



Three Bridges Waste Water Pumping Station Swarthmoor, Cumbria

Archaeological Watching Brief



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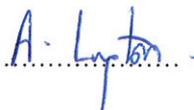
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CONTENTS

SUMMARY	2
ACKNOWLEDGEMENTS	3
1. INTRODUCTION	4
1.1 Circumstances of Project.....	4
2. METHODOLOGY	5
2.1 Project Design.....	5
2.2 Watching Brief.....	5
2.3 Archive	5
3. BACKGROUND	6
3.1 Topography and Geology.....	6
3.2 Historical Background	6
4. WATCHING BRIEF RESULTS.....	11
4.1 Introduction	11
4.2 Results	11
5. DISCUSSION.....	12
5.1 Synthesis.....	12
6. BIBLIOGRAPHY	13
7. ILLUSTRATIONS.....	15
7.1 Figures.....	15
7.2 Plates	15

SUMMARY

Following a proposal by United Utilities to construct a waste water pumping station, pipeline and access road at Three Bridges, Swarthmoor, Cumbria Cumbria County Council Archaeology Service (CCCAS) issued a written statement recommending a programme of archaeological works prior to the proposed development. The development lay within an area of archaeological significance, which is particularly rich in prehistoric remains and, as such, CCCAS recommended that a watching brief be maintained during the course of the groundworks. Oxford Archaeology North (OA North) was commissioned to carry out this work in September 2007.

The watching brief was conducted during the topsoil stripping of the easement prior to development. Although there is evidence of human activity in the surrounding area from prehistoric to post-medieval times, no features of archaeological interest were revealed during the groundworks.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank United Utilities for commissioning the project.

The watching brief was undertaken by Steve Clarke, who also compiled the report, whilst Mark Tidmarsh produced the drawings. The project was managed by Alison Plummer, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Following a proposal by United Utilities to construct a waste water pumping station, pipeline and access road at Three Bridges, Swarthmoor, Cumbria Cumbria County Council Archaeology Service (CCCAS) issued a written statement recommending a programme of archaeological works prior to the proposed development. The development lies within an area of archaeological significance, which is particularly rich in prehistoric remains and, as such, CCCAS recommended that a watching brief be maintained during the course of the groundworks. Oxford Archaeology North (OA North) was commissioned to carry out this work in September 2007.
- 1.1.2 In order to provide a historical background to the watching brief, it is normal practice to include either a programme of rapid historical research or a desk-based assessment. However, an earlier investigation of the area had already been conducted by OA North (OA North September 2007), and the relevant historical research from this project has been incorporated into this document.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 Although OA North did not submit a project design in response to the written statement issued by CCCAS, the field work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 WATCHING BRIEF

- 2.2.1 Close liaison was maintained between OA North staff and the site contractors during the watching brief. The groundworks were undertaken both manually and by mechanical excavator. The programme of field observation accurately recorded the location, extent, and character of any surviving archaeological features. This work comprised observation during the groundworks, the examination of any horizons exposed and the recovery, processing and storage of artefacts according to current standard practice based on guidelines set by the Institute of Field Archaeologists
- 2.2.2 The recording comprised a description and preliminary classification of features or structures revealed on OA North *pro-forma* sheets, and their accurate location in plan. In addition, a photographic record in colour slide and monochrome formats was compiled.

2.3 ARCHIVE

- 2.3.1 A full professional archive has been compiled in accordance with current IFA (IFA 2001) and English Heritage guidelines (English Heritage 1991). Arrangements for the paper and digital archive will be made with Cumbria Archives Service on completion of the project.

