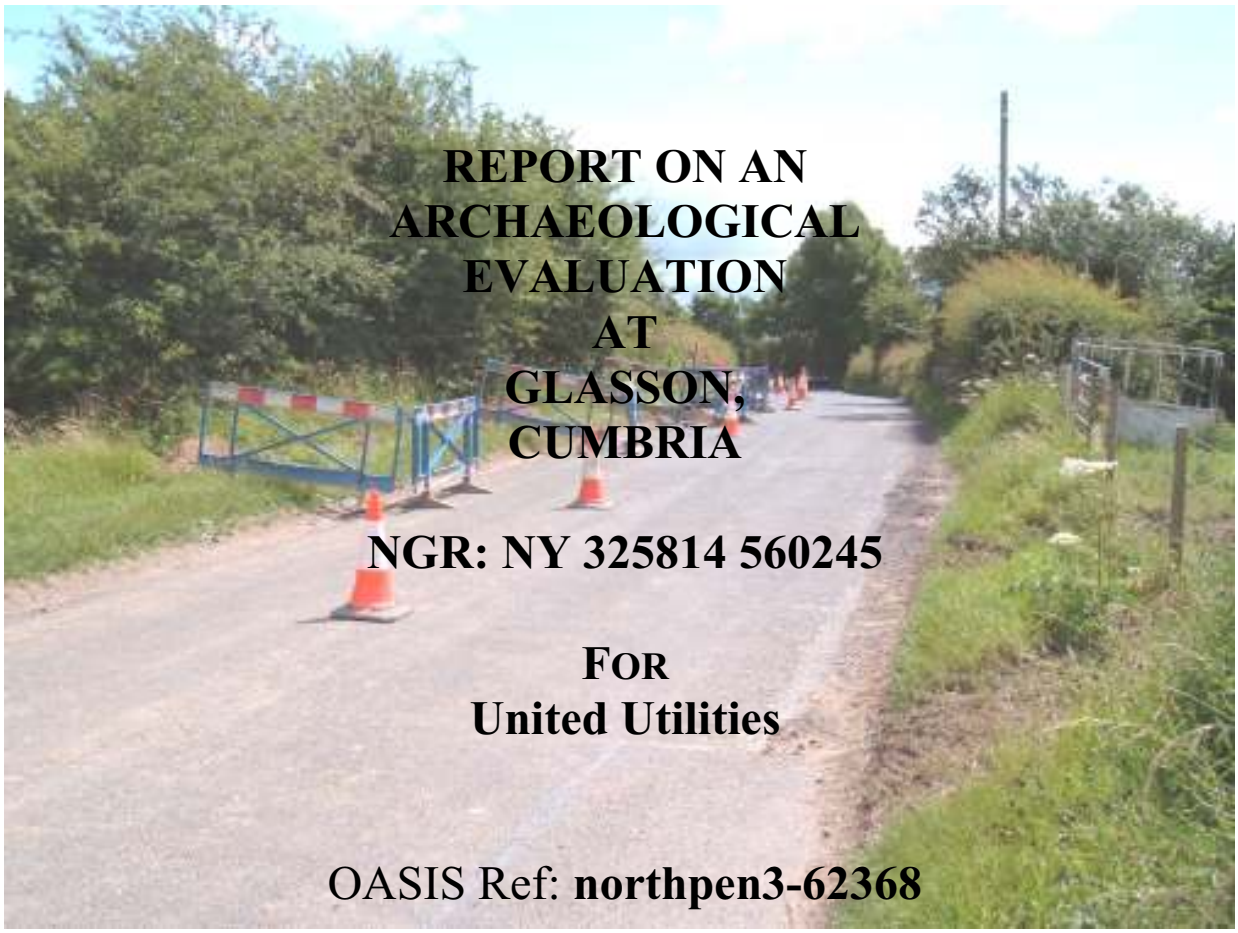
NORTH PENNINES ARCHAEOLOGY LTD

Client Report No. CP/744/09



REPORT ON AN ARCHAEOLOGICAL EVALUATION AT GLASSON, CUMBRIA

NGR: NY 325814 560245

FOR United Utilities

OASIS Ref: **northpen3-62368**

David Jackson BA (Hons)
North Pennines Archaeology Ltd
Nenthead Mines Heritage Centre
Nenthead
Alston
Cumbria CA9 3PD
Tel: (01434) 382045
Fax: (01434) 382043
E-mail: d.jackson@nparchaeology.co.uk

