Britain.
- 7.4.5 Partial excavation of the cemetery at Birdoswald was undertaken utilising modern techniques by Channel 4’s *Time Team* programme in 2000 (T Wilmott *pers comm*). Publication of the results of this excavation is currently awaited.
- 7.4.6 The cemetery remains recovered from Beckfoot therefore represent a significant corpus of data on a regional scale, which would undoubtedly contribute to the study of Roman funerary practice within this area, particularly when comparison is made with other excavated examples, such as that at Brougham (Cool 2004). The Beckfoot site also bears a number of

points of comparison and contrast with evidence from Low Borrowbridge (Hair and Howard-Davis 1996). There is, moreover, increasing reason to believe that Roman burial rites in north-western Britain differed from those of southern Britain in a number of ways (Hair and Howard-Davis 1996, 147; Philpott 1991, 47), and represent an important corpus of comparative yet distinct data.

- 7.4.8 A full research agenda for Cumbria and the North West in general is forthcoming (Philpott and Brennand in press), but it is clear that fundamental data gathering and publication are still the most urgent necessity for many periods. Outside the major urban centres, the Roman military installations of Cumbria have perhaps been best served by research, but concentration on the military installations themselves rather than the whole range of sites has resulted in a lack of balanced consideration of the development of civil settlements and their environs, including burial grounds. The data produced from the Beckfoot evaluation have the potential to shed new light on such development, particularly in respect of the introduction, evolution and practice of the cremation rite by the Roman military in Britain.

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## 8. UPDATED PROJECT DESIGN

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### 8.1 AIMS AND OBJECTIVES OF PROGRAMME OF ANALYSIS

8.1.1 This section follows the guidance of English Heritage regarding the formulation of updated project aims (English Heritage nd, 2-3). This guidance recommends that it is helpful to treat *aims* as major themes or goals to which specific *objectives* contribute, and to consider these aims and objectives as questions.

8.1.2 The original aims of the fieldwork are still valid, but these have now been updated, with new aims and objectives derived from the statement of potential set out in *Section 7* above. At the present stage of assessment, these necessarily emphasise the presence, absence and sufficiency of data to support further analysis of components of the archaeological record. This analysis would have two primary objectives: to add to the archaeological knowledge in the areas prioritised by the original fieldwork aims; and to place the current work alongside previous archaeological excavations, in a format that will be complementary and will progress research.

8.1.3 ***Overall aims:*** the research aims will consider the following:

- the development of the site during the Roman period, including evidence for changes, both spatial and chronological, in its layout, using dating techniques to track these changes;
- the nature of Romano-British occupation in the hinterlands of a Roman fort;
- changes in the nature of the community using the site through the Roman period, incorporating any evidence for military occupation or civilian elements;
- the place of the cemetery and putative milefortlet site in the wider context of the creation and development of what we see as a militarised zone in northern Britain;
- the relationship of the cemetery to similar sites in the area in northern Britain;
- Romano-British funerary practices in the North West.

8.1.4 ***Updated Research Aim 1:*** What are the occupation sequences of Beckfoot cemetery site?

- ***Objective 1:*** What are the main periods of occupation on the site as shown by detailed stratigraphic analysis of the primary records?

- *Objective 2:* Is it possible to refine the phasing of the site further through the identification and dating of stratigraphic sub-phases, and to attribute all contexts to these periods?
- *Objective 3:* What is the dating evidence for each of the refined periods and sub-phases of activity on the site?

8.1.5 **Updated Research Aim 2:** How did the site develop through the Roman period?

- *Objective 1:* Can the date at which Roman activity commenced be established in detail?
- *Objective 2:* To what extent do distribution patterns of artefactual and ecofactual material change during the course of the Roman period?
- *Objective 3:* Is there any evidence that alterations to the layout of the site or changing patterns of artefact and ecofact deposition reflect changes in the character, status and function of the site and the immediate area through time?
- *Objective 4:* Is there evidence that changes in the layout of the site were prompted by changes in the composition of the community through time?
- *Objective 5:* Is it possible to determine the date and character of the abandonment of the cemetery site or the associated fort and at the putative milefortlet and *vicus*?

8.1.6 **Updated Research Aim 3:** What was the relationship between the community using the cemetery and the areas within the hinterland of the Roman fort, and with other settlements in the region?

- *Objective 1:* To what extent did the community in Roman Beckfoot exploit local natural resources such as timber, stone, clay and wild food resources?
- *Objective 2:* What evidence for military trade, supply and communication routes is reflected in the sourcing and distribution of commodities at the site?
- *Objective 3:* Is there any evidence to shed light on the nature of the relationship between the activity at the Beckfoot cemetery site and adjacent areas of the Solway coast throughout the Roman period?

8.1.7 **Updated Research Aim 4:** What can be learnt of the cemetery at Beckfoot in relation to the practices in the Roman North West and in Britain?

- *Objective 1:* Is it possible to determine whether the cemetery had distinctive rites within the region? To what extent is it comparable with other, apparently similar sites, such as Brougham and Low Borrowbridge?
- *Objective 2:* Does the stratigraphic and dating evidence reflect episodes of apparently reduced activity on the site? Does this provide any new information on Roman military activities in the region?



- *Objective 3:* Do changes in the use of the site reflect events in the wider Roman North West, and in Britain?

8.1.8 **Updated Research Aim 5:** What can be learnt about the population using the cemetery, and are any demographic conclusions able to be drawn from the data?

- *Objective 1:* What is the evidence for palaeopathology?
- *Objective 2:* What is the evidence for nutrition?
- *Objective 3:* Is there any evidence for spatial differentiation amongst the burials? Is there any indication of deliberate compass-point orientation?
- *Objective 4:* How are specific sub-groups within the cemetery population represented? How are infant, juvenile, adult and gender relationships represented? Do these representations form any discernible patterns?

8.1.9 **Updated Research Aim 6:** Is there evidence for the variety of cremation ritual which has been suggested by analysis of other cemetery sites?

- *Objective 1:* What material was being used to construct and fuel cremation pyres, and is there any evidence for biers?
- *Objective 2:* How were these pyres constructed?
- *Objective 3:* What goods were placed on the putative biers? Is it possible to show that some goods were being placed in the vicinity of the pyre rather than directly onto it?
- *Objective 4:* Is it possible to demonstrate the selection of human remains for burial? Can it be determined if selection represents deliberate retrieval of specific parts of the body?
- *Objective 5:* Does the evidence allow reconstruction of the form of deposition of the cremations? Are there a coherent pattern to the vessels selected for burial?

## 8.2 PRESENTATION OF RESULTS

8.2.1 In accordance with the guidelines outlined in the English Heritage document *MAP 2* (English Heritage 1991), it is proposed that the results of the project should be presented in the following stages:

- *Publication text:* following the analysis and interpretation of the results of the evaluation, a text will be prepared suitable for publication as an article in the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society*.
- *Project archive:* the completion of the project will result in an integrated project archive, which will be deposited with the Senhouse Museum, Maryport.

### **8.3 PROGRAMME STRUCTURE**

8.3.1 The post-excavation programme will be divided into the following stages:

- analysis
- synthesis
- preparation of draft text and illustrative material
- publication(s)
- archive deposition.

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## 9. METHOD STATEMENT

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### 9.1 INTRODUCTION

- 9.1.1 The following work is required to fulfil the revised research aims outlined in *Section 8*. This will require a programme of analysis, followed by the preparation of an appropriate text for publication, as outlined in the project task list (*Appendix 8*) and the Gantt chart (*Appendix 9*).

### 9.2 START-UP

- 9.2.1 **Tasks 1-3:** to facilitate all Objectives.
- 9.2.2 Senior project team members will meet to acknowledge the timetable for all phases of the analysis, with an aim of addressing the overall project aims and the specific objectives. Regular review meetings will be held to monitor the progress of the analysis, and to keep all parties informed. The project manager will ensure that all specialists have the material ready for analysis.

### 9.3 PHASING, STRATIGRAPHY AND SITE DESCRIPTION

- 9.3.1 **Tasks 4.1-3:** to contribute to Objectives 1.1, 1.2, 1.3, 2.1, 2.2, 2.5, 4.3, 5.3.
- 9.3.2 The stratigraphic sequence will form the contextual structure for an integrated report which, following the incorporation of artefactual and environmental data, will create a framework for the interpretation of the site. A broad sequence of site phasing already exists, and after preliminary refinement of the stratigraphic text, this will be provided to the finds' and environmental specialists. This will be completed as soon as possible, to allow the information to be disseminated. To enable the process to be iterative, the specialist reports are intended to feed back into the stratigraphic analysis, which will then be finalised as a stratigraphic narrative.

### 9.4 POTTERY

- 9.4.1 **Prehistoric Pottery (task 5.1):** to contribute to Objectives 1.1, 1.2, 1.3, 2.1, 2.2, 2.3.
- 9.4.2 The potential presence of pre-Roman ceramics is of interest as later prehistoric pottery is rare on a regional scale, and there are few examples from Cumbria. The presence of this material at the cemetery site might indicate pre-Roman activity, and although this could prove purely coincidental it might also suggest that this particular site was chosen because of its past associations. The pottery will be analysed for fabric and vessel form, and comparisons made with the small number of similar examples from the area. A text will be prepared for publication, accompanied by illustration of selected sherds.
- 9.4.3 **Samian (task 5.2):** to contribute to Objectives 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.2, 4.3, 6.3, 6.5.

- 9.4.4 A full report for publication will be compiled, including detailed analysis of fabrics, vessel types and forms, potters' identifications, and condition of the material, along with chronological and spatial analysis of the assemblage. This includes measurements for EVES (Estimated Vessel Equivalents).
- 9.4.5 *Epigraphy (task 5.3)*: the sherd of Samian ware inscribed with what may be a graffito will be viewed by an epigraphist.
- 9.4.6 *Roman coarse and other fine wares (task 5.4)*: to contribute to Objectives 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.5, 3.2, 4.3, 6.3, 6.5.
- 9.4.7 The Roman pottery forms the largest class of material recovered from the site, and will form the basis to address questions of chronology, site activity, and site status. The material will be classified by fabric and quantified by weight and sherd count, and an illustrated form and fabric series will be prepared for publication. Analysis of the assemblage will consider the spatial and chronological distribution of the material, as well as use and treatment of different vessels and fabrics. This information will directly address the site specific objectives of the use and deposition of pottery during funerary rites, and allow comparison with other sites in the region and on the northern frontier more generally.

## 9.5 OTHER FINDS

- 9.5.1 *Ironwork (tasks 6.1-2)*: to contribute to Objectives 2.2, 2.3, 6.3.
- 9.5.2 The unidentified ironwork (113 items), along with the blade fragments (16), will be x-rayed prior to analysis. A full catalogue and enhanced database will be produced, and the assemblage will be compared to other sites at Brougham (Cool 2004), Lancaster (Jackson 1988) and Low Borrowbridge (Hair and Howard-Davis 1996). A text will be prepared and objects selected for illustration.
- 9.5.3 *Glass (task 6.2)*: to contribute to Objectives 2.2, 2.3, 3.2, 6.3.
- 9.5.4 The material has been quantified and recorded as part of the assessment and no further work is anticipated. The assessment text will be edited for inclusion in the final report.
- 9.5.5 *Stone and shale (tasks 6.3-4)*: to contribute to Objectives 2.2, 2.3, 3.1, 3.2, 6.3.
- 9.5.6 The stone will be scanned by a geologist for provenance, although it is anticipated that all of the stone could have been found in the general area of the cemetery. A brief report will be produced.
- 9.5.7 *Ceramic building material (task 6.5)*: to contribute to Objectives 2.2, 2.3, 3.1, 3.2, 6.1, 6.2, 6.3.
- 9.5.8 Whilst the ceramic building material does not warrant further analysis, it is possible that the few fragments are associated in some way with the burial rite. Thus its presence needs to be noted within the final report, and comparison made with other cemetery sites.

9.5.9 *Burnt clay (task 6.6)*: to contribute to Objectives 3.1.

9.5.10 The presence of the material will be noted within the final report.

## 9.6 ENVIRONMENTAL ANALYSIS

9.6.1 *Charcoal (tasks 7.1-2)*: to contribute to Objectives 2.2, 2.3, 3.1, 6.1, 6.2, 6.5.

9.6.2 Ten samples have been assessed as having a high potential for analysis. These samples have been shown to contain well-preserved charcoal from the different feature types, which also contain cremated bone. The hand-collected charcoal from the relevant contexts will also be examined and noted (in tables), although these results will be excluded from any statistical analysis as charcoal collected in this manner is unrepresentative of the charcoal assemblage as a whole. Results from other sites have shown that there is no benefit in analysing the charcoal from cremation urns in separate spits, so the richer spits of 708 will be floated as one sample so that the charcoal is amalgamated for analysis. Large flots will be divided, using a riffle box, so that c 100 fragments >2mm in size are identified. The charcoal will then be fractured and sorted into groups, based on the anatomical features observed in transverse section low magnification. Representative fragments from each group will be examined in all three planes at high magnification (up to x400). Identifications will be made with reference to identification texts and modern reference material. A record will be made in the data tables of all charcoal noted as being from twigs or large roundwood. A report will be produced placing the selection of pyre timber within its regional and national contexts.

9.6.3 *Charred plant remains (task 8)*: to contribute to Objectives 2.2, 2.3, 3.1, 3.2, 6.1, 6.2, 6.3.

9.6.4 The charred plant remains will be separated from the charcoal and analysed at OA North's Lancaster office. The material will be identified, and a report will be produced, discussing the implications for the surrounding vegetation, and potential material that may have been placed on the pyres.

9.6.5 *Cremated bone (task 9)*: to contribute to Objectives 2.2, 2.3, 2.4, 3.3, 4.2, 4.4, 5.1, 5.2, 5.3, 5.4, 6.4, 6.5.

9.6.6 Analysis of the cremated bone will follow the procedures laid out in McKinley 1994 (5-6) and 2004b. The age of individuals will be assessed using standard methodologies (Brothwell 1972; Beek 1983; Buikstra and Ubelaker 1994). Analysis will include a rapid scan of all unsorted <4mm residues to extract any identifiable material, osseous or artefactual. The recorded data on bone weights, fragmentation, colour, skeletal elements and non-human osseous inclusions, used in corroboration with the site data and that from the environmental analysis, should inform on aspects of the mortuary rite. The information derived from this most recent investigation will provide a basis for reconsideration of and comparison with the data which currently exist for the site (Caruana 2004). Comparison with data from other Northern Frontier sites, including the recently published cemetery at Brougham (Cool 2004), will

enable the site to be considered in its regional and, thereafter, its national context (eg McKinley 2004b).

- 9.6.7 **Animal bone:** a single bird bone was recovered from the subsoil, but given its provenance it is not considered worthy of further analysis.

## 9.7 RADIOCARBON DATING

- 9.7.1 *Task 10:* to contribute to Objectives 1.1, 1.2, 1.3, 2.1, 2.5, 4.2.

- 9.7.2 While a broad chronology of the site activity will be provided by the pottery analysis, there is considerable potential for scientific dating techniques to refine this sequence, and also provide dating evidence for features from which no diagnostic ceramics were recovered. The radiocarbon calibration curve for the later Romano-British period, however, is problematic, with a kink from approximately AD 270 to 370, but the use of multiple samples and distribution modelling should be able to refine the dates to within a narrower age bracket.

- 9.7.3 The dating process will be considered in two stages. A first round of dating will comprise the submission of 10 samples from five features, utilising a sample of charcoal and a sample of bone from each. The samples will be taken from charcoal deposit **305**, cremation pit **312**, cremation urn **408**, pyre dump **519**, and cremation urn **708**. The samples will be selected and packaged by the OA North environmental manager, and submitted to the English Heritage Scientific Dating Team. This will be undertaken as soon as notification of the project start-up is provided, due to the long timescale for obtaining radiocarbon dates. Potential for a second round of dates will be dependent on the results from the first samples submitted, but would follow a similar methodology, with samples selected by the OA North environmental manager, and then submitted to English Heritage, following liaison with the Scientific Dating Team.

## 9.8 PRODUCTION OF REPORT

- 9.8.1 *Task 11.1-3:* to contribute to all Objectives.

- 9.8.2 Upon completion of the finds' and environmental analysis, a full stratigraphic narrative will be prepared incorporating data provided by the specialists, allowing refinement of the site phasing and informed interpretation of the excavated features and areas. An analysis of the distribution of finds and environmental evidence will be utilised to interpret different areas of activity and deposition. This in turn will inform the final requirements for illustrations, most especially relating to phase plans of the site.

## 9.9 ILLUSTRATION

- 9.9.1 *Tasks 12.1-2:* to contribute to all Objectives.

- 9.9.2 During each part of the analytical programme, a selection will be made of appropriate material for illustration. This will cover general plans, section drawings, phase plans, and artefacts. Experienced illustrators, using standard conventions, will compile these illustrations, the plans by electronic means and

the finds by a combination of hand and electronic means. The illustrated artefactual material will include two of the decorated Samian sherds and 20 sherds of coarseware pottery. The complete vessels will also be illustrated.

## **9.10 FINAL REPORT**

9.10.1 *Tasks 13.1-8*: to contribute to all Objectives.

9.10.2 Following the completion of the full analysis, a text suitable for publication in the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* will be formulated. This will include a description of the site in the context of the northern frontier. The discussion section will also address the significance of the assemblage as a whole to the interpretation of the site, and its implications locally and regionally. The assemblage will be compared with those from other sites in the North West, most especially Brougham (Cool 2004) and Low Borrowbridge (Hair and Howard-Davis 1996). This will be in the format described in *Section 10*, and will undergo internal revision and, following incorporation of any further comments, and acceptance by English Heritage, the text will be submitted to the designated journal, which is externally referred.

## **9.11 ARCHIVE DEPOSITION**

9.11.1 *Tasks 14.1-3*: to contribute to all Objectives.

9.11.2 On submission of the completed text for publication, the archive will be updated as necessary, particularly the photographs and the database information. This will all be checked and then submitted to the Senhouse Museum, Maryport. Material in boxes will be checked and box lists compiled and appended. The entire paper and material archive will be indexed, ordered and checked, including the site archive and all parts delivered to the receiving museum in good order.