3. BACKGROUND

3.1 TOPOGRAPHY AND GEOLOGY

- 3.1.1 The south of Cumbria is largely dominated by undulating fells, from which a pastoral landscape with substantial woodlands has developed. The southern limit of south Cumbria is defined by the broad expanse of Morecambe Bay and the surrounding limestone lowlands, which are penetrated by the valleys and estuaries of the Rivers Duddon, Leven, and Kent, all of which support wetland environments in their lower reaches (Hodgkinson *et al* 2000).
- 3.1.2 The village of Swarthmoor is located on the south side of the town of Ulverston, which is situated on the Furness Peninsula, to the north-east of Barrow-in-Furness, north of Morecambe Bay (Fig 1). The pipeline route starts between Swarthmoor and Ulverston in an area known as High Bridge and terminates at Levy Beck to the north-east.
- 3.1.3 The underlying solid geology of the area consists of Silurian Ludlow greywakes (Coniston Grits) and banded mudstones and siltstones. The southern part of Ulverston lies on Carboniferous Dinantian limestones (Countryside Commission 1998).

3.2 HISTORICAL BACKGROUND

- 3.2.1 **Introduction:** this section presents an outline review of the existing knowledge of Swarthmoor and its environs. An extensive survey of the historical record was undertaken as part of the desk-based assessment for another project (OAN North 2007), but this has relevance. However, only that information directly pertinent to the impact area and the scope of the work is presented here within the known British archaeological periods shown in table 1.

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 3,500 BC
Neolithic	3,500 – 2,200 BC
Bronze Age	2,200 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – AD 410
Early Medieval	AD 410 – AD 1066
Late Medieval	AD 1066 – AD 1540

Post-medieval	AD 1540 – c1750
Industrial Period	cAD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

- 3.2.2 **Palaeolithic and Mesolithic periods:** the earliest sites in the area are the putative Late Upper Palaeolithic sites at Kirkhead Cave and Lindale Low Cave (Salisbury 1992). The earlier excavation, at Kirkhead, yielded twenty flint blades and a tool made from antler, which radiocarbon analysis has dated to between 10,500 and 10,900 BP. However, this evidence has been treated with some suspicion (*ibid*). Notwithstanding this, the later excavation at Lindale Low has provided compelling evidence of human activity within the area during the Late Upper Palaeolithic, primarily through the presence of fourteen intact flint tools uncovered during the excavation (*ibid*). During the Mesolithic period; archaeological evidence has shown coastal exploitation, particularly centred on large parts of Walney Island, to the south-west of the subject site (Hodgkinson *et al* 2000, 35). Recent work in Furness, including fieldwalking (Hodgkinson *et al* 2000; Young 2002, 20), has demonstrated a less intensive lithic distribution pattern than that found on Walney Island, suggesting that Mesolithic activity was concentrated in favoured parts of the landscape such as cave sites e.g. Ulverston, Levens Park and Kirkhead.
- 3.2.3 **Neolithic period:** fairly widespread activity has been recognised in the peninsula. This appears to represent an intensification of Mesolithic inhabitation. There is limited evidence of forest clearance and cultivation during the early Neolithic period (Trescaheric 1992), but it seems likely that Neolithic peoples also would have continued to exploit the wetland areas. Polished stone axes, adzes and axe-hammers of Neolithic and Bronze Age date have been found scattered throughout the area, and approximately 90% have been shown by petrological analysis to have come from the volcanic tuff, extracted on a seasonal basis, from the axe factories of Great Langdale (Barnes 1968; Edmonds 1995). An Early Neolithic occupation site has recently been discovered to the south of Swarthmoor, at Roose Quarry. There, an archaeological evaluation conducted in November 2001 by Headland Archaeology revealed a cluster of pits and postholes, including a probable hearth pit from which a cereal grain and large numbers of pottery sherds derived from an Early Neolithic carinated bowl were recovered (Jones 2001). A Neolithic site comprising a small amount of pits and tree throws was excavated by OA North in 2002 at Holbeck Park in Barrow. The site produced a large amount of Neolithic pottery sherds, along with charred grain and hazelnut remains (OA North 2002).
- 3.2.4 During the late Neolithic period, it is thought that the ‘Beaker complex’ was adopted by local communities or brought into the area along the northern edge of Morecambe Bay. Pottery with twisted cord marks from Sizergh Fell, Warton and Levens Park show the emergence of this culture across the Furness Peninsula (OA North 2003a). The findspots within the study area