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EXECUTIVE SUMMARY

In July 2009, North Pennines Archaeology Ltd were invited by Bruce Pilling of United Utilities to undertake an archaeological evaluation along the projected line of Hadrian's Wall near Glasson, Cumbria (NGR NY 325814 5602451). The archaeological work was undertaken in advance of the proposed instalment of a new electricity cable at a depth of 0.6m. At this depth, any archaeological remains within the vicinity would be severely impacted upon. As the proposed works are within an area of high archaeological potential close to the projected course of Hadrian's Wall (SM 28472), which is classified as a World Heritage Site, Mike Collins of English Heritage (Hadrian's Wall Archaeologist) recommended that a programme of archaeological work be undertaken in advance of the proposed electricity scheme.

The archaeological evaluation comprised the excavation of five test-pits immediately northwest of Bombadil Cottage, within the grass verge on the eastern side of the Carlisle to Bowness-on-Solway road. All five test-pits measured 0.6m by 0.6m and were excavated to a minimum depth of 0.7m. The test-pits were evenly spaced over a distance of *c*.38m in order to best inform the route of the proposed electricity cable within this archaeologically sensitive area.

No significant archaeological remains or deposits were noted during the evaluation. Furthermore, fragments of tarmacadam were noted at a depth of 0.7m within three of the five test-pits, and footings for the modern road were noted at a depth of 0.48m within two of the test-pits, highlighting relatively recent disturbance within the area. This disturbance is not surprising given the location of the test-pits within the modern road verge and immediately south of the Carlisle Canal, which was later superseded by the Port Carlisle railway. A further deposit of ash with fragments of clinker material was noted below the footings for the road within one of the test-pits. However, the ash deposit appeared to overlay the relatively modern subsoil, and was more likely associated with later development.

This archaeological evaluation was undertaken in order to better inform the route of a proposed electricity cable through investigation via a series of strategically targeted test-pits, as recommended by Mike Collins of English Heritage. Based upon the results of the evaluation, it is unlikely that any significant archaeological remains are likely to be disturbed at the specified depth during the proposed work within the area. However, given the significant location of the proposed works within the Hadrian's Wall World Heritage Site, it is strongly recommended that English Heritage be consulted prior to the commencement of the work. Similarly, further archaeological advice should be sought prior to any additional ground reduction within the area as the possible survival of significant archaeological remains below a depth of 0.7m is extremely high.

ACKNOWLEDGEMENTS

North Pennines Archaeology Ltd. would like to thank Bruce Pilling of United Utilities for commissioning the project. Thanks are also due to Mike Collins of English Heritage. NPA Ltd would also like to thank the staff of KMI for their assistance during this project.

The archaeological evaluation was carried out by David Jackson. The report was prepared by David Jackson and edited by Frank Giecco, Technical Director for NPA Ltd. The project was also managed by Frank Giecco.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 In July 2009, North Pennines Archaeology were invited by Bruce Pilling of United Utilities to undertake an archaeological evaluation along the projected line of Hadrian's Wall near Glasson, Cumbria (NGR NY 325814 5602451) (Figure 1). The proposed works are within the immediate vicinity of the Hadrian's Wall World Heritage Site. As such, Mike Collins, Hadrian's Wall Archaeologist for English Heritage requested that a programme of archaeological work be undertaken in order to better inform any decisions regarding the depth and projected route of a proposed electricity cable. This is in line with government advice as set out in the DoE Planning Policy Guidance on Archaeology and Planning (PPG 16).

1.1.2 Given the shallow depth of the proposed cable, and the potential modern disturbance within the area, Mike Collins of English Heritage recommended that the evaluation should comprise the excavation of a series of strategically located test-pits in order to establish whether any significant archaeological remains are likely to be disturbed during the proposed works.

1.1.3 All test-pits were excavated by hand under full archaeological supervision. All stages of the archaeological work were undertaken following approved statutory guidelines (IFA 2008).