9.10.3 It is recommended that digital components of the archive should be deposited with the Archaeology Data Service (ADS) in accordance with current best practice guidance from English Heritage. The scope of the digital archive will be agreed with the ADS during the course of the project, and selection and presentation of the material will be carried out in accordance with the ADS's evolving *Digital Archives from Excavation and Fieldwork Guide to Good Practice* (<http://ads.ahds.ac.uk>). This is an additional optional task.

## **9.12 MANAGEMENT**

9.12.1 *Task 15*: to contribute to all Objectives.

9.12.2 The analysis phase will be overseen by and monitored by a project manager, who will ensure the smooth running of the project, and that the analysis is undertaken according to the timetable. The project manager will also oversee academic quality, and edit the final text. The project manager will also, in turn, liaise with English Heritage and keep the English Heritage monitor informed of developments and progress.

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## 10. PUBLICATION SYNOPSIS

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### 10.1 INTRODUCTION

- 10.1.1 Following the analysis and interpretation of the excavation results, a text will be prepared suitable for inclusion in the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society*.

### 10.2 THE STRUCTURE OF THE REPORT

- 10.2.1 The following section represents a likely breakdown of the proposed publication. It should be noted, however, that this synopsis can only be regarded as provisional, based on the current understanding of the proposed article.
- 10.2.2 The text will be supported by a number of illustrations, comprising drawings and photographs, tables to summarise data and, where appropriate, interpretative phase plans. The finished article will aim to present a high degree of integration between both finds' categories and the structural/stratigraphical history of the site.

### 10.3 OUTLINE SYNOPSIS

Summary	200
Introduction and circumstances of the project	500
Previous work	500
The results of the evaluation	1000
The finds	2000
The environmental analysis	1000
Site discussion and phasing	2000
Synthesis: the Roman cemetery at Beckfoot	
Bibliography	



## 11. RESOURCES AND PROGRAMMING

### 11.1 NAMED PROJECT TEAM

11.1.1 The team consists of a combination of internal OA North staff, with an important input from external consultants. The project will be managed by Alison Plummer.

Name	Organisation	Tasks
Carol Allen	Independent	Prehistoric pottery specialist
Alex Bayliss	English Heritage	Radiocarbon dating
Dana Challinor	Independent	Charcoal specialist
Derek Hamilton	English Heritage	Radiocarbon dating
Chris Healey	OA North	Project officer
Christine Howard-Davis	OA North	Finds' manager
Elizabeth Huckerby	OA North	Botanical analysis/report
Ruth Leary	Independent	Roman pottery report
Ray MacDonald	Lancaster University	Geologist
Jacqui McKinley	Independent	Cremated bone specialist
Rachel Newman	OA North	Director
Adam Parsons	OA North	Finds' illustrator
Alison Plummer	OA North	Senior project manager
David Shotter	Independent	Epigraphist
Anne Stewardson	OA North	Illustrator
Margaret Ward	Independent	Samian Ware report

### 11.2 MANAGEMENT STRUCTURE

11.2.1 OA North operates a project management system. The team is headed by the Project Manager, who assumes ultimate responsibility for the implementation and execution of this Project Design, and the achievement of performance targets, be they academic, budgetary, or scheduling.

11.2.2 The Project Manager may delegate specific aspects of the project to other key staff, who both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external consultants and specialists who are contributing to the publication report, and the museum named as the recipient of the project archive.

11.2.3 Communication between all concerned in the post-excavation programme is of paramount importance and it is essential that the specialists involved liaise closely in order that comparable data are obtained. To this end regular meetings and reviews are envisaged between all project staff and between particular groups of specialists. All information will be disseminated at regular intervals, thus ensuring that everyone is aware of current progress, strategy and thinking.

### 11.3 LIST OF TASKS

11.3.1 The project has been broken down into a series of summary tasks, which are set out in *Appendix 6*, and an accompanying Gantt chart which is presented in

*Appendix 9.* In addition to the tasks outlined, there is some time allocated to general project monitoring and management. The management and monitoring allocations include project monitoring, advice and co-ordination, and problem solving.

#### **11.4 FINANCIAL BREAKDOWN**

- 11.4.1 Following discussions with the Hadrian's Wall Archaeologist, no breakdown of costs is given for the programme of post-excavation analysis and publication proposed above, until the long-term future of the site has been resolved. An indicative cost of the programme to produce and illustrated text suitable for publication of this element of work is £12,904 (excluding VAT), at 2006-07 prices.

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## APPENDIX 1: PROJECT BRIEF

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### **BECKFOOT ROMAN CEMETERY AND MILEFORTLET: SPECIFICATION FOR ARCHAEOLOGICAL EVALUATION WORKS**

#### **1.0 Summary**

- 1.1 A Roman cemetery has been known to exist on the Cumbrian coast at Beckfoot since at least 1908. The location for this cemetery is also thought to lie in close proximity to the site of milefortlet 15 of the Roman defences of the Cumbrian coast, although the actual site of this feature has not been confirmed. These features lie within a coastal dune system, and immediately adjacent to the currently eroding edge of where these dunes meet the sea. Finds recovered from this erosion edge, and plots from dated aerial photographs, suggest that very considerable active erosion has taken place on this site over many years at a rate of around 0.3 m per year.
- 1.2 Initial discussions with those responsible for the coastal protection of this part of Cumbria suggests that while the protection of the remainder of the cemetery is physically possible, the costs of this would be very considerable, and that funds for this would be unlikely to be available to tackle what is currently largely an archaeological erosion issue, with no current threat to habitations or roads.
- 1.3 Clearly, allowing the continued erosion of the cemetery unchecked would be an archaeological disaster. It has therefore been concluded that the preferred archaeological option is likely to be the preservation of the cemetery by record. In order to quantify the costs involved in this, it is necessary to have further information about the extent and survival of the cemetery, and also whether the milefortlet lies within the zone that is currently actively eroding.
- 1.3 The evaluation works lie within a Site of Special Scientific Interest (SSSI), and the requirements of English Nature, as are detailed below, will need to be met in full. There has also been significant interest from the local archaeological society, and it is proposed that two placements from the society form a part of the team carrying out the work. Allowance for these placements, including the potential greater need for supervision, must be made in the contractors' quotations.
- 1.4 One suggested site of the milefortlet places it within the site of the cemetery. This location is current protected as a scheduled ancient monument.
- 1.5 **The contractor is required to provide ten (10) paper copies of the report on this evaluation work, and one electronic copy in PDF format**

#### **2.0 Site Location and Background**

- 2.1 The site is located within a coastal dune system, just to the south of the village of Beckfoot, Cumbria (Grid Reference: 308760 548683). The archaeological remains that require evaluation lie approximately 1m below the ground level of a flat dune grassland, which is around 15 feet above the level of the adjacent beach, which forms a low dune cliff. This beach is clearly a dynamic system, with the dune system being actively modified by the sea of the Solway Firth. This modification takes the form of undercutting of the base of the low dune cliff, which allows collapse of the overlying material which contains the main archaeological horizon.
- 2.2 The unstable nature of the low cliff edge means that the archaeological contractor will

be expected to take account of this ground instability, both in terms of the safety of site staff, and also the use of machinery to start the trenches on the cliff edge. The commissioning body will require the contractor to submit a risk assessment for approval in writing by both English Heritage and the site owner, Allerdale Borough Council, to address these issues prior to the commencement of any works

- 2.3 Access to the site will need to be confirmed with the site owner, Allerdale Borough Council, before any works commence.
- 2.3 The site lies almost entirely within a SSSI. As such, English Nature have provided detailed advice on the steps that must be taken by the archaeological contractor (appendix 2). This advice, particularly the need to avoid storage or refuelling of vehicles within the SSSI designated area.

### 3.0 Historical /Archaeological Background

- 3.1 The current state of knowledge about the archaeology of the cemetery at Beckfoot has recently been summarised by Ian Caruana (2004), and it is not the intention to repeat this information in great detail.
- 3.2 In summary, finds from the cemetery started to be reported in the early part of the 20<sup>th</sup> century to Tullie House Museum at Carlisle. However, more systematic observation, and limited rescue excavation, by Richard Bellhouse and latterly by Ian Caruana and Alan James, from the late 1940's onwards has started to provide a fuller picture of the cemetery:
- The cemetery lies some 370m from the fort at Beckfoot. Although part of the cemetery may have been associated with milefortlet 15, this location is comparable with cemeteries from other fort sites in the Roman north
  - Cremation appears to be the main burial rite found at Beckfoot, although we cannot rule out the possibility of inhumations, particularly with reference to the unusual burials mentioned below. This accords with burial practices elsewhere in the north during the Roman period, where cremation predominates throughout. Material recovered from Beckfoot indicates that the use of cremation continued into the 4<sup>th</sup> century, and while stone cists have been recorded here, it remains unclear as to whether these represent the remains of inhumations or the burial of cremations within cists.
  - The often casual collection circumstances at Beckfoot means that the collected material is thought to be biased towards cremations buried in pots, which are thought to be atypical of the cemetery material as a whole, whereas more ephemeral remains, such as pyre sites, are underrepresented in the current sample, and the pots recovered may well be grave goods rather than containers.
  - Other remains recovered include the remains of funeral pyres, as well as features Bellhouse suggests as representing funeral couches. This, together with evidence for partial collection of material for final burial suggests the burial rites at Beckfoot are far from simple
  - With reference to grave goods, Caruana draws attention to a number interesting features of the Beckfoot assemblage: one particular burial contains sword, shield and spear, a very unusual type of burial in Roman Britain. Other finds include hobnails from shoes or boots, although the nature of these finds cannot in itself indicate a military nature to the cemetery

- 3.3 It is however fair to say that despite the circumstances of the discovery of the material from Beckfoot, a lack of systematic examination of cemeteries associated with forts on the Roman frontier, means that the data recovered must be considered to be of considerable importance in itself. Clearly, also, what survives of the cemetery must also be regarded as being of high research potential.
- 3.4 Anecdotal reports also mention the erosion of large animal bones from the cemetery site. Although confirmation on the date and origin of this material (which has been suggested as being more likely to be recent animal burials than archaeological in nature) is difficult, the contractor must be aware of the potential for such material to be recovered and require suitable analysis.
- 3.5 The remains of the milefortlet have been located on the northern edge of the cemetery, as shown on the enclosed plan, a position that seems to have derived from limited work in 1954 and 1980, when the turf line and gravel on what was thought to be the position of the gate was recorded. Although the site remains a scheduled ancient monument, great doubt exists about the location presently planned for the feature. This is reflected in this site not being reviewed as part of English Heritage's Monuments Protection Programme, while David Breeze (2004, 88), in his recent summary of Roman coastal installations in Cumbria, suggests the site to have been destroyed by erosion. As such, the survival and position of the milefortlet must remain open to speculation.

#### **4.0 Potential Options for Dealing with Threats to the Cemetery**

- 4.1 Much of English Heritage advice on monuments, such as the cemetery at Beckfoot, is that in most circumstances such archaeological remains should be preserved in-situ, and therefore preserved for future study. It is acknowledged that this advice cannot be applied in every case and circumstance, and that each case needs to be carefully considered on its own merits.
- 4.2 The site of the cemetery and milefortlet at Beckfoot, as detailed above, lies immediately adjacent to a low dune cliff. This cliff is being constantly undercut by the action of the sea, leading to periodic collapse of the upper dune, including the horizon containing archaeological deposits. If the consequent loss of archaeological information is to be addressed, there are two main options

#### **4.3 Preservation in-situ**

- 4.3.1 This option will require the permanent stabilising of the active erosion of the dune system. In light of some uncertainty about the extent of the cemetery, the zone requiring protection may extend for over 100m along the coast.
- 4.3.2 A number of options to undertake this exist. Initial consultation with experts on this field at Allerdale Borough Council suggest that the best way to ensure this would be to fill metal gabions with stone, and fill material in behind them. The height of the dune cliff is such that gabions on at least two levels would be required. Although such a scheme would be physically possible, it would have important drawbacks that limit its potential:
- Such a system would require maintenance to ensure that the gabions themselves do

- not form a draw for coastal erosion
- This solution would be regarded by many as very unsightly within what is an Area of Outstanding Natural Beauty
- The site lies within a SSSI, and an active dune system. It is understood that in most circumstances those responsible for coastal protection would avoid a hard-landscape protection solution because of the disruption this would cause to natural coastal processes
- The costs of this solution would be very considerable, and likely to amount to several hundred thousand pounds. Initial advice is that with understandable limits on coastal protection spending, the protection of archaeological remains cannot be considered to be a priority. In addition, although part of the main coastal link road will eventually be threatened by erosion, this is being monitored by the agents of the Highways Authority, who have confirmed that as the road is not immediately threatened, they cannot spend money on the protection of the current coastline. They have also confirmed that any protection they do eventually want to undertake will not protect anything except the road.

#### **4.4 Preservation by Record**

4.4.1 This option requires the archaeological excavation of all the archaeological material threatened by coastal erosion. This again has some significant drawbacks:

- The site lies within a SSSI. Although it is fully acknowledged that English Nature are sympathetic and helpful with reference to this issue, which suggests that in principle evaluation works will be able to take place, this clearly places some constraints on the manner in which excavation can be undertaken
- Drawing up a scheme for this preservation is difficult because of a lack of knowledge about the extent and survival of archaeological remains on the site. This means that this option must be approached in two phases, starting with an initial evaluation of the site
- The costs of full excavation, and indeed the evaluation, is likely to be considerable. In such a situation it places even more emphasis on the need for a comprehensive archaeological evaluation of the site, in order to be able to approach potential funding bodies with quantifiable cost estimates

4.4.2 Initial discussions with English Heritage's Historic Environment Enabling Programme officers suggest that this is the kind of project that it would like to support, although mindful of its limited funds.

#### **4.5 Conclusion**

The costs, difficulty of finding funding, and the environmental impact of preserving the cemetery in-situ are considered to be a very considerable barrier to this option. Although the preservation of the cemetery by record itself has issues, the clear potential for these to be overcome, and for progress to be made towards addressing the erosion of this site, means that the archaeological excavation of the archaeological remains in advance of their erosion by the sea is considered to be the best option.

#### **5.0 Requirement for Work**

5.1 The purpose of the piece of evaluation referred to in this brief is to establish the presence or absence of archaeological remains, their quality and preservation, within the dune system at Beckfoot which will eventually be eroded by the sea, in line with the

attached documentation. This will be undertaken by means of an archaeological evaluation excavation. In addition, other public archaeology tasks form a part of this specification. These must be included in the overall tender price, although detailed costings must indicate those costs that form part of this public archaeology work.

## 5.2 Evaluation

The plan for the excavation of the evaluation is through a combination of some linear trenches, and some larger sondages or perhaps 4m square. The precise strategy will depend on a geophysical survey of the site currently being undertaken, and also on the results of the evaluation as it progresses. As such, the contractor is asked to tender for a trench area of 4% of the site, which represents an area of 1100 square metres of trenching. The nature of this work is such that the contractor will need to have a mini-digger machine on site throughout the process.

8.1.1 The contractor must provide details of the specialists they expect to use for the examination of classes of material that can reasonably be expected to recover (Although, English Heritage does not seek to be prescriptive on this issue, for areas with limited number of suitable practitioners, suitable persons are suggested). As a minimum this should include:

- Cremated Bone (one possible expert is Jackie MacInley)
- Charcoal (There will be a need to have a specific charcoal specialist on board, and that they are fully aware of the need to liaise closely with whoever is the chosen expert in cremated bone)
- Pottery
- Human Bone
- Animal Bone

In addition, the fragile nature of the urns recovered already from the site means that the contractor will be required to make provision for on-site conservation.

5.2.2 The work must be in line with the attached appendix: Standards for Field Evaluation. Particular attention is drawn to the section dealing with the sample excavation of feature classes

**5.2.3 In line with section 2.3 the work must be undertaken in line with the advice of English Nature, contained in appendix 2**

## 5.3 Public Archaeology

It is expected that two elements other than the evaluation work will be included in this project:

- The inclusion of two volunteers from the Maryport and District Archaeological Society within the excavation team. These placements must be regarded as being **in addition** to the fully staffed experienced excavation team, and the provision of extra staff time for their supervision and instruction must be included in this tender
- The provision of a public lecture on the findings of the evaluation, probably to be given to an open meeting of the Maryport Society. All costs for the preparation and presentation of this lecture must be included in the project tender.

- In addition to this, it is suggested that the contractor may wish to present the results of this evaluation at the Roman Archaeology Conference or the *Limes* Conference. Such a presentation does not, however, form a part of this specification.

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## Appendix 1: Standards for Archaeological Field Evaluations:

### 1. General

- 1.1 All work should be carried out in compliance with the codes of practice of the Institute of Field Archaeologists (IFA) and should follow the IFA Standard and Guidance for Archaeological Field Evaluations, Excavations or Watching Briefs, as appropriate.
- 1.2 All staff must be suitably qualified and experienced for their project roles.
- 1.3 All staff must familiarise themselves with the results of any previous assessment or evaluation of the site prior to the start of work on site. All staff must be aware of the work required under the specification, and must understand the projects aims and methodologies.

### 2. Fieldwork

- 2.1 The entire site should be inspected before the commencement of machine excavation. This should include the examination of any available exposures (ditches, geotechnical test pits etc.) Specifically, the edge of the sea cliff should be examined, **but not excavated or even cleaned**, prior to works commencing.
- 2.2 Trench positions should be accurately surveyed prior to excavation and related to the National Grid, using a total station theodolite.
- 2.3 Topsoil and unstratified modern material may be removed mechanically under strict archaeological supervision. If mechanically excavated an appropriate machine must be used with an appropriate bucket, preferably a wide toothless ditching blade. Choice should be influenced by prevailing site conditions and the machine must be able to carry out a clean job.
- 2.4 All machine work must be carried out under the direct supervision of a professional archaeologist.
- 2.5 All topsoil or recent overburden must be removed down to the first significant archaeological horizon in successive level spits. The continued use of machinery beyond this point should only take place when specifically agreed with the planning archaeologist.
- 2.6 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools.
- 2.7 All investigation of archaeological horizons will be by hand, with cleaning, inspection and recording both in plan and section.
- 2.8 Manual excavation will examine all sensitive deposits, and will enable an assessment of the nature, date and survival of deposits. The deposits will be investigated sufficiently to establish their character but the full depth of the deposits to natural will not necessarily be established across the whole trench. All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. The uncertainty about the survival and extent of cemetery remains on this site means that at this stage no percentage is suggested, but the intention throughout this evaluation is to characterise



the archaeology present rather than excavate it. As such, it is expected that features will be cleaned to a level to allow their characterisation, but it is expected that, particularly for features such as cremation burials and cremation pits, the vast majority of such features will not be excavated beyond this level, with it is estimated 5 examples of each feature type excavated (preferably by half-section) to provide information on issues such as survival of charcoal. In the case of cremation burials only targeted for excavation in line with the above, the burial should be fully excavated and lifted. Similarly, structures and features worthy of preservation should not be unduly excavated.