including axes, stone hammers and other stone implements, all suggest a thriving population. A large quern set onto the top of a wall outside the front of the former post office of Segdewick House, Fox Street, Swarthmoor, (CSMR 41905) is presumably of Early Neolithic or Early Bronze Age in date. The house belonged to the local geologist and antiquarian John Bolton and was named Sedgewick House after his friend and fellow geologist Adam Sedgewick of Dent. There are also a number of pieces of fossilised trees and other interesting stones in the wall, presumably part of the collection gathered by John Bolton, though it is impossible to know where the items came from (D Elsworth pers comm 2006).

- 3.2.5 **Bronze Age:** during this period, evidence can be seen of more extensive settlement across the peninsula. There is fairly scarce evidence for settlement within Ulverston and Swarthmoor themselves, although the discoveries of a bronze axe head (CSMR 2230) and spear head (CSMR 2233), within the vicinity of the study area suggest a Bronze Age presence; unfortunately, the exact location of the findspots is unknown. A large number of burials to the south-west of the study area, around Urswick and north of Dalton, date to this period, as does the stone circle at Birkrigg (West 1774). Although cremation burials appear to be much the standard of this period, exceptions include the rich Late Bronze Age inhumation burials at Butts Beck (accompanied by a sword and spear) and Goldmire Quarry (accompanied by a sword) (Fell 1965), and concentrations of later Bronze Age artefacts including axes, palstaves and knives (CSMR 2314; CSMR 2379, CSMR 2312). On the basis of this evidence, it can be said that the bulk of the late Bronze Age artefact assemblage from south Cumbria comes from the Furness Peninsula (Hodgkinson *et al* 2000, 44). The fragments of a Bronze Age urn containing a cremation were discovered during the construction of an electricity station (CSMR 2362) and a large number of lithic implements, including three large and perfect stone hammers were also uncovered during the construction of the Furness Railway, immediately to the north of the site (CSMR 2210). A stone axe-hammer (CSMR 2242) was found at Swarthmoor at the beginning of the century, and was presumed to be of Bronze Age date, but its present whereabouts are unknown. Given the rich nature of the finds previously recovered in close proximity to the study area the potential for further discoveries exists.
- 3.2.6 **Iron Age:** excavation of a hut circle at Urswick Stone Walls, has revealed a mixed artefact assemblage, suggesting continuity of settlement between the late Bronze Age and Iron Age, at least at this site (CSMR 2313; Hodgkinson *et al* 2000, 45). Evidence of settlement in the Iron Age, especially in the uplands of south Cumbria, is fairly scarce, but there are some recorded sites within the south-west fells, which consist of simple enclosures with a substantial bank, ditch and a single entrance, as at Town Bank (Hodgson and Brennand 2006). Additionally, pollen diagrams from the Lyth and Duddon valleys record the establishment of pre-Roman cultivation in the area (Hodgkinson *et al* 2000).
- 3.2.7 **Romano-British period:** Furness was probably settled by a Romano-British tribe called the Setantii but the archaeological evidence for the Romano-British period around Ulverston and Swarthmoor consists mostly of findspots,

with no definitive structural remains having as yet been found. Pre-Flavian coins in the Ulverston area, dating from the 1st century AD, may suggest some Roman military activity but there is no evidence to suggest that this area was permanently garrisoned by the Romans (LUAU 1995; OA North 2003b). The absence of a known military site within the peninsula suggests that the coins could instead relate to the trade in iron ore (Shotter 1989). There have been few 4th century coins found within the North West, although Furness is fairly strongly represented. This presumably indicates the growing strategic importance of coastal defences in Cumbria as stability declined (*ibid*).