1.1.4 This report comprises the results of the archaeological evaluation and post-fieldwork analysis following the work at Glasson, including a statement of further archaeological potential and recommendations for future work within the area.

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design was submitted by North Pennines Archaeology Ltd following the request for an archaeological evaluation of the study area. This was in accordance with the recommendations set out by Mike Collins of English Heritage. Following acceptance of the project design, North Pennines Archaeology Ltd was commissioned by the client to undertake the work. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IFA), and generally accepted best practice.

2.2 ARCHAEOLOGICAL EVALUATION

2.2.1 The evaluation consisted of the excavation of five test-pits in order to better inform decisions regarding the depth and location of a proposed electricity cable. The test-pits measured 0.6m x 0.6m and were excavated to a minimum depth of 0.7m within the locations specified by Mike Collins of English Heritage. All work was conducted according to the recommendations of the Institute for Archaeologists (2008).

2.2.2 In summary, the main objectives of the field evaluation were:

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains and to record these where they were observed;
- to establish the character of those features in terms of cuts, soil matrices and interfaces;
- to recover artefactual material, especially that useful for dating purposes;
- to recover palaeoenvironmental material where it survives in order to understand site and landscape formation processes.

2.2.3 The test-pits were excavated by hand under close archaeological supervision. The test-pits were subsequently investigated and recorded according to the North Pennines Archaeology Ltd standard procedure as set out in the Excavation Manual (Giecco 2003).

2.2.4 All deposits encountered were deemed unsuitable for environmental sampling, and therefore no samples were retained.

2.2.5 All test-pits were backfilled following excavation and recording.

2.2.6 The fieldwork programme was followed by an assessment of the data as set out in the *Management of Archaeological Projects* (2nd Edition, 1991).

2.3 ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with the project design, and in accordance with current UKIC (1990) and English Heritage guidelines (1991),

and according to the recommendations in *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation* (Brown 2007). The paper and digital archive will be deposited with the Senhouse Museum, Maryport under the unique project identifier: **NPA 09 GCE-A**.

2.3.2 North Pennines Archaeology Ltd supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an online index and access to the extensive and expanding body of grey literature created as a result of developer-funded archaeological fieldwork. Details of the results of this project will be made available by North Pennines Archaeology as a part of this national project under the unique project identifier: **northpen3-62368**.

3 BACKGROUND

3.1 LOCATION, TOPOGRAPHY AND GEOLOGY

3.1.1 The study area is located southeast of Glasson, approximately 13km west of Carlisle, Cumbria (NY 325814 5602451). The site is situated immediately northwest of Bombadil Cottage, alongside a section of the Carlisle to Bowness on Solway road, between Drumburgh and Port Carlisle (Figure 1), at a height of approximately 8.5m OD.

3.1.2 The broader area of the site is known as the Solway Basin and is a broad, lowland plain landscape fringed by the low, rugged, relatively remote coastline of the Solway Firth and Irish Sea (Countryside Commission 1998). The Solway Plain is open and exposed to the prevailing southwesterly winds and tree cover is limited. This area is characterised by dairy cattle grazing on fields of improved pasture, which are variously defined by drainage ditches, small streams, low wind-sheared hedgerows and stone-faced hedgebanks or 'kests'. The area to the east of the site includes flat marshland where the rivers Eden, Esk and Lyne flow into the Solway (*ibid*).

3.1.3 The underlying geology of the study area is mainly comprised of mudstones and sandstones of Permo-Triassic age ('New Red Sandstone'). A small pocket of poorly exposed Liassic mudstones and limestones of Jurassic age overlie the Permo-Triassic rocks to the southeast, and Coal Measures, mudstones, sandstones and a few coals of Carboniferous age lie beneath the Permo-Triassic rocks, forming a restricted belt along the southern margin of the Solway Basin (Countryside Commission 1998). The underlying geology of the area is largely covered by large quantities of boulder clay, sand and gravel, deposited by thick ice-sheets and glacial meltwaters during the last glaciation (*ibid*).