- 2.9 All excavation, both by machine and by hand, must be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be worthy of preservation *in situ*.
- 2.10 Human remains should be left *in situ*, covered and protected. The coroner's office should be informed. If removal is essential work must comply with relevant Home Office regulations.
- 2.11 Deposits should be assessed for their potential for providing environmental evidence. Where it can be anticipated that deposits with potential for environmental evidence will be encountered, a sampling strategy should be submitted to English Heritage for approval. Further advice can be obtained from Mrs Jacqui Huntley, the English Heritage regional advisor in archaeological science.
- 2.12 The deposits should be assessed for their potential for radiocarbon and archaeomagnetic dating. A costing for the use of these techniques should **not** be included in the price for this work. If the contractor considered one of more dating techniques to be useful here they should contact English Heritage to discuss and have an agreement in writing before proceeding.
- 2.13 In some circumstances a programme of evaluation may, in answering the questions posed, also raise others of an unexpected nature. Every attempt should be made to deal with the problem by agreed modification of the specification while fieldwork is in progress. In exceptional circumstances, English Heritage may consider additional funding.

### 3. Recording

- 3.1 A full and proper record (written, graphic and photographic as appropriate) should be made for all work, using pro forma record sheets and text descriptions appropriate to the work. Written descriptions should comprise both factual data and interpretative elements. Accurate scale plans and section drawings should be drawn at 1:50, 1:20 and 1:10 scales as appropriate. Sections should normally be accurately related to Ordnance Datum.
- 3.2 The stratigraphy of all trenches should be recorded even where no archaeological deposits have been identified.
- 3.3 Where stratified deposits are encountered, a 'Harris' matrix should be compiled.
- 3.4 The site grid should be accurately tied into the National Grid and located on a 1:2500 or 1:250 map of the area, using a total station theodolite. All deposits and the base of all trenches must be adequately levelled.

- 3.5 A photographic record of all contexts should be taken in colour transparency, digital colour and black and white print and should include a clearly visible, graduated metric scale. A register of all photographs should be kept.

#### **4. Storage**

- 4.1 During and after the evaluation, all objects must be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this should include controlled storage, correct packaging, regular monitoring of conditions, immediate selection for conservation of vulnerable material).
- 4.2 All storage must have appropriate security provision.

#### **5. Finds Processing**

- 5.1 All finds processing, conservation work and storage of finds must be carried out in compliance with the IFA Guidelines for Finds Work and those set by UKIC.
- 5.2 Artefact collection and discard policies must be fit for the defined purpose.
- 5.3 Finds should be scanned to assess the date range of the assemblage with particular reference to pottery. Artifacts should be used to establish the potential for all categories of finds should further archaeological work be necessary.
- 5.4 All finds should be cleaned to allow decisions about appropriate discard strategy. All finds discarded after this should be recorded. All bulk finds which are not discarded must be washed and, with the exception of animal bone, marked. Marking and labelling must be indelible and irremovable by abrasion. Bulk finds must be appropriately bagged and boxed and recorded. This process must be carried out no later than two months after the end of excavation.
- 5.5 All small finds must be recorded as individual items. All small finds must be appropriately packaged. Vulnerable objects must be specially packaged, and textiles, painted glass and coins stored in appropriate specialist systems. This process must be carried out within two days of the small find being excavated.
- 5.6 Assessment and analysis of artifacts and environmental samples must be carried out by an approved named specialist. It is vital that the sampling and analytical strategy must be agreed with English Heritage before any work starts on site. This strategy must be prepared in consultation with the English Heritage North-East Regional Archaeological Science Advisor:

Jacqui Huntley  
English Heritage Advisor in Archaeological Science for Hadrian's Wall  
Department of Archaeology  
University of Durham  
South Road  
Durham  
DH1 3LE  
(0191) 334 1137

- 5.7 The deposition and disposal of artifacts must be agreed with the legal owner and recipient museum prior to the work taking place. Where the landowner decides to retain artifacts adequate provision must be made for recording them.
- 5.8 All retained artifacts and ecofacts must be cleaned and packaged in accordance with the requirements of the recipient museum.

## 6. Site Archive

- 6.1 The site archive should be prepared to the standard specified in Management of Archaeological Projects, appendix 3 (HBMC 1991) and in accordance with the Guidelines for the Preparation of Excavation Archives for Long Term Storage (UKIC 1990). This should include the indexing, ordering, quantification and checking for consistency of all original context records, object records, bulk find records, sample records, skeleton records (if recovered), photographic records, drawing records, photographs, drawings, level books, site note-books, spot-dating records and conservation records. Ensuring that all artifacts and ecofacts recovered and retained from the site are packed and stored in the appropriate materials and conditions and that all their associated records are complete. This should be completed by the end of the field work. A summary account of the context record should be included and written by the supervising archaeologist.
- 6.2 The archive should be submitted to the County SMR within 6 months of the end of fieldwork. The location of artifacts must be stated in the archive.
- 6.3 The contractor must submit confirmation that they have deposited digital archives with the ADS at York and have completed an OASIS form by way of project notification

## 7. Reporting

### 7.1 Assessment Report

- 7.1.1 Following MAP2 guidelines, the information, ecofacts and artefacts recovered from the fieldwork shall be assessed for their potential for further analysis in relation to the project's research aims and any additional research questions which may have come to light during the work.
- 7.1.2 A MAP2 style 'Post-excavation Assessment' document, incorporating an 'Updated Project Design', will be prepared once the site data has been assessed. This document will enumerate the different kinds of evidence from the site, their potential and costs for further (full) analysis. The results of such analysis will be used in the compilation of an 'Archive Report', as detailed below.

- 7.1.3 Assessment of each category of artefactual and palaeoenvironmental material will be undertaken by suitably qualified archaeological specialists as soon as possible following the completion of the fieldwork.
- 7.1.4 Assessment document will be compiled by the supervising archaeologist upon completion of the fieldwork. It will be bound with each page and paragraph numbered.
- 7.1.5 The report will contain illustrative material including maps, plans, sections, drawings and photographs, as necessary. A location plan of the site, at an appropriate scale and tied into the OS National Grid, will be included. A plan showing the location and layout of the areas of investigation, at an appropriate scale, will also be included.
- 7.1.6 The report will state the aims and objectives of the work and outline the methods adopted in the course of the work.
- 7.1.7 The report will include details of the planning history of the site, site geology and a summary of the archaeological and historical background.
- 7.1.8 The report will contain a phased summary of the archaeological sequence encountered at the site, containing brief descriptions of archaeological structures, features and deposits and incorporating details of artefacts or environmental evidence (where sampled).
- 7.1.9 The report will distinguish between the objective account of the archaeological evidence recovered and the interpretation of that evidence.

## **7.2 Archive Report**

- 7.2.1 If required - and following on from the recommendations of the assessment document – an appropriate programme of analysis will be undertaken to prepare a research archive for the project, as detailed in 'Appendix 6' of MAP2. As necessary, this could involve the compilation of an 'Archive Report', detailing the stratigraphical history of the site and a full textual account setting out the significance of the structural, artefactual and palaeoenvironmental evidence.

- 7.2.2 The 'Archive Report' will include the results of full analysis of palaeoenvironmental samples and ceramic material and all other categories of artefacts, as well as the results of appropriate absolute dating analysis, such as radiocarbon dating.

### **7.3 Publication**

- 7.3.1 It may be necessary, depending on the significance of the project's findings, to place the results of the work in the public domain. In this instance, a synthesised report of the results of the work would have to be compiled and submitted to an appropriate archaeological journal. A fee proposal for the compilation of an academic paper suitable for publication would be compiled and submitted to NCC following submission of the Post-Excavation Assessment Report.

## **8. Monitoring**

8.1 Reasonable access to the site for the purposes of monitoring the archaeological scheme will be afforded to representatives of Allerdale Borough Council, English Heritage and English Nature at all times.

## **9. Further Information**

- 9.1 Guidance on the archaeological action recommended and any further information can be obtained from:

Mike Collins  
Hadrian's Wall Archaeologist  
English Heritage  
Bessie Surtees House  
41-44 Sandhill  
Newcastle upon Tyne  
NE1 3JF

0191 269 1212  
0191 261 1130 (Fax)

**Appendix 2: English Nature requirements for contractors carrying out excavations at Beckfoot, Silloth Dunes and Mawbray Bank SSSI**

1. There will be no storage, maintenance or refuelling of machinery on the SSSI
2. Areas to be excavated will be mown then turf stripped to a depth of approximately 10cm in the areas to be dug. Where there is the risk of trench sides collapsing due to the sandy nature of the ground, turf stripping should extend beyond the proposed trench edges to prevent undercutting of vegetation
3. Turf should be stored on matting and watered if drying out
4. Excavated soil should be stored on matting and any topsoil kept separate from the subsoil
5. trenches (and soil storage areas) should be located to avoid any heather bushes unless agreed in advance with English Nature
6. Trenches should be checked daily for any natterjack toads that may have fallen in. If toads are found English Nature should be informed immediately
7. Replace soil and turf asap and preferably within a week
8. Do not excavate within half a metre of the cliff face to prevent destabilisation unless agreed in advance with English Nature
9. English Nature to be supplied with a copy of the final report of the excavation

Any enquiries about these restrictions should be addressed to:

Bart Donato  
Conservation Officer  
English Nature – Cumbria Team  
Murley Moss  
Oxenholme Road  
Kendal  
LA9 7RL

Tel: 01539 792800  
Fax: 01539 792830

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## APPENDIX 2: PROJECT DESIGN

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### 1. INTRODUCTION

- 1.1 **Project Background:** Beckfoot Roman cemetery lies within a coastal dune system to the south of the village of Beckfoot, Cumbria (NGR 308760 548683). The cemetery lies close to the site of milefortlet 15 of the Roman defences of the Cumbrian coast, and to the south of the site of Beckfoot fort. Various finds from the cemetery have been reported sporadically throughout the twentieth century. The dune system is a Site of Special Scientific Interest (SSSI) and is suffering from continuing coastal erosion. The dunes are being undercut by the sea allowing collapse of the overlying dune system which contains the main archaeological horizon.
- 1.2 The constant erosion of the dunes and subsequent loss of the archaeological resource has prompted English Heritage (hereafter the client) to consider preservation of the site by record rather than *in-situ*. Consequently, a specification for the archaeological evaluation of the cemetery remains has been issued by the Hadrian's Wall Archaeologist.
- 1.3 **Historical Background:** the archaeological background of the cemetery at Beckfoot is summarised in both Caruana (2004) and the evaluation specification, and it is not the intention to repeat the information here, although it should be noted that the cemetery exhibits characteristics common to northern military sites including:
- (i) the absence or rarity of inhumations;
  - (ii) the inclusion of often only token amounts of cremated bone;
  - (iii) the sparseness of grave goods;
  - (iv) where pottery occurs, apart from the jar, sometimes but not invariably, containing the bones, the usual vessels accompanying the deceased are beakers;
  - (v) other items in the grave pits, apart from charcoal, are mainly limited to hobnails and nails;
  - (vi) the occasional occurrence of stone cists, not necessarily to be associated with inhumations.
- 1.4 Cremation appears to have been introduced to the North West by the Roman Army. Most Roman burials in the region are associated with military sites or urban centres. Notable formal cemeteries are known from military sites at Chester, Manchester, Lancaster, Low Borrowbridge, Brougham and Carlisle, although few have been excavated either using modern techniques or over extensive areas. Beckfoot is distinctive in that one of the two pyre sites contained military equipment in the form of a shield boss, spearhead, sword

and arrowhead, and probably represented the cremation of a soldier. The other pyre held an oak byre (Phillpot 2004).

- 1.5 **Oxford Archaeology North:** OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 20 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.
- 1.6 Of particular relevance are the excavations of the cemeteries at Low Burrowbridge, Cumbria and Streamline Garage, Lancaster. The construction of the North Western Ethylene Pipeline occasioned a series of three excavations between 1990 and 1992, in the vicinity of the Roman Fort at Low Burrowbridge. Seventy-one cremation burials were identified from the site which was situated to the south of the fort, predominantly dating from the mid-third to fourth centuries. At Streamline Garage, Lancaster, several Roman cremations, dating to approximately the second/third century AD were encountered beneath the medieval subsoil. Of these, five were cut into the top of a large sub-rectangular enclosure, possibly a mortuary structure later used as a focus for cremations. Similar projects managed by Oxford Archaeology include the Pepper Hill cemetery, Springhead in Kent where 437 cremation burials and some 357 inhumations were recorded dating from the first to 4th centuries, and believed to be one of the largest Roman cremation cemeteries in Britain.
- 1.7 OA North has provided advice to the Countryside Agency since 1996 on archaeological matters relating to the development and implementation of the Hadrian's Wall Path National Trail and through this has developed a detailed knowledge of the archaeology of Hadrian's Wall and its associated features. In addition, it has provided contractual services in the form of numerous watching briefs and evaluations along the route. Most recently, OA North has undertaken a programme of archaeological work along the Solway Coast on behalf of United Utilities.
- 1.8 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

## 2 OBJECTIVES

- 2.1 The following programme has been designed to establish the presence or absence of archaeological remains, their characterisation, quality and preservation, within the dune system.
- 2.2 **Evaluation:** to implement a programme of trial trenching examining 1100 square metres in area, which represents approximately 4% of the cemetery site and equates to 687 metres of trench.



- 2.3 **Assessment Report and Archive:** the information, ecofacts and artefacts recovered from the fieldwork shall be assessed for their potential for further analysis in relation to the project's research aims and any additional research questions which may have come to light during the work.
- 2.4 A MAP 2 style post-excavation document incorporating an updated project design will be prepared once the site data has been assessed. This document will enumerate the different kinds of evidence from the site, their potential and costs for further full analysis. The results of such analysis would be subject to a further report and separate costing to this project design.

### 3 METHOD STATEMENT

#### 3.1 EVALUATION

- 3.1.1 The programme of evaluation will require trial trenching to establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample the threatened available area.
- 3.1.2 The trial trenching is required to investigate no less than 4% of the area of the cemetery. This equates to approximately seven one-hundred metre long trenches. The positioning of the trenches will be informed by the results of the current geophysical survey and the results of the evaluation itself as it progresses.
- 3.1.3 **The Dune System:** prior to the excavation of the evaluation trenches the dunes will be mown for the extent of the area of the cemetery. Once the position of the trenches has been determined the turf will be lifted by hand to a depth of 0.10m. *It should be noted that the costs shown in the project costings section would be significantly reduced if the AONB is able to organise volunteers to assist with this process, as suggested by the AONB officer Rose Wolf.* The turf will then be stored on site, on matting or the equivalent, and watered as necessary. Once the evaluation trenching is complete the turf will be re-laid. As it is likely that the final position of the evaluation trenches will not be determined until the evaluation is in progress, the turf cutting exercise will be an ongoing process. Excavated soil will also be kept on matting alongside the trenches. The evaluation will at all times take note of the requirements specified by English Nature as set out in *Appendix 2* of the evaluation specification. The trenches will be located to avoid heather bushes and inspected each morning for natterjack toads. If toads are found English Nature will be informed.
- 3.1.4 The entire site will be systematically inspected prior to the commencement of machining. This will incorporate all exposures including ditches, test pits etc and specifically the sea cliff, however, the cliff should not be excavated or even cleaned. Trench positions will be accurately surveyed prior to excavation and related to the National grid, using a total station theodolite. The trenches will be positioned a safe working distance from the cliff face of the dune system. The topsoil will be removed by a mechanical excavator, which will be

tracked and not exceed 7tonnes in weight. This will be fitted with a toothless ditching bucket. The topsoil will be removed under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. All features of archaeological interest must be investigated and recorded unless otherwise agreed by English Heritage. The trenches will not be excavated deeper than 1.20m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting.

- 3.1.5 All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. Any investigation of intact archaeological deposits will be exclusively manual. A minimum sample of 50% of archaeological features must be examined by excavation. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no less than a 25% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.
- 3.1.6 **Cremation Burials and Pits:** the vast majority of these features will not be excavated beyond the extent necessary to allow their characterisation. An estimated five examples of each feature type will be excavated (See *Appendix 1* for detailed methodology) to provide information on issues such as survival of charcoal. In the event of discovering human remains, OA North will contact the Home Office to obtain a burial licence. The removal of such remains will be carried out with due care and sensitivity under Home Office Licence as required by the *Burials Act 1857*.
- 3.1.7 The trenches will be backfilled and the turf relaid. No other reinstatement will take place.
- 3.1.8 **Recording:** all information identified in the course of the site works will be recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times. The stratigraphy of all sections should be recorded even where no archaeological deposits have been identified. Where stratified deposits are encountered, a 'Harris' matrix will be compiled.
- 3.1.9 Results of the field investigation will be recorded using a paper system, adapted from that used by Centre for Archaeology of English Heritage. The archive will include both a photographic record and accurate large-scale plans and sections at an appropriate scale (1:50, 1:20, and 1:10). Levels will be tied into the Ordnance Datum. All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

## 3.2 FINDS

- 3.2.1 Finds recovery and sampling programmes will be in accordance with best practice (current IFA guidelines) and subject to expert advice. OA has close contact with Ancient Monuments Laboratory staff at the Universities of Durham and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.
- 3.2.2 All material will be collected and identified by stratigraphic unit. Hand collection by stratigraphic unit will be the principal method of collection, but targeted on-site sieving will serve as a check on recovery levels. Objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded as individual items, and their location plotted in 3-D. This may include, for instance, material recovered from datable burials.
- 3.2.3 Finds will be processed and administered at regular intervals (on a daily basis) and removed from the site. All finds will be treated in accordance with OA standard practice, which is cognisant of IFA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from OA North's consultant conservator, Jenny Jones.
- 3.2.4 Where possible, spot dates will be obtained on pottery and other finds recovered from the site. In the case of Romano-British pottery, appropriate expertise will be employed (See *Section 6*), otherwise artefacts will be examined and commented upon by OA North in-house specialists.
- 3.2.5 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft. The necessity for this would be subject to additional costs.