- 3.2.8 The remains of what is widely considered to be the principal Roman thoroughfare from the Furness peninsula into Cumberland, were uncovered by workmen digging a drain, close to Goldmire Bridge, Thwaite Flat in 1803 (West 1805, 9) and re-excavated by Brady in 1949 and 1966 (Brady 1971). It is not unfeasible that other, as yet undiscovered, Roman communication routes may exist in the study area, preceding the putative medieval road leading into Ulverston that would seem to have been a precursor of the modern A590, which the pipeline follows.
- 3.2.9 **Early Medieval period:** as is the case throughout Cumbria, evidence for early medieval activity is extremely limited. Evidence suggests that by the 7th century AD Low Furness had become part of the Anglian kingdom of Northumbria, attested by the place-names of Old English origins, such as Ulverston, Dalton, and Aldingham (Armstrong *et al* 1950). In addition, the area surrounding Grange-over-Sands was within the western expansion of the Anglian kingdom of Northumbria. Cartmel, approximately 8km to the south-west, was granted to St Cuthbert by King Ecgfith of Northumbria in AD 677 (Dickinson 1991). The Vikings are thought to have established coastal bridgeheads, such as Barrow, before settling in the higher regions of Furness (LUAU 1995). By the ninth and tenth centuries place name evidence (the name Barrow almost certainly originally derived from the word *Barrai*) also suggests communities of Scandinavians origin.
- 3.2.10 **Medieval period:** the medieval history of the parish of Ulverston, in which Swarthmoor also lies, is rudimentary, with the majority of references to the town being found in the histories of Furness Abbey and Conishead Priory. The town is first mentioned in the Domesday Book which states '*in ULVERSTONE Gospatric holds 6 carucates and gelden. the King holds 3 carucates. there are 4 villein tenants but they do not plough. the land is 1 luca in length and half breadth*' (English Heritage 2003). The name of Ulverston derives from the Scandanavian 'tun of Ulfr'. In Domesday book, Turnulph is said to hold six carucates of land at 'Ulvrestun' (Birkett 1949). More information is given in Stockdales *Annals of Cartmel*, which states that before the Norman Conquest, Furness was held by Earl Siward, and at his death by Earl Tosti. The successor to these was Earl Ulfr (Stockdale 1872).
- 3.2.11 After 1066, the separate manors were united under the overlordship of the Lords of Lancaster, with Dalton rather than Ulverston being chosen as the manorial seat. Ulverston was granted a market in 1280, but there is some confusion as to whether this market ever took place (Farrer and Brownbill, 1914). The Abbot of Furness gave the parish of Ulverston to the Lancaster

family in 1195, whilst the following year, a charter was granted to Ulverston by Gilbert Fitz-Reinhard of Lancaster, which enfranchised the people of the village, and gave them their freedom and allowed them property-ownership rights (*ibid*). This charter also mentions a bakehouse, drying house and fulling mill at Ulverston, indicating the early importance of the textile industry (*ibid*).

- 3.2.12 Archaeology relating to the industry and economy of the town and its role as a subsidiary regional centre might be expected within the study area, possibly in addition to agricultural features that presumably would also have been a feature of the early medieval and post-Conquest landscapes.
- 3.2.13 **Post-Medieval period:** this period of history in Furness is dominated by the rise of industry in the area. It is also a period which shows a marked shift in fortunes from the town of Dalton, at the Dissolution of Furness Abbey, to the emerging industrial town of Ulverston. By 1801, Ulverston had a population of nearly 3,000, and became the largest and most important town in the region. Roads converged on it, and its market took produce from the whole of the Furness area (Marshall 1958). Swarthmoor Hall (LUAU 1997), reflects the increased prosperity of these times. It is a plain rough-coursed three-storey building of Elizabethan or early Jacobean age, standing on the high ground on the edge of Swarthmoor, approximately three-quarters of a mile south-west of Ulverston town centre in the vicinity of the study area. In close proximity to the study area is Dykelands House, a Listed Building (LB 459938). Probably constructed in 1834 by George Webster and built in a cottage style with Gothick detailing.
- 3.2.14 A short canal linking Ulverston to Morecambe Bay to attract the important coastal shipping trade was built in the late eighteenth century (Marshall, 1958). The opening of the canal in 1796 was a substantial boost to the economy of Ulverston. The town centre remained much the same, but the area around Canal Head became increasingly built up as canal offices and a pier were built.
- 3.2.15 Iron smelting had always been carried out locally by the monks of Furness Abbey (Barnes 1968), but the industry received a substantial boost with the opening of furnaces at Backbarrow in 1712, and later at Duddon Bridge, and Newland. The superior quality of the Furness ore meant that the merchants experienced little difficulty in finding markets, and the demand increased accordingly, aided by the transport possibilities of the Ulverston Canal. Eventually ironworks were established at Barrow in 1859, at Askham in 1865 and Ulverston in 1874. In 1839 there were three main firms in the district: Harrison, Anslie & Co (Linda Moor), the Ulverston Mining Company (Linda Cote), and Thomas Fisher (Butts Beck, Whitriggs) (Bowden 2000).
- 3.2.16 The Furness Railway arrived in Ulverston in 1846, but with it came a change in fortunes for the town of Ulverston. The harbour at Barrow was capable of holding far larger ships than the Ulverston Canal could cope with, and trade began to move to the newly constructed harbour. The ironworks built in 1874 provided further industry to the area, but the industrial heyday of Ulverston was essentially over (Birkett 1949).