3.2 HISTORICAL BACKGROUND

3.2.1 Hadrian's Wall was designated as a World Heritage Site in 1987 and forms the most complex and best preserved of the frontiers of the Roman Empire. (English Heritage 2002). The World Heritage Site (WHS) comprises a visual envelope between 1km and 6km from the site in order to serve as a buffer zone to protect the site and its immediate landscape from development detrimental to the visual amenity of the site (*ibid*).

3.2.2 The WHS is centred on the military installations constructed from AD 122 on the orders of the Emperor Hadrian. The WHS also includes other Roman sites and structures which predate Hadrian's Wall, such as the arrangement of forts along the Cumbrian Coast between Bowness-on-Solway and Ravenglass, and incorporates a wealth of pre-Roman and post-Roman sites and landscapes (*op.cit.*). Hadrian's Wall was constructed in the early 2nd century on a line connecting the Tyne and the Solway and represented at various times the northern frontier of Roman Britain.

3.2.3 The Wall was a composite military barrier, which in its final form comprised several separate elements; a stone wall fronted by a V-shaped ditch, and a number of purpose-built stone garrison fortifications such as forts, milecastles and turrets, a large earthwork and ditch, built parallel with and to the south of the Wall, known as the Vallum, and a metalled supply road linking the garrison forts, which is known as the 'Roman Military Way'. The Wall begins in the east at Wallsend in Tyneside and continues to the west, passing through the study area, and terminating at Bowness-on-Solway in Cumbria, a distance of 80 Roman miles (73.5 English miles or 117 kilometres). The Wall, conceived by Hadrian was to be ten feet wide and about fifteen feet high. The front face of the wall most likely sported a crenulated parapet, behind which the soldiers patrolled along a paved rampart-walk (Bedoyere 1998). The more detailed history of Hadrian's Wall is well documented and is summarised in numerous publications (Breeze and Dobson 2000; Daniels 1978 and Birley 1961).

3.2.4 Apart from Hadrian's Wall, there does not appear to have been any significant activity within the study area until the 19th century. In 1819, work began on the construction of the Carlisle Canal which was eventually opened in 1823. The canal extended from a new port at Port Carlisle on the west coast to a basin in Carlisle, passing through the study area. The canal was in use for *c*.30 years, until it was converted into the Port Carlisle railway line 1853 (Perriam 1992: 56). The Port Carlisle line did not prove overly successful, and was largely used for horse-drawn carriages until its closure in 1914 (Towill 1991: 111).

3.3 ARCHAEOLOGICAL BACKGROUND

3.3.1 Although the projected route of Hadrian's Wall is relatively well established west of Carlisle, most of the recent investigations have largely been concentrated around the Burgh-by-Sands area to the east of the study area (e.g. Jackson and Wooler 2008, Mounsey *et al* 2008, Noakes 2008, and Sowerby 2008). However, two recent archaeological investigations are known to have taken place within the village of Glasson, immediately northwest of the study area. These include;

- archaeological work undertaken by Carlisle Archaeology Ltd (1999);
- an archaeological watching brief undertaken by North Pennines Archaeology Ltd (Giecco and Denham 2003).

3.3.2 Both of these archaeological investigations successfully located remains of the Vallum ditch in different areas of the village.

4 EVALUATION RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological evaluation took place on the 10th July 2009, and comprised the excavation of five 0.6m by 0.6m test-pits, which were strategically located over a distance of *c*.38m in order to inform the route and depth of the proposed electricity cable. This was in accordance with the recommendations set out by Mike Collins of English Heritage. All five test-pits were excavated within a grass verge at the eastern edge of the Carlisle to Bowness road, immediately northwest of Bombadil Cottage (Figure 2).

4.1.2 All test-pits were excavated by hand to a minimum depth of 0.7m under full archaeological supervision. The test-pits were subsequently backfilled after full investigation and recording. The results of the evaluation are outlined below.

4.2 RESULTS

4.2.1 ***Test-pit 1:*** Test-pit 1 was located at the northern end of the study area, *c*.4.5m south of the junction between the main road and an access track to the east (Figure 3). The test-pit was excavated to a maximum depth of 0.7m and revealed a deposit of orange/light brown clayey sand subsoil (**102**) which measured over 0.47m in depth. Occasional inclusions of fragmented tarmac and crushed brick were noted within the clayey sand (**102**), highlighting the relatively modern nature of this deposit. The clayey sand subsoil (**102**) was sealed by a deposit of dark brown sandy silt topsoil (**100**), which measured *c*.0.23m in depth (Plate 1).