## 3.3 ENVIRONMENTAL SAMPLING

- 3.3.1 A programme of palaeoenvironmental sampling will be undertaken at the site in accordance with the guidelines provided by English Heritage (2002). The sampling programme will proceed under the guidance of the in-house palaeoenvironmental expertise (Elizabeth Huckerby), and following discussion with Sue Stallibrass, English Heritage's Scientific Advisor for the North West. Samples will be collected for technological, pedological and chronological analysis as appropriate. Particular attention will be paid to the

recovery of environmental evidence of Romano-British date. Obtaining environmental evidence for charcoal and charred plant remains from any burials will be considered a priority.

- 3.3.2 The contexts will be sampled as appropriate, subject to palaeoenvironmental survival, and an assessment of the samples will be undertaken by Elizabeth Huckerby and Denise Druce as part of the assessment stage of the *MAP2* programme.
- 3.3.3 Bulk (30 litres) samples will be taken from all sealed pit fills, and particularly from any discrete fills within single pits, which may provide evidence for a change in function. Attention will also be paid to the identification of insects, and a sampling strategy shall be devised accordingly.
- 3.3.4 It is proposed that the floatation of suitable samples be undertaken off site following completion of the fieldwork. The programme of detailed analysis would be subject to the results of the assessment. OA North has full access to the laboratory facilities of the Institute of Environmental and Biological Sciences at Lancaster University, where detailed analysis would be undertaken.
- 3.3.5 It seems likely that the investigation will yield material suitable for either high precision dating or AMS dating if systematically sampled for carbonised plant remains. Material will be collected specifically for this purpose and suitable stratigraphic sequences will be targeted together with material in primary positions and associated with other datable material (e.g. ceramics). Any requirement for carbon dating will be undertaken by the Scottish Universities Research and Reactor Centre in East Kilbride, and as a variation to this project design.
- 3.3.6 Other absolute dating methods include thermoluminescence dating of pottery, dendrochronology, and archaeomagnetic dating of pyres. OA North maintains an established relationship with the Department of Archaeological Sciences at Bradford University, who would fulfill any archaeomagnetic dating requirements. No dating processes will be undertaken as part of the evaluation but rather will be recommended as appropriate in the assessment report.
- 3.3.7 Bone recovered from the cemetery site will be subject to specialist assessment (See *Section 6*), and analysis will be limited to material that can provide metrical, ageing or sex information.

### 3.4 CONTINGENCY PLAN

- 3.4.1 **Contingency plan:** in the event of unexpected or particularly complex archaeological features being encountered during the evaluations, discussions will take place with the English Heritage, as to the extent of further works to be carried out. All further works would be subject to a variation to this project design. In addition, a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, use of shoring to excavate important features close to the excavation sections, the

necessity to fence off trenches etc. This has been included in the costing and would be in agreement with the client.

### 3.5 POST-EXCAVATION AND REPORT PRODUCTION

3.5.1 OA North accords with best practice for the analysis of the evaluation results in accordance with the guidelines of MAP2. This would involve an assessment of the data-set generated by the evaluation, followed by a review of the evaluation archive to establish the potential for further analysis. This assessment will take place in close consultation with the client, and the report format will also be agreed at this stage of the work. An appropriate programme of analysis should then be undertaken to prepare a research archive, as detailed in Appendix 6 of *Management of Archaeological Projects*. The Harris Matrix, largely produced during the evaluation programme will be completed and checked as part of the assessment. The Assessment will involve the compilation of a brief archive report, detailing the stratigraphic history of the site, and the outlining the significance of the structural, artefactual and environmental evidence. It is not possible to provide a finite quotation of costs until the results of the assessment are known. A provisional programme of post-excavation analysis is proposed, on the basis of the anticipated recovery of material from the evaluation; however, the extent of the programme can only be reliably assessed on completion of the fieldwork. The proposed programme anticipates analysis of the artefactual evidence and of the site stratigraphy leading to the production of a final report.

3.5.2 **Archive:** the site archive will be prepared to the standard specified in MAP 2 Appendix 3 (EH 1991) and in accordance with the Guidelines for the preparation of Excavation Archives for Long term Storage (UKIC 1990). This will include the indexing, ordering, quantification and checking for consistency of all original context records, object records, bulk find records, photographs, drawings and record sheets. A summary account of the context record will be included and written by the supervising archaeologist. The paper archive will be submitted to the county record office within six months of the end of fieldwork and it is likely that the finds will be deposited with Tullie House Museum.

3.5.3 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

### 3.6 PUBLICATION

3.6.1 The results of the evaluation will almost certainly be worthy of publication. The form of this publication and the extent of the publication text is unclear at present and, obviously, is dependent on the results of the fieldwork. It is envisaged that the results will require integrating with the information recovered from previous investigations.

3.6.2 In order to ensure the comprehensive integration of results, it is envisaged that OA's Director (Rachel Newman) will play a key role in the production of the

final publication. A fee for the compilation of an academic text would be submitted following submission of the assessment report.

### 3.7 PUBLIC ARCHAEOLOGY

- 3.7.1 **Volunteers:** two members of the Maryport and District Archaeological Society will be invited to take part in the evaluation fieldwork. The provision of extra staff time to supervise the volunteers is allowed for within the evaluation programme but will not be subject to additional costs as OA North, as part of its remit as an educational trust, has a commitment to public outreach.
- 3.7.2 A public lecture on the findings of the evaluation will be presented to an open meeting of the Maryport and District Archaeological Society. The evaluation volunteers will be invited to take part.

## 4 PROJECT MONITORING AND TIMETABLE

- 4.1 Monitoring of this project will be undertaken through the auspices of the Hadrian's Wall Archaeologist, who will be informed of the start and end dates of the work. Reasonable access will be afforded to representatives of Allerdale Borough Council, English Heritage and English Nature at all times.
- 4.2 The mowing of the sand dunes will take approximately two days. The evaluation trenching will take in the region of ten days and the assessment report five days. The progress of the assessment report will be dependent upon the contribution and programming of the specialists, which would be undertaken following completion of the fieldwork and upon inspection of the data set collected.

## 5 RESOURCES AND PROGRAMMING

### 5.1 STAFF PROPOSALS

- 5.1.1 The project team will be led by a Senior Project Manager (SPM), **Alison Plummer BSc (Hons)**, who will be based in Lancaster. Alison has considerable experience of project managing evaluation-type projects, including several along the Solway Coast.
- 5.1.2 Alison will provide strategic project management, financial and resource management, and will co-ordinate the provision of specialist input, liaising externally with sub-contractors and internally with OA staff and managers. The SPM will manage the project from design and delivery of the fieldwork component, through analysis to publication.
- 5.1.3 The fieldwork will be managed by an OA North Project Officer (PO). Current timetabling precludes who this will be but the PO will have relevant experience of the Roman period.
- 5.1.4 His role will be to ensure that the project design is implemented within the framework of the Project Research Aims. He will be responsible for all aspects of staff and resource logistics, ensuring the smooth running of the

project programme. He will liaise with English Heritage and English Nature with regard to progress, and will maintain relationships with other contractors as necessary.

5.1.5 **Christine Howard-Davis BA, MIFA** (OA North Finds Manager) would undertake the necessary finds management. She has many years' experience of Roman sites in the Northern England, and is a recognised expert in the analysis of metalwork and glasswork of the period. Christine will also play a key role in the post-excavation assessment of the finds assemblage.

5.1.6 It is not possible to provide details of specific technicians that will be involved with the fieldwork at this stage, but all shall be suitably qualified archaeologists with proven relevant experience. It is anticipated that up to two technicians will be required during the course of the fieldwork.

## 6 QUALIFICATIONS AND SUB-CONTRACTORS

6.1 OA has considerable in-house specialist expertise available, and it is anticipated that the following OA staff will have some input in the project:

- **Christine Howard-Davis, BA, MIFA** (OA North Finds Manager). Christine has extensive knowledge of all categories of Roman artefacts, and is a recognised expert in the analysis of metalwork and glasswork of the period. Christine will undertake the analysis of all glass, copper alloy, lead and iron artefacts recovered during the course of the investigation.
- **Environmental management** will be undertaken by **Elizabeth Huckerby BA, MSc** (OA North Project Officer), who will also provide specialist input on pollen analysis and charred plant remains. Elizabeth has extensive knowledge of the palaeoecology of the North West, and has contributed to all of the English Heritage funded volumes of the Wetlands of the North West. Elizabeth will advise on site sampling procedures and co-ordinate the processing of samples and organise internal and external specialist input as required.
- **Andrew Bates BSc, MSc** (OA North Project Officer) has considerable experience in commercial archaeology as both an archaeozoologist and field archaeologist throughout Britain. As a freelance and in-house archaeozoologist, has examined animal bone assemblages principally from Iron Age and Romano-British sites, as well as Roman military and medieval urban sites in the North. He has been involved in the examination and stabilisation of animal bones both during the post-excavation process and as an on site specialist.
- **Ceri Boston MA, AIFA** (OA Project officer) has worked for four years for Oxford Archaeology in the capacity of field archaeologist, osteo-archaeologist and currently as Acting Head of Heritage Burial Services. Her duties include excavation and recording of archaeology in the field, particularly where it involves the excavation of human remains. She also undertakes post-excavation analysis of human remains and the material culture related to funerary practices, and has submitted numerous reports thereof. She undertakes the management of projects and of the department.

- **Denise Druce BA, PhD** (OA Project officer) joined the palaeoenvironmental team at OA North, partly to work on the English Heritage Upland Peat project, but also to assist on developer led projects. Denise carries out and writes client reports on the assessment and analysis of pollen, waterlogged and charred plant remains, charcoal analysis and also carries out auger surveys and the associated stratigraphic visualisation. Her most recent projects include working on pollen from the new Stansted and Heathrow airport terminals and the analysis of charcoal from both industrial and cremation features from the Channel Tunnel Rail Link and the Carlisle Millenium Project

6.2 OA maintains a close working relationship with a spectrum of nationally-recognised specialists. All named specialists have been contacted and have expressed a willingness to form part of OA North's project team:

- **Margaret Ward, MA, MIFA**, will undertake the analysis of the Roman **Samian ware** recovered from the excavation. Margaret will not, however, examine any **Samian stamp marks**, which will be passed to the leading national expert, **Brenda Dickinson**.
- Other **Roman ceramics** will be examined by **Ruth Leary**. Ruth has considerable knowledge of the region's Roman coarsewares, and is a nationally-recognised specialist in the field.
- **Professor David Shotton, PhD**, will undertake the analysis of the **Roman coins**. David is a nationally-recognised specialist in Roman numismatics, and is the region's leading expert.
- **Conservation** work will be undertaken by **Jenny Jones**, Dept of Archaeology, University of Durham.
- **Jacqueline McKinley Btech (Hons), MIFA**, Senior Project Officer (Osteoarchaeologist) Wessex Archaeology will undertake the assessment of cremated bones.
- Any requirement to undertake sampling and measurement for **archaeomagnetic dating** will be fulfilled by the **Department of Archaeological Sciences** at the University of Bradford, with whom OA North maintains a close working relationship.

## 7 INSURANCE

- 7.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.



## APPENDIX 3: ROMAN POTTERY - QUANTIFICATION

Trench	Context	OR No	Spit	No of sherds	Sherd wt	Average wt
	0	1017		2	2.3	1.2
	0	1017		1	12.7	12.7
2	215	1022		1	0.9	0.9
3	302	1057		3	2.7	0.9
3	302	1057		1	1.4	1.4
3	302	1057		1	11.7	11.7
3	302	1057		1	20	20.0
3	305	1119		17	43.3	2.5
3	305	1151		127	331.8	2.6
3	305	1151		33	161	4.9
3	305	1152		1	12.9	12.9
3	312	1147		8	10	1.3
4	401	1034		1	2.2	2.2
4	405	1003		2	1.5	0.8
4	405	1003		1	5.2	5.2
4	405	1066		1	4.4	4.4
4	405	1066		3	66.7	22.2
4	407	1083		4	13.4	3.4
4	408	1004	5	3	10.2	3.4
4	408	1005	4	1	7.4	7.4
4	408	1006	3	1	4.2	4.2
4	408	1072		1	3.2	3.2
4	408	1072		6	50.1	8.4
4	408	1072		1	344.1	344.1
5	502	1028		2	0.5	0.3
5	502	1028		1	2	2.0
5	502	1028		1	2.1	2.1
5	502	1028		1	8.4	8.4
5	502	1028		1	13.7	13.7
5	502	1036		2	2.8	1.4
5	502	1036		1	3.6	3.6
5	502	1036		1	11	11.0
5	502	1036		1	78.8	78.8
5	502	1051		9	183.1	20.3
5	505	1059		2	14.3	7.2
5	510	1010		8	50.3	6.3
5	510	1109		1	0.5	0.5
5	510	1109		1	0.6	0.6
5	519	1086		1	2.6	2.6
6	602	1044		1	0.5	0.5
6	602	1044		2	4	2.0
6	602	1044		2	6.4	3.2
6	602	1044		1	4.4	4.4
6	602	1044		2	11.4	5.7
6	602	1054		3	1	0.3
6	602	1054		1	1.3	1.3
6	602	1054		2	4.9	2.5
6	602	1054		2	10.8	5.4
6	602	1054		2	29	14.5
6	602	1063		6	4.8	0.8
6	602	1063		1	7.6	7.6
6	605	1021		1	0.6	0.6
6	605	1021		11	32.2	2.9

<b>Trench</b>	<b>Context</b>	<b>OR No</b>	<b>Spit</b>	<b>No of sherds</b>	<b>Sherd wt</b>	<b>Average wt</b>
6	<b>605</b>	1030		1	2	2.0
6	<b>606</b>	1024		2	0.1	0.1
6	<b>606</b>	1024		1	0.4	0.4
6	<b>606</b>	1024		1	3.5	3.5
6	<b>607</b>	1042		1	0.5	0.5
6	<b>607</b>	1042		29	41.9	1.4
6	<b>607</b>	1042		1	2.9	2.9
7	<b>702</b>	1014		1	0.1	0.1
7	<b>702</b>	1014		3	13.9	4.6
7	<b>702</b>	1035		3	2.5	0.8
7	<b>702</b>	1035		1	1.7	1.7
7	<b>702</b>	1035		1	3.3	3.3
7	<b>702</b>	1035		1	4.5	4.5
7	<b>702</b>	1035		2	23.1	11.6
7	<b>706</b>	1007		37	221.1	6.0
7	<b>706</b>	1082			487.4	
7	<b>706</b>	1098		39	96.4	2.5
7	<b>708</b>	1084	7	1	6.7	6.7
7	<b>708</b>	1099	3	23	11	0.5
7	<b>708</b>	1101	6	3	2.6	0.9
7	<b>709</b>	1048		13	174.8	13.4
7	<b>711</b>	1102		3	12.6	4.2
8	<b>802</b>	1011		1	3.3	3.3
8	<b>802</b>	1011		1	4.2	4.2
8	<b>802</b>	1012		1	0.7	0.7
8	<b>802</b>	1012		8	11.8	1.5
8	<b>802</b>	1012		1	1.5	1.5
8	<b>802</b>	1012		8	25.8	3.2
8	<b>802</b>	1012		1	4.3	4.3
8	<b>802</b>	1116		3	3.2	1.1
8	<b>802</b>	1116		5	18.4	3.7
8	<b>802</b>	1117		2	2.4	1.2
8	<b>802</b>	1117		6	14.5	2.4
8	<b>802</b>	1117		4	51.2	12.8
8	<b>802</b>	1132		1	1.4	1.4
8	<b>802</b>	1132		2	10.4	5.2
8	<b>802</b>	1132		1	6.9	6.9
8	<b>802</b>	1132		2	20.4	10.2
8	<b>807</b>	1137		3	14.6	4.9
8	<b>809</b>	1143		1	4.2	4.2
8	<b>812</b>	1126		5	17.9	3.6
9	<b>902</b>	1026		1	10.3	10.3
9	<b>902</b>	1043		9	65.7	7.3
9	<b>902</b>	1045		1	8.2	8.2
9	<b>902</b>	1045		5	45	9.0
9	<b>902</b>	1121		3	25	8.3
10	<b>1002</b>	1027		1	1.2	1.2
11	<b>1109</b>	1148		11	195.5	17.8
<b>Total</b>				545	3297.5	6.1