4. WATCHING BRIEF RESULTS

4.1 INTRODUCTION

- 4.1.1 A permanent presence watching brief was maintained during topsoil stripping activities, within the fields affected by the pipeline route and site of the pumping station; the entire length of which was approximately 400m (Fig 1). This work was carried out during September and October 2007.

4.2 RESULTS

- 4.2.1 **Field 1:** the field is situated to the east of Park Road and south of Ulverston Road, and the easement ran parallel to the entire length of its south-west and north-west boundaries. An area was stripped to a width of 9m and 5m along these respective boundaries, and the blackish-brown friable sandy-clay topsoil was between 0.2m and 0.3m in depth. The topsoil contained a moderate amount of brick and stone inclusions, in addition to a moderate amount of nineteenth and twentieth century pottery sherds. At the highest part of the field, the topsoil became much stonier, with up to 20% inclusions of small sub-rounded stones. Underlying this layer was a subsoil comprising yellowish-brown compact sandy-clay with 30% inclusions of small to medium sub-rounded stones. Along the south-west portion of the easement, fine ploughmarks were observed, that measured 25m in length, 0.05m-0.10m in width, and which were spaced approximately 0.4m apart.
- 4.2.2 The OS map for 1928 shows twelve small enclosures on the west boundary of Field 1 adjacent to Park Road, which may have been allotments associated with the dwellings opposite. One of the enclosures remains in the north-west corner of the field, but there was no physical evidence within the easement for the remainder, which may be attributed to subsequent ploughing.
- 4.2.3 **Field 2:** the easement continued eastwards along the north boundary into this second field, which had a pronounced slope to the east. The area stripped for the pumping station was 28m² and was situated in the northern corner of the field. The topsoil was similar to that of Field 1 and measured approximately 0.2m in depth, whilst the subsoil was more reddish and slightly sandier, though it was still firm. No archaeological features were revealed within this area.

5. DISCUSSION

5.1 SYNTHESIS

- 5.1.1 The watching brief recorded no archaeology of any significance during the topsoil strip of the easement and pumping station.
- 5.1.2 The lack of archaeological features encountered during the watching brief could suggest that any surviving features or deposits are outside the development area or that the human activity in the area has been largely agricultural and pastoral in nature. Due to the limited nature of the development there are no recommendations for further archaeological mitigation.