4.2.2 ***Test-pit 2:*** Test-pit 2 was located *c*.9.3m south of Test-pit 1 (Figure 3). The test-pit was excavated to a maximum depth of 0.7m and revealed *c*.0.45m of the orange/light brown clayey sand subsoil (**102**) below *c*.0.25m of dark brown sandy silt topsoil (**100**) (Plate 2). Further fragments of tarmac were noted throughout the clayey sand deposit (**102**) to a depth of 0.7m.

Plate 1: *West-southwest facing section of Test-pit 1*

Plate 2: *West-southwest facing section of Test-pit 2*

4.2.3 ***Test-pit 3:*** Test-pit 3 was located *c*.6m south of Test-pit 2 (Figure 3) and was excavated to a maximum depth of 0.7m, exposing a firm deposit of red clayey sand with occasional small stone inclusions (**105**), which measured over 0.1m in depth. Within the eastern most *c*.0.4m of Test-pit 3, the red clayey sand deposit (**105**) was below *c*.0.4m of the orange/light brown clayey sand subsoil (**102**). Within the western most *c*.0.2m of Test-Pit 3, the firm red clayey deposit (**105**) was below a *c*.0.15m deposit of black/grey ash material with occasional fragments of clinker inclusions (**104**). The ash deposit (**104**) was below a *c*.0.35m deposit of large fragmented angular stones (**103**) (Plate 3). The stones were possibly comprised of limestone or greywacke, and had been randomly deposited to form the footings of the modern road surface. The deposits (**102**) and (**103**) were sealed by *c*.0.2m of topsoil (**100**). Although the exact nature of the ash deposit (**104**) is unknown, it is unlikely to be of any significant age as the deposit (**104**) appeared to overlay the relatively modern clayey sand subsoil (**102**) (Figure 3).

4.2.4 ***Test-pit 4:*** Test-pit 4 was located *c*.6.4m south of Test-pit 3 (Figure 3). The test-pit was excavated to a maximum depth of *c*.0.85m at its eastern edge due to the sloping gradient of the grass verge at this point. Test-pit 4 largely exposed *c*.0.2m of the firm red clayey sand deposit (**105**) below *c*.0.43m of the orange/light brown clayey sand subsoil (**102**), which was sealed by *c*.0.22m of dark brown topsoil (**100**). However, the road footings (**103**) and dispersed ashy material could be seen in the northeast facing section of the test-pit (Plate 4).

4.2.5 ***Test-pit 5:*** Test-pit 5 was located at the southern end of the evaluation area, *c*.4.3m south of Test-pit 4 (Figure 3). The test-pit was excavated to a maximum depth of 0.8m and revealed *c*.0.17m of the red clayey sand deposit (**105**) below *c*.0.4m of the orange/light brown clayey sand subsoil (**102**). The orange/light brown clayey sand subsoil (**102**) was below *c*.0.23m of the dark brown sandy silt topsoil (**100**). A small water pipe was also noted within Test-pit 5, directly below the topsoil (**100**) (Plate 5).

4.2.6 No significant archaeological features, deposits or finds were noted during the evaluation.

Plate 3: *East-northeast facing section of Test-pit 3*

Plate 4: *North-northwest facing section of Test-pit 4*

Plate 5: *West-southwest facing section Test-pit 5*

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

5.1.1 The archaeological evaluation comprised the excavation of 5 test-pits, as agreed with Mike Collins of English Heritage. All the test-pits measured 0.6m x 0.6m and were excavated to a maximum depth of 0.8m. The test-pits were located along the proposed line of a new underground electricity cable, in order to assess the possible presence of structural remains relating to Hadrian's Wall.

5.1.2 During the archaeological evaluation, no evidence of Hadrian's Wall or any other significant archaeological features were observed. All recorded deposits up to the maximum investigated depth of 0.8m related to 19th/20th century activity relating to the construction of the road and adjacent disused railway line.