## APPENDIX 4: QUANTITIES OF ROMAN POTTERY BY FABRIC

Ware group	Description of ware	Fabric code	Source	No	Wt	Rel % of count	Rel % of weight
BB1	Black burnished ware 1	DOR BB1	Dorset	433	2663.8	79.4%	80.8%
CC	Orange ware with black colour coat, local or Argonne	ARG CC?	Local/ Argonne	1	0.7	0.2%	0.0%
EYCT	Pottery with rhomboidal vesicles, probably East Yorkshire calcite-gritted ware	HUNT CG? or Knapton	East Yorkshire	8	70	1.5%	2.1%
FLA	White ware		?, unlike Mancetter	6	99	1.1%	3.0%
FLA/O BA	White ware or fine buff ware		?	1	5.2	0.2%	0.2%
GRA	Fine quartz-tempered grey ware		Local?	6	28.8	1.1%	0.9%
GRB	Medium quartz-tempered grey ware, typically with white grey margins		Local?	13	45.1	2.4%	1.4%
GRB/ NV1?	Grey ware or Nene Valley colour-coated ware (burnt sherds)	LVN CC	Nene Valley	1	1.3	0.2%	0.0%
MG?	Quartz-tempered oxidised ware with micaceous rich slip or coating		Local?	2	13.9	0.4%	0.4%
MOR	Oxidized mortarium. Mica inclusions in trituration grits suggest Cumbrian source. Not certainly Penrith	cf CSA WS but not certainly this source	Cumbria	1	20	0.2%	0.6%
MOS BS	Trier black slip ware	MOS BS	Trier	8	6.5	1.5%	0.2%
MOS BS?	Probably Trier black slip ware (sherd sintered so hard to identify)	MOS BS	Trier	1	2.9	0.2%	0.1%
NSP	Medium quartz-tempered ware		Unknown	1	0.5	0.2%	0.0%
NV	Nene Valley colour-coated ware	LVN CC	Nene Valley	3	6.3	0.6%	0.2%
NV?	Nene Valley colour-coated ware	LVN CC	Nene Valley	1	1.5	0.2%	0.0%
NV1	Nene Valley colour-coated ware with white paste	LVN CC	Nene Valley	5	10.4	0.9%	0.3%
NV2?	Nene Valley colour-coated ware with oxidised paste	LVN CC	Nene Valley	1	2	0.2%	0.1%
O	Oxidised ware		North west?	1	0.1	0.2%	0.0%
O/SV1	Fine oxidised ware, compares with Severn Valley fabric	SVW OX 2	Severn Valley	1	4.2	0.2%	0.1%
OAA/ MG	Quartz-tempered orange ware with micaceous rich slip or coating		Uncertain	1	4.3	0.2%	0.1%
OAA/ SV1	Fine oxidised ware, compares with Severn Valley fabric	SVW OX2	Severn Valley	3	14.2	0.6%	0.4%
OAB	Medium quartz orange oxidised ware		Local?	28	61.9	5.2%	1.9%
OBA/	Quartz-tempered buff		Uncertain	1	2	0.2%	0.1%

Ware group	Description of ware	Fabric code	Source	No	Wt	Rel % of count	Rel % of weight
MG	ware with micaceous rich slip or coating						
OBB	Buff oxidised ware		Local?	3	6.7	0.6%	0.2%
PM?	Coarse oxidised scraps with glaze or molten glass traces			1	0.5	0.2%	0.0%
PRE	Handmade quartz-tempered ceramics		Unknown	11	195.5	2.0%	5.9%
ROX	Oxfordshire red colour-coated ware	OXF RS	Oxfordshire	2	29	0.4%	0.9%
VESIC /EYCT	Pottery with rhomboidal vesicles, probably East Yorkshire calcite-gritted ware	HUNT CG or earlier Knapton ware	East Yorkshire	1	1.2	0.2%	0.0%
<b>Total</b>				<b>545</b>	<b>3297.5</b>	<b>100%</b>	<b>100%</b>

## APPENDIX 6: SUMMARY OF RESULTS FROM ASSESSMENT OF CREMATED BONE

Context	% excavated	Deposit Type	Wt (g)	Age/Sex	Comment
103	100	Not crd	0.3	?human/?adult	
116	0 (unexc)	crd	0.5	subadult/adult	Worn fragment
202	-	redeposited	0.4	subadult/adult	Needed cleaning
205	c 50	redeposited	0.1	subadult/adult	Scrap long bone
214	c 20	?crd/?rpd	42.0	subadult/adult	Slightly worn, some trabecular
215	c 50	?unurned burial + rpd	756.0	adult	Includes trabecular
302	-				Unburnt bird bone
305	c 50	?rpd	6.4	subadult/adult	Burnt stone
312	c 50	unurned burial + rpd	250.5	adult c 21-45 yr ??female	Plenty trabecular; some animal bone
407	100	unurned burial + rpd	176.5	juvenile/sub-adult c 10-17 yr	Includes trabecular
408	100	bone from fill ceramic 'urn'	2.0	= 407	In spits
502	-	redeposited	13.0	adult	Three bags; some animal bone; some very worn (not all same)
510	50	?rpd	10.5	subadult/adult	Some animal; some secondary burning
519	c 50	?rpd	4.4	subadult/adult	Worn; charcoal stained
602	-	redeposited	0.7	subadult/adult	Two bags; scraps
605	100	rpd	1.7	adult	
606	c 10	?rpd	31.7	subadult/adult	Many small fragments
607	c 20	?rpd/?unurned burial + rpd	140.4	subadult/adult	Slightly worn; Fuel Ash Slag and iron fragments; many small fragments
702	-	?rpd	11.0	subadult/adult	Three bags. Some needs cleaning. Ceramic potsherd. Some animal bone
704	c 10	crd	3.3	subadult/adult	
706	100	rpd	4.0	>infant	Small, worn fragments
708	100	Urned burial; ?cenotaph	13.0	?immature	Some charcoal stained, some immature animal, most in base some throughout ?140mm diameter
709	100	rpd	9.3	adult	Osteomyelitis (?tibia)
711	100	rpd	8.1	?	Below vessel; very small fragments; some animal
807	0 (unexc)	crd	1.0	subadult/adult	Worn
808	c 25	?rpd	6.8	>infant	Very small fragments
809	0 (unexc)	crd	0.8	subadult/adult	

(rpd = redeposited pyre debris ; crd = cremation-related deposit)

## APPENDIX 7: CONTEXT LIST

Context	Description
<b>100</b>	Turf / topsoil layer
<b>101</b>	Sandy subsoil layer
<b>102</b>	Small sub-circular pit
<b>103</b>	Fill of <b>102</b> = possible cremation?
<b>104</b>	Black silty sand layer
<b>105</b>	Black/brown amorphous deposit
<b>106</b>	Brown silty deposit
<b>107</b>	Fill of <b>117</b>
<b>108</b>	Fill of <b>117</b>
<b>109</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>110</b>	Oval deposit
<b>111</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>112</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>113</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>114</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>115</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>116</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>117</b>	Cut of amorphous pit
<b>118</b>	Geologically natural orangey brown sand
<b>Trench 2</b>	
<b>200</b>	Turf / topsoil layer
<b>201</b>	Sandy subsoil layer
<b>202</b>	Dark brown loamy layer
<b>203</b>	Geologically natural orangey brown sand
<b>204</b>	Cut of sub-square feature
<b>205</b>	Fill of <b>204</b>
<b>206</b>	Layer of blackish brown sand
<b>207</b>	Yellow sand = animal burrowing
<b>208</b>	Same as <b>203</b>
<b>209</b>	Burrowing
<b>210</b>	Same as <b>202</b>
<b>211</b>	Layer of reddish brown sand within <b>202</b>
<b>212</b>	Same as <b>202</b>
<b>213</b>	Ditch on north/south alignment
<b>214</b>	Upper fill of <b>213</b>
<b>215</b>	Bone-rich fill of <b>213</b>
<b>216</b>	Partially cemented deposit below <b>212</b>
<b>217</b>	Sandy primary fill of <b>213</b>
<b>218</b>	Fill of <b>213</b> above <b>217</b>
<b>Trench 3</b>	
<b>300</b>	Turf / topsoil layer
<b>301</b>	Sandy subsoil
<b>302</b>	Dark brown loamy layer below <b>301</b>
<b>303</b>	Dark deposit = possible fill of a feature
<b>304</b>	Fill of <b>313</b>
<b>305</b>	Charcoal deposit = possibly from disturbed cremations
<b>306</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>307</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>308</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>309</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>310</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>311</b>	Geologically natural orangey-brown sand
<b>312</b>	Fill of cremation pit <b>315</b>

<b>313</b>	Cut of small pit
<b>314</b>	Possible cremation
<b>315</b>	Cut of cremation pit
<b>316</b>	Amorphous spread of dark material - possible cremation-related deposit
<b>Trench 4</b>	
<b>400</b>	Turf/topsoil
<b>401</b>	Sandy subsoil
<b>402</b>	Dark brown silty sand subsoil layer
<b>403</b>	Stony deposit blocking burrow
<b>404</b>	Geologically natural orangey-brown sand
<b>405</b>	Very dark layer at base of / within <b>402</b>
<b>406</b>	Cut of Cremation burial
<b>407</b>	Fill of <b>406</b>
<b>408</b>	Cremation urn
<b>409</b>	Number not allocated
<b>410</b>	Number not allocated
<b>411</b>	Cut of linear feature
<b>412</b>	Fill of linear feature
<b>413</b>	Number not allocated
<b>414</b>	Same as <b>404</b>
<b>415</b>	Cut of linear? / pit? feature
<b>416</b>	Fill of <b>415</b>
<b>Trench 5</b>	
<b>500</b>	Turf/topsoil
<b>501</b>	Sandy subsoil
<b>502</b>	Dark loamy subsoil
<b>503</b>	Geologically natural orangey-brown sand
<b>504</b>	Cremation-related deposit
<b>505</b>	Cremation-related deposit
<b>506</b>	Cremation-related deposit
<b>507</b>	Cremation-related deposit
<b>508</b>	Cremation-related deposit
<b>509</b>	Cremation-related deposit
<b>510</b>	Spread of carbonised material
<b>511</b>	Same as <b>515</b>
<b>512</b>	Fill of ditch <b>527</b>
<b>513</b>	Layer of silty sand
<b>514</b>	Cut of north/south ditch
<b>515</b>	Fill of <b>514</b>
<b>516</b>	Cremation pit
<b>517</b>	Fill of <b>516</b>
<b>518</b>	Possible pyre dump under <b>510</b>
<b>519</b>	Fill of <b>518</b>
<b>520</b>	Fill of <b>522</b>
<b>521</b>	Number not allocated
<b>522</b>	Same as <b>514</b>
<b>523</b>	Number not allocated
<b>524</b>	Number not allocated
<b>525</b>	Number not allocated
<b>526</b>	Number not allocated
<b>527</b>	Curvilinear ditch
<b>528</b>	Same as <b>512</b>
<b>529</b>	Same as <b>527</b>
<b>530</b>	Same as <b>512</b>
<b>531</b>	Same as <b>514</b>
<b>532</b>	Same as <b>515</b>
<b>533</b>	Top fill of <b>536</b>
<b>534</b>	Secondary fill of <b>536</b>

535	Primary fill of 536
536	Cut of north/south ditch
<b>Trench 6</b>	
600	Turf/topsoil
601	Sandy subsoil
602	Dark loamy subsoil
603	Geologically natural orangey-brown sand
604	Same as 608
605	Upper spit from pyre dumps 606 + 607
606	Cremation pyre
607	Cremation pyre
608	cut of sub-square pit
609	Top fill of 608
610	Redeposited sand layer
611	Fill of 612
612	Cremation pit cut
613	Fill of 614
614	Linear cut
615	Fill of 616
616	Cut of cremation pit
617	Pyre dump deposit below 607
618	Fill of 619
619	Elongated square pit cut
620	Fill of 621
621	Small cut for cremation
622	Burrowing
<b>Trench 7</b>	
700	Turf/topsoil
701	Sandy subsoil
702	Dark loamy subsoil
703	Redeposited sand
704	Fill of 705
705	Cut of ring ditch
706	Fill of 707
707	Cremation pit in centre of 705
708	Cremation urn in 707
709	Fill of 710
710	Cremation pit
711	Fill of 707 (below 708)
712	Geologically natural orangey-brown sand
<b>Trench 8</b>	
800	Turf/topsoil
801	Sandy subsoil
802	Dark loamy subsoil
803	Natural geology
804	Possible cremation deposit
805	Possible cremation deposit
806	Disturbed fill of 816
807	Disturbed fill of 816
808	Fill of cremation pit 815
809	Fill of cremation pit 815
810	Fill of cremation pit 815
811	Fill of cremation pit 815
812	Amorphous cremation deposit
813	Grey sand deposit
814	Same as 803
815	Cut of pit
816	Possible Roman ditch



<b>Trench 9</b>	
<b>900</b>	Turf/topsoil
<b>901</b>	Sandy subsoil
<b>902</b>	Dark loamy subsoil
<b>903</b>	Geologically natural orangey-brown sand
<b>904</b>	Deposit around stones <b>911</b> = part of <b>902</b>
<b>905</b>	Probable cremation-related deposit
<b>906</b>	Probable cremation-related deposit
<b>907</b>	Probable cremation-related deposit
<b>908</b>	Probable cremation-related deposit
<b>909</b>	Probable cremation-related deposit
<b>910</b>	Probable cremation-related deposit
<b>911</b>	Glacial boulder group
<b>912</b>	Deposit amongst / between <b>911</b>
<b>Trench 10</b>	
<b>1000</b>	Turf/topsoil
<b>1001</b>	Sandy subsoil
<b>1002</b>	Dark loamy subsoil
<b>1003</b>	Geologically natural orangey-brown sand
<b>1004</b>	Large glacial erratic - possibly deliberately placed?
<b>Trench 11</b>	
<b>1100</b>	Turf/topsoil
<b>1101</b>	Sandy subsoil
<b>1102</b>	Cut of pit
<b>1103</b>	Fill of <b>1102</b>
<b>1104</b>	Wind-blown sand deposit above <b>1105</b>
<b>1105</b>	Wind-blown sand deposit above <b>1106</b>
<b>1106</b>	Wind-blown sand deposit above <b>1107</b>
<b>1107</b>	Wind-blown sand deposit above <b>1108</b>
<b>1108</b>	Fill of <b>1113</b>
<b>1109</b>	Fill of <b>1113</b>
<b>1110</b>	Compact dark brown silty clay deposit, fill of <b>1112</b>
<b>1111</b>	Geologically natural orangey-brown sand
<b>1112</b>	Probable north/south ditch cutting <b>1113</b> Recut <b>1113</b>
<b>1113</b>	Cut for primary ditch
<b>1114</b>	Sandy fill of <b>1112</b>
<b>Trench 12</b>	
<b>1200</b>	Turf/topsoil
<b>1201</b>	Sandy subsoil
<b>1202</b>	Cut of pit
<b>1203</b>	Fill of <b>1202</b>
<b>1204</b>	Possible ditch on north-east/south-west alignment
<b>1205</b>	Fill of <b>1204</b>
<b>1206</b>	Geologically natural orangey-brown sand

## APPENDIX 8: TASK LIST

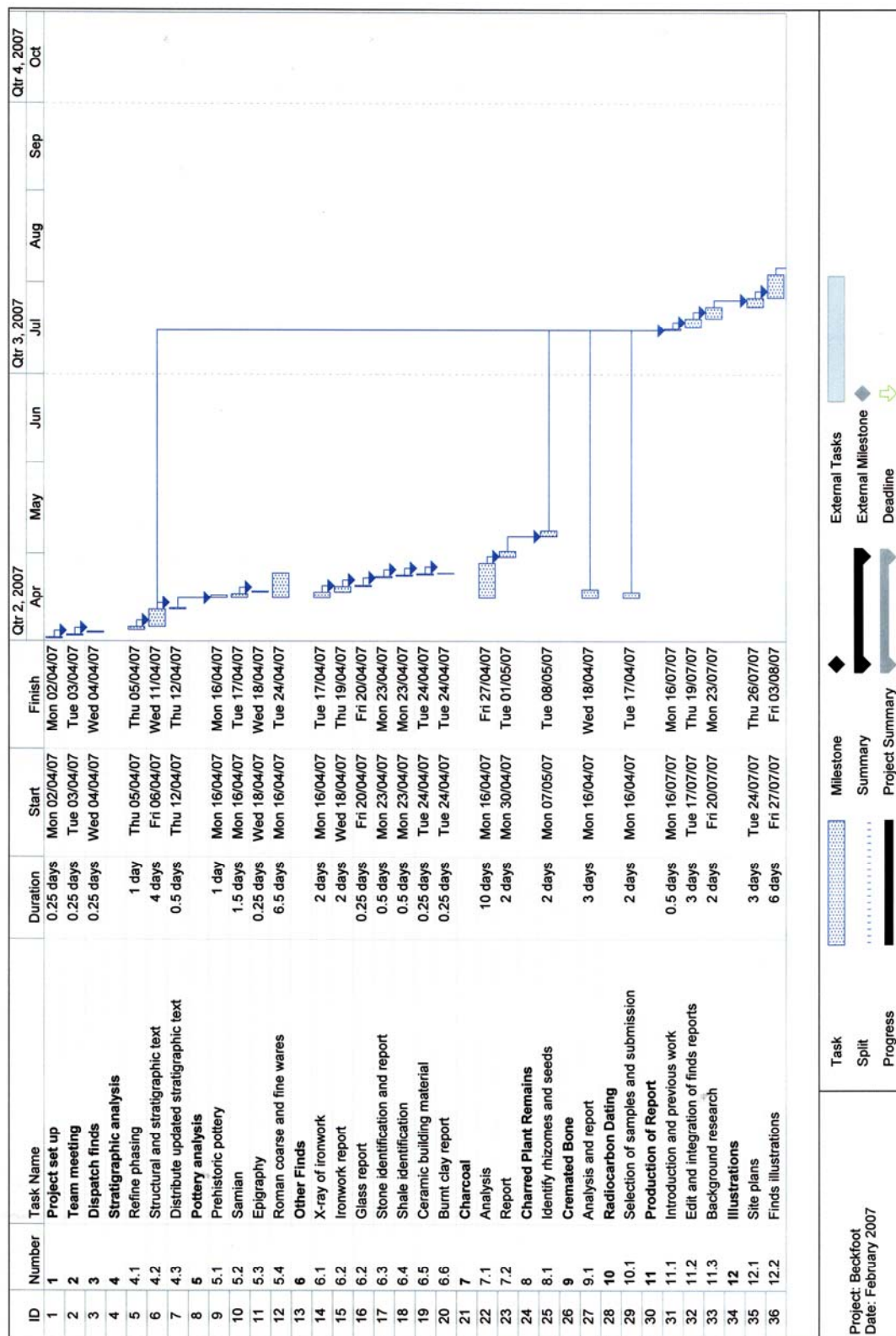
No	Task	Days	Staff
<b>1</b>	<b>Project set up</b>	0.25	CH
<b>2</b>	<b>Team meeting</b>	0.25	CH, EH, CHD, AP, AD
<b>3</b>	<b>Dispatch finds</b>	0.25	Finds technician
<b>4</b>	<b>Stratigraphic analysis</b>		
4.1	Refine phasing	1	CH
4.2	Structural and stratigraphic narrative	4	CH
4.3	Distribute updated stratigraphic text	0.5	CH
<b>5</b>	<b>Pottery analysis</b>		
5.1	Prehistoric pottery	1	CA
5.2	Samian	1.5	MW
5.3	Epigraphy	0.25	DS
5.4	Roman coarse and fine wares	6.5	RL
<b>6</b>	<b>Other Finds</b>		
6.1	X-ray of ironwork	2	CHD
6.2	Ironwork report	2	CHD
6.2	Glass report	0.25	CHD
6.3	Stone identification and report	0.5	CHD
6.4	Shale identification	0.5	CHD
6.5	Ceramic building material	0.25	CHD
6.6	Burnt clay report	0.25	CHD
<b>7</b>	<b>Charcoal</b>		
7.1	Analysis	10	DC
7.2	Report	2	DC
<b>8</b>	<b>Charred Plant Remains</b>		
8.1	Identify rhizomes and seeds	2	EH
<b>9</b>	<b>Cremated Bone</b>		
9.1	Analysis and report	3	JM
<b>10</b>	<b>Radiocarbon Dating</b>		
10.1	Selection of samples and submission	2	EH
<b>11</b>	<b>Production of Report</b>		
11.1	Introduction and previous work	0.5	CH
11.2	Edit and integration of finds reports	3	CHD
11.3	Background research	2	CH
<b>13</b>	<b>Illustrations</b>		
13.1	Site plans	3	AD
13.2	Finds illustrations	6	AP
<b>13</b>	<b>Finalisation of Publication Report</b>		
13.1	Edit and discussion	2	CH
		2	JZ
13.2	Synthesis and conclusion	2	CHD
		1	JZ
13.3	Prepare final publication drawings	1	AD/AP
13.4	Prepare plates	1	CH
13.5	Final cross-referencing	1	CH
13.6	QA	2	RMN
13.7	Corrections to text	2	CH
13.8	Corrections to figures	2	AD
<b>14</b>	<b>Archive</b>		
14.1	Archive photographs	0.5	Finds technician
14.2	Finalise site archive	0.25	CH
14.3	Archive deposition	0.5	Finds technician
<b>15</b>	<b>Management (to run concurrently)</b>	2	Alison Plummer