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7. ILLUSTRATIONS

7.1 FIGURES

Figure 1: Site Location

7.2 PLATES

Plate 1: East-facing view of the west end of the east/west easement within Field 1

Plate 2: West-facing view of the east end of the east/west easement within Field 1

Plate 3: South-facing view of the north-west corner of Field 2

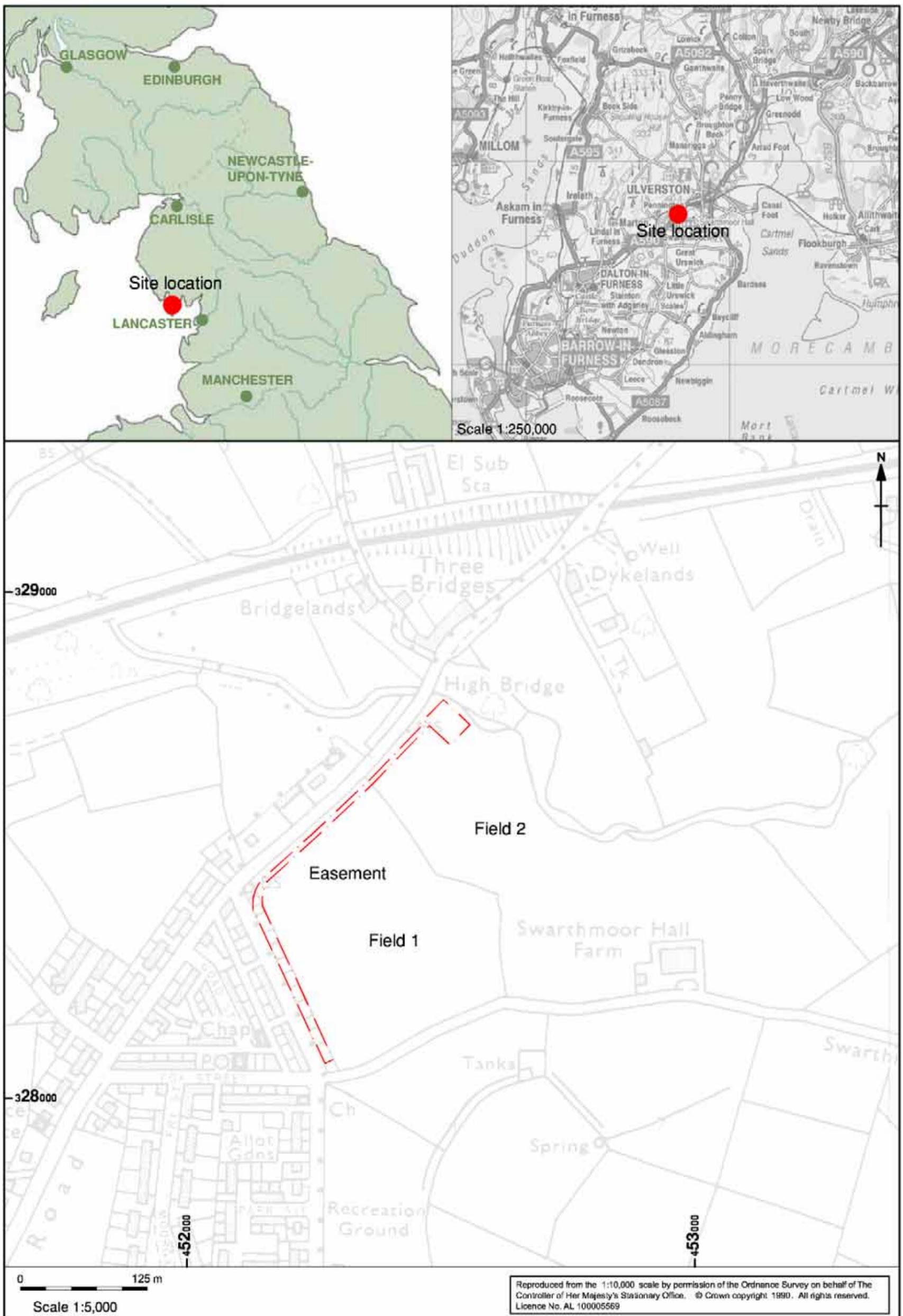


Figure 1: Site Location



Plate 1: East-facing view of the west end of the east/west easement within Field 1



Plate 2: West-facing view of the east end of the east/west easement within Field 1



Plate 3: South-facing view of the north-west corner of Field 2