5.2 RECOMMENDATIONS

5.2.1 The purpose of this archaeological evaluation was to establish the nature and extent of below ground remains associated with Hadrian's Wall within the proposed development area. No evidence of Hadrian's wall was recorded at a depth of 0.8m, therefore if the proposed cable trench is excavated along this evaluated route and goes no deeper than 0.7m there should be no impact on any significant archaeological remains. However, given the location of the development area, it is recommended that any future invasive work in the vicinity of the site be subject to a programme of archaeological monitoring.

6 BIBLIOGRAPHY

6.1 SECONDARY SOURCES

Bedoyere, G. (1998). *Hadrian's Wall, History and Guide,* Tempus, London.

Birley, E. (1961). *Research on Hadrians Wall,* Titus Wilson, Kendal.

Breeze, D.J. and Dobson, B. (2000). *Hadrian's Wall*, London.

Brown, D.H. (2007). *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation*, Archaeological Archives Forum.

Carlisle Archaeology Ltd. (1999). Unpublished Project Design and Client Report 7/01.

Countryside Commission. (1998). *Countryside Character Volume 2: The North-West,* Cheltenham.

Daniels, C.M. ed (1978). *J Collingwood Bruce's Handbook to the Roman Wall,* 13th edition, Newcastle-upon-Tyne

English Heritage. (1991). *Management of Archaeological Projects (MAP2).* London: English Heritage.

English Heritage (2002). *Hadrians Wall Management Plan 2002-2007.* English Heritage.

Giecco, F. O. (2003). *North Pennines Archaeology Excavation Manual*, North Pennines Heritage Trust, Unpublished Document.

IFA. (2008). *Standards and Guidance for Archaeological Field Evaluation*. Institute for Archaeologists: Reading.

Jackson, D. and Wooler, F. (2008). *Archaeological Watching Brief at Burgh-by-Sands, Cumbria,* Unpublished Client Report: North Pennines Archaeology Ltd, CP/672/08

Mounsey, K., Railton, M. and Wooler, F. (2008). *Rapid Archaeological Desk-Based Assessment and Watching Brief at Rosemount Cottage, Burgh-by-Sands, Carlisle, Cumbria,* Unpublished Client Report: North Pennines Archaeology Ltd, CP/573/07

Noakes, H. (2008). *Archaeological Evaluation on Land at the Village Hall, Burgh-by-Sands, Cumbria,* Unpublished Client Report: North Pennines Archaeology Ltd, CP/705/08

Perriam, D. R. (1992). *Carlisle: an Illustrated History*. Carlisle: Bookcase, Cumbria Library and Tullie House Museum.

Sowerby, M. (2008). *Archaeological Evaluation on Land at Marsh House, Burgh-by-Sands, Cumbria,* Unpublished Client Report: North Pennines Archaeology Ltd, CP/542/07

Towill, S. (1991). *A History of Carlisle*, Chichester: Phillimore.

UKIC. (1990). *Guidelines for the preparation of excavation archives for long-term storage*.

APPENDIX I: CONTEXT INDEX

Context Number	Category	Test-pit	Above	Below	Interpretation
100	Deposit	1-5	102	/	topsoil
101	Geological	-			Natural Substrate
102	Deposit	1/5	105	100	Clay-sand make-up layer
103	Deposit	3/4	104	100	Road make-up layer
104	Deposit	3/4	105	103	Ask/clinker deposit
105	Deposit	3/4/5	-	102/104	Red clay sand

Table 2: *Context Index*

APPENDIX II: FIGURES

North Pennines Archaeology Ltd 2009	PROJECT: Glasson Pumping Station SCALE: 1:50,000 at A4 REPORT No: CP 744/09 CLIENT United Utilities DRAWN BY: FG DATE: 20/07/09 FIGURE: 1	KEY: Site Location	