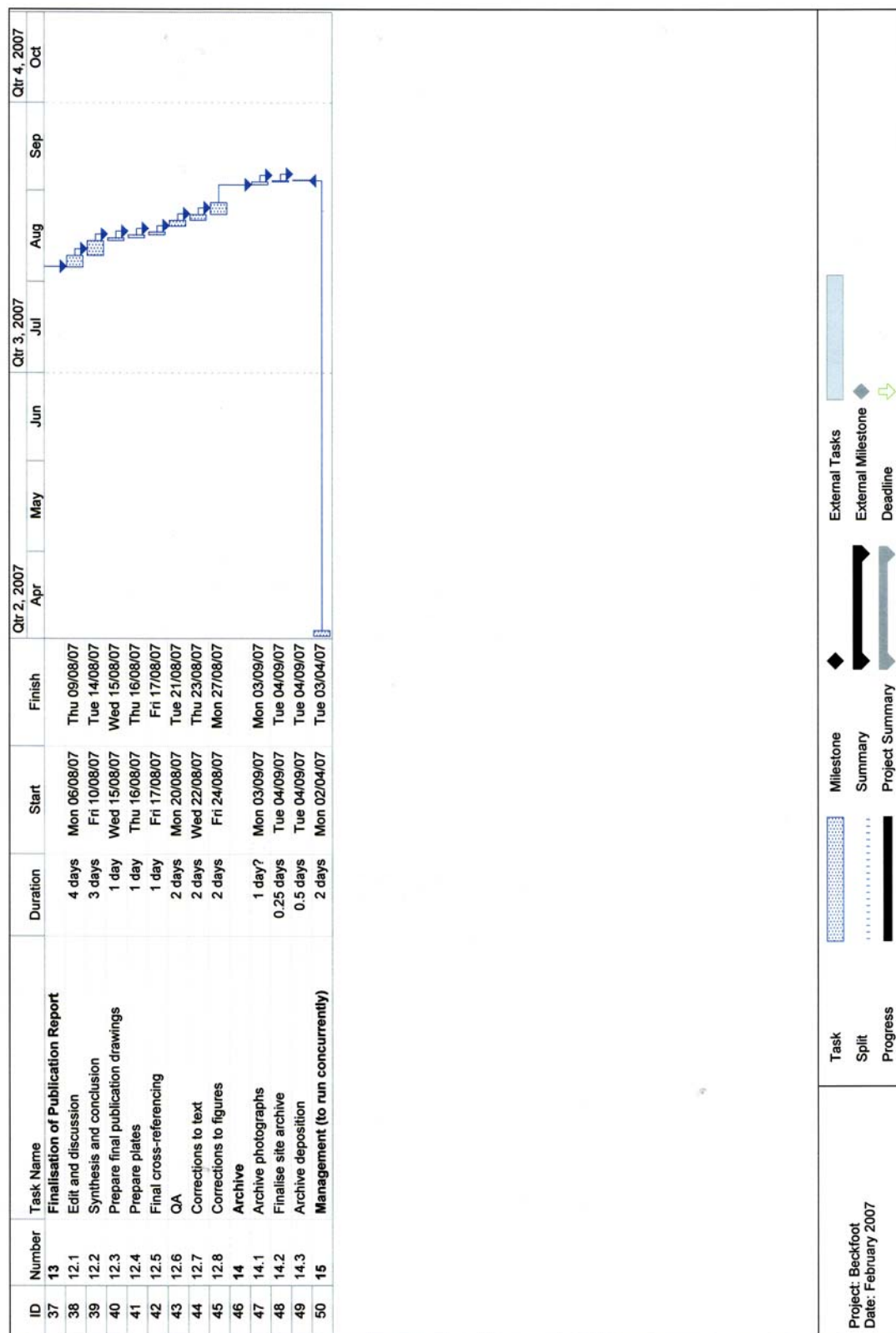
## APPENDIX 5: RESULTS OF THE CHARCOAL ASSESSMENT

Context	Feature type	Sample no	Flot vol (ml)	Charcoal			Charred remains		Notes
				Qty	Identification	Notes	Qty	Identification	
103	pit	1	103	++++	<i>Quercus</i> , cf <i>Pinus</i>	Good preservation of. some large fragments. Semi-charred bark	+	Weed seeds	Textile fragments. Minimal roots/modern intrusion
214	ditch	5	214	+++	<i>Quercus</i> , <i>Maloideae</i> , <i>Alnus/Corylus</i>	Small fragments - infused with sediment			Coal. Roots/sand. Slag
215	ditch	6	215	++++	<i>Alnus/Corylus</i> , <i>Quercus</i>	Roundwood. Predominantly diffuse porous	++	Grass rhizomes	Charred amorphous pieces. Bone, fuel ash slag
216	pyre	4	216	+	<i>Fraxinus</i>				95% roots, pebbles and burnt sand
305	charcoal deposit	8	460	1000+	<i>Quercus</i> , heartwood, <i>Alnus/Corylus</i>	Some very large fragments >20mm	++	Nutshell/fruit possibly. kernel. Very poorly preserved grain. Grass rhizomes	Some roots/straw. Pot
312	cremation pit	7	430	1000+	<i>Quercus</i> , <i>Acer</i> type, diffuse porous	Twigs			Lots of straw, large pebbles. Burnt bone
312	cremation pit	7	40	+++	<i>Quercus</i> , heartwood	Very slow grown			Preservation good. Looks like all oak
407	cremation pit	12	110	++++	<i>Quercus</i> . Predominantly, diffuse porous				Charred roots. Amorphous fragments
408	cremation urn	spits 1 to 5 <sup>‡</sup>		++	<i>Quercus</i>	Spits 3+4 >2mm, others only comminuted charcoal			Rare amorphous fragments. Cremated bone.
510	Pyre dump	14	70	+++	<i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Betula/Acer</i> type	Mostly small fragments			Good preservation. Lots roots. Cremated bone. Fuel ash slag
512	ditch	16	60	++	<i>Quercus</i> , <i>Alnus/Corylus</i>				90% roots/straw
519	Pyre dump	17	350	1000+	Predominantly <i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Maloideae</i>	Some large fragments.			Minimal roots. Amorphous fragments. Hand-picked charcoal also oak
519	Pyre dump	17	200	++++	<i>Quercus</i> sapwood	Looks like all oak. Some very large fragments			
606	Pyre dump	21	1030	1000+	<i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Maloideae</i> , <i>Betula/Acer</i> type	Roundwood, large fragments			Good preservation. Roots, fuel ash slag
607	cremation pyre	19	3000+	1000+	<i>Quercus</i> , <i>Alnus/Corylus</i>	Roundwood, giant fragments			Massive flot, residue looks similar. Excellent preservation, minimal roots
704	ring ditch	10	210	+++	<i>Quercus</i> , <i>Alnus/Corylus</i> , diffuse porous	Small fragments			80% roots/sand
708	cremation urn	9	420	1000+	<i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Betula/Acer</i> type	Roundwood, large fragments	+	Charred rhizomes	Very good preservation, lots of amorphous. fragments
708	cremation urn	spits 1-3 <sup>‡</sup>		++	<i>Quercus</i> , <i>Prunus</i> , <i>Betula/Acer</i> type				Residues, spit 2- pot
708	cremation urn	spit 4		+++	<i>Quercus</i> , <i>Alnus/Corylus</i>				Residue; lots amorphous fragments. Charred roots
708	cremation urn	spit 5		++++	<i>Quercus</i> , <i>Alnus/Corylus</i>	Roundwood			Residue. Pot, amorphous fragments
708	cremation urn	spit 6		++++	<i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Betula/Acer</i> type	Some large fragments			Residue. Nail
708	cremation urn	spit 7		++++	<i>Quercus</i> , <i>Alnus/Corylus</i>	Roundwood			Residue. Pot, nail
711	cremation pit	11	280	++++	<i>Quercus</i> , <i>Alnus/Corylus</i> , <i>Maloideae</i>	Roundwood, twigs, large fragments			Good preservation, minimal straw, amorphous fragments
802	subsoil	-		++++	<i>Betula/Acer</i> type	Very knotty roundwood fragments - some with bark			Massive pieces, look like came from same branch
808	cremation pit	22	450	++++	<i>Quercus</i> predominates	Twigs			Preservation good. Looks like all oak

<sup>‡</sup> sample results have been grouped together (+ = <5 items; ++ = 5-25; +++ = 25-100; ++++ =>100; 1000+ = superabundant)

## APPENDIX 9: GANTT CHART





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ILLUSTRATIONS

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- Figure 1: Site location
- Figure 2: Overview of trenches and features, showing Scheduled Monument Area and inferred concentrations of cemetery site and its extent
- Figure 3: South-west facing section through possible ditch **1113** and its recut **1112**, in Trench 11
- Figure 4: South-west facing section through possible ditch **1204**, in Trench 12
- Figure 5: Plan of Trench 3; south-facing section through pit **313**, and south-east-facing section through cremation burial **315**
- Figure 6: Detailed plan of Trench 4, showing linear feature **411** and cremation burial **406**, with section through pit **415**, cutting **411**
- Figure 7: East-facing section through pyre debris **519**, in Trench 5
- Figure 8: Plan of Trench 5, showing ditches **514** and **536**, ring ditch **527**, and cremation burial **516**
- Figure 9: Detailed plan of Trench 6, showing slots through pyre debris **606** and **607**, and cremation pit **609**
- Figure 10: Detailed plan of Trench 7, showing ring-ditch **705**, central burial pit **707**, and burial pit **710**
- Figure 11: Detailed plan and sections of Trench 2, showing linear feature **213**, and pit **204**
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- Plate 1: Beckfoot prior to excavation, facing south
- Plate 2: Possible ditch feature **1112/1113**, facing north-east
- Plate 3: Cremation urn **408** *in situ* in base of pit **406**, facing south
- Plate 4: Cremation urn **708** *in situ* in pit **706**, facing east
- Plate 5: Ring ditch **705** and central burial **707**, prior to excavation, facing south
- Plate 6: Pyre material **519**, cut by cremation deposit **517**, facing west

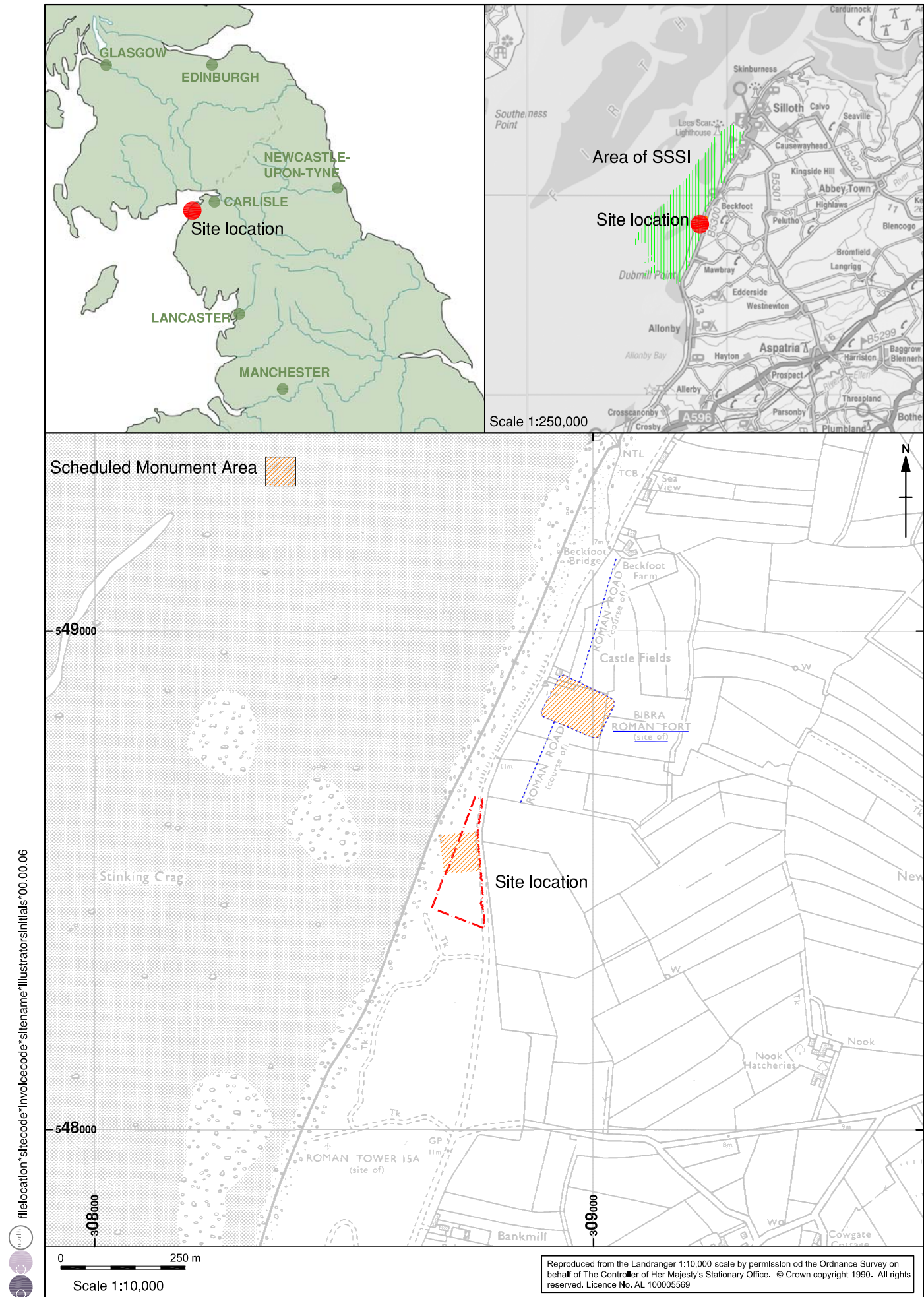


Figure 1: Site Location

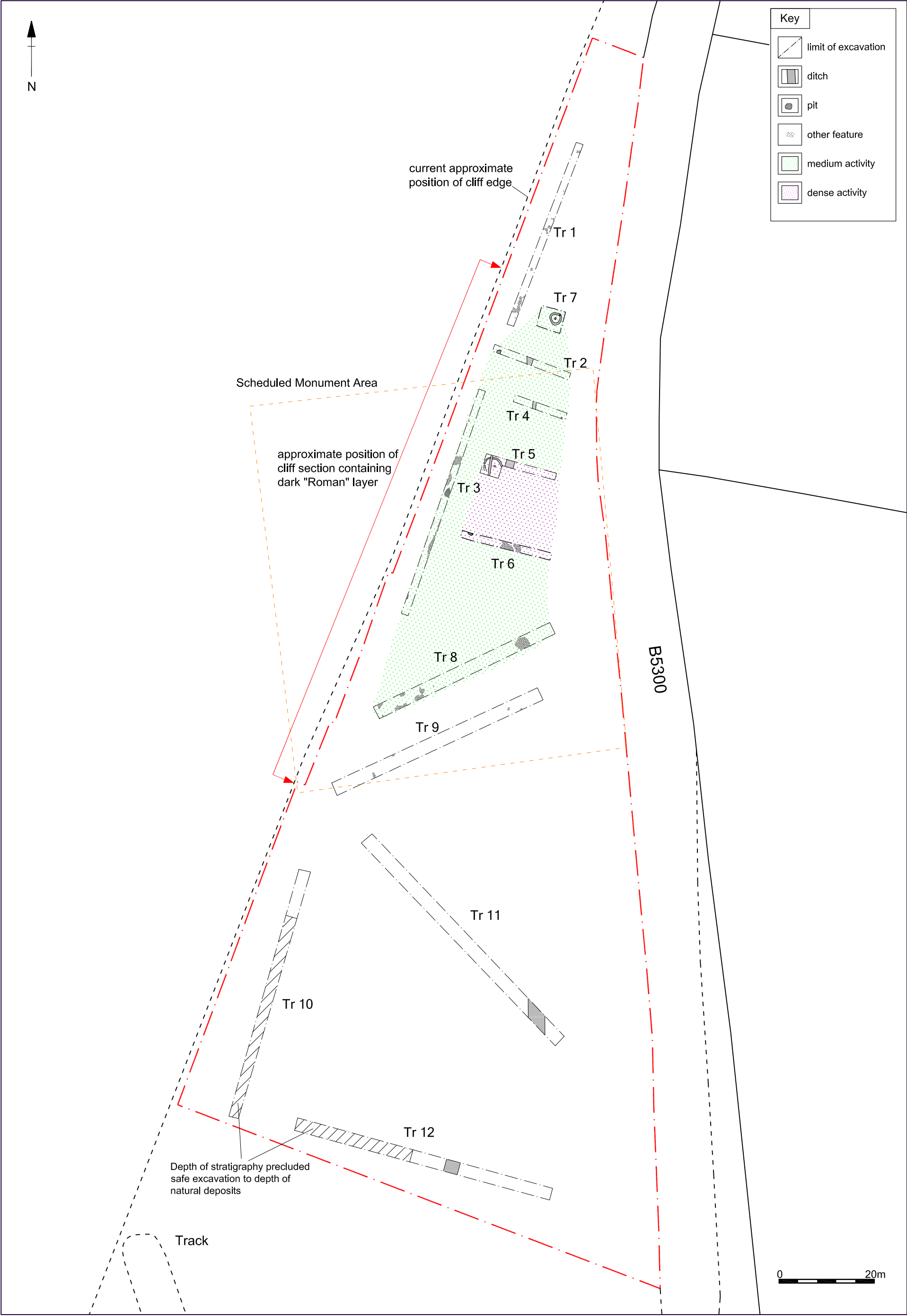


Figure 2: Overview of trenches and features, showing Scheduled Monument Area



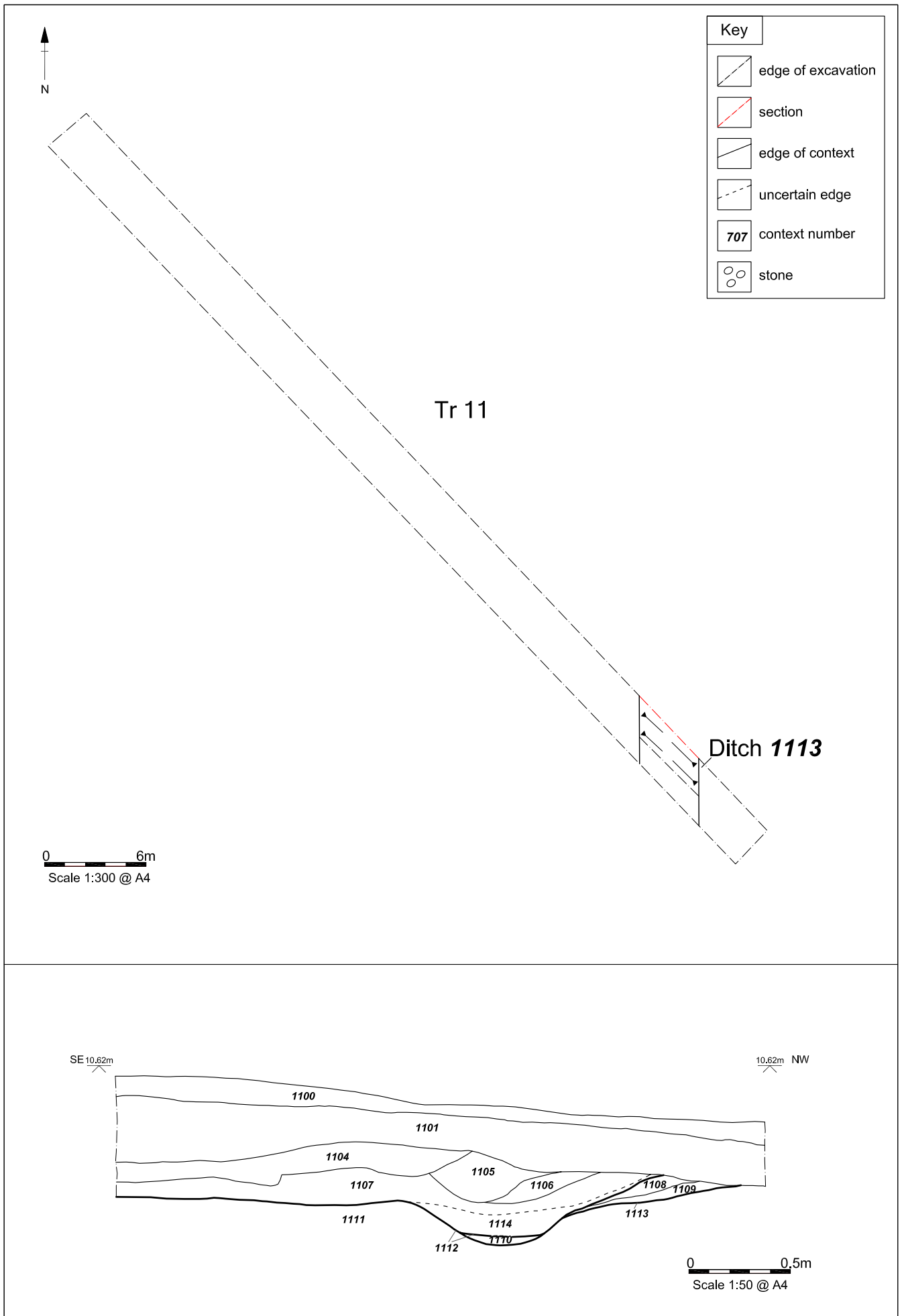


Figure 3: South-west-facing section through possible ditch **1113** and its recut **1112**, in Trench 11

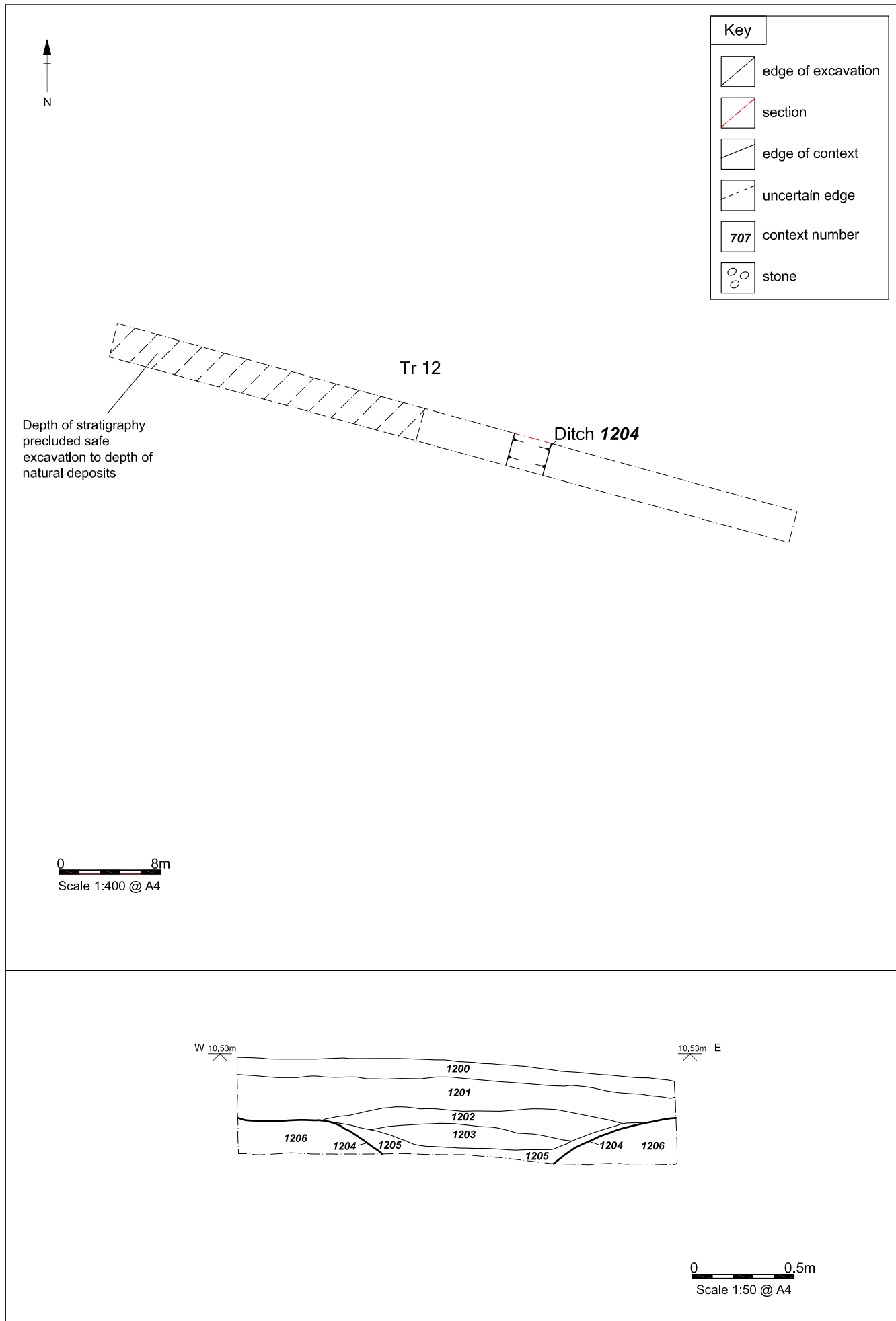






Figure 4: South-west-facing section through possible ditch **1204**, in Trench 12

Key	
	edge of excavation
	edge of context
	uncertain edge
<b>309c</b>	cut number
<b>707</b>	context number
	stone

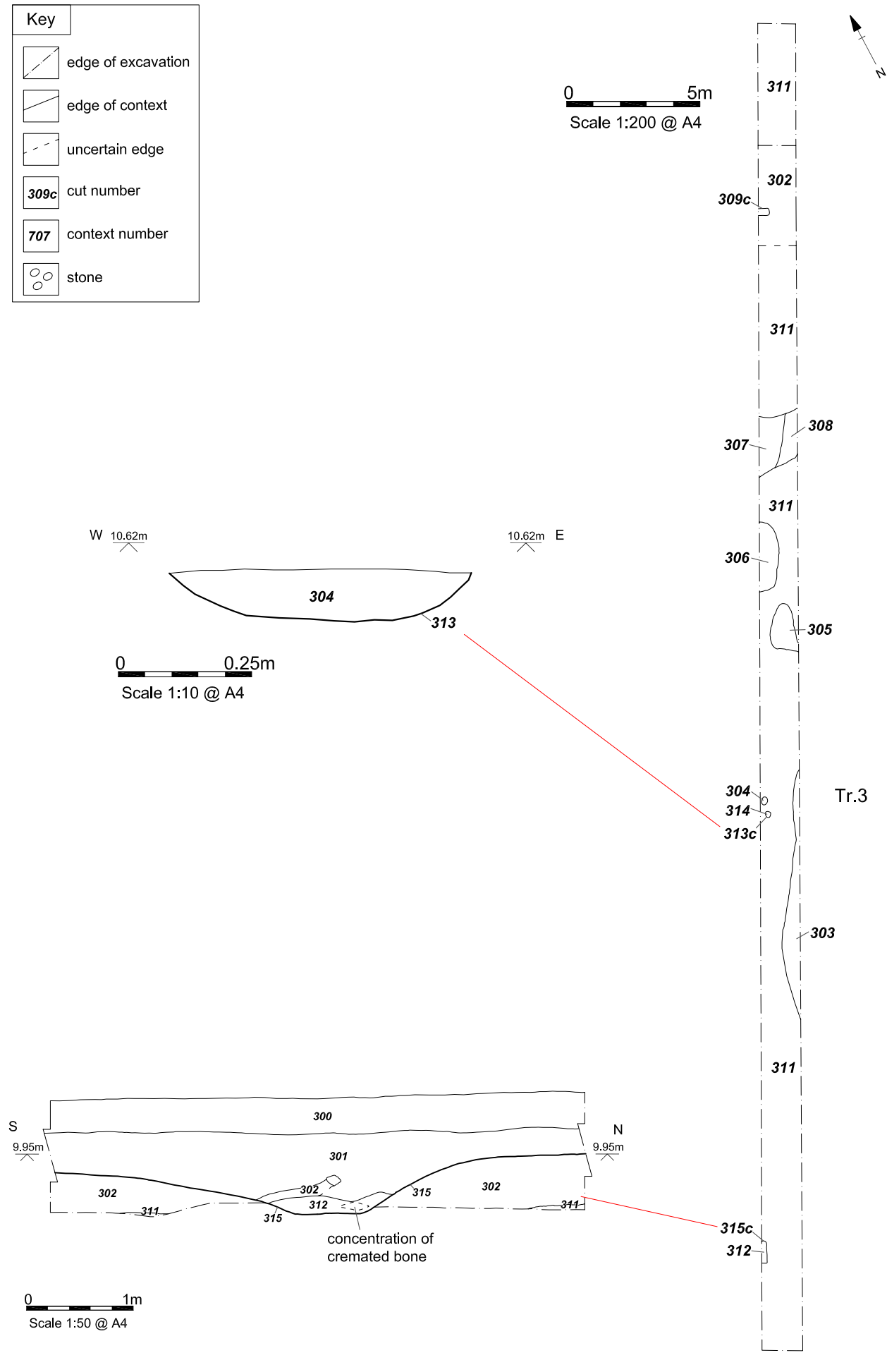


Figure 5: Plan of Trench 3; South-facing section through pit **313**, and south-east-facing section through cremation burial **315**

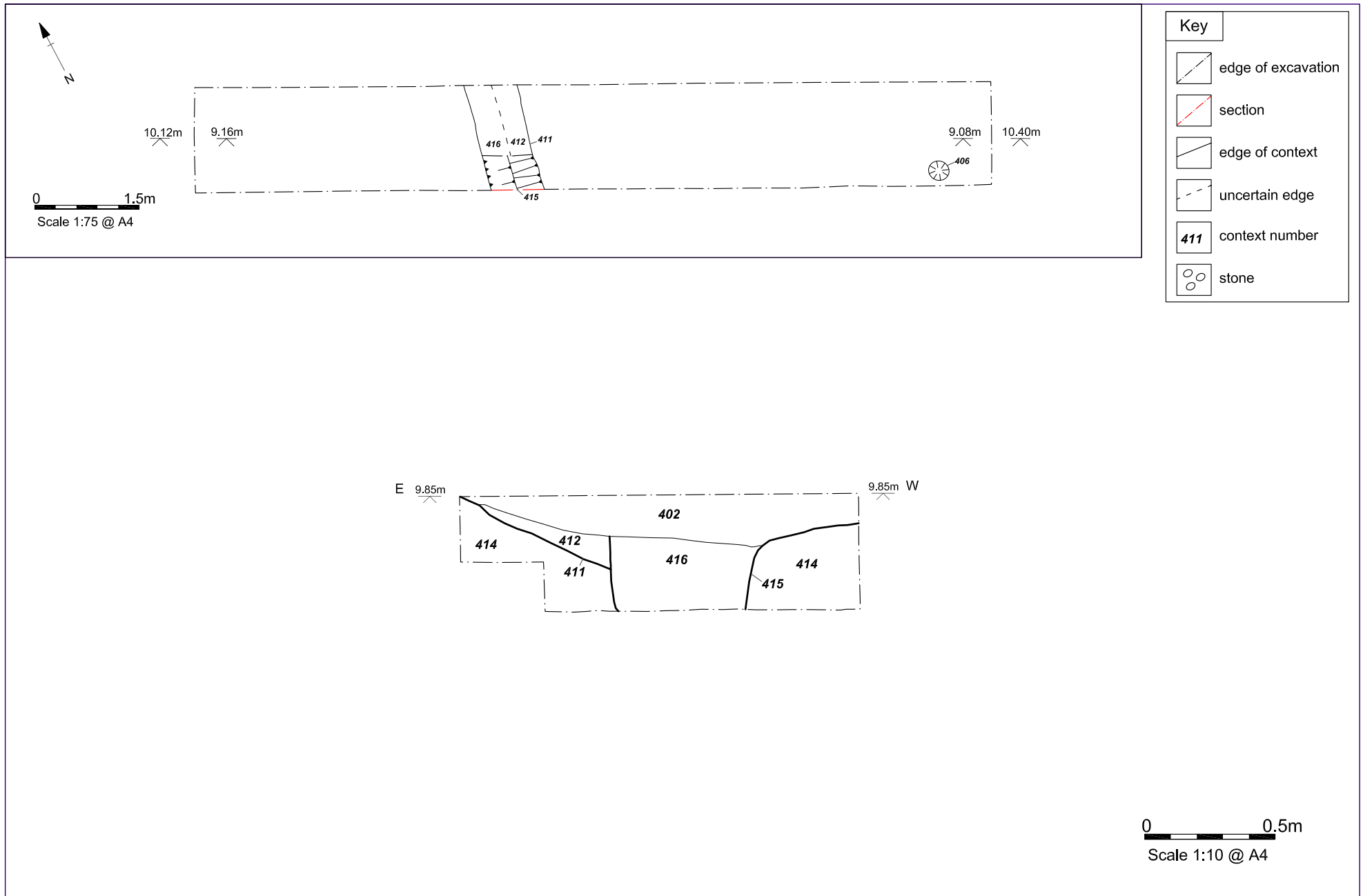


Figure 6: Detailed plan of Trench 4, showing linear feature **411** and cremation burial **406**, with section through pit **415** cut by **411**