Figure 1 : Site Location

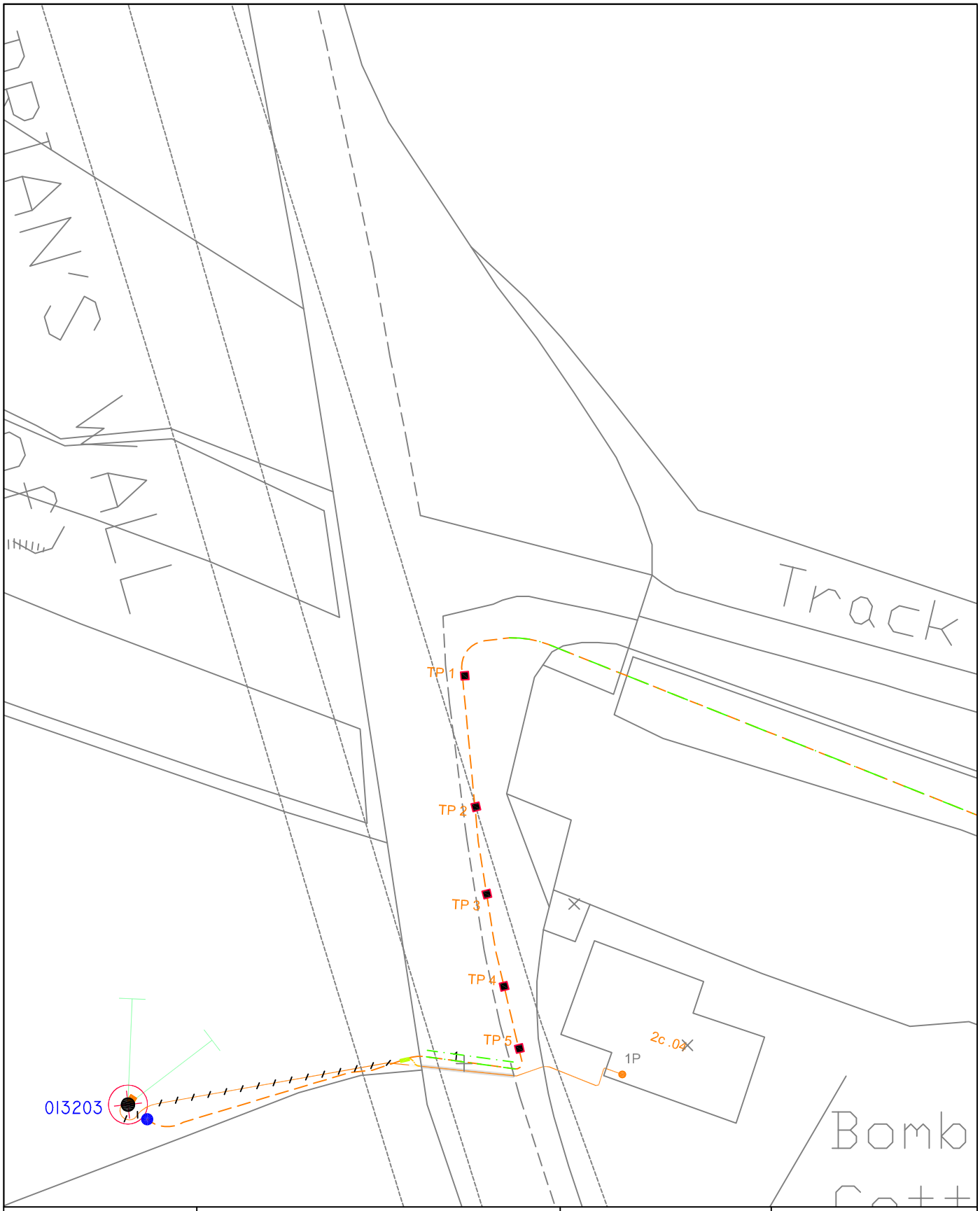
PROJECT:	Glasson Pumping Station
SCALE:	1:5000 at A4
REPORT No:	CP 744/09
CLIENT	United Utilities
DRAWN BY:	FG
DATE:	20/07/09
FIGURE:	2

KEY:

Area of evaluation

North Pennines Archaeology Ltd
2009

Figure 2 : Area of evaluation



North Pennines Archaeology Ltd
2009

PROJECT:	Glasson Pumping Station
SCALE:	1:400 at A4
REPORT No:	CP 744/09
CLIENT	United Utilities
DRAWN BY:	FG
DATE:	20/07/09
FIGURE:	3

KEY:

Test Pit

Figure 3 : Test Pit location plan