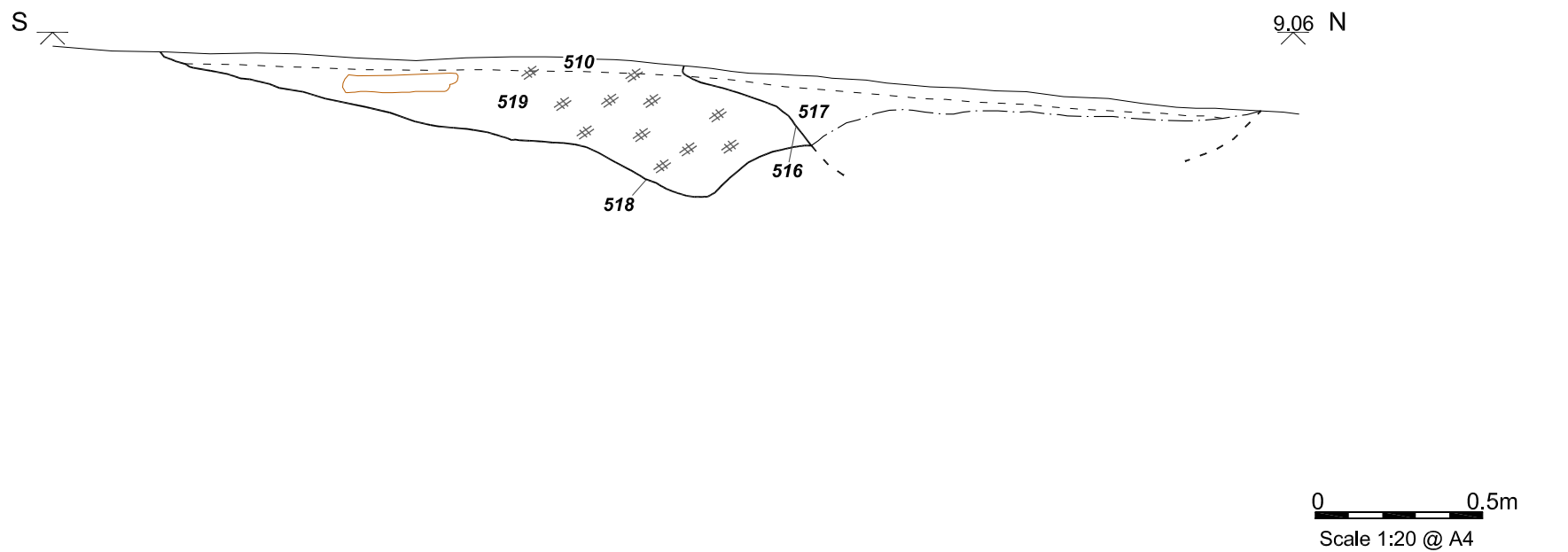


Figure 7: East-facing section through pyre debris **519**, in Trench 5

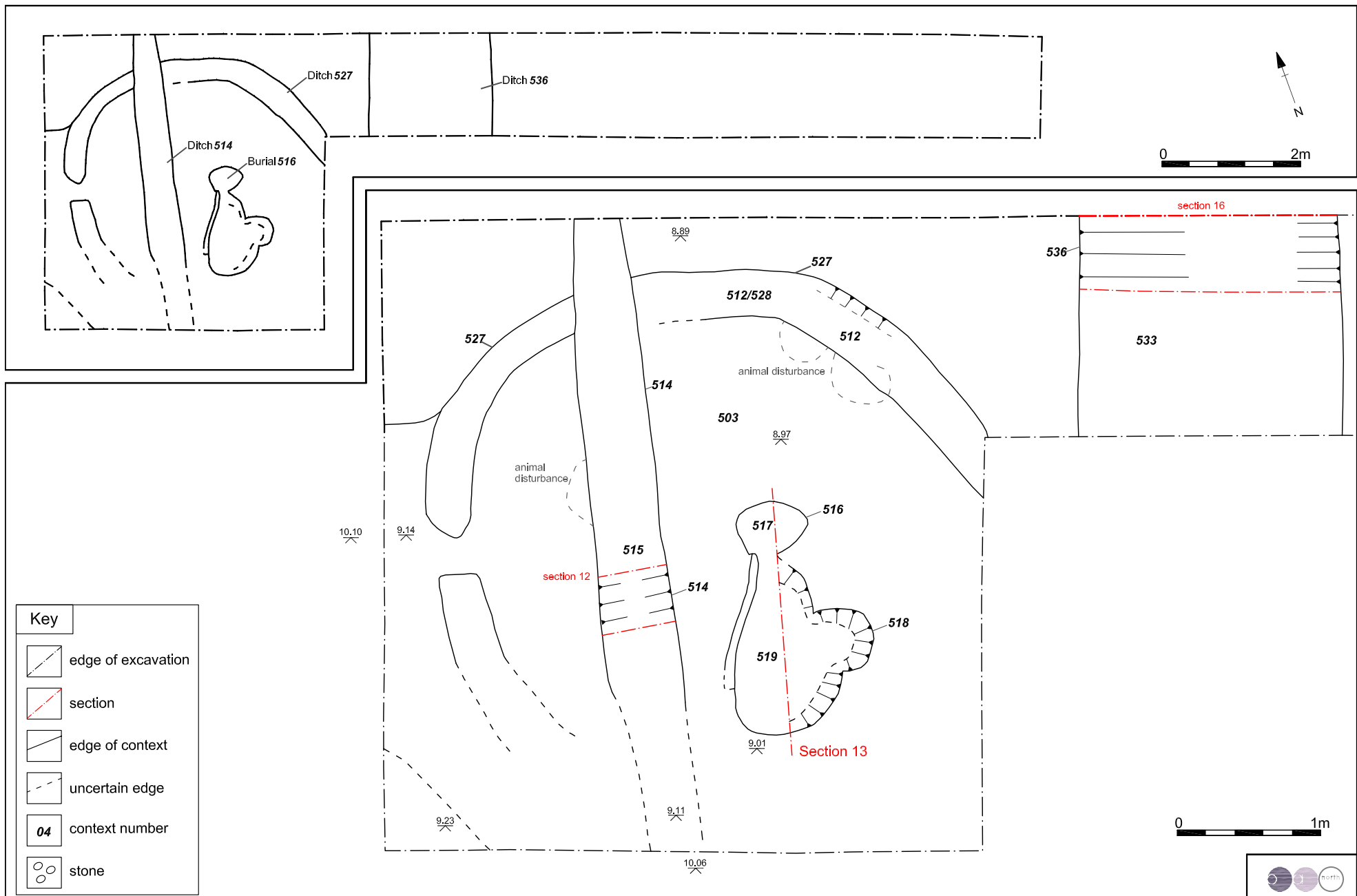


Figure 8: Plan of Trench 5, showing ditches **514** and **536**, ring ditch **527**, and cremation burial **516**

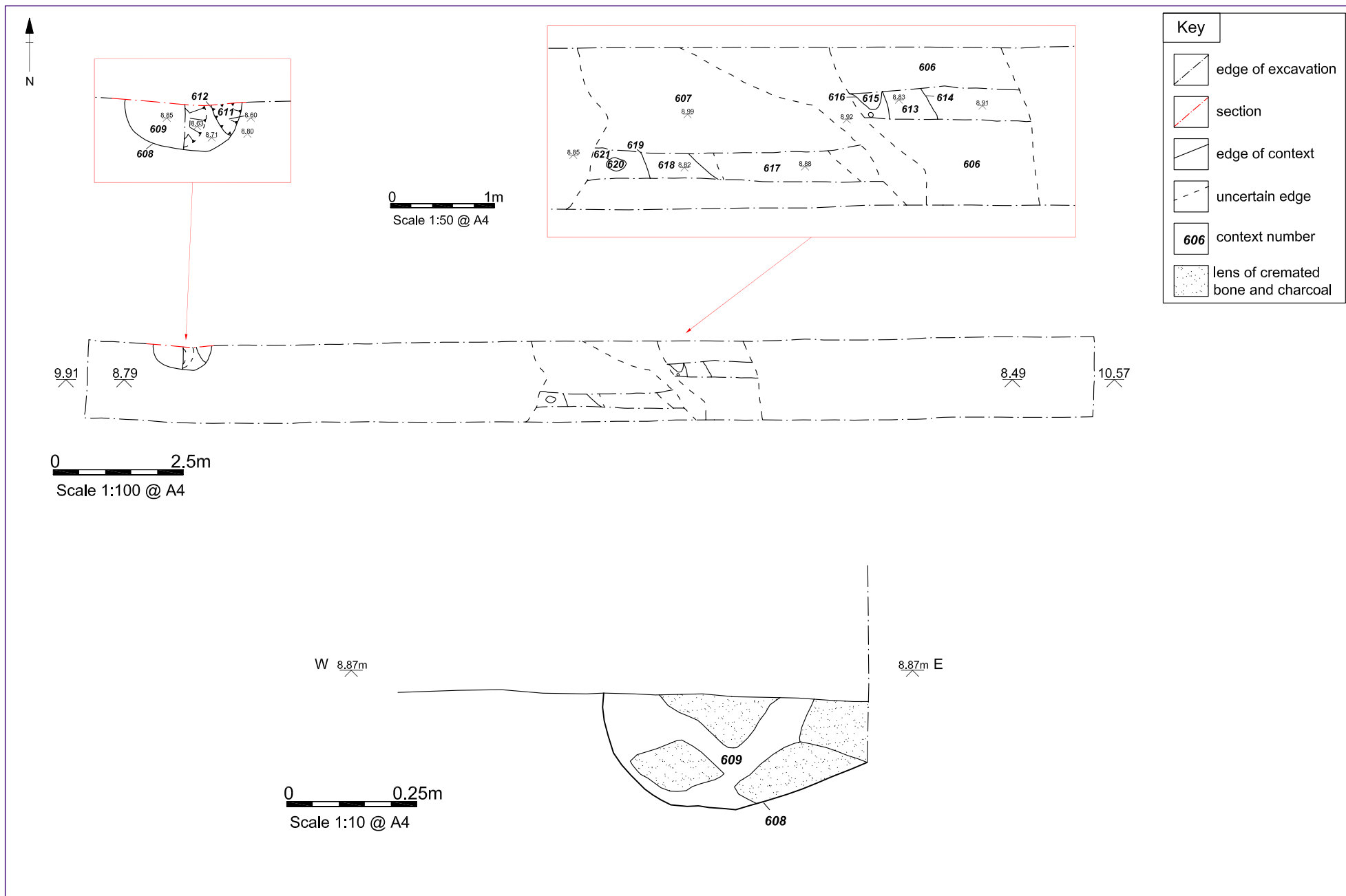


Figure 9: Detailed plan of Trench 6, showing slots through pyre debris **606** and **607**, and cremation pit **609**

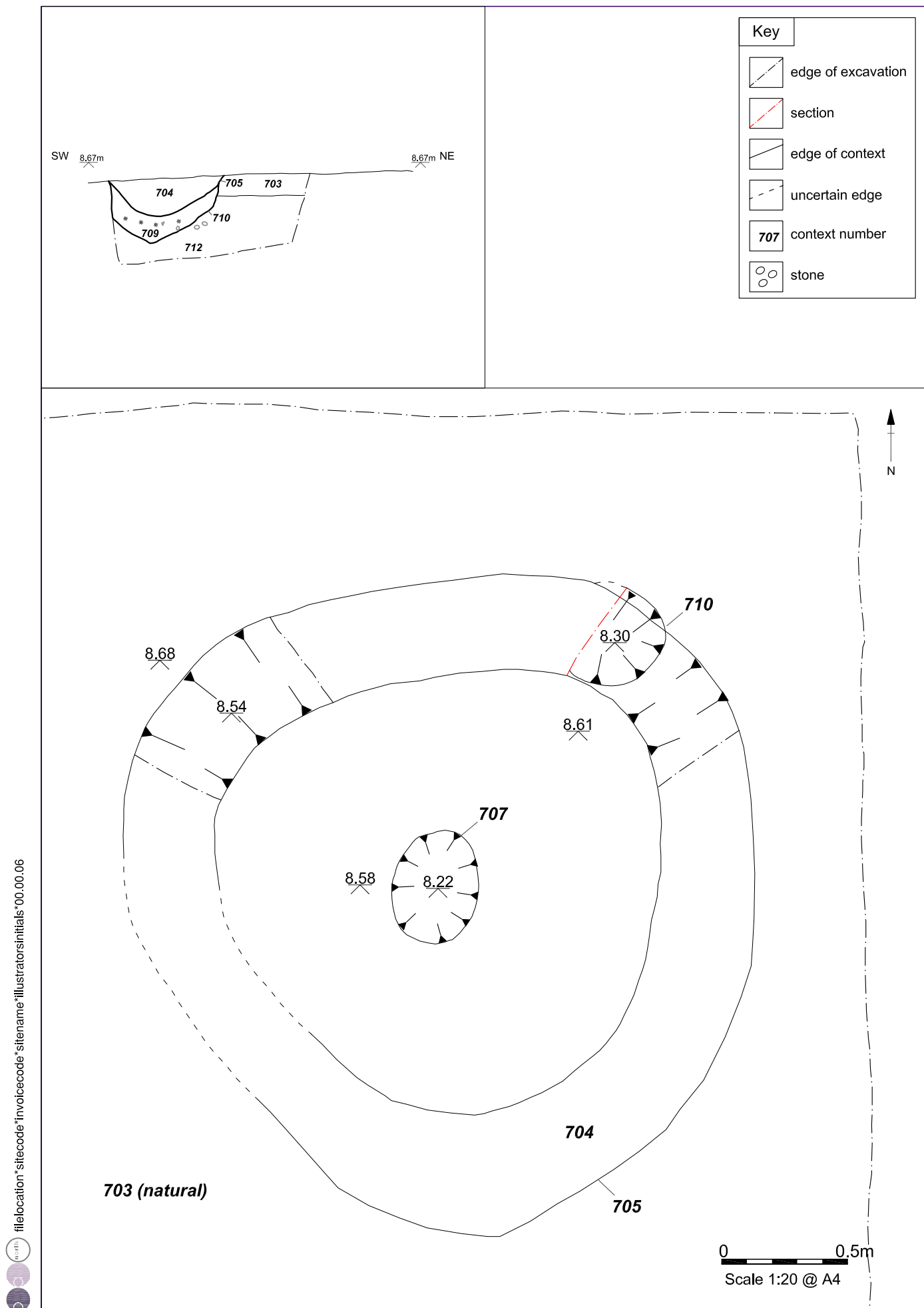


Figure 10: Detailed plan of Trench 7, showing ring-ditch **705**, central burial pit **707**, and burial pit **710**



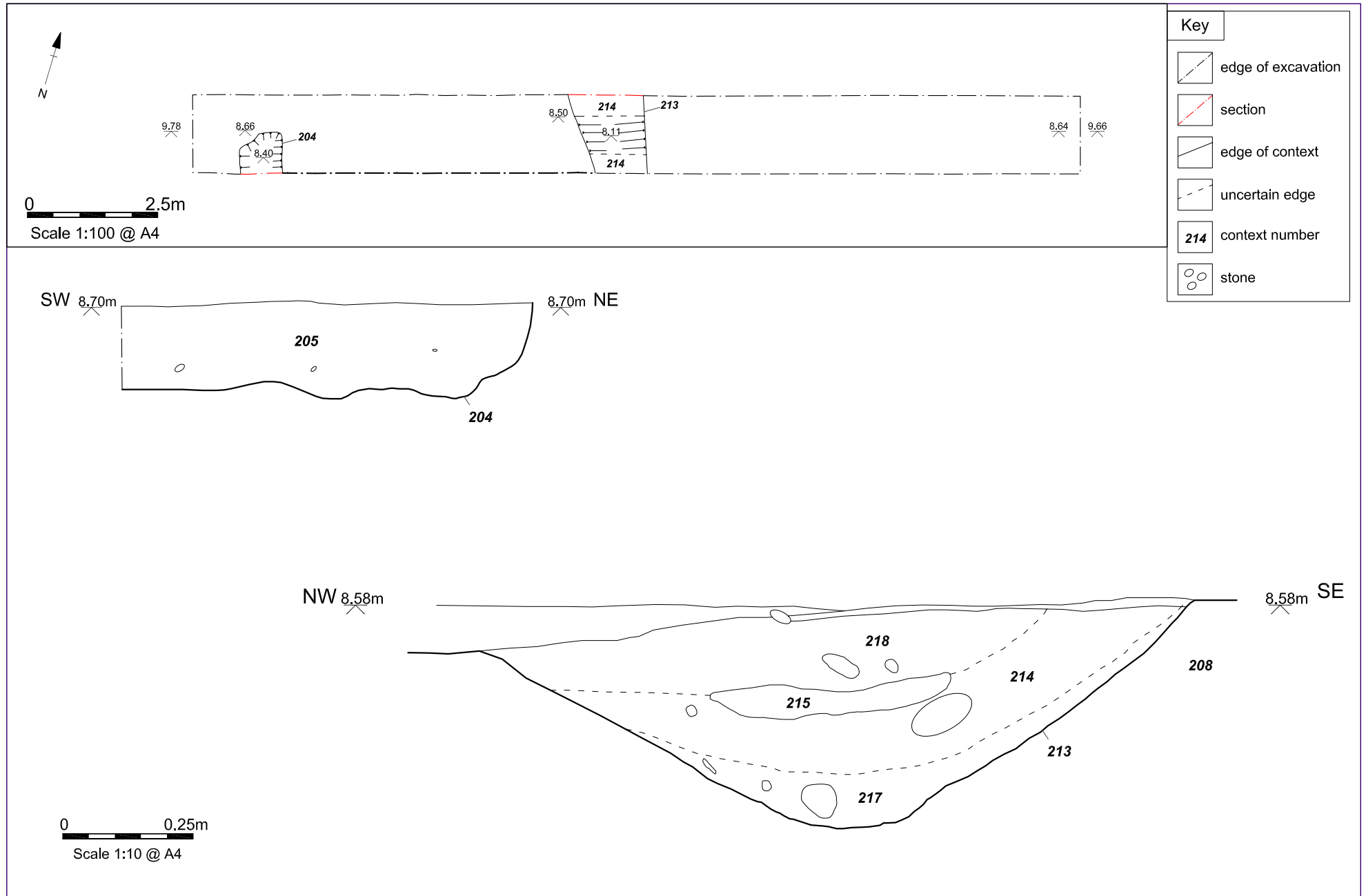


Figure 11: Detailed plan and sections of Trench 2, showing linear feature **213**, and pit **204**



Plate 1: Beckfoot prior to excavation, facing south



Plate 2: Possible ditch *1112*, facing north-east





Plate 3: Cremation urn **408** *in situ* in base of pit **406**, facing south



Plate 4: Cremation urn **708** *in situ* in pit **706**, facing east





Plate 5: Ring ditch **705** and central burial **707** prior to excavation, facing south



Plate 6: Pyre material **519**, cut by deposit **517**, facing west